Oracle Financial Services

Infrastructure Common User Guide

Release 23.06.01
F83175-01
June 2023

Oracle Financial Services Infrastructure Common User Guide, Release 23.06.01

F83175-01

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INTRO

Topics:

1.1 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

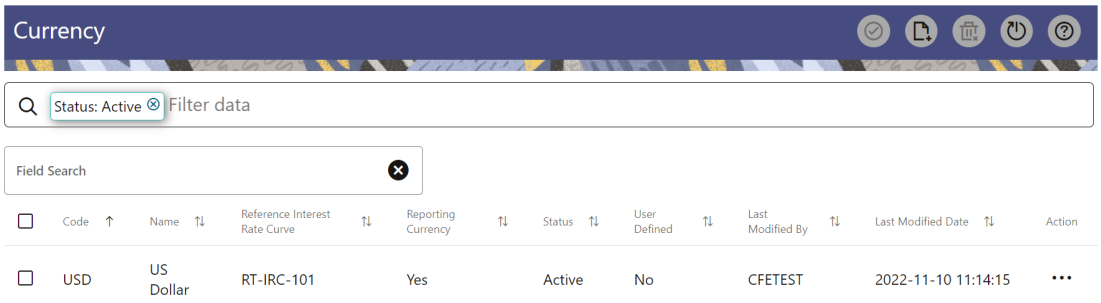
1.1.1 Currency Summary Page

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 1-1 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, i.e. a currency not seeded by PBSM
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 1-1 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 1-2 Table: Currency– Icons and Descriptions

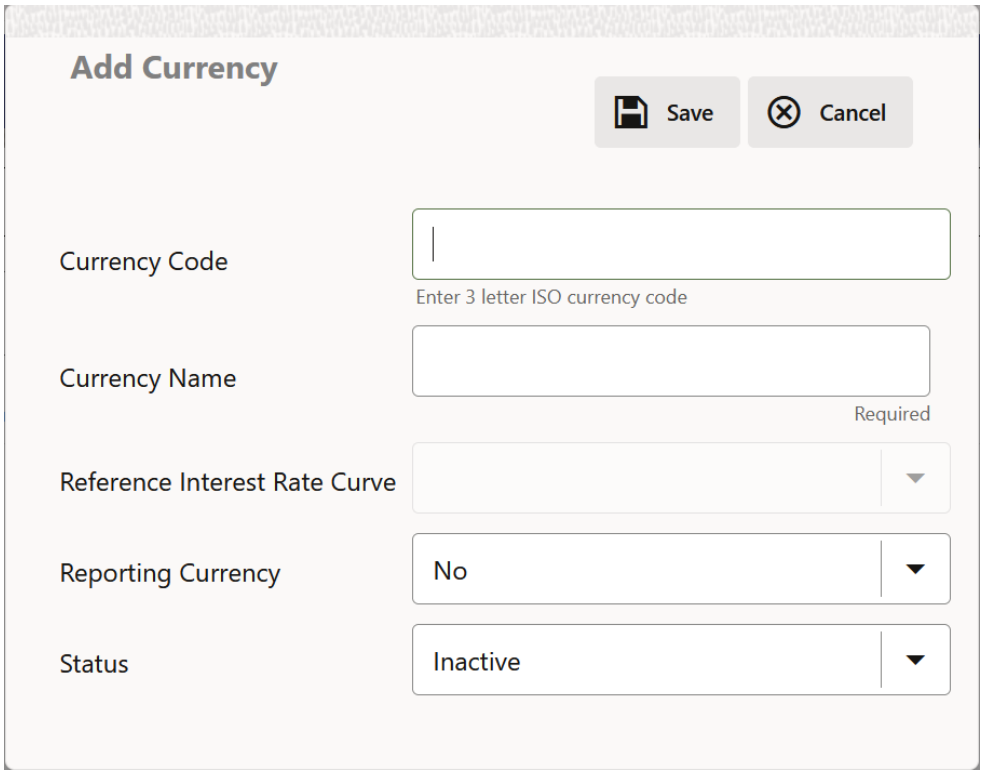
Fields	Description
Activate	Select one or more currency and click Activate icon to change status to active.
Add	Click Add icon to create a new Currency.
Multiple Delete	Select one or more currencies in the table and then click the Delete icon at the top right of the summary page to delete more than one 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.

1.1.2 Add Currency

To add a Currency, follow these steps:

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

Figure 1-2 Add Currency Page



3. Enter the following details:

Table 1-3 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 1-3 (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: a. Define that currency as a Reference Currency for an Interest Rate curve. b. Enter Exchange Rate data for a currency. c. Define Forecast Rates for that currency. d. Define any other business rule like Prepayment, Transfer Pricing for that currency.

> **Note:**
>
> The Reporting Currency and Reference Interest Rate Curve fields are not applicable for processing and analytical purposes in Oracle Financial Services Climate Change Analytics Cloud Service.

4. Click **Save**.

1.1.3 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.
3. Click **Search**.

Only Currencies that match the search criteria are displayed.

1.1.4 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.
4. Update the Currency details.
5. Click **Save**.

1.1.5 Delete a Currency

You can delete Currencies that are no longer required.

> **Note:**
>
> A Currency cannot be retrieved after deletion. Restrictions on deleting Currencies are:
>
> - You cannot delete Currencies if you have only Read privileges. Only users with read/write privileges and Currency owners can delete Currencies.
> - You cannot delete a Currency that has a dependency.

To delete a Currency, follow these steps:

1. Navigate to Currency Summary Page.
2. Search for a Currency and select it. For further information, see the Searching a Currency section.
3. Click on the **Action** icon against the Currency Name and select Delete.

1.2 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

1.2.1 Components of Dimension Management

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

- Members
- Attributes
- Hierarchy

1.2.2 Object Security

Object Security is implemented for Hierarchy, Filter, and Expressions objects.

There are some Seeded User Groups and Seeded User Roles mapped to those User Groups. If you are using the Seeded User Groups, the restriction on accessing objects depends on the associated User Groups.

For creating/editing/copying/removing an object in Dimension Management Module, your User Group should have been mapped to the folder in case of public or shared folder, or you should have been 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 Window, your User Group should have ACCESS Role mapped. 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.

1.2.3 Members

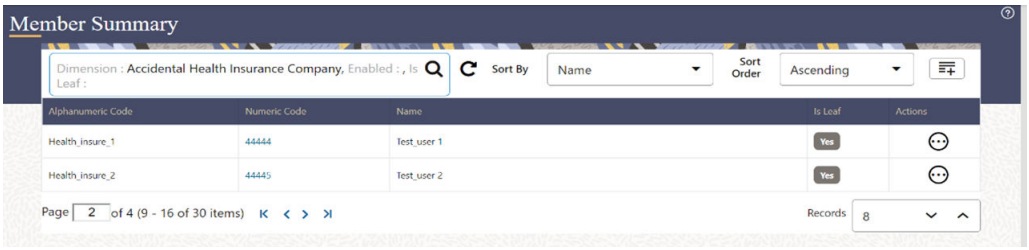
Dimension Members refer to the individual items that constitute a dimension when data is categorized into a single object such as Product, Organization, Time, and so on. Members are available within Dimension Management Section.

1.2.3.1 Member Summary Page

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.

Figure 1-3 Member Summary Page



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

Table 1-4 Field Description

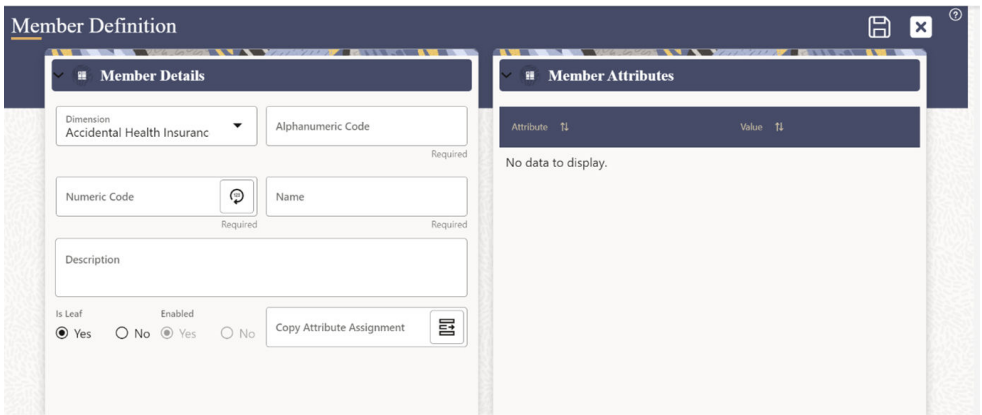
Field	Description
Alphanumeric Code	The Alphanumeric Code assigned to a Member.
Numeric Code	The Numeric Code assigned to a Member.
Name	The unique Member Name.
Is Leaf	• **Yes** - The member is set as a leaf node in any hierarchy and child cannot be added to this node. • **No** - The member is a not a leaf and can have Child Nodes.
Action	Click to View, Edit, Copy or Delete a Member Definition.

1.2.3.2 Creating Member Definitions

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.

Figure 1-4 Add Member Definition Page



2. Enter the **Member Details** as described in the following table:

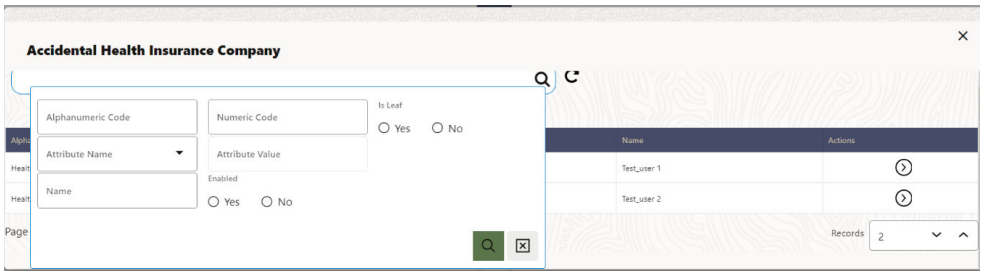
Table 2: Field Description

Field	Description
Dimension	Select the Dimension to be associated with the new Member.
Alphanumeric Code	The Alphanumeric Code to be assigned to the new Member Definition. **Note:** 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 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. **Note:** You can enter any number between 0 and 999,999,999.
Name	The unique Member Definition Name. **Note:** You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
Description	A brief description about the Member Definition. **Note:** You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
Is Leaf	Check this option if the member is a leaf of another member. By default, it is set to **Yes**. • Yes - The member can be used as a Leaf Node in any hierarchy and Child cannot be added to this node. • No -The Member is not set as a Leaf and can have Child Nodes. **Note:** If a Member is set as a Non-Leaf and is associated with Child Nodes, it cannot be set as a Leaf again.
Enabled	This field is set to **Yes** by default and can be edited only after the Member is created. To edit a Member, refer Editing Member Definition Details. **Note:** You can change the option to **No** only when the particular member is not used in any hierarchy. The disabled members will not be displayed in Hierarchy Rules, or utilities which are based on Hierarchies, such as Hierarchy Filters and Hierarchical Assumption Browsers used in applications.
Copy Attribute Assignment	Attach an existing attribute to this new Member Definition.

3. Click **Copy Attribute Assignment** ( ).

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

Figure 1-5 Copy Attribute Assignment Window



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

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

1.2.3.3 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** button ( ). The following Options are displayed:

Table 3: Action Details

Action	Description
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.

1.2.3.3.1 Viewing Member Definition Details

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** button ().
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.

1.2.3.3.2 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** button ().
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**.

1.2.3.3.3 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** button ().
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**.

1.2.3.3.4 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 button ().
2. Click the **Delete** button.

   The Member Definition is deleted after confirmation.

1.2.4 Attributes

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

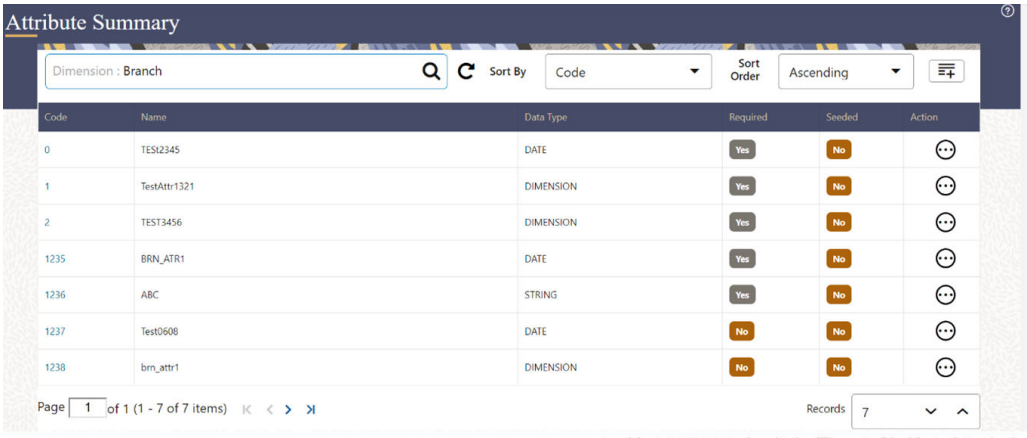
1.2.4.1 Attribute Summary Page

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.

Figure 1-6 Attribute Summary Page



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

Table 4: Field Description

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.

Field	Description
Action	Click to View, Edit, Copy or Delete an Attribute Definition.

1.2.4.1.1 Navigating Attribute Summary Page

To access records in a Summary Page, you can search, sort and navigate to multiple pages. For more information, refer Navigating Object Summary Page.

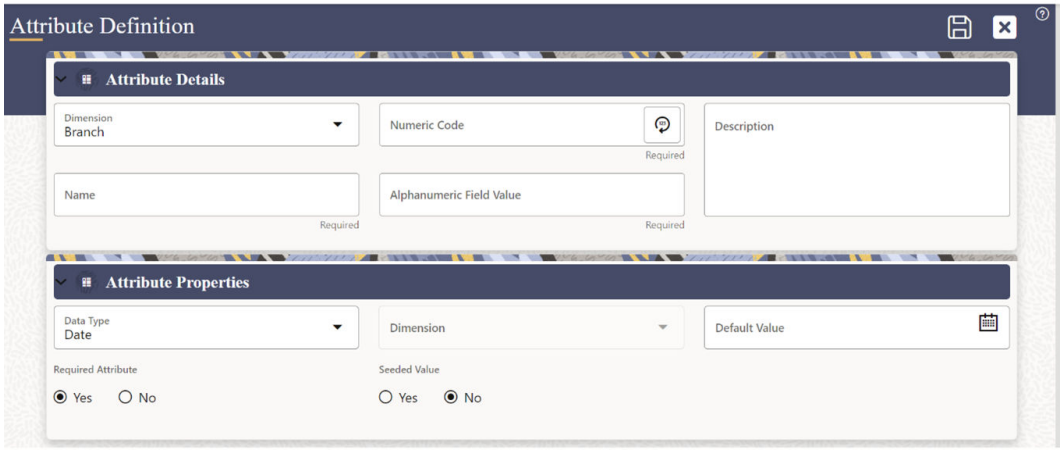
1.2.4.2 Creating Attribute Definition

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

1. Click the **Add** ( ) button in the Attribute Summary Page.

   The **Add Attribute Definition** Page is displayed.

Figure 1-7 Add Attribute Definition Page



2. Enter the Attribute Details as described in the following table:

   Table 5: Field Description

Field	Description
Attribute Details	
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. **Note:** You can enter any number between 0 and 999,999,999.

Field	Description
Name	The unique Attribute Definition Name. **Note:** 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. **Note:** You can enter up to 100 characters. We recommend using only Underscore (“_”) as a special character.
Description	A brief description about the Attribute Definition. **Note:** 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.
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 Default Value field. The Maximum characters allowed in Default Value field for String Data Type is 1000.

Field	Description
Required Attribute	• **Yes** - This Attribute is mandatory for the associated Dimension Members. • **No** - This is an optional Attribute for the associated Dimension Members. **Note:** This field is disabled in Add and Edit Modes if any members already exist for the Dimension on 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** ( ).

1.2.4.3 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** button(). The following Options are displayed.

Table 6: Action Details

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

1.2.4.3.1 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 Window:

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

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

1.2.4.3.2 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. The Write Role should be mapped to your User Group.

To copy an existing Attribute Definition in the Attributes Window:

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

   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**.

1.2.4.3.3 Deleting Attribute Definition

You can remove the Attribute Definitions which are not required in the system by deleting from the Attributes Window. The Write role should be mapped to your User Group.

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

   The Attribute Definition is deleted after confirmation.

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

1.2.5 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.

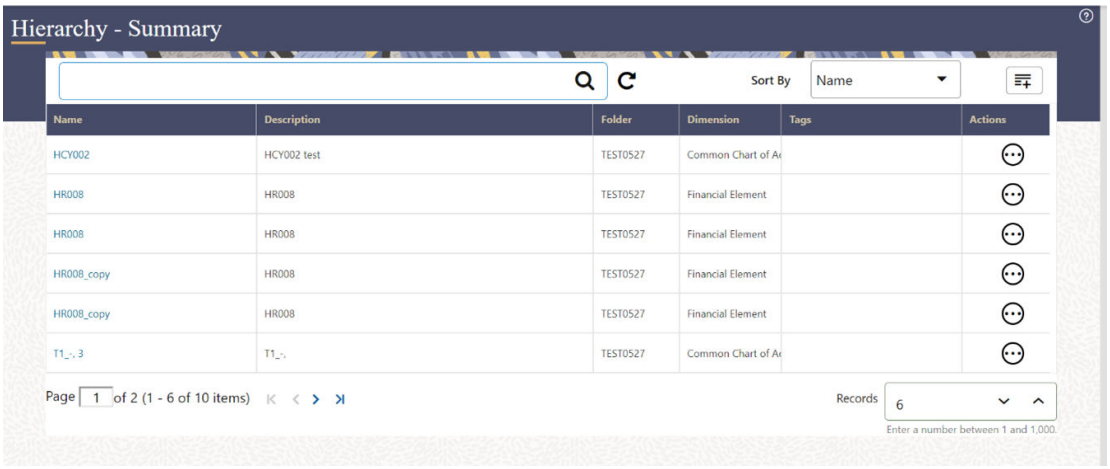
A Default Hierarchy definition is required to support BI Users to perform multi dimensional analysis, in the BI reporting. The hierarchy name of a default hierarchy definitions are suffixed with the term "**System Hierarchy**". You can only view the details of the default hierarchy, from the Hierarchy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

1.2.5.1 Hierarchy Summary Page

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**.

Figure 1-8 Hierarchy Summary Page



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

Table 7: Field Description

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

Note:

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

1.2.5.1.1 Navigating Hierarchy Summary Page

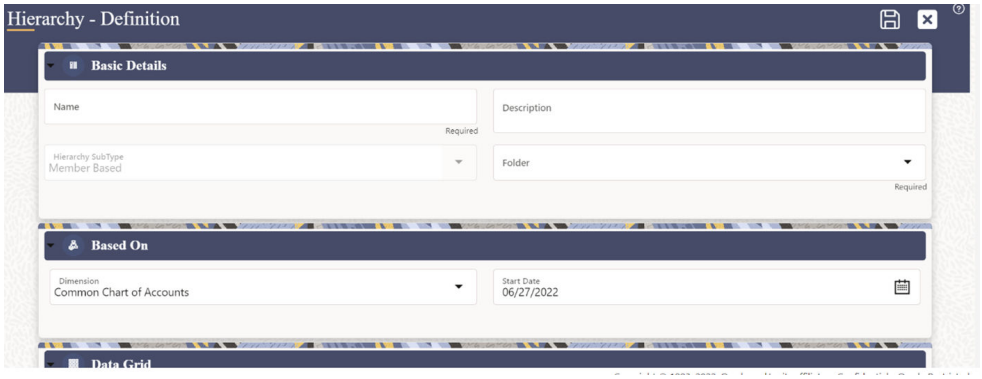
To access records in a Summary Page, you can search, sort and navigate to multiple pages. For more information, refer Navigating Object Summary Page.

1.2.5.2 Creating Hierarchy Definitions

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

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

Figure 1-9 Add Hierarchy Definition Page



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

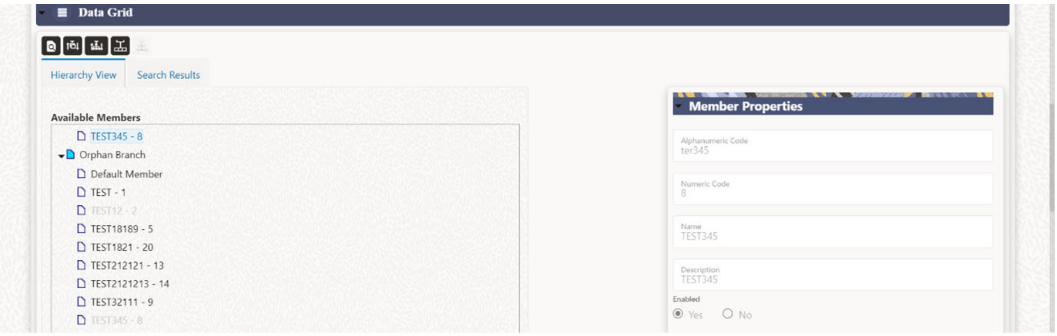
Table 1-5 Field Description

Field	Description
Basic Details	
Name	The unique Hierarchy Definition Name. **Note:** You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
Description	A brief description about the Hierarchy Definition. **Note:** You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.
Hierarchy Sub Type	This is defaulted to ‘Member Based’ in PBSM and you cannot change it.
Folder	Select the Folder in which the Hierarchy is to be stored.
Based On	

Table 1-5 (Cont.) Field Description

Field	Description
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.

Figure 1-10 Hierarchy Grid



To Add a Child to the Hierarchy:

a. Right-click in the **Hierarchy View** tab.

b. Select **Add Child** option and the **Add Member Page** are displayed.

c. Select the required Member and click **Move**, to move the Member to the Selected Members panel. To select multiple members, press CTRL and select the members. The selected members are added to the **Selected Members** pane.

- Click **Move All** to move all Members listed in the Show Members pane, to the Selected Members pane. Click **Fetch from DB** to select all nodes/ members in the server.
- Select a member and Click **Remove** to deselect a Member. To remove multiple members, press CTRL and select the members.
- To remove all the members from the **Selected Members** pane, click **Remove all**.

- You can click **Search** button for the required member using Alphanumeric Code, Numeric Code, Name, Description, Attribute Name, or Attribute Value. Enter the search criteria and Click **Search**, in the Search Panel.
- You can also click **Search** button to toggle the display of Numeric Code left, right, or name and click button to display Alphanumeric Code left, right, or name.

d. Click **OK**. The selected Member is displayed as Child under **Data Grid** panel in the **Hierarchy View** tab.

2. **To add a Sibling to the Child in the Hierarchy Definition:**

   a. Right-click on the Child and select the option **Add Sibling**.
   The **Add Sibling** Page is displayed.

   b. Select the required Members and **Move**, to move the Member to the Selected Members panel.
   The Member is displayed in the **Selected Members** panel.

   c. Click **OK**. The selected Member is added as **Sibling** below the **Parent** under Data Grid Panel in the **Hierarchy View** Tab.

3. **To add a Leaf under a Parent/Child or Sibling**:

   a. Right-click the Parent or Child and select **Add Leaf**.
   The Add Member Page is displayed.

   b. Select the required Members and click **Move**, to move the Member to the Selected Members panel.
   The Member is displayed in the **Selected Members** panel.

   c. Click **OK**. The selected Member is displayed as Leaf below the Parent or Sibling under **Show Hierarchy** Panel in the Hierarchy View Tab.

4. **To define Level Properties:**

   a. Right-click the Parent or Child and select **Level Properties**. The details are displayed in the Member Properties Panel.

   b. Enter the valid **Name** and **Description** in the respective fields.

   c. Click **OK** and the Levels defined are displayed in the drop-down in **Initial Level Display** field in **Data Grid** in **Hierarchy View** Tab.

5. **To cut and paste Child or Sibling:**

   a. Right-click on any node and select **Cut**.

   b. Right-click on any node and **Paste as Child** or **Paste as Sibling**.

6. **To Delete/Undelete**

   a. Right-click on the node to be deleted and select **Delete Node**.
   The node deleted is struck out.

   b. Right-click and select **UnDelete** to cancel deletion of the node.

7. To view the Member Properties and Member Attributes of a node in the **Hierarchy View** Panel:

   a. Click on a Member.
   The properties such as Alphanumeric Code, Numeric Code, Name, Description, Enabled, Is Leaf, Created By, Creation Date, Last Modified By, Last Modification Date, Attribute, and Value of the selected Member are displayed in the Member Properties and Member Attributes Grids.

In the Hierarchies page you can also:

- Click to collapse the members under a node.
- Click to expand a branch or collapse a branch.
- Click or to focus or unfocus a selected node except the Root Node.
- Click to sort the list in ascending or descending order.

8. Click **Save** ( ).
   The new Hierarchy Definition is created successfully.

1.2.5.2.1 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.

1.2.5.3 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 the **Action button**( ). The following options are displayed.

Table 9: Action Details

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

1.2.5.3.1 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 the **Action (three dots)** .
2. Click the **View** button.

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

1.2.5.3.2 Editing Hierarchy Definition Details

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

To edit the existing Hierarchy Definition Details:

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

   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**.

1.2.5.3.3 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 the **Action** button ( ).
2. Click the **Copy** button.

   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**.

1.2.5.3.4 Deleting Hierarchy Definition Details

To delete a Hierarchy Definition:

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

   The Hierarchy Definition is deleted after confirmation.

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

1.2.6 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.

1.3 Setup Preferences

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

Topics:

1.3.1 Select Preferences For

To setup the Preferences, follow these steps:

1. Navigate to **Maintenance** and select **Preferences**.

Figure 1-11 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.

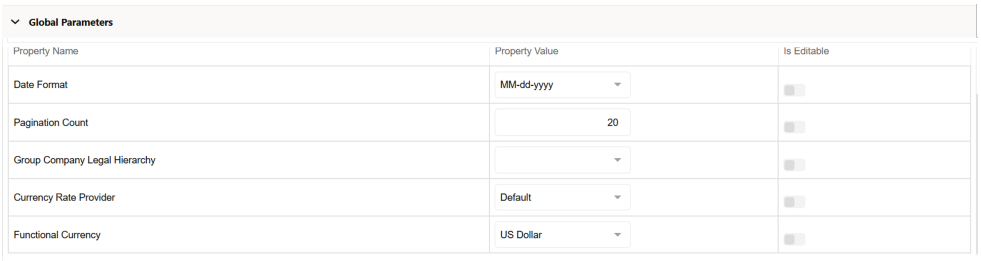
1.3.2 Global Preference

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 1-12 Global Preference



3. Enter following values as described in table:

Table 1-6 Global Preference

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.
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.

Table 1-6 (Cont.) Global Preference

Fields	Description
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. This is used in Ledger Reconciliation module.

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.

Reset to Default option enables the factory settings to default.

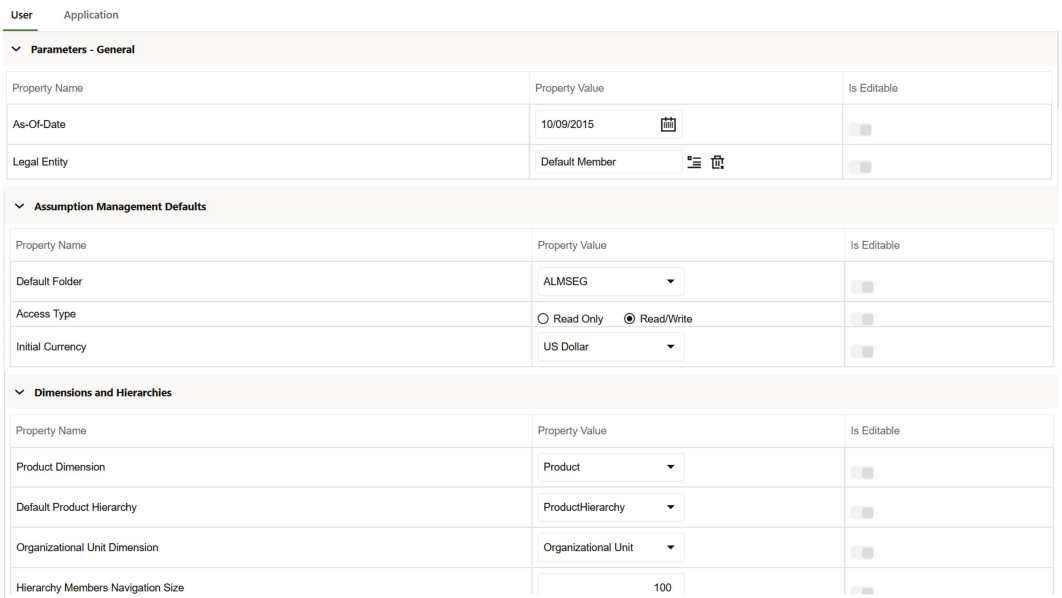
1.3.3 User Preference

User Preferences items are used to configure the User Settings.

To update the Asset Liability Management User Preferences, follow these steps:

1. Navigate to the **Maintenance** and select **Preferences**.
2. Click **User** tab.

Figure 1-13 User Preference Section



3. Enter following values in as described in table.

Table 1-7 User Preference

Fields	Description
Parameters – General	
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.
Legal Entity	Similar to As-of-Date, all processes reference Legal Entity at Runtime to determine the data to include in the process. The value of the Legal Entity you set in Application Preferences applies to interactive job execution (that is, when you choose to execute a process directly from a Summary window) and Batch Processing. NOTE: Legal Entity is designed to support implementations that require multi-entity or multi-tenant functionality. If your implementation does not require this functionality, you may utilize the Default Legal Entity in all your processes. Default implies -1 code. The default value for the Legal Entity Dimension Column in the instrument data is -1
Assumption Management Defaults	
Default Folder	This parameter allows you to define the default folder selection. The folder selection for all rule types is defaulted to this selection within the summary page search window and when creating a new rule. This selection acts as the starting value for convenience only and users can change to any other available value at their discretion.
Access Type	This parameter allows you to set the default access type. Selections include Read / Write and Read Only. This selection acts as the starting value for convenience only and users can change at their discretion.
Initial Currency	This parameter allows you to select the starting currency to be displayed within all Business Rules. This selection is made for convenience and can be changed within all business rules at the users' discretion.
Dimensions and Hierarchies	

Table 1-7 (Cont.) User Preference

Fields	Description
Product Dimension	Oracle CFE requires users to declare one of the “Product Type” dimensions as the ALM Product Dimension. The model is seeded with the possible selections as follows: • Product • Common Chart of Accounts • General Ledger Account
Default Product Hierarchy	The list of values for Default Product Hierarchy is based on the Default Product Dimension Selection. The hierarchy selected here is a default hierarchy selection in all business rules that support node-level assumptions. This selection acts as the starting value for convenience only and users can change at their discretion within each business rule.
Organizational Unit Dimension	Org Unit ID is the standard organizational dimension in the OFSAA relational data model and is intended to equate to the organizational dimension found in the General Ledger (e.g., Cost Center, Responsibility Center, Department, etc). Unless Users have defined additional Organizational dimensions, the Organizational Unit Dimension is set by default to Org Unit ID. If Users have defined additional Organizational dimensions, then they may select any Org type dimension to serve as their Organizational Unit Dimension.
Hierarchy Members Navigation Size	This parameter allows you to specify the maximum number of members that a parent node within a Hierarchy or Assumption Browser can show at a given time. When you expand a branch in a Hierarchy or Assumption Browser and the number of members in that branch exceeds the specified Navigation Size, it provides "More" and "Previous" options to enable you to navigate through the member list. Recommended values for Navigation Size are 50 to 100. Higher value settings could impact screen refresh performance. The UI allows you to enter a value up to 10000.

4. Click **Save** to confirm the changes.

1.3.4 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**.
3. Enter the following values in Application tab as described in table:

Figure 1-14 Processing-ALM General section of Application Preference

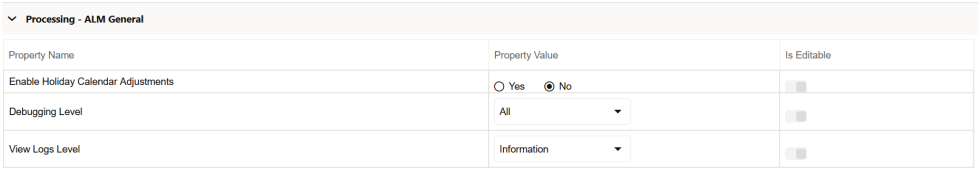


Table 1-8 Processing-ALM General section of Application Preference

Fields	Description
Enable Holiday Calendar Adjustments	Select this option to enable the Holiday Calendar Adjustment capability for the ALM Application. If this option is not selected, the Cash Flow Engine will ignore all Holiday Calendar information, including instrument level inputs and assumption rule level inputs. If Enable Holiday Calendar Adjustments is selected as Yes, then the ALM will handle Holiday Calendar assumptions based on the Account Level values first.

Table 1-8 (Cont.) Processing-ALM General section of Application Preference

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: a. Trace: Designates finer-grained informational events than the DEBUG. b. All: All levels including custom levels. c. Error: Designates error events that might still allow the application to continue running. d. Information: Designates informational messages that highlight the progress of the application at coarse-grained level. e. Debug: Designates fine-grained informational events that are most useful to debug an application. f. Fatal: Designates very severe error events that will presumably lead the application to abort. g. Warning: Designates informational messages that highlight the progress of the application at coarse-grained level. h. Off: The highest possible rank and is intended to turn off logging. **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.

Table 1-8 (Cont.) Processing-ALM General section of Application Preference

Fields	Description
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. a. Trace: Designates finer-grained informational events than the DEBUG. b. All: All levels including custom levels. c. Error: Designates error events that might still allow the application to continue running. d. Information: Designates informational messages that highlight the progress of the application at coarse-grained level. e. Debug: Designates fine-grained informational events that are most useful to debug an application. f. Fatal: Designates very severe error events that will presumably lead the application to abort. g. Warning: Designates informational messages that highlight the progress of the application at coarse-grained level. h. Off: The highest possible rank and is intended to turn off logging.

Figure 1-15 Processing-ALM Process section of Application Preference

Table 1-9 Processing- ALM Process section of Application Preference

Fields	Description
ALM Process Batch Size	Number of Account or Instruments that must be processed in a single batch. Default Value of 5000 is seeded by the service, and you can modify it as needed

Table 1-9 (Cont.) Processing- ALM Process section of Application Preference

Fields	Description
ALM Process Parallel Threads	Number of threads created by the executor for each batch. This is a performance tunning parameter for ALM 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 15 is seeded by the service, and you can modify it as needed

Figure 1-16 Processing-Cash Flow General section of Application Preference

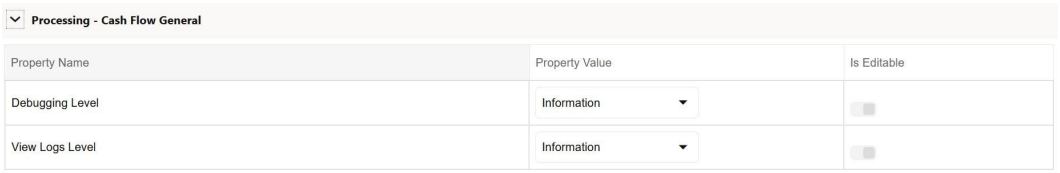


Table 1-10 Processing-Cash Flow General section of Application Preference

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: a. Trace: Designates finer-grained informational events than the DEBUG. b. All: All levels including custom levels. c. Error: Designates error events that might still allow the application to continue running. d. Information: Designates informational messages that highlight the progress of the application at coarse-grained level. e. Debug: Designates fine-grained informational events that are most useful to debug an application. f. Fatal: Designates very severe error events that will presumably lead the application to abort. g. Warning: Designates informational messages that highlight the progress of the application at coarse-grained level. h. Off: The highest possible rank and is intended to turn off logging. 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: a. Information: Designates informational messages that highlight the progress of the application at coarse-grained level. b. Debug: Designates fine-grained informational events that are most useful to debug an application. c. Off: The highest possible rank and is intended to turn off logging.

Figure 1-17 Processing-Cash Flow Process section of Application Preference

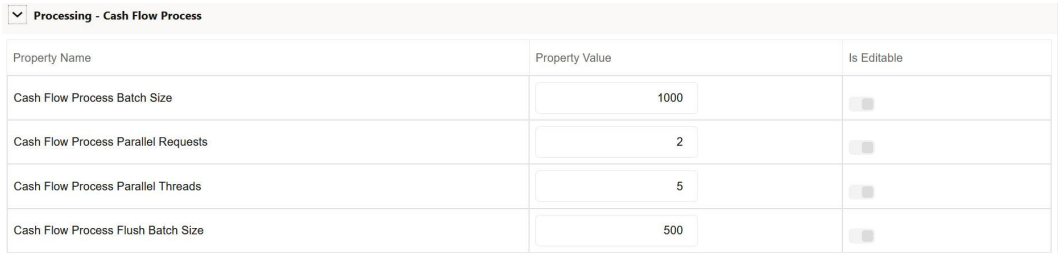


Table 1-11 Processing-Cash Flow Process section of Application Preference

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 1-18 Processing-Cash Flow Edits section of Application Preference

Table 1-12 Processing-Cash Flow Edits section of Application Preference

Fields	Description
Cash Flow Edits Batch Size	Number of Account or Instruments that must be processed in a single batch. This is used by Cash Flow Edits Engine for performance tuning. Default Value of 1000 is seeded by the service, and you can modify it as needed
Cash Flow Edits 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

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

1.4 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.

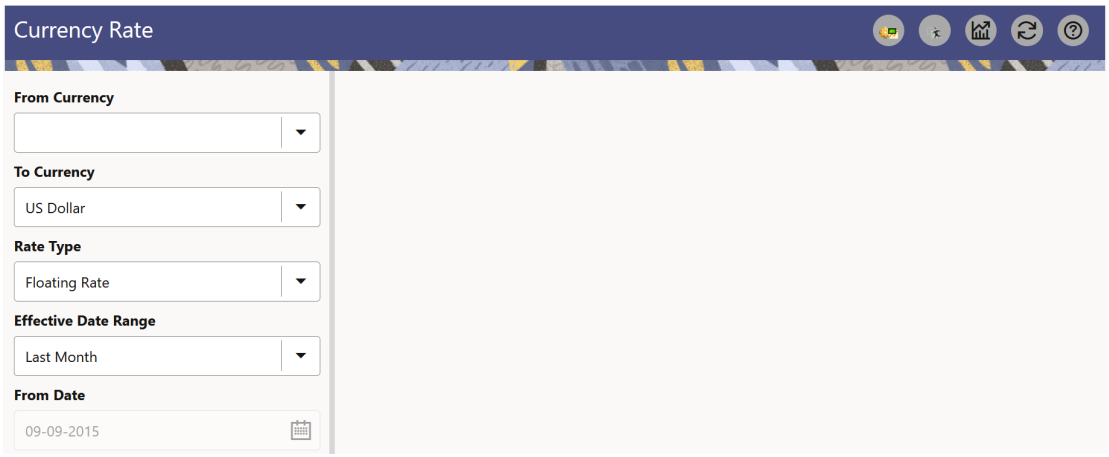
To Currency defaults to the Initial Currency selection from the Assumption Management defaults in the Active Preferences Window. You can select another To Currency from the drop-down list that displays all Active Currencies.

1.4.1 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 1-19 Currency Rates



Adding Floating Rate Data

To add the Exchange Rate Data, follow these steps:

1. Select a **From Currency**.
2. Select a **To Currency**.
3. Select **Rate Type** as **Floating Rate** (default selection is Floating Rate).
4. The RHS pane is displayed as Floating Currency Rates.
5. Select **Effective Date Range** to enter the values in From Date and To Date fields.
6. Select the **Rate Provider**.
7. Currency Rate Pane initially displays a single blank row followed by the most recent month's Exchange Rate data (if any such Exchange Rate Data already exists). To enter a single new Exchange Rate Data Point, enter data into the blank row.

Table 1-13 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 1-14 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.

8. Click **Save**.
9. Click **Add** to add additional blank rows to enter the additional Effective Start and End Dates and Exchange Rates. After adding the multiple new Exchange Rates, click **Save**.

> **Note:**
>
> Use only the rate type as **Fixed Rate** for best results in Oracle Financial Services Climate Change Analytics Cloud Service.

1.4.2 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.

1.4.3 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.

1.4.4 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**.

1.4.5 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 1-15 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.

Table 1-15 (Cont.) Details of Exchange Rates

Fields	Description
Invalid	The Exchange Rate has violated one or more acceptance rules.

Only Exchange Rates in valid status are available for processing and they are not subject to future validation unless you edit them. The Rate Validation Status is displayed in the Currency Rates Window of the Rate Management.

Exchange Rate Validation Criteria

In the Rate Validation Process, all Exchange Rate relationships in the database are examined for compliance with the following criteria. Error messages and warnings are displayed if one or more criteria are not met.

- If a currency is defined as a Child in a fixed exchange relationship then it must not be in any floating (standard) Exchange Rate Relationship at the same time. Consequently, all floating Exchange Rates to or from the Child Currency must be defined through the Parent Currency. If this criterion is not met then the following message is displayed: Invalid fixed relationship—Child Currency exists in a standard Exchange Rate within the same time period.
- A Child Currency within a fixed relationship must not be a Child Currency in any other Fixed Relationship during the same time period. If this criterion is not met then the following message is displayed: Invalid fixed relationship—Child Currency already exists in a fixed relationship for the same time period.
- A Circular Relationship must not exist. In other words, a Child Currency cannot link back to its Parent in any other FixedRate Relationship within the same time period. If it does, then the following message is displayed: Invalid fixed relationship creates a circular relationship with other fixed Exchange Rates.
- Regarding new Floating (standard) Exchange Rates, from and To currencies must not exist as Child Currencies within any Fixed Exchange Rate Relationships. If this criterion is not met then the following message is displayed: From/To/Both currency(ies) in the new Exchange Rate already exist in a fixed relationship for the same time period.
- If any Exchange Rate is equal to 0, then a warning message is displayed. Generally speaking, 0 is a valid value. You can use it, for example, to designate an Exchange Rate with a currency of a country that no longer exists.

If two Exchange Rate Relationships fail to meet these criteria then both of them will be labeled Invalid. (Exception, if one of the relationships is already in Valid status, then the other one will be labeled Invalid.) For example, if a currency is defined as a Child in a Fixed Rate Relationship and is also defined as being in a Floating Relationship at the same time, then both Fixed and Floating Rates for that currency will be labeled Invalid.

If there are both direct and Inverse Floating Exchange Rates defined for any two currencies (in other words, one currency is both a To and a From Currency in relation to the other), then both relationships will be marked valid.

Running an Exchange Rate Validation

You can run a validation immediately or schedule one or more for later. The Validation Status is displayed in the **Currency Rates** Window.

You can execute the Exchange Rate validation using the **Currency Rates Validation** option.

To execute the Exchange Rate Validation, follow these steps:

1. Click **Currency Rates** Validation.
2. To execute Exchange Rate validation from the **Currency Rates** Window, the following two options are available:
   - **Specify Dates:** After selecting this option, a Select Dates Pane is displayed to enter or verify the Start Date and End parameters. These dates will be passed to the batch for execution.
   - **Start Date:** This defaults to the date of last rate validation.
   - **End Date:** This defaults to the current date.
   - **Validate For All Dates:** Select this option to validate all the rates irrespective of dates.

> **Note:**
>
> This option will replace all of the validated Exchange Rate History and can be a time-consuming process depending on the amount of history available to be processed.

1.4.6 Download

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

1.4.7 Importing Currency Rates

To import the Currency Rate, follow these steps:

1. Navigate to the **Currency Rate** page.
2. Select **Upload Data**.
3. Select the type of Rate as **Floating** or **Fixed**.
4. Click the **Drag and Drop** option to select the file.

> **Note:**
>
> The excel file, you are uploading should be in a specific format. You can download the template using the Download Template option. The Templates for Fixed and Floating Rate Types.
> Currency rates UI bulk upload supports only **YYYY-MM-DD** date format

5. Click **Upload**.

1.5 Interest Rate Curve

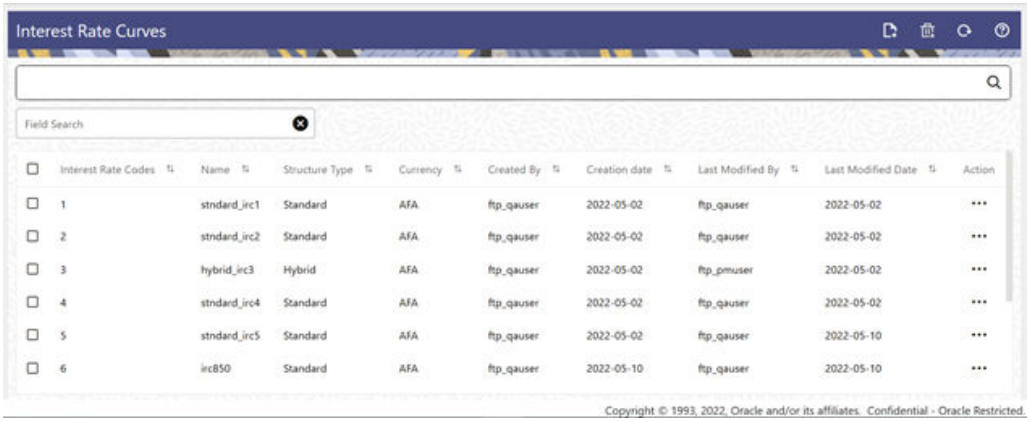
The quality and availability of Interest Rate information vary throughout the world. In many markets, gathering comprehensive rate information is a challenge because of insufficient

security types, inconsistent quoting conventions, and lack of liquidity. The Interest Rate Curve in PBSM 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 PBSM 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 1-20 Interest Rate Curves Summary Page



1.5.1 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:

1. Click the **Search** icon on the Search Pane to collapse (display) the **Search Criteria** Window.
2. Enter the Search Criteria by entering one or more of the **Interest Rate Code**, **Name**, **Currency**, **Rate Format**, and **Structure Type**.
3. Click **Reset** to remove the filter criteria on the Search Window and refresh the window.
4. Click **Search** after entering the search criteria.
   The search results are displayed in a Table containing all the Interest Rate Curves that meet the Search Criteria with the following details:
   - **Interest Rate Code**: Displays the Interest Rate Curve's Code. The code is a unique number in the range of 1 to 9999999. Hover on a row in the pane to display the Interest Rate Curve's detailed description.
   - **Name**: Displays the Interest Rate Curve's short name.
   - **Structure Type**: Displays the Structure Type (Standard, Hybrid) of the Interest Rate Curve.

- **Currency**: Displays the Currency (Reference Currency) for which Interest rate curve is defined.
- **Created By**: Displays the Name of the user who created the Interest Rate Curve.
- **Creation Date**: Displays the Date and Time when Interest Rate Curve was created.
- **Last Modified By**: Displays the Name of the user who last modified the Interest Rate Curve.
- **Last Modified Date**: Displays the Date and Time when Interest Rate Curve was last modified.

5. Click on the **Action** icon against the Interest Rate Code to do further actions View, Edit, Delete, and **Save As** on the selected Interest Rate Code.

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

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

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

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

1.5.2 Creating an Interest Rate Curve

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

1. Click **Add** from the **Interest Rate Curve Summary** Page to display the **Interest Rate Curve** Page.
2. Enter the following information in the **Interest Rate Curve Details** Window.
   - **Interest Rate Code**: When constructing a new Yield Curve, you must specify an Interest Rate Code between 1 and 9999999. Interest Rate Codes are used internally to uniquely identify Yield Curves. When working with PBSM, 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 CurrencyCurrency 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.

1.5.2.1 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.

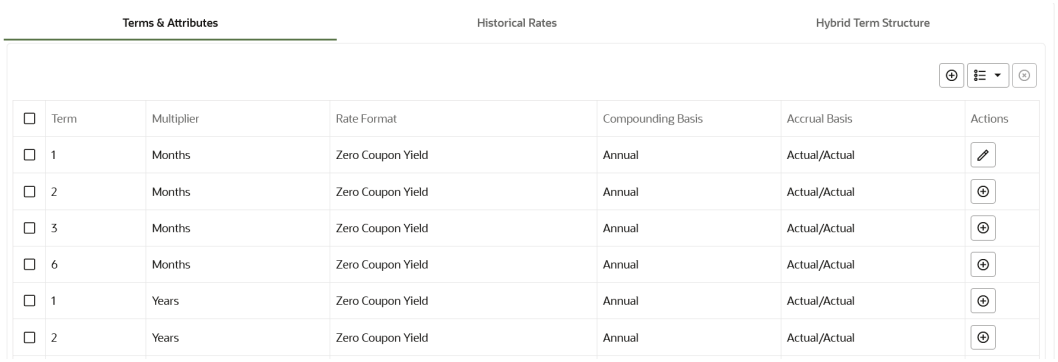
> **Note:**
>
> You must specify the following before navigating to the **Historical Rates** Tab:
>
> - An Interest Rate Code, Name, and Reference Currency in the Interest Rate Code Details Window.
> - A term structure in the **Terms & Attributes** Tab.

1.5.2.1.1 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 pre-selected values in UI which you can modify.
  One Yield Curve can have two combinations of attributes. For example, first 3 term points have Zero Coupon Yield, Annual, Actual/Actual attributes and remaining term points are Yield to Maturity, Annual and 30/360.

Figure 1-21 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.

1.5.2.1.2 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

1.5.2.1.2.1 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.

1.5.2.1.2.2 Deletion of Historical Rates

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

1.5.2.1.2.3 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:

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

Excel Import:

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

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

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

1.5.2.1.3 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 PBSM 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.

1.5.2.1.4 Define a Hybrid Curve

Defining a Hybrid Curve supports four different definitions based on the Hybrid Curve Type.

1.5.2.1.4.1 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**.
2. Select the **Interest Rate Curves** for the hybrid type and click **Apply**. You must select at least two Interest Rate Curve Definitions.

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

1.5.2.1.4.2 Defining a Hybrid Curve with Hybrid Curve Type as Spread

To define a Hybrid Curve, perform the following steps:

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

2. Select the **Interest Rate Curves** for the hybrid type and click **Apply**. Only two Interest Rate Curves are allowed for selection.
3. Click the **Swap** icon to re-order the Interest Rate Curves.

   The screen displays the Hybrid Term Structure Weights for the selected Interest Rate Curves and the Merge type Hybrid Curve.
4. By default, all the Term Points are selected and displayed. You can uncheck one or more Term Points.
5. Click **Apply** to save the selected Terms.

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

To define a hybrid curve, perform the following steps:

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

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

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

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

To define a Hybrid Curve, perform the following steps:

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

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

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

1.5.2.1.5 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:

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

1.6 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:

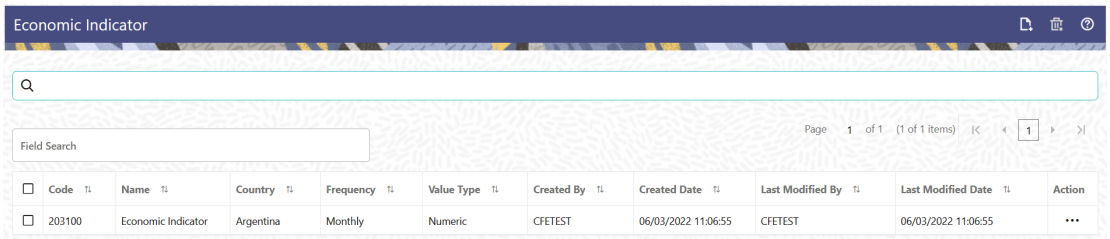
1.6.1 Economic Indicator Summary Page

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

Table 1-16 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
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 1-22 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 1-17 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.

Table 1-17 (Cont.) Economic Indicator – Icons and Descriptions

Fields	Description
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.

1.6.2 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:

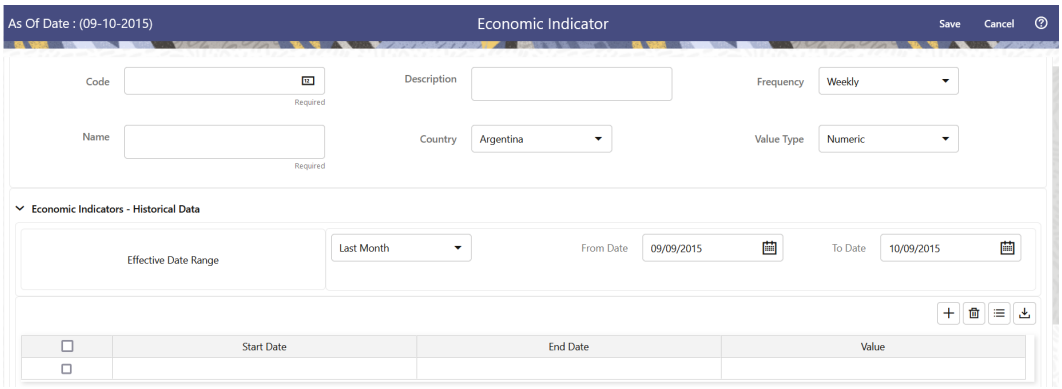
1. Navigate to the **Economic Indicator Summary** Page.
2. Enter the **Code, Name, Country**, and/or **Description** of the Economic Indicator and click **Search** .
3. Only Economic Indicator Rules that match the search criteria are displayed.

1.6.3 Add an Economic Indicator

To add an Economic Indicator, follow these steps:

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

Figure 1-23 Economic Indicator Details Page



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

Table 1-18 Economic Indicator Window – Fields and Descriptions

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

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 1-19 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.

1.6.4 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**.

1.6.5 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.
3. Click on the **Action** icon against the Economic Indicator Name and select **Save As** to duplicate the rule.
4. Enter a unique code.
5. Enter a unique name.
6. Enter a brief description.
7. Click the **Save** button.

1.6.6 Delete Economic Indicator

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

> **Note:**
>
> An Economic Indicator cannot be retrieved after deletion.
>
> Restrictions on deleting Economic Indicator Rules are:
>
> - You cannot delete Economic Indicator Rules if you have only Read privileges. Only users with Read/Write privileges and Economic Indicator owners can delete Economic Indicators.
> - You cannot delete an Economic Indicator that has a dependency.

To delete an Economic Indicator, follow these steps:

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

1.6.7 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:

1. Navigate to the Reference Data and select Economic Indicator.
2. Search for a rule. For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Economic Indicator Name and select Dependency Check to the rule that you want to check for.

> **Note:**
>
> This is functionality will be released in future.

1.7 Currency Gain/Loss

Currency Gain/Loss occurs when an entity buys/sells goods or services in a foreign currency, and that currency fluctuates relative to their Local currency, this can create differences in value of the monetary Assets and Liabilities.

If the value of the home currency increases after the conversion, the seller of the goods will have made a foreign currency gain, however, if the value of the Local currency declines after the conversion, the seller will have incurred a foreign exchange loss. Further these transactions can be accounted as below mentioned.

- **Realized Gains/Losses**
  Realized gains are the price of an asset/investment that is higher than its carrying amount, however realized loss refers to the price that has dropped since the purchase of an asset/investment.
- **Unrealized Gains/Losses**
  Unrealized gains or losses are the gains or losses that the seller expects to earn when the invoice is settled, but the customer has failed to pay the invoice by the close of the accounting period. The seller calculates the gain or loss that would have been sustained if the customer paid the invoice at the end of the accounting period.

Currency Gain or Loss Basis determines how exchange rate fluctuations are reflected in financial element results for each product and currency combination. This provides the flexibility to use any specific exchange rate for Consolidation purposes the choices are:

- Temporal
- Historical Basis
- Current Rate

Consolidation categories allows Financial Elements that can be used as aggregating output drivers within the Currency Gain/Loss methods. The below table shows the relationship between Consolidation output to FE number and Output column base values by default, upon selection there is a dropdown facility which enables user to choose drivers based users preference.

Figure 1-24 Currency Gain/Loss Basis

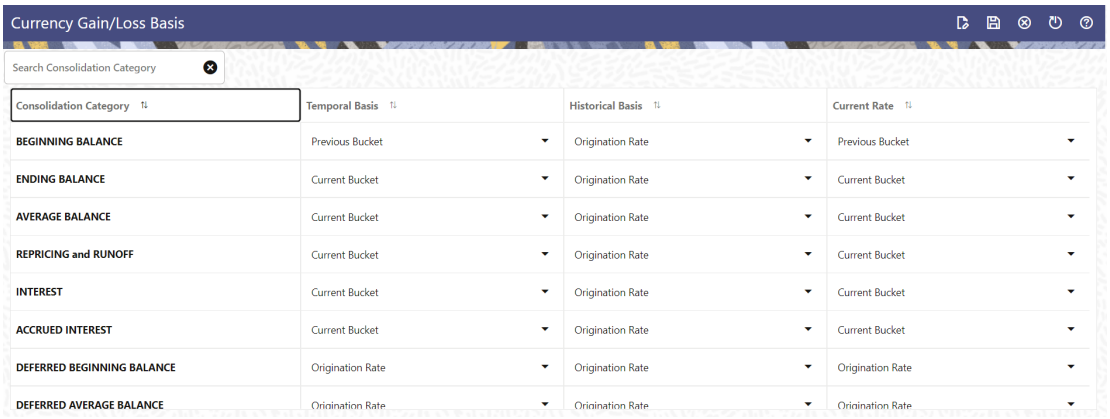


Table 1-20 Currency Gain/Loss Basis

Icon	Decription
Edit	Edit TEMPORAL BASIS using corresponding drop-down list. This field has following values: • Origination Rate • As of Date • Current Bucket • Previous Bucket Edit HISTORICAL BASIS using corresponding drop-down list. This field has following values: • Origination Rate • As of Date • Current Bucket • Previous Bucket Edit CURRENT RATE using corresponding drop-down list. This field has following values: • Origination Rate • As of Date • Current Bucket • Previous Bucket
Save	After modifying values, Click Save icon.
Cancel	After modifying values, user can click CANCEL to undo the changes before saving.
Reset to Default	The Reset to Default icon enables you to bring the configuration back to factory setting at anytime.
Help	This will open help file.

Topics:

- List of Consolidation Categories
- Editing of Consolidation Categories

1.7.1 List of Consolidation Categories

The following is the list of Consolidation Categories:

- Beginning Balance
- Ending Balance
- Average Balance
- Repricing and Runoff
- Interest
- Accrued Interest
- Deferred Beginning Balance
- Deferred Average Balance
- Deferred Ending Balance
- Deferred Runoff
- Non Interest
- Market Value
- IR Gap
- LR Gap

Table 1-21 Mapping between Consolidation Categories and FEs

FE NAME	TARGET COLUMN	CONSOLIDATION	Remarks
Beginning Balance	BEG_PRINCIPAL_BAL	BEGINNING BALANCE	Balance
Beginning Gross Rate	BEG_GROSS_RATE	BEGINNING BALANCE	Balance
Beginning Net Rate	BEG_NET_RATE	BEGINNING BALANCE	Balance
Ending Balance	END_PRINCIPAL_BAL	ENDING BALANCE	Balance
Ending Gross Rate	END_GROSS_RATE	ENDING BALANCE	Balance
Ending Net Rate	END_NET_RATE	ENDING BALANCE	Balance
Average Bal	AVG_PRINCIPAL_BAL	AVERAGE BALANCE	Balance
Average Gross Rate	AVG_GROSS_RATE	AVERAGE BALANCE	Balance
Average Net Rate	AVG_NET_RATE	AVERAGE BALANCE	Balance
Inflation Adjustment to Principal	INFLATION_ADJ_PRINCIPAL	REPRICING and RUNOFF	Balance
Inflation Adjustment to Interest	INFLATION_ADJ_INTEREST	REPRICING and RUNOFF	Balance
Prepayment Runoff Positive	PREPAYMENT_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Prepay Runoff Positive	TIMING_PREPAY_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Prepayment Runoff Negative	PREPAYMENT_RUNOFF_NEG	REPRICING and RUNOFF	Balance
Timing of Prepay Runoff Negative	TIMING_PREPAY_RUNOFF_NEG	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT

Table 1-21 (Cont.) Mapping between Consolidation Categories and FEs

MOA Prepay Runoff	MOA_PREPAYMENT_RUNOFF	REPRICING and RUNOFF	Balance
Timing of MOA Prepay Runoff	TIMING_MOA_PREPAY_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Writeoff Positive	WRITE_OFF	REPRICING and RUNOFF	Balance
Timing of Writeoff Positive	TIMING_WRITE_OFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Writeoff Negative	WRITE_OFF_NEG	REPRICING and RUNOFF	Balance
Timing of Writeoff Negative	TIMING_WRITEOFF_NEG	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Payment Runoff Positive	PRINCIPAL_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Payment Runoff Positive	TIMING_PRINCIPAL_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Payment Runoff Negative	PRINCIPAL_RUNOFF_NEG	REPRICING and RUNOFF	Balance
Timing of Payment Runoff Negative	TIMING_PRINCIPAL_RUNOFF_NEG	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Index Factor	NOT APPLICABLE	NOT APPLICABLE	NOT OUTPUT IN AGGREGATION
Maturity Runoff Positive	MATURITY_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Maturity Runoff Positive	TIMING_MATURITY_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Maturity Runoff Negative	MATURITY_RUNOFF_NEG	REPRICING and RUNOFF	Balance
Timing of Maturity Runoff Negative	TIMING_MATURITY_RUNOFF_NEG	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Non Maturity - Core Runoff	NON_MAT_CORE_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Non Maturity - Core Runoff	TIMING_NON_MAT_CORE_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Non Maturity - Volatile Runoff	NON_MAT_VOL_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Non Maturity - Volatile Runoff	TIMING_NON_MAT_VOL_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Accumulated Devolvement Amount	ACCUMULATED_DEVOLVEMENT_AMT	REPRICING and RUNOFF	Balance
Devolvement Runoff	DEVOLVEMENT_RUNOFF	REPRICING and RUNOFF	Balance

Table 1-21 (Cont.) Mapping between Consolidation Categories and FEs

Timing of Devolvement Runoff	TIMING_DEVOLVEMENT_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Recovery Runoff	RECOVERY_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Recovery Runoff	TIMING_RECOVERY_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Non Performing Asset Runoff	NON_PERF_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Non Performing Asset Runoff	TIMING_NON_PERF_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Total Runoff - Positive	TOTAL_PRINCIPAL_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Total Runoff - Positive	TIMING_TOTAL_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Total Runoff - Negative	TOTAL_PRINCIPAL_RUNOFF_NEG	REPRICING and RUNOFF	Balance
Timing of Total Runoff - Negative	TIMING_TOTAL_RUNOFF_NEG	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Total Call Runoff Amount	CALL_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Call Runoff Amount	TIMING_CALL_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Total Put Runoff Amount	PUT_RUNOFF	REPRICING and RUNOFF	Balance
Timing of Put Runoff Amount	TIMING_PUT_RUNOFF	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Strike Rate - Rate Based Approach	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT	Balance
Total Runoff Gross Rate	TOTAL_RUNOFF_GROSS_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Prepay Runoff Gross Rate	PREPAY_RUNOFF_GROSS_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Total Runoff Net Rate	TOTAL_RUNOFF_NET_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Prepay Runoff Net Rate	PREPAY_RUNOFF_NET_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Repricing Balance	BEG_REPRICE_BALANCE	REPRICING and RUNOFF	Balance
Repricing Balance At End	END_REPRICE_BALANCE	REPRICING and RUNOFF	Balance
Before Repricing Gross Rate	BEFORE_REPRICE_GROSS_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
After Repricing Gross Rate	AFTER_REPRICE_GROSS_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT

Table 1-21 (Cont.) Mapping between Consolidation Categories and FEs

Before Repricing Net Rate	BEFORE_REPRICE_NET_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
After Repricing Net Rate	AFTER_REPRICE_NET_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Fully Indexed Gross Rate	FULL_INDEX_NET_INTEREST_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Fully Indexed Net Rate	FULL_INDEX_GROSS_INTEREST_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Interest Cash Flow	INTEREST_CASH_FLOW	INTEREST	Balance
Interest Cash Flow Gross	INTEREST_CASH_FLOW_GROSS	INTEREST	Balance
Interest Cash Flow Without Offset	INTEREST_WOUT_OFFSET	INTEREST	Balance
Interest Cash Flow Gross Without Offset	INTEREST_GROSS_WOUT_OFFSET	INTEREST	Balance
Interest Accrued	NET_INTEREST_ACCRUED	ACCRUED INTEREST	Balance
Accrued Interest (Without offset)	ACCRUED_INT_NET_WOUT_OFFSET	ACCRUED INTEREST	Balance
Interest Accrued Gross	GROSS_INTEREST_ACCRUED	ACCRUED INTEREST	Balance
Accrued Interest Gross (Without offset)	ACCRUED_INT_GROSS_WOUT_OFFSET	ACCRUED INTEREST	Balance
Accumulated Interest CF Net	ACCUMULATED_NET_INTEREST_AMT	INTEREST	Balance
Accumulated Interest CF Gross	ACCUMULATED_GROSS_INTEREST_AMT	INTEREST	Balance
Non Interest Income	NON_INTEREST_INCOME	NON INTEREST	Balance
Non Interest Expenses	NON_INTEREST_EXPENSE	NON INTEREST	Balance
Option Exercise Market Value	OPTION_EXERCISE_MV	MARKET VALUE	Balance
Option Exercise Rate	OPTION_EXERCISE_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Option Exercise Gain Loss	OPTION_EXERCISE_GAIN_LOSS	REPRICING and RUNOFF	Balance
Interest Credited	INTEREST_CAPITALIZED	INTEREST	Balance
Discount Rate IS	DISCOUNT_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Timing of Cash Flows in Days	TIMING_OF_PRESENT_VALUE_DAYS	NOT APPLICABLE	OUTPUT WOULD BE in WEIGHTED TIME FORMAT
Discount Factor	NOT APPLICABLE	NOT APPLICABLE	NOT OUTPUT IN AGGREGATION
Discount Factor Term Days	NOT APPLICABLE	NOT APPLICABLE	NOT OUTPUT IN AGGREGATION

Table 1-21 (Cont.) Mapping between Consolidation Categories and FEs

Rate Lookup Term Days	NOT APPLICABLE	NOT APPLICABLE	NOT OUTPUT IN AGGREGATION
WARM	WARM	NOT APPLICABLE	OUTPUT WOULD BE in WARM FORMAT
Annual Prepayment Rate	ANNUAL_PREPAYMENT_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Balance Before Prepay	BAL_BEFORE_PREPAYMENT	REPRICING and RUNOFF	Balance
Deferred Beg Balance	DEFERRED_BEG_BAL	DEFERRED BEGINNING BALANCE	Balance
Deferred End Balance	DEFERRED_END_BAL	DEFERRED ENDING BALANCE	Balance
Deferred Average Balance	DEFERRED_AVG_BAL	DEFERRED AVERAGE BALANCE	Balance
Deferred Runoff	DEFERRED_RUNOFF	DEFERRED RUNOFF	Balance
Period Cap Balance	PERIOD_CAP_BALANCE	INTEREST	Balance
Period Cap Effect - Rate	PERIOD_CAP_EFFECT_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Period Cap Effect - Amount	PERIOD_CAP_EFFECT_AMT	INTEREST	Balance
Life Cap Balance	LIFE_CAP_BALANCE	INTEREST	Balance
Life Cap Effect - Rate	LIFE_CAP_EFFECT_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Life Cap Effect - Amount	LIFE_CAP_EFFECT_AMT	INTEREST	Balance
Tease Balance	TEASE_BALANCE	INTEREST	Balance
Tease Effect - Rate	TEASE_EFFECT_RATE	NOT APPLICABLE	OUTPUT WOULD BE in RATE FORMAT
Tease Effect - Amount	TEASE_EFFECT_AMT	INTEREST	Balance
Neg-Am Balance	NEG_AMRT_BALANCE	INTEREST	Balance
Neg-Am Interest	NEG_AMRT_INTEREST	INTEREST	Balance
Market Value	MARKET_VALUE	MARKET VALUE	Balance
Option Market Value	OPTION_MARKET_VALUE	MARKET VALUE	Balance
Present Value of Principal Cash Flows	MARKET_VALUE_PRINCIPAL	MARKET VALUE	Balance
Present Value of Interest Cash Flows	MARKET_VALUE_INTEREST	MARKET VALUE	Balance
DURATION	DURATION	NOT APPLICABLE	OUTPUT WOULD BE in DURATION FORMAT
DV01	DOLLAR_DURATION	MARKET VALUE	Balance

Table 1-21 (Cont.) Mapping between Consolidation Categories and FEs

Modified Duration	MODIFIED_DURATION	NOT APPLICABLE	OUTPUT WOULD BE in MODIFIED DURATION FORMAT

1.7.2 Editing Consolidation Category

To edit a Consolidation Category, perform the following steps:

1. Navigate to the Maintenance and select Currency Gain/Loss Basis.
2. Click **Edit** icon.
3. Select **Consolidation Category Row**.
4. After updating the category, click **Save** icon.

1.8 Time Buckets

The Time Bucket Rules allow users to create the time bucket definitions used for computing and outputting aggregated cash flows across time. The Time Bucket Rules determine the granularity of cash flow output and can be set at any frequency through a combination of daily, monthly, and yearly buckets. Time Buckets can be defined for the following types of ALM output:

- **Income Simulation**
  Income Simulation Buckets allow you to specify the time periods used for storing and reporting results. These bucket definitions set the modeling horizon for date-related business rule assumptions. When you change the number or frequency of the modeling buckets, existing business rules are affected.

  Be cautious when changing Time Bucket definitions when known dependencies exist.

  You can specify any combination of days, months, and years when setting up the buckets. Although all Oracle ALM cash flows are generated daily, they are aggregated into defined income simulation buckets when results are stored. Reports access information from the income simulation buckets and let you aggregate buckets. For example, you can define monthly income simulation buckets but generate a quarterly income statement. On the other hand, you cannot generate a weekly balance sheet if all income simulation buckets are monthly.

  If you want to use different configurations of income simulation buckets, such as all monthly or all quarterly, you should create a separate Time Bucket rule for each and use an appropriate naming convention to identify these characteristics. All date-related assumption rules should be defined and used in the context of a single set of Income Simulation buckets or a single Time Bucket Rule.

  Income Simulation Bucket definitions are referenced by all bucket based forecast business rules, including Forecast Rates, Forecast Balances, Pricing Margins and Maturity Mix Rules, and also by ALM Deterministic Processes during ALM Engine processing.
- **Interest Rate GAP**
  Interest Rate GAP Buckets allow you to define Interest Rate (repricing) GAP buckets including a catch all bucket to move reprice gap output for Non Interest Rate Sensitive products. From this screen, you can also define Dynamic Start Dates (as of date is

always the initial start date), which allows you to generate both static and dynamic GAP simulations.

With this Dynamic Start Date capability, users can also define forward start dates for computing dynamic market valuations. The Dynamic Start Date capability allows you to consider the amortization of existing business and any new business assumptions that are applicable between the current as of date and the future dated – Dynamic Start Date. You must set up Income Simulation Buckets before defining Interest Rate GAP Buckets.

Only Interest Rate GAP financial elements are impacted by the Interest Rate GAP bucket definitions. The Interest Rate GAP financial elements range from FE660 to FE700.

- **Liquidity GAP**
  Liquidity GAP Buckets are similar to Interest Rate GAP Buckets. The only difference is that Liquidity Bucket definitions impact only the Liquidity Runoff financial elements, which range from FE 1660 to 1717.

This module describes the procedure for working with and managing the Time Bucket Rules.

Topics

- Time Bucket Summary Page
- Search Time Bucket
- Create Time Bucket
- View and Edit Time Bucket
- Copy Time Bucket
- Delete Time Bucket

1.8.1 Time Bucket Summary Page

The Time Bucket Summary page displays the following information.

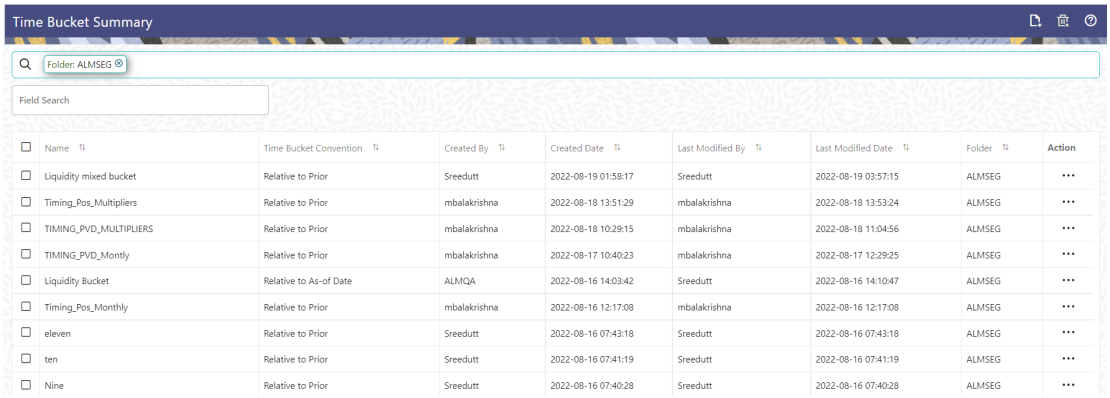
Table 1-22 Time Bucket Summary – Fields and Descriptions

Column	Description
Name	Displays the Time Bucket's Name.
Time Bucket Convention	Displays the Time Bucket Convention.
Created By	Displays the Name of the user who created the Time Bucket.
Created Date	Displays the Date and Time at which the Time Bucket was created.
Last Modified By	Displays the Name of the user who last modified the Time Bucket.
Last Modified Date	Displays the Date and Time when Time Bucket was modified last.
Folder	Displays the folder location where Time Bucket is saved.

Table 1-22 (Cont.) Time Bucket Summary – Fields and Descriptions

Column	Description
Action	Displays the list of actions that can be performed on the Time Bucket. For more information, see Time Bucket – Icons and Descriptions.

Figure 1-25 Time Bucket Summary Page



The Action Column on Time Bucket Summary page offers several actions that allow you to perform different functions. The following options are available for the Time Bucket Summary page.

Table 1-23 Table: Time Bucket – Icons and Descriptions

Fields	Description
Add	Click Add icon to build a new Time Bucket.
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 Time Bucket Rules at the same time.
View/Edit	Click on the Action icon against the Time Bucket Rule Name and select View/Edit to view or edit the contents of a Time Bucket 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 Time Bucket Rule Name and select Save As to create a copy of an existing Time Bucket Rule.
Delete	Click on the Action icon against the Time Bucket Rule Name and select Delete to delete an existing Time Bucket Rule.

1.8.2 Search Time Bucket

Search for a Time Bucket to perform any of the following tasks:

- View
- Edit
- Copy
- Delete

Prerequisites

Predefined Time Bucket

Procedure

To search for a Time Bucket Rule, follow these steps:

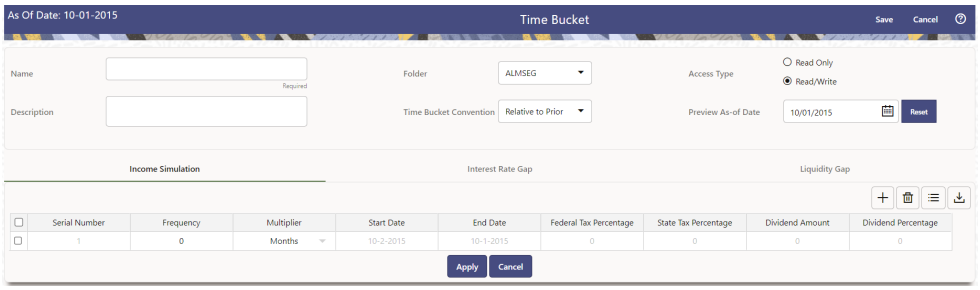
1. Navigate to the Time Bucket Summary page.
2. Enter the Code, Name, Folder, and/or Description of the Time Bucket and click Search.
3. Only Time Bucket Rules that match the search criteria are displayed.

1.8.3 Creating Time Bucket Rules

You create Time Bucket Rules to specify the time periods used for storing and reporting ALM results. To create a new Time Bucket Rule, follow these steps:

1. Navigate to the Time Buckets Summary page.
2. Click **Add** to create a new Time Bucket Rule.

Figure 1-26 Creating Time Bucket Rule



3. Enter the Name and Description of Time Bucket.
4. Select the Folder and Access Type.
5. Select **Time Bucket Convention** as **Relative to Prior** or **Relative to As-of Date** option.
   - **Relative to Prior:** This convention means that all time bucket points are relative to the period that preceeded them, with the first time bucket relative to the currently active as-of date. This convention supports the stub-to feature for time buckets.
   - **Relative to As-of-Date:** This convention means that all time bucket points are relative to the curently active As-of Date. This means that each new time bucket point entered must be greater in time than the one preceeding it by at least one day. The stub-to time bucket feature is not available with this convention.

6. You must have an Active Time Bucket Rule at all times. If you wish to Activate a particular Time Bucket Rule, then select **Relative to As-of- Date** option.
7. You can Preview As-of Date by using **Preview As-of Date** option.
8. Define the Time Bucket Rule. For more information, see Defining Time Bucket Rules

1.8.4 Defining Time Bucket Rules

The definition of a Time Bucket Rule is part of the Create or Edit Time Buckets Rule Process. When you click Save in the Create Time Buckets Rule Process, the rule is saved and the Time Buckets Rule Summary page is displayed. However, Time Bucket assumptions may not have been defined at this point. You must define the Time Bucket assumptions before clicking Save.

In the Time Bucket Details screen, you have three tabs available for creating Time Bucket definitions.

- Income Simulation Buckets (required)
- Interest Rate GAP Buckets, including Non Interest Rate Sensitive Bucket (required only if Repricing Gap is selected during processing). For Non Interest Rate Sensitive Bucket, both Repricing Gap and Include Non Rate Sensitive Bucket are required selections.)
- Liquidity GAP Buckets (required only if Liquidity Gap is selected during processing)

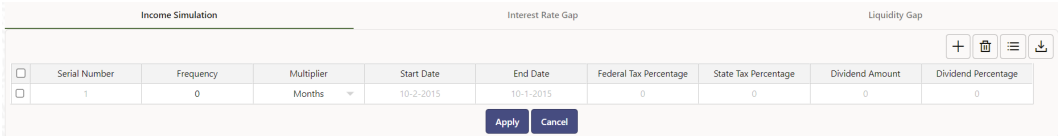
Prerequisites

Performing basic steps for creating or editing a Time Bucket rule. For more information, see the Creating Time Bucket Rules

To define the Time Bucket Rule, follow these steps:

1. In the **Income Simulation** tab, follow these steps:

Figure 1-27 Income Simulation Buckets



   a. Click **Add Rows** and enter the desired number of rows corresponding to the number of Income Simulation Buckets required to create.
   You can select a pre-defined number of rows from the list. For example, 3, 5, 10, or you can enter the exact number of rows required to add. The maximum number of buckets you have under any tab is 240.
   b. Under Frequency, enter a numeric value. For example 1. The Frequency column displays the duration of the multiplier. The frequency in conjunction with the multiplier displays the duration of the buckets. The frequency can be any number from 1 to 999.
   c. Under Multiplier, select an appropriate value from the list. The Multiplier column includes Daily, Monthly, Yearly, or stub-to (Relative to Prior convention) options.

> **Note:**
>
> Limit the definition of Income Simulation buckets to the date range that is relevant to your reporting requirement. It is not necessary to create catch all buckets at the end of the series. When large buckets are created, for instance, 99 Years, this can result in the following error:
>
> INSERT Oracle Error: ORA- 01426: numeric overflow
>
> Driver
>
> Function: drv_oci::Execute()

You may also select a Stub-to time bucket breakpoint in months or years when the time bucket convention is Relative to Prior. When applying a stub-to month or stub-to year it is not necessary to specify a time bucket frequency or multiplier as the application will automatically calculate the amount of time necessary to close the period.

> **Note:**
>
> Whenever the currently active as-of date changes this may also automatically change the size of any stub-to time buckets. These changes may impact processing output.

d. Continue adding frequencies and multipliers as needed. After you fill in the frequencies and multipliers, the start and end dates are calculated auto-matically based on the As-of-Date, defined in your Application Preference settings.

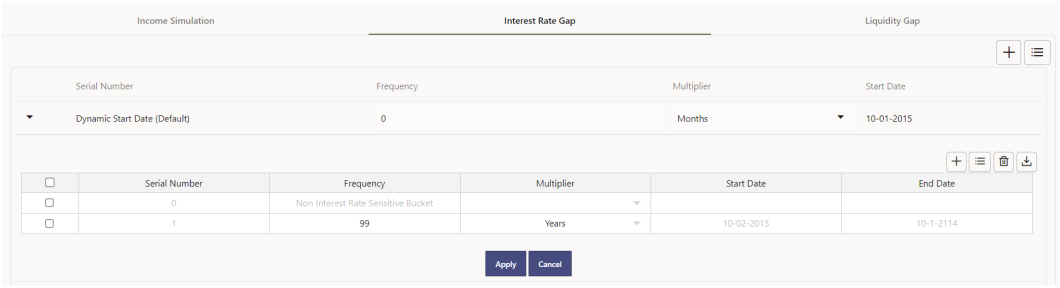
e. Select **Save** if you are finished.

2. Otherwise, navigate to the Interest Rate GAP Buckets tab. After defining Income Simulation buckets, navigate to the **Interest Rate GAP Buckets** tab. This tab provides two important inputs. The first is the ability to define Interest Rate GAP Buckets and optionally add a Non Interest Rate Sensitive Bucket for Non Rate Sensitive products. The second capability allows you to define one or more Dynamic Start Dates. The following steps explain how to complete each of these setup tasks.

> **Note:**
>
> The Interest Rate GAP Bucket can be defined from Bucket count 1 till Bucket count 239 in all dynamic start dates. The last time series time bucket in all Dynamic Start Dates will default to 99 years as a catch all bucket. This is used to verify the total runoff for reporting requirements.

In the **Interest Rate GAP Buckets** tab, follow these steps:

Figure 1-28 Interest Rate GAP Buckets



a. Click **Add Rows** corresponding to the Default Dynamic Start Date and enter the desired number of rows for your Interest Rate GAP Buckets.

> **Note:**
>
> The product dimension Attribute Interest Rate Sensitivity Category identifies products as Interest Rate sensitive or Non Interest Rate sensitive. Once a product is mapped as Non Interest Rate sensitive, you must enable Include Non Interest Rate Sensitive Bucket in Process Rules. This moves reprice gap output from Non Interest Rate Sensitive products into Non Interest Rate Sensitive Bucket.

b. Follow steps a— d described above under Income Simulation Buckets, to complete the setup of your Interest Rate GAP Buckets and Non Interest Rate Sensitive Bucket for the default Dynamic Start Date.

c. If you would like to define additional – forward dated, Dynamic Start Dates, Click **Add Dynamic Start Date** to add one or more parent nodes to the bucket hierarchy.

d. For each additional Dynamic Start Date row, enter the Frequency and Multiplier to determine future start date(s).

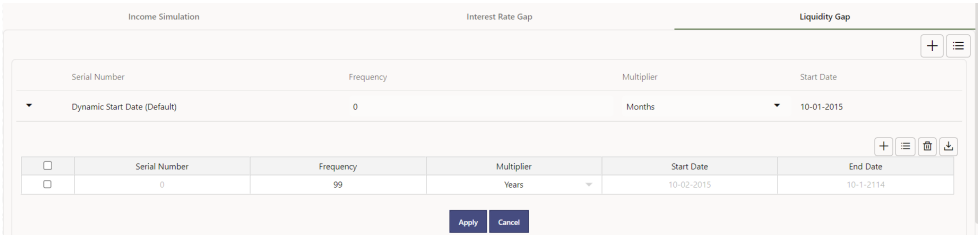
e. Click **Add Rows** corresponding to each new Dynamic Start Date and repeat the Interest Rate GAP Bucket definition steps previously described to complete the setup.

3. After defining Interest Rate GAP Buckets, navigate to the Liquidity Buckets tab. This tab has the same structure as the Interest Rate GAP Buckets tab. It allows you to define the Liquidity GAP Buckets for the Default Dynamic Start Date and also allows you to add one or more additional Dynamic Start Dates. The use of Dynamic Start Dates will allow you to forecast your liquidity position as of some future point in time, considering all relevant assumptions, including amortization, prepayments, early withdrawals, and rollovers.

> **Note:**
>
> By default, the last time series time bucket in all Dynamic Start Dates will default to 99 years as a catch all bucket. This is used to verify the total runoff for reporting requirements.

In the **Liquidity Buckets** tab, follow these steps:

Figure 1-29 Liquidity Buckets



a. Click **Add Rows** corresponding to the Default Dynamic Start Date and input the desired number of rows for your Liquidity Buckets.

b. Follow steps b– d described under Income Simulation Buckets, to complete the setup of your Liquidity Buckets for the Default Dynamic Start Date.

c. If you would like to define additional – forward dated, Dynamic Start Dates, Click **Add Dynamic Start Date** to add one or more parent nodes to the bucket hierarchy.

d. If needed, enter the Frequency and Multiplier for the new Dynamic Start Date to determine the future start date.

e. Click **Add Rows** corresponding to the new Dynamic Start Date and repeat the Liquidity GAP Bucket definition steps previously described.

f. Click **Save** once you have completed the setup for all bucket types.

> **Note:**
>
> Each time you change the As of Date in your Application Preferences window, all Time Bucket Rule Buckets Start Date and Bucket End Date updated automatically.

Excel Export functionality is used for adding/editing time bucket information.

1.8.5 View and Edit Time Bucket

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

To view and edit a Time Bucket, follow these steps:

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

1.8.6 Copy Time Bucket

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

To copy a Time Bucket, follow these steps:

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

1.8.7 Delete Time Bucket

You can delete Time Bucket Rules that are no longer required.

> **Note:**
>
> An Time Bucket cannot be retrieved after deletion.
>
> Restrictions on deleting Time Bucket Rules are:
>
> - You cannot delete Time Bucket Rules if you have only Read privileges. Only users with Read/Write privileges and Time Bucket owners can delete Time Buckets.
> - You cannot delete a Time Bucket that has a dependency.

To delete a Time Bucket, follow these steps:

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

1.9 Multi Dimensional Balance Sheet Structure

The **Multi-Dimensional Balance Sheet Structure (MDBSS)** is a user-defined construct that consists of one or more dimension members. It allows the following functionalities:

- Data to slot anywhere on the structure
- Forecasting to be done at any node
- Reporting to be done resolving all key issues as mentioned

You can create a multi-dimensional balance sheet structure that allows you to create and organize their preferred balance sheet according to the key and simple dimensions (and other attributes) inherent in their data.

> **Note:**
>
> For MDBSS Migration, Dimension migration is pre-req step for Hierarchy migration.

Topics

- Multi Dimensional Balance Sheet Summary Page
- Create Multi Dimensional Balance Sheet
- View /Edit Multi Dimensional Balance Sheet
- Copy Multi Dimensional Balance Sheet
- Delete Multi Dimensional Balance Sheet

1.9.1 Multi Dimensional Balance Sheet Summary Page

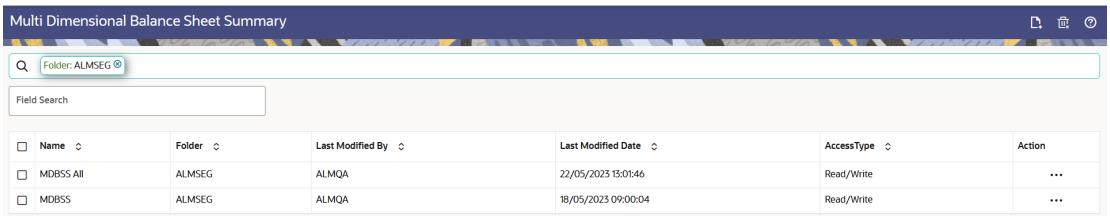
This page is the gateway to all Multi Dimensional Balance Sheet Rules and related functionality. You can navigate to other pages relating to Multi Dimensional Balance Sheet Rules from this point.

The Multi Dimensional Balance Sheet Summary Page displays the following columns.

Table 1-24 Multi Dimensional Balance Sheet Rule – Fields and Descriptions

Column	Description
Name	Displays the Multi Dimensional Balance Sheet Rule's Short Name.
Folder	Displays the folder of Multi Dimensional Balance Sheet rule.
Last Modified By	Displays the Name of the user who last modified the Multi Dimensional Balance Sheet Rule.
Last Modified Date	Displays the Date and Time when Multi Dimensional Balance Sheet Rule was modified last.
Access Type	Displays the Access Type as Read-Only or Read/Write.
Action	Displays the list of actions that can be performed on the Multi Dimensional Balance Sheet Rule. For more information, see Multi Dimensional Balance Sheet – Icons and Descriptions.

Figure 1-30 Multi Dimensional Balance Sheet Summary Page



The Action column on the Multi Dimensional Balance Sheet Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Multi Dimensional Balance Sheet Rule.

Table 1-25 Multi Dimensional Balance Sheet Rule – Icons and Descriptions

Fields	Description
Add	Click Add icon at the top right of the Summary Page to build a new Multi Dimensional Balance Sheet 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 Multi Dimensional Balance Sheet Name and select View/Edit to view or edit the contents of a Multi Dimensional Balance Sheet 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 Multi Dimensional Balance Sheet Name and select Save As to create a copy of an existing Multi Dimensional Balance Sheet Rule.
Delete	Click on the Action icon against the Multi Dimensional Balance Sheet Name and select Delete to delete an existing Multi Dimensional Balance Sheet Rule.
Dependency Check	Click on the Action icon against the Multi Dimensional Balance Sheet Name and select Dependency Check to view objects where selected Multi Dimensional Balance Sheet Rule is used.

1.9.2 Search for Multi Dimensional Balance Sheets

Search for a Multi Dimensional Balance Sheet to perform any of the following tasks:

- View
- Edit
- Copy
- Delete

- Check Dependencies

Prerequisites

- Predefined Multi Dimensional Balance Sheets

Procedure

To search for Multi Dimensional Balance Sheets, do the following:

1. Navigate to the **Multi Dimensional Balance Sheet** summary page.
2. Enter the Code, Name, Description, or Folder of the rule in Search Criteria.
3. Click the **Search** icon.

Only Multi Dimensional Balance Sheets that match the search criteria are displayed.

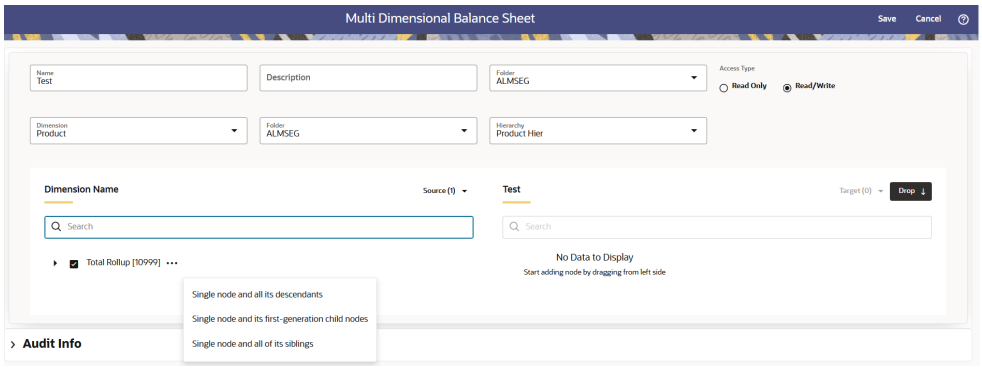
You can control the number of rows to display on-screen by selecting the "Pagination Options" icon from the action bar.

1.9.3 Create Multi Dimensional Balance Sheet Summary

To create the Multi Dimensional Balance Sheet, do the following:

1. Navigate to the **Multi Dimensional Balance Sheet** summary page.
2. Click **Add** icon. The **Multi Dimensional Balance Sheet** page is displayed.

Figure 1-31 MDBSS Rule



3. Enter the following details:

Table 1-26 Create MDBSS Rule

Fields	Description
Name	Enter the name of the Multi Dimensional Balance Sheet Rule.
Description	Enter the description of the Multi Dimensional Balance Sheet Rule. This is an optional field.
Folder	Select the Folder where the Multi Dimensional Balance Sheet Rule needs to be saved.

Table 1-26 (Cont.) Create MDBSS Rule

Fields	Description
Access Type	Select the Access Type as Read-Only or Read/Write.
Dimension	Select the Dimension of the Multi Dimensional Balance Sheet Rule.
Folder	
Hierarchy	Select the Hierarchy of the Multi Dimensional Balance Sheet Rule.

4. Select the Source of Dimension from **Dimension Name** drop-down list. You can click **Source** option to **Select All** or **Unselect All**.
5. Select the Target Node of Dimension. Here, You can select more than one Nodes at a time.
6. Click **Drop**. You can use **Revert** option to reverse the selection.
7. Click **Target** option to **Select All** or **Unselect All**.
8. Click **Save**.

1.9.4 View and Edit Multi Dimensional Balance Sheet

You can view existing Multi Dimensional Balance Sheet, and you can edit existing rules, provided you have Read/Write privileges.

To view and edit a Multi Dimensional Balance Sheet rule, follow these steps:

1. Navigate to the **Reference Data** and select **Multi Dimensional Balance Sheet**.
2. Search for a Rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the rule Name and select **View/Edit** to open the rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.9.5 Copy Multi Dimensional Balance Sheet

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

To copy a Multi Dimensional Balance Sheet, follow these steps:

1. Navigate to the **Reference Data** and select **Multi Dimensional Balance Sheet**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the rule Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the Rule Copy.
5. Enter a unique name for the new Rule.
6. (Optional) Enter a brief description of the Rule.
7. Select the access type.

8. Click **Save**.

1.9.6 Delete Multi Dimensional Balance Sheet

You can delete rules that are no longer required.

> **Note:**
>
> A Multi Dimensional Balance Sheet rule cannot be retrieved after deletion.
>
> Restrictions on deleting rules are:
>
> - You cannot delete rules if you have only Read privileges. Only users with Read/Write privileges and rule owners can delete Multi Dimensional Balance Sheets.
> - You cannot delete a rule that has a dependency.

To delete a Multi Dimensional Balance Sheet, follow these steps:

1. Navigate to the **Reference Data** and select **Multi Dimensional Balance Sheet**.
2. Search for a Rule. For more information, see the Searching for Rules section.
3. Click on the Action icon against the Multi Dimensional Balance Sheet Name and select **Delete**.

1.10 Product Characteristics

Product Characteristic Rules are used to define payment, pricing, and repricing characteristics for new business. They are also used to specify general calculation attributes for both existing accounts and new business.

As part of creating and editing Product Characteristic Rules, you assign product attribute assumptions to applicable products from the product hierarchy.

> **Note:**
>
> Oracle Asset Liability Management Cloud provides the option to copy, in total or selectively, the product assumptions contained within ALM business Rules from one currency to another currency or a set of currencies or from one product to another product or a set of products.

Topics

- Product Characteristic Summary Page
- Search Product Characteristic Rule
- Create a Product Characteristic Rule
- View and Edit Product Characteristic Rule
- Copy Product Characteristic Rule

- Delete Product Characteristic Rule

1.10.1 Product Characteristic Summary Page

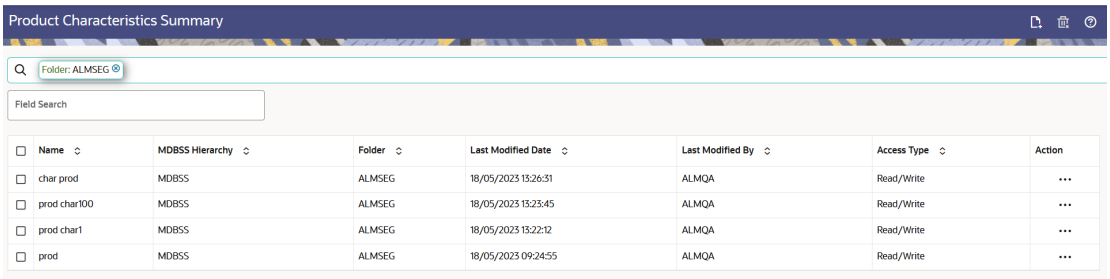
This page is the gateway to all Product Characteristic Rules and related functionality. You can navigate to other pages relating to Product Characteristic Rule from this point.

The Product Characteristics Summary Page displays the following columns.

Table 1-27 Product Characteristic Rule – Fields and Descriptions

Column	Description
Name	Displays the Product Characteristic Rule's Short Name. Mouse over the Name field to view the Code and Description details.
MDBSS Hierarchy	Displays the MDBSS Hierarchy of the Product Characteristic Rule.
Folder	Displays the Name of the user who created the Product Characteristic Rule.
Last Modified By	Displays the Name of the user who last modified the Product Characteristic Rule.
Last Modified Date	Displays the Date and Time when Product Characteristic Rule was modified last.
Access Type	Displays the Access Type of the Product Characteristic Rule as Read-Only or Read/write.
Action	Displays the list of actions that can be performed on the Product Characteristic Rule. For more information, see Product Characteristic Rule – Icons and Descriptions .

Figure 1-32 Product Characteristics Summary Page



The Action column on the Product Characteristics Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Product Characteristics Rule.

Table 1-28 Product Characteristic – Icons and Descriptions

Fields	Description
Add	Click Add icon to build a new Product Characteristic Rule.

Table 1-28 (Cont.) Product Characteristic – Icons and Descriptions

Fields	Description
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.
View/Edit	Click on the Action icon against the Rule Name and select View/Edit to view or edit the contents of a Product Characteristic 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 Product Characteristic Name and select Save As to create a copy of an existing Product Characteristic Rule.
Delete	Click on the Action icon against the Product Characteristic Name and select Delete to delete an existing Product Characteristic Rule.
Dependency Check	Click on the Action icon against the Product Characteristic Name and select Dependency Check to view objects where selected Product Characteristic Rule is used.

1.10.2 Search Product Characteristic Rule

Search for a Product Characteristic Rule to perform any of the following tasks:

- View
- Edit
- Copy
- Delete

Prerequisites

Predefined Product Characteristic Rules

Procedure

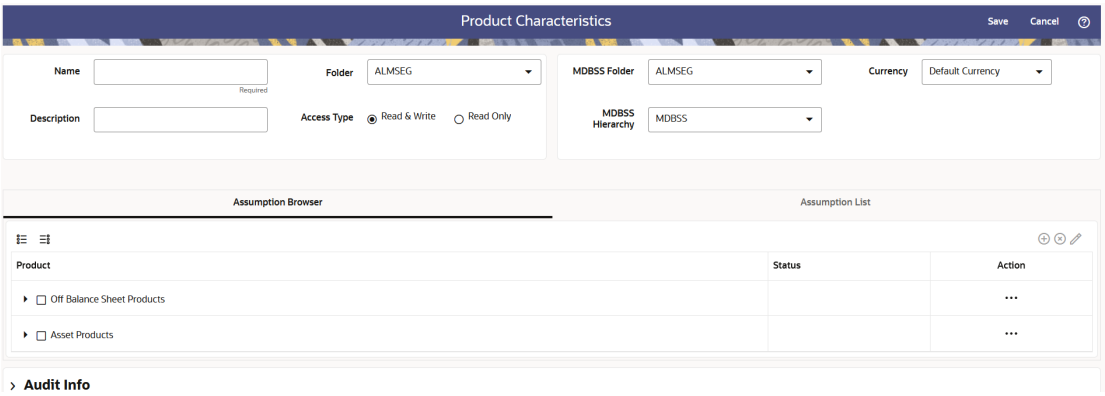
To search the Product Characteristic Rules, follow these steps:

- Navigate to the Product Characteristic Rule Summary Page.
- Enter the code, name, description, hierarchy, or folder of the Rule in Search Criteria.
- Click the **Search** .
  Only Rules that match the search criteria are displayed.

1.10.3 Create Product Characteristic Rules

You create a Product Characteristics Rule to assign attributes to the products.

Figure 1-33 Product Characteristics Page



To create a new Product Characteristics Rule, follow these steps:

- Click **Add** icon from the top of the **Product Characteristics Summary** Page.
- Enter the following Details.

Table 1-29 Create Product Characteristics Rule

Fields	Description
Name	Enter the name of the Product Characteristics Rule.
Description	Enter the description of the Product Characteristics Rule. This is an optional field.
Folder	Select the Folder where the Product Characteristics Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/ Write.
MDBSS Folder	Select the MDBSS folder
Currency	Select the currency for Product Characteristics Rule
MDBSS Hierarchy	Select the MDBSS hierarchy

- Select a **Product Hierarchy**. You can define methodologies at any level of the Hierarchical Product Dimension. The Hierarchical Relationship between the nodes allows the inheritance of methodologies from Parent nodes to Child nodes.
- Select Product(s) from **Assumption Browser**.
- Click **Add** from **Assumption Browser** section.

1.10.3.1 Using Assumptions

This section describes about using the assumptions.

Assumption Browser

From the **Assumption Browser** window, select the product (or products).

1. Select the **Add Assumption**.

2. Type a value for each mandatory field. Mandatory input fields are marked with a red asterisk.

You can optionally select one of the seeded Product Profile templates or a user-defined Product Profile to prepopulate the appropriate **Product Characteristic** fields.

Assumption List Tab

The A**ssumption List** tab is present next to the **Assumption Browser** in all the windows which have the **Assumption Browser.** This tab provides the following five search fields:

- Dimension Member Code
- Dimension Member Name
- Dimension Member Description
- Dimension Member Status
- Is Leaf

Dimension Member Code, Name, and **Description** provide filter criteria for search such as Contains, Starts With, Ends With, and Exactly Matches.

Dimension Member Status is a drop-down list containing values such as, Defined, Not Defined, Inherited, Defined and Inherited, and All.

Is Leaf is a check box that can be toggled.

The search icon initiates the search on the **Assumption Browser** based on the filter criteria provided in the above-mentioned fields. **Reset** restores the default search criteria.

The search results will flatten the hierarchy and display all of the products that meet the input criteria. Use the pagination widget to display the number of products per page (up to a maximum of 99). You can proceed to edit or create new Rules in the assumption list tab.

1.10.4 Defining Product Characteristic Rules

The definition of a Product Characteristics Rule is part of the **Create** or **Edit** Product Characteristics Rule process. When you click **Save** in the Create Product Characteristics Rule process, the Rule is saved, and the **Product Characteristics Rule** summary page is displayed. However, Product Characteristic assumptions have not yet been defined in the products at this point. Start defining the Product Characteristic assumptions for product or currency combinations before clicking **Save**.

Defining Product Characteristics Using Node Level Assumptions

Node Level Assumptions allow you to define assumptions at any level of the Product dimension Hierarchy. The Product dimension supports a hierarchical representation of the chart of accounts to take advantage of the parent-child relationships defined for the various nodes of the product hierarchies when defining Rules. Children of parent nodes on a hierarchy automatically inherit the assumptions defined for the parent nodes. However, assumptions explicitly defined for a child take precedence over those at the parent level.

Prerequisites

Performing basic steps for creating or editing a Product Characteristics Rule.

To define a Product Characteristic Rule, follow these steps:

1. From the **Assumption Browser** window, select the product (or products) and the currency to define the Product Characteristics. Click **Add +** icon to launch the **Product Characteristic Details** window.
2. Select the **Currency**.

> **Note:**
>
> To define assumptions for all currencies with the selected product, select **Default Currency**.

3. From the **Assumption Browser**, select the Product or Products.
4. Click the **Add Assumption**.
   Enter a value for mandatory fields. Mandatory input fields are marked with a red asterisk.

   Else, select one of the seeded **Product Profile** templates or a user-defined Product Profile to prepopulate the appropriate **Product Characteristic** fields.
5. From the **File** menu, select **Save**.

> **Note:**
>
> Using the default currency to setup assumptions can save data input time. At runtime, the calculation engine uses assumptions explicitly defined for a product currency combination. If assumptions are not defined for a currency, the engine uses the assumptions defined for the product and the default currency. If the assumptions are the same across some or all currencies for a specific product, you can input assumptions for the default currency. Be careful when using this option on UI where an Interest Rate Code is a required input. In most cases, you will want to use a currency-specific interest rate curves for pricing instruments within each specific base currency. The Default Currency option, if used will apply a selected Interest Rate Code across all currencies.

6. The **Product Characteristic Details** window has the following three input tabs:
   - Core Attributes
   - Payment Attributes
   - Rate Attributes
   - Other Attributes

1.10.4.1 Core Attributes

This section describes the new business fields used in the **Core Attributes** tab of the Product Characteristics Rule.

Figure 1-34 Core Attributes Tab to Define the Product Characteristic Rule

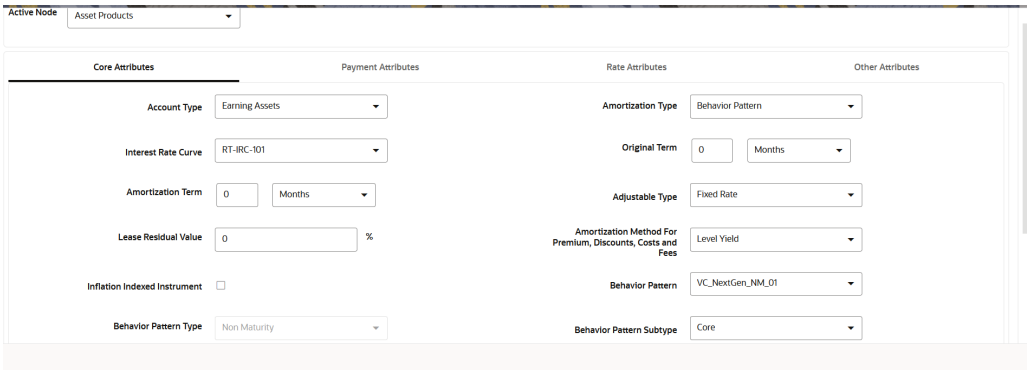


Table 1-30 Fields to add the Core Attributes for Product Characteristic Rule and their Descriptions

Field	Description
Account Type	Select the account type.
Amortization Type	Method of amortizing principal and interest. The choices consist of all standard OFSAA codes and all additional user-defined codes created through the Payment Pattern and Behavior Pattern interfaces, as follows: Conventional Fixed Conventional Adjustable Balloon Payment Adjustable Negative Amortization Non-Amortizing Rule of 78's Level Principal Payment Pattern Behavior Pattern Lease
Interest Rate Curve	Defines the pricing index to which the instrument interest rate is contractually tied. The interest rate codes that appear as a selection option depending on the choice of currency. The interest rate code list is restricted to codes that have the selected currency as the Reference Currency. If the default currency is chosen, all interest rate codes are available as a selection.
Original Term	The contractual term at origination date in units (days, months, or years).
Amortization Term	Term upon which amortization is based in units (days, months, years). This field is not editable if the Derivative Type is selected as FX Contract and subtype is selected as Spot or Forward

Table 1-30 (Cont.) Fields to add the Core Attributes for Product Characteristic Rule and their Descriptions

Field	Description
Adjustable Type	Determines the repricing characteristics of the new business record. The choices consist of all standard OFSAA codes plus the Repricing Pattern. The standard OFSAA codes are as follows: Fixed-Rate Floating Rate Other Adjustable
Lease Residual Value	For Lease instruments, this value specifies the residual amount as a percent of the par balance.
Amortization Method for Premiums, Discounts, Costs and Fees	Determines the method used for amortizing premiums, discounts, or fees. The available codes are: Level Yield Straight Line
Behavior Pattern Type	Lists all user-defined behavior patterns created through the user interface.
Behavior Pattern Subtype	Lists all user-defined behavior patterns created through the user interface.
Payment Pattern	Lists all user-defined payment patterns defined through the user interface.
Repricing Pattern	Lists all user-defined reprice patterns created through the user interface.
Original Deferred Amortization Percent	The initial deferred balance expressed as a percent of original par balance.

1.10.4.2 Payment Attributes

This section describes the new business fields used in the **Payment Attributes** tab of the Product Characteristics Rule.

Figure 1-35 Payment Attributes Tab to Define the Product Characteristic Rule

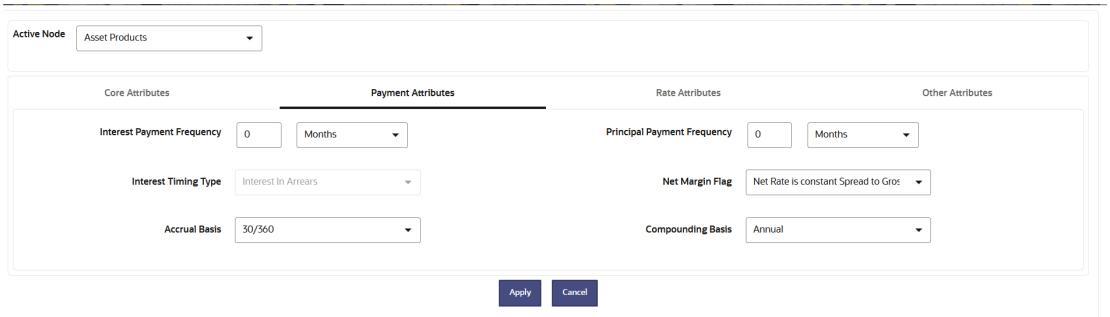


Table 1-31 Fields to add the Payment Attributes for Product Characteristic Rule and their Descriptions

Field	Description
Interest Payment Frequency	Frequency of Interest payment .
Principal Payment Frequency	Frequency of Principal payment.
Interest Timing Type	Determines whether interest is calculated in arrears or advance or if the rate is set in arrears. There are three interest types: Interest in Arrears Interest in Advance Set in Arrears For conventional amortization products, interest in arrears is the only valid choice.
Net Margin Flag	The setting of the net margin flag affects the calculation of the Net Rate. The two settings are: Floating Net Rate - the net rate reprices in conjunction with the gross rate, at a value net of fees. Fixed Net Rate - the net rate equals a fixed fee equal to the net margin.
Accrual Basis	The basis on which the interest accrual on an account is calculated. The choices are as follows: 30/360 Actual/360 Actual/Actual 30/365 30/Actual Actual/365 Business/252 *
Compounding Basis	Determines the number of compounding periods per payment period. The choices are as follows: Daily Monthly Quarterly Semi-Annual Yearly Continuous Simple At Maturity

> **Note:**
>
> * A Holiday Calendar selection is required if **Business/252 Accrual Basis** is selected. **Business/252 Accrual Basis** is only applicable to the recalculate option of the Holiday Calendar Rule. If the user selects the shift payment dates, the payment will still be recalculated for the non-holiday or weekend date.

1.10.4.3 Rate Attributes

This section describes the new business fields used in the **Rate Attributes** secondary tab of the Product Characteristics Rule.

Figure 1-36 Rate Attributes Tab to define the Product Characteristic Rule

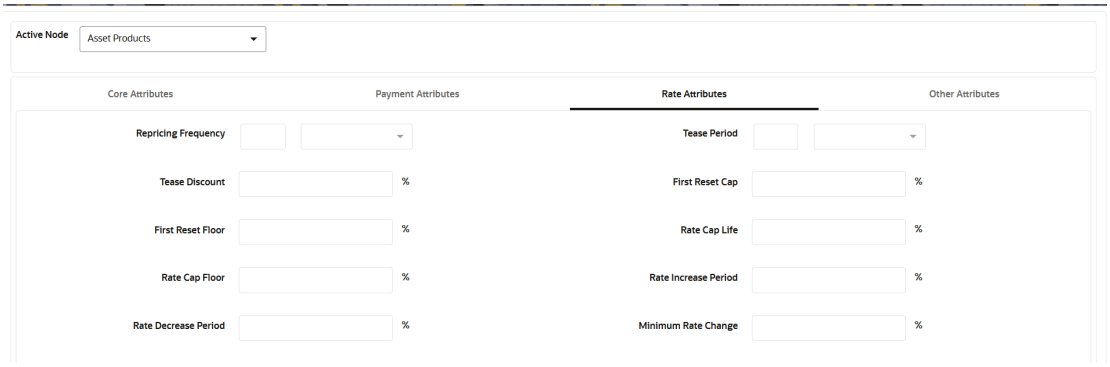


Table 1-32 Fields to add the Rate Attributes for Product Characteristic Rule and their Descriptions

Field	Description
Repricing Frequency	Contractual frequency of rate adjustment.
Tease Period	The tease period is used to determine the length of the tease period.
Tease Discount	The tease discount is used in conjunction with the original rate to calculate the tease rate. The tease rate is the original rate less than the tease discount.

Table 1-32 (Cont.) Fields to add the Rate Attributes for Product Characteristic Rule and their Descriptions

Field	Description
First Reset Cap	This indicates the maximum delta between the initial rate and the first reset for mortgage instruments that have a tease period. This rate will be applicable at the tease end period, before the first reset. After this, the periodic and lifetime cap value will be applied. The value of this field will be automatically populated from the **Product Profile** window if the product is mapped to Product Profile and value is defined for First Reset Cap. For example: Current Rate = 3.5% (from the instrument record) Margin = 0.3 % First Reset Cap = 0.5% (from the instrument record) First Reset Floor = 0.1% (from the instrument record) Scenario 1: If New Forecasted Rate = 5.1% (Forecast Rates Assumption) The fully indexed rate (after applying minimum rate change, rounding effects) is higher than the (Current Rate + First Reset Cap). So, the new rate assigned will be 3.5% + 0.5% = 4.0%
First Reset Floor	This is the initial minimum value for mortgage instruments that have a tease period. This floor rate will be applicable at the tease end period, before the first reset. After this, the periodic and lifetime floor value will be applied. The value of this field will be automatically populated from the **Product Profile** window if the product is mapped to Product Profile and value is defined for First Reset Floor.
Rate Cap Life	The maximum rate for the life of the instrument.
Rate Cap Floor	The minimum rate for the life of the instrument.
Rate Increase Period	The maximum interest rate increase allowed during the cycle on an Adjustable Rate instrument.
Rate Decrease Period	The maximum amount rate can decrease during the repricing period of an Adjustable Rate instrument.
Rate Set Lag	Period by which the rate lookup lags the repricing event date.
Minimum Rate Change	The minimum required change in rate on a repricing date.
Rate Change Rounding Factor	Percent to which the rate change on an adjustable instrument is rounded.

Table 1-32 (Cont.) Fields to add the Rate Attributes for Product Characteristic Rule and their Descriptions

Field	Description
Rate Change Rounding Type	The method used for rounding of interest rate codes. The choices are as follows: • No Rounding • Truncate • Round Up • Round Down • Round Nearest

1.10.4.4 Other Attributes

The assumptions made on the **Other Attributes** tab apply to both current position data and new business balances.

The common Product Characteristic fields listed on the **Other Attributes** tab are as follows.

Figure 1-37 Other Attributes Tab to Define the Product Characteristic Rule

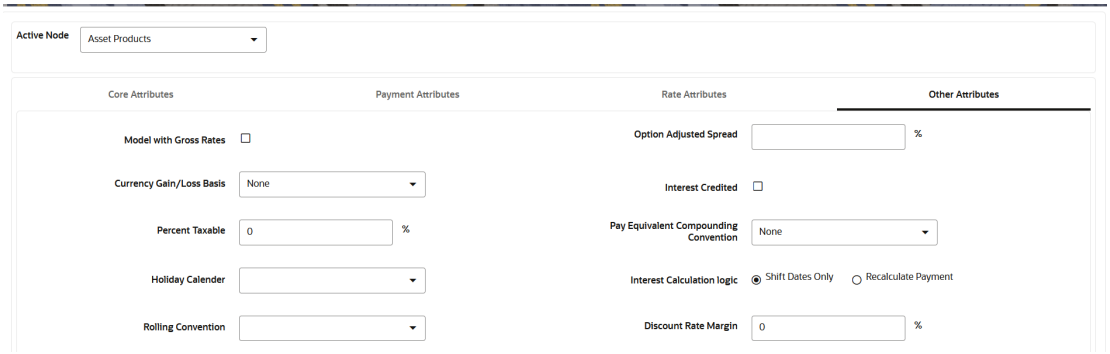


Table 1-33 Fields to define the attributes for Product Characteristic Rule and their Descriptions

Fields	Behavior
Model with Gross Rates	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) will be greater than the rates received by the bank (net rates). For these instruments, both a net and gross rate will be calculated within the cash flow engine and both gross and net rate financial elements will be output. The gross rate is used for prepayment and amortization calculations. The net rate is used for income simulation and the calculation of retained earnings in the auto-balancing process.

Table 1-33 (Cont.) Fields to define the attributes for Product Characteristic Rule and their Descriptions

Fields	Behavior
Option Adjusted Spread	The Option Adjusted Spread is used during stochastic processing only. It is an adjustment to the stochastic discount factor used in calculating market value and value at risk. Valid values for this spread are between -5.000% and 5.000%, but the value of less than 2.00% is recommended for the best results. For more information about the calculation of discount factors, see the Oracle Financial Services Cash Flow Engine ReferenceGuide.
Currency Gain or Loss Basis	Currency Gain or Loss Basis determines how exchange rate fluctuations are reflected in financial element results for each product and currency combination. The choices are: Temporal Historical Basis Current Rate For more information on the cash flow calculations associated with currency gain or loss recognition techniques, see the Oracle Financial Services Cash Flow Engine Reference.
Interest Credited	This option allows interest payments to be capitalized as principal on simple or non-amortizing instruments.
Percent Taxable	Percent Taxable specifies the percent of income or expense that is subject to the tax rates defined in the active Time Bucket Rule. This is used with the Auto-balancing option in the ALM Process Rules. Percent taxable must be set up for each product and reporting currency or product and default currency combination.
Pay Equivalent Compounding Convention	In most cases, interest rates are not adjusted for the differences in pay-basis between the quote basis of the pricing index and the payment frequency of the account to which the index is assigned. Some instruments, notably Canadian Mortgages, follow a convention that the interest rates are adjusted. In this case, the Pay-Equivalent Compounding Convention must be set to Semi-Annual Quoting Convention. For other accounts, the convention must be set to Do Not Adjust.
Holiday Calendar	The default value is Blank and is Enabled. This drop-down list contains the list of all holiday calendar definitions defined in the **Holiday Calendar** window.
Interest Calculation Logic	There are two options: Shift Dates Only Recalculate Payment

Table 1-33 (Cont.) Fields to define the attributes for Product Characteristic Rule and their Descriptions

Fields	Behavior
Rolling Convention	The default value is Unadjusted and is Enabled, only when Holiday Calendar is selected in the preceding field. This drop-down list contains the following values: Actual or Un-adjusted 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 that necessitate this.
Discount Rate Margin	
Discount Rate Margin Type	Rate Spread Price of instrument paer 100

> **Note:**
>
> The Holiday Calendar attributes can be applied directly to the instrument records for an existing business. If they are not applied to the records, the engine will use the definition from the **Other Attributes** tab to apply **Holiday Calendar** for existing and New Business.

1.10.5 View and Edit Product Characteristic Rule

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

To view and edit a Product Characteristic Rule, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Assumptions**, and then select **Product Characteristics**.
2. Search for a Rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Rule Name and select **View/Edit** to open the rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.10.6 Copy Product Characteristics Rule

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

To copy a Product Characteristic rule, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Assumptions**, and then select **Product Characteristics**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Rule Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the Rule Copy.
5. Enter a unique name for the new Rule.
6. (Optional) Enter a brief description of the Rule.
7. Select the access type.
8. Click **Save**.

1.10.7 Delete Product Characteristic Rule

You can delete Rules that are no longer required.

> **Note:**
>
> A Rule cannot be retrieved after deletion.
>
> Restrictions on deleting Rules are:
>
> - You cannot delete Rules if you have only Read privileges. Only users with Read/Write privileges and Rule owners can delete Rules.
> - You cannot delete a Rule that has a dependency.

To delete a Product Characteristic rule, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Assumptions**, and then select **Product Characteristics**.
2. Search for a Rule. For more information, see the Searching for Rules section.

3. Click on the **Action** icon against the Rule Name and select **Delete**.

1.10.8 Copying Assumptions Across Currencies and Products

This functionality provides the option to copy, in total or selectively, the product assumptions contained within the ALM assumption Rules from one currency to another currency or a set of currencies, or from one product to another product or set of products.

Copy of assumptions enhances the usability of Oracle Asset Liability Management in a multi-currency environment. For example, if you have 10 currencies enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled currencies, instead of having to input 10 full sets, thereby saving a significant amount of input time.

This functionality also reduces the risk associated with data input errors as you must audit inputs for a set of assumptions before executing the copy procedure. The Copy Across Currencies process requires users to select a replacement yield curve for each target currency. These currency-specific IRCs replace the IRC selection made for each product in the source currency selection set. It is possible to edit the target assumptions after the initial copy processes have been completed.

Prerequisite

Define ALM Rule related product assumptions

Overview of Product Characteristic Rules

Overview of Discount Method Rules

Overview of Prepayment Rules

Creating a Forecast Balance Rule

Overview of Pricing Margin Rules

To copy the assumptions across Currencies and Products, follow these steps:

1. Navigate to the appropriate ALM Business Rule **Assumption Browser**.
2. Define assumptions for the source currency product set.
3. **Save** the assumptions.
4. Select the defined product assumptions using the check boxes corresponding to each product (or Node on the hierarchy) that you want to include in the copy process.
5. Click on the Action icon against the Product Name and select Copy Across.
6. On the **Copy Across Details** page, select the listed currencies either individually using the corresponding check boxes or in total using **Select All**.
   Specify an Interest Rate Code for each selected currency. This is necessary because each interest rate code is specific to a single currency. When copying product assumptions across currencies, you must define the interest rate code for each target currency to replace the Interest Rate Code used for the source currency assumptions.
   - While defining a Rule if the Interest Rate Code is required, then **Copy Across (currency)** window will have an option to select the Interest Rate Code. For example, **Product Characteristic, Discount Methods, and Prepayments** windows, the **Copy Across (Currency)** window will have an option for IRC selection.
   - While defining a Rule if the Interest Rate Code selection is not required, then **Copy Across (Currency)** window will have the Interest Rate Code selection option

disabled. For example, **Forecast Balances** and **Pricing Margin** windows, the **Copy Across (Currency)** window will not have an option for IRC selection.

- If a Rule does not require the Interest Rate Code selection and RDP selection is required (for, **Forecast Balances** and **Pricing Margin**), then **Copy Across (Currency)** will not have an option to select the IRC.

7. Click **Apply** to initiate the copy process and to return to the **Assumption Browser** page.
8. Review the results of the copy process from the **Assumption Browser** window by selecting a different currency and following the usual navigation to view or edit assumptions. The application displays new assumptions for each product included in the source selection. The copy process replaces pre-existing assumptions for any product-currency combination that is included in the target selection.
9. Click **Save** on the **Assumption Browser** window to save the assumptions to the database.

1.11 Holiday Calendar

This section discusses the procedure to create a Holiday Calendar and generate a list of the weekend and holiday dates. Individual PBSM 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:

1.11.1 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.

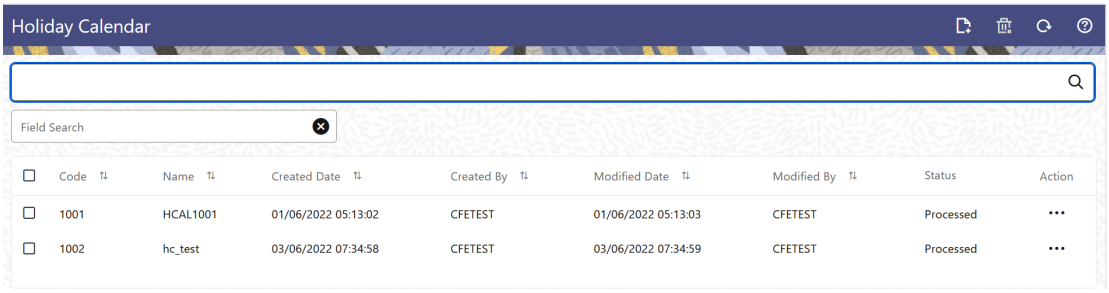
Table 1-34 Holiday Calendar Rule – Fields and Descriptions

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.

Table 1-34 (Cont.) Holiday Calendar Rule – Fields and Descriptions

Column	Description
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 1-38 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 1-35 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.

Table 1-35 (Cont.) Holiday Calendar Rule – Icons and Descriptions

Fields	Description
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.

1.11.2 Search Holiday Calendar

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

- View
- Edit
- Copy
- Delete

Prerequisites

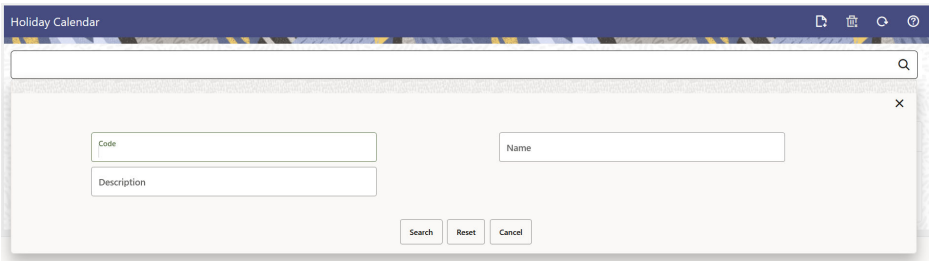
Predefined Holiday Calendar Rule

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 1-39 Search Holiday Calendar

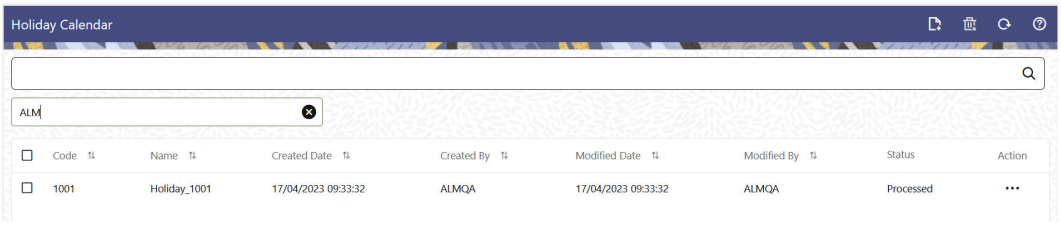


  - Click **Search** .

  or

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

Figure 1-40 Search Holiday Calendar



Only Holiday Calendars that match the search criteria are displayed.

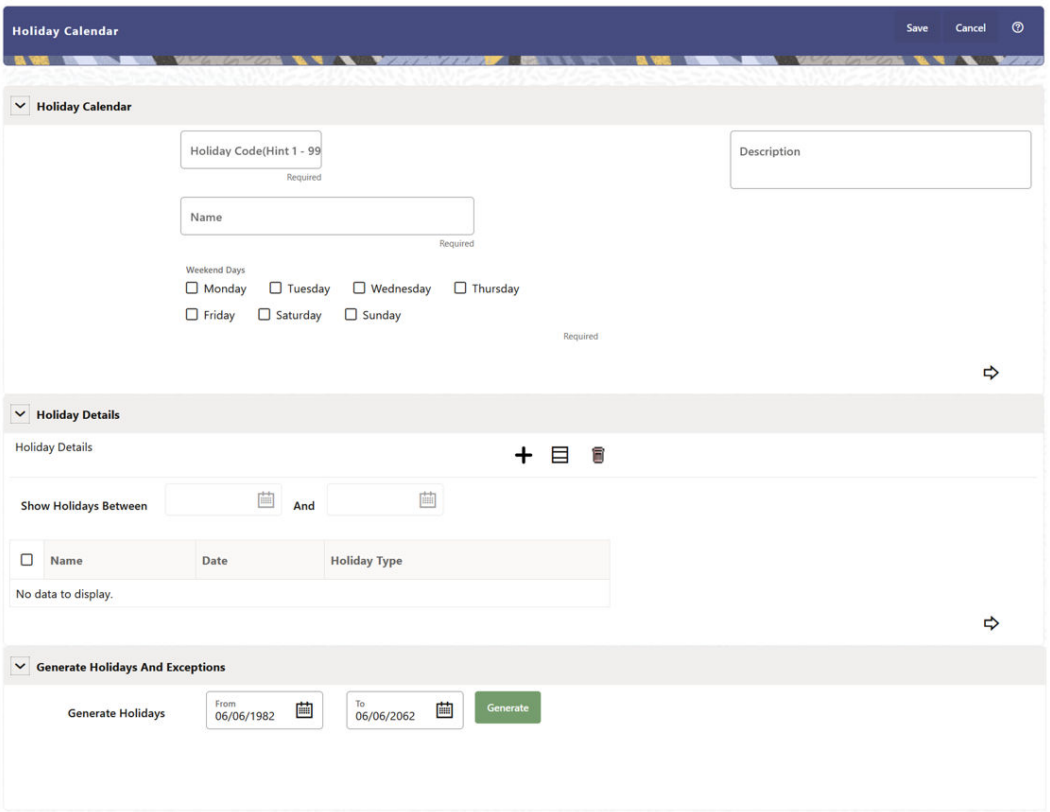
1.11.3 Create a Holiday Calendar

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.
2. Click Add icon. The Holiday Calendar Details Page is displayed. This page is divided into following sections:
   - Holiday Calendar
   - Holiday Details
   - Generate Holidays And Exceptions

Figure 1-41 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.

1.11.4 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.

1.11.5 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.
3. Click on the **Action** icon against the Holiday Calendar Rule Name and select View to open the Holiday Calendar for which you want to see the generated list
4. Browse to Generate Holidays And Exceptions Section.
5. Click View List icon on RHS.

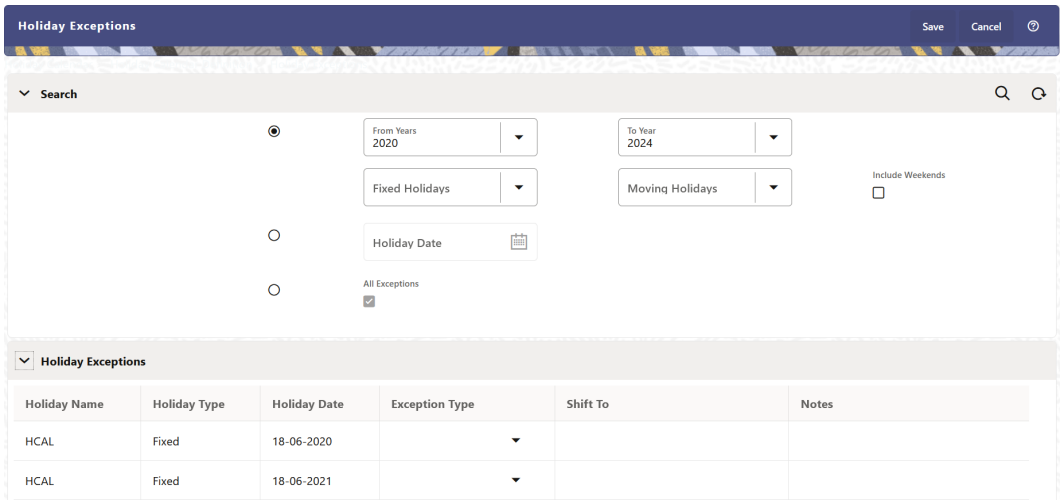
This opens a new window where Holiday Dates for selected month and year can be seen.

1.11.6 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.

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

Figure 1-42 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.
3. The search result gives the list of all holidays based on the selection of the above search criteria fields.
   - In the **Holiday Exceptions** section, there are two types of exceptions that can be defined: Not a Holiday and Shift to.
     - Any Holiday can be marked as not a Holiday, in which case that day is removed from the Holiday List. If you select **Not a Holiday** from the **Exception Type** drop-down, then the Shift to date field is disabled.
     - Spring earlier considered as a Holiday in the Holiday Calendar can be marked as Not a Holiday in the Holiday Exceptions Window. You can write your comments or remarks in the Notes next to the **Exception Type** drop-down list.
   - Any Holiday can be shifted to another day, in which case the earlier declared Holiday is removed from the Holiday List, while the shifted today is included as a Holiday.
   - Once the Holiday Calendar Definition is saved, its status in the Holiday Calendar Summary Page is marked as Defined.

1.12 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

1.12.1 Search for Behavior Patterns

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

1. From the LHS menu, select **Maintenance**, and then select **Behavior Pattern** to open the Behavior Pattern Summary Page. This page is the gateway to all Behavior Patterns and related functionality. You can navigate to other pages relating to Behavior Patterns from this page.
   Figure 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.
5. Click on the Action icon against the Behavior Pattern to do further actions as follows:
   - **View:** Click View to view the details of a Behavior Pattern in Read-Only format.
   - **Edit:** Click Edit to modify a previously saved Behavior Pattern. Note that you cannot change the Code.
   - **Save As:** Click Save As to create a copy of the selected Behavior Pattern.

- **Dependency Information:** Click Check Dependencies to generate a report on all rules that utilize your selected Behavior Pattern.
- **Delete:** Click Delete to delete the selected Behavior Pattern.

6. Click **Cancel/Reset** to remove the filter criteria on the Search Window and refresh the window.

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

1.12.2 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 2: Behavior Patterns Details Page
3. Enter a unique Numeric Code for the new Behavior Pattern. The code is must be mapped the appropriate instrument record's AMRT_TYPE_CD and BEHAVIOUR_PATTERN_CD to connect the instrument to the appropriate pattern.
4. Enter the **Name** and a **Description** for the pattern.
5. Select the Behavior Pattern Type from the following options:
   - Non Maturity
   - Non-Performing
   - Devolvement and Recovery.
6. Define the Behavior Pattern Tenor Specifications for the Maturity Branches.
7. The selection of the Behavior Pattern Type made in the previous step determines the information you must provide to successfully define that Pattern Type. For more information, see:
   - Defining Non-Maturity Behavior Patterns
   - Defining Non-Performing Behavior Patterns
   - Defining Devolvement and Recovery Behavior Patterns

> **Note:**
>
> The Behavior Pattern Details Page above displays the specifications associated with the Non Maturity Pattern Type. Should you change this value for one of the other two alternatives, Non Performing or Devolvement and Recovery, the payment specifications section corresponding to the new Pattern Type get refreshed. Although you can change your selection of the Pattern Type at any point in this procedure, sometimes this might result in loss of data related to any prior selection.

1.12.2.1 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 5: 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

   > **Note:**
   >
   > There is no difference in behavior from a Cash Flow perspective, but the Runoff Amount will be written to a Principal Runoff Financial Element corresponding to the selected Runoff Type.

4. Click the **Add** icon to add additional payment strips to the Pattern and define appropriate assumptions for each strip.
5. To delete a row, select the check box corresponding to the row(s) you want to remove and click the **Delete** icon.

6. Click **Save**.

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

1.12.2.2 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:
     - Days
     - Months
     - Years
   - Allocation Input Type: This field has a default value of Percentage for each maturity tier.
   - Percentage: The outstanding balance indicating how much of the outstanding balance will mature on the specified term. Enter a number 0 and 100.
   - Type: This allows you to classify the Runoff based on the appropriate type. If you select Percentage under 'Allocation Input Type', this allows you to select Core or Volatile.
4. Click the **Add** icon to add additional payment strips to the Pattern. After defining the initial strip as Volatile, subsequent strips are usually classified as Core with varying maturity terms assigned.

> **Note:**
>
> There is no difference in behavior from a Cash Flow perspective, but the Runoff Amount will be written to a Principal Runoff Financial Element corresponding to the selected Runoff Type.

5. Click **Add Multiple Row** icon to open a window. Enter the number of rows you want to add and click Add Rows.
6. The **Upload Excel** icon helps you to upload the Behavior Pattern information to an Excel Sheet. This feature will be available in future.

7. To delete a row, select the check box corresponding to the row you want to remove and click the Delete icon.
8. Click **Save**.

Figure 3: Behavior Pattern Type as Non-Maturity

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

1.12.2.3 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:

1. In the Behavior Pattern Details Page, select **Non-Performing** as the **Behavior Pattern Type**.
2. Click the **Add** icon to open the **Non-Performing Behavior Patterns Summary** Page.
   Figure 4: 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 As-of-Date + 1 Day.
   - **Multiplier:** The unit of time applied to the Tenor. The choices are:
     - Days
     - Months
     - Years
   - **Percentage:** The relative amount of the Principal Balance that will mature on the date specified by the Tenor + Multiplier. The percentage amounts can exceed 100% for Non-Performing Patterns.
   - **Type:** This allows you to classify the Runoff based on the appropriate type. The options are:
     - Substandard
     - Doubtful
     - Loss

   > **Note:**
   >
   > There is no difference in behavior from a Cash Flow perspective, but the Runoff Amount will be written to a Principal Runoff Financial Element corresponding to the selected Runoff Type.

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

5. To delete a row, select the check box corresponding to the row(s) you want to remove and click the **Delete** icon.
6. Click **Save**.

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

1.12.3 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:

1. Navigate to the **Behavior Pattern Summary** Screen.
2. Search for a Rule.
   For further information, see the Search for Behavior Pattern section.
3. Click on the **Action** icon against the Pattern Name and select **View or Edit** to open the rule you want to update.
4. Update the rule details.
5. Click **Apply** or **Save**, depending on the rule type.

1.12.4 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.
2. Search for a Rule.
   For more information, see the Search for Behavior Pattern section.
3. Click on the **Action** icon against the Pattern Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the rule copy.
5. Enter a unique Name for the new rule.
   (Optional) Enter a brief Description of the rule.
6. Select the **Access Type**.
7. Click the **Save** button.

1.12.5 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.

1.13 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

1.13.1 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.

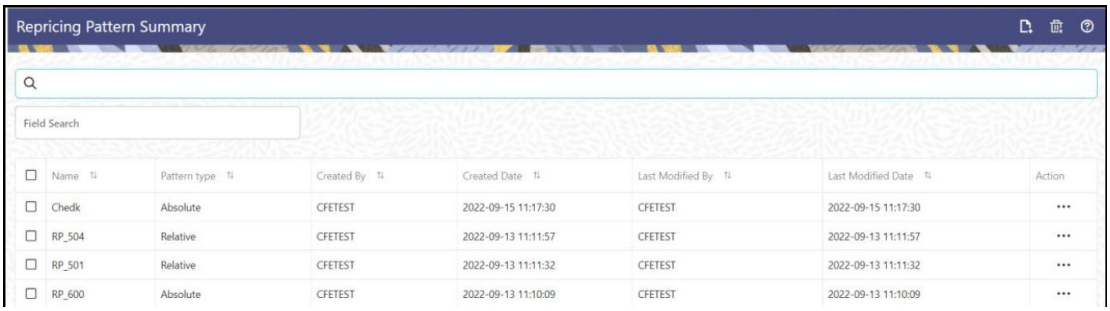
The Cash Flow Repricing Summary Page displays the following columns.

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.

Column	Description
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 1-43 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 1-36 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 (-) 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.

1.13.2 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.

1.13.3 Create Repricing Patterns

You create Repricing patterns to capture the Repricing Behavior of instruments whose rates change according to complex schedules.

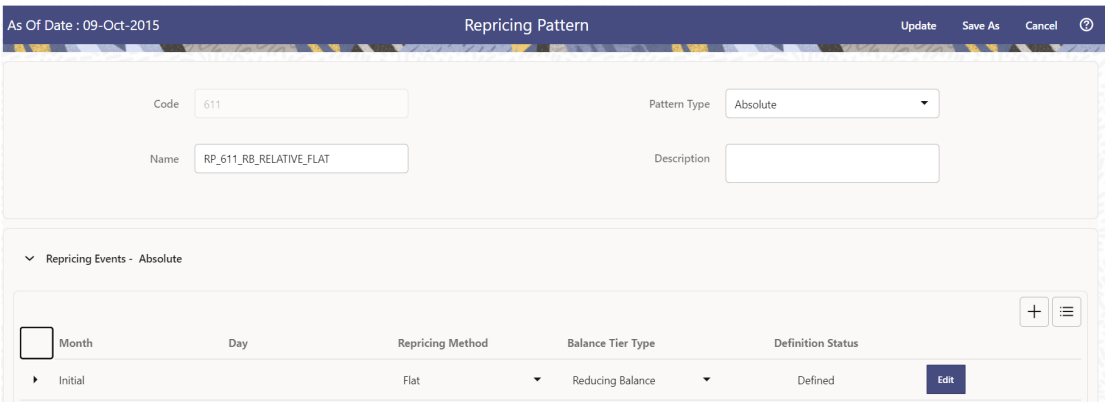
To create the Repricing Pattern, follow these steps:

1. Navigate to Repricing Pattern Summary Page.
2. Click **Add** icon.
   The Add Repricing Pattern Page is displayed.
3. Enter a Numeric Code Value for the new Repricing Pattern. You can also click Generate Code Option in Code field to generate the code automatically.
4. Enter the name of the pattern.
5. Type a brief description for the pattern.
6. Select the Repricing Pattern Type: Absolute or Relative.
   The selection of the Repricing Pattern type determines the fields that are displayed in the Repricing Events Table and the information you must provide to successfully define that pattern type. See:
   - Defining Absolute Repricing Patterns
   - Defining Relative Repricing Patterns
7. Click **Save**.

1.13.3.1 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 1-44 Define Absolute Repricing Pattern



Prerequisites

Selecting Absolute as the pattern type.

Procedure

This table describes key terms used for this procedure.

Table: Key Terms used in Absolute Repricing Pattern

Key Terms	Description
Add Row	Allows you to add one or more Repricing Events.
Add Multiple Rows	Allows you to add more Repricing Events.
Define	Add detail for each Repricing Event.
Delete	Allows you to delete specific rows in the Repricing Events Table.
Month	In conjunction with the Day field, this drop-down menu, allows you to specify a unique month-day combination for a Repricing Event.
Day	In conjunction with the Month drop-down menu, this field allows you to specify a unique month-day combination for a Repricing Event.

To define Absolute Repricing Pattern, perform the following:

1. Select Pattern Type as **Absolute**.
2. Specify the required month-day combination for the event. You cannot specify a month-day combination for the first event as this row is reserved for the initial period.
3. Select the Repricing Type: **Flat** or **Indexed**.
   The default is flat. If you select Indexed, the system automatically changes the fields available for entry.

   Note: You can change your selection of the Repricing Type at any point in this process. Sometimes it may cause a loss of data.

   For more information on Flat Repricing Type, see Repricing Event is Flat Repricing.

   For more information on Index Repricing Type, see Repricing Event is Index Repricing.

   - Select Balance Tier option:

- **None**: If selected, the Balance Tiered Pricing is not applied.
- **Current Balance**: Users can define balance tiers and associate different rates with the corresponding balance tier level. Balance tier in this case is decided using the principal balance of instrument on As of Date. Thus, even when actual balance goes down due to repayment, the instrument continues to be in original balance tier.
- **Reducing Balance:** If the Balance Type is selected as Reducing Balance, then the repricing rate will be calculated using principal balance as on Repricing Date. Thus, the balance tier applicable to instrument 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:

1. Select the Flat option from Repricing Method drop-down list for the event you are going to define. Notice the bottom half of the screen refreshes, displaying the required inputs. Complete the following steps on the Add Repricing Events Page:
2. Enter the Net Rate.
3. Enter the Gross Rate.
4. Enter the Transfer Rate.

> **Note:**
>
> The Transfer Rate functionality will be released in future.
>
> You must enter a valid value for at least one of these rate fields.

5. Click Apply.
   The Event Summary Page is displayed. At this point, you have the option of defining additional events or saving. To add an additional event, repeat Click Add Row. You can edit the details of Defined Event.

Repricing Event is Indexed Repricing

An Indexed Rate is a set of parameters used to calculate a rate.

To define an Indexed Rate Event, follow these steps:

1. Select the Indexed option from Repricing Method drop-down list for the event you are going to define. Notice the bottom half of the screen refreshes, displaying the required inputs. Complete the following steps on the Add Repricing Events Page:
2. Select the Interest Rate Curve.
3. Select the Transfer Price Curve.

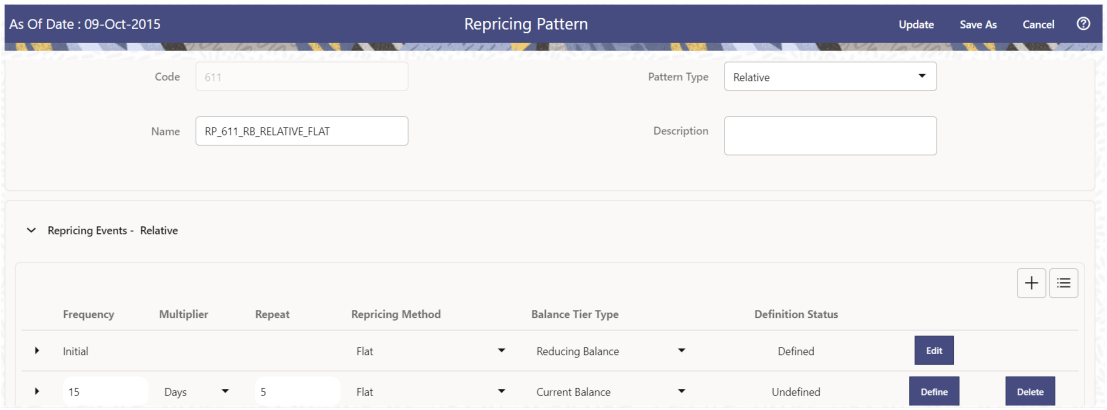
> **Note:**
>
> The Transfer Price Curve functionality will be released in the future.

4. Enter the Yield Curve Term and select the appropriate Multiplier.
5. Enter the Net Margin.
6. Enter the Gross Margin.
7. Enter the Transfer Price Margin.
8. Enter the Rate Cap Life.
9. Enter the Rate Floor Life.
10. Enter the Rate Set Lag and select the appropriate Multiplier.
11. Click Apply. The Event Summary Page is displayed.
12. At this point, you have the option of defining additional events or saving. To add an additional event, repeat Click Add Row.
13. Click **Save**.
    The Repricing Pattern is saved and the Repricing Pattern Summary Page is displayed.

1.13.3.2 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 1-45 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.

1.13.4 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.
3. Click on the **Action** icon against the Pattern Name and select **View/Edit** to open the rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.13.5 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**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Pattern Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the Rule Copy.
5. Enter a unique name for the new Rule.
6. (Optional) Enter a brief description of the Rule.
7. Select the access type.
8. Click **Save**.

1.13.6 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**.

1.13.7 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.

> **Note:**
>
> This is functionality will be released in future.

1.14 Payment Patterns

User defined payment patterns allow you to define custom repayment patterns for products in your portfolio. You can include a payment pattern while generating cash flows by entering the payment pattern code for the instrument.

This chapter describes the procedure for capturing instrument payment patterns that are too complex to be accommodated in the standard fields of Instrument tables.

The procedure for working with and managing Payment Patterns is, similar to that of other Oracle assumption rules.

Topics

1.14.1 Payment Pattern Summary Page

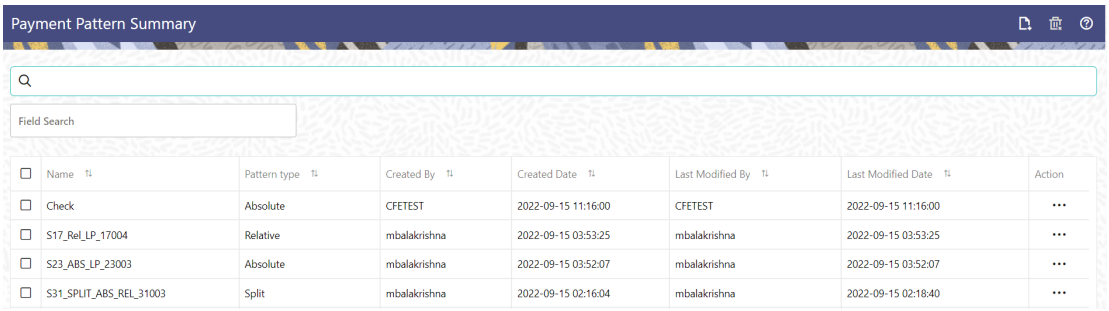
This page is the gateway to all Payment Patterns and related functionality. You can navigate to other pages relating to Payment Patterns from this point.

The Payment Summary Page displays the following columns.

Table 1-37 Payment Pattern Rule – Fields and Descriptions

Column	Description
Name	Displays the Payment Pattern Rule's Short Name.
Pattern Type	Displays the Payment Pattern Type, such as Absolute, Relative, or Split.
Created By	Displays the Name of the user who created the Payment Pattern.
Created Date	Displays the Date and Time at which a Payment Pattern was created.
Last Modified By	Displays the Name of the user who last modified the Payment Pattern Rule.
Last Modified Date	Displays the Date and Time when Payment Pattern was modified last.
Action	Displays the list of actions that can be performed on the Payment Pattern Rule. For more information, see Payment Pattern – Icons and Descriptions.

Figure 1-46 Payment Summary Page



The Action column on the Payment Pattern Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Payment Pattern Rule.

Table 1-38 Payment Pattern Rule – Icons and Descriptions

Fields	Description
Add	Click Add icon at the top right of the Summary Page to build a new Payment 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 Payment 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 Payment Pattern Rule.
Delete	Click on the Action icon against the Pattern Name and select Delete to delete an existing Payment Pattern Rule.
Dependency Check	Click on the Action icon against the Pattern Name and select Dependency Check to view objects where selected Payment Pattern Rule is used.

1.14.2 Search for Payment Patterns

Search for a payment pattern to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Check Dependencies

Prerequisites

- Predefined Payment Patterns

Procedure

To search for payment patterns, do the following:

1. Navigate to the **Payment Pattern** summary page.
2. Enter the Code, Name, Description, or Type of the pattern in Search Criteria.
3. Click the **Search** icon.

Only patterns that match the search criteria are displayed.

You can control the number of rows to display on-screen by selecting the "Pagination Options" icon from the action bar.

1.14.3 Create Payment Patterns

You create payment patterns to capture the repayment behavior of instruments that are too complex to be accommodated through the use of the standard instrument table fields.

To create the payment pattern, do the following:

1. Navigate to the **Payment Pattern** summary page.
2. Click **Add** icon. The **Add Payment Patter**n page is displayed.
3. Enter a Code value for the new payment pattern. You can also click Generate Code Option in Code field to generate the code automatically.

> **Note:**
>
> The code value you assign to the new pattern must be unique. Also, the code must be mapped to the appropriate instrument records (PMT_PATTERN_CD field) to connect the instrument to the appropriate pattern.

4. Enter the Name for pattern.
5. Enter a brief Description for the pattern.
6. Select the Pattern Type: Absolute, Relative, or Split.
7. Select the Payment Type: Conventional, Level Principal, or Non-amortizing.

> **Note:**
>
> The Payment Type option is not available for Split Payment Pattern type.

The selection of the payment pattern type made in the previous step determines the information you must provide to successfully define that pattern type. See:

- Defining Absolute Payment Patterns
- Defining Relative Payment Patterns
- Defining Split Payment Patterns

8. Click **Save**.

1.14.3.1 Define Absolute Payment Patterns

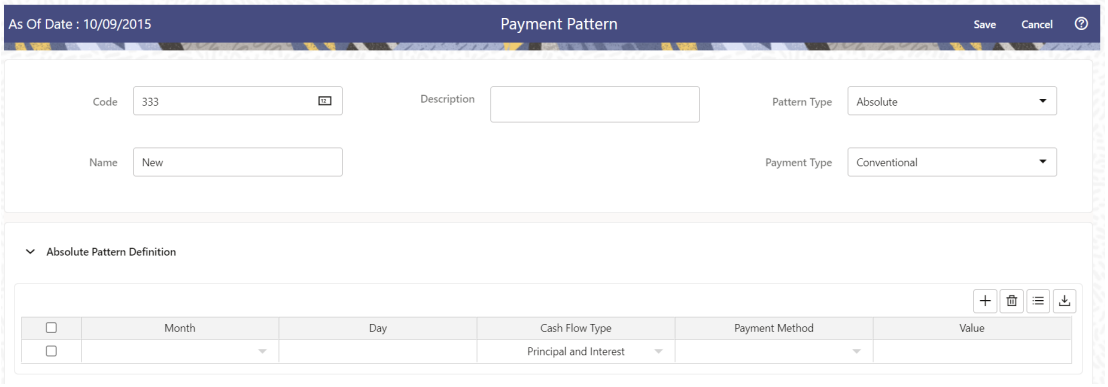
Absolute payment patterns are commonly used for instruments that are on a seasonal schedule, such as agricultural or construction loans that require special payment handling based on months or seasons.

When working with absolute payment patterns, it is sufficient to define payments for one calendar year. Once the term exceeds a year, the payment schedule will loop until the instrument matures.

Prerequisites

Selecting Absolute as the pattern type.

Figure 1-47 Absolute Payment Patterns



To define absolute payment pattern, do the following:

1. In the **Payment Patterns** page, select **Pattern Type** as **Absolute**.
2. Select the Payment Type from the drop-down list: **Conventional**, **Level Principal**, or **Non-Amortizing**. The Payment Type determines the type of information required to successfully define the Payment Phase.
3. Define the **Payment Phases**. A Payment Phase is a set of payment characteristics that defines the timeline of the instrument's amortization.
   a. Define the following parameters:
      - **Month:** This drop-down list allows you to select the month of the payment phase being defined.
      - **Day:** Used to specify the day of the month the payment is due.
   b. Select the **Cash Flow Type**. The available types depends on the Payment Type. This do not apply to the Non-Amortizing Payment Type.
   Table: Relationship between Cash Flow Type and Payment Types

	Level Principal	Non-Amortizing	Conventional
Principal and Interest	Yes		Yes

	Level Principal	Non-Amortizing	Conventional
Principal Only	Yes		
Interest Only	Yes	Yes	

c. Select the **Payment Method**. The available Payment Methods depend on the Payment Type. For more information, see: Relation between Payment Method and Payment Types. Payment Methods do not apply to the Non-Amortizing Payment Type.

d. Enter the Value for the Payment Method you selected in the previous step for applicable Payment Types.
If you selected the Interest Only Payment Method in the previous step, the Value field does not apply.

4. Click the **Add** icon to add additional Payment Phases to the Pattern. Click Delete icon corresponding to the rows you want to delete.

5. Click **Add Multiple Row** icon to enter the number of rows you want to add and click Go.

6. The **Download Excel** icon helps you to export payment information, modify and paste back in the UI.

> **Note:**
>
> A Payment Pattern must have at least one valid Payment Phase to be successfully defined. The system raises a warning if you try to save a Payment Pattern with an incomplete Payment Phase.

7. Click Apply and Save.

The Payment Pattern is saved and the Payment Pattern summary page is displayed.

The following table describes the relationship between Payment Phase properties and Payment Types.

Relationship between Payment Phase Properties and Payment Types

	Level Principal	Non-Amortizing	Conventional
Month	Yes	Yes	Yes
Day	Yes	Yes	Yes
Payment Method	Yes		Yes
Value	Yes		Yes

The following table describes the relationship between Payment Method and Payment Types.

Relationship between Payment Methods and Payment Types

Payment Method	Level Principal	Non-Amortizing	Conventional
Percentage of Original Balance	Yes		
Percentage of Current Balance	Yes		

Payment Method	Level Principal	Non-Amortizing	Conventional
Percentage of Original Payment	Yes		Yes
Percentage of Current Payment	Yes		Yes
Absolute Payment	Yes		Yes
Interest Only	Yes		Yes

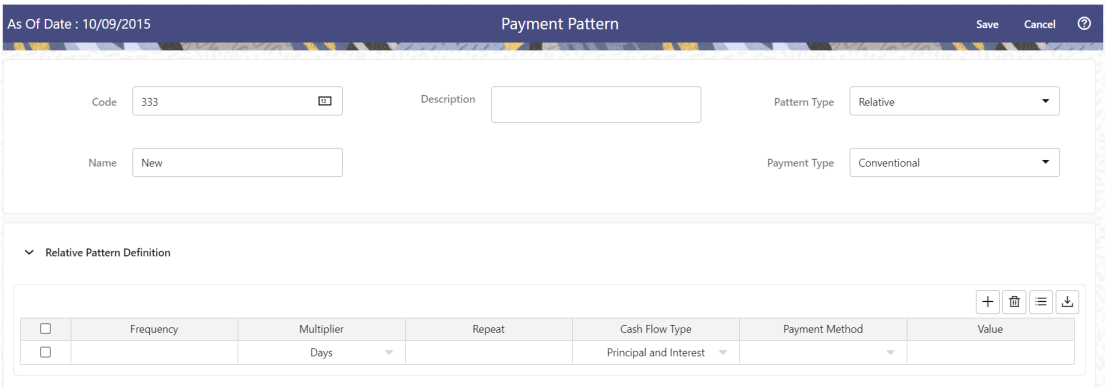
1.14.3.2 Define Relative Payment Patterns

You create Relative Payment patterns for instruments that have irregular scheduled payments.

Prerequisites

Selecting Relative as the pattern type.

Figure 1-48 Relative Payment Patterns



To define a relative payment pattern, follow these steps:

1. In the **Payment Patterns** page, select **Pattern Type** as **Relative**.
2. Select the Payment Type from the drop-down list: **Conventional**, **Level Principal**, or **Non-Amortizing**. The Payment Type determines the type of information required to successfully define the Payment Phase.
   The payment type determines the available characteristics for defining the payment amount.
3. Define the **Payment Phase**.
   The payment type determines the type of information required to successfully define the payment phase. For more details, see: Relation between Payment Phase Attributes and Payment Types.
   a. Enter the **Frequency** for each payment phase.
   b. Select the appropriate Multiplier for each payment phase from the following options:
      - Days
      - Months

- Years

c. Enter the number of times each Payment Phase should be repeated in the Repeat column.

d. Select the **Cash Flow Type**. The available types depend on the Payment Type. This do not apply to the Non-Amortizing Payment Type.
Table: Relationship between cash Flow Type and Payment Types

	Level Principal	Non-Amortizing	Conventional
Principal and Interest	Yes		Yes
Principal Only	Yes		
Interest Only	Yes	Yes	

e. Select the **Payment Method**.
The available payment methods depend on the payment type. For more details, see Relation between Payment Method and Payment Types. Payment Methods do not apply to the Non-Amortizing Payment Type.

f. Type the Value for the Payment Method you selected in the previous step for applicable Payment Types.

4. Click the **Add** icon to add additional Payment Phases to the Pattern. Click Delete icon corresponding to the rows you want to delete.

5. Click **Add Multiple Row** icon to enter the number of rows you want to add and click Go.

6. The **Download Excel** icon helps you to export payment information, modify and paste back in the UI.

> **Note:**
>
> A Payment Pattern must have at least one valid Payment Phase to be successfully defined. The system raises a warning if you try to save a Payment Pattern with an incomplete Payment Phase.

7. Click **Apply** and **Save**.
The payment pattern is saved and the Payment Pattern home page is displayed.

> **Note:**
>
> It is not necessary to set up relative payment patterns for the complete term of an instrument. The payment pattern automatically repeats until the maturity date. Suppose a payment pattern is created to make monthly payments for the first year and quarterly payments for the next three years. If you apply this pattern to an instrument record with an original term of five years, the payment pattern wraps around and the fifth year is scheduled for monthly payments.
>
> An easy way to set up payment patterns for instruments with varying original terms is to use the repeat value of 999 in the last row of the payment pattern. For example, a payment pattern that pays monthly for the first year and quarterly thereafter, can be set up with two rows. The first row shows 12 payments in one month. The second row shows 999 payments in three months. When this payment pattern is processed it repeats the three-month payment frequency until the maturity date is reached.

The following table describes the relationship between payment phase attributes and payment types.

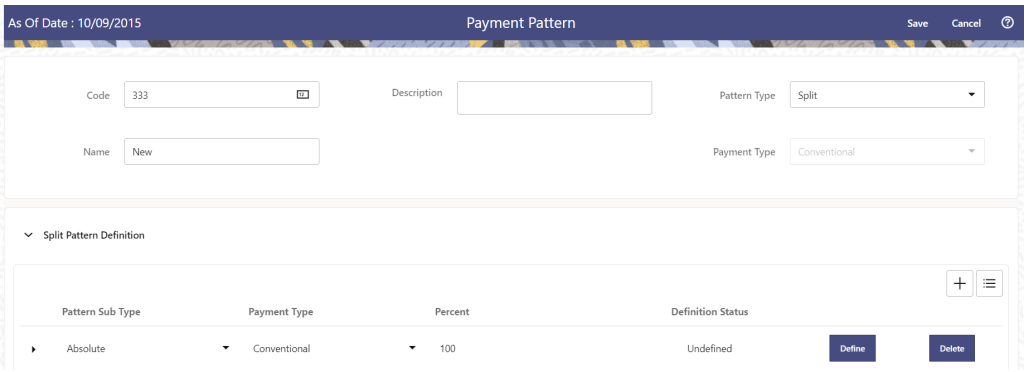
Relationship between Payment Phases and Payment Types

Payment Phase Attributes	Payment Types: Level Principal	Payment Types: Non-Amortizing	Payment Types: Conventional
Frequency	Yes	Yes	Yes
Multiplier	Yes	Yes	Yes
Repeat	Yes	Yes	Yes
Payment Method	Yes		Yes
Value	Yes		Yes

1.14.3.3 Define Split Payment Patterns

You can use a Split payment pattern for financial instruments that make principal payments along with two concurrent amortization schedules. Split patterns may be a combination of Absolute and Relative Payment Patterns for example, and contain multiple sets of payment phases under a single amortization code. These patterns could further use a combination of Conventional, Level Principal, and Non-Amortizing Payment Types.

Figure 1-49 Split Payment Patterns



To define a split payment pattern, follow these steps:

1. In the Payment Patterns page, select Pattern Type as Split.
2. Define Split Pattern definition.
   a. Select the required **Pattern Sub Type** for each leg.
      - Absolute
      - Relative
   b. Select the Payment Type for each Payment Phase or Split.
   c. Enter the Percent value to indicate the percentage weight of the timeline being defined for the individual payment phases (each row). The sum of the percentage weights must total 100%.

> **Note:**
>
> The payment pattern term specifications for different payment phases or splits vary depending on whether you select the Absolute or Relative Pattern Type. You can define the term specifications for the splits following the steps described previously for defining payment phases for these patterns. See:
>
> - Define Absolute Payment Patterns
> - Define Relative Payment Patterns

3. Select one of the legs and then select **Define** button to enter pattern details for the leg.
4. Select one of the legs and then select **Delete** button to delete pattern details for the leg.
5. Click the **Add** icon to add additional Payment Phases to the Pattern.
6. Click **Add Multiple Row** icon to enter the number of rows you want to add and click Go.
7. Click **Apply** and **Save**.

The Split payment pattern is saved and the Payment Pattern summary page is displayed.

1.14.4 View and Edit Payment Pattern

You can view existing Payment Pattern, and you can edit existing patterns, provided you have Read/Write privileges.

To view and edit a Payment Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Payment Pattern**.
2. Search for a Rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Pattern Name and select **View/Edit** to open the rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.14.5 Copy Payment 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 Payment Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Payment Pattern**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Pattern Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the Rule Copy.
5. Enter a unique name for the new Rule.
6. (Optional) Enter a brief description of the Rule.
7. Select the access type.
8. Click **Save**.

1.14.6 Delete Payment 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 Payment Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Payment 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**.

1.14.7 Dependency Check

You can check dependencies for rules to know where a particular Payment Pattern 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 Maintenance and select Payment Pattern.
2. Search for a Rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Pattern Name and select **Dependency Check** to the Rule that you want to check for.

> **Note:**
>
> This is functionality will be released in future.

1.15 Prepayment Rules

This module describes the procedure for working with and managing Prepayment Rules. One of the major business risks faced by financial institutions engaged in the business of lending and borrowing is prepayment and early redemption risk. Prepayment risk is the possibility that borrowers might choose to repay part or all their loan obligations before the scheduled due dates. Prepayments can be made by either accelerating principal payments or refinancing. Prepayments cause the actual cash flows from a loan to a financial institution to be different from the cash flow schedule drawn at the time of loan origination. A Prepayment Rule contains methodologies to model the prepayment behavior of various amortizing instruments and quantify the associated Prepayment Risk.

Topics:

1.15.1 Prepayment Rule Summary Page

Prepayment Rules allow you to specify methodologies to model the loan prepayment and deposit early redemption behavior of products in your portfolio and quantify the associated prepayment risk in monetary terms. For more information, see Defining Prepayment Methodologies section.

The Prepayment Rule Summary Table displays the following columns.

Table 1-39 Prepayment Rule Summary– Fields and Descriptions

Column	Description
Name	Displays the Prepayment Rule's short name.
Dimension	Displays the Prepayment Rule's short name.
Hierarchy	Name of Hierarchy that is used to define prepayment Rule
Folder	Displays the Folder name where the Prepayment Rule is saved.
Last Modified By	Displays the Name of the user who last modified the Prepayment Rule.
Last Modified Date	Displays the Date and Time when Prepayment 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 Prepayment Rule. For more information, see Prepayment Rule – Icons and Descriptions.

The Action column on the Prepayment Rule Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Prepayment Rules.

Figure 1-50 Prepayment Rule Summary page

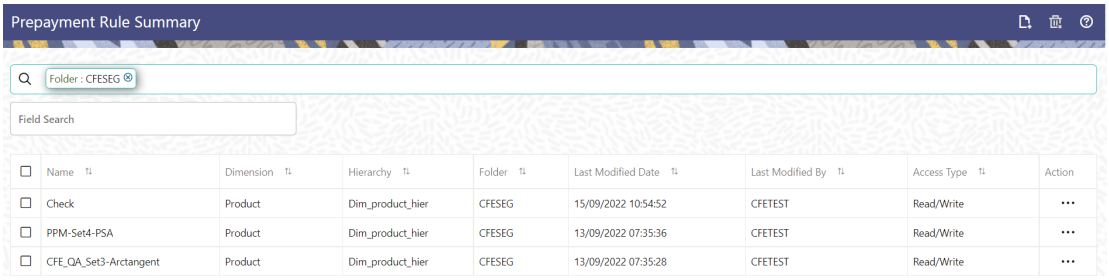


Table 1-40 Prepayment Rule – Icons and Descriptions

Fields	Description
Add	Click **Add** icon at the top right of the summary page to build a new Prepayment Rule.

Table 1-40 (Cont.) Prepayment Rule – Icons and Descriptions

Fields	Description
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.
View/Edit	Click on the **Action** icon against the Prepayment Rule Name and select View/Edit to view or edit the contents of a Prepayment 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 Prepayment Rule Name and select Save As to create a copy of an existing Prepayment Rule.
Delete	Click on the **Action** icon against the Prepayment Rule Name and select Delete to delete an existing Prepayment Rule.
Dependency Check	Click on the **Action** icon against the Prepayment Rule Name and select Dependency Check to generate a report on all Rules that utilize your selected Prepayment Rule.

For more information, see the following sections:

- Defining Prepayment Methodologies
- Defining the Constant Prepayment Method
- Defining the Prepayment Model Method
- Defining the PSA Prepayment Method
- Defining the Arctangent Calculation Method

You can copy, in total or selectively, the product assumptions contained within the Prepayment Rules from one currency to another currency or a set of currencies or from one product to another product or a set of products.

1.15.2 Search Prepayment Rule

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

- View
- Edit
- Copy
- Delete
- Check Dependencies
- Refresh

Prerequisites

Predefined Prepayment Rule

Procedure

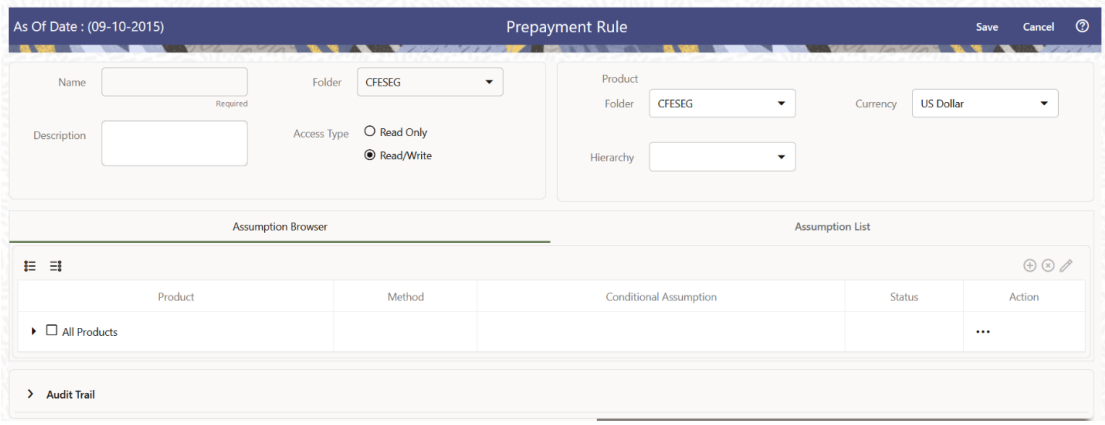
To search for a new Prepayment Rule, follow these steps:

1. Navigate to the **Prepayment Rule Summary** Page. This page holds all Prepayment Rules and related functionality. You can navigate to other pages relating to the Prepayment Rule from this page.
2. Enter the **Code, Name, Description, Dimension, Hierarchy**, and **Folder** of the Prepayment Rule and click **Search** . Only Prepayment Rules that match the search criteria are displayed.

1.15.3 Create Prepayment Rules

You create a Prepayment Rule to define prepayment assumptions for new products.

Figure 1-51 Prepayment Rule Page



To create a new Prepayment Rule, follow these steps:

- Click **Add** icon from the top of the **Prepayment Rule Summary** Page.
- Enter the following Details.

Table 1-41 Create Prepayment Rule

Fields	Description
Name	Enter the name of the Prepayment Rule.
Description	Enter the description of the Prepayment Rule. This is an optional field.
Folder	Select the Folder where the Prepayment Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/ Write.

- Select a **Product Hierarchy**. You can define methodologies at any level of the Hierarchical Product Dimension. The Hierarchical Relationship between the nodes allows the inheritance of methodologies from Parent nodes to Child nodes.
- Select Product(s) from **Assumption Browser**.
- Click **Add** from **Assumption Browser** Section. For more information, see the Defining Prepayment Methodologies.

1.15.4 View and Edit Prepayment Rule

You can view existing Prepayment Rule, and you can edit existing Prepayment Rules, provided you have read/write privileges.

To view and edit a Prepayment Rule, follow these steps:

1. Navigate to the **Assumption** and select **Prepayment Rule**.
2. Search for a Rule.
   For further information, see the Search Prepayment Rules section.
3. Click on the **Action** icon against the Prepayment Rule Name and select **View/Edit** to open the Rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.15.5 Defining Prepayment Methodologies

The assignment of prepayment assumptions is part of the Create or Edit Prepayment Rule Process where assumptions about loan prepayments or deposit early redemptions are made for product-currency combinations. When you click Save in the Create Prepayment Rules Process, the Rule is saved and the Prepayment Rule Summary Page is displayed. However, prepayment assumptions have not yet been defined for any of your products at this point. Typically, you would start defining your prepayment assumptions for product-currency combinations before clicking Save.

The Prepayment Rule supports the definition of prepayment assumptions for combinations of two dimensions: Product and Currency.

Once you have created a Prepayment Rule, you can assign prepayment methodologies to product-currency combinations using Node Level Assumption. For more information, see Defining Prepayments Using Node Level Assumptions section.

1.15.5.1 Defining Prepayments Using Node Level Assumptions

Node Level Assumptions allow you to define assumptions at any level of the Product Dimension Hierarchy. The Product Dimension supports a hierarchical representation of your chart of accounts, so you can take advantage of the parent-child relationships defined for the various nodes of your product hierarchies while defining Rules. Children of Parent nodes on a hierarchy automatically inherit the assumptions defined for the Parent nodes. However, assumptions directly defined for a Child take pre-cedence over those at the Parent level.

Prerequisites

Performing basic steps for creating or editing a Prepayment Rule.

Procedure

This table describes key terms used for this procedure.

Table 1-42 Key Terms used for Prepayment Rules

Terms	Description
Calculation Method	The method used to model prepayment behavior of instruments. You can choose from four pre-payment calculation methods: Constant, Prepayment Model, PSA, and Arctangent.
Cash Flow Treatment	Allows you to specify one of the following two ways in which prepayments are made. • **Refinance:** This is the most used option. Select refinance to keep payment amounts after prepayment consistent with a portfolio-based assumption. This reduces the scheduled payment amount on each loan and maintains the same maturity term. • **Curtailment:** Select curtailment to change the periodic payment amounts due. The prepayments are treated as accelerated payments, with a payoff earlier than the originally scheduled term.
Prepayment Date	You can select when to calculate prepayment, either on normal payment dates or user-defined tenor.
Payment Event Type	When prepayment is calculated on payment dates then this option allows you to specify type of event when prepayment occurs. By default, “Principal and Interest” is selected.
Market Rate	The market rate is defined as the sum of the Index (the Yield Curve Rate as described by the Interest Rate Code) and the Spread (the difference between the customer rate and market rate).
Associated Term	Allows you to define the term for the point on the yield curve selected in the Market Rate Definition that will be used in obtaining the market rate. • **Remaining Term:** The number of months remaining until the instrument matures. • **Reprice Frequency:** The frequency with which the instrument reprices. This defaults to the original term for a fixed-rate instrument. • **Original Term:** The number of months that was the originally scheduled life of the instrument.
Prepayment Rate Definition	This table allows you to specify the constant annual prepayment rate, or the associated factors, that you want to apply to the instruments having origination dates in a particular date range.

Table 1-42 (Cont.) Key Terms used for Prepayment Rules

Terms	Description
Seasonality	This table allows you to specify seasonality adjustments. Seasonality refers to changes in prepayments that occur predictably at given times of the year. Seasonality adjustments are based on financial histories and experiences and should be modeled when you expect the amount of prepayments made for certain types of instruments to increase or decrease in certain months. The default value for seasonality factors is 1, which indicates that no seasonality adjustment is made for a month. Changing the seasonality factors is optional. You can change the seasonality factors for none, one, or multiple months. To make seasonality adjustments, you need to enter a value between 0.00 and 99.9999 for the seasonality factors associated with each month. Seasonality factors less than 1 mean that prepayments are decreased for a particular month. Seasonality factors greater than 1 indicate that prepayments are increased for a particular month.

1. Navigate to the Prepayment Assumption Details Page after selecting a Currency and one or more products from the hierarchy.
2. Select a **Cash Flow Treatment type**, **Refinance** or **Curtailment**.
3. Refinance is the most used method.
4. Select a **Calculation Method** as Constant, Prepayment Model, PSA, or Arctangent.

> **Note:**
>
> The default value for the Calculation Method drop-down list is Constant. If you select "Do not calculate" as the calculation method, no prepayment assumptions will be assigned to the particular product-currency combination. This is a particularly useful option when using node-level assumptions because it allows you to exclude a particular Child from inheriting a Parent assumption.

5. Define the parameters and annual prepayment rates for the selected Calculation Method as Constant, Prepayment Model, PSA or Arctangent.

> **Note:**
>
> The parameters displayed on the Prepayment Methodology page vary depending on the Calculation Method (Constant, Prepayment Model, PSA, or Arctangent) that you have selected. For more information, see:
>
> - Defining the Constant Prepayment Method
> - Defining the Prepayment Model Method
> - Defining the PSA Prepayment Method
> - Defining the Arctangent Calculation Method

6. Click **Apply**.
   The **Assumption Browser Definition** Page is displayed.

   At this point you can:

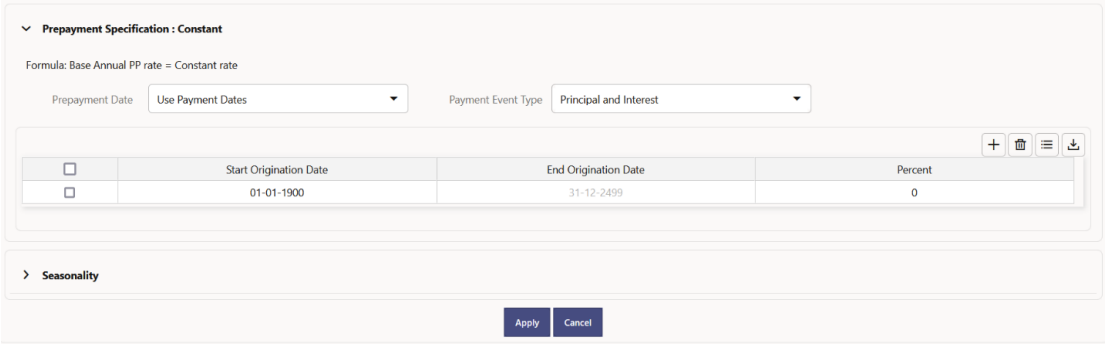
   - Continue defining additional methodologies for other product-currency combinations by repeating the above procedure.
   - Complete the process by clicking **Save**.

   When you click Save, the prepayment assumptions are saved and the **Prepayment Rule Summary** Page is displayed.

1.15.5.1.1 Defining Constant Prepayment Method

Use this procedure to define prepayment assumptions using the Constant Prepayment Method. The Constant Prepayment Method calculates the prepayment amount as a flat percentage of the current balance. You can create your own origination date ranges and assign a particular prepayment rate to all the instruments with origination dates within a particular Origination Date range.

Figure 1-52 Constant Prepayment Method



Prerequisites

Performing basic steps for creating or updating a Prepayment Rule.

Procedure

Users also have two options for determining the timing of the Constant Prepayment assumption. The options include:

- **Use Payment Dates:** This is the default option. If this option is selected, then Constant Prepayment Runoff will occur on scheduled payment dates only.
- **User Defined Prepayment Tenors:** If this option is selected, users can specify any runoff timing. For example, users might choose to define the prepayment to the Runoff on the first day of the forecast.

The above options will be available only for Asset Instrument types.

To define constant prepayment within the Prepayment Rule, follow the steps given in below sections:

- Use Payment Dates
- User Defined Prepayment Tenors

Use Payment Dates

1. Select the **Use Payment Dates** Option.
2. Select the **Payment Event Type** Option.
3. Select the **Start Origination Date** using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.
   The first cell in the Start Origination Date Column and all the cells in the End Origination Date Column are read-only. This ensures that all possible origination dates must support reference values when Prepayment assumption lookups occur.

   Each row in the End Origination Date Column is filled in by the system when you click **Add Row** or save the Rule.

   The first Start Origination Date (in row 1) has a default value of January 1, 1900. When you enter a Start Origination Date in the next row, the system inserts a date that is a day before the previous End Origination Date Field.
4. Enter the Annual Prepayment Rate Percent that you want to apply to the instruments having origination dates in a particular Start Origination-End Origination Date range.
5. The **Percent** column represents the actual annualized prepayment percentage that the system uses to generate the principal runoff during the Cash Flow calculations.
6. Click **Add Row** to add additional rows and click the corresponding **Delete** button to delete a row.
7. You can add as many rows as possible in this table using **Add Multiple Row** Option. However, you need to enter relevant parameters for each new row.
8. You can also use the **Download Excel** feature to export the Prepayment rate information that is displayed on screen, modify, and copy-paste it back in the grid.
9. Define Seasonality assumptions if required to model date-specific adjustments to the annual prepayment rate. Inputs act as a multiplier, For Example, an input of 2 will double the prepayment rate in the indicated month.

User Defined Prepayment Tenors

1. Select the **User Defined Prepayment Tenors** Option. This option allows you to specify the term and multiplier to the Prepayment Date for the row. The term is used to derive Prepayment Dates with reference to As of Date.
2. You can calculate the prepayment rate based on Current/Reducing Balance and Annual/De-annual Prepayment Rate.

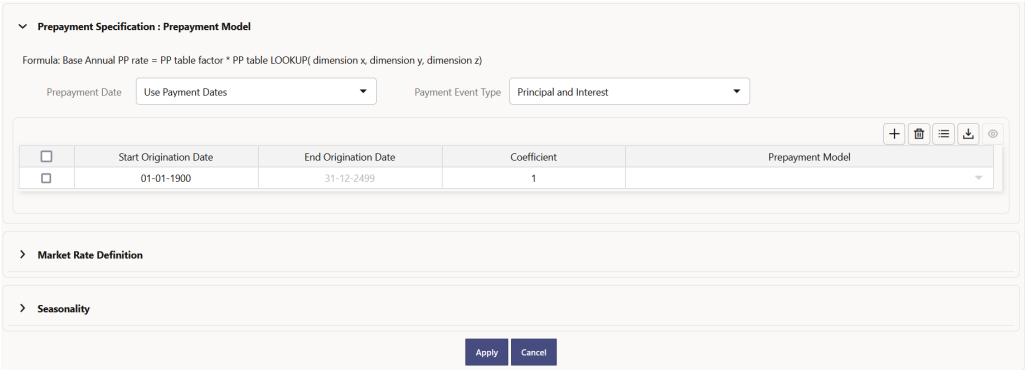
3. Select the **Balance Type** as **Current Balance** or **Reducing Balance**.
   - If the Balance Type is selected as Current Balance, then the prepayment amount will be calculated using Principal Balance on As of Date. That is, without reducing the balance by any payment/prepayment that may have occurred between as of the date and prepayment date.
   - If the Balance Type is selected as Reducing Balance, then the prepayment amount will be calculated using balance as on Prepayment Date. That is, after reducing the Principal Balance by any payment/prepayment that may have occurred between as of date and prepayment date.
4. Select the Prepayment Rate Type as Annual Prepayment Rate or De-annual Prepayment Rate.
   When the Annual Prepayment Rate is selected then the prepayment rate entered in the screen is directly used.

   In the other case, the rate entered in the screen is de-annualized before calculating the prepayment amount.
5. Enter the **Start Origination Date** and **End Origination Date** ranges, add additional ranges as required using the Add Row button.
6. Enter the term to Runoff Tenor and Multiplier for each of the date ranges.
7. Enter the **Annual Prepayment Rate Percent** for each of the date ranges.
8. Enter 'Repeat' if you want the same prepayment to occur multiple times. By default, it is set to 1.
9. Click **Add Row** to add additional runoff % rows and click the corresponding **Delete** button to delete a row.
   You can add as many rows as possible in this table using **Add Multiple Row** Option. However, you need to enter relevant parameters for each new row.
10. Define Seasonality assumptions as required to model date specific adjustments to the annual Prepayment Rate. Inputs act as a multiplier, for example, an input of 2 will double the Prepayment Rate in the indicated month.

1.15.5.1.2 Defining Prepayment Model Method

Use this procedure to define prepayment assumptions using the Prepayment Model Calculation method. The Prepayment Model Method allows you to define more complex prepayment assumptions compared to the other Prepayment Methods. Under this method, prepayment assumptions are assigned using a custom Prepayment Model. You can build a Prepayment model using a combination of up to three Prepayment Drivers and define Prepayment Rates for various values of these drivers. Each driver maps to an attribute of the underlying transaction (age/term or rate) so that the Cash Flow Engine can apply a different Prepayment Rate based on the specific characteristics of the record. Note: All Prepayment Rates should be input as annual rate.

Figure 1-53 Prepayment Model Method



Prerequisites

- Prepayment Model must be created.
- Performing basic steps for creating or updating a Prepayment Rule.

Procedure

Users also have two options for determining the timing of the Prepayment Model assumption. The options include:

- **Use Payment Dates:** This is the default option. If this option is selected, then Prepayment Model Runoff will occur on scheduled payment dates only.
- **User Defined Prepayment Tenors:** If this option is selected, users can specify any runoff timing. For example, users might choose to define the Prepayment to the Runoff on the first day of the forecast.

The above options will be available only for Asset Instrument Types.

To define Prepayment Model within the Prepayment Rule, follow the steps given in below sections:

- Use Payment Dates
- User Defined Prepayment Tenors

Use Payment Dates

1. Select the **Use Payment Dates** Option.
2. Select the **Payment Event Type** Option.
3. Select the **Start Origination Date** using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.
   The first cell in the Start Origination Date Column and all the cells in the End Origination Date Column are read-only. This ensures that all possible origination dates must support reference values when Prepayment assumption lookups occur.

   Each row in the End Origination Date Column is filled in by the system when you click Add Row or save the Rule.

   The first Start Origination Date (in row 1) has a default value of January 1, 1900. When you enter a Start Origination Date in the next row, the system inserts a date that is a day before the previous End Origination Date field.

4. Enter the Coefficient (if needed) by which the Prepayment Rate should be multiplied and select a predefined prepayment model that you want to apply to the instruments having origination dates in a particular Start Origination-End Origination Date range
5. Click **Add Row** to add additional rows and click the corresponding **Delete** Button to delete a row.
6. You can add as many rows as possible in this table using **Add Multiple Row** Option. However, you need to enter relevant parameters for each new row.
7. You can also use the **Download Excel** feature to export the Prepayment rate information that is displayed on screen, modify, and copy-paste it back in the grid.
8. Define Market Rate Definition.
9. Define the source for the Market Rate by Selecting an Index (Interest Rate Code) from the list of values.
10. Enter the Spread. The spread is added to the rate from the underlying interest rate curve to determine the market rate.
11. Select an **Associated Term** as Remaining Term, Reprice Frequency, or Original Term.
12. Define Seasonality assumptions if required to model date-specific adjustments to the annual prepayment rate. Inputs act as a multiplier, For Example, an input of 2 will double the prepayment rate in the indicated month.

User Defined Prepayment Tenors

1. Select the **User Defined Prepayment Tenors** Option. This option allows you to specify the term and multiplier to the prepayment date for the row.
2. You can calculate the Prepayment Rate based on Current/Reducing Balance and Annual/De-annual Prepayment Rate.
3. Select the **Balance Type** as **Current Balance** or **Reducing Balance**.
   - If the Balance Type is selected as Current Balance, then the Prepayment Amount will be calculated using CUR_PAR_BAL on As of Date. That is, without reducing the balance by any payment/prepayment that may have occurred between as of the date and prepayment date.
   - If the Balance Type is selected as Reducing Balance, then the prepayment amount will be calculated using balance as on Prepayment Date. That is, after reducing the CUR_PAR_BAL by any payment/prepayment that may have occurred between As of Date and Prepayment Date.
4. Select the **Prepayment Rate Type** as **Annual Prepayment Rate** or **De-annual Prepayment Rate**.
   When the Annual Prepayment Rate is selected then the prepayment rate entered in the screen is directly used.

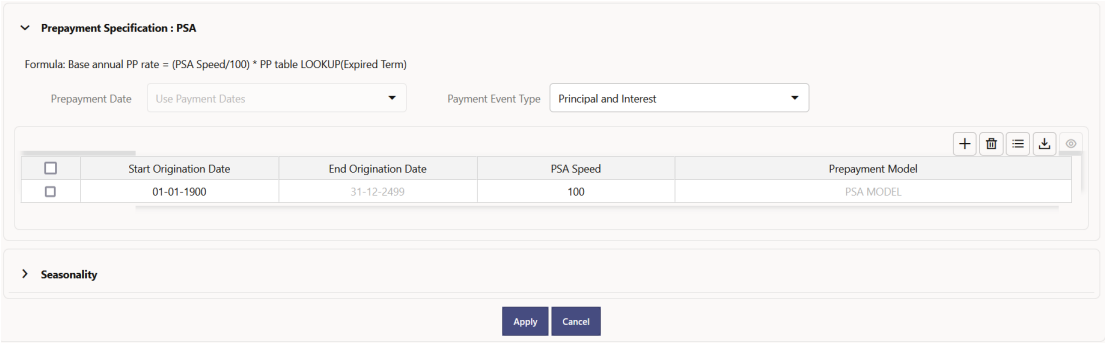
   In the other case, the rate entered in the screen is de-annualized before calculating the Prepayment Amount.
5. Specify the Prepayment Model Parameters.
6. Select the Start Origination Date using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.
7. Enter the Coefficient (if needed) by which the Prepayment Rate should be multiplied. This multiple is applied to the instruments for which the Origination Date lies in the range defined in the Start Origination Date-End Origination Date fields.

8. Select a predefined prepayment model from the Prepayment model Rule list of values. Click the V**iew Prepayment Model** icon to preview the selected Prepayment Model.
   The system uses the Prepayment Model assumptions to calculate the Prepayment Amounts for each period. You need to associate a prepayment model for every Start Origination-End Origination Date range.
9. Click **Add Another Row** to add additional rows and click the corresponding **Delete** button to delete a row.
10. You can add as many rows in this table using **Add Multiple Row** Option. However, you need to enter relevant parameters for each new row.
11. You can also use the **Download Excel** feature to export the Prepayment Rate Information that is displayed on screen, modify, and copy-paste it back in the grid.
12. Enter the term to runoff tenor and multiplier for each of the date ranges.
13. Enter ‘Repeat' if you want the same prepayment to occurs multiple times. By default, it is set to 1.
14. Define the source for the Market Rate by Selecting an Index (Interest Rate Code) from the list of values.
15. Enter the Spread. The spread is added to the rate from the underlying Interest Rate Curve to determine the Market Rate.
16. Select an **Associated Term** as Remaining Term, Reprice Frequency, or Original Term.
17. Define Seasonality assumptions as required to model date specific adjustments to the annual Prepayment Rate. Inputs act as a multiplier, for example, an input of 2 will double the Prepayment Rate in the indicated month.

1.15.5.1.3 Defining PSA Prepayment Method

Use this procedure to define Prepayment Assumptions using the PSA Prepayment Method. The PSA Prepayment method (Public Securities Association Standard Prepayment Model) is a Standardized Prepayment Model that is built on a single dimension, expired term. The PSA Curve is a schedule of prepayments which assumes that prepayments will occur at a rate of 0.2 percent CPR in the first month and will increase an additional 0.2 percent CPR each month until the 30th month and will prepay at a rate of 6 percent CPR thereafter ("100 percent PSA"). PSA Prepayment Speeds are expressed as a multiple of this base scenario. For example, 200 percent PSA assumes Annual Prepayment Rates will be twice as fast in each of these periods - 0.4 percent in the first month, 0.8 percent in the second month, reaching 12 percent in month 30 and remaining at 12 percent after that. A zero percent PSA assumes no prepayments. You can create your own Origination Date ranges and assign a particular PSA Speed to all the instruments with origination dates within a particular Origination Date range. PSA Speed inputs can be between 0 and 1667.

Figure 1-54 PSA Prepayment Method



Prerequisites

Performing basic steps for creating or updating a Prepayment Rule.

Procedure

Prepayment under this method occurs on Payment Dates only.

1. Select the **Payment Event Type** option.
2. Select the **Start Origination Date** using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.
   The first cell in the **Start Origination Date** Column and all the cells in the **End Origination Date** Column are Read-Only. This ensures that all possible Origination Dates have supporting reference values when Prepayment Assumption Lookups occur. Each row in the End Origination Date Column is filled in by the system when you click Add Row or save the Rule.

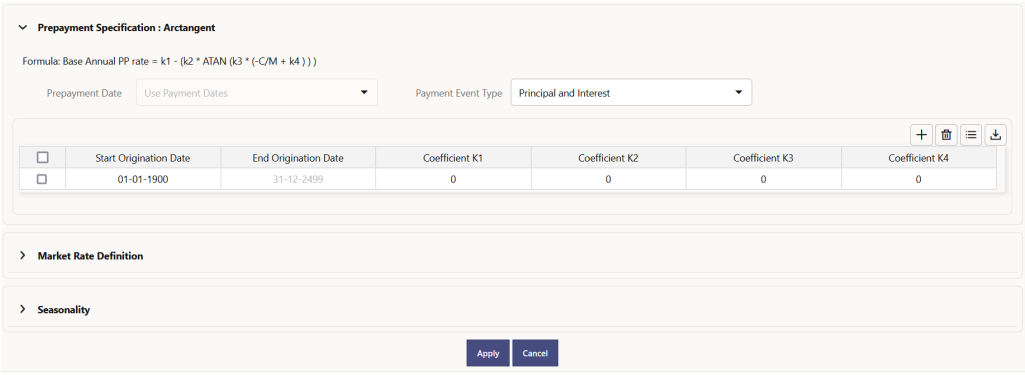
   The first Start Origination Date (in row 1) has a default value of January 1, 1900. When you enter a Start Origination Date in the next row, the system inserts a date that is a day before the previous End Origination Date Field.
3. Enter the PSA Speed that you want to apply to the instruments having Origination Dates in a particular Start Origination-End Origination Date range. The PSA Method is based on a standard PSA curve. You can view the seeded model by selecting the View Prepayment Model icon.
   The default value is 100 PSA and inputs can range from 0 to 1667.
4. Click **Add Row** to add additional rows and click the corresponding **Delete** Option to delete a row.
   You can add as many rows as possible in this table using Add Multiple Row Option. However, you need to enter relevant parameters for each new row.
5. You can also use the **Download Excel** Feature to export the Prepayment Rate Information that is displayed on screen, modify, and copy-paste it back in the grid.
6. Define Seasonality Assumptions as required to Model Date specific adjustments to the Annual Prepayment Rate. Inputs act as a multiplier, For example, an input of 2 will double the Prepayment Rate in the indicated month.

1.15.5.1.4 Defining the Arctangent Calculation Method

The Arctangent Calculation Method uses the Arctangent Mathematical Function to describe the relationship between Prepayment Rates and spreads (coupon rate less Market Rate).

Use this procedure to define Prepayment Assumptions using the Arctangent Calculation Method.

Figure 1-55 Arctangent Calculation Method



Prerequisites

Performing basic steps for creating or updating a Prepayment Rule.

Procedure

Prepayment under this method occurs on Payment Dates only.

1. Select the **Payment Event Type** Option.
2. Select the Start Origination Date using the date picker. Alternatively, you can enter the Start Origination Date in the space provided.
3. Enter the values for the Arctangent Parameters (columns K1 through K4) for each Start Origination Date in the table. The valid range for each parameter is -99.9999 to 99.9999.
4. Click **Add Another Row**.
   You can add as many rows as possible in this table using **Add Multiple Row** Option. However, you need to enter relevant parameters for each new row.
5. You can also use the **Download Excel** Feature to export the Prepayment Rate Information that is displayed on screen, modify, and copy-paste it back in the grid.
6. Define the source for the Market Rate by Selecting an Index (Interest Rate Code) from the list of values.
7. Enter the Spread.
   The spread is added to the rate from the underlying Interest Rate Curve to determine the Market Rate.
8. Select an **Associated Term** as Original Term, Reprice Frequency, or Remaining Term.
9. Define the Seasonality Assumptions as required to model date specific adjustments to the Annual Prepayment Rate. Inputs act as a multiplier, For example, an input of 2 will double the prepayment rate in the indicated month.

1.15.6 View and Edit Prepayment Rule

You can view existing Prepayment Rule, and you can edit existing Prepayment Rules, provided you have read/write privileges.

To view and edit a Prepayment Rule, follow these steps:

1. Navigate to the **Assumption** and select **Prepayment Rule**.
2. Search for a Rule.
   For further information, see the Search Prepayment Rules section.
3. Click on the **Action** icon against the Prepayment Rule Name and select **View/Edit** to open the Rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.15.7 Copy Prepayment Rule

You can copy Prepayment Rules to avoid having to enter data multiple times. This saves time and effort and reduces mistakes.

To copy a Prepayment Rule, follow these steps:

1. Navigate to the **Assumption** and select **Prepayment Rule**.
2. Search for a Rule.
   For more information, see the Search Prepayment Rules section.
3. Click on the **Action** icon against the Prepayment Rule Name and select **Save As** to duplicate the Rule.
4. Select a folder where you want to save the Rule copy.
5. Enter a unique name for the new Rule.
6. Enter a brief description of the Rule.
7. Click **Save**.

1.15.8 Delete Prepayment Rule

You can delete Prepayment Rules that are no longer required.

> **Note:**
>
> A Prepayment Rule cannot be retrieved after deletion.
>
> Restrictions on deleting Prepayment Rules are:
>
> You cannot delete Prepayment Rules if you have only Read privileges. Only users with Read/Write privileges and Prepayment Rule owners can delete Prepayment Rules.
>
> You cannot delete a Prepayment Rule that has a dependency.

To delete a Prepayment Rule, follow these steps:

1. Navigate to the **Assumption** and select **Prepayment Rule**.
2. Search for a Rule.
   For more information, see the Search Prepayment Rules section.
3. Click on the **Action** icon against the Prepayment Rule Name and select **Delete**.

1.15.9 Dependency Check

You can check dependencies for rules to know where a particular Prepayment 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 **Assumption** and select **Prepayment Rule**.
- Search for a rule. For further information, see the Search Prepayment Rules section.
- Click on the **Action** icon against the Prepayment Rule Name and select **Dependency Check** to the rule that you want to check for.

> **Note:**
>
> This is functionality will be released in future.

1.16 Prepayment Models

This module describes the procedure to build Prepayment Models. These Prepayment Models can be referenced by a Prepayment Rule to Model Prepayment Behavior of instruments based on a range of instrument level attributes.

The Prepayment Model consists of the Prepayment Dimensions and the Bucket Values for these Dimensions. To define the Prepayment Model Structure, you can select a maximum of three prepayment dimensions. After the dimensions and the number of buckets (tiers) are defined, you need to assign values to the buckets.

Topics:

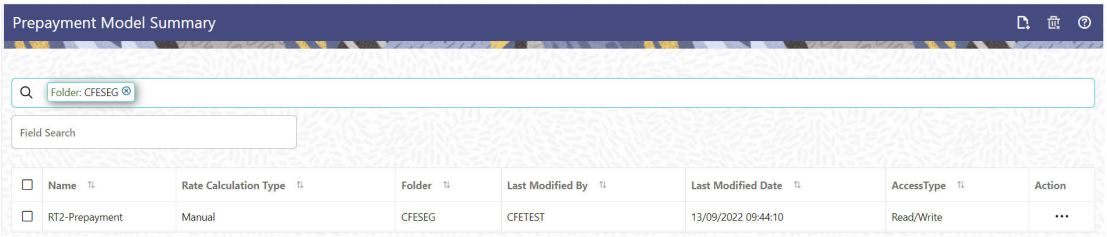
1.16.1 Prepayment Model Summary Page

This page holds all Prepayment Models and related functionality. You can navigate to other pages relating to the Prepayment Model from this page. The Prepayment Model Summary Page displays the following columns.

Table 1-43 Prepayment Model Rule – Fields and Descriptions

Column	Description
Name	Displays the Prepayment Model Rule's short name.
Rate Calculation Type	Displays the Prepayment Model type, such as Manual .
Created By	Displays the Folder name where the Prepayment Model Rule is saved.
Created Date	Displays the access type of Rule. It can be Read-Only or Read/Write.
Last Modified By	Displays the Name of the user who last modified the Prepayment Model Rule.
Last Modified Date	Displays the Date and Time when Prepayment Model was modified last.
Action	Displays the list of actions that can be performed on the Prepayment Model Rule. For more information, see Prepayment Model Rule – Icons and Descriptions.

Figure 1-56 Prepayment Model Summary page



The Action column on Prepayment Model Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Prepayment Model Rule.

Table 1-44 Prepayment Model Rule – Icons and Descriptions

Fields	Description
Add	Click **Add** icon to build a new Prepayment Model 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.
View/Edit	Click on the **Action** icon against the Prepayment Model Rule Name and select View/Edit to view or edit the contents of a Prepayment Model Rule in read/write format. Depending on user privileges the Rule will open in either View or Edit mode.

Table 1-44 (Cont.) Prepayment Model Rule – Icons and Descriptions

Fields	Description
Save As	Click on the **Action** icon against the Prepayment Model Rule Name and select Save As to create a copy of an existing Prepayment Model Rule.
Delete	Click on the **Action** icon against the Prepayment Model Rule Name and select Delete to delete an existing Prepayment Model Rule.

1.16.2 Search Prepayment Models

Search for a Prepayment Model to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Refresh

Prerequisites

Predefined Prepayment Model

Procedure

To search for a Prepayment Model Rule, follow these steps:

1. Navigate to the **Prepayment Model Summary** Page.
2. Enter the **Code, Name, Currency**, and **Description** of the Prepayment Model and click **Search** . Only Prepayment Model Rules that match the search criteria are displayed.

1.16.3 Create Prepayment Models

Creating a Prepayment Model comprises the following sub procedures:

1. Creating Prepayment Models
2. Defining the structure of the Prepayment Model.
3. Assigning Node Values

You can create Prepayment Models with following Rate Calculation options:

- Creating Prepayment Model with Rate Calculation as Manual
- Creating Prepayment Model with Rate Calculation as External Model

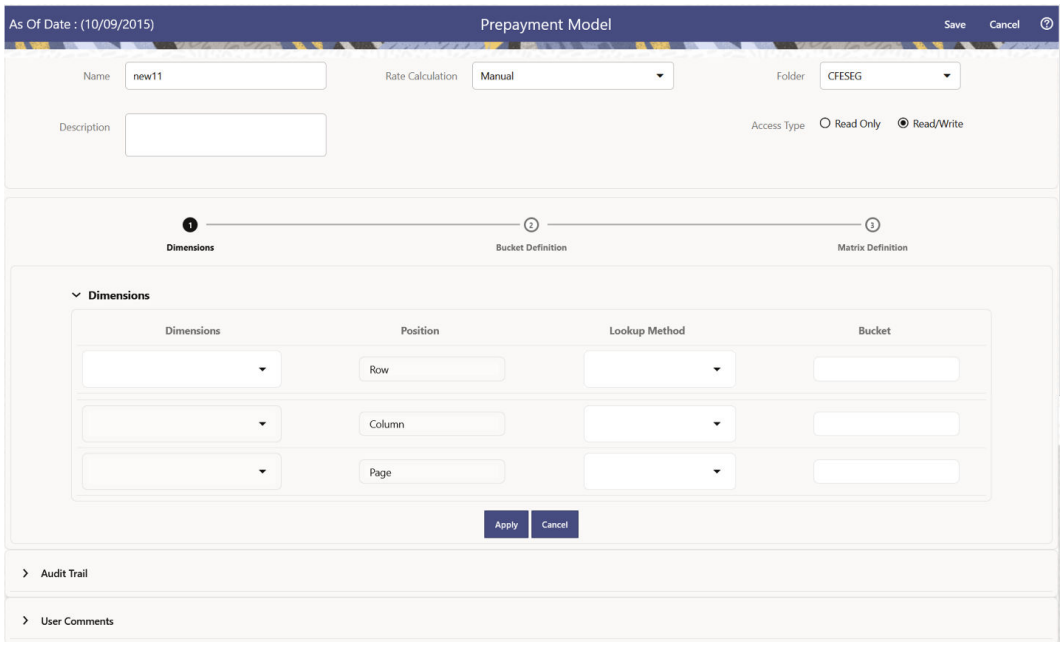
1.16.3.1 Creating Prepayment Model with Rate Calculation as Manual

To create a Prepayment Model Rule, follow these steps:

1. Navigate to the **Prepayment Model Summary** Page.

2. Click **Add**. The **Prepayment Model Details** Page is displayed.

Figure 1-57 Prepayment Model



3. Enter the following details:
   - **Name:** Enter the name and a brief description for the Prepayment Model. The name you assign to the Prepayment Model must be unique. The name can hold a maximum of 30 characters.
   - **Rate Calculation:** Select the Prepayment Model Rate Calculation Method as Manual. Using Manual Method, you can select maximum of three Prepayment Dimension and assign prepayment rates manually to selected dimension.
   - **Folder:** Select the Folder
   - **Description:** Enter the description of Prepayment Model Rule.
   - Select **Access Type**.
4. Follow below steps:
   Defining the Structure of the Prepayment Model Using Dimensions section

   Modifying the Table Structure Using Bucket Definition section

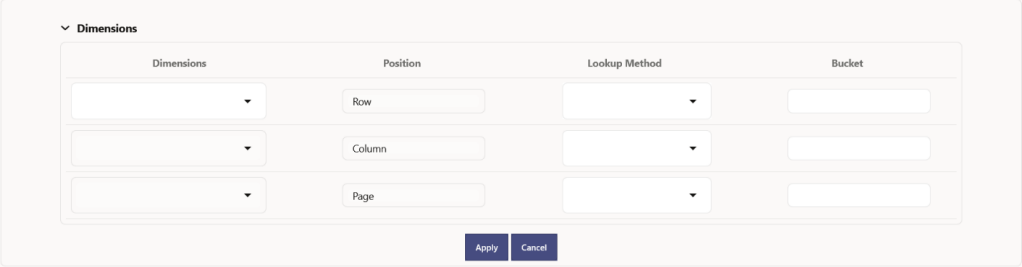
   Prepayment Rates Using Matrix Definition

1.16.3.1.1 Defining the Structure of the Prepayment Model Using Dimensions section

This page consists of the Prepayment Dimensions and the Bucket Values for these Dimensions which you select on this page. To define the Prepayment Model Structure, you can select a maximum of three Prepayment Dimensions. After the dimensions and the number of buckets (tiers) are defined, you need to assign values to the buckets.

> **Note:**
>
> You can use the analogy of a three-dimensional table to understand how to deal with the Prepayment Dimensions. The first dimension you select would resemble the row (X-axis).
>
> The second dimension would act as the column (Y-axis). The final third dimension will be the page (Z-axis).

Figure 1-58 Dimensions section



1. Enter the following details in Dimension section:
   - Dimensions: Select the Dimension, such as Repricing Term, Rate Ratio, and others.
     The Dimension Section Influences the Prepayment Behavior of an instrument. You can build a Prepayment Model using up to three Prepayment Dimensions. Each dimension maps to an attribute of the underlying transaction (For example, age/term or rate and so on) so the Cash Flow Engine can apply a different Prepayment Rate based on the specific characteristics of the instrument.
   - Position: Shows the position of dimension as Row, Column or Page.
   - Lookup Method: Select the Lookup Method for selected Dimension. It is used to calculate Prepayment Rates for the Prepayment Dimension Values that do not fall exactly on the defined Prepayment Dimension Nodes. Oracle Asset Liability Management offers the following Lookup Methods:
   - Interpolation: Under this method, the Prepayment Rates are determined by calculating an exact value on an axis. This method assumes that Prepayment Speeds change on a straight-line basis between the two nodes and calculates accordingly.
   - Range: Under this method, the prepayment rates are determined by calculating a range of values on an axis. This method assumes that the Prepayment Speed will remain the same for the entire range.
     The following example explains the differences between these two Lookup Methods. The following lists show the age and corresponding Prepayment Rates of instruments.

     Age

     12

     24

36

60

Prepayment Rates

5

10

15

20

Under the Interpolation method, the Prepayment Speeds increase gradually. In this example, the Interpolated Prepayment Rate of an instrument aged 30 months is 12.5%.

This is exactly halfway between the 10% and 15% rate. However, the Range Method, the Prepayment Speeds increase in steps. Using the Range method, the Prepayment Rate is 10%, as this rate percentage would apply to the range from 24 months to 35.9999 months.

- Bucket: Enter the number of Buckets for the Dimension. This number may vary from dimension to dimension. Exact points for each dimension where attribute information has been defined.

2. If required, repeat the previous three steps for up to two additional Dimensions.

> **Note:**
>
> There are certain restrictions while defining Dimensions:
>
> - You must select the Dimension type for a row and define the values for that dimension.
> - You cannot define the second (row) dimension until you have defined the first (row) dimension. Similarly, the third dimension cannot be defined until you have defined the first two dimensions.
>
> The Define Dimensions Page is refreshed. You can now assign the Bucket Values for each dimension. At this point, you can also modify the structure of the table, if required.

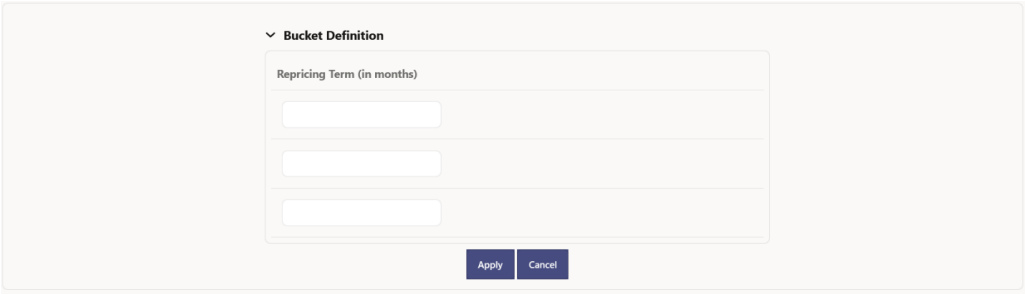
1.16.3.1.2 Modifying the Table Structure Using Bucket Definition section

The Bucket Definition section is used to perform following tasks:

- To add more buckets to a particular Dimension, update the number of buckets for the Dimension and click **Apply**.
- To delete buckets from a particular Dimension, reduce the number of buckets to the desired value and click **Apply**.

To change the Lookup Method of a particular Dimension, select the required method from the corresponding list of methods from the Dimensions Tab.

Figure 1-59 Bucket Definition Section



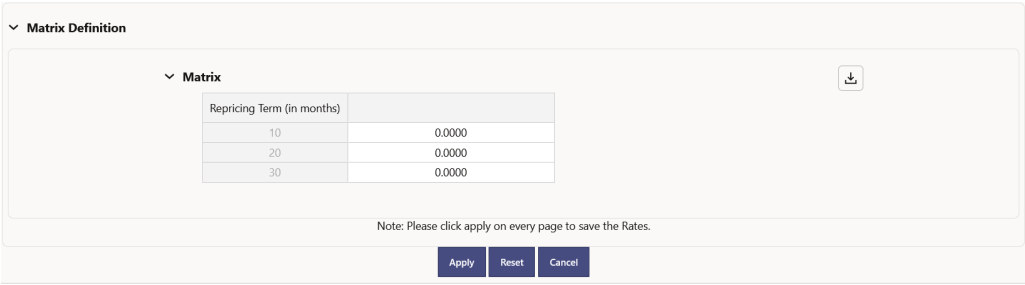
1. Assign values for each of the buckets.
2. Click **Apply**. The Prepayment Model, Prepayment Dimensions, and Buckets are saved.

1.16.3.1.3 Prepayment Rates Using Matrix Definition

1. Enter the Prepayment Rates in the Prepayment Model.

Bucket Values for the row and column dimensions are displayed as a table, while the bucket values for the page dimensions (if selected) are shown in the drop down list.

Figure 1-60 Matrix Definition Section

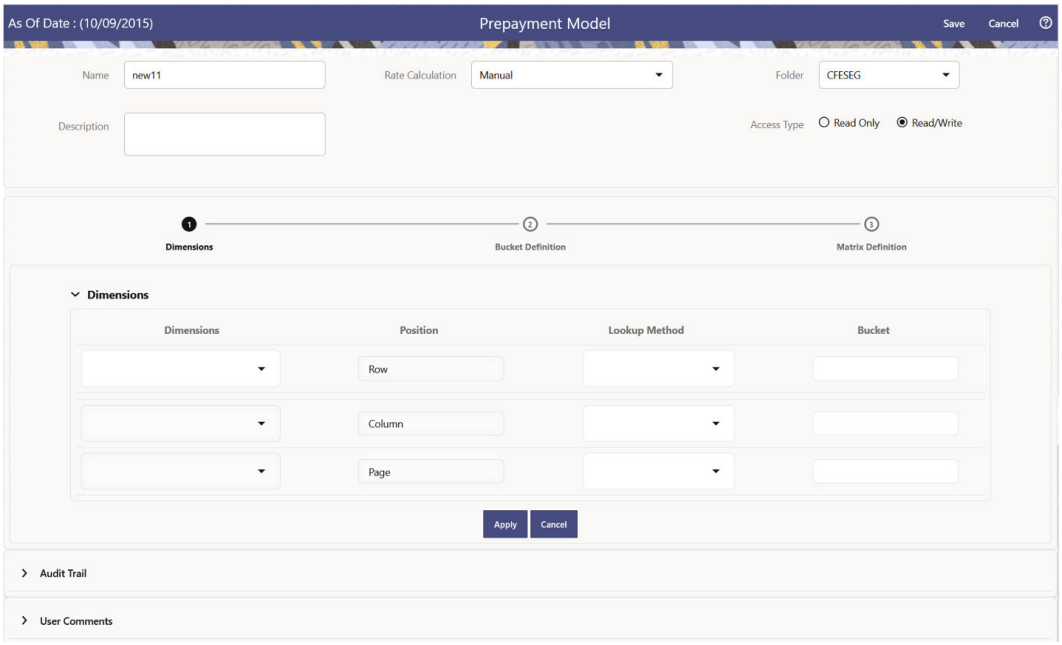


1.16.3.2 Creating Prepayment Model with Rate Calculation as External Model

To create a Prepayment Model Rule, follow these steps:

1. Navigate to the **Prepayment Model Summary** Page.
2. Click **Add**. The **Prepayment Model Details** Page is displayed.

Figure 1-61 Prepayment Model



3. Enter the following details:
   - **Name:** Enter the name and a brief description for the Prepayment Model. The name you assign to the Prepayment Model must be unique. The name can hold a maximum of 30 characters.
   - **Rate Calculation:** Select the Prepayment Model Rate Calculation Method as External Model. When you select External Model, Define Equation button will get activated to use External Prepayment Model. This is useful, when you want to do Prepayment Modelling outside PBSM and use the model equation to calculate Prepayment Rates.
   - **Folder:** Select the Folder
   - **Description:** Enter the description of Prepayment Model Rule.
   - Select **Access Type**.
4. Follow below steps:
   Defining the Structure of the Prepayment Model Using Dimensions section

   Defining Equation using Define Equation section

   Modifying the Table Structure Using Bucket Definition section

   Prepayment Rates Using Matrix Definition

1.16.3.2.1 Defining the Structure of the Prepayment Model Using Dimensions section

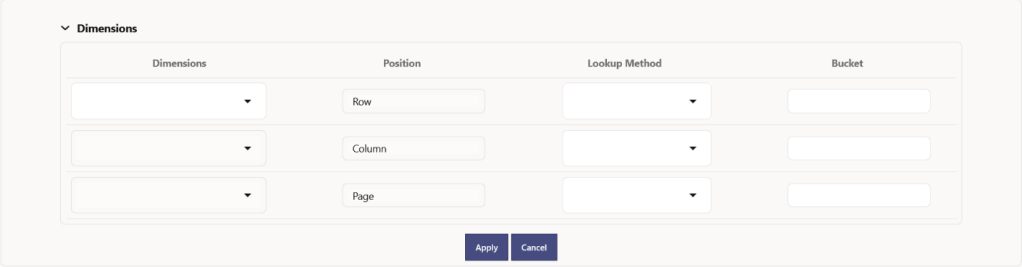
This page consists of the Prepayment Dimensions and the Bucket Values for these Dimensions which you select on this page. To define the Prepayment Model Structure, you can select a maximum of three Prepayment Dimensions. After the dimensions and the number of buckets (tiers) are defined, you need to assign values to the buckets.

Note:

You can use the analogy of a three-dimensional table to understand how to deal with the Prepayment Dimensions. The first dimension you select would resemble the row (X-axis).

The second dimension would act as the column (Y-axis). The final third dimension will be the page (Z-axis).

Figure 1-62 Dimensions section



1. Enter the following details in Dimension section:
   - Dimensions: Select the Dimension, such as Repricing Term, Rate Ratio, and others.
     The Dimension Section Influences the Prepayment Behavior of an instrument. You can build a Prepayment Model using up to three Prepayment Dimensions. Each dimension maps to an attribute of the underlying transaction (For example, age/term or rate and so on) so the Cash Flow Engine can apply a different Prepayment Rate based on the specific characteristics of the instrument.
   - Position: Shows the position of dimension as Row, Column or Page.
   - Lookup Method: Select the Lookup Method for selected Dimension. It is used to calculate Prepayment Rates for the Prepayment Dimension Values that do not fall exactly on the defined Prepayment Dimension Nodes. Oracle Asset Liability Management offers the following Lookup Methods:
   - Interpolation: Under this method, the Prepayment Rates are determined by calculating an exact value on an axis. This method assumes that Prepayment Speeds change on a straight-line basis between the two nodes and calculates accordingly.
   - Range: Under this method, the prepayment rates are determined by calculating a range of values on an axis. This method assumes that the Prepayment Speed will remain the same for the entire range.
     The following example explains the differences between these two Lookup Methods. The following lists show the age and corresponding Prepayment Rates of instruments.

     Age

     12

     24

36

60

Prepayment Rates

5

10

15

20

Under the Interpolation method, the Prepayment Speeds increase gradually. In this example, the Interpolated Prepayment Rate of an instrument aged 30 months is 12.5%.

This is exactly halfway between the 10% and 15% rate. However, the Range Method, the Prepayment Speeds increase in steps. Using the Range method, the Prepayment Rate is 10%, as this rate percentage would apply to the range from 24 months to 35.9999 months.

- Bucket: Enter the number of Buckets for the Dimension. This number may vary from dimension to dimension. Exact points for each dimension where attribute information has been defined.

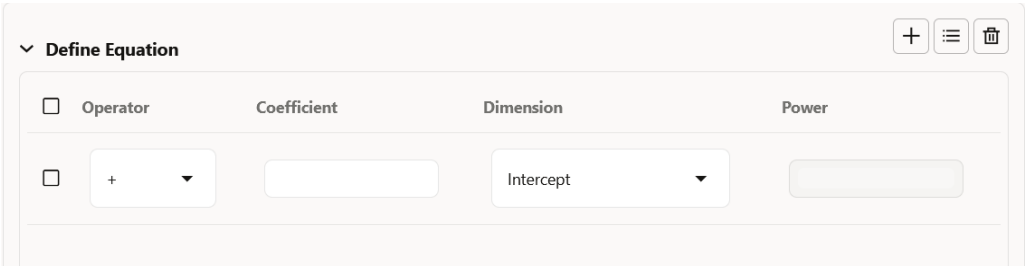
2. If required, repeat the previous three steps for up to two additional Dimensions.

> **Note:**
>
> There are certain restrictions while defining Dimensions:
>
> - You must select the Dimension type for a row and define the values for that dimension.
> - You cannot define the second (row) dimension until you have defined the first (row) dimension. Similarly, the third dimension cannot be defined until you have defined the first two dimensions.
>
> The Define Dimensions Page is refreshed. You can now assign the Bucket Values for each dimension. At this point, you can also modify the structure of the table, if required.

1.16.3.2.2 Defining Equation using Define Equation section

> **Note:**
>
> This section is not applicable to Manual Models. This section appears when you select External Model from Rate Calculation drop-down list.

Figure 1-63 Define Equation Section



To define Equation, perform the following steps:

1. Click **Define Equation**. Enter following details:
   - **Operator:** Select operator as +, -, *, or /
   - **Coefficient:** Enter the value of Coefficient
   - **Dimension:** Select the Dimension
   - **Power:** Enter the power for selected Dimension.
     For Example:

     Equation becomes:

     2 + 1.5 * original Term ^ 2 + 3 * Rate Diff ^ 2

     > **Note:**
     >
     > Before defining equation, you must select dimensions and accordingly dimensions drop-down will display values along with Intercept. For example, if you have already chosen Original term and Rate Difference as dimensions, then Dimension drop-down list would displays the following three values:
     >
     > – Intercept
     > – Original Term
     > – Rate Difference

     After defining all coefficients, Power, operators, click Equation to get the model equation.

     A confirmation message is displayed.
2. Click **Ok** to use the same for Prepayment Rate Calculations.
3. You can add new row for each term using **Add Row**. Multiple rows can be added using **Add Multiple Rows**.
4. Click **Apply**.

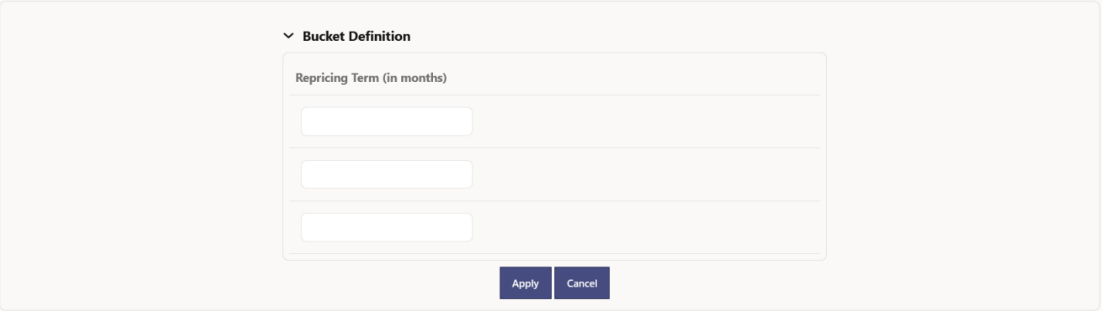
1.16.3.2.3 Modifying the Table Structure Using Bucket Definition section

The Bucket Definition section is used to perform following tasks:

- To add more buckets to a particular Dimension, update the number of buckets for the Dimension and click **Apply**.
- To delete buckets from a particular Dimension, reduce the number of buckets to the desired value and click **Apply**.

To change the Lookup Method of a particular Dimension, select the required method from the corresponding list of methods from the Dimensions Tab.

Figure 1-64 Bucket Definition Section



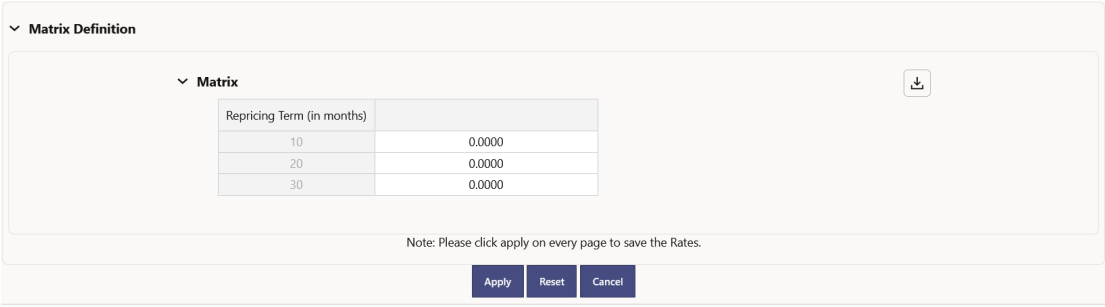
1. Assign values for each of the buckets.
2. Click **Apply**. The Prepayment Model, Prepayment Dimensions, and Buckets are saved.

1.16.3.2.4 Prepayment Rates Using Matrix Definition

1. Enter the Prepayment Rates in the Prepayment Model.

Bucket Values for the row and column dimensions are displayed as a table, while the bucket values for the page dimensions (if selected) are shown in the drop down list.

Figure 1-65 Matrix Definition Section



1.16.4 View and Edit Prepayment Model Rule

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

To view and edit a Prepayment Model, follow these steps:

1. Navigate to the Assumption and select Prepayment Model.
2. Search for a Rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Prepayment Model Rule Name and select View/Edit to open the Rule you want to update.
4. Update the Rule details.
5. Click Apply or Save, depending on the Rule Type.

1.16.5 Copy Prepayment Model Rule

You can copy Prepayment Model Rules to avoid having to enter data multiple times. This saves time and effort and also reduces mistakes.

To copy a Prepayment Model, follow these steps:

1. Navigate to the Assumption and select Prepayment Model.
2. Search for a Rule. For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Prepayment Model Rule Name and select Save As to duplicate the Rule.
4. Select a folder where you want to save the Rule copy.
5. Enter a unique name for the new Rule.
6. Enter a brief description of the Rule.
7. Click the Save button.

1.16.6 Delete Prepayment Model Rule

You can delete Prepayment Model Rules that are no longer required.

> **Note:**
>
> A Prepayment Model cannot be retrieved after deletion.
>
> Restrictions on deleting patterns are:
>
> You cannot delete Prepayment Model Rules if you have only Read privileges. Only users with Read/Write privileges and Prepayment Model owners can delete Prepayment Model Rules.
>
> You cannot delete a Prepayment Model that has a dependency.

To delete a Prepayment Model, follow these steps:

1. Navigate to the Assumption and select Prepayment Model.
2. Search for a Rule. For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Prepayment Model Rule Name and select Delete.

1.16.7 Dependency Check

You can check dependencies for rules to know where a particular Prepayment Model 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 Prepayment Model.
2. Search for a rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Prepayment Model Rule Name and select Dependency Check to the rule that you want to check for.

> **Note:**
>
> This is functionality will be released in future.

1.17 Behavior Pattern Rule

The Behavior Pattern (BP) functionality works similarly to amortization types. The Behavior Pattern code is assigned at the detail instrument level, and these designations are evaluated by the cash flow engine (CFE) for calculations. However, Behavior Patterns are portfolio level property rather than instrument level. Generally, a bank processes aggregated data for non-maturing products. In this case, the Behavior Pattern is assigned effectively at the portfolio level. If you are using CFE with any other service, then data is required at the instrument level and BP is also assigned accordingly.

In this case, you must track the changes to Behavior Patterns and assign appropriate codes to affected instruments. Due to this, only one BP can be used by the CFE in the CFE processes for current business. If you want to model multiple types of BP under varying scenarios, then you can use a Behavior Pattern Rule.

The Behavior Pattern Rule UI allows you to group Behavior Pattern codes (behavioral assumptions) together in a set at the Product/Currency level which then can be rotated to select a value on a combination. You can select which behavior assumption pattern to use and the underlying Behavior Pattern in that set will affect the data on processing

This chapter describes the procedure for working with and managing the Behavior Pattern rules.

Topics

1.17.1 Behavior Pattern Rule Summary Page

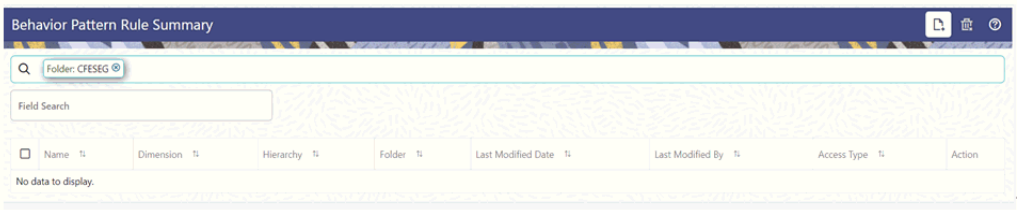
This page is the gateway to all Behavior Pattern Rules and related functionality. You can navigate to other pages relating to Behavior Pattern Rules from this point.

The Behavior Pattern Rule Page displays the following columns.

Table 1-45 Behavior Pattern Rule – Fields and Descriptions

Column	Description
Name	Displays the Behavior Pattern Rule's Short Name. Mouse over the Name field to view the Code and Description details.
Dimension	Displays the Dimension used to define the Behavior Pattern Rule
Hierarchy	Displays the Hierarchy used to define the Behavior Pattern Rule
Folder	Displays the Folder name where the Behavior Pattern Rule is saved.
Last Modified By	Displays the Name of the user who last modified the Behavior Pattern Rule.
Last Modified Date	Displays the Date and Time when Behavior Pattern Rule was modified last.
Action	Displays the list of actions that can be performed on the Behavior Pattern Rule. For more information, see Behavior Pattern Rule – Icons and Descriptions.

Figure 1-66 Figure 1: Behavior Pattern Rule Summary Page



The Action column on the Behavior Pattern Rule Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Behavior Pattern Rule.

Table 1-46 Behavior Pattern Rule – Icons and Descriptions

Fields	Description
Add	Click Add icon at the top right of the Summary Page to build a new Behavior Pattern Rule.

Table 1-46 (Cont.) Behavior Pattern Rule – Icons and Descriptions

Fields	Description
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 Behavior Pattern Rule Name and select View/Edit to view or edit the contents of a Behavior 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 Behavior Pattern Rule Name and select Save As to create a copy of an existing Behavior Pattern Rule.
Delete	Click on the **Action** icon against the Behavior Pattern Rule Name and select Delete to delete an existing Behavior Pattern Rule.
Dependency Check	Click on the **Action** icon against the Behavior Pattern Rule Name and select Dependency Check to view objects where selected Behavior Pattern Rule is used.

1.17.2 Search for Behavior Pattern Rules

Search for a Behavior Pattern Rule to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Check Dependencies

Prerequisites

- Predefined Behavior Pattern Rules

Procedure

To search for Behavior Pattern Rules, do the following:

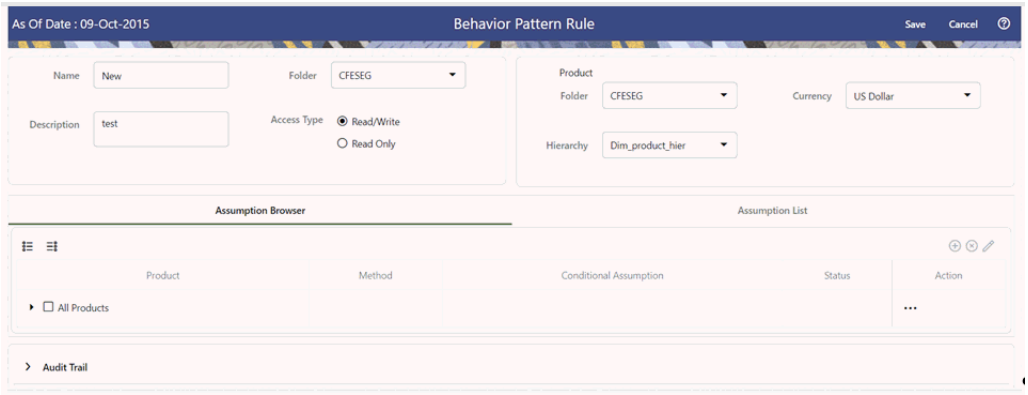
1. Navigate to the **Behavior Pattern Rule Summary** page.
2. Enter the **Code, Name, Description, Dimension, Hierarchy**, or **Folder** of the rule in Search Criteria.
3. Click the **Search** icon.

Only rules that match the search criteria are displayed.

1.17.3 Create Behavior Pattern Rules

You create behavior pattern rules to capture the principal run-off behavior of product types that do not have contractual maturities.

Figure 1-67 Behavior Pattern Rule Page



To create a Behavior Pattern rule, follow these steps:

1. Click **Add** icon from the top of the **Behavior Pattern Rule Summary** Page.
2. Enter the following Details.
   Table: Create Behavior Pattern Rule

Fields	Description
Name	Enter the name of the Behavior Pattern Rule.
Description	Enter the description of the Behavior Pattern Rule. This is an optional field.
Folder	Select the Folder where the Behavior Pattern Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.

3. Select a **Product Folder**.
4. Select a **Product Hierarchy**. You can define methodologies at any level of the Hierarchical Product Dimension. The Hierarchical Relationship between the nodes allows the inheritance of methodologies from Parent nodes to Child nodes.
5. Select a **Currency**.
6. Select **Product(s)** from Assumption Browser.
7. Click **Add** from Assumption Browser Section.

1.17.3.1 Defining Behavior Pattern Rule

The definition of a Behavior Pattern rule is part of the Create or Edit Behavior Pattern rule process. When you click **Save** in the Create Behavior Pattern Rule process, the rule is saved and the **Behavior Pattern Rule Summary** page is displayed.

However, Behavior Pattern assumptions have not yet been defined for any of your products at this point. Typically, you would start defining your Behavior Pattern assumptions for product-currency combinations before clicking Save.

1.17.3.1.1 Defining Behavior Pattern Rule Using Node Level Assumptions

Node Level Assumptions allow you to define assumptions at any level of the Product dimension Hierarchy. The Product dimension supports a hierarchical representation of your chart of accounts, so you can take advantage of the parent-child relationships defined for the various nodes of your product hierarchies while defining rules. Children of parent nodes on a hierarchy automatically inherit the assumptions defined for the parent nodes. However, assumptions explicitly defined for a child take precedence over those at the parent level.

> **Note:**
>
> Using the default currency to setup assumptions can save data input time. At run time, the calculation engine uses assumptions explicitly defined for a product currency combination. If assumptions are not defined for a currency, the engine uses the assumptions defined for the product and the default currency. If the assumptions are the same across some or all currencies for a specific product, you can input assumptions for the default currency. Be careful using this option on screens where an Interest Rate.

Prerequisites

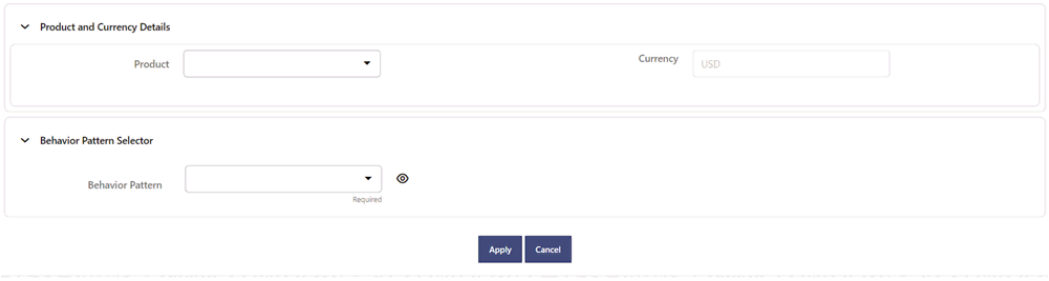
Performing basic steps for creating or editing a Behavior Pattern rule.

Procedure

To define Behavior Pattern Rule using Node Level Assumptions, follow these steps:

1. Navigate to the Behavior Pattern Rule Assumption Details Page after selecting a Currency and one or more products from the hierarchy.

Figure 1-68 Behavior Pattern Rule Assumption Details



2. Select a Product.
3. Select the Behavior Pattern from Behavior Pattern drop-down list. Here, the Behavior Pattern drop-down list shows the list of existing Behavior Patterns.
   Click below icon to view the details of selected Behavior Pattern.

Figure 1-69 View Behavior Pattern

You can select only one Behavior Pattern at a time.

4. Click Apply.
   The Assumption Browser Definition Page is displayed.

   At this point you can:

   - Continue selecting BP for other product-currency combinations by repeating the above procedure.
   - Complete the process by clicking Save.

When you click Save, the Behavior Pattern Rule assumptions are saved and the Behavior Pattern Rule Summary Page is displayed.

1.17.4 View and Edit Behavior Pattern Rule

You can view existing Behavior Pattern Rule, and you can edit existing Behavior Pattern Rules, provided you have read/write privileges.

To view and edit a Behavior Pattern Rule, follow these steps:

1. Navigate to the **Assumption** and select **Behavior Pattern Rule**.
2. Search for a Rule.
   For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Behavior Pattern Rule Name and select **View/ Edit** to open the Rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.17.5 Copy Behavior Pattern Rule

You can copy Behavior Pattern Rules to avoid having to enter data multiple times. This saves time and effort and reduces mistakes.

To copy a Behavior Pattern Rule, follow these steps:

1. Navigate to the **Assumption** and select **Behavior Pattern Rule**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Behavior Pattern Rule Name and select **Save As** to duplicate the Rule.
4. Select a folder where you want to save the Rule copy.
5. Enter a unique name for the new Rule.
6. Enter a brief description of the Rule.
7. Click **Save**.

1.17.6 Delete Behavior Pattern Rule

You can delete Behavior Pattern Rules that are no longer required.

> **Note:**
>
> A Behavior Pattern Rule cannot be retrieved after deletion.
>
> Restrictions on deleting Behavior Pattern Rules are:
>
> You cannot delete Behavior Pattern Rules if you have only Read privileges. Only users with Read/Write privileges and Behavior Pattern Rule owners can delete Behavior Pattern Rules.
>
> You cannot delete a Behavior Pattern Rule that has a dependency.

To delete a Behavior Pattern Rule, follow these steps:

1. Navigate to the **Assumption** and select **Behavior Pattern Rule**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Behavior Pattern Rule Name and select **Delete**.

1.18 Volatility Surface

The Volatility Curve UI allows you to select the curve. The curve selected will contain volatility rates. If you select this option, all other curve attributes become disabled and the curve is used exclusively for managing volatility details.

> **Note:**
>
> For FTP Volatility, both the Terms tab and Historical Rates tab are available with this option. Volatility curves are used in FTP to calculate the Rate Lock Option Costs.

For ALM Volatility, only the Historical Rates tab is available. After you have saved the Yield Curve, you cannot change the selected Volatility Curve.

ALM Volatility is used to evaluate embedded options for the Black 76 market valuation.

For more information, see the Cash Flow Engine Referernce Guide.

Topics:

- Volatility Surface Summary Page
- Search Volatility Surface Rule
- Create Volatility Surface Rule
- View and Edit Volatility Surface Rule
- Copy Volatility Surface Rule

- Delete Volatility Surface Rule

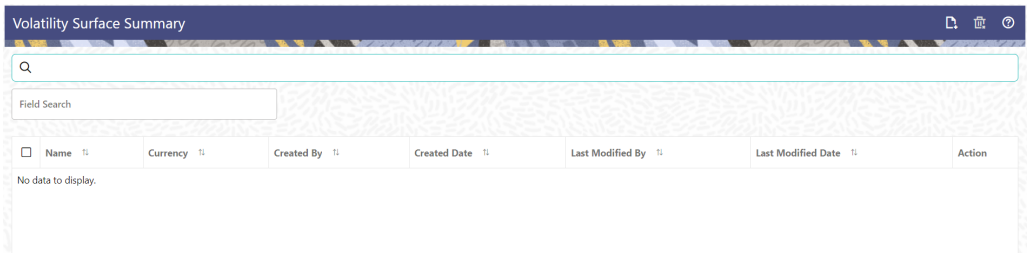
1.18.1 Volatility Surface Summary Page

This page is the gateway to all Volatility Surface Rules and related functionality. You can navigate to other pages relating to Volatility Surface Rules from this point. The Volatility Surface Summary page displays the following columns:

Table 1-47 Volatility Surface Rule Summary– Fields and Descriptions

Columns	Description
Name	Displays the Volatility Surface Rule's short name.
Currency	Displays the Volatility Surface Rule's currency.
Created By	Displays the Name of the user who created the Volatility Surface Rule.
Created Date	Displays the Date and Time when Volatility Surface was created.
Last Modified By	Displays the Name of the user who last modified the Volatility Surface Rule.
Last Modified Date	Displays the Date and Time when Volatility Surface 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 Volatility Surface Rule. For more information, see Volatility Surface Rule – Icons and Descriptions.

Figure 1-70 Volatility Surface Rule Summary Page



The Action column on the Volatility Surface Rule Summary page offers several actions that allow you to perform different functions. The following actions are available for the Volatility Surface Rules.

Table 1-48 Volatility Surface Rule – Icons and Descriptions

Fields	Description
Add	Click Add icon at the top right of the Summary page to build a new Volatility Surface Rule.

Table 1-48 (Cont.) Volatility Surface Rule – Icons and Descriptions

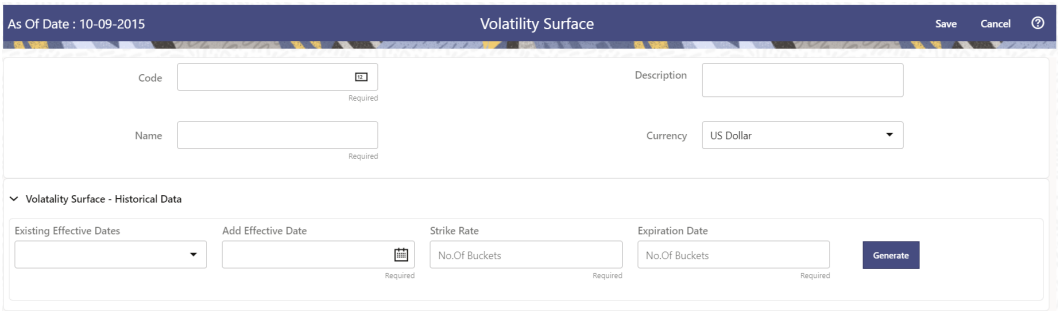
Fields	Description
Multiple Delete	Select one or more rules in the table and then click the (-) icon at the top right of the summary page to delete more than one rule at the same time.
View/Edit	Click on the **Action** icon against the Rule Name and select View/Edit to view or edit the contents of a Volatility Surface 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 Rule Name and select Save As to create a copy of an existing Volatility Surface Rule.
Delete	Click on the **Action** icon against the Rule Name and select Delete to delete an existing Volatility Surface Rule.

1.18.2 Create Volatility Surface Rule

To create a Volatility Surface Rule, follow these steps:

1. Navigate to the **Volatility Surfaces Rule Summary** page.
2. Click **Add**. The Volatility Surface Rule page is displayed.

Figure 1-71 Volatility Surface Rule

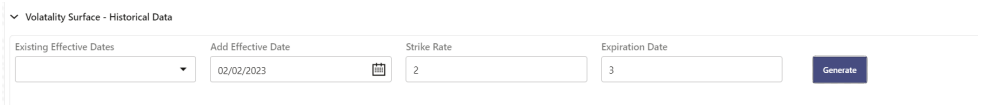


3. Enter the following details:
Table: Volatility Surface Details

Fields	Description
Code	Enter the code of the Volatility Surface Rate Rule.
Name	Enter the name of the Volatility Surface Rate Rule.
Description	Enter the description of the Volatility Surface Rule. This is an optional field.
Currency	Select the currency of the Volatility Surface Rate Rule.

4. Navigate to **Volatility Surface Historical Data** section.

Figure 1-72 Volatility Surface Section

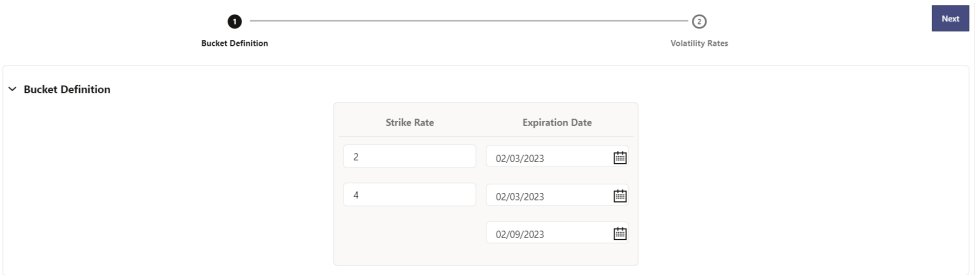


5. Enter the following details:
Table: Volatility Surface sections

Fields	Description
Existing Effective Dates	Select the existing Effective Dates.
Add Effective Dates	Select the As of Date as Effective Dates using Add Effective Dates field.
Strike Rate	This is the Vertical Axis dimension of historical rates for an ALM Volatility Surface
Expiration Date	This is the Horizontal Axis dimension of historical rates for an ALM Volatility Surface. Select the desired Expiration Term from the drop-down list to complete the Volatility Matrix

6. Click **Generate**. Enter the Strike Rate and Expiration Date in Bucket Definition section. Effective Dates must be entered for each Expiration Term.

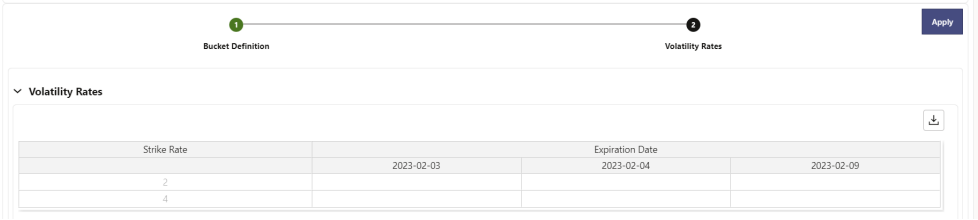
Figure 1-73 Bucket Definition



7. Click **Next**.

8. Enter the breakpoints for Strike Rate and Expiration Date in **Volatility Rates** section. For Strike Rate, enter values in ascending order. For Expiration Date, enter values in ascending order with values greater than the currently specified As of Date. At every intersection of Strike Rate and Expiration Date, enter a volatility amount in percent (that is, 25 = 25%).

Figure 1-74 Volatility Rates



9. Click **Apply**.
10. Click **Save**.

1.18.3 View and Edit Volatility Surface Rule

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

To view and edit a Volatility Surface Rule, follow these steps:

- Navigate to the **Reference Data** and select **Volatility Surface**.
- Search for a Rule. For further information, see the Search Volatility Surface section.
- Click on the **Action** icon against the Rule Name and select **View/Edit** to open the rule you want to update.
- Update the rule details.
- Click **Apply** or **Save**, depending on the rule type.

1.18.4 Copy Volatility Surface Rule

You can copy Volatility Surface Rules to avoid having to enter data multiple times. This saves time and effort and also reduces mistakes.

To copy a Volatility Surface Rule, follow these steps:

1. Navigate to the **Reference Data** and select **Volatility Surface**.
2. Search for a Rule.
   For more information, see the Search Volatility Surface section.
3. Click on the **Action** icon against the Rule Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the rule copy.
5. Enter a unique name for the new rule.
6. Enter a brief description of the rule. (Optional)
7. Select the access type.
8. Click the **Save** button.

1.18.5 Delete Volatility Surface Rule

You can delete Volatility Surface Rules that are no longer required.

> **Note:**
>
> A Volatility Surface Rule cannot be retrieved after deletion.
>
> Restrictions on deleting Volatility Surface Rules are:
>
> - You cannot delete Volatility Surface Rules if you have only Read privileges. Only users with Read/Write privileges and pattern owners can delete Volatility Surface Rules.
> - You cannot delete a Volatility Surface Rule that has a dependency.

To delete a Volatility Surface Rule, follow these steps:

1. Navigate to the **Reference Data** and select **Volatility Surface**.
2. Search for a Rule.
   For more information, see the Search Volatility Surface section.
3. Click on the **Action** icon against the Rule Name and select **Delete**.

1.19 IRRBB Standardized Approach

This module allows you to view, add, or delete currencies (or related shocks and parameters) to the Standardized Approach shocks table or to the IRRBB Standardized Approach Prepayment/Early Redemption scenario scalars.

The IRRBB Standardized Approach UI allosws you to view, edit, and delete currencies, shocks, or other parameters currently stored in the IRRBB Standardized Approach shocks table FSI_IRC_STDAPRCH_SHOCKS as well as the Standardized Approach Prepayment/Early Redemption scalars table FSI_IRC_STDAPRCH_CPRER. This UI allows you to to add, edit, or remove a currency along with its required parameters used in the Standardized Approach.

Allow Forecast Rates rules that are enabled for IRRBB forecasting to flag, highlight or otherwise signify that an IRC's currency is or is not presently defined in the above Standardized Approach table if the scenario is defined as a Standardized Approach shock.

1.19.1 Currency Shocks

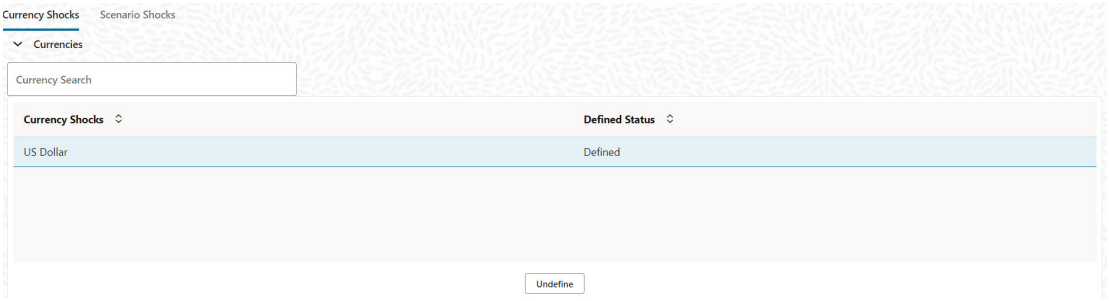
The Standardized Approach specifies that yield curves of specific currencies must be shocked in differing manners. There are 14 predefined currencies, however it is expected that these default values may be modified or that new currencies may be added/removed at the client's discretion.

Here, you can search, sort, and filter a Currency. "Defined Status" can only sort capability.

This section is divided into two blocks:

- The top block shows the list of available currenies.
- The bottom block allows you to View/Edit The Standardized Approach settings for this currency.

Figure 1-75 Currency Shocks



The top block lists all active, defined currencies as defined in Rate Management (FSI_CURRENCIES).

The status of Currency Shock is also displayed as Defined or Undefined. If the Currency details are matches to the IRRBB Standardized Approach table (FSI_IRC_STDAPRCH_SHOCKS), then the status of currency is "Defined" . Else, the status of currency is "Undefined".

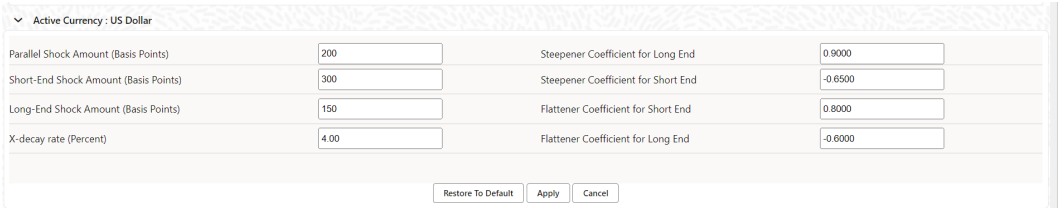
When you click Undefine button, a confirmation message is displayed: "The active currency will be permanently removed from IRRBB Standardized Approach Shocks. Continue?". Once you confirm, the active currency is deleted from the standardized Approach table FSI_IRC_STDAPRCH_SHOCKS and its status becomes "Undefined".

1.19.1.1 Editing of Currency Shocks

You can edit only one Currency Shock at a time.

1. Select a Currency Shock. The bottom block will display the details of the selected Currency Shock.
2. Edit the details of Active Currency Shock.

Figure 1-76 Editing of Currency Shocks



3. Click **Apply**.

The **Restore To Default** button will restore the currency to the original Basel Committee definition.

1.19.2 Scenario Shocks

The Scenario Shocks window allows you to view and edit the Standardized Approach prepayment and deposit early redemption scalars as stored in table FSI_IRC_STDAPRCH_CPRER. These values are Standardized Approach scenario dependent and not dependent on currency. The Conditional Prepayment Rate column holds a

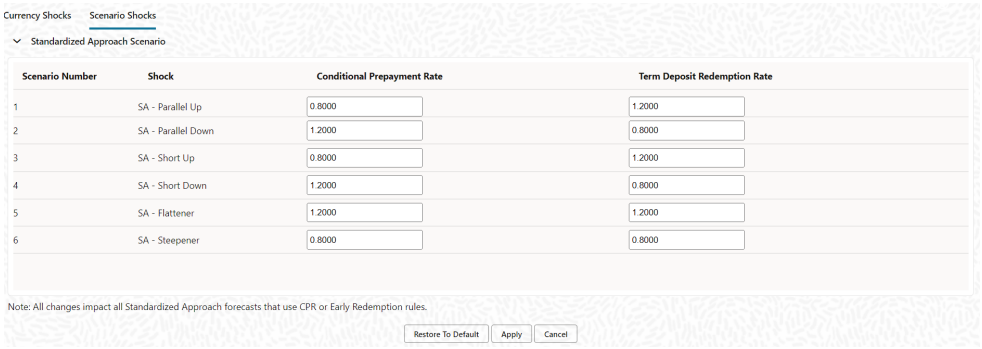
scaling value for prepayments for each Standardized Approach scenario. The Term Deposit Redemption Rate or early redemption holds a scaling value for Term Deposit Redemption for each Standardized Approach scenario.

1.19.2.1 Editing of Scenario Shocks

To edit a Scenario Shock, follow these steps.

1. Select Conditional Prepayment Rate field.
2. Edit the Conditional Prepayment Rate value.

Figure 1-77 Editing of Scenario Shocks



For Scenario Shocks, the input Conditional Prepayment Rate limit for is between 0 to 999.999999.

3. Edit the Term Deposit Redemption Rate value.
   For Scenario Shocks, the input limit for Term Deposit Redemption Rate is between 0 to 999.999999.
4. Click **Apply**.

1.20 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

1.20.1 Forecast Rates Rule Summary Page

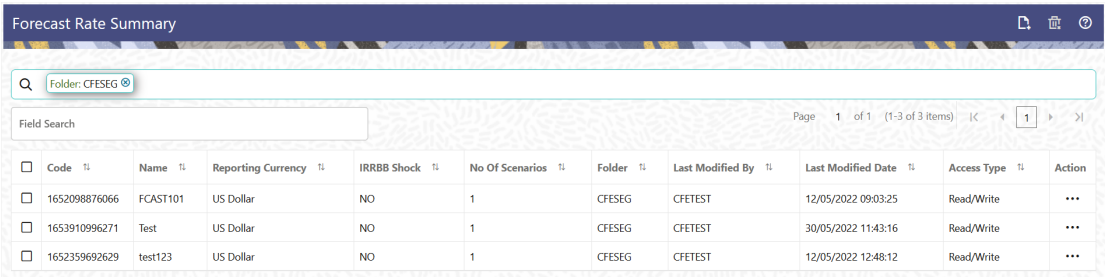
This page holds all Forecast Rate Rules and related functionality. You can navigate to other pages relating to the Forecast Rate Rule from this page.

The Forecast Rate Summary Page displays the following columns.

Table 1-49 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.
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 1-78 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 1-50 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.
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.

1.20.2 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:

1. Navigate to the **Forecast Rates Summary** Page.
2. Enter the **Code, Name**, and **Description** of the Forecast Rate Rule and click **Search** . Only Forecast Rate Rules that match the search criteria are displayed.

1.20.3 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 1-51 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.
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.

.

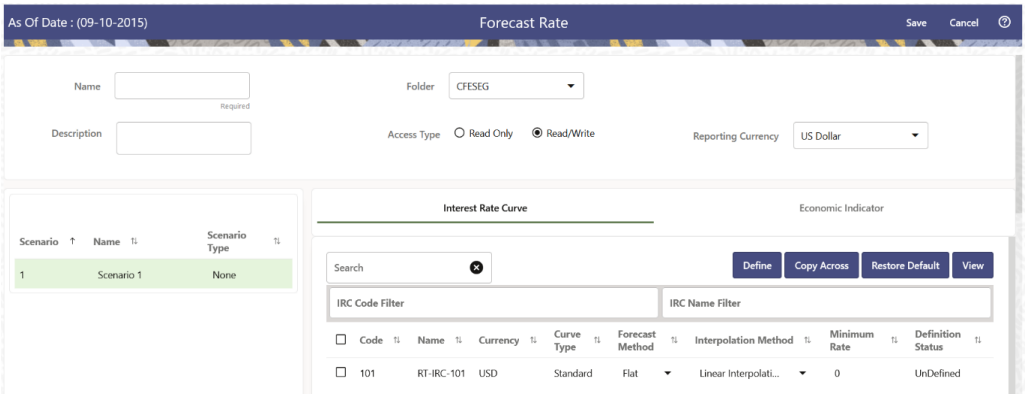
4. Click **Save**, if you want to save the Forecast Rate Rule and update it later.

1.20.3.1 Define Interest Rate Curve Forecast

The IRCs for all active currencies (and Reporting Currencies, a subset of the Active Currencies) are listed under Interest Rate Curve Section. The options under Interest Rate Code Forecast Method provide multiple ways to model the effects on Portfolio Cash Flows due to Interest Rate changes.

> **Note:**
>
> For Cash Flow Engine Cloud, see the following notes:
>
> - Only one scenario is applicable.
> - IRRBB scenario type in not supported.
> - Only Flat and Direct Input methods are applicable.

Figure 1-79 Interest Rate Curve Forecast Rates



You can define Interest Rate Forecast for the following methods:

Table 1-52 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)
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.
Yield Curve Twist	Flatten or steepen the yield curve around a specific point on the curve.

For more information, see the Cash Flow Engine Reference Guide.

The following Interpolation Methods are available.

Table 1-53 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.

You can generate the forecast rates for 360 calendar months starting from As-of-Date.

Following options are available for Interest Rate Curve Forecast Rule:

- Define
- Copy Across
- Restore Default
- View

Define

- **Flat Method**
  1. Select Interest Rate Code using corresponding checkbox and select **Forecast Method** as **Flat**.
  2. Select the Interpolation method.
  3. Input Minimum Rate, if required.
  4. Click **Define**.
     The status of the Interest Rate Code is changed to **Defined**.
- **Direct Input**
  1. Select Interest Rate Code 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:
  5. Enter data and click **Apply**.
  6. The status of the Interest Rate Code is changed to **Defined**.
- **Structured Change**
  1. Select Interest Rate Code 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:
  5. Select the Shock Type as Rate or Percent. Shock Type as Rate designates to absolute rate change and Shock Type as Percent designates to percent rate change.
  6. Enter a shock amount to apply to the IRC in absolute rate or percentage change. Click Apply
  7. Enter data and click **Save**.
  8. The status of the Interest Rate Code is changed to **Defined**.
- **Implied Forward**
  1. Select Interest Rate Code 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:
5. Select the Shock Type as Rate or Percent. Shock Type as Rate designates to absolute rate change and Shock Type as Percent designates to percent rate change.
6. Enter a shock amount to apply to the IRC in absolute rate or percentage change. If no change is required to the base curve, leave at 0.0, and click **Apply**.
7. The status of the Interest Rate Code is changed to Defined.

- **Yield Curve Twist**
  1. Select Interest Rate Code 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:
  5. Select the tenors using the Short Point, Mid Point, and Long Point.
  6. For each of these tenor points, 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. No conversion is applied before the rate is passed to the Cash Flow Engine.
  7. Click **Apply**.
     The status of the Interest Rate Code is changed to Defined.

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.

- **Flat Method**
  1. Select Interest Rate 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.

> **Note:**
>
> You must select a defined IRC. For more information, see the Define section of Interest Rate Curve.

- **Structured Change**
  1. Select Interest Rate Code using the corresponding checkbox and select **Forecast Method** as **Structured Change.**.

> **Note:**
>
> You must select a defined IRC. For more information, see the Define Section of Interest Rate Curve.

2. Click **Copy Across**.
3. Click **Apply Copy Across**.
4. You can click **Cancel Copy Across** to cancel the Copy Across function.

- Implied Forward

1. Select Interest Rate Code using corresponding checkbox and select Forecast Method as Implied Forward.

> **Note:**
>
> You must select a defined IRC. For more information, see the Define section of Interest Rate Curve.

2. Click Copy Across.
3. Click Apply Copy Across.
4. You can click Cancel Copy Across to cancel the Copy Across function.

Restore Default

Use this action to reset previously entered details to Undefined status.

- **Flat Method**

1. Select Interest Rate Code using corresponding checkbox and select **Forecast Method** as **Flat**.
2. Click **Restore Default**.
3. The status of the Interest Rate Code is changed to **Undefined**.

- **Direct Input**

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

- **Structured Change**

1. Select Interest Rate Code using corresponding checkbox and select Forecast Method as Structured Change.
2. Click **Restore Default**.
3. The status of the Interest Rate Code is changed to Undefined.

- **Implied Forward**

1. Select Interest Rate Code using corresponding checkbox and select Forecast Method as Implied Forward.
2. Click **Restore Default**.

3. The status of the Interest Rate Code is changed to Undefined.

- Yield Curve Twist
  1. Select Interest Rate Code using corresponding checkbox and select Forecast Method as Yield Curve Twist.
  2. Click **Restore Default**.
  3. The status of the Interest Rate Code is changed to Undefined.

View

After defining Forecast Method and other parameters for an IRC you can view the forecasted interest rates by clicking this button.

- **Flat Method**
  1. Select Interest Rate Code using corresponding checkbox and select **Forecast Method** as **Flat**.
  2. Click **View** to see the output table.
- **Direct Input**
  1. Select Interest Rate Code using corresponding checkbox and select **Forecast Method** as **Direct Input.**
  2. Click **View** to see the Output Table.
- Structured Change
  1. Select Interest Rate Code using corresponding checkbox and select Forecast Method as S**tructured Change**.
  2. Click **View** to see the Output Table.
- Yield Curve Twist
  1. Select Interest Rate Code 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 Code using corresponding checkbox and select Forecast Method as **Implied Forward**.
  2. Click **View** to see the Output Table.

1.20.3.2 Define Economic Indicator Forecast Rule

The Economic Indicators (EI) defined previously are listed under EI Section. The options under EI Forecast Method provide multiple ways to model the effects on Portfolio Cash Flows due to changes in inflation index and other micro or macro-economic parameters.

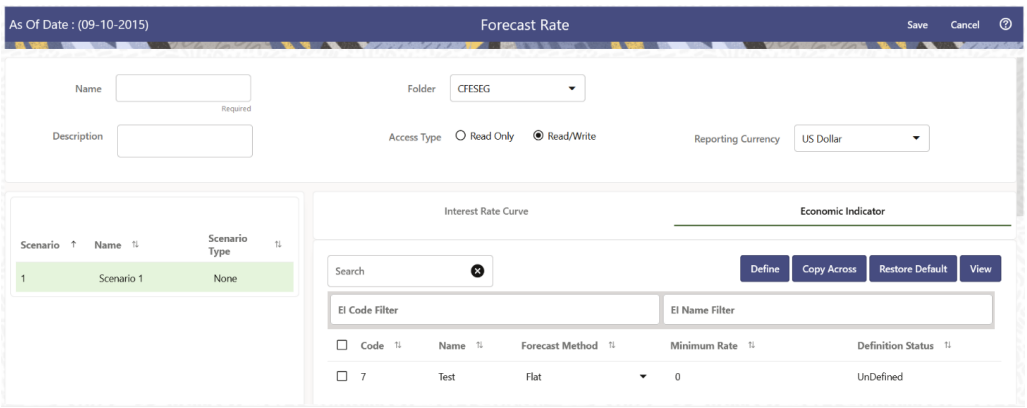
> **Note:**
>
> For Cash Flow Engine Cloud, see the following notes:
>
> - Only one scenario is applicable.
> - IRRBB scenario type in not supported.
> - Only Flat and Direct Input methods are applicable.

The following Economic Indicator Methods are available.

Table 1-54 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.

Figure 1-80 Economic Indicator Forecast Rates



Following options are available for Economic Indicator Forecast Rule:

- Define
- Copy Across
- Restore Default
- View

Define

- **Flat Method**
  1. Select Economic Indicator Code using corresponding checkbox, select **Forecast Method** as **Flat** and enter minimum rate.
  2. Click **Define**. The status of Economic Indicator Code is changed to **Defined**.

- **Direct Input**
  1. Select Economic Indicator Code using corresponding checkbox, select Forecast Method as **Direct Input** and enter minimum rate.
  2. Click **Define**.
     The **Direct Input** window is displayed:
  3. Enter data and click **Apply**.
  4. 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.

- **Flat Method**
  1. Select Economic Indicator Code using corresponding checkbox and select Forecast Method as Flat.

     > **Note:**
     >
     > You must select a defined Economic Indicator Code. For more information, see the Define section of Economic Indicator.

  2. Click **Copy Across**.
  3. Click **Apply Copy Across**.
  4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Direct Input**
  1. Select Economic Indicator Code using corresponding checkbox and select Forecast Method as Direct Input.

     > **Note:**
     >
     > You must select a defined Economic Indicator Code. For more information, see the Define section of Economic Indicator.

  2. Click **Copy Across**.
  3. Click **Apply Copy Across**.
  4. You can click **Cancel Copy Across** to cancel the Copy Across function.

Restore Default

Use this action to reset previously entered details to Undefined status.

- **Flat Method**

1. Select Economic Indicator Code using the corresponding checkbox and select **Forecast Method** as **Flat**.
2. Click **Restore Default**.
3. The status of the Economic Indicator Code is changed to **Undefined**.

- **Direct Input**
  1. Select Economic Indicator Code using the corresponding checkbox and select **Forecast Method** as **Direct Input**.
  2. Click **Restore Default**.
  3. The status of the Economic Indicator Code is changed to **Undefined.**

View

After defining forecast method and other parameters for an Economic Indicator Code you can view the forecasted interest rates by clicking this button.

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

1.20.4 Map Behavior Pattern Rule

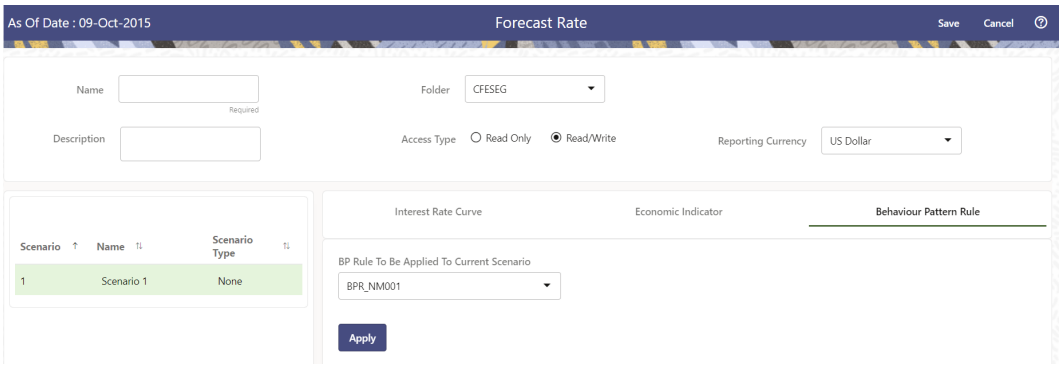
The Behavior Pattern Rule section allows you to map a existing Behavior Pattern Rule to current forecast scenario.

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 1-81 Map Behavior Pattern Rule



4. Click **Apply**.

1.20.5 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.
3. Click on the **Action** icon against the Forecast Rate Rule Name and select **View/Edit** to open the rule you want to update.
4. Update the rule details.
5. Click **Apply** or **Save**, depending on the rule type.

1.20.6 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**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Forecast Rate Rule Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the rule copy.
5. Enter a unique Name for the new rule.
6. Enter a brief Description of the rule.
7. Click **Save**.

1.20.7 Delete Forecast Rate Rule

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

> **Note:**
>
> A Forecast Rate Rule cannot be retrieved after deletion.
>
> Restrictions on deleting Rules are:
>
> - You cannot delete Forecast Rate Rules if you have only Read privileges. Only users with read/write privileges and Rule owners can delete Rules.
> - You cannot delete a Forecast Rate that has a dependency.

To delete a Forecast Rate, follow these steps:

- Navigate to the **Assumption** and select **Forecast Rate**.
- Search for a Rule. For more information, see the Searching for Rules section.
- Click on the **Action** icon against the Forecast Rate Rule Name and select **Delete**.

1.20.8 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.
3. Click on the **Action** icon against the Forecast Rate Rule Name and select **Dependency Check** to the rule that you want to check for.

> **Note:**
>
> This is functionality will be released in future.

1.21 Discount Methods

This module describes the procedure for working with and managing Discount Method Rules. Discount Method Rules allow users to define the method for discounting projected Cash Flows for market value and duration calculation purposes. For each combination of product and currency, you can choose one of the following discount methods:

- Spot Input
- Spot Interest Rate Code
- Forecast (Original Term)
- Forecast (Remaining Term)

The following table describes the methods and rate choices:

Table 1-55 List of Discount Methods

Method	Single Rate	Yield Curve
Spot Input	Discounts all cash flows by the Input Rate	Not applicable
Spot Interest Rate Code	Not applicable	Discounts each Cash Flow period by the equivalent term rate on the base Yield Curve chosen (the Yield Curve as of the start date). The term is defined by the remaining term of the cash flow. Refer Note
Forecast (Original Term)	Not applicable	Discounts each Cash Flow period by the Forecasted Value of the point on the yield curve corresponding to each transaction record's original term (fixed rate instrument) or repricing term (variable rate instrument). Refer Note
Forecast (Remaining Term)	Not applicable	Discounts each Cash Flow period by the Forecasted Value of the point on the Yield Curve corresponding to the remaining term until each cash flow. Refer Note
Effective Interest Rate	Effective Interest Rate (EIR) of account is used as discount rate.	Not applicable

Note:

In the case of Spot Interest Rate Code, if term point is not available, engine will use linear interpolation to determine the interest rate to discount cashflows.

When Discounting method of Forecast (Original Term) and Forecast (Remaining Term) is used, if term point is not available, engine will use Interpolation method defined for Interest rate code within Forecast Rate Rule. If Interpolation method defined in Forecast rate rule is Linear, engine will use Linear Interpolation. If Interpolation Method is cubic, engine will use Cubic Interpolation to determine interest rate to discount Cash Flows.

Topics:

- Delete Discount Method Rule

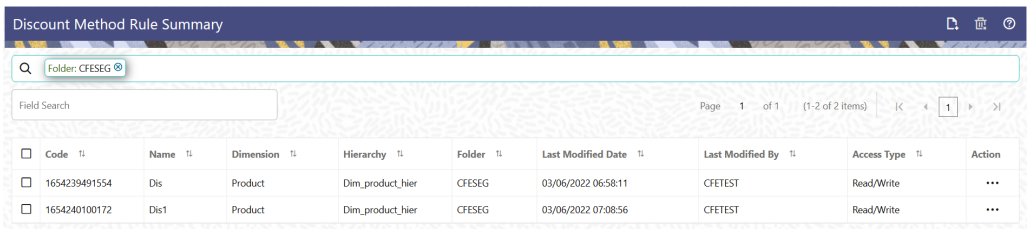
1.21.1 Discount Method Summary Page

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

Table 1-56 Discount Method Rule summary– Fields and Descriptions

Columns	Description
Code	Displays the Code of Discount Method Rule.
Name	Displays the Discount Method Rule's short name.
Dimension	Displays the Dimension used to define Discount Method Rule.
Hierarchy	Displays the Hierarchy used to define Discount Method Rule.
Folder	Displays the Folder name where the Discount Method rule is saved.
Last Modified By	Displays the Name of the user who last modified the Discount Method Rule.
Last Modified Date	Displays the Date and Time when Discount Method 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 Discount Method Rule. For more information, see Discount Method Rule – Icons and Descriptions.

Figure 1-82 Discount Method Rule Summary Page



The Action column on the Discount Method Rule Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Discount Method Rules.

Table 1-57 Discount Method rule – Icons and Descriptions

Fields	Description
Add	Click Add icon at the top right of the Summary Page to build a new Discount Method Rule.

Table 1-57 (Cont.) Discount Method rule – Icons and Descriptions

Fields	Description
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.
View/Edit	Click on the **Action** icon against the Discount Method Rule Name and select View/Edit to view or edit the contents of a Discount Method 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 Discount Method Rule Name and select Save As to create a copy of an existing Discount Method Rule.
Delete	Click on the **Action** icon against the Discount Method Rule Name and select Delete to delete an existing Discount Method Rule.
Dependency Check	Click on the **Action** icon against the Discount Method Rule Name and select Dependency Check to generate a report on all rules that utilize your selected Discount Method Rule.

1.21.2 Search Discount Method Rule

Search for a Discount Method Rule to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Refresh

Prerequisites

Predefined Discount Method rule

Procedure

To search for a new Discount Method Rule, follow these steps:

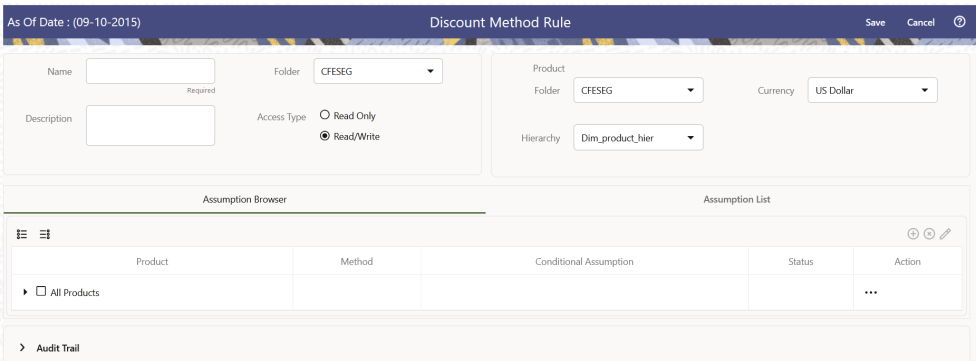
1. Navigate to the **Discount Method Rule Summary** Page.
2. Enter the **Code, Name, Description, Dimension, Hierarchy**, and **Folder** of the Discount Method rule and click Search .
3. Only Discount Method Rules that match the search criteria are displayed.

1.21.3 Create Discount Method Rule

You create a Discount Methods rule to assign Discounting Methods to your products. To create a Discount Method Rule, follow these steps:

1. Navigate to the **Discount Methods Rule** Summary Page.
2. Click **Add**. The **Discount Method Rule** Page is displayed.

Figure 1-83 Discount Method Rule



3. Enter the following details:

Table 1-58 Discount Method Details

Fields	Description
Name	Enter the name of the Discount Method Rate Rule.
Description	Enter the description of the Discount Method Rule. This is an optional field.
Folder	Select the Folder where the Discount Method Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.

4. Select a **Product Hierarchy**. You can define methodologies at any level of the hierarchical product dimension. The hierarchical relationship between the nodes allows inheritance of methodologies from Parent Nodes to Child Nodes. Enter the following details for **Product Hierarchy** selection:

Table 1-59 Product Hierarchy Details section

Fields	Description
Folder	Select the Folder where Product Hierarchy is previously created
Hierarchy	Select the Hierarchy of the product
Currency	Select the Currency.

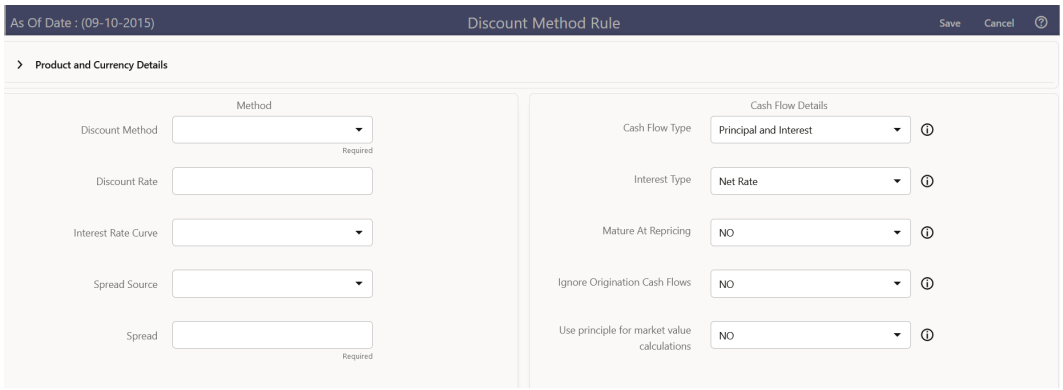
5. Navigate to **Assumption Browser** Section to define the Discount Method for your product-currency combination.

> **Note:**
>
> Node Level Assumptions allow you to define assumptions at any level of the Product dimension Hierarchy. The Product dimension supports a hierarchical representation of your chart of accounts, so you can take advantage of the parent-child relationships defined for the various nodes of your product hierarchies while defining rules. Children of parent nodes on a hierarchy automatically inherit the assumptions defined for the parent nodes. However, assumptions directly defined for a child take precedence over those at the parent level.
>
> - Select the product(s) and the currency for which you want to define a discount method(s).
> - Select the **Add** icon to launch the **Discount Method Details** Window..

> **Note:**
>
> Using the Default Currency to setup assumptions can save data input time. At Run Time, the calculation engine uses assumptions explicitly defined for a Product Currency combination. If assumptions are not defined for a currency, the engine uses the assumptions defined for the product and the default currency. If the assumptions are the same across some or all currencies for a specific product, you can input assumptions for the Default Currency. Be careful using this option on screens where an Interest Rate Code is a required input. In most cases, you will want to use a currency specific discount curve for discounting instruments within each specific Base Currency. The Default Currency option, if used will apply a selected Interest Rate Code across all currencies.

6. Navigate to **Discount Method** Section.

Figure 1-84 Discount Method Section



7. Enter the following details:

Table 1-60 Discount Method Section

Fields	Description
Discount Method	Select the Discount Method from Discount Method List
Discount Rate	Enter Discount Rate if Spot Input Method is selected
Interest Rate Curve	From Interest Rate Code List, select an appropriate Interest Rate Code. The list of Interest Rate Codes depends on the selected currency. If the selected currency is the default currency, all Interest Rate Codes appear. For other currency selections, the list of interest rate codes includes only interest rate codes whose reference currency is the same as the selected currency.
Spread Source	You can optionally choose to add a spread of margin over the Interest Rate derived from IRC. Spread can be defined in the Discount Method Rule or it can be given along with Instrument record. You can select source of the spread as Discount Rule or Account Data is method is Spot IRC, Forecast (Original Term) and Forecast (Remaining Term).
Spread	When Discount Rule is selected as Spread Source then you can specify the amount of spread/margin here. Type the percentage difference (+ or -) between the selected rate index and the value you want to use for the discount rate(s) within market value calculations. Input a Rate Spread, type 1.0000. A spread of 1% returns a discount rate of 1.00% above the reference interest rate. Type a negative number for a spread below the reference interest rate.

8. Navigate to **Cash Flow Details** section. The **Cash Flow Definition Details** Section is used in unique instances to specify the portion of the Cash Flow that is used to calculate a Market Value.
9. Enter the following details:

Table 1-61 Cash Flow Details Section

Fields	Description
Cash Flow Type	a. **Interest Only** - ignores all principal runoff for market value purposes. Use this option for Off-balance sheet items where principal is equal to Notional Principal and is therefore not a true Cash Flow. b. **Principal & Interest** - calculates principal and interest both for Market Value purposes. c. **Principal Only** - ignores all interest rate Runoff for market value purposes.
Interest Type	The Cash Flow Interest Type determines which interest component is included in the cash flow definition. The Cash Flow Interest Type can be one of three values: • Net Rate • Gross Rate For typical processing, you will use the Net Rate for the interest component of the cash flow. Special processing objectives, such as valuation of the funding center, may require you to use the other cash flow interest types.
Mature at Repricing	Calculates a market value and YTM for a given transaction up to the repricing date. For market value and YTM purposes the transaction is assumed to mature on the repricing date. Duration is always calculated to the next reprice date, not to maturity, regardless of the mature at repricing selection.
Ignore Origination Cash Flows for Forward-Starting Instruments	This feature allows the cash flow engine to ignore the origination Principal Cash Flows of any forward-starting instrument. The corresponding market value, duration, convexity and yield calculations will not reflect the Origination Amount. Origination principal Cash Flow will still be reported.
Use Principal in Market Value Calculations (Off-Balance Sheet Only)	This feature allows the Cash Flow Engine to consider principal in the calculation of market value, duration, convexity and yield calculations, even if principal is not actually exchanged.

10. Click **Apply**.

1.21.4 View and Edit Discount Method Rule

You can view existing Discount Method Rule, and you can edit existing Discount Method Rules, provided you have read/write privileges.

To view and edit a Discount Method Rule, follow these steps:

- Navigate to the **Assumption** and select **Discount Method**.
- Search for a Rule. For further information, see the Searching for Rules section.

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

1.21.5 Copy Discount Method Rule

You can copy Discount Method Rules to avoid having to enter data multiple times. This saves time and effort and also reduces mistakes.

To copy a Discount Method Rule, follow these steps:

1. Navigate to the **Assumption** and select **Discount Method**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Discount Method Rule Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the rule copy.
5. Enter a unique name for the new rule.
6. (Optional) Enter a brief description of the rule.
7. Select the access type.
8. Click the **Save** button.

1.21.6 Delete Discount Method Rule

You can delete Discount Method Rules that are no longer required.

> **Note:**
>
> A Discount Method Rule cannot be retrieved after deletion
>
> Restrictions on deleting Discount Method Rules are:
>
> - You cannot delete Discount Method Rules if you have only Read privileges. Only users with read/write privileges and pattern owners can delete Discount Method Rules.
> - You cannot delete a Discount Method Rule that has a dependency.

To delete a Discount Method Rule, follow these steps:

1. Navigate to the **Assumption** and select **Discount Method**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Discount Method Rule Name and select **Delete**.

1.21.7 Discount Method Examples

The following examples assume the Interest Rate has a format of zero-coupon yield with annual compounding. The instrument used in each example is an annual-pay, 2-year instrument originated on the As_of_Date. See the Oracle Financial Services Cash Flow Engine Reference Guide for details on discount factor derivation used in Cash Flow Calculations.

- Spot Input
- Spot Interest Rate Code
- Forecast Remaining Term
- Forecast Original Term

1.21.7.1 Spot Input

In the Spot Input Method, the discount factor does not vary with Forecast Rate - interest rate scenarios. The discount factor calculations assume the input interest rate to reflect a format of zero coupon yield, annual compounding, and actual/actual accrual basis.

Spot Input Rate = 6.00%

The formula for the market value of the account, for any rate scenario, is:

Market Value = Cash Flow1/ (1 + 0.06) + Cash Flow 2 / ((1 + 0.06)^2)

Cash Flow1 is the cash flow at the end of year 1. Cash Flow2 is the Cash Flow at the end of year 2.

1.21.7.2 Spot Interest Rate Code

(Required) <Enter a short description here.>

In the Spot Interest Rate Code Method, the discount factor depends on the term of the Cash Flow, but does not vary with interest rate scenario.

Interest Rate Code = Treasury Yield Curve

The formula for the Market Value of the account, for any rate scenario, is:

Market Value = Cash Flow1/ (1 + 1 Year Treasury) + Cash Flow2/ ((1 + 2 Year Treasury)^2)

Cash Flow1 is the Cash Flow at the end of year 1. Cash Flow2 is the Cash Flow at the end of year 2. The values for 1 Year Treasury and 2 Year Treasury reflect the values from the Historical Interest Rate Data, beginning with the As_of_Date.

1.21.7.3 Forecast Original Term

The Forecast Original Term Method uses the forecasted Interest Rate Data to determine the discount factor.

Interest Rate Code = Treasury Yield Curve

The formula for the market value of the account is:

Market Value = Cash Flow1/ (1+ 2 Year Treasury Rate at the 1 year point in the forecast) + Cash Flow2/ ((1+ 2 Year Treasury Rate at the 2 year point in the forecast)^2)

Cash Flow1 is the Cash Flow at the end of year 1. Cash Flow2 is the cash flow at the end of year 2. Note that Cash Flow1 is discounted at the 2 year Treasury rate. The 2 Year rate is used with this method, because the Forecast Original Term method always uses the term equivalent to the original term of the instrument.

1.21.7.4 Forecast Remaining Term

The Forecast Remaining Term Method uses forecasted Interest Rate Data to determine the discount factor.

Interest Rate Code = Treasury Yield Curve

The formula for the market value of this account is:

Market Value = Cash Flow1/ (1+ 1Year Treasury Rate at the 1 year point in the forecast) + Cash Flow2/ ((1+ 2 Year Treasury Rate at the 2 year point in the forecast)^2)

Cash Flow1 is the Cash Flow at the end of year 1. Cash Flow2 is the cash flow at the end of year 2. The values for 1 Year Treasury and 2 Year Treasury reflect the scenario specific values from the forecast rates - interest rate data. Cash Flow1 is discounted at the 1 year Treasury rate, from the 1 year point of the forecast and Cash Flow2 is discounted at the 2 year Treasury rate, from the 2 year point of the forecast.

1.22 Pricing Margin

The Pricing Margin Rules allow users to define pricing margins (or spreads) for your products. Pricing margins are defined period by period based on your active Time Bucket definition, for each product and, potentially, each currency. Pricing margins work together with an underlying base interest rate curve to determine note rate pricing for new business volumes defined through Forecast Balance Rules. New business assumptions are defined based on the combined inputs from the following forecast related business Rules:

Product Characteristics

Forecast Balance Rules

Forecast - Pricing Margins

When you require more complex definitions of pricing margins to model unique account pricing details, user-defined repricing patterns can be used. For more information, see the Forecast - Pricing Margins section.

1.22.1 Pricing Margin Summary Page

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

The Pricing Margin Summary Page displays the following columns.

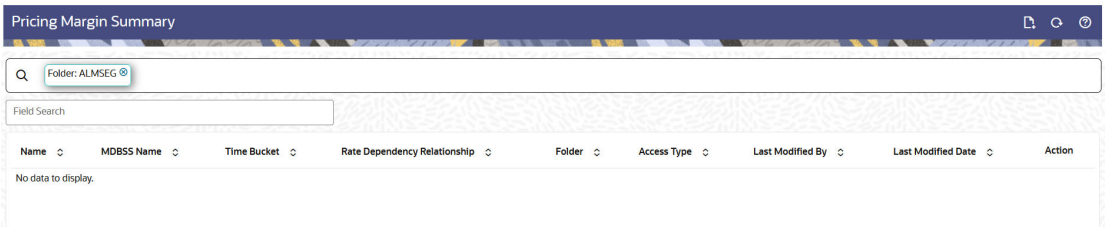
Table 1-62 Pricing Margin Rule – Fields and Descriptions

Column	Description
Name	Displays the Pricing Margin Rule's Short Name.

Table 1-62 (Cont.) Pricing Margin Rule – Fields and Descriptions

Column	Description
MDBSS Name	Displays the insturment table selection for processing of data.
Time Bucket	Displays the Time Bucket of Pricing Margin Rule.
Rate Dependency Relationship	Displays the Rate Dependency Relationship of Pricing Margin Rule.
Folder	Displays the folder of Pricing Margin rule.
Access Type	Displays the Access Type of Pricing Margin rule.
Last Modified By	Displays the Name of the user who last modified the Pricing Margin Rule.
Last Modified Date	Displays the Date and Time when Pricing Margin was modified last.
Action	Displays the list of actions that can be performed on the Pricing Margin Rule. For more information, see Pricing Margin – Icons and Descriptions.

Figure 1-85 Pricing Margin Summary Page



The Action column on the Pricing Margin Summary Page offers several actions that allow you to perform different functions. The following actions are available for the Pricing Margin Rule.

Table 1-63 Pricing Margin Rule – Icons and Descriptions

Fields	Description
Add	Click Add icon at the top right of the Summary Page to build a new Pricing Margin 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 Rule Name and select View/Edit to view or edit the contents of a Pricing Margin Rule in Read/Write format. Depending on User Privileges the rule will open in either View or Edit Mode.

Table 1-63 (Cont.) Pricing Margin Rule – Icons and Descriptions

Fields	Description
Save As	Click on the Action icon against the Rule Name and select Save As to create a copy of an existing Pricing Margin Rule.
Delete	Click on the Action icon against the Rule Name and select Delete to delete an existing Pricing Margin Rule.
Dependency Check	Click on the Action icon against the Rule Name and select Dependency Check to view objects where selected Pricing Margin Rule is used.

1.22.2 Search for Pricing Margins

Search for a Pricing Margin to perform any of the following tasks:

- View
- Edit
- Copy
- Delete
- Check Dependencies

Prerequisites

- Predefined Pricing Margins

Procedure

To search for Pricing Margins, do the following:

1. Navigate to the **Pricing Margin** summary page.
2. Enter the Code, Name, Description, or Type of the rule in Search Criteria.
3. Click the **Search** icon.

Only Rules that match the search criteria are displayed.

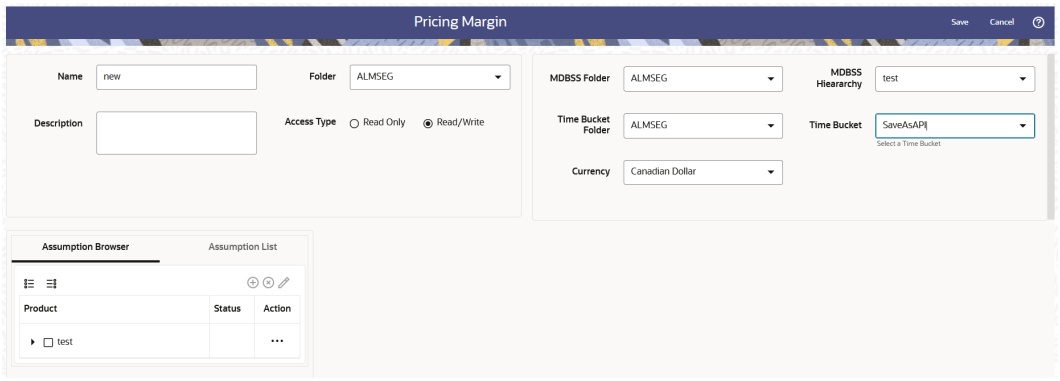
You can control the number of rows to display on-screen by selecting the "Pagination Options" icon from the action bar.

1.22.3 Create Pricing Margin

To create the Pricing Margin, do the following:

1. Navigate to the **Pricing Margin** summary page.
2. Click **Add** icon. The **Add** Pricing Margin page is displayed.

Figure 1-86 Pricing Margin Page



3. Enter the following Details.

Table 1-64 Create Pricing Margin Rule

Fields	Description
Name	Enter the name of the Pricing Margin Rule.
Description	Enter the description of the Pricing Margin Rule. This is an optional field.
Folder	Select the Folder where the Pricing Margin Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/ Write.
MDBSS Folder	Select the MDBSS folder
MDBSS Hierarchy	Select the MDBSS hierarchy
Time Bucket Folder	Select the Folder from which you want to apply Time Bucket Rule.
Time Bucket Rule	Select the time horizon/aggregation for rule.
Currency	Select the currency for Pricing Margin

4. Select a Product Hierarchy. You can define methodologies at any level of the Hierarchical Product Dimension. The Hierarchical Relationship between the nodes allows the inheritance of methodologies from Parent nodes to Child nodes.
5. Select Product(s) from Assumption Browser.
6. Click Add from Assumption Browser Section.
7. Click Save

1.22.4 Defining Pricing Margin Rule

When you click Save in the Create Pricing Margin Rules Process, the Rule is saved and the Pricing Margin Rule Summary Page is displayed. However, prepayment assumptions have not yet been defined for any of your products at this point. Typically, you would start defining your Forecast Balance assumptions for product-currency combinations before clicking Save.

The Pricing Margin Rule supports the definition of Forecast Balance assumptions for combinations of two dimensions: Product and Currency.

Once you have created a Pricing Margin Rule, you can assign prepayment methodologies to product-currency combinations using Node Level Assumption. For more information, see Defining Forecast Balance Using Node Level Assumptions section.

1.22.4.1 Defining Pricing Margins Using Node Level Assumptions

Node Level Assumptions allow you to define assumptions at any level of the Product dimension Hierarchy. The Product dimension supports a hierarchical representation of your chart of accounts, so you can take advantage of the parent-child relationships defined for the various nodes of your product hierarchies while defining rules. Children of parent nodes on a hierarchy automatically inherit the assumptions defined for the parent nodes. However, assumptions directly defined for a child take precedence over those at the parent level. In an income simulation scenario, you may want to price new business for an account at a margin above or below a market interest rate code. For example, you can model a premium paid on CDs in relation to a market yield curve by adding a pricing margin to the interest rate code assigned to the product in the Product Characteristics rule. If you want a rate that is 25 bps above the market yield curve, you will type "0.25" as the pricing margin for the appropriate modeling period. The Pricing Margin rule uses the modeling period defined in the "active" Time Bucket rule. You should always verify that your modeling horizon and related assumptions are consistent with the As of Date and active Time Bucket rule before processing.

Prerequisites

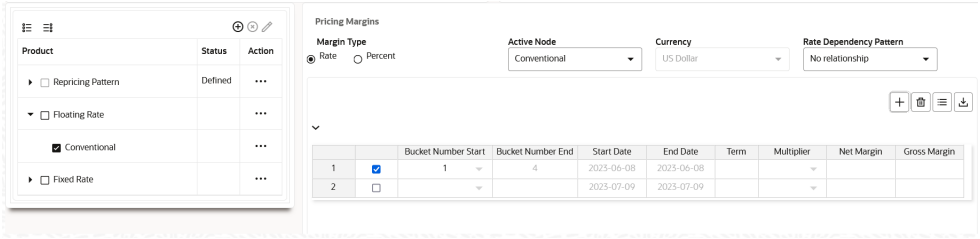
Performing basic steps for creating or editing a Pricing Margin Rule.

Procedure

To define Pricing Margin Rule, follow these steps:

1. Navigate to Pricing Margin Rule page.

Figure 1-87 Pricing Margin Rule section



2. Enter following details:

Table 1-65 Pricing Margin

Fields	Description
Margin Type	Select Margin Type as Rate or Percent.
Active Node	

Table 1-65 (Cont.) Pricing Margin

Fields	Description
Rate Dependency Pattern	Rate Dependency Patterns allow you to establish relationships between the level of interest rates, economic indicators or rate spreads and ALM forecast assumption rules. There are four rate dependency options to choose from: No Relationship Rate Level Dependent Rate Spread Dependent Economic Indicator Dependent
Bucket Number Start and Bucket Number End	The bucket number input allows you to select a range of buckets over which the pricing margin assumption will apply. Start Date and End Date values are updated automatically based on the Bucket Number input for each row.
Start Date and End Date	When the Pricing Margins detail page opens, the Start Date (min value) and End Date (max value) columns are automatically populated and are read-only values. The date ranges represent the Income Simulation Date buckets as defined in the "active" Time Bucket rule. See Time Bucket Rules, page 20-1 for more information. Any new business originated within these dates is modeled using the pricing margins defined in the Pricing Margin rule. New business added for each date bucket will have the same net and gross margin for its life. The margins for a particular instrument will not change as the instrument ages.
Term	In conjunction with the Multiplier, this field allows you to specify the value for the Term, for a given lookup tier.
Multiplier	The unit of time applied to the Term. The choices are: Days, Months, Years.
Net Margin	The Net Rate is affected by setting the Net Margin Flag in the Product Characteristics rule. If Net Margin Flag is set to Floating Net Rate, then Net Rate is equal to the Interest Rate Code plus the Net Margin specified here. If the Net Margin Flag is set to Fixed Net Rate, then Net Rate is equal to Net Margin.
Gross Margin	The Gross Margin you define is added to the Interest Rate Code specified in the Product Characteristics rule to define the gross rate on new business.

3. You can more Rows using the Add Row icon. You can multiple Rows at a time using the Add Multiple Row icon.
4. Click Apply.

You can also use the Excel Import feature to download the data in Excel format.

1.22.5 View and Edit Pricing Margin

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

To view and edit a Pricing Margin, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Assumptions**, and then select **Pricing Margin**.
2. Search for a Rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Rule Name and select **View/Edit** to open the rule you want to update.
4. Update the Rule details.
5. Click **Apply** or **Save**, depending on the Rule type.

1.22.6 Copy Pricing Margin

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

To copy a Pricing Margin, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Assumptions**, and then select **Pricing Margin**.
2. Search for a Rule.
   For more information, see the Searching for Rules section.
3. Click on the **Action** icon against the Rule Name and select **Save As** to duplicate the rule.
4. Select a folder where you want to save the Rule Copy.
5. Enter a unique name for the new Rule.
6. (Optional) Enter a brief description of the Rule.
7. Select the access type.
8. Click **Save**.

1.22.7 Delete Pricing Margin

You can delete Rules that are no longer required.

> **Note:**
>
> A Rule cannot be retrieved after deletion.
>
> Restrictions on deleting Rules are:
>
> - You cannot delete Rules if you have only Read privileges. Only users with Read/Write privileges and Rule owners can delete Rules.
> - You cannot delete a Rule that has a dependency.

To delete a Pricing Margin, follow these steps:

1. Navigate to the **Assumption** and select **Forecast Assumptions**, and then select **Pricing Margin**.
2. Search for a Rule. For more information, see the Searching for Rules section.
3. Click on the Action icon against the Rule Name and select **Delete**.

1.22.8 Dependency Check

You can check dependencies for rules to know where a particular 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 Assumptions**, and then select Rule.
2. Search for a Rule. For further information, see the Searching for Rules section.
3. Click on the **Action** icon against the Rule and select **Dependency Check** to the Rule that you want to check for.

> **Note:**
>
> This is functionality will be released in future.

1.23 Filter

Filters allow you to view and select data using the defined expressions.

1.23.1 Accessing Filter Feature

The **Filters Summary Page** shows the list of available filters.

- To access the Filter Summary page, click **Maintenance** and select **Filter**.

  The Filter Summary Page provides the list of already created Filter definitions with the following details.

  - **Name** - The unique Filter Name. You can mouse-over the filter name to view more details such as the description of the filter.
  - **Folder** - The folder in which the Filter Definition is stored.

- **Filter Type** - One of the following Filter Types associated with the Filter Definition. The filter type is selected based on the type of the object that needs to filtered.
  - Attribute Filter
  - Data element filter
  - Group filter
  - Hierarchy filter
- **Modified By** - The login name of the User who has modified the Filter Definition.
- **Modification Date** - The date of modification.
- **Action** - Using **Action** (**three dots**), you can perform the following tasks on a selected filter definition.
  - View - View the details of selected filter definition.
  - Edit - Edit a filter definition.
  - Copy - Copy a filter definition.
  - Delete - Delete a filter definition.
  - View SQL - View the SQL statement for a filter definition.
  - Check Dependency - Check the dependent objects associated with the filter definition.

1.23.1.1 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

1.23.2 Creating Filter Definitions

To create a Filter definition, complete the following steps:

1. To create a Filter Definition, click the **Add** in the Filter Summary.

   The **Add Filter Definition** Page with the following details is displayed.

   - **Name** - The unique Filter Definition Name.

     > **Note:**
     >
     > You can enter up to 120 characters. All allowed characters are **blank space ( )** , **Underscore (_)**,**comma (,)**, **dot (.)** and " **hyphen (-)** .

   - **Folder** - Select the Folder, to save the Filter definition.
   - **Description** - A brief description about the Filter Definition.

> **Note:**
>
> You can enter up to 250 characters. All characters are allowed except **" & ", "+ ", "@" and "~"**.

- **Read-Only** - Select this option to give other users the access to only view the Filter Definition.
- **Filter Type** - Select one of the following filter types, based on the type of the object that needs to filtered. For more information about creating a filter based on the filter type refer, to the respective sections.
  - Attribute Filter
  - Data Element filter
  - Group filter
  - Hierarchy filter

2. After including all the filters, Click **Save**.

   The new Filter Definition is created successfully and added to the Filter Summary.

1.23.2.1 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 1-88 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 1-89 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.

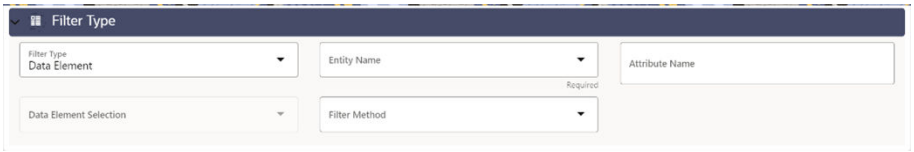
1.23.2.2 Defining a Data Element Filter

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 drop-down list box. For example, Balances between 10,000 and 20,000 Accounts opened in the current month Loans with amortization terms greater than 20 years.

Data Element Filters can access most instrument columns and most columns in the Management Ledger. Data Element Filters are used within other rule types such as Allocation Rules, Transfer Pricing Rules, Asset and Liability Management Rules.

When you have selected the Filter Type as **Data Element**, define the Filter conditions by doing the following in the Data Element Selection Section:

Figure 1-90 Data Element Filter Type Selection



1. Select the required database table from the **Entity Name** drop-down list.
   The associated members are displayed in the Show Members Section.
2. Select the associated **Attribute Name** from the drop-down list.
   The Attribute Name is based in the selected Database Table.
3. Select the **Data Element** from the drop-down list.
   This is based on the selected Entity and Attribute.
4. Select the method to be implemented. You can select from the following Filter Methods:

Table 1-66 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.
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, provide 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.

Table 1-66 (Cont.) Field Description

Field	Description
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 (the 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

1.23.2.3

1.
2.
3.
4.
5. T
6. Click **Add** button in the **Attribute Values** pane. The Filter Conditions grid is populated with the filter condition using all the Attribute values.
7. Select a filter condition and click **Delete** in the **Attribute Values** pane. The selected filter condition is deleted after confirmation.
8. Select the method to be implemented. You can select from the following Filter Methods:
9. Click **Add** to list the completed filter conditions in the Filter Conditions Grid.
10. Click **Save** to validate the entries and save the filter details.

1.23.2.4 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:

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.

1.23.3 Managing Filter Definitions

You can view, edit, copy, delete and view SQL for the existing Filter Definitions from the Filter Summary.

In the Filter Summary Page, highlight a specific Filter Definition and click the **Action** (three dots). The following Options are displayed.

- View - View the details of selected filter definition.
- Edit - Edit a filter definition.
- Copy - Copy a filter definition
- Delete - Delete a filter definition.
- View SQL - View the SQL statement for a filter definition.
- Check Dependency - Check the dependent objects associated with the filter definition.

1.23.3.1 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 **Action** (three dots).
2. Click **View** .

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

1.23.3.2 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 **Action** (three dots).
2. Click **Edit**.

   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**.

1.23.3.3 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 **Action** (three dots).
2. Click **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 Name, Description, Folder, Filter Type and Filter Conditions, and click **Save**.

1.23.3.4 Deleting Filter Details

To delete a Filter Definition:

1. Highlight the Filter Definition and click **Action** (three dots).
2. Click **Delete** .

   The Filter Definition is deleted after confirmation.

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

1.23.3.5 Checking Dependencies

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

1. Click **Action** adjacent to the filter definition.
2. Click the **Check Dependency** .

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

1.23.3.6 View SQL

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

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

   The SQL statement of Filter Definition is displayed.

1.24 Static Deterministic Process

This module discusses the procedure for creating and executing a Static Deterministic Process (existing business only). When all the required assumptions are defined, The processing performs the Static Cashflow Calculations and generates an aggregated result set. The process allows you to perform the following tasks:

- Determine the source data that you want to process and the modeling horizon
- Specify the calculation elements; Valuation, Income Simulation, Interest Rate and Liquidity Gaps
- Include the market rate forecast and behavioral assumptoins
- Define your output dimensions for aggregation, and/or output raw cashflows

Execute the Cash Flow Process and generate results.

Topics:

1.24.1 Static Deterministic Process Summary page

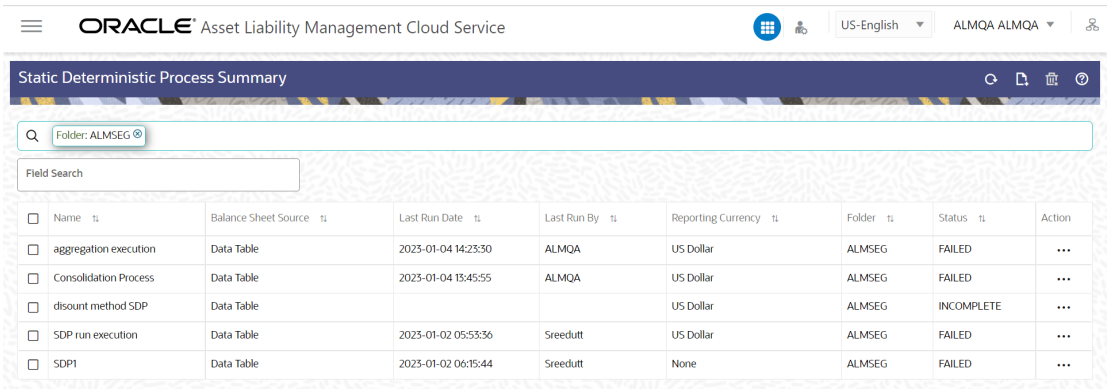
This page is the gateway to all Static Deterministic Processes and related functionality. You can navigate to other pages relating to Static Deterministic Process from this point.

The Static Deterministic Process Summary page displays the following columns:

Table 1-67 Static Deterministic Process – Fields and Descriptions

Column	Description
Name	Displays the Static Deterministic Process's short name.
Balance Sheet Source	Displays the insturment table selection for processing of data.
Last Run Date	Displays the Date and Time when Static Deterministic Process was run last.
Last Run By	Displays the Name of the user who last runs the Static Deterministic Process.
Reporting Currency	Displays the currency for consolidated resutls to be aggregted.
Folder	Displays the Folder name where the Static Deterministic Process is saved.
Status	Displays the status of the Static Deterministic Process.
Action	Displays the list of actions that can be performed on the Static Deterministic Process . For more information, see Static Deterministic Process – Icons and Descriptions.

Figure 1-91 Static Deterministic Process Summary



The Action column on the Static Deterministic Process Summary page offers several actions that allow you to perform different functions. The following actions are available for the Static Deterministic Process.

Table 1-68 Static Deterministic Process – Icons and Descriptions

Column	Description
Refresh	Click Refereh to refresh the Summary page.
Add	Click Add icon to build a new Static Deterministic Process.
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.
Help	Click Help icon to view the Static Deterministic Process help.
View/Edit	Click on the Action icon against the Process Name and select View/Edit to view or edit the contents of a Static Deterministic in Read/ Write format.
Save As	Click on the Action icon against the Process Name and select Save As to create a copy of an existing Static Deterministic Process.
Delete	Click on the Action icon against the Process Name and select Delete to delete an existing Static Deterministic Process.
Run	Click on the Action icon against the Process Name and select Run to execute an existing Static Deterministic Process. After clicking Run, the Run Parameter Execution window is displayed. Select As of Date (Execution Date) and Legal Entity, and then click Ok. For more information, see Executing Static Deterministic Process section.
Execution Details	Click on the Action icon against the Process Name and select Executin Details to view execution details of the Static Deterministic Process.
Dependency Check	Reserved for future use.

1.24.2 Search Static Deterministic Process

Search for a Static Deterministic Process to perform any of the following tasks:

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

Prerequisites

Predefined Static Deterministic Process

Procedure

To search the Static Deterministic Process , follow these steps:

1. Navigate to the Static Deterministic Process Summary page.
2. Enter the Name, Folder, Description, or Reporting Currency in Search Criteria.
3. Click the Search.

Only Static Deterministic Process that match the search criteria are displayed.

1.24.3 Create Static Deterministic Process

To create a new Static Deterministic Process, perform the following steps:

1. Navigate to the **Static Deterministic Process** Summary page.
2. Click Add . The **Create Static Deterministic Process** page is displayed.
3. Enter the details in the **Process Details** section.

Figure 1-92 Static Deterministic Process

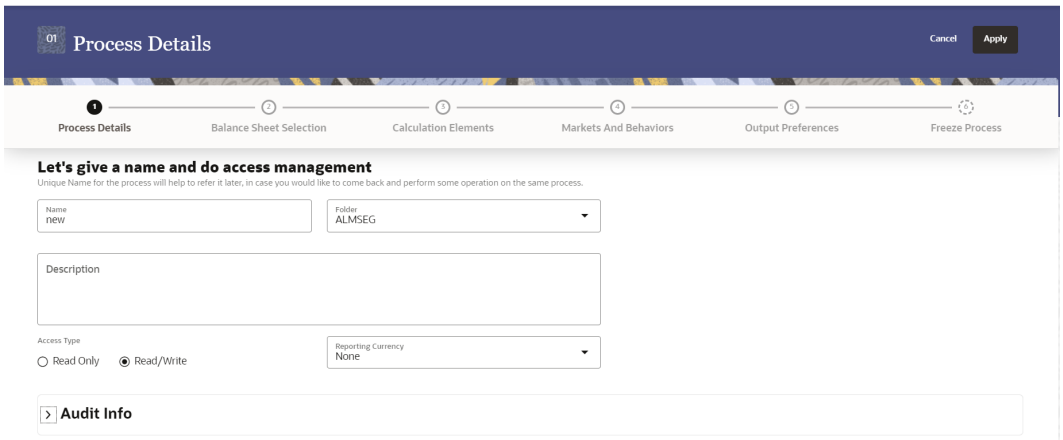
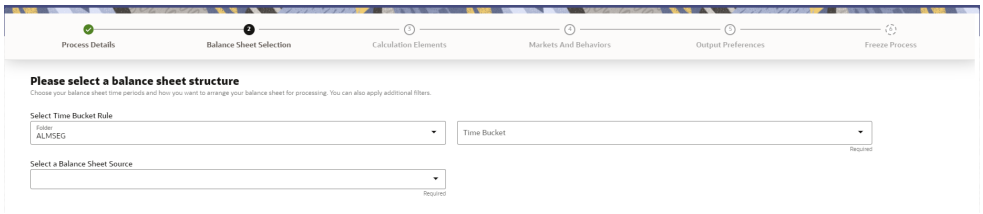


Table 1-69 List of process details used for Creating Static Deterministic Process

Parameter	Description
Name	Enter the name of the Static Deterministic Process.
Folder	Select the Folder where the Static Deterministic Process needs to be saved.
Description	Enter the description of the Static Deterministic Process.
Access Type	Select the Access Type as Read-Only or Read/ Write.
Reporting Currency	Select the currency for consolidation of resluts
Curency Provider	This field will be active once you select Reporting Currency. Select the Currency Provider as Default.

4. Click **Apply** to navigate to the **Balance Sheet Selection** section.

Figure 1-93 Balance Sheet Selection



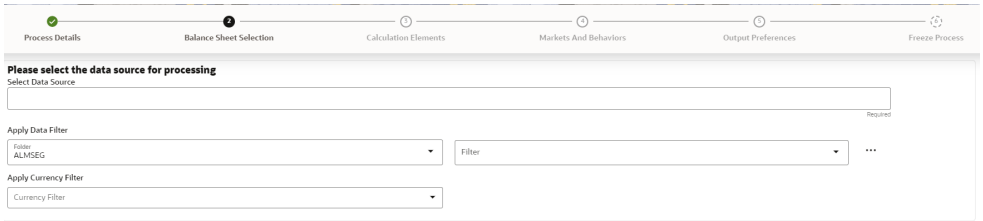
5. Enter the Balance Sheet Structure details as shown in the following table:

Table 1-70 List of Balance Sheet Structure details used for Creating Static Deterministic Process

Parameter	Description
Time Bucket Rule Folder	Select the Folder from which you want to apply Time Bucket Rule.
Time Bucket Rule	Chose the time horizon/aggregation for process
Balance Sheet Source	Select the Balance Sheet Source from Balance Sheet Source drop-down list.

After selecting the Balance Sheet Source, Data Source details block is activated.

Figure 1-94 Data Source details of Balance Sheet Selection



Enter the Data Source details of Balance Sheet.

Table 1-71 Data Source details used for Creating Static Deterministic Process

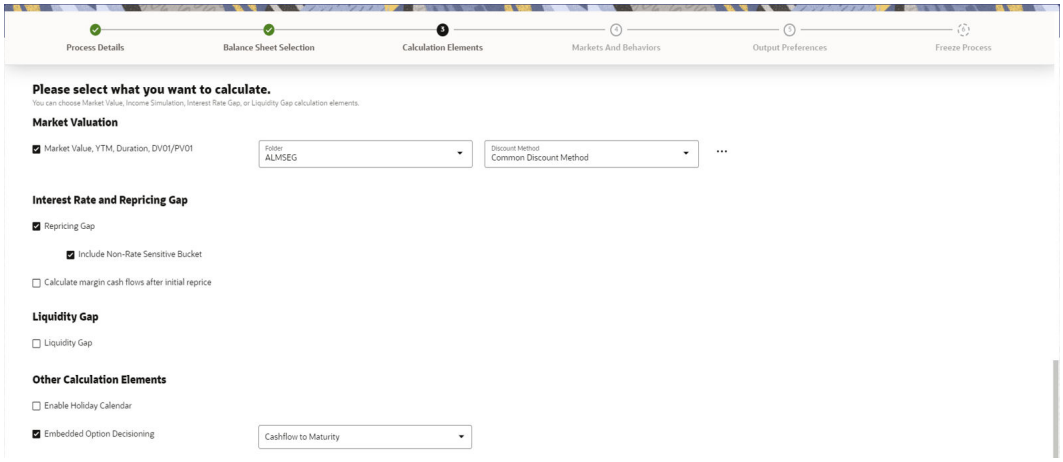
Parameter	Description
Data Source	This field allows you to select the Instrument tables that must be included in a Static Deterministic Process. For example, Asset, Derivative, and so on.
Data Filter Folder	Select the Folder from which you want to apply Data Filter.
Data Filter	This field allows you to select a subset of data for processing by selecting a filter. You can select a filter that was previously created, or define a new filter on the fly.

Table 1-71 (Cont.) Data Source details used for Creating Static Deterministic Process

Parameter	Description
Currency Filter	Optionally apply a currency filter on the selected data.

6. Click **Apply** to navigate to the **Calculation Elements** section.

Figure 1-95 Calculation Elements



7. Enter the **Calculation Elements** details as shown in the following table:

Table 1-72 List of Calculation Elements details used for Creating Static Deterministic Process

Parameter	Description
Market Valuation	Select the Market Value, YTM, Duration, DV01/ PV01 option if you want to perform present value (MV) calculatons. Discount method is required. You can select from predefiend rules, or create one on the fly.
Discount Method Folder	Select the folder from where discount rules are saved.

Table 1-72 (Cont.) List of Calculation Elements details used for Creating Static Deterministic Process

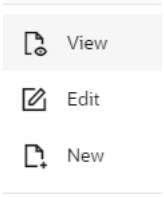
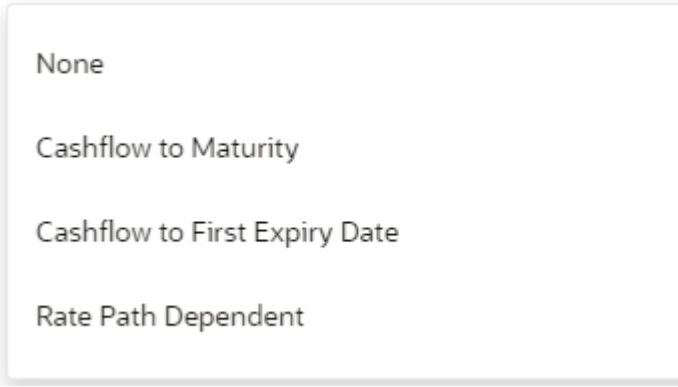
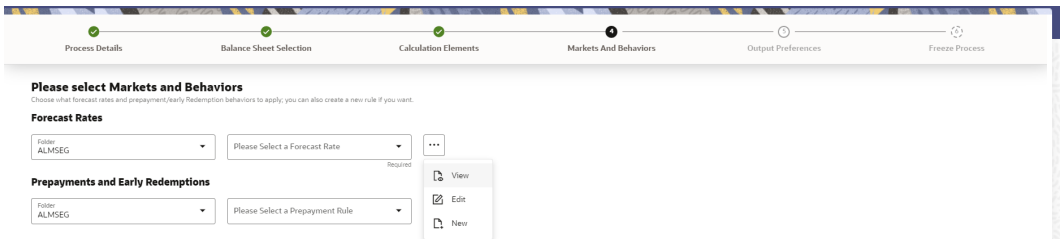
Parameter	Description
Discount Method	Select Discount Method you want to be applied to the process. refer to Discount Method section to set up Discount Method Rules. Also, following options are available when you click Action button next to Discount Method. **Figure 1-96 Discount Method** 
Repricing Gap	Click on Repricing Gap if you want to include Interest Rate gap risk measures. Note, this requires a time bucket with IR Gap buckets defined.
Include Non- Rate Sensitive Bucket	Include Non Rate Sensitive Bucket check-box gets enabled when 'Repricing Gap' is selected. The Attribute of product dimension 'Interest Rate Sensitivity Category' identifies products as Interest Rate sensitive or Non Interest Rate sensitive. Once 'Include Non Rate Sensitive Bucket' is enabled, reprice gap output of Products which are mapped as Non Interest Rate sensitive, would move into Non Interest Rate Sensitive bucket. For more information on Non Interest Rate Sensitive Bucket, see Time Buckets If 'Include Non Rate Sensitive Bucket' is not enabled, engine will ignore 'Interest Rate Sensitivity Category' product attribute, and would treat all products as Interest Rate Sensitive. Reprice Gap output would move into respective Reprice Gap buckets.
Calculate Margin Cash Flow After Initial Reprice	If 'Calcualte Margin casflows as After Initial Reprice' is enabled, the engine will use the margin of adjustable rate instruments to continue generating interest cash flows after a gap repricing event up until total runoff occurs.
Liquidity Gap	Select the Liquidity Gap if you want to include liquidity gap risk meansures. Note, this requires a time bucket with LR gap buckets defined.
Enable Holiday Calendar	If you enable Holiday Calendar cash flow dates falling on a holiday get adjusted as per defined conventions. Holiday calendar criteria is defined on the insturments.

Table 1-72 (Cont.) List of Calculation Elements details used for Creating Static Deterministic Process

Parameter	Description
Embeded Option Decisioning	If your processed data contains fixed rate bonds with embedded embedded options, you can chose the bahavior of the option to force it to maturity of the insuruemnt, force it to first option expiry date, or let it be rate path dependent. This drop-down has following options: **Figure 1-97 Embeded Option Decisioning** 

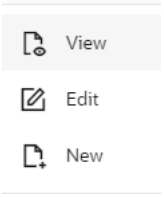
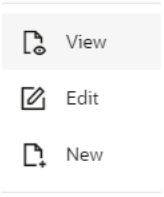
8. Click **Apply** to navigate to the **Markets and Behaviors** section.

Figure 1-98 Markets and Behaviors



9. Enter the **Calculation Elements** details as shown in the following table:

Table 1-73 List of Market and Behavior details used for Creating Static Deterministic Process

Parameter	Description
Forecast Rates	Select the Folder and Forecast Rates Rule you want to be applied to the process. See Forecast Rate Scenarios to define rate scenarios. **Figure 1-99 Forecast Rates** 
Prepayment Rules and Early Redemptions	Select the Folder and Prepayment Rule you want to be applied during cash flow calculation. See Prepayment, to set up Prepayment Methods. This is an optional step. **Figure 1-100 Prepayment Rules** 

10. Enter the following details in **Other Behavioral Characteristics** sub-section of **Market and Behaviors** section.

Figure 1-101 Other Behavioral Characteristics

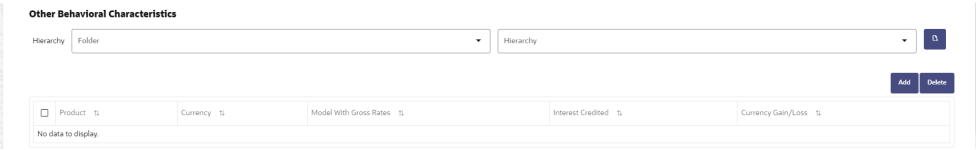


Table 1-74 Product Characteristics details used for Creating Static Deterministic Process

Parameter	Description
Product Hierarchy Folder	You can specify additional processing parameters at a product-currency level. Select the Folder from the **Product Hierarchy** Folder list.
Product Hierarchy	Select the Product Hierarchy on which you want to specify parameters. To add a Product Hierarchy, follow these steps: a. Click **Open Hierarchy Browser** button next to the **Hierarchy** field. b. Select one or more products using the corresponding check-box and click Done.

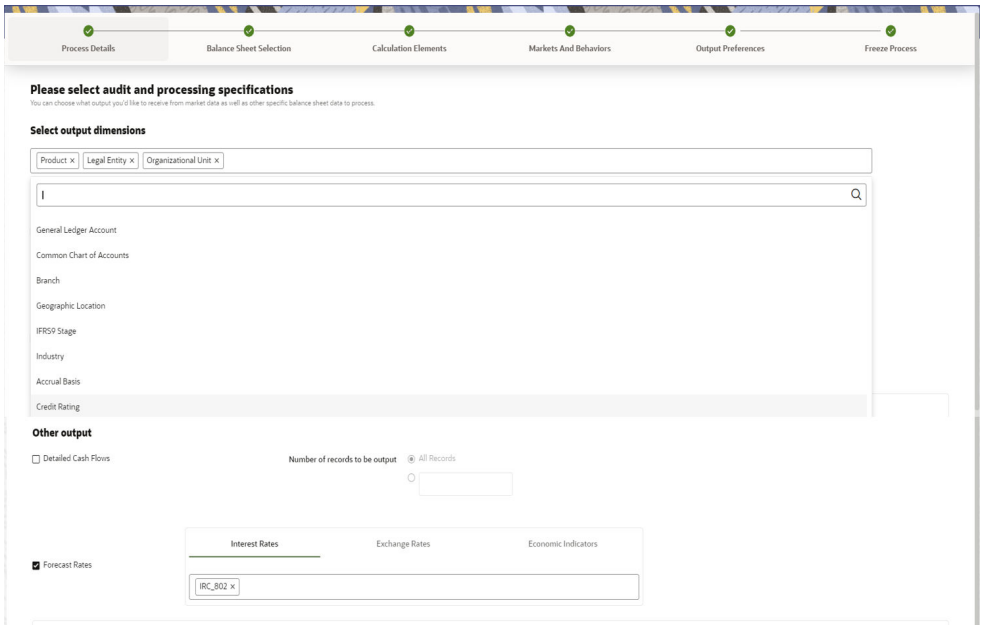
11. After clicking **Add**, the list of product is displayed with the following details:

Table 1-75 Product details used for Creating Static Deterministic Process

Parameter	Description
Product	Shows the selected product details.
Currency	Shows the currency of the selected product.
Interest Credited	Yes or No 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	If the institution has outsourced loan serving rights for some of the assets (most typically mortgages), the rates paid by customers on those assets (gross rates) are greater than the rates received by the bank (net rates). For these instruments, both a net and gross rate is calculated within the cash flow engine and both gross and net rate financial elements are the output. The gross rate is used for prepayment and amortization calculations. The net rate is used for income simulation and the calculation of retained earnings in the auto-balancing process.
Currency Gain/Loss	If you are consolidating to a reporting currency, select one of the following mehtods Historical, Temporal or Curren Rate. See Currency Gain Loss Basis for more detials.

12. Click **Apply** to navigate to the **Output Preferences** section.

Figure 1-102 Output Preferences



.

13. Enter the **Output Preferences** details shown in the following table.

Table 1-76 List of Output Preferences details used for Creating Static Deterministic Process

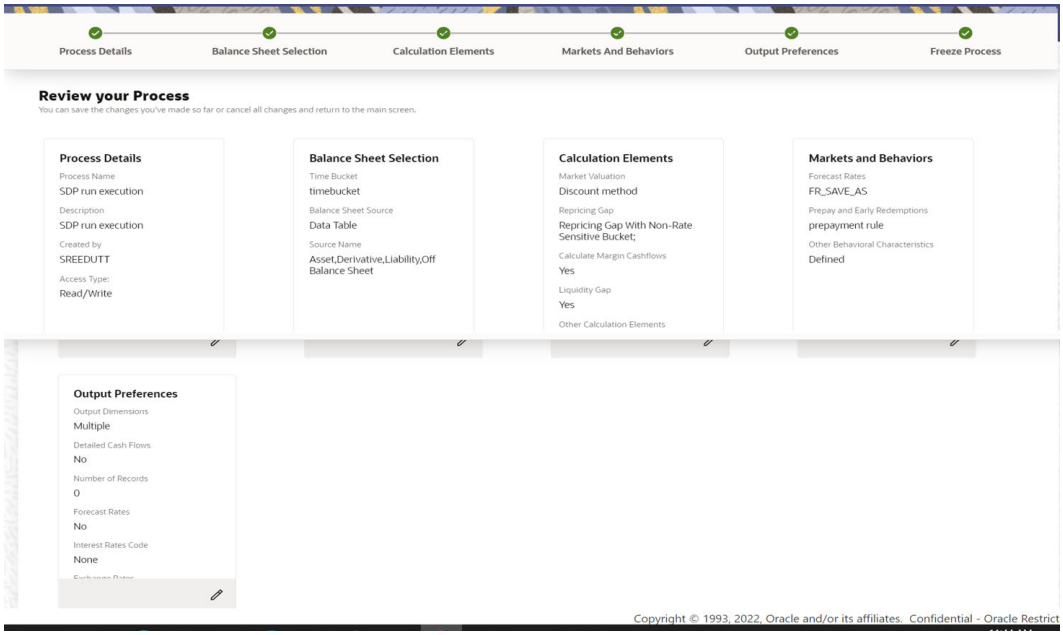
Parameter	Description
Output Dimensions	Start by typing any key processing dimension in the text box. A list of KPD's will appear and you can selct up to 10 for consolidation.
Detailed Cash Flow	Check the box to record the instrument detail cash flows occurring for the desired number of records processed. For each record, daily cashflow and market value results are written to the FSI_ALM_CASHFLOW_OUTPUT_HIST and FSI_ALM_CASHFLOW_DYN_MV_OUTPUT_HIST tables. Select the desired number of Records in the dialog box or select all records to be output. NOTE - the number of records output directly impact processing time. It is recomeeneded to use this as an audit function only, with few recors chosen.
Forecast Interest Rates	Select the Interest Rate Curves for which you want the engine to write forecasted interest rates in the database table.

Table 1-76 (Cont.) List of Output Preferences details used for Creating Static Deterministic Process

Parameter	Description
Forecast Exchange Rate	Select the Exchange Rates for which you want the engine to write forecasted exchange rates in the database table.
Forecast Economic Indicators	Select the Economic Indicators for which you want the engine to write forecasted interest rates in the database table.

14. Click **Apply** to navigate to the **Freeze Process** section.

Figure 1-103 Freeze Process



15. Verify the changes and click **Save**.

1.24.4 Executing Static Deterministic Process

You can execute Static Deterministic process using following methods:

- Static Deterministic Process UI
- Schedular Service

1.24.4.1 Using Static Deterministic Process UI

To execute the Static Deterministic process, follow these steps:

1. Navigate to the Static Deterministic Process Summary page.
2. Search for a Static Deterministic Process.
3. Click in the Action column and select Run to execute an existing Static Deterministic Process. The Run Parameter Execution window is displayed.

4. Select the As of Date (Execution Date) and Legal Entity, and then click Ok.
5. The Static Deterministic Run Confirmation page is displayed. The status of the process is displayed in the Status column. After completion of the process, you can navigate to the Execution Details page by selecting the Execution Details option under the Action column.

1.24.4.2 Using Schedular Service

To execute the Static Deterministic Process, follow these steps:

1. Navigate to Operations and Processes menu, and select Schedular.
2. Define a new batch.
3. Enter the Batch Name and Description, and then Save the batch.
4. To add a task, navigate to Define Task.
5. Select the Batch from Batch drop-down list on Define Task window.
6. Click the Add button.
7. Define the task with below details:
   - Task Code: This can be same as the Process ID of ALM Static Deterministic Process or something else.
   - Task Name: This can be same as name of the ALM Static Deterministic Process or something else.
   - Task Description: This can be same a name of the ALM Static Deterministic Process or something else.
   - Task Type: REST
   - Component: ALM Static Deterministic Process
   - Process Name: Select one value from the list.
   - Legal Entity Hierarchy: Select one value from the list.
   - Legal Entity: Select one value from the list.
8. Save and Execute the batch with Batch ID and MIS Date.

For more information, see the Scheduler Service.

1.24.5 View Static Deterministic Process Log

To view the execution details of the Static Deterministic Process, follow these steps:

1. Navigate to the Static Deterministic Process Summary page.
2. Search for a Static Deterministic Process.
3. Click on the Action icon against the Process Name and select Execution Details. The **Execution Details** window is displayed.
4. Click any **Execution ID** to view the log details. The **Log Viewer** window shows the complete details of process along with Batch Run ID information.

1.25 Dynamic Deterministic Process

This module discusses the procedure for creating and executing a Dynamic Deterministic Process (existing business only).

Dynamic Deterministic processing generates output based on a set of user-defined forecast rate scenarios and includes new business assumption rules in the process flow.

The process allows you to perform the following tasks:

- Determine the source data that you want to process and the modeling horizon
- Specify the calculation elements; Valuation, Income Simulation, Interest Rate and Liquidity Gaps
- Include the market rate forecast and behavioral assumptoins
- Define your output dimensions for aggregation, and/or output raw cashflows
- Execute the Cash Flow Process and generate results.

Topics:

1.25.1 Dynamic Deterministic Process Summary page

This page is the gateway to all Dynamic Deterministic Processes and related functionality. You can navigate to other pages relating to Dynamic Deterministic Process from this point.

The Dynamic Deterministic Process Summary page displays the following columns:

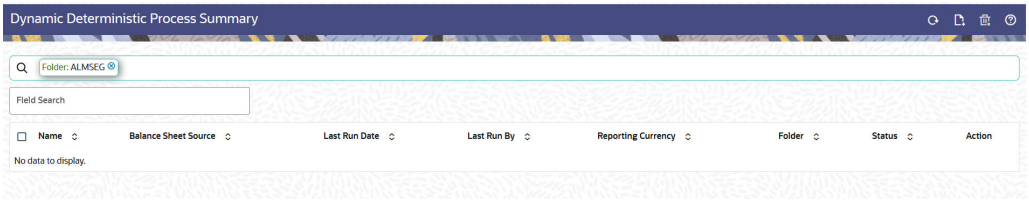
Table 1-77 Dynamic Deterministic Process – Fields and Descriptions

Column	Description
Name	Displays the Dynamic Deterministic Process's short name.
Balance Sheet Source	Displays the insturment table selection for processing of data.
Last Run Date	Displays the Date and Time when Dynamic Deterministic Process was run last.
Last Run By	Displays the Name of the user who last runs the Dynamic Deterministic Process.
Reporting Currency	Displays the currency for consolidated resutls to be aggregted.
Folder	Displays the Folder name where the Dynamic Deterministic Process is saved.
Status	Displays the status of the Dynamic Deterministic Process.

Table 1-77 (Cont.) Dynamic Deterministic Process – Fields and Descriptions

Column	Description
Action	Displays the list of actions that can be performed on the Dynamic Deterministic Process. For more information, see Dynamic Deterministic Process – Icons and Descriptions.

Figure 1-104 Dynamic Deterministic Process Summary



The Action column on the Dynamic Deterministic Process Summary page offers several actions that allow you to perform different functions. The following actions are available for the Dynamic Deterministic Process.

Table 1-78 Dynamic Deterministic Process – Icons and Descriptions

Column	Description
Refresh	Click Refereh to refresh the Summary page.
Add	Click Add icon to build a new Dynamic Deterministic Process.
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.
Help	Click Help icon to view the Dynamic Deterministic Process help.
View/Edit	Click on the Action icon against the Process Name and select View/Edit to view or edit the contents of a Dynamic Deterministic in Read/ Write format.
Save As	Click on the Action icon against the Process Name and select Save As to create a copy of an existing Dynamic Deterministic Process.
Delete	Click on the Action icon against the Process Name and select Delete to delete an existing Dynamic Deterministic Process.

Table 1-78 (Cont.) Dynamic Deterministic Process – Icons and Descriptions

Column	Description
Run	Click on the Action icon against the Process Name and select Run to execute an existing Dynamic Deterministic Process. After clicking Run, the Run Parameter Execution window is displayed. Select As of Date (Execution Date) and Legal Entity, and then click Ok. For more information, see Executing Dynamic Deterministic Process section.
Execution Details	Click on the Action icon against the Process Name and select Executin Details to view execution details of the Dynamic Deterministic Process.
Dependency Check	Reserved for future use.

1.25.2 Search Dynamic Deterministic process

Search for a Dynamic Deterministic process to perform any of the following tasks:

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

Prerequisites

Predefined Dynamic Deterministic process

Procedure

To search the Dynamic Deterministic process , follow these steps:

1. Navigate to the Dynamic Deterministic process Summary page.
2. Enter the Name, Folder, Description, or Reporting Currency in Search Criteria.
3. Click the Search.

Only Dynamic Deterministic process that match the search criteria are displayed.

1.25.3 Create Dynamic Deterministic Process

To create a new Dynamic Deterministic Process, perform the following steps:

1. Navigate to the **Dynamic Deterministic Process** Summary page.
2. Click Add . The **Create Dynamic Deterministic Process** page is displayed.
3. Enter the details in the **Process Details** section.

Figure 1-105 Dynamic Deterministic Process

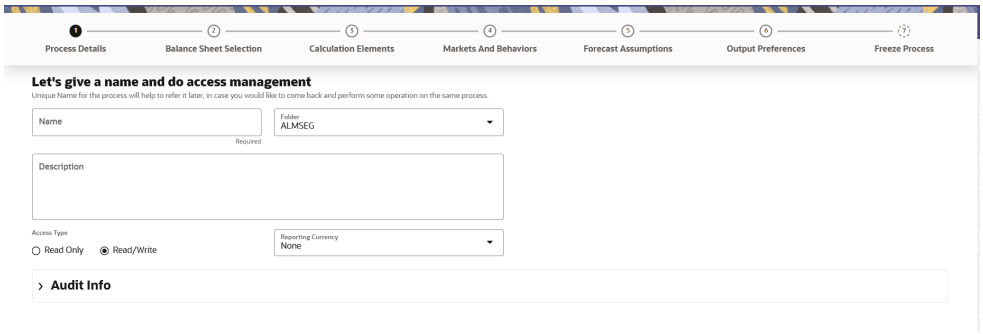
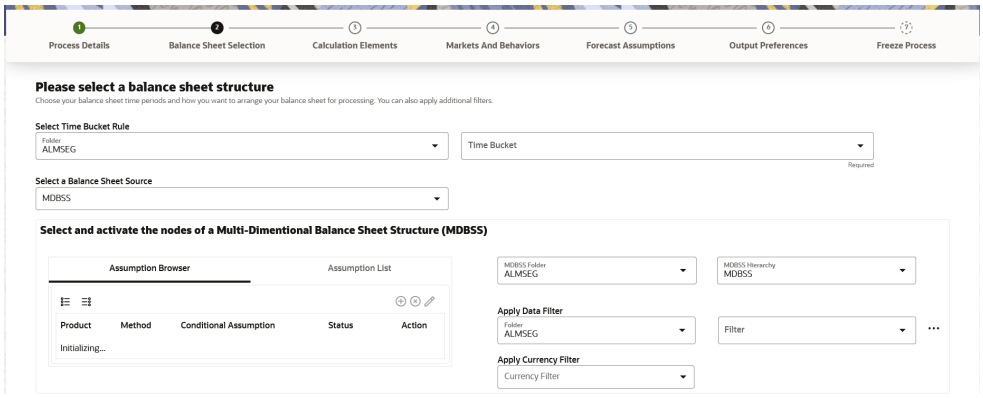


Table 1-79 List of process details used for Creating Dynamic Deterministic Process

Parameter	Description
Name	Enter the name of the Dynamic Deterministic Process.
Folder	Select the Folder where the Dynamic Deterministic Process needs to be saved.
Description	Enter the description of the Dynamic Deterministic Process.
Access Type	Select the Access Type as Read-Only or Read/Write.
Reporting Currency	Select the currency for consolidation of resluts
Curency Provider	This field will be active once you select Reporting Currency. Select the Currency Provider as Default.

4. Click **Apply** to navigate to the **Balance Sheet Selection** section.

Figure 1-106 Balance Sheet Selection



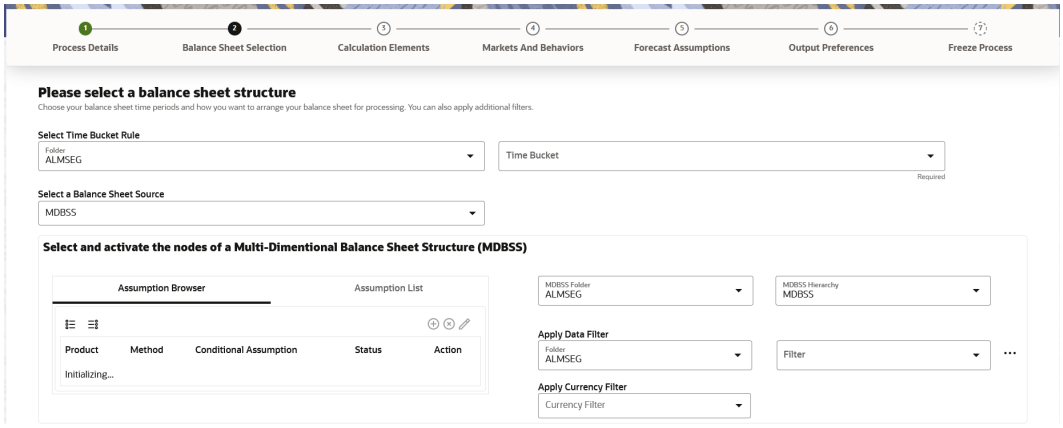
5. Enter the Balance Sheet Structure details as shown in the following table:

Table 1-80 List of Balance Sheet Structure details used for Creating Dynamic Deterministic Process

Parameter	Description
Time Bucket Rule Folder	Select the Folder from which you want to apply Time Bucket Rule.
Time Bucket Rule	Select the time horizon/aggregation for process
Balance Sheet Source	Select the Balance Sheet Source from Balance Sheet Source drop-down list.

After selecting the Balance Sheet Source, Data Source details block is activated.

Figure 1-107 Data Source details of Balance Sheet Selection



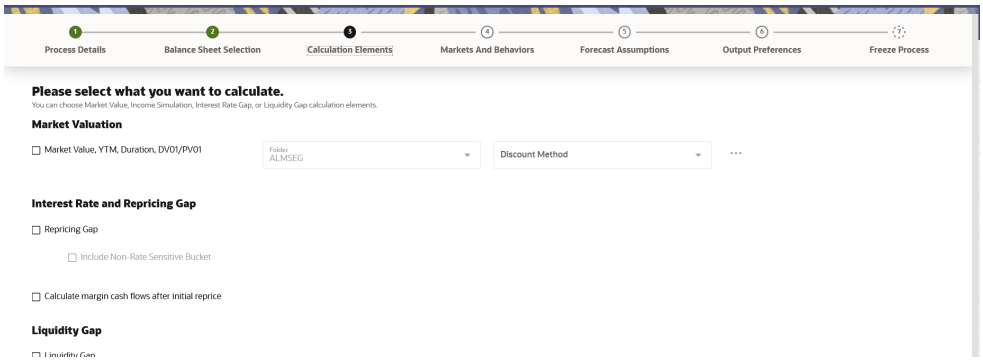
Enter the Data Source details of Balance Sheet.

Table 1-81 Data Source details used for Creating Dynamic Deterministic Process

Parameter	Description
Assumption Brower	Select the Product from Assumption Browser and click Add under Action option.
MDBSS Folder	Select the MDBSS folder
MDBSS Hierarchy	Select the MDBSS hierarchy
Data Filter Folder	Select the Folder from which you want to apply Data Filter.
Data Filter	This field allows you to select a subset of data for processing by selecting a filter. You can select a filter that was previously created, or define a new filter on the fly.
Currency Filter	Optionally apply a currency filter on the selected data.

6. Click **Apply** to navigate to the **Calculation Elements** section.

Figure 1-108 Calculation Elements



7. Enter the **Calculation Elements** details as shown in the following table:

Table 1-82 List of Calculation Elements details used for Creating Dynamic Deterministic Process

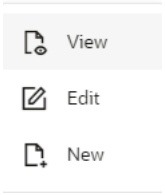
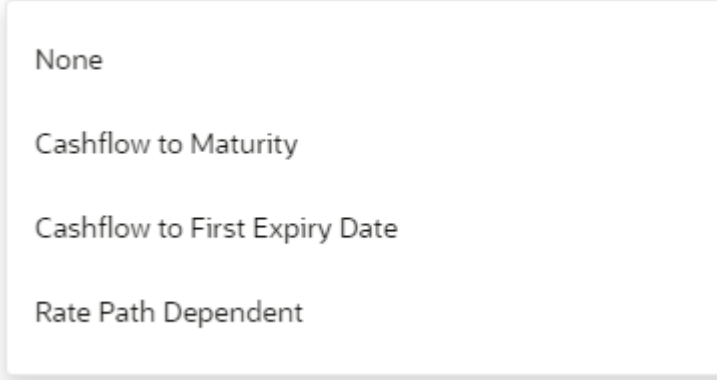
Parameter	Description
Market Valuation	Select the Market Value, YTM, Duration, DV01/PV01 option if you want to perform present value (MV) calculatons. Discount method is required. You can select from predefiend rules, or create one on the fly.
Discount Method Folder	Select the folder from where discount rules are saved.
Discount Method	Select Discount Method you want to be applied to the process. refer to Discount Method section to set up Discount Method Rules. Also, following options are available when you click Action button next to Discount Method. **Figure 1-109 Discount Method** 
Repricing Gap	Click on Repricing Gap if you want to include Interest Rate gap risk measures. Note, this requires a time bucket with IR Gap buckets defined.

Table 1-82 (Cont.) List of Calculation Elements details used for Creating Dynamic Deterministic Process

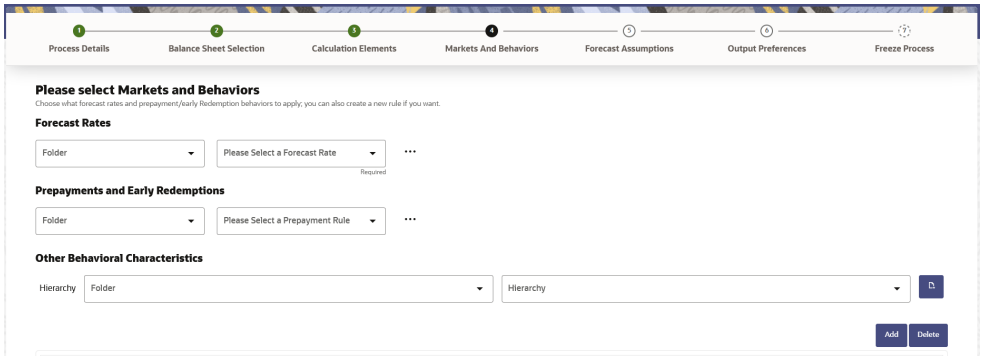
Parameter	Description
Include Non- Rate Sensitive Bucket	Include Non Rate Sensitive Bucket check-box gets enabled when ‘Repricing Gap’ is selected. The Attribute of product dimension ‘Interest Rate Sensitivity Category’ identifies products as Interest Rate sensitive or Non Interest Rate sensitive. Once ‘Include Non Rate Sensitive Bucket’ is enabled, reprice gap output of Products which are mapped as Non Interest Rate sensitive, would move into Non Interest Rate Sensitive bucket. For more information on Non Interest Rate Sensitive Bucket, see Time Buckets If ‘Include Non Rate Sensitive Bucket’ is not enabled, engine will ignore ‘Interest Rate Sensitivity Category’ product attribute, and would treat all products as Interest Rate Sensitive. Reprice Gap output would move into respective Reprice Gap buckets.
Calculate Margin Cash Flow After Initial Reprice	If 'Calcualte Margin casflows as After Initial Reprice' is enabled, the engine will use the margin of adjustable rate instruments to continue generating interest cash flows after a gap repricing event up until total runoff occurs.
Liquidity Gap	Select the Liquidity Gap if you want to include liquidity gap risk meansures. Note, this requires a time bucket with LR gap buckets defined.
Enable Holiday Calendar	If you enable Holiday Calendar cash flow dates falling on a holiday get adjusted as per defined conventions. Holiday calendar criteria is defined on the insturments.

Table 1-82 (Cont.) List of Calculation Elements details used for Creating Dynamic Deterministic Process

Parameter	Description
Embeded Option Decisioning	If your processed data contains fixed rate bonds with embedded embedded options, you can chose the bahavior of the option to force it to maturity of the insuruemnt, force it to first option expiry date, or let it be rate path dependent. This drop-down has following options: **Figure 1-110 Embeded Option Decisioning** 

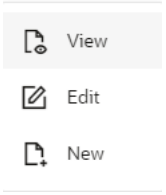
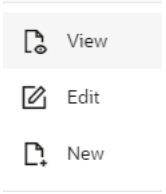
8. Click **Apply** to navigate to the **Markets and Behaviors** section.

Figure 1-111 Markets and Behaviors



9. Enter the **Markets and Behaviors** details as shown in the following table:

Table 1-83 List of Market and Behavior details used for Creating Dynamic Deterministic Process

Parameter	Description
Forecast Rates	Select the Folder and Forecast Rates Rule you want to be applied to the process. SeeForecast Rates Forecast Rates to define rate scenarios. **Figure 1-112 Forecast Rates** 
Prepayment Rules and Early Redemptions	Select the Folder and Prepayment Rule you want to be applied during cash flow calculation. SeePrepayment Methods to set up Prepayment Methods. This is an optional step. **Figure 1-113 Prepayment Rules** 

10. Enter the following details in **Other Behavioral Characteristics** sub-section of **Market and Behaviors** section.

Figure 1-114 Other Behavioral Characteristics

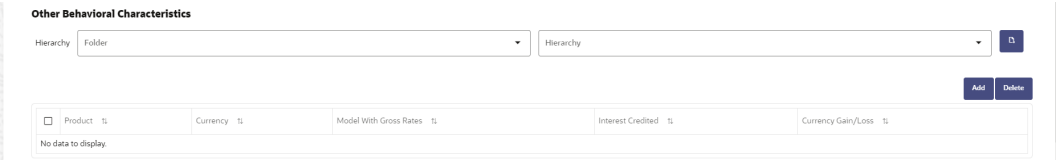


Table 1-84 Product Characteristics details used for Creating Dynamic Deterministic Process

Parameter	Description
Product Hierarchy Folder	You can specify additional processing parameters at a product-currency level. Select the Folder from the **Product Hierarchy** Folder list.
Product Hierarchy	Select the Product Hierarchy on which you want to specify parameters. To add a Product Hierarchy, follow these steps: a. Click **Open Hierarchy Browser** button next to the **Hierarchy** field. b. Select one or more products using the corresponding check-box and click Done.

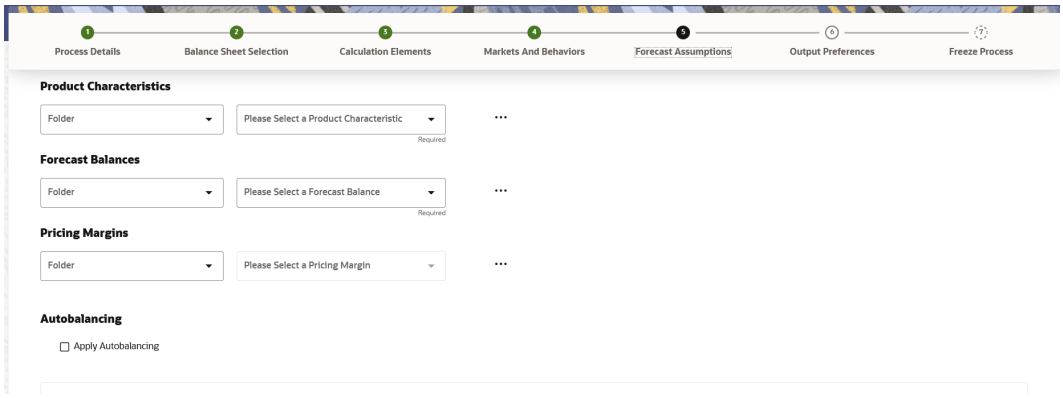
11. After clicking **Add**, the list of product is displayed with the following details:

Table 1-85 Product details used for Creating Dynamic Deterministic Process

Parameter	Description
Product	Shows the selected product details.
Currency	Shows the currency of the selected product.
Interest Credited	Yes or No 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	If the institution has outsourced loan serving rights for some of the assets (most typically mortgages), the rates paid by customers on those assets (gross rates) are greater than the rates received by the bank (net rates). For these instruments, both a net and gross rate is calculated within the cash flow engine and both gross and net rate financial elements are the output. The gross rate is used for prepayment and amortization calculations. The net rate is used for income simulation and the calculation of retained earnings in the auto-balancing process.
Currency Gain/Loss	If you are consolidating to a reporting currency, select one of the following mehtods Historical, Temporal or Curren Rate. See Currency Gain Loss Basis for more detials.

12. Click **Apply** to navigate to the **Forecast Assumptions** section.

Figure 1-115 Forecast Assumptions



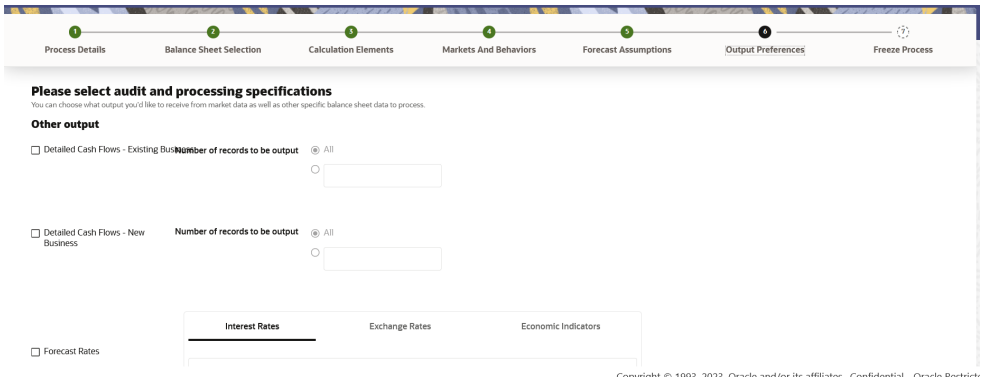
13. Enter the **Forecast Assumptions** details as shown in the following table:

Table 1-86 List of Forecast Assumptions details used for Creating Dynamic Deterministic Process

Parameter	Description
Product Characteristics	Select the Folder and Product Characteristics Rule you want to be applied to the process.
Forecast Balances	Select the Folder and Forecast Balance Rule you want to be applied to the process.
Pricing Margins	Select the Folder and Pricing Margin Rule you want to be applied to the process.
Autobalancing	Select Apply Autobalancing check-box to enable the Autobalancing. Use autobalancing to maintain a balanced balance sheet, and generate retained earnings, dividends and taxes. Product leaf members used during the autobalancing process must be defined within your Application Preferences, including: Assets Liabilities Retained Earnings Dividends Federal Tax State Tax Accumulated Translation Balance If you do not completely define the required autobalancing leaves in Application Preferences, an error message is generated during processing.

14. Click **Apply** to navigate to the **Output Preferences** section.

Figure 1-116 Output Preferences



.

15. Enter the **Output Preferences** details shown in the following table.

Table 1-87 List of Output Preferences details used for Creating Dynamic Deterministic Process

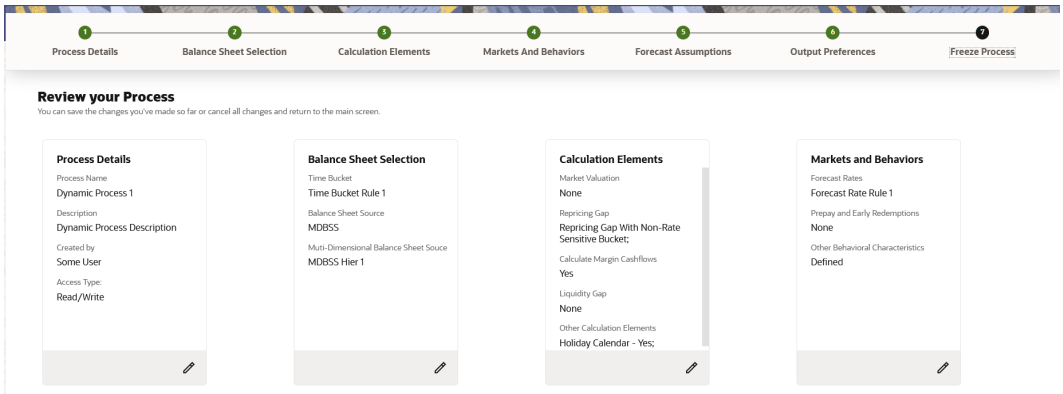
Parameter	Description
Output Dimensions	Start by typing any key processing dimension in the text box. A list of KPD's will appear and you can selct up to 10 for consolidation.
Detailed Cash Flow	Check the box to record the instrument detail cash flows occurring for the desired number of records processed. For each record, daily cashflow and market value results are written to the FSI_ALM_CASHFLOW_OUTPUT_HIST and FSI_ALM_CASHFLOW_DYN_MV_OUTPUT_HIST tables. Select the desired number of Records in the dialog box or select all records to be output. NOTE - the number of records output directly impact processing time. It is recomeeneded to use this as an audit function only, with few recors chosen.

Table 1-87 (Cont.) List of Output Preferences details used for Creating Dynamic Deterministic Process

Parameter	Description
Detailed Cash Flow New Business	Check the box to record the instrument detail cash flows occurring for the desired number of records processed. For each record, daily cashflow and market value results are written to the FSI_ALM_CASHFLOW_OUTPUT_HIST and FSI_ALM_CASHFLOW_DYN_MV_OUTPUT_HIST tables. Select the desired number of Records in the dialog box or select all records to be output. NOTE - the number of records output directly impact processing time. It is recomeeneded to use this as an audit function only, with few recors chosen.
Forecast Interest Rates	Select the Interest Rate Curves for which you want the engine to write forecasted interest rates in the database table.
Forecast Exchange Rate	Select the Exchange Rates for which you want the engine to write forecasted exchange rates in the database table.
Forecast Economic Indicators	Select the Economic Indicators for which you want the engine to write forecasted interest rates in the database table.

16. Click **Apply** to navigate to the **Freeze Process** section.

Figure 1-117 Freeze Process



17. Verify the changes and click **Save**.

1.25.4 Executing Dynamic Deterministic process

You can execute Dynamic Deterministic process using following methods:

- Dynamic Deterministic process UI
- Schedular Service

1.25.5 Using Dynamic Deterministic process UI

To execute the Dynamic Deterministic process, follow these steps:

1. Navigate to the Dynamic Deterministic process Summary page.
2. Search for a Dynamic Deterministic process.
3. Click in the Action column and select Run to execute an existing Dynamic Deterministic process. The Run Parameter Execution window is displayed.
4. Select the As of Date (Execution Date) and Legal Entity, and then click Ok.
5. The Dynamic Deterministic Run Confirmation page is displayed. The status of the process is displayed in the Status column. After completion of the process, you can navigate to the Execution Details page by selecting the Execution Details option under the Action column.

1.25.6 Using Schedular Service

To execute the Dynamic Deterministic process, follow these steps:

1. Navigate to Operations and Processes menu, and select Schedular.
2. Define a new batch.
3. Enter the Batch Name and Description, and then save the batch.
4. To add a task, navigate to Define Task.
5. Select the Batch from Batch drop-down list on Define Task window.
6. Click the Add button.
7. Define the task with below details:
    - Task Code: This can be same as the Process ID of ALM Dynamic Deterministic process or something else.
    - Task Name: This can be same as name of the ALM Dynamic Deterministic process or something else.
    - Task Description: This can be same a name of the ALM Dynamic Deterministic process or something else.
    - Task Type: REST
    - Component: ALM Dynamic Deterministic process
    - Process Name: Select one value from the list.
    - Legal Entity Hierarchy: Select one value from the list.
    - Legal Entity: Select one value from the list.
8. Save and Execute the batch with Batch ID and MIS Date.

For more information, see the Scheduler Service.

1.25.7 View Dynamic Deterministic process Log

To view the execution details of the Dynamic Deterministic process, follow these steps:

1. Navigate to the Dynamic Deterministic process Summary page.

2. Search for a Dynamic Deterministic process.
3. Click on the Action icon against the Process Name and select Execution Details. The **Execution Details** window is displayed.
4. Click any **Execution ID** to view the log details. The **Log Viewer** window shows the complete details of process along with Batch Run ID information.