

Oracle® Financial Services IFRS 9 Solution Cloud Service User Guide



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7 Technical Documents

1

About This Content

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

Audience

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

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Related Resources

See these [Oracle resources](#):

- Getting Started with Oracle Cloud
- Admin Console User Guide
- Oracle Financial Services IFRS 9 Solution Cloud Service User Guide

Conventions

The following text conventions are used in this document.

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

2

Getting Started

This chapter contains information on how to get started with the cloud service, and instructions to use the Admin Console.

- [Getting Started with Oracle Cloud](#): Oracle Cloud is the industry's broadest and most integrated cloud provider, with deployment options ranging from the public cloud to your data center. Oracle Cloud offers best-in-class services across Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS).
- [IFRS 9 Solution Cloud Service](#): Oracle Financial Services IFRS 9 Solution allows financial institutions to address the first phase of IFRS 9 requirements i.e., Classification and Measurement. The application supports Stage determination and account classification. The application measures the Effective Interest Rate (EIR). The application supports two amortization methodologies: The effective Yield Method and the Straight-Line Method. The application supports various reports which can be used for multiple non-regulatory and regulatory purposes.
- [Admin Console](#): Use the Admin Console to perform System Configuration and Identity Management. It is a single point of access to manage identity functions and view administrative features such as Metering, Audit Trail Report and other miscellaneous configuration details in the Oracle Financial Services IFRS 9 Solution.

Getting Started with Oracle Cloud

Oracle Cloud is the industry's broadest and most integrated cloud provider, with deployment options ranging from the public cloud to your data center.

Oracle Cloud offers best-in-class services across Software as a Service (SaaS), Platform as a Service (PaaS), and Infrastructure as a Service (IaaS).

For more information on Getting Started with Oracle Cloud, Users and Roles, User Groups, User Management, and Session Time Out configuration, see the [Getting Started with Oracle Cloud](#) Guide.

Getting Started with IFRS 9 Solution Cloud Service

Oracle Financial Services IFRS 9 Solution Cloud Service (IFRS9SCS) helps financial services institutions to address the IFRS 9 requirements i.e., Classification and Measurement, Impairment, and Hedge Accounting. The service supports accounting adjustments which include but are not limited to effective interest rate (EIR), two amortization methodologies: effective yield method and straight-line method, etc. The service also supports IFRS 9 Stage Determination, IFRS 9 Stage Curing, and Account Classification. The service supports out-of-box Expected Credit Loss methods. The service supports various reports which are used for multiple regulatory and non-regulatory purposes.

Key Benefits:

- Accounting Adjustments Calculation
- Develop portfolio-specific rules for Stage Determination and Stage Curing

- Develop portfolio-specific rules for Account Classification
- Workflow management process supported for override of account stage and account classification.
- Cash Flow generation is supported with the Cash Flow Edit and Process to verify the accuracy and completeness of the Instrument Table Data.
- Amortization process selection at multi-dimension level
- Expected Credit Loss calculation.
- Interpolation and Extrapolation of PD, LGD, and CCF term structures.
- Dependencies are tracked for the concerned object being referred to in another child object.
- Data quality can be maintained with the Data Quality Framework
- Data Maintenance Interface available to design data entry forms to view and edit data in database tables.
- Slice and dice data with user-customizable analytical reports

Key Features

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

- Accounting Adjustments
- IFRS 9 Stage Determination and IFRS 9 Stage Curing
- Account Classification
- Manual Override for Account Stage and Account Classification
- Cash Flow generation and Effective Interest Rate calculation
- Cash Flow Edit and Cash Flow Edit Process
- Amortization Methods: Effective Yield Method and Straight-Line Method
- Expected Credit Loss Methods
- Interpolation and Extrapolation of Term Structures
- Pre-built reports for Account stage, Account classification, Amortization, and Expected Credit Loss with Solo/Consolidation feature
- Dependency Tracker
- Data Quality Framework
- Data Maintenance Interface
- Shared data model and platform that eliminates data silos.
- Enterprise scale in the cloud
- Segmentation is supported by the Modelling set
- IFRS 9 Stage Determination and Stage Curing
- Account Classification
- Manual override for Account stage and Account Classification
- CFE CS Integration for cash flow generation and EIR calculation

- Amortization methods: Effective Yield Method and Straight-Line Method Submit to the Cash flow engine the modelling horizon for which you want to calculate cash flows
- Pre-Build Reports for Account stage, Account classification, and Amortization

User Groups

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

Table 2-1 User Groups and Activities

User Groups	Activities
Identity Administrator Group	• View Object Storage • View OAuth Credentials • Perform Identity and Access Management Operations
IDCS Administrator	• Create Users • Map Users to the Instance
IFRS 9 Analyst Group and ECLCS Application Analyst	• Set User and Application Preferences • Set Setup Parameters • Currency and Rate Management • Dimension Management • Data Management: Metadata and Data Loaders • Schedule Batch Processes
IFRS 9 Auditor Group and ECLCS Application Auditor	• View privileges for all application-specific modules: • Review/Analyze Results • Review Process Logs • View Reports

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

Launching Oracle Financial Services IFRS 9 Solution Cloud Service

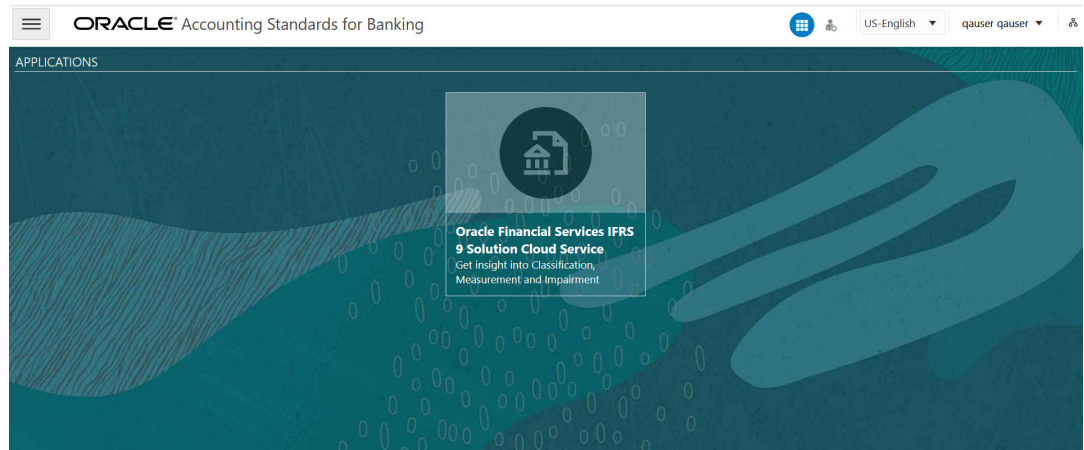
1. In the Web browser, click the link provided by Oracle.
2. Enter your user name and password.

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

3. Click Sign In.

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

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



Oracle Financial Services IFRS 9 Solution Cloud Service Home Page

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

Click the Navigator Screen icon

Figure 2-2 Navigator Screen Icon



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

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

Common Icons

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

Figure 2-3 Common Icons

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

Audit Pane

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

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

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

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

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

Quick Tour

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

Table 2-2 Quick Tour

Application Configuration		
1	Configure the application preference and global preference	Configure the Application Preference , and Global Preference by using the Preferences screen.
2	Configure/load the mandatory dimensions	a. Create a legal entity dimension, members, and hierarchy. b. Create the organization unit dimension members and hierarchy. c. Create the product dimension members and hierarchy. d. Update or validate the out-of-the-box customer type dimension members.
3	Configure/load the optional dimensions	Create the dimension members and hierarchies (only for key dimensions)
4	Configure/load the external and Internal ratings	By using the dimension management UI or by using the Dimension Data Loader , create external and internal ratings.
5	Configure/Load Macro Economic Variables and Sustainability Variables	Create the dimension members and define the mandatory attributes of the corresponding members.
6	Dimension loader	The Dimension Loader provides the option to load all required dimension members, attributes and hierarchies from a text file instead of creating them via the Dimension Management screen.
7	Configure the cashflow reference data	a. Define and load the interest rate curves. b. Define and load the economic indicators. c. Define and load the holiday calendars.
8	Configure cashflow assumptions	Configure Prepayment Rules. Configure Prepayment Models. Configure Payment Patterns. Configure Behavior Pattern Rules. Configure the forecast rates. Configure the reprice patterns. Configure the behavior patterns.
9	Currency and currency exchange rates	Activate the applicable currencies from the out-of-the-box provided currency list.
10	Configure the Modelling set	Configure the modelling set for the required legal entity and organization unit.
11	Create additional Economic Scenarios	Create Economic Scenario members by using the Economic Scenario via the Dimension Management UI.
12	Configure the Economic Scenario Rules	Configure the Economic Scenario Rule and define the weightages for each economic scenarios.
13	Configure the Rating Mapping Rules	Configure the Rating Mapping Rules to define multiple rating preferences and External to Internal Rating mappings.
14	Configure the Stage Determination Rules	Configure the Stage Determination Rules.
15	Configure the Curing Rules	Configure the Curing Rules.
16	Configure the Account Classification Rules	Configure the Account Classification Rules.
17	Configure the Term Structure Rules	Configure the Term Structure rules for the PD, LGD, and CCF Term Structures and inputs required for each term.

Table 2-2 (Cont.) Quick Tour

18	Configure the Provision Matrix Rules	Configure the Provision Matrix Rules and input values for <i>12 Month</i> and <i>Full Life Provision Rate</i> . This is required if the Provision Matrix or Forward Exposure methods are used for the Expected Credit Loss Calculation .
19	Configure Risk Factor Assignment Rules	Configure Risk Factor Assignment Rules and define the require term structure to be used for each <i>Product</i> and <i>Customer Types</i> .
20	Stage determination & Account classification Process	Configure the Stage Determination and Account Classification Process. The <i>Term structure and Provision Rate Assignment Rule</i> mapping is required if the PD , LGD , CCF or Provision Rates are not provided as a download. It is expected to be derived from the PD , LGD , CCF Term Structures and Provision Rates that are provided via the UI.
21	Configure the Amortization Rules	Configure the Amortization Rules.
22	Configure the ECL and Amortization Process	Configure ECL Amortization Process and define ECL method for each product and customer type.
23	Configure Attribution Analysis Process	Configure Attribution Analysis Process by selecting the ECL process for which attribution analysis is required.
24	Define the Cashflow Edit Rules (Optional)	Define cashflow edit rules for validating and cleansing Instrument Tables.
Data Load		
1	Load Instrument data	Load the instrument data from the text file by using the Data File Administration and Operation And Processes-Scheduler UI.
2	Load the rating data	Load the origination and current external ratings data from the source files by using the Data File Administration and Operation and Processes-Scheduler UI.
3	Load the transaction data	Load the detail transaction data from the source files by using Data File Administration and Operation and Processes-Scheduler UI.
4	Load the Mitigant data	Load the mitigant data from the source files by using the Data File Administration and Operation and Processes-Scheduler UI.
5	Load ECL Component data	Load the ECL component data from the source files by using the Data File Administration and Operation and Processes-Scheduler UI.
6	Load Historical Average Transition Movement (Required for Roll Rate method)	Load the Historical Average Transition Movement from the source files by using Data file Administration and Operation And Process-Scheduler UI.
7	Load Historical Loss Rate (Required for Roll Rate method)	Load the Historical Loss Rate from source files by using Data file Administration and Operation And Process-Scheduler UI.
8	Load Observed Default Rate (Required for Cyclical Factor Model)	Load historical observed default rate on or before the <i>First Execution Date</i> .
9	Load Historical and Forecasted Macro Economic & Sustainability variables	Load Historical Macro Economic variable data at the <i>Country/Region</i> granularity. Load the historical sustainability variable data at the <i>Country/Region</i> or at the <i>Account</i> level granularity.
10	Data Quality Framework (Optional)	Users can create data quality rules and run the same to validate the data loaded in the staging area before promoting it to the processing data layer.

Table 2-2 (Cont.) Quick Tour

11	Data Maintenance Interface (Optional)	Data Maintenance Interface (DMI) helps to design a Data Form in a user-specified format. Further, it allows to perform maintenance activities using the Designed Form.
Risk Assessment Models		
1	Portfolio Rules	Define a portfolio for which the risk assessment model needs to be executed using by navigating to Maintenance , then ECL Rules , and then Portfolio Rules .
2	Cyclical Factors Rules	Create a cyclical factor with the required cyclical factor values for the future time horizon by navigating to Models , then PD Models , and then Cyclical Factors Rules .
3	Cyclical Factors Models	Create the cyclical factor model definition that will predict the cyclical factors for the defined prediction period and the same can be used in the PD model definition.
4	PD Model Process	Define the required PD model process definition navigating to Models , then PD Models , and then PD Model Processes . In the PD Model, users can map either Cyclical Factors Rules or Cyclical Factors Models . Running the Cyclical Factors Models prediction is a prerequisite before mapping it to the PD Model.
5	Configure or update Risk Factor Assignment Rules	Configure or update the existing risk factor assignment rules and define the required PD model processes that need to be used for each product and customer Types.
Process Executions		
1	Cashflow Edit Process (Optional)	Users can define the Cashflow Edit process to run the already defined Cashflow Edit Rules.
2	Execute Cyclical Factors Models	Execute the Cyclical Factors Models.
3	Execute PD Model Process (Optional)	Execute PD Model Process.
4	Execute the Interpolation and Extrapolation Batch	Ensure that Bucket Frequency and Maximum Extrapolation Period in Years are defined in the Preference UI before executing the <i>Interpolation and Extrapolation</i> batch.
5	Execute the Stage Determination and Account Classification Process	Execute the Stage Determination and Account Classification Process from the Operation And Processes > Scheduler > Stage Determination and Account Classification Process UI or the Operation And Processes, Scheduler, Scheduler .
6	Override Stage and Account Clasification(Optional)	Override Stage and Account Classification by using the Override Screen Maker and Override Screen Checker UI.
7	Execute the ECL and Amortization Process	Execute the ECL and Amortization Process.
8	Execute Attribution Analysis Process	Execute attribution analysis process.
Results/Reports		
1	Stage Overview Reports	This report depicts the count and percentage of the count of accounts across various stages.
2	Stage Comparison Reports: Stage Transition Reports	This report provides the count and percentage movement of accounts between two dates.
3	Stage Comparison Reports: Stage Trends Reports	This report displays the count and percentage of accounts across stages and dates.

Table 2-2 (Cont.) Quick Tour

4	Account Classification Overview Reports	This report depicts the count and percentage of the count of accounts across various account classifications.
5	Amortization Reports	This section details the Amortization reports. These reports also cover important measures like Modification Gain/Loss, Deferred Balances, and Amortization Cost.
6	Expected Credit Loss Overview Reports	These reports cover the measures like Allowance, Provision, ECL, EAD, and Impairment gain/Loss. These reports also cover the impact of stage reassignment on ECL.
7	Expected Credit Loss Trends Reports	This report displays the ECL-related measures in percentage and absolute terms across IFRS 9 stages and dates
8	Expected Credit Loss Detailed Reports	This report displays the number of accounts, Allowances, Provisions and ECL in absolute terms across IFRS 9 stages. This report displays the number of accounts, Total carrying Amount, Total undrawn Amount and Exposure At Default in absolute terms across IFRS 9 stages.
9	Attribution Analysis Reports	This report display the Attribution Analysis compares the account level ECL of two dates and computes the contribution of any or all factors to the actual change in ECL. Users can see the result of attribution in the chart and tabular reporting formats.
10	Disclosure Report	The 35H Report is available based on the Attribution Analysis.
11	PD Model Reports	This reports provide the PD output in the below form: • Through the cycle (TTC) PD- Cumulative • Through the cycle (TTC) PD- Conditional • Point In Time (PIT) PD- Conditional (Smoothed) • Point In Time (PIT) PD- Cumulative (Smoothed)

Table 2-2 (Cont.) Quick Tour

12	Cyclical Factors Model Reports	Cyclical Factor Model Reports are in three forms: • In-Application Report: In-application reports are available after executing a model development run. These reports allow users to compare results across different model versions. Users can evaluate key metrics such as Merton R, essential statistical parameters for model training, testing, and the complete data set. Additionally, the reports enable users to assess the significance of independent variables, p-values, and other relevant factors. After conducting these comparisons, users can finalize the preferred model version, which will then be used for predictions. • Model Explain Ability Report: The model explain ability report, available in the HTML format, is generated after the execution of both model development and prediction runs. This report offers a comprehensive overview of the model's inputs, processes, and outputs, providing detailed insights into the underlying data, feature engineering choices, and overall model behavior. • Data Visualization (DV) Report: The DV report is available only after the model prediction run. It presents key statistical parameters such as R-squared, MAE, MSE, and RMSE for model training, model testing, complete data set training, and Out of Time (OOT) testing. This data is valuable for model monitoring. The report also displays predicted values of cyclical factors across different macroeconomic scenarios.



Note:

For technical details, see the Oracle Financial Services IFRS 9 Solution Cloud Service [MOS](#) documents.

Admin Console

Use the Admin Console to perform System Configuration and Identity Management. It is a single point of access to manage identity functions and view administrative features such as Metering, Audit Trail Report and other miscellaneous configuration details in the Accounting Standards for Banking Cloud Service (ASBCS).

To access the Admin Console, the Cloud Administrator must have granted you administrative privileges by mapping your user account to the Identity Administrator and Identity Authorizer user groups. These user groups are seeded in Oracle Identity Cloud Service (IDCS).

For detailed information on the Admin Console, see the [Admin Console Guide](#).

3

Data Administration

This chapter covers the following topics:

- **Data Model Extension:** The OOTB placeholder Columns and Tables can be configured to use as custom Columns, Custom Dimensions, and Custom Management Ledger Tables as suitable to the business requirements. However, these Columns and Table are placeholder items and must be registered before use. The Data Model Extension module enables you to register these Columns and Tables.
- **Data File Specification:** The Data File Specification module helps you to load the data from your systems to the Cloud Services.
- **File Upload and Download Utility:** The File Upload and Download Utility enables you to upload or download files to the Object Store.
- **Data Maintenance Interface:** Data Maintenance Interface (DMI) helps to design a Data Form in a user-specified format. Further, it allows to perform maintenance activities using the Designed Form.
- **Data Quality Framework:** Data Quality Framework consists of a scalable rule-based engine which uses a single-pass integration process to standardize, match, and duplicate information across global data.
- **Cash Flow Edits Process:** The Cash Flow Edits Process allows you to verify the accuracy and check the completeness of your Instrument Table Data.

Data Model Extension

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



Note:

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

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

- Dimensions Registration
- Columns Registration
- Management Ledger Registration
- Pending Registration

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

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

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

The Data Model Extension summary screen displays the following tiles:

- Dimensions
- Columns
- Management Ledger
- Pending Registration

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

Registering Dimensions

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

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

Register a Simple Dimension

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

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

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

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

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

To register a Simple Dimension:

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

Figure 3-1 Simple Dimension summary screen

Physical Column Name %	Name %	Description %	Registration Status %	Dimension ID %	Actions
PLC_01_SIMPLE_DIM_CD	SimpleDimension_01	SimpleDimension_01	Approved	2001	***
PLC_03_SIMPLE_DIM_CD	SimpleDimension_03_E...	SimpleDimension_03_E...	Approved	2003	***
PLC_02_SIMPLE_DIM_CD	SimpleDimension_02	SimpleDimension_02	Approved	2002	***

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

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

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

- Enter the following details:
 - Name** (mandatory): Specify the required logical name of the dimension.
 - Description** (mandatory): Specify the required description of the dimension.
 - Comment**: Specify the required maker/checker comment. Note that special characters *, newline, and double quotes are not allowed.

The **Details** section displays the Physical Column and Data Type information that the dimension uses for user reference. As and when a registration takes place successfully and the physical column is utilized, the next registration process proceeds to take the next-in-numerical-order physical column available for registration.
- Click **Save**. The details are saved as a Draft and displayed on the summary screen. You can change the Name, Description, and Comments later by double clicking the details.
- Click **Submit for Approval** to send the Dimension Details for approval. Or select a Name from the list and click the Actions icon to View, View, Edit, Submit for Approval or Delete the simple dimension.

Or

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

Note:

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

View a Simple Dimension

To view a Simple Dimension, perform the following steps.

To view a Simple Dimension, perform the following steps:

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

Edit a Simple Dimension

To edit a Simple Dimension, perform the following steps:

1. Click the **Actions** Icon against the selected Simple Dimension to expand the Actions Menu.
2. Click **Edit** to display the selected Dimension details in edit mode.
3. Edit the following details:
 - a. **Name**: This is mandatory.
 - b. **Description**: This is mandatory.
 - c. **Comment**: Specify the required maker/checker comment. Note that special characters *, newline, and double quotes are not allowed.
4. Click **Save** to save the details as a draft.
5. Click **Submit for Approval** to send the Dimension Details for approval.

Note:

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

Delete a Simple Dimension

To delete a Simple Dimension, perform the following steps:

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

Note:

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

Register a Key Processing Dimension

Key Processing Dimensions have the following features:

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

Metadata for Key Processing Dimensions is stored in four tables:

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

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

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

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

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

Figure 3-2 Key Processing Dimensions summary screen

Physical Column Name	Name	Description	Registration Status	Dimension ID	Actions
PLC_05_KEY_DIM_ID	Test_KPD_100	Test_KPD_100	Draft		...
PLC_01_KEY_DIM_ID	plc1 kpd	plc 1 kpd	Approved	1001	...
PLC_03_KEY_DIM_ID	plc 3 kpd	plc 3 kpd	Approved	1003	...
PLC_04_KEY_DIM_ID	plc4 kpd	plc 4 kpd	Approved	1004	...
PLC_02_KEY_DIM_ID	plc 2 KPD	plc 2 KPD	Approved	1002	...

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

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

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

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

Figure 3-3 Key Processing Dimension screen

The screenshot shows the 'Key Processing Dimension' screen. At the top right, there are buttons for 'Close', 'Add New Dimension', 'Save', and 'Submit for Approval'. Below the title bar, there is a section titled 'Dimension Details' with a dropdown arrow. Under this section, there is a form with the following fields: 'Name' (required), 'Description' (required), 'Type' (required, dropdown menu), 'Column' (text field with value 'PLC_ID_KEY_DIM_ID'), 'Data Type' (text field with value 'NUMBER(14)'), and 'Comment' (text area). Each of the first three fields has a 'Required' label next to it.

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

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

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

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

 Note:

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

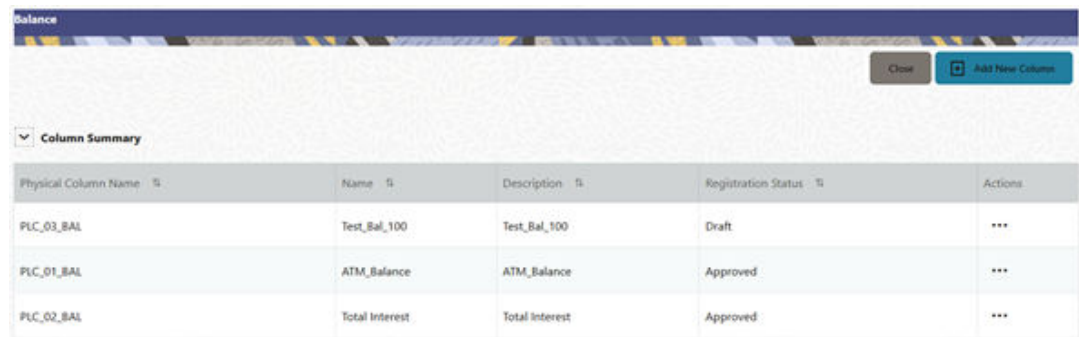
Registering Columns

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

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

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

Figure 3-4 Column Summary screen



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

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

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

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

Figure 3-5 Column Screen

The screenshot shows the 'Column Screen' interface. At the top, there's a 'Balance' header and a 'Close' button. Below that are buttons for 'Add New Column', 'Save', and 'Submit for Approval'. The main content area is divided into two sections: 'Column Summary' and 'Column Details'. The 'Column Details' section is expanded, showing several input fields: 'Name' (with a 'Required' label), 'Description' (with a 'Required' label), 'Property Name' (with a 'Required' label), 'Property Value' (with a 'Required' label), 'Data Type' (with a 'Required' label), and 'Comment'. The 'Property Value' field is a table with a list of property names and their corresponding values.

Property Name	Property Value
OTHER_ADJ_AMOUNT_OUTPUT	
ECONOMIC_VALUE	
BREAK_FUNDING_AMOUNT	
BREAK_FUNDING_MARKET_VAL	
UE	

3. Enter the following details:
 - **Name:** This is mandatory. Specify the required logical name of the column.
 - **Description:** This is a mandatory field. Specify the required description of the column.
 - **Property Name:** This is an optional field used to select a relevant Property from the drop-down list, as applicable to the Column.
 - **Property Value:** Double click to display a drop-down where you can select Yes if it is applicable to the Column.
 - **Comment:** Specify any maker/approver comment. Note that special characters *, newline, and double quotes are not allowed.
4. Click **Save**. The details are saved as a Draft and are displayed on the Summary screen. You can change the Name, Description, and Comments later by double clicking the details.
5. Click **Submit for Approval** to send the column details for approval.
OR

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

Note:

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

Domain Types

The below domain types are available for each of the Cloud Service:

Table 3-1 Domain Types

Profitability and Balance Sheet Management Cloud Service Domain Types	Accounting Standards Cloud Service Domain Types	Climate Change Analytics Cloud Service Domain Types
• DATE • RATE • VOLUME • CHAR • LONG_DESCRIPTION • FLAG • BALANCE	• DATE • RATE • VOLUME • CHAR • LONG_DESCRIPTION • FLAG • BALANCE • SHORT_NAME • SHORT_NUMBER • SHORT_DESCRIPTION • CODE_CURRENCY • PERCENT • LOCALE_CD • TIMESTAMP • NAME • LEAF • OBJECT_ID • SYSTEM_IDENTIFIER	• BALANCE • CHAR • CODE • DATE • FLAG • LEAF • NUMBER • RATE • PERCENT • LONG_DESCRIPTION • SHORT_DESCRIPTION • COUNTERPARTY_BALANCE • COUNTERPARTY_RATE • COUNTERPARTY_PERCENT • COUNTERPARTY_CHAR

Registering a Management Ledger

This is applicable only to Profitability and Balance Sheet Management Cloud Services.

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

To view and edit the Management Ledger:

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

Figure 3-6 Edit Management Ledger Screen

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

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

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

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

Adding a Management Ledger

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

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

Figure 3-7 Add Management Ledger Screen

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

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

 Note:

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

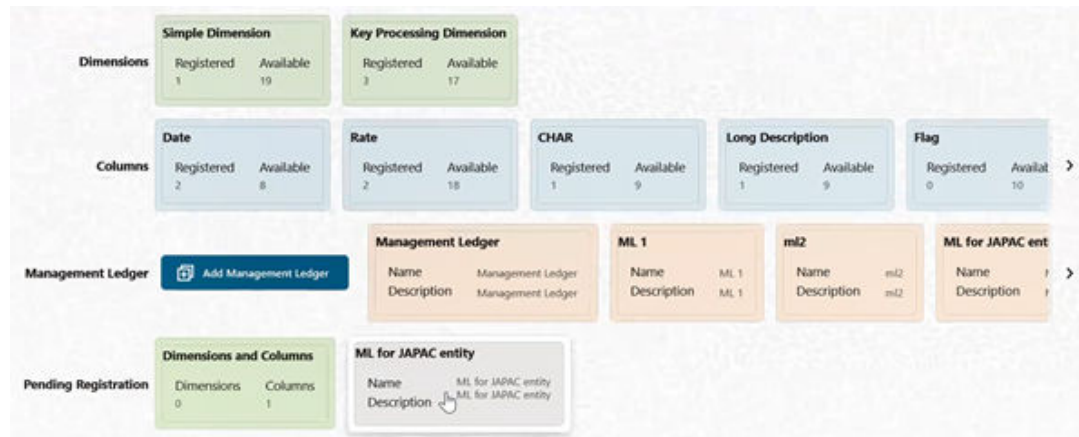
Approving or Rejecting the Registrations

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

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

1. Navigate to the **Data Model Extension** summary screen.

Figure 3-8 Data Model Extension Summary Screen



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

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

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

Note:

After approval, you can use them in the Data File Specifications and start loading the data in the selected placeholder Columns and Tables. The physical columns and tables pre-exist in the Data Model and mapped in loaders, registration just enables them for your use. Hence, apart from registering and approving them no other change is expected to be performed.

Loading External Data

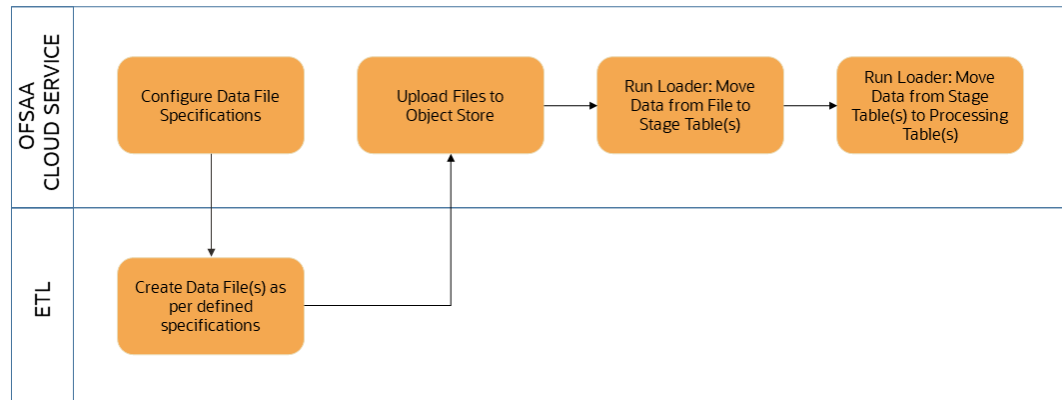
The (OFSAA or Oracle) Cloud Services use following categories of data:

- Account or Instrument

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

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

Figure 3-9 Loading External Data



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

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

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

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

Data File Specification

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

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

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

Figure 3-10 Data File Specification Summary Screen

☐ Data file name	Target File name	Created By	Created Date	Modified By	Modified Date	Action
☐ Flexcube_Corporate_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:23:42	cfeuser1	05-24-2022 06:23:42	...
☐ Flexcube_Home_Loan.csv	STG_ASSET	cfeuser1	05-24-2022 06:24:13			...

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

Searching for a Data File Specification

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

To search the Data File:

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

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

Creating a Data File Specification

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

For the complete list of available columns, see the Data Requirements as follows:

- Profitability and Balance Sheet Management Cloud Service: [Doc ID: 28694909.1](#)
- IFRS 9 Cloud Service: [Doc ID: 2959143.1](#)

To create a new Data File Specification:

1. Navigate to the Data File Specification summary page and click the **Add** icon to open the Data File Specification window.

Figure 3-11 Data File Specification

The screenshot shows the 'Data File Specification' window with the following sections:

- Details:** Contains 'Target Table Name' (with a selection icon and 'Required' label), 'File Name' (with 'Required' label), and 'File Extension' (dropdown menu showing 'CSV').
- Load Properties:** Contains 'Incremental' (toggle switch), 'File contains Header record' (toggle switch), 'Validate Manifest File' (toggle switch), 'Date Format' (dropdown menu with 'Required' label), 'Field Delimiter' (dropdown menu), and 'Aggregation Threshold (%)' (text input field with '0').
- Columns Order:** Contains 'Column Type' (dropdown menu), radio buttons for 'Logical Name' (selected) and 'Physical Name', and a table with columns: Name, Filter, Column Order, and Default Value. The table is currently empty with 'No data to display.' at the bottom.

2. Under the Details section of the screen, enter the following details:
 - a. Click on **Target Table Name** to open a list **Category – Table Names**. The tables are categorized into different groups and are as follows:
 - Transaction Summary
 - Ledger
 - Others
 - Schedule o Instruments

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

correction. In that case, the account is corrected and will be uploaded as part of Data File 2. In this case, Data File 2 is the incremental file.

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

```
{ "file_name": "test.dat", "as_of_date": "2022-03-24", "checksum": "2587cdb6a2b87835c6adfce627671486", "record_count": "10", "rejection_threshold": "0" }
```

 Note:

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

Table 3-2 MANIFEST File Details

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

- d. Select the **Date Format** from the drop-down list to indicate the Date Format used in the Data File.
 - e. Select the **Delimiter** used in the Data File.
 - f. Select the **Rejection Threshold**. You should enter a number that is greater than or equal to zero.
The Rejection Threshold is used to check the allowed percentage of rows that can be rejected in a Data File. As an example, if you define a 10% Rejection Threshold for a Data File that has 1000 rows, then the Data File Upload fails if more than 100 rows are rejected. If the number of rows rejected is less than 100, then Data File Upload succeeds.
4. Under the **Columns Order** section of the screen, enter the following details. If you enter zero, then none of the records from the Data File should fail.

- a. Select the relevant option for Column Type from the following options:
 - **Key Columns:** The Key Columns are the primary keys of the record. A table displays the Key Columns available for the selected Target Table Name. By default, the primary keys will be selected.
 - **Other Columns:** If you select the Other Columns, all remaining columns (key dimensions, simple dimensions, dates, measures, and so on) for the selected Target Table are displayed. Select the applicable columns from the list and click the Move button to display them in the table on the right-hand side.
- b. There are two options to add other columns to the definition as follows:
 - i. Within the selected Column Type, Column Names can be re-ordered by dragging and dropping. The columns are always ordered by their type, that is, Key Columns will appear before the Dimension Columns and Dimension Columns will always appear before the Other Columns.
 - ii. You can download the template available in the left pane, arrange the columns as required in the downloaded file and upload to the right pane.

After saving a definition, if you add a new Dimension Column then it will appear in the order before the remaining Other Columns.

For example, assume that the initial definition is saved with the below columns:

Figure 3-12 Column Preview



Column Preview

☒ Logical Name ☐ Physical Name

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

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

Figure 3-13 Columns Preview



Columns Preview

☒ Logical Name ☐ Physical Name

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

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

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

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

After you create the Data File, you must upload the file into the Object Store using the File Upload and Download option. If you have created a MANIFEST file for the Data File, you must upload the MANIFEST file too. For more information and procedure to upload or download the file, see the [File Upload and Download](#) section.

Creating the Data File

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

- Columns to be included in the Data File must be as per the [Data File Specification](#).
- Name of the Data File can be user defined. The following example gives an idea of what the Data File Name can be:
 - Data File Specification Name is “Asset.dat”
 - The As of Date is 06-July-2022
 - Name of file uploaded to object store can be like “input_20220706_loanasset.dat” or “input_20220706_asset.dat”

The prefix (input_yyyymmdd) is mandatory in actual file name when uploaded to Object Store but is not required while you enter the name in the Task Parameters UI against the Data File Name.

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

See the following sample files for your reference:

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

For more information about the data required by the Profitability and Balance Sheet Management Cloud Services, see the Data Requirements available at the [Doc ID: 2869409.1](#).

Data Loaders

Oracle Financial Services Cloud Service's Data Loaders are used to move the data from one stage to another stage and in turn update the underlying Database Tables.

Oracle Financial Services Cloud Services support the following types of Data Loaders:

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

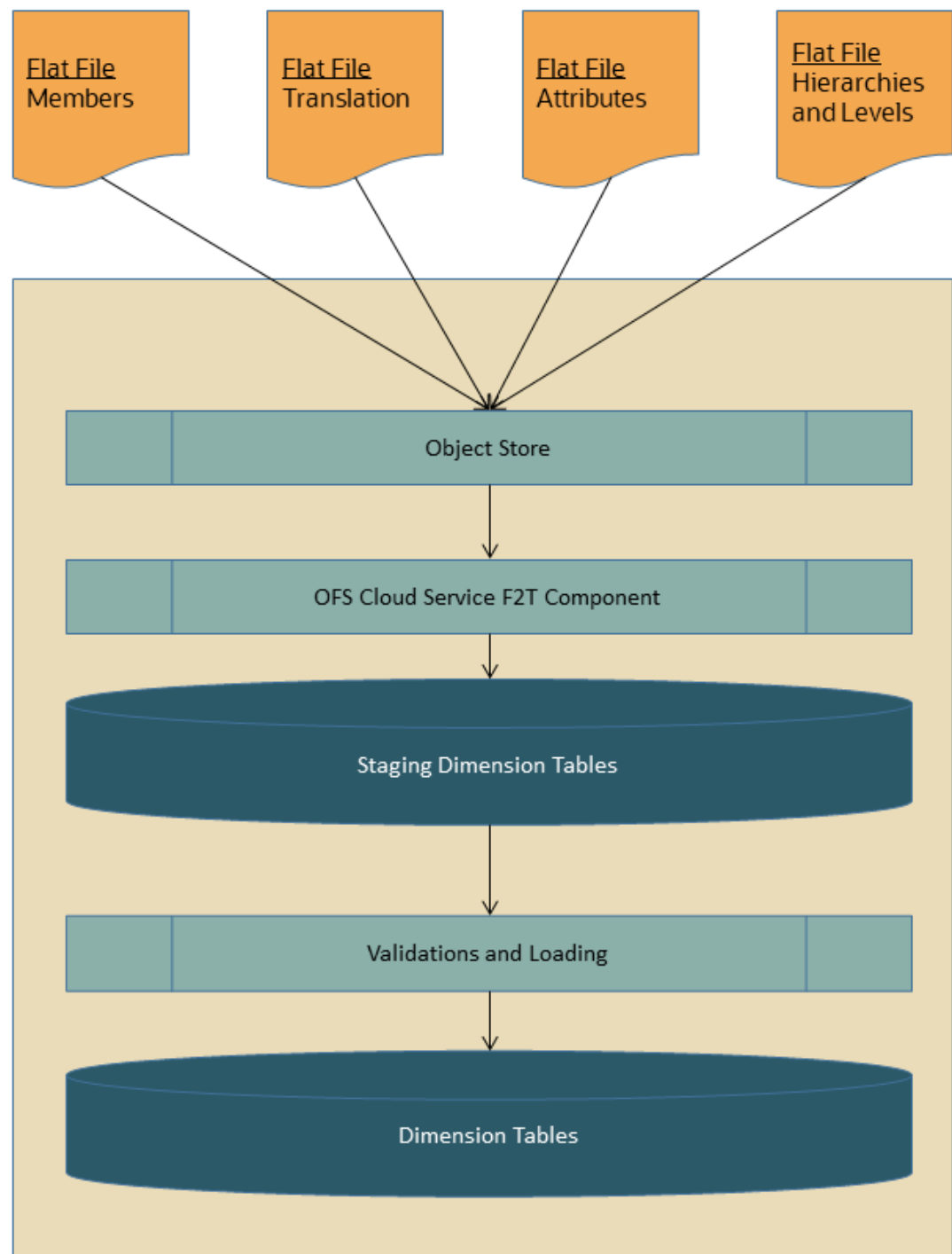
Dimension Data Loader

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

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

The following illustration depicts the process of Dimension Loading.

Figure 3-14 Dimension Loading Process



The Dimension Loader is used to:

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

- Load Hierarchical relationships between Key Dimension Members within the Hierarchies from the Staging area into the Cloud Service.

The following are the features of Dimension Loader:

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

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

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

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

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

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

The following sections list the sample files that you can use to build the Dimension Data. The name of the Data Files must be same as mentioned below and the File Extension must be .DAT. Click on each Data File Name to open a Sample Data File.

For Key Dimensions

The following is a list of sample files that you can use to build the Dimension Data.

The name of the Data Files must be same as mentioned below and the file extension must be .DAT. The value of column HIERARCHY_CODE must not contain space in files STG_DIMENSIONS_HIER_INTF, STG_HIERARCHIES_INTF and STG_HIERARCHY_LEVELS_INTF. Click on each Data File Name to open a Sample Data File.

Stage Dimension Loaders (Task 1):

- [input_stg_dimensions_attr_intf.dat](#)

- [input_stg_dimensions_b_intf.dat](#)
- [input_stg_dimensions_tl_intf.dat](#)
- [input_stg_dimensions_hier_intf.dat](#)

Stage Hierarchy Loaders (Task 2):

- [input_stg_hierarchies_intf.dat](#)
- [input_stg_hierarchy_levels_intf.dat](#)

**Note:**

Any column description that contains a ",", then it should be enclosed within "" (double quotes). For example, Account, Type should be "Account, Type".

To load the Dimensions:

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

Table 3-3 Dimension Loading Process Tasks

Task Code	Task Name	Component	Parameters	Parent Task
1	Stage Dimension Loader	Stage Dimension Loader	All parameters are automatically generated.	
2	Stage Hierarchy Loader	Stage Hierarchy Loader	All parameters are automatically generated.	1

Table 3-3 (Cont.) Dimension Loading Process Tasks

Task Code	Task Name	Component	Parameters	Parent Task
3	Stage DRM Loader	Stage DRM Loader	• Dimension Name: Select the relevant one or more dimensions. • Sync Stage and Dimension: – Yes: The record(s) that is/are already present will be overwritten by the incoming dimension loader. – No: The new records will be merged to the existing records. • Force Member Delete: This is used only when the above flag is Yes. – Yes: This allows you to delete a members even if is referred in hierarchies. – No: No records will be deleted.	2

 Note:

The above Tasks must be executed in the same order.
The **File to Stage** task must precede the **Stage to Processing** task in a batch.
The Stage DRM Loader allows you to select a Dimension.

3. Execute the Batch.

 Note:

This method of loading dimensions will be deprecated in future releases. Recommended approach is in the following section.

Dimension Loader with ZIP File Support

To to upload the Dimension data using a zip file:

1. Create a Folder.
2. Follow the naming convention for the DAT files as follows and save them:
 - DIMENSIONS_ATTRIBUTES
 - DIMENSIONS_BASE
 - DIMENSIONS_HIERARCHIES
 - DIMENSIONS_TRANSLATION
 - HIERARCHIES
 - HIERARCHY_LEVELS
3. Place all the DAT files inside the folder.
4. Zip the folder.
5. Create a Batch.
6. Create a Task with the Component name as **Dimension and Hierarchy Loader**.
7. Enter the Zipped Folder Name along with the extension. For example, DIMENSIONS.ZIP.
8. Execute the Batch.

For detailed instructions on Creating a Batch, Defining a Task, Execute the Task, and Schedule a Batch, see [Scheduler Services](#).

For Simple Dimensions

The following is a list of sample files that you can use to build the Dimension Data.

The name of the Data Files must be same as mentioned below and the File Extension must be .DAT. Click on each Data File Name to open a Sample Data File.

Stage Dimension Loaders (Task 1):

- [input_stg_dimensions_b_intf.dat](#)
- [input_stg_dimensions_tl_intf.dat](#)

 Note:

Any column description that contains a ",", then it should be enclosed within "" (double quotes). For example, Account, Type should be "Account, Type".

To load the Dimensions, perform the following steps:

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

Table 3-4 Dimension Loading Process Tasks

Task Code	Task Name	Component	Parameters	Parent Task
1	Stage Dimension Loader	Stage Dimension Loader	All parameters are automatically generated.	
2	Stage DRM Loader	Stage DRM Loader	• Dimension Name: Select the relevant one or more dimensions. • Sync Stage and Dimension: – Yes: The record(s) that is/are already present will be overwritten by the incoming dimension loader. – No: The new records will be merged to the existing records. • Force Member Delete: This is used only when the above flag is Yes. – Yes: This allows you to delete a members even if is referred in hierarchies. – No: No records will be deleted.	1

 Note:

The above Tasks must be executed in the same order.
The **File to Stage** task must precede the **Stage to Processing** task in a batch.
The Stage DRM Loader allows you to select a Dimension.

3. Execute the Batch.

 Note:

This method of loading dimensions will be deprecated in future releases.
Recommended approach is in the following section.

Dimension Loader with ZIP File Support

To to upload the Dimension data using a zip file:

1. Create a Folder.
2. Follow the naming convention for the DAT files as follows and save them:
 - DIMENSIONS_BASE
 - DIMENSIONS_TRANSLATION
3. Place all the DAT files inside the folder.
4. Zip the folder.
5. Create a Batch.
6. Create a Task with the Component name as **Dimension and Hierarchy Loader**.
7. Enter the Zipped Folder Name along with the extension. For example, DIMENSIONS.ZIP.
8. Execute the Batch.

For detailed instructions on Creating a Batch, Defining a Task, Execute the Task, and Schedule a Batch, see [Scheduler Services](#).

Clear and Back up Dimension Data

This process helps you to clear or delete the existing Dimension Data from the relevant Dimension tables using the Scheduler Services.

Before clearing the data from the Dimension tables, the service creates a back up of the table.

To clear the Dimension Data:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Batch**.
2. Create the Batch and save it.
3. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Task**.
4. Select the created Batch and create a Task with **Clear Dimension Members** as Component.
5. Select the Dimension Name that you want to delete. You can select one or more Dimension Names.

6. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Execute Batch**.
The service first creates a backup of the existing Dimension table and then deletes the Dimension Member entries for the selected Dimensions.

While deleting the data from the tables, there are no validations. The back up files are suffixed with As Of Date and Current Time Stamp.

The following table gives the sample actual and backed up table names:

Table 3-5 Sample Table Names

Dimension Type	Actual Table Name	Backup Table Name
Simple Dimension	FSI_ACCRUAL_BASIS_CD	FSI_ACCRUAL_BASIS_CD_<AS_OF_DATE>_<CURRENTTIMESTAMP>
	FSI_ACCRUAL_BASIS_MLS	FSI_ACCRUAL_BASIS_MLS_<AS_OF_DATE>_<CURRENTTIMESTAMP>
Key Dimension	DIM_COMMON_COA_ATTR	DIM_COMMON_COA_ATTR_<AS_OF_DATE>_<CURRENTTIMESTAMP>
	DIM_COMMON_COA_B	DIM_COMMON_COA_B_<AS_OF_DATE>_<CURRENTTIMESTAMP>
	DIM_COMMON_COA_HIER	DIM_COMMON_COA_HIER_<AS_OF_DATE>_<CURRENTTIMESTAMP>
	DIM_COMMON_COA_TL	DIM_COMMON_COA_TL_<AS_OF_DATE>_<CURRENTTIMESTAMP>

Data Preparation Guidelines

While creating the data files, ensure the following:

- Ensure the data files are in TXT, DAT, or CSV formats.
- Ensure that there are no duplicate records in a data file.
- Data file names are in the prescribed format.
- Use only comma (,) and/or pipeline (|) as delimiters.
- Only double quotes (") are used as Field Enclosures.
- The language code must be as per BCP 47 format. For example, **en-US**.
- In the file for hierarchies, there must be no empty space or special characters for HIERARCHY_CODE.

Instrument and Ledger Data Loaders

After the Data Files are uploaded to the Object Store, the Data Loaders are used to move the data from the files to the standing tables and then to processing tables.

File to Stage

To load the Data to Staging Tables:

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

Table 3-6 Data Loader – File to Stage Data

Task Code	Task Name	Component	Parameters
1 *	Custom Task Name *	Stage Data Loader	Table Name: select the stage table name from the available list. Data File Specification: select the data file specification definition from the available list. Data File Name: free text where file name uploaded to the object store to be provided. This is optional. • When the Data File Name is not provided, Stage Loader fetches the file from object store with the selected Data File Specification name. • If name of file is different from Data File Specification, then put exact file name including extension but excluding the prefix.

 Note:

You can also zip the file and then upload. Ensure the file name in the zip file is inline with the Data File Name in the Task Parameters UI.

* Task Code and Task Name in the above table are for illustration purpose only. You can name them as per your requirements.

Table 3-7 Sample Data File Specification and File Name

Data File Specification	Data File Name in Task Parameters UI	File in Object Store
Asset_Loan.dat	Asset_Loan_1.dat	input_yyyymmdd_Asset_Loan_1.dat
Asset_Loan.dat	Not entered	input_yyyymmdd_Asset_Loan.dat

To upload multiple files using same Data File Specification, add separate tasks for each file within the batch.

3. Execute the Batch for the As-of-Date used in the Data File.
For detailed instructions on Creating a Batch, Defining a Task, Execute the Task, and Schedule a Batch, see [Scheduler Services](#).

Profitability and Balance Sheet Management Cloud Service - Stage to Processing

To load the Data from Staging Tables to Processing:

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

Table 3-8 Data Loader – Stage to Processing Data

Task Code	Task Name	Component	Parameters
1 *	Custom Task Name *	Select the relevant Component depending on the Data that you want to process. The options are: • Instrument Data Loader • Ledger Data Loader • Transaction Summary Loader	Stage Table: select the stage table name from the available list. Data File Specification: select the Data File Specification name from the available list.

Climate Change Analytics Cloud Service - Stage to Processing

CCACS is delivered with out-of-the-box seeded batches to load the data from Staging tables to Processing tables. The user can define custom batches using the following components.

For the list of seeded batches, see the [MOS page 2930308.1](#).

1. Add the following Tasks to the Batch:

Table 3-9 Data Loader – Stage to Processing Data

Task Code	Task Name	Component	Parameters
1 *	Custom Task Name *	Select the relevant Component depending on the Data that you want to process. The options are: CCA Processing Loader	For CCA Processing Loader: select the stage table name and data file name.

Generic Data Loader

The Data Loader service allows the user to load the required data by the Cloud Service to enrich the data. In this service, first you upload the data, and then run a batch to propagate the data into the processing layer.

To load the data:

- From the LHS menu, select **Data Management Tools**, select **Data File Administration**, and then select **File upload and download** to display the File Upload/Download screen. The File Upload/Download screen displays the list of files that are uploaded to the Object Store and displays the following details for each file:
 - File ID:** The unique file id. This is auto generated during upload.
 - Prefix:** The prefix added to the file name.
 - File Name:** The name of the uploaded file.
 - Stripe Name:** The unique identifier for storing the files.
 - Uploaded Date:** The file upload date.
 - Download File:** Click the Download icon to download a copy of the file.
 - Delete:** Click Delete to delete the uploaded file.
- Click **Drag and Drop** to browse and select a file for upload from the local directory. You can also browse to the local directory from the File Explorer and select file and drop it here.

The File Upload/Download service supports upload of TXT, DAT, and CSV format files.

Name of the data file must follow the format as given below:

- A prefix as **input_yyyymmdd** where the date format is related to the As of Date (i.e., 02-May-2023 becomes 20230502).
- As per the data that you want to upload, upload the relevant data file from the table:

Table 3-10 Data File

Data	Data File Name	Object Store File Name
Exchange Rates	stg_exchange_rates.dat	input_20230622_stg_exchange_rates.dat
Behavior Patters	stg_behavior_pattern.dat	input_20230502_stg_behavior_pattern.dat

**Note:**

The file name is case-sensitive.

For more information about File Upload and Download, see [File Upload and Download Utility](#).

The following are the sample files for reference:

- [stg_exchange_rates.dat](#)
- [input_20230701_bploaderdta.csv](#)

3. After selecting the file to upload, click **Upload**.
The UI displays a confirmation message *Upload successful*.
4. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Schedule Batch**.
5. Create a new Batch with a new Task with Generic Data Loader as Component.

Table 3-11 Loader Type

Seeded Batch Component	Loader Type Parameter
Generic Data Loader	Exchange Rates
Generic Data Loader	Behavior Patterns

6. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Execute Batch**.
7. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
8. Select the **Batch** and then select the **MISDATE** and the **Batch name**. There may be multiple executions of the Data Loader batch. Select the latest execution and click **Start Monitor**.
The UI displays the status of the batch.

For more details about Scheduler processes, see the [Scheduler Services](#).

Interest Rates Loader

The Interest Rates Data Loader allows the users to load the Interest Rate Curves that are consumed by the Oracle Financial Services Cloud Services.

Loading the Interest Rate Data consists of three tasks as follows:

- Stage Loader
- Stage Validator
- Processing Loader

To upload the Interest Rate Data file:

1. From the LHS menu, select **Data Management Tools**, select **Data File Administration**, and then select **File upload and download** to display the File Upload/Download screen.
2. Click **Drag and Drop** to browse and select a file for upload from a local directory. You can also browse to the local directory from the File Explorer, select the file, and drop it.
The File Upload/Download service supports uploading CSV format files.

Name of the Data File must follow the format as given below:

- A prefix as **INPUT_YYYYMMDD** where the date format is related to the As of Date (i.e., 02-October-2023 becomes 20231002).
- A suffix as **_FILENAME.CSV**.
- An example of Data File Name could be:
INPUT_20231002_IRC_<DATAFILENAME>.csv.
The order of the columns in the input file must be as follows:
 - INTEREST_RATE_NAME
 - EFFECTIVE_DATE (Date format: MM-DD-YYYY)
 - INTEREST_RATE_TERM
 - INTEREST_RATE_TERM_MULT
 - INTEREST_RATE
 - RATE_DATA_SOURCE_CODE
 - MATURITY_DATE (Date format: MM-DD-YYYY) (Mandatory for Data based Term Point enabled IRC)

For more information about File Upload and Download, see [File Upload and Download Utility](#) section.

3. After selecting the file to upload, click **Upload**.
The UI displays a confirmation message: Upload successful and insert the data into the Stage tables.

At this stage, the **Stage Validation** begins and performs the following checks:

- **Records in the Stage table:** Stage Validation fails when no records are found in the uploaded file and no execution happens after this point.
- **IRC definitions exist:** If there are single IRC definitions in the file, the validator passes and displays a warning message along with the Interest Rate Code for which definitions are missing.
- **Invalid Terms check (Term details not found):** If there are extra terms available in incoming file: A warning message is displayed in the View Logs: Term details not found in the definition: Interest Rate Name: Standard25, Interest RateCd:25, Interest Rate Term: 270 D, 3 M.

Warnings are displayed in the View Log.

If there are multiple rows in the data file and one of the rows does not have the required information or wrong information, the validator leaves that record and proceeds with the remaining records. However, the log displays summary error messages with total number of records, records skipped, records rejected, records read, and records discarded. It does not display which particular records are failed or rejected.

 Note:

The As of Date is used to load the file and the Effective Date in the file can be different. The data is loaded based on the Effective Date and if any value exists for corresponding Effective Date, then the loader will update. This also helps to push the IRC History data from on-prem to SaaS, and in the SaaS environments one tenant to other tenant.

The Interest Rate Attribute must be created on the UI prior to loading the historical rates. Interest Rate loader is to load rates on pre-existing IRC.

4. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Batch**. For more details, see [Define Batch](#).
5. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Task**. For more details, see [Define Tasks](#).
 - a. Task Type: REST
 - b. Component:
 - IRC Data Loader (this component is a combination of Stage Loader, Stage Validator, and Processing Loader.
 - The following deprecated components will not be available in near future.
 - Stage Loader: IRCLoader Stage Loader
 - Stage Validator: IRCLoader Stage Validator
 - Processing Loader: IRCLoader Processing Loader
 - c. Loader Type: By default Interest Rate Loader is selected.

 Note:

For Funds Transfer Pricing Cloud Service, Rate Lock Option Volatility is also available.

- d. File Name: INPUT_20231002_IRC_<DATAFILENAME>.csv
6. Select the seeded batch and click **Edit Parameters**. In the Dynamic Parameters pop-up window, change the date to the relevant As-of-Date, and then save the batch.
7. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Execute Batch**.
8. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**. For more information, see [Monitor Batch](#).
9. Select the **Batch** and then select the **MISDATE** and the **Batch name**. There may be multiple executions of the Exchange Rate Data Loader batch. Select the latest execution and click **Start Monitor**.
The UI displays the Status of the batch.

Rate Lock Option Volatility Loader

This Loader is applicable only for Funds Transfer Pricing Cloud Service.

The Volatility Rates Data Loader allows the users to load the Volatility Rate Curves that are consumed by the Oracle Financial Services Funds Transfer Pricing Cloud Service.

To upload the Interest Rate Data file:

1. From the LHS menu, select **Data Management Tools**, select **Data File Administration**, and then select **File upload and download** to display the File Upload/Download screen.
2. Click **Drag and Drop** to browse and select a file for upload from a local directory. You can also browse to the local directory from the File Explorer, select the file, and drop it. The File Upload/Download service supports uploading CSV format files.

Name of the Data File must follow the format as given below:

- A prefix as INPUT_YYYYMMDD where the date format is related to the As of Date (i.e., 02-October-2023 becomes 20231002).
- A suffix as _FILENAME.CSV.
- An example of Data File Name could be: INPUT_20231002_ FTP_VOLATILITY _<DATAFILENAME>.csv. The order of the columns in the input file must be as follows:
 - RATE_LOCK_VOLITILITY_NAME
 - EFFECTIVE_DATE (Date format: MM-DD-YYYY)
 - CONTRACT_RATE_TERM
 - CONTRACT_RATE_TERM_MULT
 - EXPIRY_RATE_TERM
 - EXPIRY_RATE_TERM_MULT
 - INTEREST_RATE
 - RATE_DATA_SOURCE_CODE

The following illustration is a sample Rate Lock Option Volatility loader data file.

Figure 3-15 Rate Lock Volatility Loader Sample File

RATE_LOCK_VOLITILITY_NAME	EFFECTIVE_DATE	CONTRACT_RATE_TERM	CONTRACT_RATE_TERM_MULT	EXPIRY_RATE_TERM	EXPIRY_RATE_TERM_MULT	INTEREST_RATE	RATE_DATA_SOURCE_CODE
Rate102	08-14-2023	1 Y		1 M		11.1411	TEST_LOADER
Rate102	08-14-2023	1 Y		6 M		16.1422	TEST_LOADER
Rate102	08-14-2023	3 Y		1 M		31.1433	TEST_LOADER
Rate102	08-14-2023	3 Y		6 M		36.1444	TEST_LOADER
Rate102	08-15-2023	1 Y		1 M		11.1555	TEST_LOADER
Rate102	08-15-2023	1 Y		6 M		16.1566	TEST_LOADER
Rate102	08-15-2023	3 Y		1 M		31.1577	TEST_LOADER
Rate102	08-15-2023	3 Y		6 M		36.1588	TEST_LOADER
Rate102	08-16-2023	1 Y		1 M		11.1699	TEST_LOADER
Rate102	08-16-2023	1 Y		6 M		16.161	TEST_LOADER
Rate102	08-16-2023	3 Y		1 M		31.1611	TEST_LOADER
Rate102	08-16-2023	3 Y		6 M		36.1612	TEST_LOADER
Rate102	08-16-2023	2 Y		1 M		31.1611	TEST_LOADER
Rate102	08-16-2023	3 Y		9 M		36.1612	TEST_LOADER
Rate106	08-14-2023	3 Y		1 M		31.143	TEST_LOADER
Rate107	08-14-2023	3 Y		6 M		36.144	TEST_LOADER
Rate107	08-15-2023	1 Y		1 M		11.155	TEST_LOADER
Rate108	08-15-2023	1 Y		6 M		16.156	TEST_LOADER
Rate1001	08-14-2023	1 M		15 D		111.101	TEST_LOADER
Rate1001	08-11-2023	1 M		15 D		112.101	TEST_LOADER
Rate1001	08-14-2023	3 M		25 D		111.101	TEST_LOADER
Rate1001	08-11-2023	5 M		45 D		112.101	TEST_LOADER

For more information about File Upload and Download, see [File Upload and Download Utility](#) section.

3. After selecting the file to upload, click **Upload**. The UI displays a confirmation message: Upload successful and insert the data into the Stage tables.

At this stage, the **Stage Validation** begins and performs the following checks:

- **Records in the Stage table:** Stage Validation fails when no records are found in the uploaded file and no execution happens after this point.

- **Rate Lock Volatility definitions exist:** If there are single Rate Lock Volatility definitions in the file, the validator passes and displays a warning message along with the Rate Lock Volatility Code for which definitions are missing.
- **Invalid Terms check** (Term details not found): If there are extra terms (Contract or Expiry terms) available in incoming file: A warning message is displayed in the View Logs: *Term details not found in the definition : Rate Lock Volatility : Rate101, Code : 101, Details : Effective Date :14-AUG-23, Contract Term :3 M, Expiry Term :25 D Effective Date :11-AUG-23, Contract Term :5 M, Expiry Term :45 D*

Warnings are displayed in the View Log.

If there are multiple rows in the data file and one of the rows does not have the required information or wrong information, the validator leaves that record and proceeds with the remaining records. However, the log displays summary error messages with total number of records, records skipped, records rejected, records read, and records discarded. It does not display which particular records are failed or rejected.

Note:

The As of Date is used to load the file and the Effective Date in the file can be different. The data is loaded based on the Effective Date and if any value exists for corresponding Effective Date, then the loader will update. This also helps to push the Rate Lock Volatility Historical data from on-prem to SaaS. Rate Lock Option Volatility loader is to load rates on pre-existing Rate Lock Option Volatility.

4. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Batch**. For more details, see [Define Batch](#).
5. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Task**. For more details, see [Define Tasks](#).
 - **Task Type:** REST
 - **Component:** IRC Data Loader (this component is a combination of Stage Loader, Stage Validator, and Processing Loader).
 - **Loader Type:** By default Interest Rate Loader is selected. Select Rate Lock Option Volatility option.
 - **File Name:** INPUT_20231002_ FTP_VOLATILITY_<DATAFILENAME>.csv
6. Select the seeded batch and click **Edit Parameters**. In the Dynamic Parameters pop-up window, change the date to the relevant **As-of-Date**, and then save the batch.
7. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Execute Batch**. For more information, see [Execute Batch](#).
8. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**. For more information, see [Monitor Batch](#).
9. Select the **Batch**, **MISDATE** and the **Batch name**. There may be multiple executions of the Exchange Rate Data Loader batch. Select the latest execution and click Start Monitor. The UI displays the Status of the batch.

Generating Holidays for Holiday Calendar using Scheduler

The **Generate Holidays** option on the **Holiday Calendar Definition** page allows you to generate Holiday for a definition at a time. Using the Scheduler Service, you can generate the Holidays for multiple Calendar definitions in bulk.

To execute the batch, navigate to **Operations and Processes**, select **Scheduler**, and then select **Schedule Batch**.

You can also define new batch to execute any Holiday Calendar Generation by the following these steps:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Batch**.
2. Create a new Batch with a new Task with Holiday Generator as Component.
For the selected From to To date parameters, you can generate Holidays for single or multiple calendar definitions.
3. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Execute Batch**.
4. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
5. Select the **Batch** and then select the **MISDATE** and the **Batch name**. There may be multiple executions of the Data Loader batch. Select the latest execution and click **Start Monitor**.

The UI displays the status of the batch.

For more details about Scheduler processes, see the [Scheduler Services](#).

Data File History

The Data File History screen in the OFS Cloud Service allows you to see the data files that are uploaded to the staging tables and their status.

The Data File History summary screen allows you to do the following:

- Search for data files for which the stage data loader batch is already executed.
- Move the data from stage to processing tables.
- Delete the data from the stage or processing tables.
- Scan for invalid members.
- Create invalid members.

To open the Data File History window:

1. Navigate to the **Data Management Tools**, select **Data File Administration**, and then select **Data File History** to display the Data File History summary screen.

Figure 3-16 Data File History summary screen

Batch Run ID	File Name	File Loaded On	Records Loaded	Records Rejected
ML_STG_LOAD_2022-03-01_165570511646_1	ML_File_Spec.dat	06-20-2022	117	0
ML_STG_LOAD_2022-03-01_165580250312_1	ML_File_Spec.dat	06-16-2022	294	0
ML_STG_LOAD_2022-03-01_165580606943_1	ML_File_Spec.dat	06-16-2022	294	0
ML_STG_LOAD_2022-03-01_165581806322_1	ML_File_Spec.dat	06-16-2022	294	0
ML_STG_LOAD_2022-03-01_165570423963_1	ML_File_Spec.dat	06-20-2022	19	0
ML_STAGE_LOAD_2022-03-01_165573079935_1	ML_File_Spec.dat	06-20-2022	19	0

The summary screen displays the following information of the data files:

- **Batch Run ID:** The ID used to run the batch.
- **File Name:** The data file name.
- **File Loaded On:** The date on which the data file is loaded.
- **Records Loaded:** The number of records loaded using the data file.
- **Records Rejected:** The number of records that are rejected from the data file.
- **View Details (Icon):** Select a Batch Run ID and click the details of the data file.

The following illustration is a sample of the data file's details.

Figure 3-17 File Details

Details	
File Name	ML_File_Spec.dat
File Loaded By	pft_gauser
File Loaded On	06-16-2022
Number of Records Loaded	294
Number of Records Rejected	0
File Load Status	Failed
Task ID	ML_STG_LOAD_TASK
Table Name	STG_MANAGEMENT_LEDGER
Stage Load Start Time	06-16-2022 11:50:54
Stage Load End Time	06-16-2022 11:50:55
File Promoted to Processing	Ongoing
Process Load Start Time	
Process Load End Time	
Process Load Initiated By	

- **Promote selected files to Processing (button):** To promote the selected file or files for processing. This triggers the Batch Scheduler and queues the selected file or files for processing.
- **Advanced Actions (button):** There are four options in the Advances Actions. The following table explains the four options and the related information that is required to complete the actions:

Table 3-12 Advanced Actions

As Of Date	Table Name	Data File Specification	File Name(s)	Comments / Notes

Table 3-12 (Cont.) Advanced Actions

Delete Data from Staging	Required	Required	Required	Optional	Required
Delete Data from Processing	Required	Required	Required	Required	Required
Scan for Invalid Members	Required	Required	Required	Optional	Not applicable
Create Invalid Members	Required	Required	Required	Optional	Not applicable

— Click **Delete/Scan/Create** button as applicable.

- * **Delete Data from Staging:** The staging data uploaded from a data file will be deleted.
- * **Delete Data from Processing:** The processing data uploaded from a file will be deleted.
- * **Scan for Invalid Members:** To scan the staging data and identifying the dimension member codes present in the staging table, but not present in the corresponding dimension tables.
- * **Create Invalid Members:** To populate the dimension tables with members identified in the above scan.

- **Help (Button):** Click the Help icon to view the Data File History help.

Scan for Invalid Members and Create Invalid Members is also possible using the Scheduler Services.

Table 3-13 Scan and create Invalid Members

Task Code	Task Name	Component	Parameters
1 *	Scan_Staging_for_Invalid_Members	Scan_Staging_for_Invalid_Members	• Table Name • Data File Specification: select the Data File Specification name from the available list. • Data File Name • Fail When Invalid Members
	Create_Invalid_Members	Create_Invalid_Members	• Table Name • Data File Specification: select the Data File Specification name from the available list. • Data File Name

* Task Code in the above table is for illustration purpose only. You can name them as per your requirements.

Promoting a Data File for Processing

By promoting a Data File for processing, you insert the Data from the staging tables to the processing tables.

To promote a Data File for processing:

1. Click on the **Table Name** icon to display the **Category – Table Names** window. This window displays the Stage Table Names where data is already loaded. The tables are categorized into different groups and are as follows:

- Transaction Summary
- Ledger
- Others
- Schedule
- Instruments

Each of the above categories lists the tables available to which the data is loaded. The list of categories is dependent on the Metadata from the seeded tables that come with the various OFS Cloud Services and may differ from that shown above based on the services you have subscribed.

2. Select the **Table** for which you want to see the File History from the list.
3. Select the relevant **As Of Date** from the drop-down list. This drop-down list displays different As-of-Dates. These dates are based on processed or not processed data loading. For example, if you have already processed some data on a previous date, this drop-down displays that date and displays the current date.
4. Click on **Promoted to Processing** and select the following options:
 - **All:** To display all the Data Files that are specified on the selected As-of-Date.
 - **Yes:** To display only the Data Files that are already specified and processed on the selected As-of-Date.
 - **No:** To display only the Data Files that are specified but are in the queue to be processed on the selected As-of-Date.
5. Click the **Search** icon to display the Data Files information as per the option you selected in the previous step.
6. Select one of more **Batch Run IDs** that you want to promote for processing and click the **Promote selected files to Processing** button. This triggers the Batch Scheduler and schedules the Batch for processing. You can monitor the status using the Monitor Batch screen.

Reloading a Data File

OFS Cloud Services allow you to reload a Data File. For the detailed instructions on Reloading the Data File, see the [Scheduler Service](#) section.



Note:

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

File Upload and Download Utility

The File Upload and Download Utility enables you to upload or download files to the Object Store.

Topics:

- [Roles and Functions](#)
- [File Upload and Download Utility](#)
- [File Upload Automation](#)
- [Generating PAR URL for File Operations](#)
- [Deleting A File](#)

Roles and Functions

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

Role Codes

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

File Upload and Download Utility

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

- [Upload or Download File from Object Store Using Console](#)
- [Uploading/Downloading a File Using Utility](#)
- [Uploading/Downloading a File Using PAR URL](#)

Upload or Download File from Object Store Using Console

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

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

- **File ID** - The unique file ID associated with the file. This is auto-generated during the upload.
- **Prefix** - The prefix is added to the file name.

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

Related Topics

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

Uploading/Downloading a File Using Utility

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

File ID	Prefix	File Name	Stripe Name	Uploaded Date	Download File	Delete
4031		imageuploadutility-04-13-2018-04-04-04-04.jpg	demo	04-13-2018 04:04:04	Download	Delete

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

Uploading/Downloading a File Using PAR URL

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

Figure 3-18 Get PAR URL

File ID	Prefix	File Name	Stripe Name	Uploaded Date	Download File	Delete
No data to display						

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

You can also generate PAR URL using Rest API. For more information refer to, [Calling the API to Generate the URL](#).

4. Copy the PAR URL and note the related File ID.
5. Upload the file content referred with the specific PAR URL into the object store using the Console, CLI, or SDK.

To upload using the CLI, enter the following curl command directly in local Gitbash.

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

You can also use the following command.

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

6. Scan the file referred with the specific File ID (obtained in Step 3) using Console, CLI, or SDK.

Use the following CURL command, to Scan using CLI:

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

To generate a bearer token, refer to [Generate access token](#).

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

File Upload Automation

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

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

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

Step 1: Generate Access Token

Generate the Access Token for your Profitability and Balance Sheet Management Cloud Service by:

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

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

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

Step 2: Generate PAR URL

Generate the PAR URL for your Profitability and Balance Sheet Management Cloud Service by:

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

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

PAR URL Generation Code Snippet

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

PAR URL Variable Assignment Code Snippet

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

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

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

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

Step 3: Upload file to Object Store

Upload the file to the Object Store of your Profitability and Balance Sheet Management Cloud Service by:

1. Submitting a RESTful API Post Request to your Cloud Service as defined in the [Uploading/Downloading a File Using PAR URL](#) topic.

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

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

Step 4: Scan the file to ensure Upload was Successful

Scan the file that was uploaded to the Object Store of your Profitability and Balance Sheet Management Cloud Service by:

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

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

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

Automating the File Upload Process Using File Upload Utility

This section provides the procedure including the script to automate the process of uploading input data files using the File Upload utility.

You can download this script from this MoS Doc ID [2927077.1](#).

Executing the File Upload Automation Script

File Upload Automation script assists you to upload the files seamlessly.

Complete the following procedure to execute the file upload automation script.

Python 3.10 is required to access data elements from the API JSON responses.

1. Extract the **FILEUPLOAD_UTIL.zip** file located in the **\$HOME** directory.
2. Copy the Data Loader input file (text file) to the **\$HOME/FILEUPLOAD_UTIL** directory.
3. Edit the script **Env_setup.sh** file to update the following environment variables.

- **IAM URL** - The Service Instance URL to access your IAM console.

You can get the IAM URL from the following menu:

Oracle Cloud Infrastructure Console > Identity Cloud.

Syntax: <IAM-url>/oauth2/v1/token

- **Encoded** - The <OAuth Client ID>:<OAuth Client Secret> encoded using **base64encode**

To extract and encode the Client ID and Client Secret, refer to the following steps:

- a. Login to **Admin Console**.
- b. Go to **System Configuration** tab, and click **Component Details** tile.
- c. Click **OAUTH Creds** tab to view and copy the **OAUTH Client ID** and **OAUTH Client Secret** details.
- d. Using any **base64encode** utility, encode <OAUTH Client ID>:<OAUTH Client Secret>.

Example (Input OAUTH Client ID and Client Secret):

```
ftptenant-prd_APPID:99140e14-4d30-4e86-85fb-09501fe45fe0
```

Example (Encoded OAUTH Client ID and Client Secret):

```
ZnRwcWExMDEyMzEtchJkX0FQUElEOjBkMmU5MDBiLTlhYjItNGFmOS05OWM0LTEwNTYyMDV  
kYWYwNQ==
```

- **Username** - The Username to access the application.

Note:

The user should have appropriate roles and privileges. For more information about roles and privileges, refer to [Roles and Functions](#).

- **Password** - The password to login to the application.
- **Tenant** - The tenant associated with the application.
- **PBSM Host** - Details of the PBSM host on which the application is hosted.

Sample Env_setup.sh

```
IDCS_URL=https://idcs-xyz123.identity.c9xyz.oc9xyz.com/oauth2/v1/token  
ENCODED=ZnRwbWFydXAxNDIyMzEtchJkX0FQUElEOjk5MTQwZTE0LTRkMzAtNGU4Ni04NWZi  
LTA5NTAxZmU0NWZlMA==  
USERNAME=<user_name>  
PASSWORD=<password>  
TENANT=<tenant-prd>  
PBSMHOST=dc.pbsmcloud.us-xxxxx -1.ocs.oc-test.com
```

4. Execute **PBSMCS_PAR_fileupload.sh** with the following parameters –

- **filename** - The file to be uploaded
- **filesize** - The file size in Bytes

- **Mimetype** - The mimetype of the file.

Format: Filename<space>Filesize<space>mimetype

Example: ./PBSMCS_PAR_fileupload.sh input_20150101_filename_example_8007.txt
334 text/plain

This script generates the access token and the PAR URL. It also uploads the file into the object store and scans the file too.

 Note:

To upload multiple files, you must execute the script for each file, separately.

Once the script is executed successfully, the file is uploaded and added to the list of files in the File Upload/Download page. To access the File Upload/Download page refer to [Upload or Download File from Object Store Using Console](#).

Generating PAR URL for File Operations

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

Generating PAR URL for File Upload

Generate PAR URL for File Upload

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

- [End Point Details](#)
- [Calling the API to Generate the URL](#)

End Point Details

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

Calling the API to Generate the URL

To call the API:

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

Syntax

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-service/v1/file/uploadfile/parURL?prefix=' \
--data-raw '{"fileName": "<remote filename>", "fileSize": <file size>, "mimeType": "<file type>"}' \
```



```
--header 'ofs_remote_user: <USERID>' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: <TENANT-ID>' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer <TOKEN>'
```

Example (truncated)

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-
service/v1/file/uploadfile/parURL?prefix=' \
--data-raw '{"fileName": "idcs_log1.txt", "fileSize": 100, "mimeType":
"text/plain"}' \
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer
eyJ4NXQjUzI1NiI6Ildia25rQUR5TUZIM1hlQ1pKcTY1c3o4VzdEVWhKa0s4MldYY0hadk4wWkk
iLCJ4
...
...
sQXj0iohsSIEmQXVwjjhhqnc4eJNnmCjx8Tb7TXjx1MIQLeOIcfrIj5gkzoMKX94_7USxHv-6Lh
Bzw'
```

Request JSON Parameters

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

Table 3-14 Request JSON Parameters

Name	Type	Required	Description
fileName	STRING	Yes	The name of the file to be uploaded. The following are the conditions for to enter in this field: - Must start with an Alphanumeric Character - Allowed characters are alphabets, numbers, and special characters - hyphen(-), dot(.), and underscore(_) - Length of characters must not be greater than 255 characters
fileSize	INTEGER	Yes	The size of the file (in Bytes) to be uploaded. The size of the file should be greater than 1 Byte and should be less than 10 TB. It is recommended to use multipart upload for uploading files of size more than 100 MB. For more information about uploading large objects and multipart uploads, refer to Working with Pre-Authenticated Requests .
mimeType	STRING	Yes	The mime type to be uploaded. The following mime types are allowed: - Text/CSV - Text/plain - DAT

Request JSON Sample

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

Response JSON Parameters

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

Table 3-15 POST JSON Response

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

Response JSON Sample

```
{
  "payload": {
    "uploadURL": "https://objectstorage.us-phoenix-1.oraclecloud.com/p/
bdSI-hzigiAoUU0lyEKnuk0YGs05L172gt_woZAgqNFYmUFQeexV3BDfT097mhBI/n/
oraclegbudevcorp/b/fsgbu_pbsm_cndevcorp_ftpqa101231-prd_default/o/default/
2023-01-31/jfr/f9ce031f-4a42-471d-b4da-d0577f3eca15",
    "createUser": "user1",
    "stripeName": "default",
    "fileId": 5025,
    "createDate": "2023-01-31T09:14:16",
    "token": "",
    "status": "success"
  }
}
```

Viewing List of Uploaded Files

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

Syntax

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

Example

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

Response

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

Generating PAR URL For File Download

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

- [Calling the API to Generate PAR URL for File Download Using File Name](#)
- [Calling the API to Generate PAR URL for File Download Using File ID](#)

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

To call the API:

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

Syntax

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

Example

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

Response

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

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

To call the API, follow these steps:

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

Syntax

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

Example

```
curl -k --location --request GET 'https://<hostname>/<TENANT-ID>/utils-service/v1/file/downloadfile/9916' \
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
--header 'ofs_workspace_id: WS001' \
--header "Authorization: Bearer ${TOKEN}"
```

Response

```
{ "payload": { "downloadURL": "https://objectstorage.us-phoenix-1.oraclecloud.com/p/gTxxzhqLEea4Or2TRkBqTqHxt_JogVF9G_0wtN8NYy_op0Zk4lvKGDxxeXGhLq7/n/oraclegbudevcorp/b/fsgbu_pbsm_cndevcorp_aaitestdev1001-prd_default/o/default/2023-01-31/fae/2d63d2fe-2090-4fb7-a4c8-9940d22987db?httpResponseContentDisposition=ATTACHMENT%3B%20filename%3DIdcs_log3.txt" } }
```

Deleting A File

Delete (DELETE) API helps to delete an uploaded file.

For more information about the Delete API, refer to [Endpoint Details](#).

You can delete a file using one of the following methods:

- [Using File ID](#)
- [Using File Name](#)
- [Delete multiple Files using File Names](#)
- [Delete files using a prefix value](#)

Endpoint Details

Delete (DELETE) API helps to delete an uploaded file.

- **HTTP Method** - Delete
- **Header Parameters**
 - **ofs_remote_user** - User ID of the user mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to WS001 and same should be passed each time.
 - **Content-type** - The media type of the body of the request. The content-type details are required for POST and PUT requests, and the supported types vary with each endpoint. The value is application/json.
 - **Authorization** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to [Generate the Access Token](#).

Deleting a File Using the File ID

Delete a file from the object store, using the file ID as the reference.

To delete a file:

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

Syntax

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-  
service/v1/file/deletefile/{fileId}'  
--header 'ofs_remote_user: <USERID>' \  
--header 'locale: en-US' \  
--header 'ofs_tenant_id: <TENANT-ID>' \  
--header 'ofs_workspace_id: WS001' \  
--header 'content-type: application/json' \  
--header 'Authorization: Bearer <TOKEN>'
```

Example (truncated)

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-  
service/v1/file/deletefile/5'  
--header 'ofs_remote_user: cneadmin' \  
--header 'locale: en-US' \  
--header 'ofs_tenant_id: aaitestdev1001-prd' \  

```

```
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer
eyJ4NXQjUzI1NiI6Ildia25rQUR5TUZIMlhlQ1pKcTY1c3o4VzdEVWhKa0s4MldYY0hadk4wWkk
iLCJ4
...
...
sQXj0iohsSIEmQXVwvjhhqnc4eJNnmCjx8Tb7TXjx1MIQLeOIcfrIj5gkzoMKX94_7USxHv-6Lh
Bzw'
```

Response

```
{"payload": "File Deleted Successfully"}
```

Deleting a File Using Filename

Delete a file from the object store, using the file name as the reference.

To delete a file:

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

Syntax

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-
service/v1/file/deletefilename/{filename}?prefix=<foldername>'
--header 'ofs_remote_user: <USERID>' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: <TENANT-ID>' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer <TOKEN>'
```

Note:

Prefix is an optional parameter.

Example (truncated)

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-
service/v1/file/deletefilename/test.txt?prefix=folder1'
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer
eyJ4NXQjUzI1NiI6Ildia25rQUR5TUZIMlhlQ1pKcTY1c3o4VzdEVWhKa0s4MldYY0hadk4wWkk
iLCJ4
...
...
```

```
sQXj0iohsSIEmQXVwwjhhqnc4eJNnmCjx8Tb7TXjx1MIQLeOIcfrIj5gkzoMKX94_7USxHv-6Lh
Bzw'
```

Response

```
{"payload":"File Deleted Successfully"}
```

Deleting Multiple Files Using Filenames

Delete multiple files from the object store, using the file names as the reference.

To delete multiple files:

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

Syntax

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-
service/v1/file/deletefilenames/{filenames}
--data-raw '[filenames]' \
--header 'ofs_remote_user: <USERID>' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: <TENANT-ID>' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer <TOKEN>'
```

Example (truncated)

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-
service/v1/file/deletefilenames
--data-raw '["filename1.txt","filename2.txt","filename3.txt"]' \
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer
eyJ4NXQjUzI1NiI6Ildia25rQUR5TUZIMlhlQ1pKcTY1c3o4VzdEVWhKa0s4MldYY0hadk4wWkk
iLCJ4
...
...
sQXj0iohsSIEmQXVwwjhhqnc4eJNnmCjx8Tb7TXjx1MIQLeOIcfrIj5gkzoMKX94_7USxHv-6Lh
Bzw'
```

Response

```
{"payload":"File Deleted Successfully"}
```

Delete files using a prefix value

Delete files from the object store, using a prefix value as the reference.

To delete files using a prefix value:

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

Syntax

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-
service/v1/file/deleteprefix/<prefix_value>
--header 'ofs_remote_user: <USERID>' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: <TENANT-ID>' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer <TOKEN>'
```

Example (truncated)

```
curl -k --location --request POST 'https://<hostname>/<TENANT-ID>/utils-
service/v1/file/deleteprefix/prefixvalue1
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
--header 'ofs_workspace_id: WS001' \
--header 'content-type: application/json' \
--header 'Authorization: Bearer
eyJ4NXQjUzI1NiI6Ildia25rQUR5TUZIM1hlQ1pKcTY1c3o4VzdEVWhKa0s4MldYY0hadk4wWkk
iLCJ4
...
...
sQXj0iohsSIEmQXVwwjhhqnc4eJNnmCjx8Tb7TXjx1MIQLeOIcfrIj5gkzoMKX94_7USxHv-6Lh
Bzw'
```

Response

```
{"payload": "Files Deleted Successfully"}
```

Data Maintenance Interface

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

Topics:

- [Data Maintenance Interface](#)
- [Data View](#)

Data Maintenance Interface

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

Designer View

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

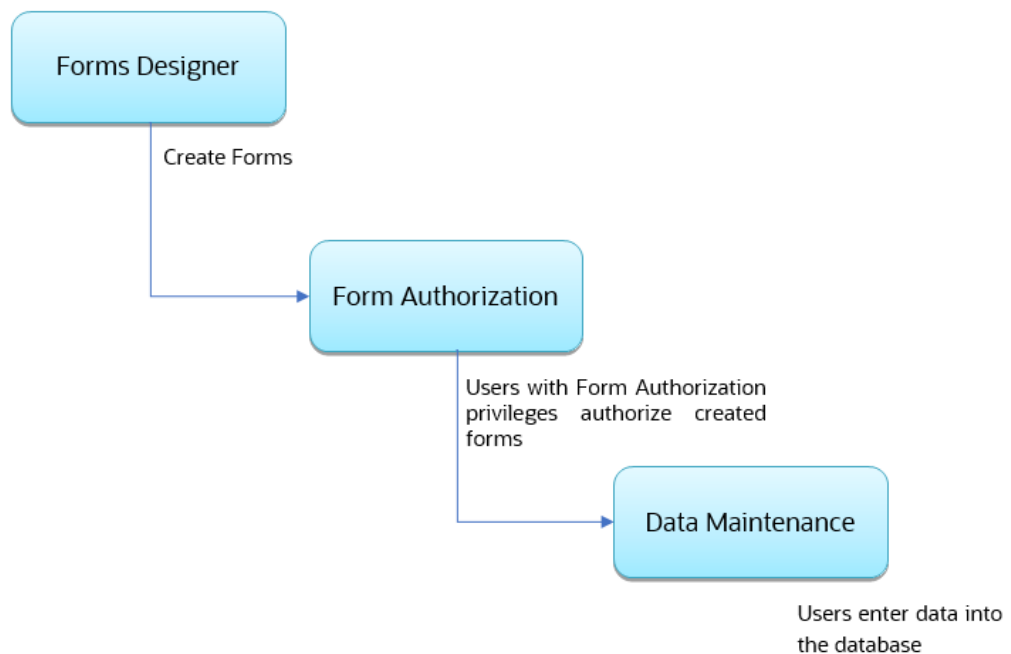
Data View

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

Process of DMI Windows

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

Figure 3-19 DMI Process Flowchart



User Role Mapping and Access Rights

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

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

Table 3-16 User Role Mapping for Data Maintenance Interface

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

**Note:**

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

Access the Data Maintenance Interface

To access the Data Maintenance Interface (DMI):

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

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

**Note:**

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

3. Click **Data Management Tools** and click **Data Management Interface**, to access DMI menu.
4. Click one of the following menu items to access the respective pages:
 - [Designer View](#) - Access form definition summary and also create various types of form definitions.
 - [Data View](#)

Form Designer Summary Page

Access the list of Form definitions already created in the environment.

The Form Definitions Summary lists all the existing Form Definitions in the application.

You can create forms from the Form Designer View. The forms in the application are created with details configured for data maintenance and require authorization for use after creation. You can also edit, view, and delete forms, from the Forms Definitions Summary, based on the assigned roles and privileges. For more information, refer [User Role Mapping and Access Rights](#).

To view the Form Definitions Summary:

1. Click **Data Maintenance Interface**.
2. Click **Designer View** in the DMI navigation list to access the **Form Definitions Summary**.

The following details are included the Summary page.

- **Name** - The unique name of the Form Definition
- **Description** - The Form Definition description.
- **Type** - The form definition type:
 - **Excel Upload** – creates form based on uploaded Excel Sheet.

 Note:

Make sure the Excel files are saved in the Microsoft Office 2016 Standard version. Excel files saved in Office 365 version cause compatibility issues.

- **Data Exporter** – creates form based on an entity table.
- **Data Entry** – creates the form based on the entities, attributes and rulesets provided by the user.
- **Status** - The processing status of the form definition. The various processing statuses are:
 - **Draft** – when the form is under development and is yet to be submitted for approval.
 - **Pending Approval** – When the approval is pending.
 - **Approved** – When the form definition is approved.
- **Created By** - The Username of the logged in User who created the form.
- **Actions** - View, copy or edit or amend a form definition.
- **Info** - The form definition details including:
 - Created Date
 - Last Modified By
 - Authorizer
 - Authorizer comments

Use **Search** to quickly access the required forms or check the Forms tile to view a list of existing forms. To search for a specific Form Definition, input search terms in the **Form Name** or **Description** field, or use a combination of both, and click **Search**. Click **Cancel** to clear the search criteria and view all form records.

Sort the Form Definition based on **Name**, **Description**, and **Created By** fields. You can also sort the page in ascending/descending order.

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

Creating New Forms in Form Designer

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

To add a form :

1. In the **DMI Summary** page, click **Add**, to access the **Create Forms Definition** page.
2. Click **Start** and select the form definition type:
 - **Excel Upload** – creates form based on uploaded Excel sheet.
 - **Data Exporter** – creates form based on an entity table.
 - **Data Entry** – creates the form based on the entities, attributes and rulesets provided by the user.

For more information about creating various form definitions:

- [Creating Forms Using Excel Upload](#)
- [Creating forms using Data Exporter](#)
- [Creating Forms Using Data Entry](#)

Creating Forms Using Excel Upload

Excel Upload Definition Type creates new forms based on the uploaded Excel file that has column names as per the table in the application data source.

While creating forms using Excel Upload, you can also modify the mapping for the attributes. After the new form is approved from the Forms Definition Summary Page, users with the necessary role and permission can perform Data Entry for the records updated by the Excel file.



Note:

Make sure the Excel files are saved in the Microsoft Office 2016 Standard version. Excel files saved in Office 365 version cause compatibility issues.

To create forms using Excel Upload:

1. Select Excel Upload in the Create Form Definition page and add the following details.
 - **Code** - The unique Form code. This value is auto-generated.
 - **Name** - The Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
 - **Description** - The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed
 - **Auto Map Entities** - Enable this option to to auto map the attributes in the Excel file with the attributes in the Entity Table.

At any point of time during the form creation, click **Save** to add the new form to the Form Summary. The form is saved in the **Draft** format. Click **Actions** and select **Edit**, to update the form definition.

2. Click **Continue** to access the **File Upload** tab.
3. In the **File Upload** tab, enter the following details:
 - **Template Name** and **Description** for the excel template.
 - Click **Drag and Drop** and select the excel file to update the required table.



Note:

You can also drag and drop the required excel file to the **Drag and Drop** area.

The excel file is uploaded and a confirmation box is displayed, and the **Mapped Entities Tab** is displayed.

4. After entering the **File Upload** information, click **Continue** to access the **Mapped Entities** tab.

5. In the **Mapped Entities** tab, select the **Primary Entity** name of the table that needs to be modified.

If the table has Child tables, the Child tables are displayed in the **Mapped Entities** tab. You can select the required child tables for which data should be input during data entry.
6. Select **Enable Bulk Authorization** if you want to enable the bulk authorization of all the records when you edit an approved Form from Data Entry.
7. Enable **Auto Approve** if you want the Forms Definition to be automatically approved from Forms Definition Summary page and is enabled for data entry.

Alternatively, you can also get the form approved manually. For manual approval, disable the auto approve option.

A user with the required role can then perform the data entry without the need for an approval process. For more information, see [User Role Mapping and Access Rights](#).
8. Click **Continue**, to proceed with the **Mapped Attributes** tab.
9. Click the drop-down arrow corresponding to the table in the Entity Name.

The source attributes from the table and the mapped attributes from the Excel file are displayed. If the selected table has Child tables, the Child tables that you select from the Mapped Entities tab are also displayed in the **Mapped Attributes** tab. You can configure the attributes for the master table and its child tables here.
10. Click the required mapping in the **Override Mapping Column** and enter the required attribute name if you want to change the default mapping.
11. To activate data security, Select the check box next to the **Attribute Name**, in the **Mapped Attributes** Column.
12. Click the **Lock** icon adjacent to a specific attribute name, to configure a specific data security condition.

The condition that you configure is applicable when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry Page. For more information, refer [Enabling Data Security for New Form Definitions](#).
13. Click **Continue** to proceed to the **User Security** tab.
14. Select the user or user groups who can perform data entry to maintain the data in the table.

For more information about adding user security, refer to [Enabling User Security for New Form Definitions](#).
15. Click **Data Preview** to preview the form data.
16. Click **Save** if you want to save the forms definition in draft format. The form is added to the **Form Summary** with **Draft** status.
17. Click **Submit** if you want to submit the Forms Definition for manual/auto approval.

For more information refer to [Approving and Rejecting New Form Definitions](#). After approval/auto approval, the form is added to the **Form Definition Summary**.

Creating Forms Using Data Entry Option

Use the Data Entry option to create a Forms Definition and select the table and attributes that you want to modify.

You can enter the values for the table records in the approved Forms Definition from Data Entry, after the new Forms Definition is approved from the Forms Definition Summary Page.

To create a forms definition:

1. Select **Data Entry** in Create New Form Definition page and enter the required details.
2. Enter the following details:
 - **Code** - Unique form code. This value is auto-generated.
 - **Name** - The form name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
 - **Description** - The form definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
 - **Threshold** - The maximum number edits allowed per row.
3. Click **Continue** to access the **Entities** tab.
4. Select the table that you want to modify in the **Primary Entity** Field.

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

 Note:

You can select up to four child tables only for each master table.

5. Select **Enable Bulk Authorization**, if you want to enable the bulk authorization of records while performing data entry.
6. Enable **Auto Approve** if you want the Forms Definition to be automatically approved from Forms Definition Summary page and is enabled for data entry.

Alternatively, you can also get the form approved manually. For manual approval, disable the auto approve option.

A user with the required role can then perform the data entry without the need for an approval process. For more information, see [User Role Mapping and Access Rights](#).
7. Click **Continue**, to proceed with the **Attributes** tab.
8. Select the **Filter** from the existing filters in the drop-down list or click **Filter** to [apply a new attribute filter](#) to the form definition.
9. Click the drop-down arrow corresponding to the table in the **Entity Name**, to view the attributes in the entity table.

If your table has child tables, the Child tables that you select from the Entities tab also gets displayed in the Attributes tab.
10. Select the attributes for which you want to modify the data from the **Attribute Name**.
11. Select **Participate in Data Security** if you want to configure a specific condition.
12. Click the **Lock** icon adjacent to a specific attribute name, to configure a specific data security condition.

The configured condition is applicable when a user enters data in table for each approved Forms Definition from the Data Entry Page. For more information, refer [Enabling Data Security for New Form Definitions](#).
13. Enter **Select Columns** to search and select specific columns.
14. Click **Continue** to access the **Ruleset** tab.

The list of attributes associated with the parent and the Child tables are displayed in the Ruleset tab.

15. Assign permission to add data during data entry for those attributes that are set to Editable/Read-only mode. You cannot modify the key fields set in read-only mode.
16. Click Continue and proceed to the **User Security** tab.
17. Click **User Security** to select the user or user groups who can perform data entry to maintain the data in the table.

For more information about adding user security, refer to [Enabling User Security for New Form Definitions](#).

18. Click **Submit** if you want to submit the Forms Definition for manual/auto approval.

For more information refer to [Approving and Rejecting New Form Definitions](#). After approval/auto approval, the form is added to the **Form Definition Summary**.

Creating Forms Using Data Exporter

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

While creating forms using Data exporter, you can also include filters and dynamic placeholders to view and export specific set of data.

To create forms using Data Exporter:

1. Select **Data Exporter** in Create New Form Definition page.
2. Enter the following details:
 - **Source** - Select the input source as table/view.
 - **Code** - Unique Form Code. This is auto-generated.
 - **Name** - The name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
 - **Description** - The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
 - **Row Limit Per File** - The number of maximum table rows allowed per file. The minimum number of rows is 100 and the maximum limit is 100000.

For example, if you have 500 rows in a table and the row limit is set to 100, then the table is split into 5 files.

3. Click **Continue** to proceed with the **Entity and Attributes Details** tab.
4. Select the table that you want to modify in the **Primary Entity** Field.

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

Note:

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

5. Select the **Filter** from the existing filters in the drop-down list or click **Filter** to [apply a new attribute filter](#) to the form definition.
6. Click **Select columns** to view only specific columns.

7. Enable **Auto Approve** if you want the Forms Definition to be automatically approved from Forms Definition Summary page and is enabled for data entry.

Alternatively, you can also get the form approved manually. For manual approval, disable the auto approve option.

A user with the required role can then perform the data entry without the need for an approval process. For more information, see [User Role Mapping and Access Rights](#).

8. Click the drop-down arrow corresponding to the table in the **Entity Name**, to view the source attributes from the table and the mapped attributes from the Excel file.

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

9. Click **Continue** to access the **Data Preview** tab preview the form data.
10. Click **Submit** if you want to submit the Forms Definition for manual/auto approval.

For more information refer to [Approving and Rejecting New Form Definitions](#). After approval/auto approval, the form is added to the **Form Definition Summary**.

Creating Data Filters for New Form Definitions

Filters help to view and export specific set of data from data exporter forms.

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

1. Click **Filter**, to access the **Filter Condition** pane.
2. Enter/ select the following details.
 - **Column** - Select the column from the applying the filter.
 - **Condition** - Select one of the following filter conditions, to filter the column data.
 - **Comparison** - '=', '!=', '< >', '>', '<', '>=, <=','IN', 'NOT IN', 'ANY', 'BETWEEN', 'LIKE', 'IS NULL', and 'IS NOT NULL'.
 - **Type** - Select one of the following filter types.
 - **Static** - Select Static, to enter a value and execute the filter using only one value. You cannot change the value at a later point.
 - **Dynamic** - Select Dynamic, to change the filter value when needed. After setting the filter type to Dynamic, select the **Placeholder** and set one of the default seeded values, to process the filter.

Note:

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

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

Note:

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

3. Click **Add** to add a new Filter expression. You can add multiple Filter expressions to the same filter.
The filter is added to the list of filters.
Mouse-over the place holder filter, to view more details about the filter.
4. Click **Validate** to verify the filter condition is valid.
A confirmation message is displayed, if the filter is valid.
5. Click **Apply**, to add the new filter to the filter condition.
6. Click **Reset**, to clear all the filter expressions and create a new expression.
7. Click **Delete** to delete an existing filter expression.
8. Click **Edit** to modify a filter expression. After editing the expression, click **Validate**, to verify if the condition is valid.
9. Click **Apply** to add the filter expression to the form definition.

Enabling Data Security for New Form Definitions

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

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

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

1. Select the check box next to the **Attribute Name**, in the **Mapped Attributes** Column.



Note:

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

2. Click the **Lock** icon, to access the **Data Security** page.
3. Select the **Reference Table** based on which you want to build your condition from the Reference Table drop-down list.
4. Select the required column, condition, and filter value, and build the required expression.
5. Click **Apply**, to enable the data security for the new form definitions.

Enabling User Security for New Form Definitions

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

To enable user security:

- Select the required user group or user to assign permissions from the **Map Users / Groups**, to complete the user security configuration.

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

Table 3-17 Permissions in the Map Users / Groups Pane

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

 Note:

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

Approving and Rejecting New Form Definitions

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

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

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

Approving a Forms Definition

You can approve new forms based on the assigned roles.

To check about the assigned roles, refer [User Role Mapping and Access Rights](#).

To approve a Forms Definition:

1. In the Designer View, click **Menu** in the Forms Definition that is in **Pending Approval** status, and then click **Approve**, to access the **Configure page**.
2. Click **Approve** and then enter the required description for the approval in the Comments field.
3. Click **Submit**, to approve the form definition and view it in the **Data Entry page**.

Once the form is approved, you can [edit/amend the approved forms](#) if you have **DMIDGNAMND** role assigned.

Rejecting a Forms Definition

You can reject new forms based on the assigned roles.

To check about the assigned roles, refer [User Role Mapping and Access Rights](#).

To reject a Forms Definition:

1. In the Designer View, click **Menu** in the Forms Definition that is in **Pending Approval** status, and then click **Reject**, to access the **Configure** page.
2. Click **Reject** and then enter the required description for the approval in the Comments field.
3. Click **Submit**.

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

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

Managing Form Definitions

You can view, edit, copy, and delete the existing Form Definitions from the Form Definition Summary Page, based on the assigned roles.

To check about the assigned roles, refer to [User Role Mapping and Access Rights](#).

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

Table 3-18 Action Details

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

Viewing Form Definitions

You can view the form definition details using the View option, based on the assigned roles.

To check about the assigned roles, refer [User Role Mapping and Access Rights](#).

You can view the details of an individual Form Definition:

1. Highlight the Form Definition and click **Action**.
2. Click **View**, to access the **Form Definition** page with the selected Form definition details.

Editing/Amending Form Definitions

You can modify both approved and rejected form definitions, based on the assigned roles.

To check about the assigned roles, refer [User Role Mapping and Access Rights](#). Forms that are already approved cannot be edited. You can amend the approved forms if you have **DMIDGNAMND** role assigned.



Note:

You cannot amend an approved form, if the form has any pending data entry activity.

To edit individual form details:

1. Highlight the form definition and click the **Action**.
2. Click **Edit**, to access the **Form Definition** page with the details.

To modify an approved form, click **Amend**.

3. Update the required information and click **Submit**.

You can also **auto-approve** the form during submission.

The modified form definition is updated in the form design summary.

Copying Form Definitions

You can copy individual Definition Details, to recreate another new Definition, if you have assigned roles.

To check about the assigned roles, refer [User Role Mapping and Access Rights](#).

To copy an existing form definition:

1. Highlight the Definition and click **Action**.
2. Click **Copy**, to view the **Form Definition Page**.
3. Edit the unique information and modify details like entity table, attribute filters, user and data security details and click **Save**, to create a new form definition.

Re-Uploading Form Definitions

You can attach a new Excel Sheet to an Excel upload form definition and re-upload the form definition, based on the assigned roles.

To check about the assigned roles, refer to [User Role Mapping and Access Rights](#).

To re-upload an Excel upload form definition:

1. Highlight the Definition and click **Action**.
2. Click **Re-Upload**, to access the **Form Definition page**.
3. In the **File Upload** tab, click **Remove**, to delete the existing Excel sheet.
4. Click **Drag and Drop** and select the new Excel sheet to be uploaded.

Deleting Form Definitions

You can delete the form definitions that are in Draft status, based on the assigned roles.

To check about the assigned roles, refer [User Role Mapping and Access Rights](#).

To delete a form definition :

1. Highlight the form definition and click the **Action**
2. click **Delete**.

The selected form definition is deleted after confirmation.

Data View

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

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

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

Viewing Data Entry

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

Complete the following steps to view Data entry:

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

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

 Note:

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

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

The **Navigation List** is displayed.

4. Click **Data View**.

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

Adding Data to Table – Forms Created Using Data Entry

If the Forms Definition is created using the designer option, the user with the necessary role can add or delete records and also update the values for the table records as per the configuration in the Forms Definition.

These records are then submitted for approval to another user with the necessary role. For more information, refer to [User Role Mapping and Access Rights](#).

To update/delete data in the table records:

1. Highlight the record and click the **Action**.
2. Click **Edit**, to update the records.

The records are classified based on the following Status:

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

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

Related Topics

- [Adding/Editing a Draft Record](#)
You can add a record to the table or edit a record set in the Draft status. The added record is set to Draft status.
- [Deleting Draft Records](#)

Adding/Editing a Draft Record

You can add a record to the table or edit a record set in the Draft status. The added record is set to Draft status.

To add or edit a draft record:

1. Select **Draft** from the **Status** drop-down list, to view all the entity records set to **Draft** status.
2. To add a new record, click **Add**.

A new entry set to **Draft** status is added to Entity details page. This entry is empty. Edit the record to add the attribute details.

3. To edit a record, click **Edit** next to the record.
4. In the **Edit** page, enter the values in the attributes that you want to modify and click **OK**.
You can repeat the steps for all the records for which the data needs to be entered.
5. To modify all the entries in a specific column, click **Bulk Update**.
 - a. Select the column to modify the data.
 - b. Enter the new value and click **OK**.
6. Click the modified record in draft status, and then click **Submit for Approval** or **Submit with Auto Approval**.

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

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

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

 Note:

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

Deleting Draft Records

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

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

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

2. Select a record and click **Delete**.

To delete multiple records, select all the required records and click **Delete**.

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

Editing Approved Records

The approved records are set to Ready Status.

When you edit the record, it is moved to Draft Status.

1. Select **Ready** from the Status drop-down list, to view the entity records with Ready status are displayed.
2. To edit a record, click **Edit** next to the record.
3. Update the values for the attributes that you want to modify and click **OK**.

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

4. To modify all the entries in a specific column, click **Bulk Update**.
 - a. Select the column to modify the data.
 - b. Enter the new value and click **OK**.
5. Click the modified record in draft status, and then click **Submit for Approval** or **Submit with Auto Approval**.

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

To bulk submit all the records, select the check-box on the header. All the records are selected. Then, click **Submit**.

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

 Note:

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

Forms Created Using Excel Upload

When a Forms Definition created using an Excel file is approved from Forms Definition Summary Page, the table records in the selected table are updated using the data in the Excel file.

The records are set to **Awaiting** status for the approved forms definition in data entry page. You can verify the records modified by the Excel file records and approve them if you are assigned to the necessary role. If the records modified by the Excel file are incorrect, you can reject the records. The status of the rejected records is changed to Draft. A user with the necessary role can edit the records in draft status and submit them for approval again.

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

Approving and Rejecting Records

A user with the necessary role can approve or reject the edited records.

For more information related to user roles, refer to [User Role Mapping and Access Rights](#).

Approving Draft Records

You can approve the records set to Draft status.

To approve records :

1. In the **Data Entry** page, select **Draft** from the **Status** drop-down list.

The entity records with Draft status are displayed.

2. Select the required record.

You can select multiple records, to perform bulk Approval. Bulk Approval is enabled only if Bulk Authorization is activated during Form Creation.

3. Enter the required comment in the Comments Field, and then click **Approve**.

The record is approved successfully with the values from the Excel file.

Rejecting a Record

You can reject an record set to Awaiting status.

To reject a record :

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

The Entity Details page is displayed. The records that are waiting for the final approval are displayed here.

Select the required record, and then click **Reject**.

You can select multiple records to perform bulk rejection. Bulk rejection is enabled only if Bulk Authorization is activated during Form Creation.

3. Enter the required comment in the Comments field, and then click **Reject**.

The record is rejected, and the status is changed to **Draft**. A user with the necessary role can now edit the record.

Editing a Rejected Record

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

To edit a record:

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

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

Note:

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

Exporting Data Exporter Form Definitions

After creating data exporter form definitions, you can export or download the reports to CSV or JSON format.

To export or download a report:

- In the Data View summary, click **Action** next to the data exporter form to be exported and select one of the following options

- [Custom Export](#) - export the report only for selected attributes. You can also create and apply filter conditions to specific columns to generate customized reports.
- [Export](#) - export the report for all the attributes. A complete report including all the records and attributes is generated.

Custom Exporting Data Exporter Forms

When you create forms using Data Exporter option, you can export the report to .CSV format.

To custom export data exporter forms :

1. Click **Action** next to the form to be exported and click **Custom Export**, to view the **Data Exporter - Configure** page.
2. Click **Start**, to access the **Entity and Attributes** tab.
3. Select the attributes to be added to the custom report.
4. Click **Continue**, to view the **Filters** tab.
5. Set the filter conditions for specific columns and click Continue to view the **Data Preview** tab.
6. Select the report file format (.CSV or JSON) and also the number of records per page.
7. View the list of records to validate the data.
8. Click **Export** to export the report in CSV format.
The Data export request will be submitted.
9. Proceed to the Data entry page to view the [status of the form and download the report](#).

Exporting Data Exporter Forms

Forms created using Data Export option can be exported as a .CSV file or a JSON file.

Export Data Exporter forms:

1. Click **Action** next to the form to be exported and click **Export**.
The Data export request is submitted.
2. Proceed to the Data entry page to view the status of the form and download the report.

Viewing Data Exporter Report Status

View the status of all the reports generated based on a Data Exporter form.

To view report status:

- Click **Action** next to the form to be exported and click **Status/Download**, to view the status of all the reports generated for a specific data exporter form.

Downloading Reports

You can download the reports exported as .CSV file.

To download a report :

1. Click **Data View**.
The **Data Entry page** is displayed.

2. Click **Action** next to the form to be exported and click **Status/Download**, to access the **Data exporter Report Status** page.
3. Click the **Download** icon adjacent to a report to download the report to the local directory in .CSV format.

You can also copy the link to download the report. Enter the link in a Web browser, to access the report.

Adding DMI Tasks in Scheduler Service

The Data maintenance Interface is now integrated with the Scheduler services and you can use Scheduler services, to process form definitions created using Data Exporter.

By using Scheduler Services for DMI automation, you can automate and streamline the data processing for form definitions created using the Data Exporter options.

Ensure that you have the assigned roles to perform automated data exporter form download.

To schedule a DMI task for form definitions created using Data Exporter:

1. Log in to your **Cloud services** and access **Scheduler Services**.
2. Select **Define Batch**, to view the list of existing batches.
3. In the Define Batch page, click **Create**, to access the **Create Batch** page.
4. Enter the generic Batch information (**Code, Batch Name, Batch Description, and Batch Parameters**), and click **Save** to create a new Batch and proceed with creating a new Task.
5. In the **Left Navigation list**, select **Define Tasks**, to access the list of existing tasks.
6. In the Define Task page, select the **DMI Batch** to associate the new task
7. Click **Add**, to **Create a new task**.
8. Enter the generic Task details (**Task Code, Task Name and Task Description**), and the following DMI specific details:
 - **Component** - Select Data Maintenance Interface, to assign this as a DMI specific task.
 - **Report Template** - Select **Pre-defined template**, to access the following DMI specific template parameters.
 - **App ID** - The unique application ID of the application utilizing the Scheduler services for task automation.
 - **Module Name** - Select the module required for the DMI tasks, from the list of Seeded modules.
 - **Report Code** - Select the Report code to be added to the generated report.
 - **Report Type** - Set the report type to CSV/JSON.
 - **Available Place holders** - (Optional). Select the placeholder required for the report.
 - **Placeholder Values** - (Optional). Enter the placeholder values to be included in the generated report.
 - **Additional Filters** - (Optional). Enter the filters to be applied to the data, to generate reports with specific information.
 - **Report Name Prefix** - (Optional). Enter the unique prefix to be added to the report name for easy identification of the report.
 - **Report Name** - (Optional). Provide a name for the report to be generated.

9. Click **Save** to create a new DMI specific task, and proceed with scheduling the batch.
10. In the Left Navigation list, select **Schedule Batch**, to access the list of batches.
11. Select the DMI batch for execution and click **Execute**.
12. During batch execution, click **Monitor Batch**, to check the progress.
13. Select the **Batch** and the **Run ID** to access the required task, and click **Start Monitor** to view the task execution progress in the **Visualizations** tab.
14. Click **List View** to view the task execution details of all the executed tasks.
After the task execution is complete, the generated report is saved to the object store.
15. Click **View Execution Logs** corresponding to the DMI task, to view the execution log information.
16. Scroll to the required **Batch Run Id** and **copy the log details to clipboard**.
17. Paste the copied log information to a notepad, to get the [PAR URL for downloading the report](#).
18. Paste the PAR URL in a Web browser, to download the report to the local directory.

Data Quality Framework

Data Quality Framework consists of a scalable rule-based engine which uses a single-pass integration process to standardize, match, and duplicate information across global data.

Topics:

- [Introduction to Data Quality Framework](#)
- [Roles and Functions for Managing DQ Framework](#)
- [Data Quality Rules](#)
- [Data Quality Groups](#)
- [Adding a DQ Check Task](#)
- [Execution Summary](#)

Introduction to Data Quality Framework

Data Quality Framework consists of a scalable rule-based engine which uses a single-pass integration process to standardize, match, and duplicate information across global data.

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

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

Roles and Functions for Managing DQ Framework

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

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

Functions	Action
DQ_SUMM - Data Quality Rule Summary	Access DQ Rule Summary
DQ_GP_EXEC - Execute Data Quality Group	Execute DQ Rule Group
DQ_GP_ADD - Add Data Quality Group	Add DQ group
DQ_ADD - Add Data Quality Rule	Add DQ Rule
DQ_EDT - Data Quality Edit Rule	Edit DQ Rule
DQ_VIW - Data Quality View Rule	View DQ Rule
DQ_GP_VIW - Data Quality View Rule Group	View DQ Rule Group
DQ_GP_DEL - Data Quality Delete Rule Group	Delete DQ Rule Group
DQ_DEL - Data Quality Delete Rule	Delete DQ Rule
DQ_AUTH - Data Quality Authorisation Rule	Authorize DQ Rule
DQ_GP_EDT - Data Quality Edit Rule Group	Edit DQ Rule Group
DQ_GP_ADD - Data Quality Add Rule Group	Add DQ Rule Group
DQAUTOAUTH - Data Quality Auto Authorize	Save the Rule/Group in authorized state
DQ_PURGE - DQ Rule Purge	Purge the DQ Rule
DQ_GP_SUMM - Data Quality Group Summary	Access DQ Group Summary
DQ_GP_EXEC - Data Quality Execute Rule Group	Execute DQ Rule
DQ_GP_PURGE - DQ Group Purge	Purge the DQ Group
DQ_GP_AUTH - DQ Group Authorisation	Authorize DQ Group
DQ_EXE_SUMMARY - DQ Execution Summary	Access DQ Execution Summary
DQ_EXE_ASSIGN - DQ Execution Assignment	Enable Data correction in the execution summary

Data Quality Rules

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

Data Check Definitions

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

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

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

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

Single Column Data Check Definitions

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

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

- **Range Check** - Range Check identifies if the base column data falls outside a specified range of Minimum and Maximum value. Range check can be enabled only if the base column has date or number value.
 - Select the check-box to enable the Range check.
 - Set the warning level to **Severity**, **Warning** or **Information**.
 - If the selected Base Column is of **Date** type, select Minimum and Maximum date range. If the selected base column is of **Number** type, enter the Range value. You can specify numeric, decimal, and negative values for number Data type.
 - Check the Inclusive check-box, to include the specified date/value during the data check.
 - Click **Edit** to add specific filter expressions, as additional conditions. For more information, refer to [Creating Expressions](#).
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Null Value Check** -Null Value Check checks identifies if there is any null value in the selected column.
 - Select the check-box to enable the Null Value check.
 - Set the warning level to **Severity**, **Warning** or **Information**.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list.

To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.

- **Blank Value Check** -Null Value Check checks identifies if there is any entry in the selected column is blank.
 - Select the check-box to enable the Blank Value check.
 - Set the warning level to **Severity**, **Warning** or **Information**.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list.
To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Data Length Check** -Data Length Check checks for the length of the base column data using a minimum and maximum value and identifies if it falls outside the specified range.
 - Select the check-box to enable the Data Length check.
 - Set the warning level to **Severity**, **Warning** or **Information**.
 - Enter the Minimum and maximum values for validation.
 - Click **Edit** to add specific filter expressions, as additional conditions.
- **Duplicate Check** - Duplicate Check can be used when a combination of column is unique and identifies all the duplicate data of the base table in terms of the columns selected for the duplicate check.
 - Select the check-box to enable the Duplicate Check.
 - Set the warning level to **Severity**, **Warning** or **Information**.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Click **Edit** and select the required column to be added to the **Column List**, for duplicate check validation.
- **Custom Check/Business Check**- Custom Check/Business Check is a valid SQL query to identify the data with the query specified as the Custom/business SQL. You can define the SQL, but the Select clause of the query has to follow the order as specified in the template of the Custom Check panel.

Sample Template : "SELECT 'N_COUNTRY_SKEY' PKNAMES, N_COUNTRY_SKEY PK1, null PK2, null PK3, null PK4, null PK5, null PK6, null PK7, null PK8, V_COUNTRY_DESC ERRORCOL FROM DIM_COUNTRY WHERE N_COUNTRY_SKEY >50"

 - Select the check-box to enable the Custom Check.
 - Set the warning level to **Severity**, **Warning** or **Information**.
 - Enter the SQL Query to perform the custom check.

- **Column Reference/Specific Value Check** - Column Reference / Specific Value Check compares the base column data with another column of the base table or with a specified direct value using the list of pre-defined operators.
 - Select the check-box to enable the Column Reference check.
 - Set the warning level to **Severity**, **Warning** or **Information**. Column reference check can be enabled only if the base column has date or number value.
 - Select the **Mathematical Operator** from the drop-down list.
 - Select the **Filter Type** as one of the following:
 - * Select **Specific Value** and specify the Value. You can specify numeric, decimal, and negative values for number Data type.
 - * Select **Another Column** and select Column Name from the drop-down list.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **List of Value** - List of Value Check verifies the values where a dimension / master table is not present. This check identifies if the base column data is not matching with any value or code specified in a list of values.
 - Select the check-box to enable the List of Value check.
 - Set the warning level to **Severity**, **Warning** or **Information**.
 - Select **Input Values** and specify the List of Values. You can specify numeric or String values.
 - Click **Edit** to add specific filter expressions, as additional conditions.
 - Select the **Assignment** option. The Assignment option is enabled only if Warning/Information is selected as the Warning level.
 - * Select the Assignment Type from the drop-down list. For more information, see [Assignment Types](#).
 - * Specify the **Assignment Value**.
 - * Select the **Message Severity** as 1 or 2 from the drop-down list.
 - * Select a pre-defined Message to be displayed from the drop-down list. To enter a specific message other than the listed pre-defined messages, select **Custom Message**, in the Message drop-box and enter the required **Custom Message**.
- **Referential Integrity Check** - Referential Integrity Check identifies all base column data which has not been referenced by the selected column of the referenced table. Here, the reference table and columns are user specified.
 - Select the check-box to enable the Referential Integrity Check.

- Set the warning level to **Severity**, **Warning** or **Information**. Column reference check can be enabled only if the base column has date or number value.
- Select the **Table** (Referential Integrity Check dimension table) from the drop-down list. The base table selected under the Select grid is excluded from the drop-down list.
- Select the Column from the drop-down list. The list displays those columns that have the same Data Type as that of the Base Column selected under Select grid.
- Select the **Is Composite Key** check-box if the base column is part of a Composite Key.
- Click **Edit** to add specific filter expressions, as additional conditions.

Multi Column Data Check Definitions

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

Assignment Types

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

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

Creating Expressions

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

The expression builder includes the following sections:

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

- **Other** - The Other operators are 'PRIOR', '(+)', '(' and ')'.

To specify the join condition:

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

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

5. Click **OK**.

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

DQ Rules Summary

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

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

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

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

- **Name** - The Unique Identifier Name of the Data Quality Rule.
- **Status** - The Approval status of the specific rule.
 - **Approval** - The Rule is approved and ready for execution. The approved rules can be grouped further for execution.
 - **Pending for Approval** - The rule requires approval and can be executed only after approval.
 - **Draft** - A defined rule is set to **Draft** status until it is submitted for approval by the creator.
 - **Rejected** - The rejected rules are sent back to the creator with the Approver comments.
- **Folder** - The folder associated with the rule.
- **Version** - The current active version of the rule.
When a new definition is created, it will be saved as version 1 and once it is authorized, it will be in Active status. After you modify any DQ Rule and save, it will be saved with version as highest available version +1. For example, if you modify a DQ Rule of version 2 and the highest version available is 4, after you save the definition, its version becomes 5. Only the latest version will be in Active status.
- **Check Type** - Select one of the following check types:
 - **Single Column Check** - define conditions based on individual checks on a single column. For more information, refer to [Single Column Data Check Definitions](#).
 - **Multi Column Check** - define conditions based on multiple columns of a single base table. These checks are not pre-defined and can be specified (user-defined) as required. For more information, refer to [Multi Column Data Check Definitions](#).

- **Base Table** - The base table within the environment, associated with the rule.
- **Created By** - The login name of the user who created the rule.
- **Created Date** - The rule creation date.
- **Action** - Click **Action**, to view, approve, reject edit, or delete the rule.

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

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

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

Creating DQ Rule

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

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

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

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

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

 Note:

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

- Click **Continue** to proceed with the Entity Selection page.
- 3. Enter/select the following entities:
 - **Table** - Select the basic table on which the rule is executed.
 - If the rule is a single-column rule, select the **Base Column**, to be included for the rule execution. Base column will not be present for Multi-Column rule. You can search table and columns based on their physical and logical names, using the toggle button.
 - Select the **Identifier Columns** required to execute the rule. The default primary key fields present in the selected entity table are automatically added as identifier columns. They cannot be deleted.
 - To select multiple columns, click **Edit**.
 - Select the required columns from the **Available Members** pane and move them to **Selected Members** pane.
 - Click **Edit**, to include the filter expression. The **Specify Expression** page is displayed. For more information refer to [Creating Expressions](#).
 - Select the entities to be included in the filter expression and click **OK**.
- 4. Click **Continue**, to proceed with the **Data Check Definitions**.
- 5. Select the required Data Check Definitions, to validate the data.

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

- 6. Click **Submit**, to submit the new DQ Rule for approval.

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

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

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

 Note:

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

Editing DQ Rules

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

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

To edit the required Data Quality Rule definition details:

1. Click **Action** adjacent to the DQ Rule to be modified.
2. Click **Edit**, to modify the DQ Rule.
3. Click **Start** to edit the **DQ Rule Details**.
4. Modify the description and click **Continue** to proceed with editing the Entity Selection details.

You can also click **Save as Draft**, to save the changes and proceed with Submission later.

5. Modify the Filter expression and click **Continue** to proceed to **Data Check Definitions** page.
6. Add/remove the data checks required during rule execution and click **Submit**, to submit the modified rule for approval.

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

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

 Note:

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

Approving/Rejecting a Data Quality Rule

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

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

 Note:

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

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

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

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

Bulk Approving/Rejecting Data Quality Rules

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

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



Note:

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



Note:

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

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

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

Deleting a Data Quality Rule

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

To delete a DQ Rule:

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

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

 Note:

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

Purging a Data Quality Rule

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

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

To delete a DQ Rule:

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

The selected rule is deleted permanently after confirmation.

Data Quality Groups

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

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

DQ Groups Summary

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

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

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

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

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

When a new definition is created, it will be saved as version 1 and once it is authorized, it will be in Active status. After you modify any DQ Group and save, it will be saved with version as highest available version +1. For example, if you modify a DQ Group of version 2 and the highest version available is 4, after you save the definition, its version becomes 5. Only the latest version will be in **Active** status.
- **Folder** - The folder associated with the group.

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

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

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

Creating DQ Groups

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

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

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

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

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

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

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

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

4. Select the Rules to be added to the new DQ Group.

5. Click **Submit**, to submit the new DQ Group for approval.

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

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

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

 Note:

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

Editing DQ Groups

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

To edit the required Data Quality Group Definition details:

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

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

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

 Note:

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

Approving/Rejecting a Data Quality Group

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

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

 Note:

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

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

1. Click **Action** adjacent to the DQ Groups to be approved/rejected.
2. Click **Preview**, to view the DQ Groups.

All the details pertaining to the selected rule is displayed.

3. Click **Approve/Reject**, after reviewing the groups.
4. Enter valid reason for approval or rejection.
5. Click **Approve/Reject**.
6. The DQ Group is approved/rejected and a confirmation message is displayed.

Bulk Approving/Rejecting Data Quality Groups

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

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



Note:

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



Note:

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

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

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

Executing DQ Groups

You can execute an approved Data quality group.

To execute a data quality group:

1. Click **Action** adjacent to the DQ Group to be modified.

2. Click **Execute** to access the **Execute Group** page.
3. Enter/select the following details:
 - The **Threshold** percentage for the maximum number of errors permissible during the DQ check. By default, this is set to 100.
 - Set **Fail If Threshold Breaches** to **TRUE**, to abort the job and not include the failure records in the DQ table, when the DQ check errors are more than the set threshold value.
If the **Fail If Threshold Breaches** is set to **FALSE**, the DQ group will be executed and the failure records will be inserted in the DQ Result tables.
 - Set **Stop Insert on Threshold Breach** to **Y**, to stop the execution when there is a threshold breach. The execution will be stopped even if **Fail If Threshold Breaches** is set to **False**.
 - Enter the **Additional Parameters** required for the Run DQ Rule filtering criteria for execution in the pattern: Key#Data type#Value; Key#Data type#Value; and so on.
 - Set the **Rule Execution Connection** value. By default this is set to **Data**.
 - Set the **Result Store Connection** value. By default, this is set to **Data**.
 - Select **As of Date** to execute to DQ group.
4. After providing the required details, click **Run**, to begin the execution.

Deleting a Data Quality Group

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

To delete a DQ Group:

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

The selected group is deleted after confirmation.

Note:

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

Purging a Data Quality Group

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

To delete a DQ Group:

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

The selected Group is deleted permanently after confirmation.

Adding a DQ Check Task

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

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

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

1. Click **Define Tasks** from the Header panel.
2. Select the **Batch**, to add new task.
3. Click **Add**, to add a new DQ task in the **Create Task** page.
 - Complete all the generic details in the Create Task Page. For more information refer to [Adding a Task](#).
 - Select the **Task Type** as DQ Task.
 - Select the **Group** to perform the DQ check.
 - Enter the **Threshold** percentage for the maximum number of errors permissible during the DQ check. By default this value is set to 100.
 - Set **Fail If Threshold Breaches** to **TRUE**, to abort the job and not include the failure records in the DQ table, when the DQ check errors are more than the set threshold value.

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

Execution Summary

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

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

To view the Execution Summary Details:

- Click **Execution Summary**, to access the consolidated Execution Summary.
The Execution Summary page with the following details is displayed.
 - **Batch ID** - The Unique Identifier Name of the particular Batch in which the DQ group is added for Data Quality Check.
 - **Process Instance ID** - The unique identifier of the execution process.
 - **DQ Group** - The DQ group associated with the Batch for Data Quality check.
 - **DQ Group Desc** - The DQ group description.

- **FICMIS Date** - FICMIS Date refers to the date with which the data for the execution would be filtered. In case the specified MIS date is not present in the target table, execution completes with the message **No Records found**.
- **Execution Date** - The last execution date of the Batch.
- **Scanned Records** - The total number of records scanned for Data Quality check.
- **Erroneous Records** - The total number of records that failed the Data Quality check.
- **Execution Status** - The DQ Batch execution status.
- **Assignment Status** - The current Assignment status of the DQ Batch.
- **Action** - Click **Action**, to view the Run Details of the DQ Batch.

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

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

Viewing Run Details

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

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

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

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

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

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

Note:

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

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

Cash Flow Edits Process

This module discusses the procedure for validating and cleansing your Instrument Table Data before you process it to generate Cash Flow-based results. The Cash Flow Edits Process allows you to verify the accuracy and check the completeness of your Instrument Table Data.

Cash Flow Edits Process Summary

This page is the gateway to all Cash Flow Edits Process Rules and related functionality. You can navigate to other pages relating to Cash Flow Edits Process Rules from this point.

Figure 3-20 Cash Flow Edits Process Summary Page

Process Id	Name	Folder	Access Type	Status	Last Run By	Last Run Date	Action
1702280199628	NewI23	ALMSEG	Read/Write	INCOMPLETE			...

Search Cash Flow Edits Process

Prerequisites: Predefined Cash Flow Edits Process

To search for a Cash Flow Edits Process, follow these steps:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Cash Flow Edits Process Rules that meet the search criteria.

Or

The other method to search a Cash Flow Edits Process is using the **Field Search** option. The Field Search is an inline wildcard UI search that allows you to enter value partially or fully and the rows that match the entered string in any of its column is fetched in the Summary table. Enter the **Id**, **Name**, **Group**, **Condition Column**, or **Is User Defined** of the Cash Flow Edits Process and click **Search**.

- **Add:** Click **Add** icon at the top right of the summary page to build a new Cash Flow Edits Process.
- **Multiple Delete:** Select one or more Rules in the table and then click the **Multiple Delete** icon at the top right of the Summary Page to delete more than one Rule at the same time.

The Cash Flow Edits Process summary table displays the following columns:

- **Process ID:** Displays the Process ID of Cash Flow Process .
- **Name:** Displays the Cash Flow Process's short name.
- **Folder:** Displays the Folder name where the Cash Flow Process is saved.
- **Access Type:** Displays the access type of Rule. It can be Read-Only or Read/Write.
- **Last Run By:** Displays the Name of the user who last runs the Cash Flow Process .
- **Last Run Date:** Displays the Date and Time when Cash Flow Process was run last.
- **Status:** Displays the status of the Cash Flow Process.

- **Action:** Displays the following list of actions that can be performed on the selected Cash Flow Edits Process.
 - **View/Edit:** Based on the user privilege assigned, you can either only view or edit existing Cash Flow Edits Processes. To edit a rule, you must have Read/Write privilege.
 - **Save As:** You can reuse a Cash Flow Edits Process rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - **Delete:** You can delete Cash Flow Edits Process rules that are no longer required. Click on the **Action** icon against the Cash Flow Edits Process Name and select **Delete** to delete an existing Cash Flow Edits Process. A process cannot be retrieved after deletion.

 Note:

A Cash Flow Edits Process cannot be retrieved after deletion. Restrictions on deleting Cash Flow Edits Process Rules are:

- * You cannot delete Cash Flow Edits Process Rules if you have only Read privileges. Only users with Read/Write privileges and Cash Flow Edits Process owners can delete Cash Flow Edits Process Rules.
- * You cannot delete a Cash Flow Edits Process that has a dependency.

- **Dependency Check:** You can check dependencies for rules to know where a particular Cash Flow Edits Process has been used. This also prevents accidental deletion of rules having dependencies. Click on the **Action** icon against the Cash Flow Edits Process Name and select Dependency Check to generate a report on all Rules that utilize your selected Cash Flow Edits Process.

 Note:

This is functionality will be released in future.

- **Execute:** Select Execute to execute an existing Cash Flow Edits Process. After clicking Execute, the Run Parameter Execution window is displayed. Select As of Date (Execution Date) and Legal Entity, and then click Run.
- **Execute Details:** Select Execute Details to view execution details of the Cash Flow Edits Process.

Also See:

- [Create Cash Flow Edits Process](#)
- [Execute Cash Flow Edits Process](#)
- [View Cash Flow Edits Process Execution Details](#)

Cash Flow Edits Process Summary Page

This page is the gateway to all Cash Flow Edits Processes and related functionality. You can navigate to other pages relating to Cash Flow Edits Process from this point.

The **Cash Flow Edits Process Summary** Page displays the following column:

Table 3-19 Cash Flow Edits Process – Fields and Descriptions

Field	Description
Process ID	Displays the Process ID of Cash Flow Edits Process.
Name	Displays the Cash Flow Edits Process's short name.
Folder	Displays the Folder name where Cash Flow Edits Process is saved.
Access Type	Displays the access type of Process. It can be Read-Only or Read/Write.
Status	Displays the status of the Process.
Last Run By	Displays the Name of the user who last runs the Cash Flow Edits Process.
Last Run Date	Displays the Date and Time when Cash Flow Edits Process was run last.
Action	Displays the list of actions that can be performed on the Cash Flow Edits Process. For more information, see Cash Flow Edits Process – Icons and Descriptions .

The **Action** column on **Cash Flow Edits Process Summary** Page offers several actions that allow you to perform different functions. The following actions are available for the Cash Flow Edits Process Rule.

Table 3-20 Cash Flow Edits Process – Icons and Descriptions

Field	Description
Add	Click Add icon to build a new Cash Flow Edits Process.
View/Edits	Click on the Action icon against the Cash Flow Edits Process Name and select View/Edits to view or Edits the contents of a Cash Flow Edits Process in read/write format.
Save As	Click on the Action icon against the Cash Flow Edits Process Name and select Save As to create a copy of an existing Cash Flow Edits Process
Delete	Click on the Action icon against the Cash Flow Edits Process Name and select Delete to delete an existing Cash Flow Edits.
Execute	Click on the Action icon against the Cash Flow Edits Process Name and select Execute to execute an existing Cash Flow Edits Process. After clicking Execute, the Run Parameter Execution Window is displayed. Select As of Date (Execution Date) and Legal Entity, and then click Run. For more information, see Executing Cash Flow Edits Processes section.
Execution Details	Click on the Action icon against the Cash Flow Edits Process Name and select Execute Details to view execution details of the Cash Flow Edits Process.

You must create and run Cash Flow Edits processes on your Instrument Table Data before you submit Cash Flow Engine based rules for processing.

Search Cash Flow Edits Process

Search for a Cash Flow Edits Process to perform any of the following tasks:

- View
- Edits
- Copy
- Delete
- Refresh

Prerequisites

Predefined Cash Flow Edits Process

Procedure

To search for a new Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Enter the **Code, Name, Description, Dimension, Hierarchy, or Folder** of the **Cash Flow Edits Process** and click **Search** . Only Cash Flow Edits Process that match the search criteria are displayed.

Create Cash Flow Edits Process

Creating a Cash Flow Edits Process is a one-step process. You define both the attributes that uniquely describe a particular Cash Flow Edits Process and the data to be validated or cleansed by that process on the Create Cash Flow Edits Process Page.

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Click the **Add** icon. The **Create Cash Flow Edits Process** Page is displayed.

Figure 3-21 Process Details

As Of Date (09-Oct-2015) Cash Flow Edits Process Cancel Apply ?

1 Process Details 2 Cash Flow Edit Rules 3 Source Data 4 Freeze Process

Lets give a name and description
Unique Name for the process will help to refer it later, in case you would like to come back and perform some operation on the same process.

Name Required Folder CFESEG

Description

Access Type
☐ Read Only ☒ Read/Write ☒ Select to view errors only

3. Enter the process details as shown in the following table:

Table 3-21 List of Process details used for Creating Cash Flow Edits Process

Field	Description
Name	Enter the name of the Cash Flow Edits Process.
Description	Enter the description of the Cash Flow Edits Process.
Select to view errors only	Selecting this parameter allows you to view the results of running a Cash Flow Edits Process before the system updates the underlying records in the Instrument tables. The default value of this parameter is checked.
Folder	Enter the Folder details where Cash Flow Edits Process needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.

- Click **Apply** to navigate to the **Cash Flow Edits Rules** section.

Figure 3-22 Cash Flow Edits Rules

Rule Id	Rule Name	Condition Columns	Error Level	Description	Assignment
1	Original Term > Amortization Term	AMRT_TYPE_CD#AMRT_TERM#AMRT_TERM_MULT#ORG_TERM#ORG_TERM_MULT	Warning	Amortization term can only be equal to zero on Non-Amortizing Instruments	ORG_TERM#ORG_TERM_MULT
2	Current Par Balance = Original Par Balance	ORIGINATION_DATE#AS_OF_DATE#CUR_PAR_BAL#ORG_PAR_BAL	Warning	Instrument has originated in past but Current Par Balance and Original Par Balance are equal	NA

- Enter the Cash Flow Edits Rules details shown in the following table:

Table 3-22 List of Cash Flow Edits Rules details used for Creating Cash Flow Edits Process

Field	Description
Group	Select the group of Cash Flow Edits Rules that you want to include in the process. For example, Cash Flow
Sub Group	Select the sub group of Cash Flow Edits Rules that you want to include in the process. The value of this field varies based on the selected Group. The list of Rules with conditions is displayed.

The details of the process for the selected group and sub-group are listed on the screen for reference.

- Click **Apply** to navigate to the **Source Data** section.

Figure 3-23 Source Data

7. Enter the Source Data details as shown in the following table:

Table 3-23 List of Source Data details used for Creating Cash Flow Edits Process

Field	Description
Data Source	This field allows you to select the Instrument tables that must be included in a Cash Flow Edits Process.
Data Filter Folder	Select the Folder from which you want to apply Data Filter.
Data Filter	This field allows you to select a subset of data for processing by selecting a filter that was previously created. Click Action button next to Data Filter to add, edit or view the Data Filter.

8. Click **Apply** to navigate to the **Freeze Process** section.

Figure 3-24 Freeze Process

9. Click **Save** on the **Freeze Process** Window after verifying all the details.
10. The Cash Flow Edits Process is saved and the Summary Page is displayed.

Executing Cash Flow Edits Process

Execute a Cash Flow Edits Process to check the accuracy and the completeness of your Instrument Table Data. When run in Preview Mode, you can view the results of running a Cash Flow Edits Process by querying the FSI_O_CFE_EDITS_MESSAGES_HIST table for generated errors before the system updates the underlying records in the Instrument tables.

You can execute Cash Flow Edits Process using following methods:

- [Cash Flow Edits Process UI](#)
- [Scheduler Service](#)

Using Cash Flow Edits Process UI

To execute the Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Search for a process.
3. Click on the **Action** icon against the Cash Flow Edits Process Name and select Execute to execute an existing Cash Flow Edits Process. The **Run Parameter Execution** Window is displayed.
4. Select the **As of Date (Execution Date)** and **Legal Entity**, and then click **Run**.

Note:

You can select multiple Legal Entities in list view of hierarchy browser at a time for execution. In hierarchy mode you can select one Legal Entity at leaf or parent level. When parent Legal Entity is selected then data of selected entity along with its child and descendants are processed.

5. The **Cash Flow Edits Run Confirmation** Page is displayed. The status of the process is displayed in the **Status** Column. After completion of the process, you can navigate to the Execution Details Page by selecting the **Execution Details** option under the **Action** Column.

Note:

You can view the results of running a Cash Flow Edits Process before the system updates the underlying records in the Instrument tables, provided you selected Preview Mode while defining it. If the Process runs in Preview Mode, query the FSI_O_CFE_EDITS_MESSAGES_HIST table for any generated errors

Using Scheduler Service

A batch with following details gets automatically created when Cash Flow Edits Process is saved:

- **Code:** Process Id of Cash Flow Edits Process
- **Name:** Name of Cash Flow Edits Process
- **Description:** Description of Cash Flow Edits Process

To execute the batch, navigate to Operations and Processes , select Scheduler, and then select Schedule Batch.

You can also define new batch to execute any Cash Flow Edits Process by following these steps:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Batch**.
2. Define a new batch.

3. Enter the Batch Name and Description, and then Save the batch.
4. To add a task, navigate to **Define Task**.
5. Select the Batch from the **Batch** drop-down list on the **Define Task** Window.
6. Click the **Add** button.
7. Define the task with below details:
 - **Task Code:** Must be same as the Process Id of Cash Flow Edits Process
 - **Task Name:** This can be same a name of the Cash Flow Edits Process or something else
 - **Task Description:** This can be same a name of the Cash Flow Edits Process or something else
 - **Task Type:** REST
 - **Component:** Cash Flow Edits
 - **Process Name:** Select one value from the list
 - **Legal Entity Hierarchy:** Select one value from the list
 - **Legal Entity:** Select one value from the list
8. **Save** and **Execute** the batch with Batch ID and MIS Date.

For more information, see the [Scheduler Service](#).

Viewing Execution Details of Cash Flow Edits Process

To view the execution details of the Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Search for a Process.
3. Click on the **Action** icon against the Cash Flow Edits Process Name and select **Execution Details**. The **Execution Details** window is displayed.
4. Click any **Execution ID** to view the log details. The **Log Viewer** Window shows the complete details of process along with Batch Run ID Information.
5. Click **Download** to export the details of cash flow edits in **csv** format. This will help you to understand errors found in instrument data.
6. If process is executed in '**Non-preview**' mode, then records which are modified by Cash Flow Edits Process can be identified by looking at columns `CF_EDITS_BATCH_RUN_ID` and `UPDATED_BY_CF_EDITS` in instrument processing table.

4

Business Rules Administration

This chapter covers the following topics.

- **Reference Data:** This section explains about the baseline configurations like interest rate curves, Currencies set up, Economic indicators on which Various rules/assumptions can be defined. These configurations are referred across various modules.
- **Common Rules:** This section explains about rules which are common across all multiple applications in the Cloud Service.
- **Cash Flow Assumptions:** When all the required assumptions are defined, CFE Processing performs the calculation and generates a result set.
- **IFRS 9 Rules:** This section explains the IFRS 9 Rules.
- **ECL Rules:** This section explains the ECL Rules

Reference Data

This section covers the following topics:

1. **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.
 - **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.
 - **Attributes:** Attributes refers to the distinguished properties or qualifiers that describes a Dimension Member.
 - **Hierarchies:** 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.
2. **Currencies:** Currencies module allows you to define and maintain the currencies and currency rates.
 - **Currencies:** Currency module supports the definitions and maintenance of currencies.
 - **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.

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

Object Security

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

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

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

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

Components of Dimension Management

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

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

Members

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

Member Summary Page

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

To access the member summary page :

1. From the left menu, click **Reference Data**.
2. Select **Dimension Management** and select **Member**.

The **Member Summary page** containing the following details is displayed.

- **Alphanumeric Code**- The alphanumeric code assigned to a member.
- **Numeric Code**- The numeric code assigned to a member.
- **Name**- The unique member name.
- **Is Leaf**- The leaf node status of the member definition.

- **Yes**- The member is set as a leaf node in any hierarchy and Child cannot be added to this node.
- **No**- The member is not a leaf and can have child nodes.
- **Enabled** - The status of the member definition (Yes/No).
- **Action**- Click to view, edit, copy or delete a member definition. You can also access the list of objects dependent on this definition.

To filter the summary based on specific search criteria, select and add the required search criteria to the **Search** field and enter/select the specific values. Use **More Filters** to add additional search criteria.

 Note:

Dimension is a default and mandatory search filter. Select the dimension to access the member definitions available in that dimension. By default the first dimension from the **Dimensions** list is added as the search entry.

Creating Member Definitions

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

To create a member definition :

1. To create a member definition, click the **Add** in the **Member Summary** page, to access the **Member Details** page.
2. Enter the following **Member Details** :
 - **Dimension**- Select the dimension to be associated with the new Member.
 - **Numeric Code**- The numeric code to be assigned to the new member definition. You can enter the value between 0 and 999,999,999 manually or click **Generate**, to auto-generate a unique code.
If you enter the value manually, it is assigned after validation.
 - **Alphanumeric Field Value**- The alphanumeric Code to be assigned to the new Member Definition.
You can enter up to 100 characters and enter only Underscore (" _ ") as a special character.
 - **Name**- The unique member definition name.
You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
 - **Description**- A brief description about the member definition.
You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
 - **Is Leaf**- Check this option if the member is a leaf of another member. By default, it is set to **Yes**.
 - **Yes**- The member can be used as a leaf node in any hierarchy and child cannot be added to this node.
 - **No**-The member is not set as a leaf and can have child nodes.

 Note:

If a member is set as a non-leaf and is associated with child nodes, it cannot be set as a leaf again.

- **Enabled**- This field is set to **Yes** by default. You can modify the **Enabled** status, after creating the member. 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.

3. Click **Apply**.
4. (Optional). Click **Copy Attribute Assignment**, to attach an existing attribute to this new member definition.

You can also set the attribute values for a new member definition, manually. Enter/select the attribute values in the **Member Attributes** pane. All the [attributes associated with the selected dimension](#) are displayed in the Member Attributes pane.
5. Locate the Attribute to be copied and click **Move** and select **Copy**, located under **Actions**.
6. Click **Save**, to create the new Member definition and view it the Member Summary.

Click **Actions** and select **Edit Member Details** to edit the member details or select **Save and Add New**, to create the new member definition and proceed with adding another definition.

Managing Member Definitions

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

In the members summary page, highlight a specific Member Definition and click the **Action**. The following Options are displayed:

- **View**- View the **Member Details** for a specific Member Definition.
- **Edit**- Edit the **Member Details** for a specific Member Definition.
- **Copy**- Copy the Member Definition Details and create another Member Definition by changing Alphanumeric Code, Numeric Code and Name.
- **Delete**- Delete the member definition.
- **Check Dependency** - View the list of objects dependent on this definition.

Viewing Member Definition Details

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

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

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

1. Highlight the Member Definition and click the **Action**.

2. Click the **View** button.

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

Editing Member Definition Details

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

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

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

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

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

Copying Member Definition Details

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

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

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

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

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

Deleting Member Definition Details

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

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

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

The Member Definition is deleted after confirmation.

Attributes

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

Attribute Summary Page

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

To access the attribute summary page :

1. From the left menu, click **Common Object Maintenance**.
2. Select **Dimension Management** and select **Attribute**, to access the The **Attribute Summary Page** .

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

- **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** - Select **Yes** or **No** to make this attribute a mandatory value for the associated dimension.
- **Seeded** - Select **Yes**, if the attribute is seeded by the service or **No** if the attribute is created by the user.
- **Action** - Click to view, edit, copy or delete an attribute definition. You can also access the list of objects dependent on this definition.

To filter the summary based on specific search criteria, select and add the required search criteria to the **Search** field and enter/select the specific values.

 Note:

Dimension is a default and mandatory search filter. Select the dimension to access the member definitions available in that dimension. By default the first dimension from the **Dimensions** list is added as the search entry.

Navigating Attribute Summary Page

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

Creating Attribute Definition

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

1. Click the **Add** in the Attribute Summary Page.
The **Add Attribute Definition** Page is displayed.
2. Enter the following **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 any number between 0 and 999,999,999, or click **Generate Code**, to auto-generate a unique code. If you enter the value manually, the system will verify if the value is unique and assigns it.
 - **Name** - The unique Attribute Definition Name. You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
 - **Alphanumeric Field Value** - The name of physical column name that will be used to store attribute value in the Report Dimension Table. You can enter up to 100 characters. We recommend using only Underscore (" _ ") as a special character.
 - **Description** - A brief description about the Attribute Definition. You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.
3. Click **Apply**, to proceed to the **Attribute Properties** page.
4. Enter the following **Attribute Properties** :

- **Data Type** - Set the Data Type as Date, Dimension, Number, or String from the drop-down list.

 Note:

If the data type is **Number**, enter a Scale value ≥ 0 . If it equal to 0, only Integers are enabled. To enable decimal entries, the maximum Scale Value must be > 0 and $\leq$ the scale defined for NUMBER in the dimension's underlying attribute table. The maximum value of the NUMBER is set to 22.

- **Dimension** - (Enabled only for Dimension data type.) Select the Dimension to be associated with the new Attribute Definition.
- **Default Value** - The default value is set based on the selected data type. The Maximum characters allowed in Default Value field for String Data Type is 1000. The default value is mandatory if this attribute is set as a required attribute.

Table 4-1 Data Type and Default Values

Data Type	Default Value
Dimension	Select the Default Value from the drop-down list of members mapped to the selected Dimension
Number	Enter a Numeric Value based on the define Scale.
Date	Set a valid date.
String	Enter the Alphanumeric Value

- **Required Attribute** - Select **Yes**, if this attribute is mandatory for the associated dimension members. To set it as an optional attribute, select **No**.
- **Seeded Value** - Select **Yes**, only when the attribute is seeded out of box by the Cloud Service. For a new attribute, select **No**.

5. After entering the required information, click **Save**, to create a new attribute.

Managing Attribute Definitions

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

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

- **View**- View the **Attribute Details** for a specific attribute definition.
- **Edit**- Edit the **Attribute Details** for a specific attribute definition.
- **Copy**- Copy the definition details and create another attribute Definition by changing the Alphanumeric Code, Numeric Code and Name.
- **Delete**- Delete the Attribute definition.
- **Check Dependency** - View the list of objects dependent on this definition.

Field	Description
View	View the details for a selected Attribute.
Edit	Edit theselected Attribute.

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

Viewing Attribute Definition

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

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

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

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

Modifying Attribute Definition

Modify the Name, Description, or Default Value fields of an Attribute Definition. The Write role should be mapped to your User Group.

To modify an existing Attribute Definition in the Attributes summary:

1. Highlight the Attribute Definition and click **Action**.
2. Click **Edit**, to access the Attribute Definition page.

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

You can view the updates in the Attributes summary.

Copying Attribute Definition

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

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

Refer to the following steps, to copy an Attribute Definition.

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

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

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

Deleting Attribute Definition

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

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

1. Highlight the Attribute Definition and click the **Menu** button.

2. Click the **Delete** button.

The Attribute Definition is deleted after confirmation.

 Note:

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

Dimensions and Associated Attributes

Dimensions and the associated attributes.

The following tables lists the seeded attributes with the details, associated with each dimension.

Table 4-2 Dimensions and Associated Seeded Attributes

Attribute Name	Data Type	Mandatory
Dimension - Common Chart of Accounts		
Account Type	Dimension	Yes
Accrual Basis	Dimension	No
Rollup Signage	Dimension	Yes
Dimension - Financial Element		
Weighting Financial Element	Dimension	No
Account Type	Dimension	Yes
Column Property	Dimension	Yes
Rollup Signage	Dimension	Yes
Dimension - General Ledger Account		
Accrual Basis	Dimension	No
Common Chart of Accounts	Dimension	Yes
Rollup Signage	Dimension	Yes
Account Type	Dimension	Yes
Reconciliation Product	Dimension	Yes
Dimension - Legal Entity		
Rate Data Source	Dimension	Yes
Group Company Party	String	Yes
Dimension - Organizational Unit		
Offset Organizational Unit	Dimension	No
Dimension - Product		
Accrual Basis	Dimension	No
Common Chart of Accounts	Dimension	Yes
Rollup Signage	Dimension	Yes
Account Type	Dimension	Yes
Amenability Rate	Dimension	Yes
Interest Rate Sensitivity	Dimension	Yes
Product Time Value	Number	Yes

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 multidimensional 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.

Hierarchies Summary Page

The list of existing hierarchy definitions is displayed in the Hierarchies Summary page.

To access the hierarchies summary page:

1. From the left menu, click **Reference Data**.
2. Click **Dimension Management** and select **Hierarchies**, to access the Hierarchies Summary page containing a list of existing hierarchies with the following details:
 - **Name** - The unique Hierarchy Name.

 Note:

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

- **Folder** - Folder in which the hierarchy is stored.
- **Dimension** - Dimension associated with the hierarchy.
- **Tags** - Labels to simplify the data search and locate the required details.
- **Action** - Click to view, edit, copy or delete a hierarchy definition. You can also access the list of objects dependent on this definition.

Navigating Hierarchy Summary Page

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

Creating Hierarchy Definitions

To create a Hierarchy Definition in the Hierarchy Summary page, complete the following steps:

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

Table 4-3 Field Description

Field	Description
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 ~.
Folder	Select the Folder in which the Hierarchy is to be stored.
Dimensions	Select the Dimension to be associated with the new Hierarchy Definition.
Click Apply . 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 View	The search results based on the specific keyword entered to search a Member is populated.

To Add a Child to the Hierarchy:

- a. Right-click in the **Hierarchy View** tab.
- b. Select **Add Child** option and the **Add Members** page is displayed.
- c. Select the required Member and click **Move Right**, 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 Right** to move all members listed in the Available Members pane, to the Selected Members pane. Click **Fetch from DB** to select all nodes/ members in the server.
 - Select a member and click **Move Left** 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 **Move All Left**.
 - 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 **Add**. The selected member is displayed as child under data grid panel in the **Hierarchy View** tab.
3. **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 Right**, to move the Member to the Selected Members panel. The Member is displayed in the **Selected Members** panel.
 - c. Click **Add**. The selected Member is added as **Sibling** below the **Parent** under data grid Panel in the **Hierarchy View** tab.
4. **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 Right**, to move the Member to the Selected Members panel. The Member is displayed in the **Selected Members** panel.
 - c. Click **Add**. The selected Member is displayed as Leaf below the Parent or Sibling under **Show Hierarchy** Panel in the **Hierarchy View** tab.
5. **To cut and paste Child or Sibling:**
- a. Right-click on any node and select **Cut**.
 - b. Right-click on any node and **Paste as Child** or **Paste as Sibling**.
6. **To Delete/Undelete**
- a. Right-click on the node to be deleted and select **Delete Node**. The node deleted is struck out.
 - b. Right-click and select **UnDelete** to cancel deletion of the node.
7. **To view the Member Properties and Member Attributes of a node in the Hierarchy View Panel:**
- a. Click on a Member.
The properties such as Alphanumeric Code, Numeric Code, Name, Description, Enabled, Is Leaf, Created By, Creation Date, Last Modified By, Last Modification Date, Attribute, and Value of the selected Member are displayed in the Member Properties and Member Attributes Grids.
- In the Hierarchies page you can also:
- Click **Collapse** or **Expand**, to collapse or expand a branch .
 - Click **Focus** or **Unfocus**, to focus or unfocus a selected node except the Root Node.
 - Click **Sort** to sort the list in ascending or descending order.

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

Audit Info

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

Managing Hierarchy Definitions

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

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

- **View** - View the hierarchy details for a specific definition.
- **Edit** - Edit the hierarchy details for a specific definition.
- **Copy** - Copy the hierarchy details and create another definition by changing the unique values like name, description and so on.
- **Delete** - Delete the hierarchy definition.
- **Check Dependency** - View the list of objects dependent on this definition.

Viewing Hierarchy Definition Details

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

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

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

Editing Hierarchy Definition Details

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

To edit the existing Hierarchy Definition Details:

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

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

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

Copying Hierarchy Definition Details

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

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

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

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

Deleting Hierarchy Definition Details

To delete a Hierarchy Definition:

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

The Hierarchy Definition is deleted after confirmation.

Note:

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

Viewing Data in a Summary Page

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

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

Searching Summary

Search for a specific Definition based on the following criteria. Select/Enter one or more unique values/tag or Leaf and Enabled status associated with the definition and click **Search**.

Sorting a Summary Page

Sort the list of definitions, to view a specific definition, in a definition Summary .

To sort the various Definitions list:

- **Sort By:** Group the based on the following fields:
 - **Member Summary** - Dimension, Name, Alphanumeric Code, Numeric Code, Enabled and Is Leaf Status, Attribute Name (if the selected Dimension has Dimension Type Attribute) and Attribute Value.
 - **Attribute Summary** - Branch, Name, Code and Data Type.
 - **Hierarchy Summary** - Dimension, Name, Tag and Folders.
 - **Filter Summary** - Name, Folder and Filter Type.
- **Sort Order:** Sort the Complete list in Ascending/Descending order.

Setting Number of Records per Page

Customize the number of records per page, to access the required record easily.

At the bottom of the page, you can enter the number of entries that are available on a single page in the **Records** box. By default, this value is set to 8. You can increase or decrease the number of entries that are displayed using the up and down arrows.

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

To navigate between pages:

- Use **First page** to view the entries in the first page.
- Use the **Previous page**, to view the entries in the previous page.
- Use the **Next page**, to view the entries in the next page.
- Use the **Last page**, to view the entries in the last page.

Currencies Setup

Currencies 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.

Currency Setup

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.

Currency Summary

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

Figure 4-1 Currency Summary

☐	Code	Name	Reference Interest Rate Curve	Reporting Currency	Status	User Defined	Last Modified By	Last Modified Date	Action
☐	INR	Indian Rupee		Yes	Active	No	CFEQA	2024-06-04 12:55:14	...
☐	USD	US Dollar	RT-IRC-101	Yes	Active	No	CFEQA	2024-06-04 12:41:10	...

Search Currency

Prerequisites: Predefined Currency

To search for a Currency:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Currencies that meet the search criteria.

Or

An alternative method to search a Currency Rule is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Currency Rule Summary. Enter the **Code, Name, Status, Reporting Currency, or User Defined** of the Currency and click **Search**.

The Currency Rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new Currency Rule.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

Activate: Select one or more currency and click Activate icon to change status to active.

- **Code:** The 3-letter ISO code of Currency
- **Name:** The Currency's short name.
- **Reference Interest Rate Curve:** Displays the Reference Interest Rate Curve of Currency
- **Reporting Currency:** Indicates whether currency is marked for use as Reporting Currency
- **Status:** Displays the Active or Inactive status of Currency.
- **User Defined:** Identifies any user-defined currency, that is, a currency not seeded by Cloud Service
- **Action:** Click this icon to view a list of actions that you can perform on the Currency Rule.
 - **View/Edit:** Based on the user privilege assigned, you can either only view or edit existing Currency Rules. To edit a rule, you must have Read/Write privilege.
 - **Delete:** You can delete Currency Rules that you no longer require. Note that only Currency Rule owners and those with Read/Write privileges can delete Currency Rules. A Currency Rule that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.
 - **Dependency Check:** You can perform a dependency check to know where a particular Currency Rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Currency Rules that have dependencies. A report of all rules that utilize the selected Currency Rule is generated.

Also See:

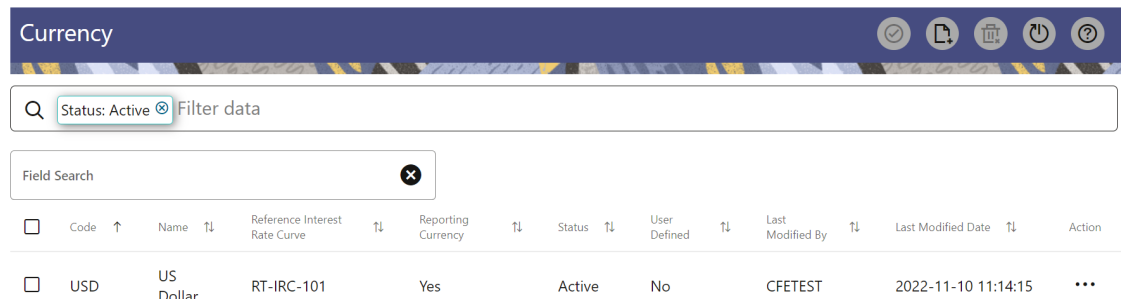
- [Add a Currency](#)

Currency Summary Page

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

Table 4-4 Table: Currency – Fields and Descriptions

Column	Description
Code	Displays the 3-letter ISO code of Currency
Name	Displays the name of currency
Reference Interest Rate Curve	Displays the Reference Interest Rate Curve of Currency
Reporting Currency	Indicates whether currency is marked for use as Reporting Currency
Status	Displays the Active or Inactive status of Currency.
User Defined	Identifies any user-defined currency, that is, a currency not seeded by Cloud Service
Last Modified By	Displays the Name of the user who last modified the Currency
Last Modified Date	Displays the Date and Time when Currency was modified last
Action	Displays the list of actions that can be performed on the Currency. For more information, see Currency – Icons and Descriptions .

Figure 4-2 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 4-5 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.

Table 4-5 (Cont.) Table: Currency– Icons and Descriptions

Fields	Description
View/Edit	Click on the Action icon against the Currency Name and select View/Edit to view or edit the contents of a Currency in read/write format. Depending on user privileges the currency will open in either View or Edit mode.
Delete	Click on the Action icon against the Currency Name and select Delete to delete an existing Currency.

Add Currency

To add a Currency, follow these steps:

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

Figure 4-3 Add Currency Page

Add Currency

Save Close

Currency Code
Enter 3 letter ISO currency code

Currency Name
oj-ojEditableValue.requiredText

Reference Interest Rate Curve

Reporting Currency

Status

3. Enter the following details:

Table 4-6 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.
Reporting Currency	A reporting currency is an active currency to which balances in other currencies can be consolidated to facilitate reporting. Balances in reporting currencies can be, in turn, consolidated to the functional currency. For example, an American multinational bank might consolidate its holdings in Asian currencies to the Japanese yen (Reporting Currency) and its balances in European currencies to the Euro (Reporting Currency) after which it might consolidate these reporting currencies to the U.S. dollar (Functional Currency).
Status	The status of any currency can be either Active or Inactive. You must Activate a currency before doing the followings: - Define that currency as a Reference Currency for an Interest Rate curve. - Enter Exchange Rate data for a currency. - Define Forecast Rates for that currency. - Define any other business rule like Prepayment, Transfer Pricing for that currency.

 Note:

- For the Oracle Financial Services Climate Change Analytics Cloud Service application, select 'Yes' for the Reporting Currency. This supports the Exchange Rate Conversion in the Currency Rate feature.
- The Reference Interest Rate Curve is not applicable for processing and analytical purposes in Oracle Financial Services Climate Change Analytics Cloud Service.

- Click **Save**.

Search a Currency

Search for a Currency to perform any of the following tasks:

- Activate
- View
- Edit
- Delete

Prerequisites

Predefined Currencies

Procedure

To search the Currency, follow these steps:

1. Navigate to **Reference Data** and select **Currency** .
2. Enter the **Code, Name, Status, Reporting Currency**, or **User Defined** status of the Currency.
3. Click **Search**.

Only Currencies that match the search criteria are displayed.

View and Edit Currency

You can view existing Currency, and you can edit existing Currencies, provided you have read/write privileges.

To view and edit a Currency, follow these steps:

1. Navigate to **Currency Summary** Page.
2. Search for a Currency. For further information, see the [Searching a Currency](#) section.
3. Click on the **Action** icon against the Currency Name and select **View/Edit** to open the Currency you want to update.
4. Update the Currency details.
5. Click **Save**.

Delete a Currency

You can delete Currencies that are no longer required.



Note:

A Currency cannot be retrieved after deletion. Restrictions on deleting Currencies are:

- You cannot delete Currencies if you have only Read privileges. Only users with read/write privileges and Currency owners can delete Currencies.
- You cannot delete a Currency that has a dependency.

To delete a Currency, follow these steps:

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

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.

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.

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.

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**.

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 4-4 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 4-7 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**.

- 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:

- Select a **From Currency**.
- Select a **To Currency**.
- Select **Rate Type** as **Fixed Rate**.
- After selecting a **To Currency** value, the RHS pane is displayed as Fixed Currency Rates.
- Select **Effective Date Range** to enter the values in From Date and To Date fields.
- Select the **Rate Provider**.
- 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 4-8 Fixed Currency Rates

Fields	Description
Effective From Date	Directly enter a date or select the Calendar icon to choose a starting effective date for your new Exchange Rate Data Point.
Effective To Date	Directly enter a date or select the Calendar icon to choose an ending effective date for your new Exchange Rate Data Point.
Currency Exchange Rate	This must be entered as 1 unit of From Currency are converted to n unit of To Currency.
Status	Status is a read-only display that is updated after the Currency Rates Validation has been run.
Data Origin	The Data Origin is displayed read-only and indicates whether the rates were input through the UI or the Data Loader.

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

Viewing Exchange Rate Data

By default, both the Floating Currency Rates Pane and the Fixed Currency Rates Pane display the most recent month of historical Exchange Rate Data. You can control the amount of data displayed by selecting a different value from the **Effective Date Range** drop-down list in the **Currency Selection** Window.

From Date and **To Date** can also be modified to view relevant Currency Rates.

Editing Exchange Rate Data

Select the check box on the left-hand side of any row to enable the **Edit** icon. After clicking **Edit**, the row becomes active to edit the **Effective Date** and (or) the **Exchange Rate**. Click **Save** to save the changes.

Deleting Exchange Rate Data

Select one or more check boxes on the left-hand side of any row to enable the **Delete** icon. After clicking Delete, a confirmation message is displayed. Click **Ok**.

Currency Exchange Rate Validation

Exchange Rate Validation has the following features:

- Movement of historical Exchange Rates to the Currency Direct Access Table.
- Calculation of inverse Exchange Rates for Reporting Currencies.
- Calculation of triangulated Exchange Rates where possible.

Features of Exchange Rate Validation

The goal of Exchange Rate Validation is to ensure that Exchange Rates from all active currencies to all reporting currencies are available for processing. Some of these rates can come from the validated direct input, others are calculated based on relationships with other rates. To support triangulation, all fixed Exchange Rates are available for all currencies that make up an exchange that needs to be triangulated. Also, a direct Exchange Rate between each Child Currency and each reporting currency is calculated and supplied to support quick access to Exchange Rates. If a Child currency is a Reporting Currency, then Exchange Rates are calculated for all currencies having an exchange relationship with the Parent Currency.

Validating Exchange Rate Relationships

You must run the Exchange Rate Validation Process after adding or modifying Exchange Rate Data. Run the process immediately or schedule one or more to be run in the future.

Each Exchange Rate has one of the following statuses:

Table 4-9 Details of Exchange Rates

Fields	Description
Not Yet Validated	The Exchange Rate has been input or loaded but not yet validated.
Valid	The Exchange Rate has been validated.
Invalid	The Exchange Rate has violated one or more acceptance rules.

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

Exchange Rate Validation Criteria

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

- If a currency is defined as a Child in a fixed exchange relationship then it must not be in any floating (standard) Exchange Rate Relationship at the same time. Consequently, all floating Exchange Rates to or from the Child Currency must be defined through the Parent Currency. If this criterion is not met then the following message is displayed: Invalid fixed relationship—Child Currency exists in a standard Exchange Rate within the same time period.

- A Child Currency within a fixed relationship must not be a Child Currency in any other Fixed Relationship during the same time period. If this criterion is not met then the following message is displayed: Invalid fixed relationship—Child Currency already exists in a fixed relationship for the same time period.
- A Circular Relationship must not exist. In other words, a Child Currency cannot link back to its Parent in any other fixed rate 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

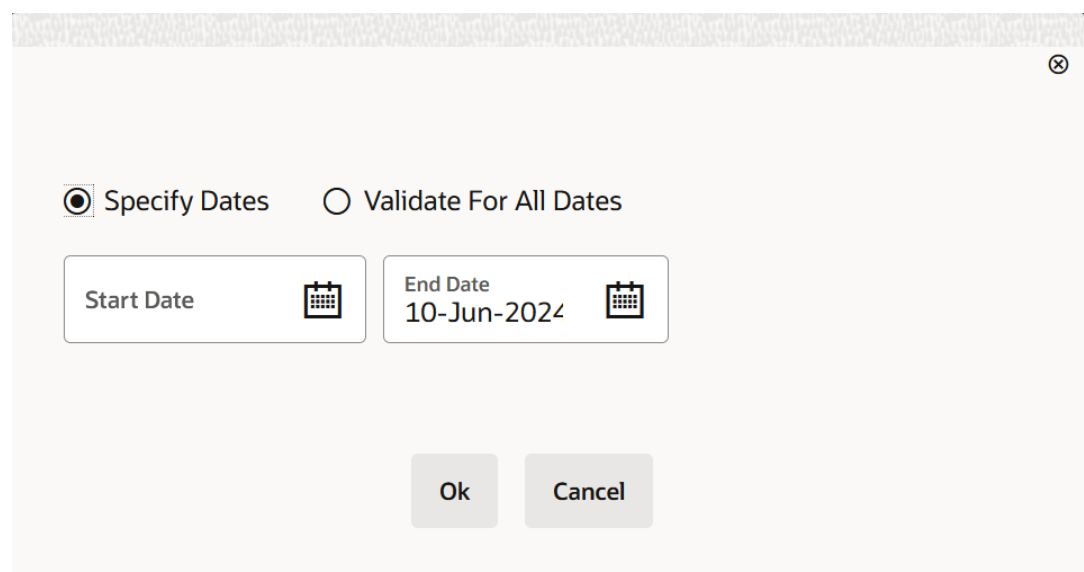
You can run a validation immediately or schedule one or more for later. The Validation Status is displayed in the **Currency Rates** window.

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**.

Figure 4-5 Currency Rates Validation



The screenshot shows a dialog box titled "Currency Rates Validation" with a close button (X) in the top right corner. Inside the dialog, there are two radio buttons: "Specify Dates" (which is selected) and "Validate For All Dates". Below these buttons, there are two date input fields. The first field is labeled "Start Date" and has a calendar icon next to it. The second field is labeled "End Date" and contains the text "10-Jun-2024", with a calendar icon next to it. At the bottom of the dialog, there are two buttons: "Ok" and "Cancel".

2. To execute Exchange Rate validation from the **Currency Rates** window, the following 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.
 - **Validate For All Dates:** Select this option to validate all the rates irrespective of dates.
 - **Start Date:** This defaults to the date of last rate validation.
 - **End Date:** This defaults to the current date.

**Note:**

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

Download

The Download functionality is used to download the Historical Exchange Rates in **.csv** format.

Importing Currency Rates

To import the Currency Rate, follow these steps:

1. Navigate to the **Currency Rate** page.
2. Click **Actions** drop-down and 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**.

Interest Rates

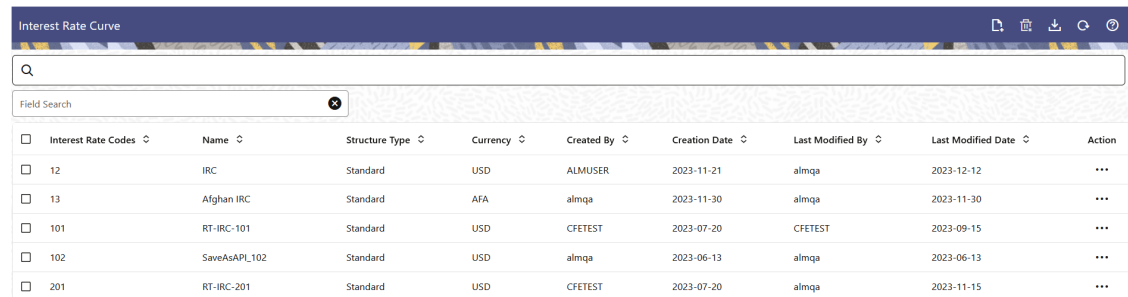
The quality and availability of Interest Rate information vary throughout the world. In many markets, gathering comprehensive rate information is a challenge because of insufficient security types, inconsistent quoting conventions, and lack of liquidity. The Interest Rate Curve in Cloud Service allows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

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

Interest Rate Rule Summary

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

Figure 4-6 Interest Rate Curves Summary



The screenshot shows the 'Interest Rate Curve' page with a search bar and a table of interest rate rules. The table has columns for Interest Rate Codes, Name, Structure Type, Currency, Created By, Creation Date, Last Modified By, Last Modified Date, and Action. The data rows are as follows:

Interest Rate Codes	Name	Structure Type	Currency	Created By	Creation Date	Last Modified By	Last Modified Date	Action
12	IRC	Standard	USD	ALMUSER	2023-11-21	almqa	2023-12-12	...
13	Afghan IRC	Standard	AFA	almqa	2023-11-30	almqa	2023-11-30	...
101	RT-IRC-101	Standard	USD	CFETEST	2023-07-20	CFETEST	2023-09-15	...
102	SaveAsAPI_102	Standard	USD	almqa	2023-06-13	almqa	2023-06-13	...
201	RT-IRC-201	Standard	USD	CFETEST	2023-07-20	almqa	2023-11-15	...

Search Interest Rate Rule

Prerequisites: Predefined Interest Rate Rule

To search for an Interest Rate Rule:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Interest Rate Rules that meet the search criteria.

Or

An alternative method to search an Interest Rate Rule is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Interest Rate Rule Summary. You can enter the **Interest Rate Code**, **Name**, **Currency**, **Rate Format**, and **Structure Type** of the Interest Rate Rule and click **Search**.

The Interest Rate Rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new Interest Rate Rule.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

Download: Enables you to download the Interest Rate Summary report in .csv format.

- **Interest Rate Code:** 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:** The Interest Rate Curve's short name.
- **Structure Type:** The Structure Type (Standard, Hybrid) of the Interest Rate Curve.
- **Currency:** The Currency (Reference Currency) for which Interest rate curve is defined.
- **Created By:** The Name of the user who created the Interest Rate Curve.
- **Creation Date:** The Date and Time when Interest Rate Curve was created.
- **Last Modified By:** The user who last modified the Interest Rate Rule.
- **Last Modified Date:** The Date and Time when the Interest Rate Rule was last modified.

- **Access Type:** The access type of the rule. It can be Read-Only or Read/Write.
- **Action:** Click this icon to view a list of actions that you can perform on the Interest Rate Rule.
 - **View/Edit:** Based on the user privilege assigned, you can either only view or edit existing Interest Rate Rules. To edit a rule, you must have Read/Write privilege.
 - **Save As:** You can reuse an Interest Rate Rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - **Delete:** You can delete Interest Rate Rules that you no longer require. Note that only Interest Rate Rule owners and those with Read/Write privileges can delete Interest Rate Rules. An Interest Rate Rule that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.
 - **Dependency Check:** You can perform a dependency check to know where a particular Interest Rate Rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Interest Rate Rules that have dependencies. A report of all rules that utilize the selected Interest Rate Rule is generated.

 Note:

This is functionality will intended for a future release.

Also See:

- [Create Interest Rate Rule](#)

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 99999999. Hover on a row in the pane to display the Interest Rate Curve's detailed description.
 - **Name:** Displays the Interest Rate Curve's short name.
 - **Structure Type:** Displays the Structure Type (Standard, Hybrid) of the Interest Rate Curve.
 - **Currency:** Displays the Currency (Reference Currency) for which Interest rate curve is defined.
 - **Created By:** Displays the Name of the user who created the Interest Rate Curve.

- **Creation Date:** Displays the Date and Time when Interest Rate Curve was created.
 - **Last Modified By:** Displays the Name of the user who last modified the Interest Rate Curve.
 - **Last Modified Date:** Displays the Date and Time when Interest Rate Curve was last modified.
5. Click on the **Action** icon against the Interest Rate Code to do further actions View, Edit, Delete, and **Save As** on the selected Interest Rate Code.

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

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

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

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

Creating an Interest Rate Curve

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

1. Click **Add** from the **Interest Rate Curve Summary** page.
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 99999999. Interest Rate Codes are used internally to uniquely identify Yield Curves. When working with Cloud service, you reference Yield Curves by Name, not by Interest Rate Codes. Interest Rate Codes are embedded within your instrument data (for example, the INTEREST_RATE_CD columns within the Instrument Data are populated with Interest Rate Codes). After you have saved a Yield Curve, you cannot modify its Interest Rate Code.
 - **Name:** Provide a unique Name for the Interest Rate Curve.
 - **Description:** You can enter a description for the Interest Rate Curve. You can modify this description at any time using the Edit action.
 - **Display for All Currencies:** This flag allows you to designate certain Interest Rate Curves to make them available for assumption mapping to any currency. Assumption Rules filter the list of Interest Rate Codes based on the currency when defining assumptions for a specific Product/Currency combination. When this option is enabled, the Interest Rate Curve appears in assumption rules for all currencies.
 - **Reference Currency:** Select a Reference Currency for your Interest Rate Curve. You can change the Reference Currency for previously saved Interest Rate Curves though such changes are unlikely. An Interest Rate Curve's Reference Currency is the currency for which your market rates are valid. For example, the Reference Currency for a Prime Rate Yield Curve would be US Dollars. The Reference Currencies drop-down list displays only Active currencies. For more information on Active and Inactive currencies, see the [Currency](#) Documentation.

- **Date Based Term Points:** This toggle switch is applicable only for Standard Structure Type. If you select Structure Type as Hybrid, the toggle switch is disabled. When you select the Date Based Term Points, and add a Term Point, the Historical Rates Tab allows you to define a Custom Date and Rate for each Term Point. By default, the Date is inserted based on the Term that you define. You can change the Date to a custom Date and define the Rate.
- **Risk-Free:** (Optional) This flag is for tagging the Interest Rate Curve as risk-free. That is Edit Table in new and Edit Modes. It is available for Non-Hybrid Curves and Hybrid Curves.
- **Structure Type:** This attribute is required for each Yield Curve. Structure Type supports Standard, Hybrid Yield Curve, and Managed Rates Definitions. Hybrid Yield Curves are re-expressions of one or more pre-existing Standard Yield Curves. For more information, see [Hybrid Term Structure](#). Managed Rates are free form, user-defined formula, that is, equation based objects. For more information, see [Managed Rates](#). Standard Interest Rate Curves are used to define the Yield Curve and to add, edit, or delete Historical Interest Rate Data. After you have saved the Yield Curve, you cannot change the selected Structure Type.
- The Interest Rate Curve Tabs are:
 - Terms & Attributes
 - Historical Rates
 - Parameters
 - Hybrid Term Structure
 - Managed Rates

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.

Standard Interest Rate Curves

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

- Terms & Attributes
- Historical Rates
- Hybrid Term Structure

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

 Note:

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

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

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

 Note:

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

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

Terms & Attributes

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 4-7 Terms and Attributes Tab

Terms & Attributes			Historical Rates		Hybrid Term Structure	
☐	Term	Multiplier	Rate Format	Compounding Basis	Accrual Basis	Actions
☐	1	Months	Zero Coupon Yield	Annual	Actual/Actual	
☐	2	Months	Zero Coupon Yield	Annual	Actual/Actual	
☐	3	Months	Zero Coupon Yield	Annual	Actual/Actual	
☐	6	Months	Zero Coupon Yield	Annual	Actual/Actual	
☐	1	Years	Zero Coupon Yield	Annual	Actual/Actual	
☐	2	Years	Zero Coupon Yield	Annual	Actual/Actual	

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

- **Rate Format:** You should select either the Zero Coupon Yield or Yield to Maturity Rate Format. Rates entered in the Historical Rates Tab are always entered in the nominal form, such as 5.125% or 6.875%, not as discount factors.
- **Compounding Basis:** Select a Compounding Basis for the term point:
 - Daily
 - Monthly
 - Quarterly
 - Semiannual
 - Annual
 - Simple
 - Continuous
 - At Maturity
- **Accrual Basis:** Select an Accrual Basis for the Yield Curve.
 - 30/360
 - Actual/360
 - Actual/Actual
 - 30/365
 - 30/Actual
 - Actual/365

– Business/252

- **Deleting Existing Term Points:** To delete an existing term, select the term point (or terms), and click **Delete**.

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

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

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

Historical Rates

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

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

You can perform the following tasks:

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

Add Historical Rates

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

Deletion of Historical Rates

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

Excel Import or Export

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

Excel Export:

To export the data, perform the following steps:

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

Excel Import:

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

**Note:**

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

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

Hybrid Interest Rate Curves

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

- Merge
- Spread
- Moving Average
- Custom Weighted Average

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

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

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

Define Hybrid Curve

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

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

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

Defining a Hybrid Curve with Hybrid Curve Type as Merge

To define a Hybrid Curve, perform the following steps:

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

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

Defining a Hybrid Curve with Hybrid Curve Type as Spread

To define a Hybrid Curve, perform the following steps:

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

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

Defining a Hybrid Curve with Hybrid Curve Type as Moving Average

To define a hybrid curve, perform the following steps:

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

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

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

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

To define a Hybrid Curve, perform the following steps:

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

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

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

Generate Hybrid 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.

Holiday Calendars

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

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

The **Generate Holiday Calendar** option on the **Holiday Calendar Definition** page allows you to generate the maximum 80 Holiday Calendar definitions at a time. Using the Scheduler Service, you can generate the Holiday Calendar definitions in bulk. For more information, see the Data Loader section.

Holiday Calendar Summary

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

Figure 4-8 Holiday Calendar Summary

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

Search Holiday Calendar Rule

Prerequisites: Predefined Holiday Calendar

To search for a Holiday Calendar:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Holiday Calendars that meet the search criteria.

Or

An alternative method to search a Holiday Calendar rule is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Holiday Calendar Summary. You can enter the **Code**, **Name**, and **Description** of the Holiday Calendar and click **Search**.

The Holiday Calendar rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new Holiday Calendar rule.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

- **Code:** The code of Holiday Calendar
- **Name:** The Holiday Calendar's short name.
- **Created Date:** The Date when Holiday Calendar was created.
- **Created By:** The Name of the user who created the Holiday Calendar
- **Last Modified By:** The user who last modified the Holiday Calendar rule.
- **Last Modified Date:** The Date and Time when the Holiday Calendar rule was last modified.
- **Access Type:** The access type of the rule. It can be Read-Only or Read/Write.
- **Action:** Click this icon to view a list of actions that you can perform on the Holiday Calendar rule.
 - **View/Edit:** Based on the user privilege assigned, you can either only view or edit existing Holiday Calendar rules. To edit a rule, you must have Read/Write privilege.
 - **Save As:** You can reuse a Holiday Calendar rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - **Delete:** You can delete Holiday Calendar rules that you no longer require. Note that only Holiday Calendar rule owners and those with Read/Write privileges can delete

Holiday Calendar rules. A Holiday Calendar rule that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.

- **Dependency Check:** You can perform a dependency check to know where a particular Holiday Calendar rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Holiday Calendar rules that have dependencies. . A report of all rules that utilize the selected Holiday Calendar rule is generated.

Also See:

- [Create Holiday Calendar](#)

Holiday Calendar Summary Page

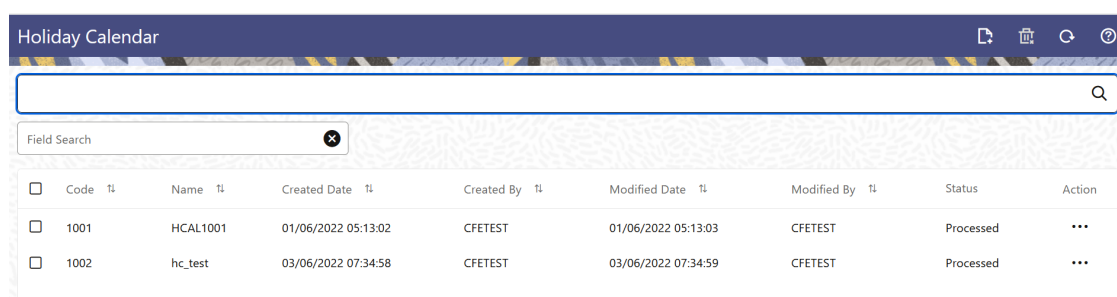
This page holds all Holiday Calendars and related functionality. You can navigate to other pages relating to the Holiday Calendar from this page.

The Holiday Calendar Summary Page displays the following columns.

Table 4-10 Holiday Calendar Rule – Fields and Descriptions

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

Figure 4-9 Holiday Calendar Summary page



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

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

Table 4-11 Holiday Calendar Rule – Icons and Descriptions

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

Search Holiday Calendar

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

- View
- Edit
- Copy
- Delete

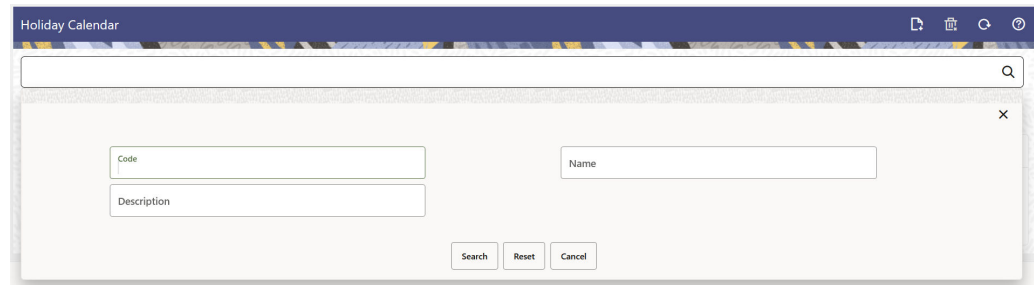
Prerequisites

Predefined Holiday Calendar Rule

Procedure

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

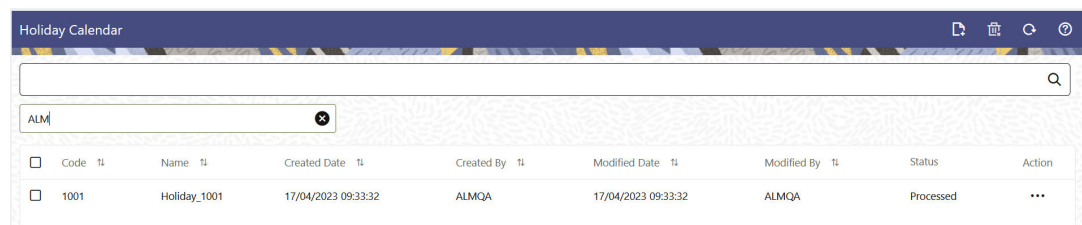
- Navigate to the **Holiday Calendar Summary** Page.
 - Click **Search** icon in the Field Search section. Enter the Code, Name, and Description of the Holiday Calendar. You can specify one or multiple search criteria in this section.

Figure 4-10 Search Holiday Calendar

— Click **Search** .

or

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

Figure 4-11 Search Holiday Calendar

☐	Code	Name	Created Date	Created By	Modified Date	Modified By	Status	Action
☐	1001	Holiday_1001	17/04/2023 09:33:32	ALMQA	17/04/2023 09:33:32	ALMQA	Processed	...

Only Holiday Calendars that match the search criteria are displayed.

Create a Holiday Calendar

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

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

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

Figure 4-12 Holiday Calendar Details Page

Holiday Calendar

Holiday Code(Hint 1 - 99) Required

Description

Name Required

Weekend Days

☐ Monday ☐ Tuesday ☐ Wednesday ☐ Thursday

☐ Friday ☐ Saturday ☐ Sunday Required

Holiday Details

Holiday Details

Show Holidays Between And

☐ Name	Date	Holiday Type
No data to display.		

Generate Holidays And Exceptions

Generate Holidays

From 06/06/1982 To 06/06/2062

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

Holiday Calendar section

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

3. Click **Next** to navigate to **Holiday Details** section.

Holiday Details section

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

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

Example

25th December – Christmas, is a fixed Holiday.

Note:

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

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

Example

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

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

Generate Holidays And Exceptions Section

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

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

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

The generated holiday list is no longer valid if:

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

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

Edit Holiday Calendar

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

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

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

View Holiday Calendar List

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

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

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

Holiday Exceptions

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

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

Figure 4-13 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.

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.

Economic Indicator Rule Summary

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

Figure 4-14 Economic Indicator Summary

Name	Country	Frequency	Value Type	Created By	Created Date	Last Modified By	Last Modified Date	Action
EIAPITest	54	Monthly	Numeric	almqa	10/31/2023 11:10:50	almqa	11/15/2023 07:11:03	...

Search Economic Indicator Rule

Prerequisites: Predefined Economic Indicator Rule

To search for an Economic Indicator Rule:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Economic Indicator Rules that meet the search criteria.

Or

The other method to search an Economic Indicator Rule is using the **Field Search** option. The Field Search is an inline wildcard UI search that allows you to enter value partially or fully and the rows that match the entered string in any of its column is fetched in the Summary table. Enter the **Code**, **Name**, **Description**, and **Country** of the Economic Indicator Rule and click **Search**.

The Economic Indicator Rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new Economic Indicator Rule.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

- **Code:** The Economic Indicator Rule's code.
- **Country:** The Country of for which Economic Indicator has been defined.
- **Frequency:** The Frequency at which value of Economic Indicator is expected to be updated.
- **Hierarchy:** Hierarchy that is used to define Economic Indicator Rule.
- **Value Type:** The Value Type of an Economic Indicator.
- **Created By:** The Name of the user who created the Economic Indicator

- **Created Date:** The Date and Time at which the Economic Indicator was created
- **Last Modified By:** The user who last modified the Economic Indicator Rule.
- **Last Modified Date:** The Date and Time when the Economic Indicator Rule was last modified.
- **Access Type:** The access type of the rule. It can be Read-Only or Read/Write.
- **Action:** Click this icon to view a list of actions that you can perform on the Economic Indicator Rule.
 - View/Edit: Based on the user privilege assigned, you can either only view or edit existing Economic Indicator Rules. To edit a rule, you must have Read/Write privilege.
 - Save As: You can reuse the Economic Indicator Rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - Delete: You can delete Economic Indicator Rules that you no longer require. Note that only Economic Indicator Rule owners and those with Read/Write privileges can delete Economic Indicator Rules. A Economic Indicator Rule that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.
 - Dependency Check: You can perform a dependency check to know where a particular Economic Indicator Rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Economic Indicator Rules that have dependencies. A report of all rules that utilize the selected Economic Indicator Rule is generated.

Also See:

- [Add Economic Indicator Rule](#)

Economic Indicator Summary Page

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

Table 4-12 Economic Indicator Summary – Fields and Descriptions

Column	Description
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 4-15 Economic Indicator Summary Page

☐	Code	Name	Country	Frequency	Value Type	Created By	Created Date	Last Modified By	Last Modified Date	Action
☐	203100	Economic Indicator	Argentina	Monthly	Numeric	CFETEST	06/03/2022 11:06:55	CFETEST	06/03/2022 11:06:55	...

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 4-13 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 Multiple Delete icon at the top right of the summary page to delete more than Economic Indicator Rules at the same time.
View/Edit	Click on the Action icon against the Economic Indicator Name and select View/Edit to view or edit the contents of an Economic Indicator rule in read/write format. Depending on user privileges the rule will open in either View or Edit Mode.
Save As	Click on the Action icon against the Economic Indicator Name and select Save As to create a copy of an existing Economic Indicator Rule.
Delete	Click on the Action icon against the Economic Indicator Name and select Delete to delete an existing Economic Indicator Rule.

Search Economic Indicator

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

- View
- Edit
- Copy
- Delete

Prerequisites

Predefined Economic Indicator

Procedure

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

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

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

Add an Economic Indicator

To add an Economic Indicator, follow these steps:

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

Figure 4-16 Economic Indicator Details Page

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

Table 4-14 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.

Table 4-14 (Cont.) Economic Indicator Window – Fields and Descriptions

Fields	Description
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 4-15 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.

Table 4-15 (Cont.) Economic Indicator window – Fields and Descriptions

Fields	Description
Download Excel	Excel export functionality is used to download the Economic Indicator information in xlsx format. Click Download Excel Option. After downloading, you can modify the value and paste back in the displayed data grid. Note: The date format in the Excel File should be same as provided in Global Preferences. For more information, see the Global Preference Section.

View and Edit Economic Indicator

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

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

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

Copy Economic Indicator

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

To copy an Economic Indicator, follow these steps:

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

Delete Economic Indicator

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

**Note:**

An Economic Indicator cannot be retrieved after deletion.

Restrictions on deleting Economic Indicator Rules are:

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

To delete an Economic Indicator, follow these steps:

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

Dependency Check

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

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

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

**Note:**

This is functionality will be released in future.

Common Rules

This section covers the following topics:

1. [Preferences](#): This section covers the procedures to set the Global Preference Settings and User Preference Settings.
2. [Filters](#): Filters allow you to select data using the defined expressions.

Preferences

You can access the Preferences module by clicking **Maintenance**, and then click the **Preferences** link in the LHS menu of the **IFRS 9 Solution Cloud Service**. The **Preferences** Page appears.

Setup Preferences

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

Topics:

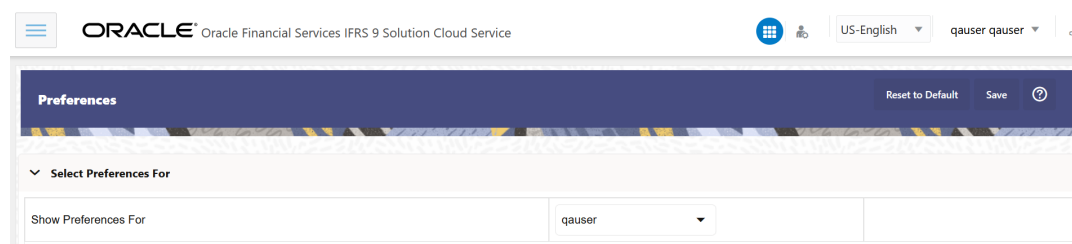
- [Select Preference For](#)
- [Configure Global Preference](#)
- [Configure Application Preference](#)
- [Configure User Preference](#)

Select Preferences For

To setup the Preferences, follow these steps:

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

Figure 4-17 Select Preferences For Section



2. Select the user from **Show Preferences For** drop-down list. This has following options:
 - **All User:** If you have Administrator Privileges, you can define preferences for the All User Group and their individual account, which may be the same or different from the All User settings. The Administrator can also designate the All User preferences as Editable or Non-editable on a row by row basis. If the individual preference is selected as is Editable, then End Users can update or override the Administrator's default value for their own individual account. If the Is Editable box is deselected, then End Users cannot change the default for their individual account.
 - **End-User:** If you do not have Administrator Privileges, then certain preference items are pre-set by the Administrator, and you may not be allowed to change the value. All Application Preference Settings are displayed, regardless of the access privilege.

Global Preference

Global Preferences items are used to configure your User Interface (UI).

To update the Global Preferences, follow these steps:

1. Navigate to **Maintenance** and select **Preferences**.
2. Select **Global Parameters**.

Figure 4-18 Global Preference Section

Global Parameters		
Property Name	Property Value	Is Editable
Date Format	dd-MM-yyyy	☐
Pagination Count	20	☐
Group Company Legal Hierarchy	LegalEntity	☐
Currency Rate Provider	Default	☐

3. Enter following values as described in Table:

Fields	Description
Date Format	Select one value from available list. dd-MMM-yy yyyy/MM/dd MM/dd/yyyy dd.MM.yyyy MM-dd-yyyy yyyy.MM.dd yyyy/MMM/dd dd-MMM-yyyy dd/MMMM/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.
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.

Fields	Description
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.
EIR Calculation and Amortization for FVOCI accounts	If this box is checked then the EIR calculation and amortization process will be performed on <i>Fair Value through Other Comprehensive Income</i> (FVOCI) accounts

4. **Is Editable status** cannot be turned on since individual users are not expected to modify these parameters.
5. Click **Save** to confirm the changes.
6. **Reset to Default** option enables the factory settings to default.

User Preference

User Preferences items are used to configure the User Settings.

To update the Cash Flow Engine User Preferences, follow these steps:

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

Figure 4-19 User Preference Section

Property Name	Property Value	Is Editable
As of Date	1/31/2016	☐
Initial Currency	US Dollar	☐

3. Enter following values in as described:
 - **As of Date** - All processes reference this date at Runtime to determine the data to include in the process. The As-of-Date value you set in Application Preferences applies to interactive job execution (that is, when you choose to execute a rule directly from a Summary window). For batch processing, the As-of-Date is derived from the Information Date. As of Date is also referenced by some assumptions UI's to display relevant information therein.
 - **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.
4. Click **Save** to confirm the changes.

Application Preference

Application Preferences UI allow Administrators and End Users to establish default values, manage other Core Application Parameters that affect the way Business Rules are created and the way Cash Flow Processes are run.

To update the Cash Flow Engine Application Preferences, follow these steps:

1. Navigate to **Maintenance** and select **Preferences**.
2. Click **Application Tab**.

Figure 4-20 Application Processing and Parameters

User	Application
>	Processing - Cash Flow General
>	Processing - Cash Flow Process
>	Parameters-General
>	Processing - Cash Flow Edits

Figure 4-21 Processing - Cash Flow General section of Application Preference

UserApplication

▼ Processing - Cash Flow General

Property Name	Property Value	Is Editable
Debugging Level	All ▼	☐
View Logs Level	Debug ▼	☐

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

Fields	Description
Debugging Level	The debugging output level determines the amount of SQL that will be written to the processing log. There are eight levels available: 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 $p \geq q$. This rule is at the heart of log4j. It assumes that levels are ordered. For the standard levels, we have ALL < DEBUG < INFO < WARN < ERROR < FATAL < OFF.
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 4-22 Processing - Cash Flow Process section of Application Preference

User

Application

▼

Processing - Cash Flow Process

Property Name	Property Value	Is Editable
Cash Flow Process Batch Size	1000	
Cash Flow Process Parallel Requests	2	
Cash Flow Process Parallel Threads	5	
Cash Flow Process Flush Batch Size	500	

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 tuning 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 tuning parameter for Cash Flow Engine Cloud Service. This defines how much memory can be used by the different components of the process such as the stack, data and text segments. 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

Table 4-16 Parameters - General

Fields	Description
Fiscal Year Start Date (MM/DD)	The start date of the Fiscal Year.
First Execution Date	The first date of the execution.
FICO Score Source	The FICO Score Source
Default Dimensions	The default dimensions present in the application. The default dimensions are • Country • Geographic Location • Industry • Branch • Market Segment Code The user can select other required dimensions from the drop-down list or select CTRL + F to search required dimensions.

Table 4-16 (Cont.) Parameters - General

Fields	Description
Bucket Frequency	Bucket frequency is service-level input, hence it is the same across portfolios. Select a value from the drop-down list: • Half Yearly • Annually • Monthly • Quarterly Bucket frequency is a key element while doing the calculation of 12-month PD and Lifetime PD. For the same FIC_MIS_DATE, these numbers come differently if the bucket frequency is different. Bucket frequency is constant for both interpolation and extrapolation.
Maximum Extrapolation Period in Years	Enter a value in this field. Maximum period is inclusive of interpolation and extrapolation.
NPV Test Threshold	Enter a value in this field to determine the threshold for the NPV test.
Functional Currency	This field only applies to the roll rate method. For the roll rate rule, if the computation basis is selected as <i>Value Movement</i> and the base matrix is generated with the <i>Historical Average Transition Matrix</i> then the user needs to select the <i>Functional Currency</i>.

Table 4-17 Processing - Cash Flow Edits

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.

Filter

Filters allow you to select data using the defined expressions.

Filters are categorized based on the different object types.

- [Data element filter](#)
- [Group filter](#)

- [Hierarchy filter](#)
- [Attribute filter](#)

Filter Summary Page

The **Filters Summary Page** shows the list of available filters. To access the Filter Summary page, complete the following procedure:

- From the left menu, click **Common Object Maintenance** and select **Filters**.
The Filter Summary Page provides the list of Filters with the following details.

Table 4-18 Field Description

Field	Description
Name	The unique Filter Name.
Folder	The folder in which the Filter Definition is stored.
Filter Type	The Filter Type associated with the Filter Definition.
Modified By	The last User who has modified the Filter Definition.
Modification Date	The date of modification.
Action	Click to View, Edit, Copy, Delete a Filter definition and View SQL.

Navigating Filters Summary Page

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

For more information about accessing data in a summary page, refer [Viewing Data in a Summary Page](#)

Creating Filter Definitions

To create a Filter definition, complete the following steps:

1. To create a Filter Definition, click the **Add** () button in the Filter Summary Page.
The **Add Filter Definition** Page is displayed.

Figure 4-23 Add Filter Definition Page

Filter Definition

⌵ ⚙ Filter Details

Name

Description

Read Only☒

Folder

Required

Required

⌵ 📁 Filter Type

Filter Type

Required

⌵ ⓘ Audit Info :

Table 4-19 Field Description

Field	Field
Name	The unique Filter Definition Name.  Note: You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
Folder	Select the Folder Name where the Filter is to be stored from the drop-down list.
Description	A brief description about the Filter Definition.  Note: You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.
Read-Only	Toggle the button to set the Access Type. Read-Only: Select this option to give other users the access to only view the Filter Definition.
Filter Type	You can set the new Filter Definition, to any of the following Filter Types: • Data Element • Hierarchy Click the respective to filter for more information.

2. Click **Save** ().

The new Filter Definition is created successfully.

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 4-24 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 4-25 launch icon



to launch the Hierarchy Browser and select/unselect the Child/Sibling Members to be included in the Filter.

5. Click **Save**. The Hierarchy Filter definition is saved.

Defining a Data Element Filter

Data Element Filter is a stored rule that expresses a set of constraints. Only columns that match the data type of your Data Element selection are offered in the Data Element drop-down list box. For example, Balances between 10,000 and 20,000 Accounts opened in the current month Loans with amortization terms greater than 20 years.

Data Element Filters can access most instrument columns and most columns in the Management Ledger. Data Element Filters are used within other rule types such as Allocation Rules, Transfer Pricing Rules, Asset and Liability Management Rules.

When you have selected the Filter Type as **Data Element**, define the Filter conditions by doing the following in the Data Element Selection Section:

Figure 4-26 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 4-20 Field Description

Field	Description
Specific Values	Specific Values are used to match a selected database column to a specific value or values that you provide. You may either include or exclude Specific Values. You can add additional values by clicking the Add button. To remove a row, select the Checkbox and click the Delete button. When comparing Specific Values for a character type column, you must provide Specific Values that are character strings. When comparing Specific Values for a date type column, you must provide Specific Values that are dates (the application displays a Calendar Control). When comparing Specific Values for a Numeric Column, you must provide Specific Values that are numbers. Select Include Values or Exclude Values to include or exclude the selected values.

Table 4-20 (Cont.) Field Description

Field	Description
Ranges	Ranges are used to match a selected Database Column to a range of values or to ranges of values that you provide. You may either include or exclude Range Values. Range Type is available for datatypes Term, Frequency, Leaf, Code, Identity, Date, Numeric and Varchar. You can add additional values by clicking the Add button. To remove a row, select the checkbox and click Delete. If the column datatype is VARCHAR, 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.
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 >=.

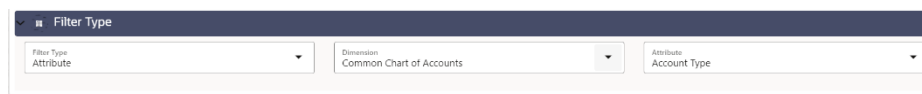
- Click **Add** () list the completed filter conditions in the Filter Conditions Grid.
- Click **Save** () to validate the entries and save the filter details

Defining an Attribute Filter

Attribute Filters are created using defined Attributes. Attribute filters facilitates you to filter on one or more Dimension Type Attributes. For each attribute, you can select one or more values.

When you have selected the Filter Type as Attribute, define the Filter conditions by doing the following in the Attribute Selection Section:

Figure 4-27 Attribute Filter Type Selection



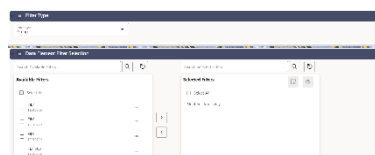
1. Select the required **Dimension** from the drop-down list.
2. Select the associated **Attribute** from the drop-down list.
The list consists of only Dimension Type attributes for selection.
The Attribute Values pane displayed.
3. Click Search (🔍). The list of attribute values associated with the selected Attribute are displayed.
4. Click the **Action** (⋮) button adjacent to the attribute to be added and click **Copy**.
5. The Attribute value is added the Attribute Values pane.
6. Click **Add** button in the **Attribute Values** pane. The Filter Conditions grid is populated with the filter condition using all the Attribute values.
7. Select a filter condition and click **Delete** in the **Attribute Values** pane. The selected filter condition is deleted after confirmation.
8. Select the method to be implemented. You can select from the following Filter Methods:
9. Click **Add** to list the completed filter conditions in the Filter Conditions Grid.
10. Click **Save** (💾) to validate the entries and save the filter details.

Defining a Group Filter

Group Filters can be used to combine multiple Data Element Filters with a logical "AND".

When you have selected the Filter Type as Group, define the Filter conditions by doing the following in the Group Selection Section:

Figure 4-28 Group Filter Type Selection



1. Select the checkbox(s) adjacent to the required Data Element Filters in the Available Filters section and click ➤. The selected filters are displayed in the Selected Filters pane. Select the checkbox adjacent to the Data element filter in the Selected Filters pane and click to deselect a filter.

You can also click the **Search** button to search for a filter in the Data Element Filter Search dialog using Folder Name and Filter Name.

2. Click **Save** () to validate the entries and save the filter details.

Managing Filter Definitions

You can view, edit, copy, delete and view SQL for the existing Filter Definitions from the Filter Summary Page.

In the Filter Summary Page, highlight a specific Filter Definition and click the **Action** button (). The following Options are displayed.

Table 4-21 Action Details

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

Viewing Filter Definition Details

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

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

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

Editing Filter Definition Details

You can edit individual Filter Definition details at any given point. To edit the existing Filter Definition details:

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

The Filter Definition Page is displayed with the details: Name, Description, Folder, Filter Type, Filter Conditions and Audit Info. Edit the required information and click **Save**.

Copying Filter Definition Details

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

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

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

Edit the unique information such as Filter Type and click **Save**.

Deleting Filter Details

To delete a Filter Definition:

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

The Filter Definition is deleted after confirmation.

Note:

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

Checking Dependencies

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

1. Click the **Action** () button adjacent to the filter definition.
2. Click the **Check Dependency** () button.

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

View SQL

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

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

The SQL statement of Filter Definition is displayed.

Cashflow Assumptions

This section covers the following topics:

- **Repricing Patterns:** 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.
- **Behavior Patterns:** User Defined Behavior Patterns allow you to define Principal Amortization Schedules for Non-Maturity Products in your portfolio.
- **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.

- **Cashflow Edits Process:** this module discusses the procedure for validating and cleansing your Instrument Table Data before you process it to generate Cash Flow-based results. The Cash Flow Edits Process allows you to verify the accuracy and check the completeness of your Instrument Table Data.

Repricing Patterns

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.

Repricing Pattern Summary

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.

Figure 4-29 Repricing Summary

☐	Name	Pattern type	Created By	Created Date	Last Modified By	Last Modified Date	Action
☐	Chedk	Absolute	CFETEST	2022-09-15 11:17:30	CFETEST	2022-09-15 11:17:30	...
☐	RP_504	Relative	CFETEST	2022-09-13 11:11:57	CFETEST	2022-09-13 11:11:57	...
☐	RP_501	Relative	CFETEST	2022-09-13 11:11:32	CFETEST	2022-09-13 11:11:32	...
☐	RP_600	Absolute	CFETEST	2022-09-13 11:10:09	CFETEST	2022-09-13 11:10:09	...

Search Repricing Pattern

Prerequisites: Predefined Repricing Pattern

To search for a Repricing Pattern:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Repricing Patterns that meet the search criteria.

Or

An alternative method to search a Repricing Pattern is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Repricing Pattern Summary. You can enter the **Code, Name, Description** or **Pattern Type** of the Repricing Pattern and click **Search**.

The Repricing Pattern Summary displays the following information:

Add: Click the Add icon on the page header to build a new Repricing Pattern.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

- **Name:** The Repricing Pattern's short name.
- **Pattern Type:** The Repricing Pattern Type, such as Absolute or Relative.
- **Created By:** The Name of the user who created the Repricing Pattern.
- **Created Date:** The Date and Time at which the Repricing Pattern was created.
- **Last Modified By:** The user who last modified the Repricing Pattern.
- **Last Modified Date:** The Date and Time when the Repricing Pattern was last modified.
- **Action:** Click this icon to view a list of actions that you can perform on the Repricing Pattern.
 - View/Edit: Based on the user privilege assigned, you can either only view or edit existing Repricing Patterns. To edit a rule, you must have Read/Write privilege.
 - Save As: You can reuse a Repricing Pattern by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - Delete: You can delete Repricing Patterns that you no longer require. Note that only Repricing Pattern owners and those with Read/Write privileges can delete Repricing Patterns. A Repricing Pattern that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.
 - Dependency Check: You can perform a dependency check to know where a particular Repricing Pattern has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Repricing Patterns that have dependencies. A report of all rules that utilize the selected Repricing Pattern is generated.

Also See:

- [Create a Repricing Pattern](#)

Repricing Pattern Summary Page

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

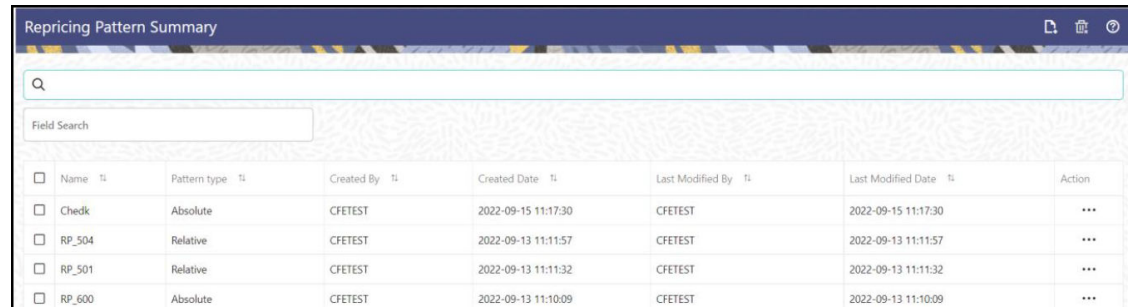
The Repricing Summary Page displays the following columns.

Table 4-22 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.

Table 4-22 (Cont.) Repricing Pattern Rule – Fields and Descriptions

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 4-30 Repricing Summary Page


The screenshot shows the 'Repricing Pattern Summary' page. It features a search bar at the top with a magnifying glass icon. Below the search bar is a 'Field Search' input field. The main content is a table with the following columns: Name, Pattern type, Created By, Created Date, Last Modified By, Last Modified Date, and Action. There are four rows of data, each with a checkbox in the first column.

☐	Name	Pattern type	Created By	Created Date	Last Modified By	Last Modified Date	Action
☐	Chedk	Absolute	CFETEST	2022-09-15 11:17:30	CFETEST	2022-09-15 11:17:30	...
☐	RP_504	Relative	CFETEST	2022-09-13 11:11:57	CFETEST	2022-09-13 11:11:57	...
☐	RP_501	Relative	CFETEST	2022-09-13 11:11:32	CFETEST	2022-09-13 11:11:32	...
☐	RP_600	Absolute	CFETEST	2022-09-13 11:10:09	CFETEST	2022-09-13 11:10:09	...

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

Table 4-23 Repricing Pattern – Icons and Descriptions

Fields	Description
Add	Click Add icon to build a new Repricing Pattern Rule.
Multiple Delete	Select one or more rules in the table and then click the Delete icon at the top right of the Summary Page to delete more than one rule at the same time.
View/Edit	Click on the Action icon against the Pattern Name and select View/Edit to view or edit the contents of a Repricing Pattern Rule in Read/Write format. Depending on User Privileges the rule will open in either View or Edit Mode.
Save As	Click on the Action icon against the Pattern Name and select Save As to create a copy of an existing Repricing Pattern Rule.
Delete	Click on the Action icon against the Pattern Name and select Delete to delete an existing Repricing Pattern Rule.
Dependency Check	Click on the Action icon against the Pattern Name and select Dependency Check to view objects where selected Repricing Pattern Rule is used.

Search Repricing Pattern

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

- View
- Edit
- Copy
- Delete

Prerequisites

Predefined Repricing Patterns

Procedure

To search the repricing patterns, follow these steps:

1. Navigate to the Repricing Pattern Summary Page.
2. Enter the code or name of the pattern in Search Criteria.
3. Click the **Search** .
Only patterns that match the search criteria are displayed.

Create Repricing Patterns

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

To create the Repricing Pattern, follow these steps:

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

Define Absolute Repricing Patterns

The Absolute Repricing Pattern is used for instruments that are date dependent. Each specific date is a separate event. You need to enter the month and day for each event, except for the initial event.

Figure 4-31 Define Absolute Repricing Pattern
Prerequisites

Selecting Absolute as the pattern type.

Procedure

This table describes key terms used for this procedure.

Table 4-24 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 range over its life due to repayment.

4. Click **Define**.

Repricing Event is Flat Repricing

Flat Rate: A Flat Rate is a specific rate—it is directly input.

To define a Flat Rate Event, follow these steps:

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

 Note:

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

5. Click **Apply**.

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

Repricing Event is Indexed Repricing

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

To define an Indexed Rate Event, follow these steps:

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

 Note:

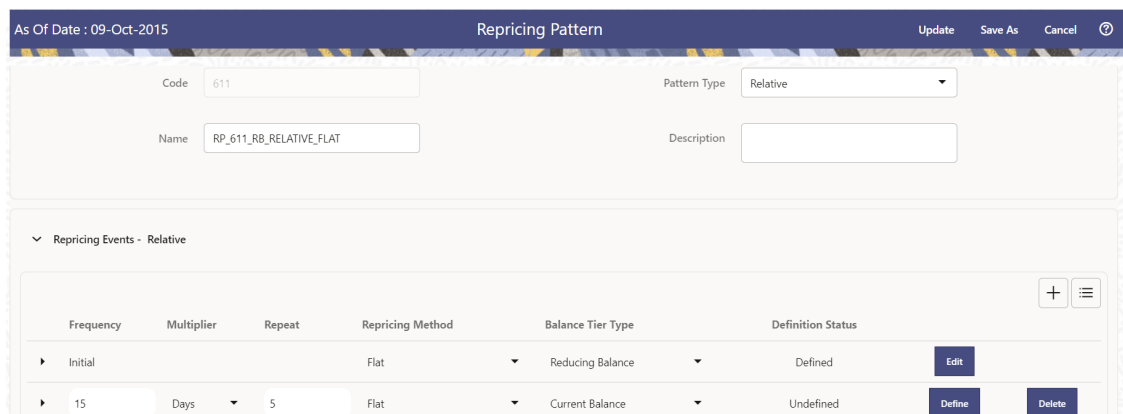
The Transfer Price Curve functionality will be released in the future.

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

Define Relative Repricing Patterns

The Relative Repricing Pattern is used for instruments where the repricing is determined by the elapsed time since origination. Defining a Relative Repricing Pattern involves the definition of a series of repricing events applicable to a specific Repricing Pattern Code. You need to specify the length of each Repricing Period and the number of times that event should occur before calculating the next event in the pattern.

Figure 4-32 Define Relative Repricing Pattern



As Of Date : 09-Oct-2015 Repricing Pattern Update Save As Cancel ?

Code: 611 Pattern Type: Relative

Name: RP_611_RB_RELATIVE_FLAT Description:

▼ Repricing Events - Relative

Frequency	Multiplier	Repeat	Repricing Method	Balance Tier Type	Definition Status	
Initial			Flat	Reducing Balance	Defined	Edit
15	Days	5	Flat	Current Balance	Undefined	Define Delete

Prerequisites

Selecting Relative as the pattern type.

Procedure:

This table describes key terms used for this procedure.

Table: Key Terms used in Relative Repricing Pattern

Key Terms	Description
Add Row	This allows you to Add one or more Repricing Events.
Add Multiple Rows	Allows you to add more Repricing Events.
Delete	This allows you to delete specific rows in the Repricing Events Table. You need to specify the following parameters in the Repricing Events Table for a Relative Repricing Pattern:
Frequency	In conjunction with the Multiplier drop-down menu, this field allows you to specify how often Repricing occurs.
Multiplier	The unit of time applied to the frequency. The choices are: Days Months Years
Repeat	This allows you to specify the number of times a repricing event should be repeated.
Repricing Method	A drop-down list, it displays the Repricing Type, Flat Rate or Indexed Rate, associated with a particular event.

The steps to create relative Repricing Patterns are similar to [Creating Absolute Repricing Patterns](#).

The only difference is that the fields in the Repricing Events Table are different.

Select Pattern Type as Relative and follow the steps mentioned in [Creating Absolute Repricing Patterns](#) section.

View and Edit Repricing Pattern

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

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

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

Copy Repricing Pattern

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

To copy a Repricing Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Repricing Pattern**.
2. Search for a Rule.

For more information, see the [Searching for Rules](#) section.

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

Delete Repricing Pattern

You can delete patterns that are no longer required.

Note:

A pattern cannot be retrieved after deletion.

Restrictions on deleting patterns are:

- You cannot delete patterns if you have only Read privileges. Only users with Read/Write privileges and pattern owners can delete patterns.
- You cannot delete a pattern that has a dependency.

To delete a Repricing Pattern, follow these steps:

1. Navigate to the **Maintenance** and select **Repricing Pattern**.
2. Search for a Rule. For more information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Pattern Name and select **Delete**.

Dependency Check

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

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

- Navigate to the **Maintenance** and select **Repricing Pattern**.
- Search for a Rule. For further information, see the [Searching for Rules](#) Section.
- Click on the **Action** icon against the Pattern Name and select **Dependency Check** to the Rule that you want to check for.

Note:

This is functionality will be released in future.

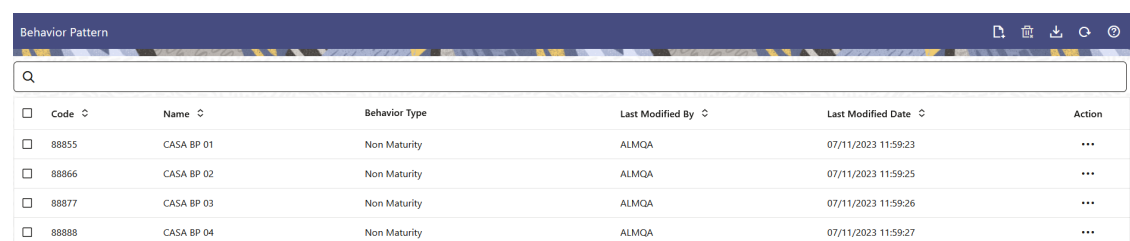
Behavior Patterns

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.

Behavior Pattern Summary

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

Figure 4-33 Behavior Pattern Summary



☐	Code	Name	Behavior Type	Last Modified By	Last Modified Date	Action
☐	88855	CASA BP 01	Non Maturity	ALMQA	07/11/2023 11:59:23	...
☐	88866	CASA BP 02	Non Maturity	ALMQA	07/11/2023 11:59:25	...
☐	88877	CASA BP 03	Non Maturity	ALMQA	07/11/2023 11:59:26	...
☐	88888	CASA BP 04	Non Maturity	ALMQA	07/11/2023 11:59:27	...

Search Behavior Pattern

Prerequisites: Predefined Behavior Pattern

To search for a Behavior Pattern:

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.

The Behavior Pattern Summary displays the following information:

- **Code:** Numeric code of the Behavior Pattern
- **Name:** The Behavior Pattern's name.
- **Behavior Type:** The type of Behavior Pattern.
- **Last Modified By:** The user who last modified the Behavior Pattern.
- **Last Modified Date:** The Date and Time when the Behavior Pattern was last modified.
- **Action:** Click this icon to view a list of actions that you can perform on the Behavior Pattern.
 - **View:** You can view an existing Behavior Patterns.
 - **Edit:** Based on the user privilege assigned, you can edit existing Behavior Patterns. To edit a rule, you must have Read/Write privilege.
 - **Save As:** You can reuse a Behavior Pattern by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - **Delete:** You can delete Behavior Patterns that you no longer require. A Behavior Pattern that has a dependency cannot be deleted.

- **Dependency Check:** You can perform a dependency check to know where a particular Behavior Pattern has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Behavior Patterns that have dependencies. A report of all rules that utilize the selected Behavior Pattern is generated.

 Note:

This is functionality will intended for a future release.

In addition to above actions, you can perform below actions using icons located at top right side of the summary:

- **Add:** Click the Add icon on the page header to build a new Behavior Pattern.
- **Multiple Delete:** Enables you to select and delete one or multiple rules in the tables simultaneously.
- **Download:** Export contents of summary to a CSV file
- **Refresh:** Click refresh icon to reload the summary.
- **Help:** Click help icon to access online guide to use Behavior Pattern.

Also See:

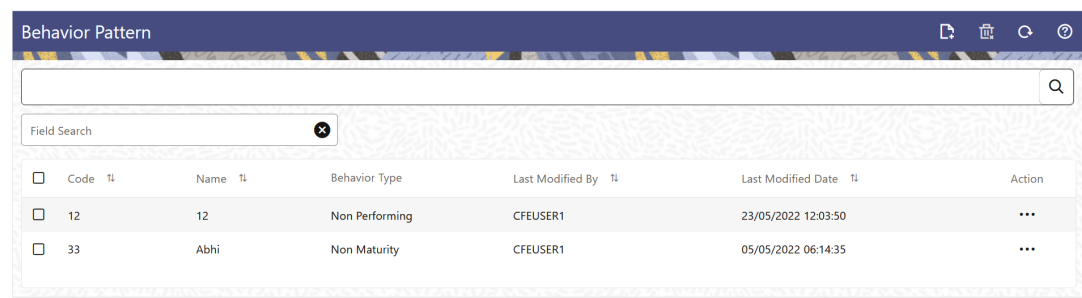
- [Creating a Behavior Pattern](#)

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 4-34 Behavior Pattern Summary Page



☐	Code	Name	Behavior Type	Last Modified By	Last Modified Date	Action
☐	12	12	Non Performing	CFEUSER1	23/05/2022 12:03:50	...
☐	33	Abhi	Non Maturity	CFEUSER1	05/05/2022 06:14:35	...

The Summary Page of Behavior Pattern displays the Search Criteria Pane, Field Search (Specific Search) Pane, and the already created Behavior Patterns and their details.

2. Click the **Search** icon and enter the Search Criteria from the following options:
 - Code

- Name
 - Description
 - Behavior Type
3. Click **Search** to display the Behavior Patterns that match the criteria.
 4. Click **Search** after entering the Search Criteria.
The search results are displayed in a table containing all the Behavior Patterns that meet the search criteria with the following details:
 - **Code:** The code of the Behavior Pattern.
 - **Name:** The name of the Behavior Pattern.
 - **Behavior Type:** The type of the Behavior Pattern.
 - **Last Modified By:** Displays the Name of the user who last modified the Behavior Pattern.
 - **Last Modified Date:** Displays the Date and Time at which a Behavior Pattern was last modified.
 5. Click on the Action icon against the Behavior Pattern to do further actions as follows:
 - **View:** Click View to view the details of a Behavior Pattern in Read-Only format.
 - **Edit:** Click Edit to modify a previously saved Behavior Pattern. Note that you cannot change the Code.
 - **Save As:** Click Save As to create a copy of the selected Behavior Pattern.
 - **Dependency Information:** Click Check Dependencies to generate a report on all rules that utilize your selected Behavior Pattern.
 - **Delete:** Click Delete to delete the selected Behavior Pattern.
 6. Click **Cancel/Reset** to remove the filter criteria on the Search Window and refresh the window.

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

Creating Behavior Patterns

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

To create a Behavior Pattern, perform the following:

1. Navigate to the **Behavior Pattern Summary** Page.
2. Click **Add** to display the Behavior Pattern Details Page.

Figure 4-35 Behavior Patterns Details Page

Behavior Pattern

Code Required

Name Required

Description Required

Behavior Type Required

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

 Note:

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

Defining Devolvement and Recovery Behavior Patterns

Devolvement and Recovery Behavior Patterns are commonly used for estimating Cash Flows associated with Letters of Credit and Guarantees. These product types are categorized as Off-Balance-Sheet Accounts. Users can assign expected maturity profiles to the related balances classifying them into appropriate categories of Sight Devolvement and Sight Recovery or Usance Devolvement and Usance Recovery. Sight Devolvement and Recovery are the most common types.

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

1. In the **Behavior Pattern Details** Page, select **Devolvement and Recovery** as the Behavior Pattern Type.
2. Click the **Add** icon to open the Non-Performing Behavior Patterns Summary Page.

Figure 4-36 Behavior Pattern with Type as Devolvement and Recovery

Behavior Pattern

Code: 455 Behavior Type: Devolvement and Recovery

Name: BH455

Description: BH455

Devolvement and Recovery

☐	Tenor ¹	Multiplier ¹	Percentage ¹	Type ¹
☐	1	Month	10.000000	Sight Devolvement
☒	6	Month	5.000000	Sight Recovery

Audit Trail

3. Enter or select the following details:
 - **Tenor:** Specify the maturity tenor for the first maturity strip. For example, if “1 Day” is defined, then the applicable percentage of the balance will Runoff (mature) on the As-of-Date + 1 Day.
 - **Multiplier:** The unit of time applied to the Tenor. The choices are:
 - Days
 - Months
 - Years
 - **Percentage:** The relative amount of the Principal Balance that will mature on the date specified by the Tenor + Multiplier. The percentage amounts can exceed 100% for devolvement and recovery patterns.
 - **Type:** This allows you to classify the Runoff based on the appropriate type. The options are:
 - **Sight Devolvement:** indicates the Beneficiary is paid as soon as the Paying Bank has determined that all necessary documents are in order. This is the preferred approach.
 - **Sight Recovery**
 - **Usance Devolvement:** Usance: is a period, which can be between 30 and 180 days after the bill of Lading Date.
 - Usance Recovery

 Note:

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

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

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

Defining Non-Maturity Behavior Patterns

Non-Maturity Behavior Patterns are commonly used for deposit products like Checking, Savings, and Money Market Accounts as well as for Credit Card Accounts. These account types are similar in that they do not have Contractual Cash Flows because Customers have the option to deposit or withdraw any amount at any time (up to any established limits).

When working with Non-Maturity Behavior Patterns, your percentage weights, assigned to maturity terms must add up to 100%.

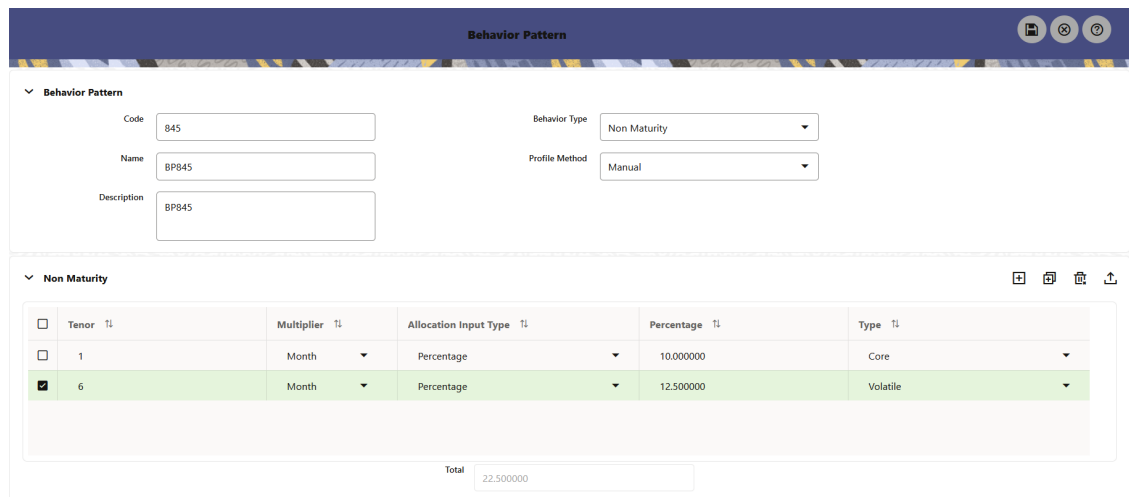
For Manual Model, you can perform the following steps:

1. In the Behavior Pattern Details Page, select Non Maturity as the Behavior Pattern Type.
2. Select Non-Maturity Products Profile Method as **Manual** or **Non Maturity Products Model**. Based on selected Profile Method, Behavior Pattern UI will vary.

Profile Type as Manual

To define Non Maturity Behavior pattern as manual, follow these steps:

Figure 4-37 Profile Method as Manual



The screenshot shows the 'Behavior Pattern' configuration page. The 'Behavior Pattern' section includes fields for Code (B45), Name (BPB45), Description (BPB45), Behavior Type (Non Maturity), and Profile Method (Manual). Below this is the 'Non Maturity' section, which contains a table with columns: Tenor, Multiplier, Allocation Input Type, Percentage, and Type. The table has two rows: one for Tenor 1 (Core) and one for Tenor 6 (Volatile). The Tenor 6 row is selected with a checkbox. A 'Total' field at the bottom shows 22.500000.

Tenor	Multiplier	Allocation Input Type	Percentage	Type
1	Month	Percentage	10.000000	Core
☒ 6	Month	Percentage	12.500000	Volatile

Total: 22.500000

1. 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.
2. 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.

3. Click **Add Multiple Row** icon to open a window. Enter the number of rows you want to add and click Add Rows.
4. To delete a row, select the check box corresponding to the row you want to remove and click the Delete icon.
5. Click **Save**.

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

Profile Type as Non Maturity Products Model

To define Non Maturity Behavior pattern with Non Maturity Product Model, follow these steps:

Figure 4-38 Profile Method as Non Maturity Products Model

Behavior Pattern

Code: 10011
 Name: BPrule1
 Description:
 Behavior Type: Non Maturity
 Profile Method: Non Maturity Products Model
 Non-Maturity Model:
 Search
 Multiple Core Strips as per Decay Profile: ☒
 User Defined Tenor: ☐
 Total Portfolio Balance by Model:
 Threshold Balance: 200
 Generate Profile

Non Maturity

Tenor	Multiplier	Allocation Input Type	Percentage	Type
1	Month	Percentage	20.000000	Volatile
2	Month	Percentage	40.000000	Core

1. Select the **Model** from on **Non Maturity Model** drop-down. You can search Non Maturity Product Model using product and currency criterias after clicking **Search** button. You can have single Core or Multiple Core strips based on if decay profile is being used: This will be based on model calculated core balance and corresponding Weighted average life based on calculated decay rate. Multiple Core and Volatile strips in percentage if “Multiple Core Strips as per Decay Profile” is selected. Once model is selected, you can define two types of strip definitions:

- **Single Core Strip:** The model evaluates the core balance against a total point in time balance.
 - **Core Calculation:** Behavior pattern picks the core from the underlying model which is defined at certain portfolio level. Use the Non-Maturity Deposit Model Weighted Average Life as the tenor. The core percentage is calculated as:

Figure 4-39 Core Calculation

$$\text{Core Percentage} = \left(\frac{\text{NMD Model (Core balance)}}{\text{Total Point in Time balance}} \right) \times 100$$

- **Volatile Percentage:** This is calculated as:

Figure 4-40 Volatile Percentage

$$\text{Volatile Percentage} = 100 - \text{Core Percentage}$$

The tenor for this calculation is set at 1 day and in relation to the strip tenor, with a default maturity assumption of "At Maturity".

- **Multiple Core Strips as per Decay profile:**

If this is selected, there are following two options:

- **Using Generate Profile:** You can select to **Generate Profile** with or without thresholds. Strips will be auto-generated based on decay profile frequency. For example, if the NMD model's decay profile is set to a daily frequency, tenors will be auto-populated on a daily basis.

Total portfolio balance by Model (Model Output): Total balance is the balance available at the latest As of Date in the Historical Period selected for which model is created. For example, if the historical period is from January 1, 2020, to December 31, 2020, and the most recent date is December 31, 2020, the total available balance of all accounts included in the portfolio (based on product and currency) would represent the total Portfolio Balance.

The **Threshold Balance** option will be active only when the **Multiple Core Strips as per Decay Profile** toggle button is selected. The default value of this field is

0.0. It accepts only positive numbers or decimals values.

When you use Decay Rate profile from the selected model, the balance keeps reducing using every period's decay rate till threshold balance is reached. So, no further strips can be created beyond the Threshold balance.

It is recommended to give some valid positive value as threshold balance, else after few initial strips, principal will become small and decaying part will be even smaller. If the number of strips reaches to 500 and the remaining balance is negligible, an error message is displayed.

Once balance is reached equal or less than given threshold, then rest of the balance will run off in immediate next strip.

For example, if the initial balance was 10,000 and the threshold is set at 500, and the decay profile indicates that the balance reaches 500 or less in the 11th strip, then in the immediate next strip (the 12th strip), the entire remaining balance will be deducted. This is necessary because the system needs to account for 100% of the remaining balance, and there is a check in the BP to ensure that the total of all strips adds up to 100%.

The system uses the decay profile/decay rate generated by the model and creates Runoff Profile/Strips as per inputs data frequency to the NMD model which can be in Days/Months and Years. If the frequency is in Days, then the tenor of the defined strips would be days else it would be in months/years as per the model definition.

- **Using User Defined Tenor:** If this is selected, then + icon will be available to add strips.

 Note:

The **User Defined Tenor** option will be active only when the **Multiple Core Strips as per Decay Profile** toggle button is selected. By default, it will be OFF.

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.
- * 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:

Click **Add Multiple Row** icon to open a window. Enter the number of rows you want to add and click Add Rows.

To delete a row, select the check box corresponding to the row you want to remove and click the Delete icon.

As per the defined tenor/multiplier decay rate percentages will be calculated and populated in core allocation. Core allocation input will be percentage if model is used.

2. Click **Generate Profile**. It creates the Profile Strips as per total and threshold balance. The system uses the decay profile/decay rate generated by the model and creates the strips as per tenors given by the user. E.g. if per month decay rate is 10% and user has defined first strip as 3 months, then total runoff in first strip will be 30%. Similarly subsequent strips allocation will be calculated based on user-defined term points. And Once threshold is reached, system will not do any further calculation but runoff all remaining balance in subsequent strip itself.

 Note:

If number of strips generated is more than 500, then system displays error.

3. Click **Save**.

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

Defining Non-Performing Behavior Patterns

Non-Performing Behavior Patterns are commonly used for instruments that are classified as non-earning assets. 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**.

- Click the **Add** icon to open the **Non-Performing Behavior Patterns Summary** Page.

Figure 4-41 Behavior Pattern with Type as Non-Performing

Behavior Pattern

Code: 455 Behavior Type: Non Performing

Name: BH455

Description: BH455

Non Performing

☐	Tenor ↑↓	Multiplier ↑↓	Percentage ↑↓	Type ↑↓
☐	1	Days	10.000000	Substandard
☐	1	Month	5.000000	Doubtful
☐	1	Year	2.000000	Loss

- 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.

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

6. Click **Save**.

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

View and Edit Behavior Pattern

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

To view and edit a Behavior Pattern, perform the following steps:

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

Copy Behavior Pattern

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

To copy a Behavior Pattern, perform the following steps:

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

Delete Behavior Pattern

You can delete patterns that are no longer required. A pattern cannot be retrieved after deletion.

Restrictions on deleting patterns are:

- You cannot delete patterns if you have only Read Privileges. Only users with Read/Write Privileges and pattern owners can delete patterns.
- You cannot delete a pattern that has a dependency.

To delete a Behavior Pattern, perform the following steps:

1. Navigate to the Summary Screen and select Behavior Pattern.
2. Search for a Behavior Pattern
For more information, see the [Search for Behavior Pattern](#) section.

- Click on the **Action** icon against the Pattern Name and select Delete.

Forecast Rates

Forecast Rate Scenario Assumptions allow you to define future interest rates, future economic indicators, future currency exchange rates, future interest rate volatility, and select Forecast Rate 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.

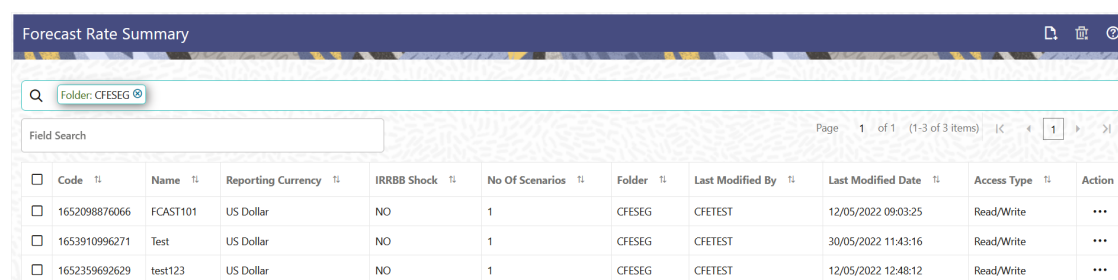
The Forecast Rate Assumptions use interest rate curve, volatility surface, economic indicator, active and reporting currencies, and Forecast Rate rule.

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.

Forecast Rate Rule Summary

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

Figure 4-42 Forecast Rate Summary



The screenshot shows the 'Forecast Rate Summary' page with a search bar at the top. Below the search bar is a table with the following columns: Code, Name, Reporting Currency, IRRBB Shock, No Of Scenarios, Folder, Last Modified By, Last Modified Date, Access Type, and Action. The table contains three rows of data.

Code	Name	Reporting Currency	IRRBB Shock	No Of Scenarios	Folder	Last Modified By	Last Modified Date	Access Type	Action
1652098876066	FCAST101	US Dollar	NO	1	CFESEG	CFETEST	12/05/2022 09:03:25	Read/Write	...
1653910996271	Test	US Dollar	NO	1	CFESEG	CFETEST	30/05/2022 11:43:16	Read/Write	...
1652359692629	test123	US Dollar	NO	1	CFESEG	CFETEST	12/05/2022 12:48:12	Read/Write	...

Search Forecast Rate Rule

Prerequisites: Predefined Forecast Rate Rule

To search for a Forecast Rate Rule:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Forecast Rate Rules that meet the search criteria.

Or

An alternative method to search a Forecast Rate Rule is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Forecast Rate Rule Summary. You can enter the **Code, Name, Description, Dimension, Hierarchy, and Folder** of the Forecast Rate Rule and click **Search**.

The Forecast Rate Rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new Forecast Rate Rule.

- **Code:** The System ID of Forecast Rate Rule.
- **Name:** The Forecast Rate Rule's short name.
- **Reporting Currency:** 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 Scenarios:** The number of scenarios defined in the Forecast Rates Rule
- **Folder:** The Folder name where the Forecast Rate Rule is saved.
- **Last Modified By:** The user who last modified the Forecast Rate Rule.
- **Last Modified Date:** The Date and Time when the Forecast Rate Rule was last modified.
- **Access Type:** The access type of the rule. It can be Read-Only or Read/Write.
- **Action:** Click this icon to view a list of actions that you can perform on the Forecast Rate Rule.
 - Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.
 - View/Edit: Based on the user privilege assigned, you can either only view or edit existing Forecast Rate Rules. To edit a rule, you must have Read/Write privilege.
 - Save As: You can reuse a Forecast Rate Rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - Delete: You can delete Forecast Rate Rules that you no longer require. Note that only Forecast Rate Rule owners and those with Read/Write privileges can delete Forecast Rate Rules. A Forecast Rate Rule that has a dependency cannot be deleted.
 - Dependency Check: You can perform a dependency check to know where a particular Forecast Rate Rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Forecast Rate Rules that have dependencies. . A report of all rules that utilize the selected Forecast Rate Rule is generated.

 Note:

This is functionality will intended for a future release.

Also See:

- [Create Forecast Rate Rule](#)

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 4-25 Forecast Rate Rule Summary– Fields and Descriptions

Column	Description
Code	Displays the System ID of Forecast Rate Rule.

Table 4-25 (Cont.) Forecast Rate Rule Summary– Fields and Descriptions

Column	Description
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 4-43 Forecast Rate Summary Page

Code	Name	Reporting Currency	IRRBB Shock	No Of Scenarios	Folder	Last Modified By	Last Modified Date	Access Type	Action
1652098876066	FCAST101	US Dollar	NO	1	CFESEG	CFETEST	12/05/2022 09:03:25	Read/Write	...
1653910996271	Test	US Dollar	NO	1	CFESEG	CFETEST	30/05/2022 11:43:16	Read/Write	...
1652359692629	test123	US Dollar	NO	1	CFESEG	CFETEST	12/05/2022 12:48:12	Read/Write	...

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

Table 4-26 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.

Table 4-26 (Cont.) Forecast Rate rule – Icons and Descriptions

Fields	Description
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.

Search Forecast Rate Rule

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

- View
- Edit
- Copy
- Delete
- Check Dependencies

Prerequisites

Predefined Forecast Rate Rule

Procedure

To search for a new Forecast Rate Rule, follow these steps:

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

Create Forecast Rate Rule

To create a new Forecast Rate Rule, follow these steps:

1. Navigate to **Forecast Rates Summary** Page.
2. Click **Add** icon. The **Forecast Rates Details** Page is displayed.
3. Enter the following Details

Table 4-27 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.

- Scenario 1 is selected by default. You can change the name of scenario. Click + to add more scenario, if needed. More than one scenario can be created only in Asset Liability Management Cloud Service.
- Scenario Type is 'None' by default. When IRRBB Shock is enabled then you can select one of the available values from second scenario onwards.
- Click **Save**, if you want to save the Forecast Rate Rule and update it later.

Interest Rate Forecast Methods

The IRCs for all active currencies are listed under Interest Rate Curve section. The options under Interest Rate Curve Forecast Method provide multiple ways to model the effects on portfolio Cash Flows due to Interest Rate changes.

Figure 4-44 Interest Rate Curve Forecast Rates

As Of Date : 25-Jun-2015 Forecast Rate Update Save As Cancel

Name: FR_SAVE_AS Folder: ALMSEG IRRBB Shocks: ☐ Description: descriptio Access Type: ☐ Read Only ☒ Read/Write Reporting Currency: US Dollar

Scenario	Name	Scenario Type	Currency	Economic Indicator	Volatility Surface	Behaviour Pattern Rule
1	Scenario1	None				

Interest Rate Curve

Search: Define Copy Across Restore Default View

Code	Name	Currency	Curve Type	Forecast Method	Interpolation Method	Minimum Rate	Definition Status
☒ 101	RT-IRC-101	USD	Standard	Structured Chan...	Linear Interpolati...	1.0000	Defined
☐ 102	SaveAsAPI102	USD	Standard	Flat	Linear Interpolati...	0	Undefined

You can define Interest Rate Forecast for the following methods:

Table 4-28 Forecast Rate rule – Methods and Descriptions

Method	Description
Flat	Forecast no change in the Interest Rate for all dates beginning with the As-of Date.
Direct Input	Type Interest Rates directly for any modeling period or Interest Rate term.
Structured Change	Forecast exchange rates as an incremental change from the previous period. Forecast rate changes in terms of absolute or percent change, for any modeling period or interest rate term, such as: +100 basis points on Day 1 -200 basis points over the first 6 months Yield curve rotation (short point decreasing, long point increasing). This option is available only in Asset Liability Management Cloud Service.
Implied Forward	Forecast interest rates based on the yield-curve interest rates in effect at the as-of date and consistent with the modeling bucket definitions. This option is available only in Asset Liability Management Cloud Service.
Yield Curve Twist	Flatten or steepen the yield curve around a specific point on the curve. This option is available only in Asset Liability Management Cloud Service.
Change from Base	Make incremental changes to an existing forecast scenario. This option is available only in Asset Liability Management Cloud Service.
IRRBB Standardized Approach Shocks	Forecast an interest rate shock according to one of the BCBS IRRBB Standardized Approach shock specifications (Scenario-level specification). This option is available only in Asset Liability Management Cloud Service
IRRBB Enhanced Approach Shocks	Forecast an interest rate shock according to user specifications that will flow into IRRBB Table B reporting. This option is available only in Asset Liability Management Cloud Service.
Formula	Hybrid and Managed Rate IRC can be forecasted using the formula defined in Managed Rate/ Hybrid section of IRC.

**Note:**

Formula method is applicable to Hybrid and Managed Rates IRC.

For more information, see the [Cash Flow Engine Reference Guide](#).

The following Interpolation Methods are available.

Table 4-29 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 $5*(n-1) \times 5*(n-1)$. The matrix is formed according to the following logic: The second derivative at the endpoints and the first derivative of the last point is Zero. At the points other than the endpoints, the value of the first derivatives, second derivatives, and the third derivatives of the function are equal.

In looking up the Forecast Rates, the Cash Flow Engine (where necessary) performs an interpolation between yield curve term points. For example, in determining a three-month rate from a yield curve that contains only a one-month rate and a six-month rate, the Cash Flow Engine performs an interpolation to determine the implied three-month rate. The Interpolation method used is defined by the selected interpolation method for the Interest Rate Curve.

Forecast rates for 360 calendar months starting from As-of-Date are generated.

Following options are available for Interest Rate Curve Forecast Rule:

- [Define](#)
- [Copy Across](#)
- [Restore Default](#)
- [View](#)

Define

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

Figure 4-45 Direct Input

Forecast Period	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y
0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768	5.168	5.5168	6.0344
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

5. Enter data and click **Apply**. Right click on data grid and select 'Export to Excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid.
 6. The status of the Interest Rate Curve is changed to **Defined**.
- **Structured Change**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Structured Change**.
 2. Select the **Interpolation Method**.
 3. Input Minimum Rate, if required.
 4. Click **Define**.
The **Structured Change** window is displayed:

Figure 4-46 Structured Change

As Of Date : 10-09-2015 Forecast Rate Save Cancel

IT-IRC-101: Structured Change Shock Type ☒ Rate ☐ Percent

Start Period	End Period	From Date	To Date	1M	2M	3M	6M	1Y	2Y	3Y	5Y
0	0	0	0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768
1	1	10-10-2015	11-09-2015								

Apply Cancel

5. Select the Shock Type as Rate or Percent. Shock Type as Rate designates to absolute rate change and Shock Type as Percent designates to percent rate change.
 6. Enter a shock amount to apply to the IRC in absolute rate or percentage change. Enter Start and End period from 1 to 360 months and corresponding shock amount to apply to the IRC. Right click on data grid to all more rows or delete rows. Use the Excel Import or Export feature to add the interest rate changes.
 7. Click **Apply** to save.
 8. The status of the Interest Rate Curve is changed to **Defined**.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Implied Forward.
 2. Select the **Interpolation** Method.
 3. Input Minimum Rate, if required.
 4. Click **Define**.
The Implied Forward window is displayed:

Figure 4-47 Implied Forward

As Of Date : 10-09-2015 Forecast Rate Save Cancel

RT-IRC-101: Implied Forward Shock Type ☒ Rate ☐ Percent

	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y
Base Rate	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768	5.168	5.5168	6.0344
Shock Rate											

Apply Cancel

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

Figure 4-48 Yield Curve Twist

As Of Date : 10-09-2015 Forecast Rate Save Cancel ⓘ

RT-IRC-101: Yield Curve Twist

Forecast Period	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y
0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768	5.168	5.5168	6.0344

Start Period
Short Point
Mid Point
Long Point

End Period
Shock Amount
Shock Amount
Shock Amount

Apply Cancel

- Select Start and End Period. Start Period must 1 or higher while highest End Period can be 360.
 - Select the tenors using the Short Point, Mid Point, and Long Point.
 - Add the required shock amounts for each tenor. At runtime and display time, the rate changes are added to the As-of-Date rates to create a future scenario.
 - Click **Apply**.
The status of the Interest Rate Curve is changed to Defined.
- Change From Base**

 Note:

This method is available from second scenario onwards.

- Select Scenario 2 or higher as Scenario.

Figure 4-49 Change From Base

Scenario	Name	Scenario Type
1	Scenario 1	None
2	Scenario 2	EA - Short Do...

Interest Rate Curve Currency Economic Indicator Volatility Surface Behaviour Pattern Rule

Search Define Copy Across Restore Default View

IRC Code Filter IRC Name Filter

☐	Code	Name	Currency	Curve Type	Forecast Method	Interpolation Method	Minimum Rate	Definition Status
☐	101	RT-IRC-101	USD	Standard	Change From Ba...	Linear Interpolation	0.0000	Defined
☒	102	SaveAsAPI_102	USD	Standard	Change From Ba...	Linear Interpolation	0	UnDefined

- Select Interest Rate Code using corresponding checkbox and select Forecast Method as Change from Base.
- Select the Interpolation Method.
- Input Minimum Rate, if required.
- Click Define. The Change From Base window is displayed.

Figure 4-50 Change From Base

As Of Date : 10-09-2015 Forecast Rate Update Save As Cancel ⓘ

RT-IRC-101: Change From Base Scenario 1

Forecast Period	1M	2M	3M	6M	1Y	2Y	3Y	5Y	7Y	10Y	20Y	30Y
0	1.136	2.0544	2.8712	3.264	4.04	4.1704	4.2808	4.9768	5.168	5.5168	6.0344	6.0344
1												

Apply Cancel

6. Scenario 1 is used as base scenario.
 7. Enter the Forecast Period from 1 to 360 months and the corresponding change amount to apply to the base forecasts IRC. Right click on data grid to all more rows or delete rows. Use the **Excel Import or Export** feature to add the interest rate changes.
 8. The status of the Interest Rate Curve is changed to Defined.
- **Standardized Approach Shocks**

Standardized Approach shocks are different than other Interest Rate Rules as these are applied at the scenario level instead of at the IRC level. When you create a new Forecast Rates rule, update the IRC Forecast Method for IRRBB Shocks Scenarios.

 1. In Forecast Rates window, select the IRRBB Shocks. This allows you to define either Standardized or Enhanced Approach Scenarios, or both for a single Forecast Rates Rule. Once a forecast rates rule is designated as IRRBB Shocks, this checkbox cannot be unselected unless there are no defined scenarios as either Standardized or Enhanced Approach scenario type.
 2. To apply a Standardized Approach scenario, click the Add Scenario.
 3. In the Add Forecast Rates Scenario section, select the Scenario Type to apply the scenario. The following are the shock scenarios:
 - Standardized Approach Shock - Parallel UP
 - Standardized Approach Shock - Parallel DOWN
 - Standardized Approach Shock - Short UP
 - Standardized Approach Shock - Short DOWN
 - Standardized Approach Shock - Flattener
 - Standardized Approach Shock - Steppener
 4. Only one Standardized Approach shock can be applied to a single scenario, and no two SA shocks of the same type may be applied to the same Forecast Rates rule. All qualifying IRCs will inherit this SA shock and cannot be changed except for their interpolation method and minimum rate.
 5. Click Apply to make scenario as Standardized Approach shock.
 - **Enhanced Approach Shocks**

Like Standardized Approach shocks, Enhanced Approach shocks are scenario-level rules. When you create a new Forecast Rates rule, update the IRC Forecast Method for IRRBB Shocks Scenarios. However, unlike Standardized Approach shocks, the Forecast method for each IRC is not pre-established. This means that users must define the Forecast method, interpolation method and minimum rate for all Interest Rates in each scenario. Once defined and processed, the results will flow through into the Table B reporting.

 1. In the Forecast Rates window, select the IRRBB Shocks. This allows you to define either Standardized or Enhanced Approach scenarios, or both for a single Forecast Rate rule. After a Forecast Rate rule is designated as IRRBB Shocks, this checkbox cannot be unselected unless there are no defined scenarios as either Standardized or Enhanced Approach Scenario Type.
 2. To apply an Enhanced Approach scenario, click the Add Scenario. The following are the shock scenarios:
 - a. Enhanced Approach Shock - Parallel UP
 - b. Enhanced Approach Shock - Parallel DOWN
 - c. Enhanced Approach Shock - Short UP
 - d. Enhanced Approach Shock - Short DOWN

- e. Enhanced Approach Shock - Flattener
- f. Enhanced Approach Shock - Steppener
- 3. Only one Enhanced Approach shock can be applied to a single scenario, and no two EA shocks of the same type can be applied to the same Forecast Rates rule. All IRCs in this scenario remain fully editable for the Forecast method, Interpolation method, and Minimum Rate.
- 4. Click Apply to make the scenario as Enhanced Approach shock.
- **Formula**

 Note:

This method is applicable for Hybrid and Managed Rate IRC definitions. For Hybrid and Managed Rate IRC definitions, following methods are applicable: Flat, Formula, and Direct Method.

1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Formula**.
2. Select the **Interpolation Method**.
3. Input Minimum Rate, if required.
4. Click **Define**.
5. The status of the Interest Rate Curve 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.

 Note:

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

- **Flat Method**
 1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Flat**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Structured Change**
 1. Select Interest Rate Curve using the corresponding checkbox and select **Forecast Method** as **Structured Change**.
 2. Click **Copy Across**.

3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Implied Forward.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.
 - **Change From Base**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as Change From Base.
 2. Click Copy Across.
 3. Click Apply Copy Across.
 4. You can click Cancel Copy Across to cancel the Copy Across function.
 - **Formula**

 Note:

This method is applicable for Hybrid and Managed Rate IRC definitions. For Hybrid and Managed Rate IRC definitions, following methods are applicable: Flat, Formula, and Direct Method.

1. Select Interest Rate Curve using corresponding checkbox and select **Forecast Method** as **Formula**.
2. Click **Copy Across**.
3. Click **Apply Copy Across**.
4. You can click **Cancel Copy Across** to cancel the Copy Across function.

Restore Default

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

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

1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Implied Forward**.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.
 - **Yield Curve Twist**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Yield Curve Twist**.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.
 - **Change From Base**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Change From Base**.
 2. Click **Restore Default**.
 3. The status of the Interest Rate Curve is changed to Undefined.
 - **Formula**

 Note:

This method is applicable for Hybrid and Managed Rate IRC definitions. For Hybrid and Managed Rate IRC definitions, following methods are applicable: Flat, Formula, and Direct Method.

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

View

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

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

2. Click **View** to see the Output Table.
- **Structured Change**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **View** to see the Output Table.
- **Yield Curve Twist**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Yield Curve Twist**.
 2. Click **View** to see the Output Table.
- **Implied Forward**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Implied Forward**.
 2. Click **View** to see the Output Table.
- **Change From Base**
 1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Change From Base**.
 2. Click **View** to see the Output Table.
- **Formula**

 Note:

This method is applicable for Hybrid and Managed Rate IRC definitions. For Hybrid and Managed Rate IRC definitions, following methods are applicable: Flat, Formula, and Direct Method.

1. Select Interest Rate Curve using corresponding checkbox and select Forecast Method as **Formula**.
2. Click **View** to see the Output Table.

Define Currency Forecast Methods

The following Currency Forecast methods are available when you select a currency (other than the reporting currency) from the **Currency Codes** list. Currency forecast methods is available in Asset Liability Management Cloud Service only.

Figure 4-51 Currency Forecast Methods

As Of Date : 25-Jun-2015 Forecast Rate Update Save As Cancel

Name: FR_SAVE_AS Folder: ALMSEG ☐ IRRBB Shocks

Description: descriptio Access Type: ☐ Read Only ☒ Read/Write Reporting Currency: US Dollar

Scenario	Name	Scenario Type
1	Scenario1	None

Interest Rate Curve Currency Economic Indicator Volatility Surface Behaviour Pattern Rule

Search

FX Code Filter	Name Filter
☐ Code	☐ Name
☐ AED	United Arab Emirates Dirham
☐ USD	US Dollar

Code	Name	Forecast Method	Minimum Rate	Definition Status
AED	United Arab Emirates Dirham	No Arbitrage	0	Defined
USD	US Dollar	Flat	0	Undefined

Table 4-30 Currency Forecast Methods

Method	Description
Flat	Forecast no change in the exchange rate for all dates beginning with the as-of date.
Structured Change	Forecast exchange rates as an incremental change from the previous period.
Direct Input	Type exchange rates to use in forecasting.
Parity	Forecast the exchange rate between two currencies based on forecasted interest rate associated with the currencies. The parity method can be used only if both the reporting currency and the selected currency have a Reference IRC. If reference IRC is not available for both or any one currency then flat method is used.
No Arbitrage	Forecast the exchange rate required to maintain a no-arbitrage condition between two currencies. The No Arbitrage method can be used only if both the reporting currency and the selected currency have a Reference IRC. If reference IRC is not available for both or any one currency then flat method is used.

Following options are available for Currency Forecast Rule:

- [Define](#)
- [Copy Across](#)
- [Restore Default](#)
- [View](#)

Define

Flat Method

1. Select Currency Code using corresponding checkbox and select Forecast Method as **Flat**.
2. Input Minimum Rate, if required.

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

Figure 4-52 Direct Input window

Forecast Period	Rate Value
0	0
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

4. Right click on data grid and select 'Export to excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid. Enter data and click **Apply**.
 5. The status of the Currency Code is changed to **Defined**.
- **Structured Change**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Input Minimum Rate, if required.
 3. Click **Define**. The **Structured Change** window is displayed:

Figure 4-53 Structured Change window

Start Period	End Period	From Date	To Date	1M	2M	3M	6M	1Y	2Y	3Y	5Y
0	0	0	0	1.136	2.0544	2.6712	3.264	4.04	4.1704	4.2808	4.9768
1	1	10-10-2015	11-09-2015								

Shock Type: ☒ Rate ☐ Percent

Apply Cancel

4. Select the Shock Type as Rate or Percent. Shock Type as Rate designates to absolute rate change and Shock Type as Percent designates to percent rate change.
 5. Enter Start and End period from 1 to 360 months and corresponding shock amount to apply to the Currency. Right click on data grid to all more rows or delete rows. Use the **Excel Import or Export** feature to add the interest rate changes. Click **Apply**.
 6. The status of the Currency Code is changed to **Defined**.
- **Parity**

1. Select Currency Code using corresponding checkbox and select Forecast Method as **Parity**.
 2. Input Minimum Rate, if required.
 3. Click **Define**.
 4. The status of the Currency Code is changed to **Defined**.
- **No Arbitrage**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **No Arbitrage**.
 2. Input Minimum Rate, if required.
 3. Click **Define**.
 4. The status of the Currency Code is changed to **Defined**.

Copy Across

This allows you to copy Forecast Method and related details from one Currency to another.

For example, if you have 10 Currency codes enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled Currency codes, instead of having to input 10 full sets, thereby saving a significant amount of input time.

You must select a defined Currency to use Copy Across. For more information, see the [Define](#) section of Currency.

- **Flat Method**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Flat**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Structured Change**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **Parity**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Parity**.
 2. Click **Copy Across**.
 3. Click **Apply Copy Across**.
 4. You can click **Cancel Copy Across** to cancel the Copy Across function.
- **No Arbitrage**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **No Arbitrage**.
 2. Click **Copy Across**.

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

Restore Default

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

- **Flat Method**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Flat**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **Direct Input**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Direct Input**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **Structured Change**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Structured Change**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **Parity**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **Parity**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.
- **No Arbitrage**
 1. Select Currency Code using corresponding checkbox and select Forecast Method as **No Arbitrage**.
 2. Click **Restore Default**.
 3. The status of the Currency Code is changed to **Undefined**.

View

After defining Forecast Method and other parameters for a Currency you can view the forecasted Currency by clicking this button.

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

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

Define Economic Indicator Forecast Rule

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

The following Economic Indicator Methods are available.

Table 4-31 Forecast Rate Rule – Economic Indicator Methods and Descriptions

Method	Description
Flat	Forecast no change in the EI rate for all dates beginning with the As-of Date.
Direct Input	Type-specific Economic Index Rates to use in forecasting.
Structured Change	Forecast the economic index as an incremental change from the previous period. This option is available only in Asset Liability Management Cloud Service.

Figure 4-54 Economic Indicator Forecast Rates

As Of Date : 25-Jun-2015 Forecast Rate Update Save As Cancel

Name: FR_SAVE_AS Folder: ALMSEG ☐ IRRBB Shocks

Description: descriptio Access Type: ☐ Read Only ☒ Read/Write Reporting Currency: US Dollar

Scenario	Name	Scenario Type
1	Scenario1	None

Interest Rate Curve Currency **Economic Indicator** Volatility Surface Behaviour Pattern Rule

Search

EI Code Filter EI Name Filter

Code	Name	Forecast Method	Minimum Rate	Definition Status
☐ 203101	EIAPITest	Flat	0.25	Defined

Following options are available for Economic Indicator Forecast Rule:

- [Define](#)
- [Copy Across](#)
- [Restore Default](#)
- [View](#)

Define

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

Figure 4-55 Direct Input window

Forecast Period	Rate Value
0	237.945
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	

3. Right click on data grid and select 'Export to Excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid. Enter data and click **Apply**.
 4. The status of Economic Indicator Code is changed to **Defined**.
- **Structured Change**
 - 1.
 2. Select Economic Indicator Code using corresponding checkbox, select Forecast Method as **Structured Change** and enter minimum rate.
 3. Click **Define**. The **Structured Change** window is displayed:

Figure 4-56 Structured Change window

Start Period	End Period	From Date	To Date	Total Rate Change
0	0			237.945
1	1	10-10-2015	11-09-2015	

4. Enter Start and End period from 1 to 360 months and corresponding shock amount to apply to the Currency. Right click on data grid to all more rows or delete rows. Use the **Excel Import or Export** feature to add the interest rate changes. Enter data and click Apply.
5. The status of Economic Indicator Code is changed to Defined.

Copy Across

This allows you to copy Forecast Method and related details from one Economic Indicator Code to another.

For example, if you have 10 Economic Indicator Codes enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled Economic Indicator Codes, instead of having to input 10 full sets, thereby saving a significant amount of input time.



Note:

You must select a defined Economic Indicator Code to use Copy Across. For more information, see the [Define](#) section of Economic Indicator.

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

Restore Default

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

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

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

View

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

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

Define Volatility Surface Forecast Methods

The following Volatility Surface Forecast methods are available when you select a Volatility Surface from the **Volatility Surface Codes** list. Volatility Surface forecast method is available in Asset Liability Management Cloud Service only.

Figure 4-57 Volatility Surface Forecast Methods

As Of Date : 25-Jun-2015 Forecast Rate Update Save As Cancel

Name: FR_SAVE_AS Folder: ALMSEG ☐ IRRBB Shocks

Description: descriptio Access Type: ☐ Read Only ☒ Read/Write Reporting Currency: US Dollar

Scenario 1 Name: Scenario1 Scenario Type: None

Interest Rate Curve Currency Economic Indicator Volatility Surface Behaviour Pattern Rule

Search Define Copy Across Restore Default View

VS Code Filter VS Name Filter

☐	Code	Name	Currency	Forecast Method	Shock Percentage	Definition Status
☒	11001	Volatility_Test	USD	Flat	0	Defined

Table 4-32 Volatility Surface Forecast Methods

Method	Description
Flat	Forecast no change in the exchange rate for all dates beginning with the as-of date.
Global Shock	Single shock rate is defined and applied to base volatility matrix
Detail Shock	Shock rate is defined for every intersection of Strike & Expiry Date
Direct Input	Implied volatility is given as input for every intersection of Strike & Expiry Date

Following options are available for Volatility Surface Forecast Rule:

- [Define](#)
- [Copy Across](#)
- [Restore Default](#)
- [View](#)

Define

- **Flat Method**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.
 2. Click Define.
 3. The status of the Volatility Surface Code is changed to Defined.
- **Global Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Global Shock.
 2. Input Shock Percentage, if required.
 3. Click Define.
 4. The status of the Volatility Surface Code is changed to Defined.
- **Detail Shock**

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

Figure 4-58 Detail Shock window

Strike Rate	23-Oct-2015	30-Nov-2015
4		
5		
6		

3. Right click on data grid and select 'Export to Excel' to save visible data to excel file. You can also copy directly from the grid and paste data from an excel file to the grid. Enter data and click Apply.
 4. The status of the Volatility Surface Code is changed to Defined.
- **Direct Input**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
 2. Click Define. The Direct Input window is displayed:

Figure 4-59 Direct Input window

Strike Rate	23-Oct-2015	30-Nov-2015
4		
5		
6		

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

Copy Across

This allows you to copy Forecast Method and related details from one Volatility Surface to another.

For example, if you have 10 Volatility Surface codes enabled in the application and you must input only one set of assumptions, then copy those assumptions across all enabled Volatility Surface codes, instead of having to input 10 full sets, thereby saving a significant amount of input time.

You must select a defined Volatility Surface to use Copy Across. For more information, see the [Define](#) section of Volatility Surface.

- **Flat Method**

1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.
2. Click Copy Across.

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

Restore Default

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

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

2. Click Restore Default.
3. The status of the Volatility Surface Code is changed to Undefined.

View

After defining Forecast Method and other parameters for a Volatility Surface you can view the forecasted Volatility Surface by clicking this button.

- **Flat Method**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Flat.
 2. Click View to see the output table.
- **Global Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Global Shock.
 2. Click View to see the Output Table.
- **Detail Shock**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Detail Shock.
 2. Click View to see the Output Table.
- **Direct Input**
 1. Select Volatility Surface Code using corresponding checkbox and select Forecast Method as Direct Input.
 2. Click View to see the Output Table.

Map Behavior Pattern Rule

The Behavior Pattern Rule section allows you to map an 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 4-60 Map Behavior Pattern Rule

The screenshot shows the 'Forecast Rate' configuration window. At the top, it says 'As Of Date : 25-Jun-2015' and 'Forecast Rate'. There are buttons for 'Update', 'Save As', and 'Cancel'. Below this, there are fields for 'Name' (FR_SAVE_AS), 'Folder' (ALMSEG), and a checkbox for 'IRRBB Shocks'. There is also a 'Description' field with 'descriptio', 'Access Type' with radio buttons for 'Read Only' and 'Read/Write' (selected), and a 'Reporting Currency' dropdown set to 'US Dollar'. On the left, there is a table with columns 'Scenario', 'Name', and 'Scenario Type'. It contains one row: '1', 'Scenario1', 'None'. On the right, there are tabs for 'Interest Rate Curve', 'Currency', 'Economic Indicator', 'Volatility Surface', and 'Behaviour Pattern Rule' (selected). Under the 'Behaviour Pattern Rule' tab, there is a dropdown for 'BP Rule To Be Applied To Current Scenario' and a checkbox for 'Apply to All Scenario'. An 'Apply' button is at the bottom.

4. Click **Apply**.

View and Edit Forecast Rate Rule

You can view existing Forecast Rate Rule, and edit existing Forecast rules, provided you have Read/Write privileges.

To view and edit a Forecast Rate Rule, follow these steps:

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

Copy Forecast Rate Rule

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

To copy a Forecast Rate Rule, follow these steps:

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

Delete Forecast Rate Rule

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

**Note:**

A Forecast Rate Rule cannot be retrieved after deletion.

Restrictions on deleting Rules are:

- You cannot delete Forecast Rate Rules if you have only Read privileges. Only users with read/write privileges and Rule owners can delete Rules.
- You cannot delete a Forecast Rate that has a dependency.

To delete a Forecast Rate, follow these steps:

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

Dependency Check

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

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

1. Navigate to the Assumption and select Forecast Rate.
2. Search for a rule. For further information, see the [Searching for Rules](#) section.
3. Click on the **Action** icon against the Forecast Rate Rule Name and select **Dependency Check** to the rule that you want to check for.

Prepayment Models

This module describes the procedure to build Prepayment Models. These Prepayment Models can be referenced by a Prepayment Model 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.

Prepayment Model Rule Summary

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

Figure 4-61 Prepayment Model Summary

☐	Name	Rate Calculation Type	Folder	Last Modified By	Last Modified Date	AccessType	Action
☐	RT2-Prepayment	Manual	CFSEEG	CFTEST	13/09/2022 09:44:10	Read/Write	...

Search Prepayment Model Rule

Prerequisites: Predefined Prepayment Model Rule

To search for a Prepayment Model Rule:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Prepayment Model Rules that meet the search criteria.

Or

An alternative method to search a Prepayment Model Rule is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Prepayment Model rule Summary. Enter the **Code, Name, Description, ,** and **currency** of the Prepayment Model Rule and click **Search**.

The Prepayment Model rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new Prepayment Model rule.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

- **Name:** The Prepayment Model Rule's short name.
- **Rate Calculation Type:** The Prepayment Model type, such as Manual .
- **Folder:** The Folder where the Prepayment Model Rule is saved.
- **Last Modified By:** The user who last modified the Prepayment Model rule.
- **Last Modified Date:** The Date and Time when the Prepayment Model rule was last modified.
- **Access Type:** The access type of the rule. It can be Read-Only or Read/Write.
- **Action:** Click this icon to view a list of actions that you can perform on the Prepayment Model rule.
 - View/Edit: Based on the user privilege assigned, you can either only view or edit existing Prepayment Model rules. To edit a rule, you must have Read/Write privilege.
 - Save As: You can reuse a Prepayment Model rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - Delete: You can delete Prepayment Model rules that you no longer require. Note that only Prepayment Model rule owners and those with Read/Write privileges can delete Prepayment Model rules. A Prepayment Model rule that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.

- **Dependency Check:** You can perform a dependency check to know where a particular Prepayment Model rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Prepayment Model rules that have dependencies. A report of all rules that utilize the selected Prepayment Model rule is generated.

Also See:

- [Create Prepayment Models](#)

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](#)

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 4-62 Prepayment Model

As Of Date : (10/09/2015) Prepayment Model Save Cancel

Name: newT1 Rate Calculation: Manual Folder: CFSEGG

Description: Access Type: ☐ Read Only ☒ Read/Write

1 Dimensions 2 Bucket Definition 3 Matrix Definition

Dimensions

Dimensions	Position	Lookup Method	Bucket
	Row		
	Column		
	Page		

Apply Cancel

> Audit Trail

> User Comments

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](#)

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 4-63 Dimensions section

Dimensions	Position	Lookup Method	Bucket
	Row		
	Column		
	Page		

Apply Cancel

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.

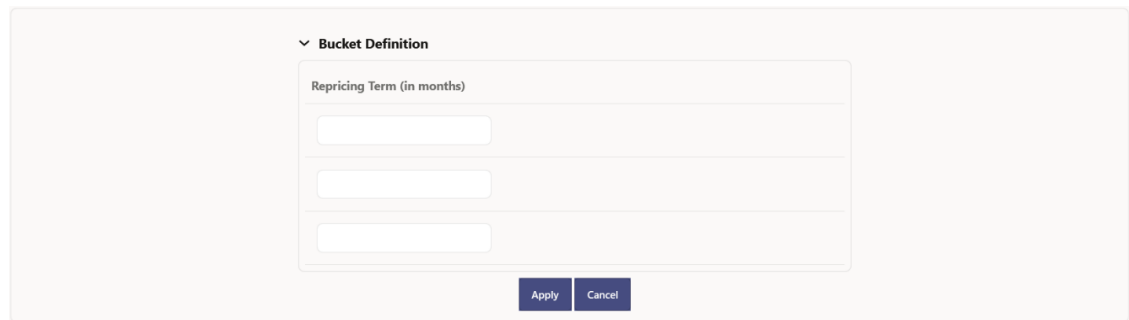
Modifying the Table Structure Using Bucket Definition section

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 4-64 Bucket Definition Section



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

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 4-65 Matrix Definition Section

Matrix Definition

Matrix

Repricing Term (in months)	
10	0.0000
20	0.0000
30	0.0000

Note: Please click apply on every page to save the Rates.

Apply Reset Cancel

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 4-66 Prepayment Model

As Of Date : 09-Oct-2015 Prepayment Model Save Cancel

Name: New11 Rate Calculation: External Model Folder: ALMSEG

Description: Access Type: ☐ Read Only ☒ Read/Write

1 Dimensions 2 Define Equation 3 Bucket Definition 4 Matrix Definition

Dimensions

Dimensions	Position	Lookup Method	Bucket
	Row		
	Column		
	Page		

Apply Cancel

Audit Info

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 Modeling 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](#)

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 4-67 Dimensions section

Dimensions	Position	Lookup Method	Bucket
	Row		
	Column		
	Page		

Apply Cancel

- 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.

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 4-68 Define Equation Section

☐	Operator	Coefficient	Dimension	Power
☐	+		Intercept	

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:

$$2 + 1.5 * \text{original Term} ^ 2 + 3 * \text{Rate Diff} ^ 2$$

**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**.

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 4-69 Bucket Definition Section

The screenshot shows a section titled "Bucket Definition" with a dropdown arrow. Below it is a form labeled "Repricing Term (in months)" containing three empty input fields. At the bottom right of the form are two buttons: "Apply" and "Cancel".

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

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 4-70 Matrix Definition Section

The screenshot shows a section titled "Matrix Definition" with a dropdown arrow. Below it is a section titled "Matrix" with a dropdown arrow and a download icon. Inside the Matrix section is a table with the following data:

Repricing Term (in months)	
10	0.0000
20	0.0000
30	0.0000

Below the table is a note: "Note: Please click apply on every page to save the Rates." At the bottom right are three buttons: "Apply", "Reset", and "Cancel".

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 quantifies the associated prepayment risk.

Search Prepayment Rule

Prerequisites: Predefined Prepayment Rule

To search for a Prepayment Rule:

On the Prepayment Summary, enter your search criteria in the search box and click **Search**. The Prepayment Rules meeting your search criteria are displayed.

Or

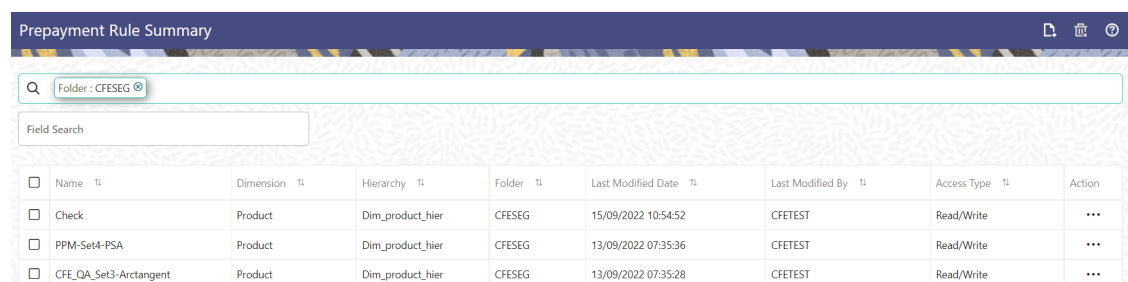
An alternative method to search a Prepayment Rule is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Prepayment Rule Summary. You can enter the **Code**, **Name**, **Description**, **Dimension**, **Hierarchy**, and **Folder** of the Prepayment Rule, partially or fully, and click **Search**.

Prepayment Rule Summary

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.

Figure 4-71 Prepayment Rule Summary



☐	Name	Dimension	Hierarchy	Folder	Last Modified Date	Last Modified By	Access Type	Action
☐	Check	Product	Dim_product_hier	CFSESEG	15/09/2022 10:54:52	CFETEST	Read/Write	...
☐	PPM-Set4-PSA	Product	Dim_product_hier	CFSESEG	13/09/2022 07:35:36	CFETEST	Read/Write	...
☐	CFE_QA_Set3-Arctangent	Product	Dim_product_hier	CFSESEG	13/09/2022 07:35:28	CFETEST	Read/Write	...

The Prepayment Rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new prepayment rule.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

- **Name:** The Prepayment Rule's short name.

- **Dimension:** The Dimension to which the Prepayment Rule belongs.
- **Hierarchy:** Name of the hierarchy that is used to define the prepayment rule.
- **Folder:** The folder where the prepayment rule is saved.
- **Last Modified By:** The user who last modified the prepayment rule.
- **Last Modified Date:** The Date and Time when the prepayment rule was last modified.
- **Access Type:** The access type of the rule. It can be Read-Only or Read/Write.
- **Action:** Click this icon to view a list of actions that you can perform on the prepayment rule.
 - **View/Edit:** Based on the user privilege assigned, you can either only view or edit existing prepayment rules. To edit a rule, you must have Read/Write privilege.
 - **Save As:** You can reuse a prepayment rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - **Delete:** You can delete prepayment rules that you no longer require. Note that only prepayment rule owners and those with Read/Write privileges can delete prepayment rules. A Prepayment Rule that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.
 - **Dependency Check:** You can perform a dependency check to know where a particular prepayment rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting prepayment rules that have dependencies. A report of all rules that utilize the selected prepayment rule is generated.

You can totally or selectively copy product assumptions within a prepayment rule from one currency to another currency or a set of currencies, or from one product to another product or a set of products.

Also See:

- [Create Prepayment Rules](#)
- [Defining Prepayment Methodologies](#)
 - [Defining the Constant Prepayment Method](#)
 - [Defining the Prepayment Model Method](#)
 - [Defining the PSA Prepayment Method](#)
 - [Defining the Arctangent Calculation Method](#)

Create Prepayment Rules

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

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.
 - **Name:** Enter the name of the Prepayment Rule.
 - **Description (optional):** Enter the description of the Prepayment Rule.
 - **Folder:** Select the Folder where the Prepayment Rule needs to be saved.

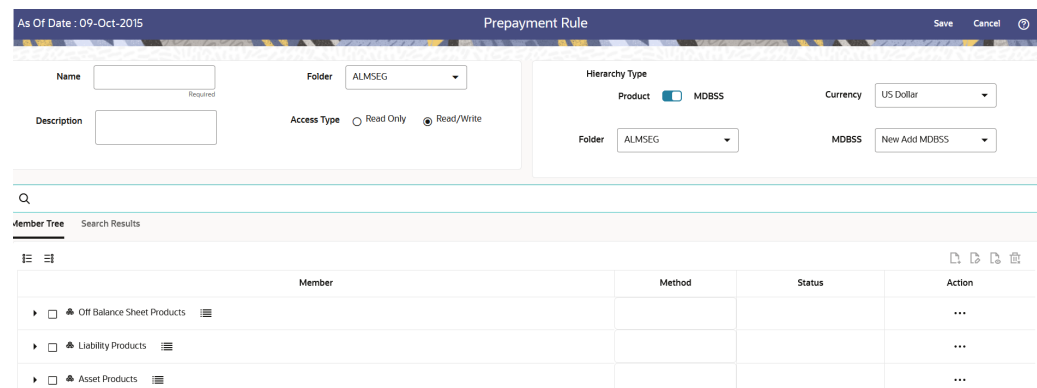
- **Access Type:** Select the Access Type as Read-Only or Read/Write.
- Select the Hierarchy Type as **Product** or **MDBSS**

 Note:

MDBSS is enabled only in ALM Cloud Service.
If any member is a currency in the MDBSS hierarchy (for example, INR) and selected currency is different (for example USD), then the member and its children nodes cannot be defined.

- If you select Hierarchy Type as **MDBSS**, then following options are available:

Figure 4-72 Hierarchy Type as MDBSS



The screenshot shows the 'Prepayment Rule' configuration window. At the top, it says 'As Of Date : 09-Oct-2015' and 'Prepayment Rule' with 'Save' and 'Cancel' buttons. The main form has several fields: 'Name' (with a 'Required' label), 'Folder' (set to 'ALMSEG'), 'Description', 'Access Type' (radio buttons for 'Read Only' and 'Read/Write', with 'Read/Write' selected), 'Hierarchy Type' (radio buttons for 'Product' and 'MDBSS', with 'MDBSS' selected), 'Currency' (set to 'US Dollar'), and another 'Folder' (set to 'ALMSEG'). Below these is a 'MDBSS' dropdown menu set to 'New Add MDBSS'. At the bottom, there is a 'Member Tree' tab and a 'Search Results' tab. The 'Member Tree' tab is active, showing a table with columns: Member, Method, Status, and Action. The table lists three members: 'Off Balance Sheet Products', 'Liability Products', and 'Asset Products', each with a tree icon and an ellipsis in the Action column.

1. Select a **Currency**.
2. Select a **MDBSS Folder** and **MDBSS**.
3. Select **MDBSS Node(s)** from Member Tree of Assumption Browser. The Assumption Browser has following two tabs: Member Tree and Search Results
 - * **Member Tree:** Member Tree tab shows the hierarchical structure and allows you to define rules by selecting the node members from the browser. Select Node and Click Menu icon next to it to view the available options.

Figure 4-73 Member Tree

Expand self, child and descendants

Expand selected member/branch

Select UnDefined self, child

Select UnDefined self, child and descendants

Select Defined self, child

Select Defined self, child and descendants

UnSelect self, child and descendants

Status of node is also displayed in Member Tree section, for example Selected, and so on. To select member hierarchy, following options are available:

- * **Expand self, child and descendants:** Allows to expand the selected node itself along with its child and descendants.
- * **Expand selected member/branch:** Allows to expand the selected node
- * **Select UnSelect self, child:** Allows to unselect the selected node itself along with its child
- * **Select UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.
- * **Select Defined self, child:** Allows to select the selected node itself along with its child.
- * **Select Defined self, child and descendants:** Allows to select the selected node itself along with its child and descendants.
- * **UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.

Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

Here, you can perform the following tasks on the selected node(s):

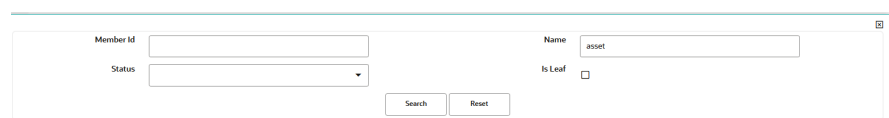
- * Add
- * Edit
- * View
- * Delete
- * Copy
- * **Search Results:** You can also search the members based on the filters. This section shows the searched node(s). To search a member, follow these steps:
 - a. Navigate to **Assumption Browser** section of the Rule Definition page.

Note:

Before using the Member Search in Assumption Browser, you must execute the batch **Member_Browser_Refresh**. For more information, see note in [Create MDBSS](#) section.

- b. Enter the Member ID, Name, Status, or Is Leaf in Search Criteria.

Figure 4-74 Search Criteria



The screenshot shows a web form titled "Search Criteria". It contains four input fields: "Member Id", "Name", "Status", and "Is Leaf". The "Name" field is populated with the text "asset". The "Status" field is a dropdown menu. Below the fields are two buttons: "Search" and "Reset".

- c. Click **Search**. The searched member(s) will be displayed in **Search Results** section of **Assumption Browser**

Figure 4-75 Searching Members

Here, you can perform the following tasks on the searched node(s):

- * Add
- * Edit
- * View
- * Delete
- * Copy

Click **Show Parentage icon** to view the Parent-child Node level hierarchy details of selected Node.

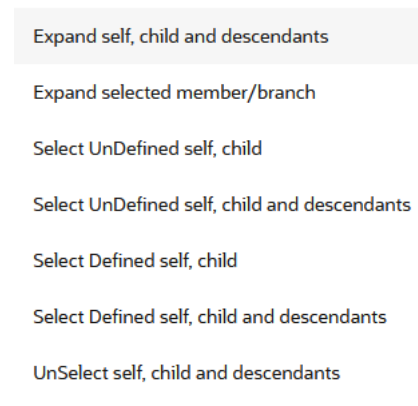
Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

- If you select Hierarchy Type as **Product**, then following options are available:

Figure 4-76 Hierarchy Type as Product

1. Select a **Currency**.
2. Select a **Product Folder** and **Product Hierarchy**.
3. Select **Product** from Member Tree of Assumption Browser. The Assumption Browser has following two tabs: Member Tree and Search Results
 - * **Member Tree:** Member Tree tab shows the hierarchical structure and allows you to define rules by selecting the node members from the browser. Select Node and Click Menu icon next to it to view the available options.

Figure 4-77 Member Tree

Status of node is also displayed in Member Tree section, for example Selected, and so on. To select member hierarchy, following options are available:

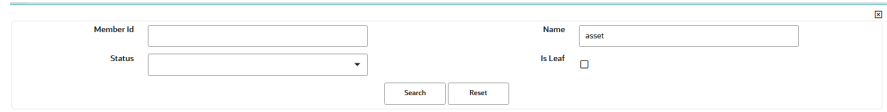
- * **Expand self, child and descendants:** Allows to expand the selected node itself along with its child and descendants.
- * **Expand selected member/branch:** Allows to expand the selected node
- * **Select UnSelect self, child:** Allows to unselect the selected node itself along with its child
- * **Select UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.
- * **Select Defined self, child:** Allows to select the selected node itself along with its child.
- * **Select Defined self, child and descendants:** Allows to select the selected node itself along with its child and descendants.
- * **UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.

Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

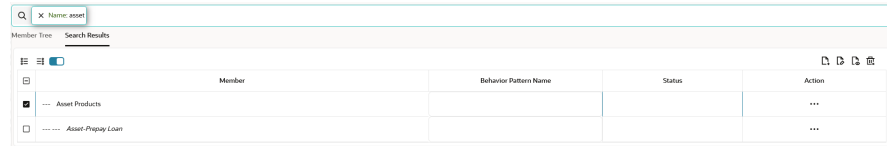
Here, you can perform the following tasks on the selected node(s):

- * Add
- * Edit
- * View
- * Delete
- * Copy
- * **Search Results:** You can also search the members based on the filters. This section shows the searched node(s). To search a member , follow these steps:
 - a. Navigate to **Assumption Browser** section of the Rule Definition page.
 - b. Enter the Member ID, Name, Status, or Is Leaf in Search Criteria.

Figure 4-78 Search Criteria


Search Criteria form with fields for Member Id, Name (asset), Status, and Is Leaf. Search and Reset buttons are at the bottom.

- c. Click **Search**. The searched member(s) will be displayed in **Search Results** section of **Assumption Browser**

Figure 4-79 Searching Members


Assumption Browser Search Results table showing Member, Behavior Pattern Name, Status, and Action columns. The table lists two rows: Asset Products and Asset-Prepay Loan.

Member	Behavior Pattern Name	Status	Action
Asset Products			...
Asset-Prepay Loan			...

Here, you can perform the following tasks on the searched node(s):

- * Add
- * Edit
- * View
- * Delete
- * Copy

Click **Show Parentage icon** to view the Parent-child Node level hierarchy details of selected Node.

Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

- Click **Add** from **Assumption Browser** Section. For more information, see the Defining Prepayment Methodologies.
- Click **Save**.

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.

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 precedence 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 4-33 Key Terms used for Prepayment Rules

Terms	Description
Calculation Method	The method used to model prepayment behavior of instruments. You can choose from four prepayment 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).

Table 4-33 (Cont.) Key Terms used for Prepayment Rules

Terms	Description
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.
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.

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 4-80 Constant Prepayment Method

▼ **Prepayment Specification : Constant**

Formula: Base Annual PP rate = Constant rate

Prepayment Date: Use Payment Dates Payment Event Type: Principal and Interest

	Start Origination Date	End Origination Date	Percent
☐	01-01-1900	31-12-2499	0

► **Seasonality**

Apply Cancel

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.

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 4-81 Prepayment Model Method

Prepayment Specification : Prepayment Model

Formula: Base Annual PP rate = PP table factor * PP table LOOKUP(dimension x, dimension y, dimension z)

Prepayment Date: Use Payment Dates Payment Event Type: Principal and Interest

	Start Origination Date	End Origination Date	Coefficient	Prepayment Model
☐	01-01-1900	31-12-2499	1	

> Market Rate Definition

> Seasonality

Apply Cancel

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 **View 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.

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 4-82 PSA Prepayment Method

▼ Prepayment Specification : PSA

Formula: Base annual PP rate = (PSA Speed/100) * PP table LOOKUP(Expired Term)

Prepayment Date Payment Event Type

	Start Origination Date	End Origination Date	PSA Speed	Prepayment Model
☐	01-01-1900	31-12-2499	100	PSA MODEL

► Seasonality

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.

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 4-83 Arctangent Calculation Method

▼ **Prepayment Specification : Arctangent**

Formula: Base Annual PP rate = $k1 - (k2 * \text{ATAN}(k3 * (-C/M + k4)))$

Prepayment Date Payment Event Type

☐	Start Origination Date	End Origination Date	Coefficient K1	Coefficient K2	Coefficient K3	Coefficient K4
☐	01-01-1900	31-12-2499	0	0	0	0

> **Market Rate Definition**
 > **Seasonality**

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.

Associating Conditional Assumptions with Prepayment Rules

The Prepayment Rule UI provides the setup and maintenance of assumptions by integrating the conditional logic (optional) into the setup of prepayment methods. You can define prepayment methodologies using IF-THEN-ELSE logic based on the underlying characteristics of your financial instruments, such as dates, rates, balances, and code values.

The conditional logic is defined through use of Data Filters. These existing objects provide the building blocks for defining Conditional logic. For example, each Data Filter can provide the logic for a specific condition. In the example below, the where clause is "Adjustable Type Code = 'Adjustable Rate'". This type of Data Filter can be selected within the Conditional Assumption section.

The logic included in a Conditional Assumption determines the specific Prepayment assumption or Adjustment Rule that the system will assign to each individual instrument record at run time.

The Conditional Assumption section allows users to select explicit conditions (from Data Filters) and apply methods and rule selections to each condition directly. The Filter Conditions are processed by the engine in the order that they appear on the section. As soon as a condition is satisfied, the related assumption is applied.

If an instrument record does not meet any of the conditions, then the rule logic reverts to the standard assumption that is directly assigned to the Product/Currency combination.



Note:

For Cash Flow Engine Cloud Service, this is applicable only for Product/Currency combination.

Conditional Assumptions can be applied only to detailed account records (data stored in the Instrument Tables).

To define conditional assumption, follow these steps:

1. Navigate to Conditional Assumptions section.

Figure 4-84 Conditional Assumption

Condition	Cash Flow Treatment	Calculation Method	Action	Status
No data to display.				

Figure 4-85 Conditional Assumption

Condition	Cash Flow Treatment	Calculation Method	Action	Status
Product = Asset Products and Currency = US Dollar	Refinance	Constant	Define	

2. Select the Filter Folder and Filter, then click **Go**. The condition is displayed based on selected filter.
3. Here, you can select either group of conditions using **Conditional Group** or Individual condition using the filter section.
 - You can select the conditional groups from the **Conditional Group** drop-down. You can create a new condition group using the **Create Group** button. To create a new condition group, follow these steps:

- a. Select filters using the **Filter** drop-down list.

 Note:

You must select more than 2 filters to define a condition group.

- b. Select the conditions (filters) using the corresponding check-boxes.
 - c. Click **Create Group**.
 - d. The **Save Condition Group** window is displayed. Provide the **Group Name** and select the **Folder** where you want to save the condition group. Click **Save** in **Save Condition Group** window. You can use this saved group from **Condition Group** down-down.
 - Else, select Individual condition using the corresponding check-box.
4. Select **Cash Flow Treatment** as Curtailment or Refinance.
 5. Select **Calculation Method** as Constant, Prepayment Model, PSA, or Arctangent..
 6. Click **Define**.

Figure 4-86 Conditional Assumption

▼ Conditional Assumption

Folder: ALMSEG

 Folder: ALMSEG
 Conditional Groups:

Condition	Cash Flow Treatment	Calculation Method	Action	Status
360_ARR_SCL_YYYY,T;S76_TC001_NMRT_ADJ_30/360_ARR_SCL_MMMM,T;S72_TC001_BLOI_JRC_ADJ_30/365_ARR_SCL_YYYY,T; CF-US-0085_JRCAP_LVL_004_A/ 360_ARR_SCL_YYYY,T;S76_TC006_CONV_ADJ_30/365_ARR_SCL_MMMM,T;S74_TC006_LEASE_JRC_FLOAT_A/ A_ARR_SCL_MMMM,T)			Create Group	Delete
☒ [FIL_T708665737788] = FSL_D_OFF_BALANCE_SHEET.ACCOUNT_NUMBER IN ('S68_TC006_BEHPATR_ADJ_A/ A_ARR_SCL_DDDD,T;S44_TC036_BEHPATR_FIX_A/365_ARR_SCL_MMMY,T) AND FSL_D_OFF_BALANCE_SHEET.ACCOUNT_NUMBER IN ('S68_TC006_BEHPATR_ADJ_A/ A_ARR_SCL_DDDD,T;S44_TC036_BEHPATR_FIX_A/365_ARR_SCL_MMMY,T)	Refinance	Constant	Define	
☐ [FIL_T708666561240] = FSL_D_ASSET.AMRT_TYPE_CD IN ('10')	Refinance	Constant	Define	

Use **Delete** button to delete the defined condition(s)

7. Define Prepayment rule and Seasonality, and then click **Apply**. The status of condition assumption is updated as **Defined**.

 Note:

You can edit the condition using **Edit**.

8. Click **Save**. The status of conditional assumption is also updated in Assumption Browser.

Figure 4-87 Status of Conditional Assumption

The screenshot shows a web application interface with a search bar at the top. Below it is a 'Member Tree' on the left and a 'Search Results' table on the right. The table has columns: Member, Method, Conditional Assumption, Status, and Action. The 'Member' column has a tree view with 'All Products' expanded, showing 'Asset Products', 'Liability Products', 'Off Balance Sheet Products', and 'Other Residual Products'. The 'Conditional Assumption' column shows 'Yes' for 'Asset Products' and is empty for others. The 'Status' column shows 'Defined' for 'Asset Products' and is empty for others. The 'Action' column has a three-dot menu for each row.

Member	Method	Conditional Assumption	Status	Action
▼ All Products				...
▶ Asset Products		Yes	Defined	...
▶ Liability Products				...
▶ Off Balance Sheet Products				...
▶ Other Residual Products				...

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.

Payment Pattern Summary

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.

Figure 4-88 Payment Summary

The screenshot shows a web application interface with a dark blue header bar labeled 'Payment Pattern Summary'. Below the header is a search bar and a 'Field Search' input field. The main content is a table with columns: Name, Pattern type, Created By, Created Date, Last Modified By, Last Modified Date, and Action. The table contains five rows of payment patterns.

Name	Pattern type	Created By	Created Date	Last Modified By	Last Modified Date	Action
Check	Absolute	CFETEST	2022-09-15 11:16:00	CFETEST	2022-09-15 11:16:00	...
S17_Rel_LP_17004	Relative	mbalakrishna	2022-09-15 03:53:25	mbalakrishna	2022-09-15 03:53:25	...
S23_ABS_LP_23003	Absolute	mbalakrishna	2022-09-15 03:52:07	mbalakrishna	2022-09-15 03:52:07	...
S31_SPLIT_ABS_REL_31003	Split	mbalakrishna	2022-09-15 02:16:04	mbalakrishna	2022-09-15 02:18:40	...

Search Payment Pattern

Prerequisites: Predefined Payment Pattern

To search for a Payment Pattern:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Payment Patterns that meet the search criteria.

Or

An alternative method to search a Payment Pattern is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.)

partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Payment Pattern Summary. You can enter the **Code**, **Name**, **Description** or **Pattern Type** of the Payment Pattern and click **Search**.

The Payment Pattern Summary displays the following information:

Add: Click the Add icon on the page header to build a new Payment Pattern.

- **Name:** The Payment Pattern's short name.
- **Pattern Type:** The Payment Pattern Type, such as Absolute or Relative.
- **Created By:** The Name of the user who created the Payment Pattern.
- **Created Date:** The Date and Time at which the Payment Pattern was created.
- **Last Modified By:** The user who last modified the Payment Pattern.
- **Last Modified Date:** The Date and Time when the Payment Pattern was last modified.
- **Action:** Click this icon to view a list of actions that you can perform on the Payment Pattern.
 - Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.
 - View/Edit: Based on the user privilege assigned, you can either only view or edit existing Payment Patterns. To edit a rule, you must have Read/Write privilege.
 - Save As: You can reuse a Payment Pattern by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - Delete: You can delete Payment Patterns that you no longer require. Note that only Payment Pattern owners and those with Read/Write privileges can delete Payment Patterns. A Payment Pattern that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.
 - Dependency Check: You can perform a dependency check to know where a particular Payment Pattern has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Payment Patterns that have dependencies. A report of all rules that utilize the selected Payment Pattern is generated.

Also See:

- [Creating Payment Patterns](#)

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 Pattern** 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**.

Define Absolute Payment Patterns

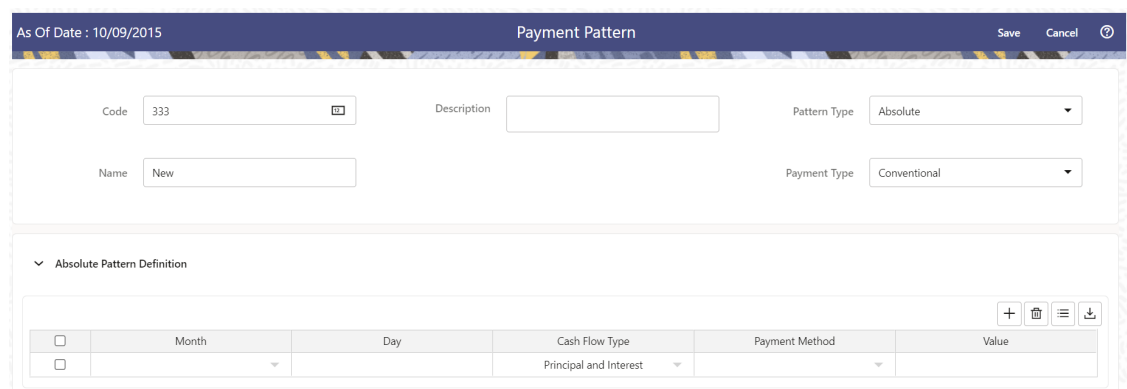
Absolute payment patterns are commonly used for instruments that are on a seasonal schedule, such as agricultural or construction loans that require special payment handling based on months or seasons.

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 4-89 Absolute Payment Patterns



As Of Date : 10/09/2015 Payment Pattern Save Cancel ?

Code: 333 📄 Description: Pattern Type: Absolute ▼

Name: New Payment Type: Conventional ▼

▼ Absolute Pattern Definition

☐	Month	Day	Cash Flow Type	Payment Method	Value
☐	▼		Principal and Interest	▼	

+ 🗑️ ☰ ⬇️

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
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		
Percentage of Original Payment	Yes		Yes
Percentage of Current Payment	Yes		Yes
Absolute Payment	Yes		Yes
Interest Only	Yes		Yes

Define Relative Payment Patterns

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

Prerequisites

Selecting Relative as the pattern type.

Figure 4-90 Relative Payment Patterns

As Of Date : 10/09/2015

Payment Pattern

Save Cancel ?

Code: 333

Description:

Pattern Type: Relative

Name: New

Payment Type: Conventional

Relative Pattern Definition

	Frequency	Multiplier	Repeat	Cash Flow Type	Payment Method	Value
☐				Principal and Interest		
☐		Days		Principal and Interest		

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.

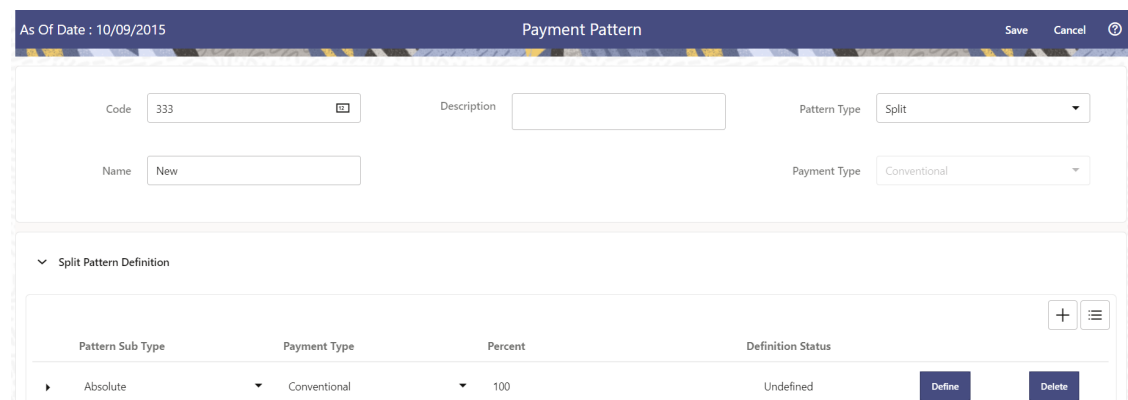
Relationship between Payment Phases and Payment Types

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

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 4-91 Split Payment Patterns



As Of Date : 10/09/2015 Payment Pattern Save Cancel Help

Code: 333 📄 Description: Pattern Type: Split ▼

Name: New Payment Type: Conventional ▼

▼ Split Pattern Definition

Pattern Sub Type	Payment Type	Percent	Definition Status	
▶ Absolute ▼	Conventional ▼	100	Undefined	Define Delete

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.

Behavior Pattern Rules

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.

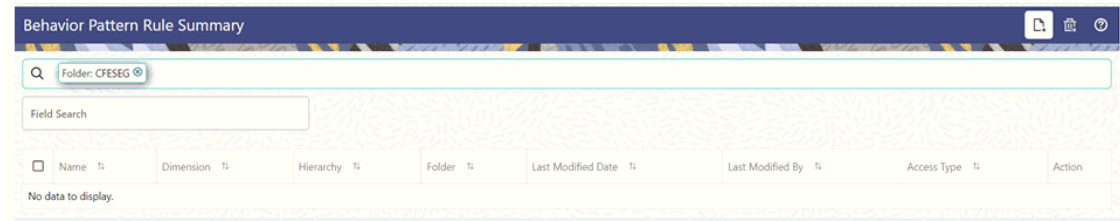
In this case, you must track the changes to Behavior Patterns and assign appropriate codes to affected instruments. Due to this, only one BP can be used by the CFE in the CFE processes for current business. If you want to model multiple types of BP under varying scenarios, then you can use a Behavior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

Behavior Pattern Rule Summary

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.

Figure 4-92 Behavior Pattern Rule Summary



Search Behavior Pattern Rule

Prerequisites: Predefined Behavior Pattern Rule

To search for a Behavior Pattern Rule:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Behavior Pattern Rules that meet the search criteria.

Or

An alternative method to search a Behavior Pattern rule is through the **Field Search** option. This is an inline wildcard UI search that allows you to enter a search value (such as code, name, etc.) partially or fully. Rows that contain the string you are searching for are fetched and displayed in the Behavior Pattern rule Summary. You can enter the **Code, Name, Description, Dimension, Hierarchy, and Folder** of the Behavior Pattern Rule and click **Search**.

The Behavior Pattern rule Summary displays the following information:

Add: Click the Add icon on the page header to build a new Behavior Pattern rule.

Multiple Delete: Enables you to select and delete one or multiple rules in the table simultaneously.

- **Name:** Displays the Behavior Pattern Rule's short name.
- **Dimension:** Displays the Dimension the Behavior Pattern Rule belongs to.
- **Hierarchy:** Name of Hierarchy that is used to define 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.
- **Access Type:** Displays the access type of Rule. It can be Read-Only or Read/Write.
- **Action:** Click this icon to view a list of actions that you can perform on the Behavior Pattern rule.
 - View/Edit: Based on the user privilege assigned, you can either only view or edit existing Behavior Pattern rules. To edit a rule, you must have Read/Write privilege.

- **Save As:** You can reuse a Behavior Pattern rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
- **Delete:** You can delete Behavior Pattern rules that you no longer require. Note that only Behavior Pattern rule owners and those with Read/Write privileges can delete Behavior Pattern rules. A Behavior Pattern rule that has a dependency cannot be deleted. A rule cannot be retrieved after deletion.
- **Dependency Check:** You can perform a dependency check to know where a particular Behavior Pattern rule has been used. Before deleting a rule, it is always a good practice to do a dependency check to ensure you are not deleting Behavior Pattern rules that have dependencies. A report of all rules that utilize the selected Behavior Pattern rule is generated.

Also See:

- [Create Behavior Pattern Rule](#)
- [Defining Behavior Pattern Rule](#)

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 4-93 Behavior Pattern Rule Page

The screenshot displays the 'Behavior Pattern Rule' page. At the top, there's a header bar with 'As Of Date : 09-Oct-2015', the title 'Behavior Pattern Rule', and buttons for 'Save', 'Cancel', and a help icon. The main form is divided into several sections:

- Name:** A text input field containing 'New'.
- Description:** A text input field containing 'test'.
- Folder:** A dropdown menu currently showing 'CFESEG'.
- Access Type:** Two radio buttons; 'Read/Write' is selected, and 'Read Only' is unselected.
- Product:** A dropdown menu currently showing 'CFESEG'.
- Currency:** A dropdown menu currently showing 'US Dollar'.
- Hierarchy:** A dropdown menu currently showing 'Dim_product_hier'.

Below the form, there are two main sections:

- Assumption Browser:** A section with a tree view icon and a list of products. It includes a checkbox for 'All Products'.
- Assumption List:** A table with columns: 'Product', 'Method', 'Conditional Assumption', 'Status', and 'Action'. The 'Action' column has a dropdown menu with three dots.

At the bottom, there is an 'Audit Trail' section with a right-pointing arrow.

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 4-34 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.

Table 4-34 (Cont.) Create Behavior Pattern Rule

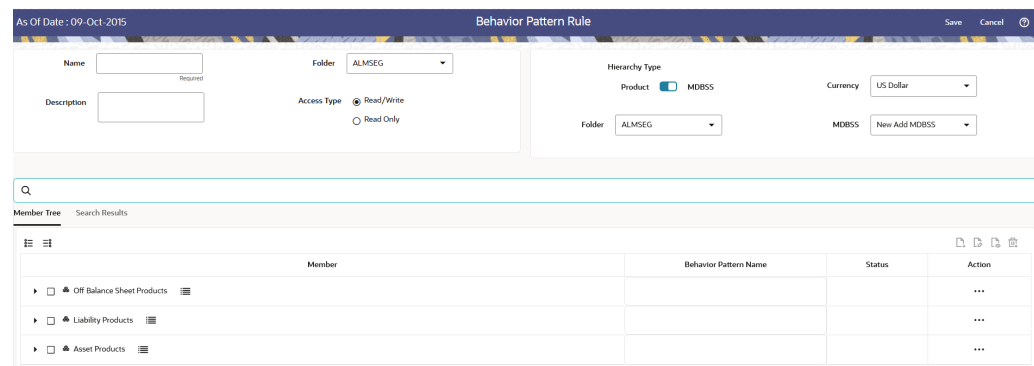
Fields	Description
Folder	Select the Folder where the Behavior Pattern Rule needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.

3. Select the Hierarchy Type as **Product** or **MDBSS**

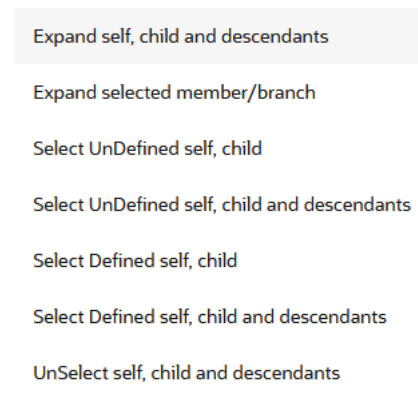
 Note:

MDBSS is enabled only in ALM Cloud Service.
If any member is a currency in the MDBSS hierarchy (for example, INR) and selected currency is different (for example USD), then the member and its children nodes cannot be defined.

- If you select Hierarchy Type as **MDBSS**, then following options are available:

Figure 4-94 Hierarchy Type as MDBSS


- Select a **Currency**.
- Select a **MDBSS Folder** and **MDBSS**.
- Select **MDBSS Node(s)** from Member Tree of Assumption Browser. The Assumption Browser has following two tabs: Member Tree and Search Results
 - Member Tree:** Member Tree tab shows the hierarchical structure and allows you to define rules by selecting the node members from the browser. Select Node and Click Menu icon next to it to view the available options.

Figure 4-95 Member Tree

Status of node is also displayed in Member Tree section, for example Selected, and so on. To select member hierarchy, following options are available:

- * **Expand self, child and descendants:** Allows to expand the selected node itself along with its child and descendants.
- * **Expand selected member/branch:** Allows to expand the selected node
- * **Select UnSelect self, child:** Allows to unselect the selected node itself along with its child
- * **Select UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.
- * **Select Defined self, child:** Allows to select the selected node itself along with its child.
- * **Select Defined self, child and descendants:** Allows to select the selected node itself along with its child and descendants.
- * **UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.

Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

Here, you can perform the following tasks on the selected node(s):

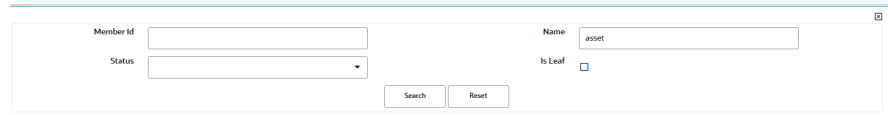
- * Add
 - * Edit
 - * View
 - * Delete
 - * Copy
- **Search Results:** You can also search the members based on the filters. This section shows the searched node(s). To search a member, follow these steps:
- i. Navigate to **Assumption Browser** section of the Rule Definition page.

 Note:

Before using the Member Search in Assumption Browser, you must execute the batch **Member_Browser_Refresh**. For more information, see note in [Create MDBSS](#) section.

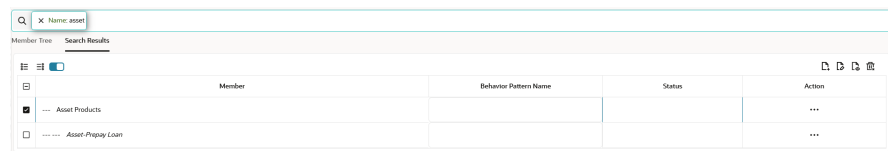
- ii. Enter the Member ID, Name, Status, or Is Leaf in Search Criteria.

Figure 4-96 Search Criteria



- iii. Click **Search**. The searched member(s) will be displayed in **Search Results** section of **Assumption Browser**

Figure 4-97 Searching Members



Member	Behavior Pattern Name	Status	Action
Asset Products			...
Asset-Playpay Loan			...

Here, you can perform the following tasks on the searched node(s):

- * Add
- * Edit
- * View
- * Delete
- * Copy

Click **Show Parentage icon** to view the Parent-child Node level hierarchy details of selected Node.

Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

- If you select Hierarchy Type as **Product**, then following options are available:

Figure 4-98 Hierarchy Type as Product

As Of Date: 09-Oct-2015 Behavior Pattern Rule Save Cancel

Name Folder ALMSEG

Description Access Type ☒ Read/Write ☐ Read Only

Hierarchy Type Product ☒ MDBSS Currency US Dollar

Folder ALMSEG Hierarchy Product

Search Results

Member	Behavior Pattern Name	Status	Action
▶ All Products			...

> Audit Info

- a. Select a **Currency**.
- b. Select a **Product Folder** and **Product Hierarchy**.
- c. Select **Product** from Member Tree of Assumption Browser. The Assumption Browser has following two tabs: Member Tree and Search Results
 - **Member Tree:** Member Tree tab shows the hierarchical structure and allows you to define rules by selecting the node members from the browser. Select Node and Click Menu icon next to it to view the available options.

Figure 4-99 Member Tree

- Expand self, child and descendants
- Expand selected member/branch
- Select UnDefined self, child
- Select UnDefined self, child and descendants
- Select Defined self, child
- Select Defined self, child and descendants
- UnSelect self, child and descendants

Status of node is also displayed in Member Tree section, for example Selected, and so on. To select member hierarchy, following options are available:

- * **Expand self, child and descendants:** Allows to expand the selected node itself along with its child and descendants.
- * **Expand selected member/branch:** Allows to expand the selected node
- * **Select UnSelect self, child:** Allows to unselect the selected node itself along with its child
- * **Select UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.
- * **Select Defined self, child:** Allows to select the selected node itself along with its child.

- * **Select Defined self, child and descendants:** Allows to select the selected node itself along with its child and descendants.
- * **UnSelect self, child and descendants:** Allows to unselect the selected node itself along with its child and descendants.

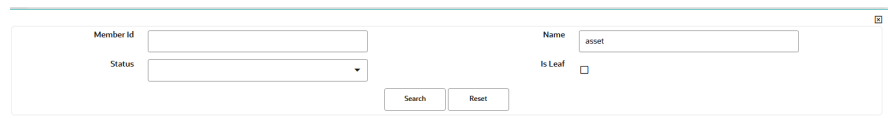
Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

Here, you can perform the following tasks on the selected node(s):

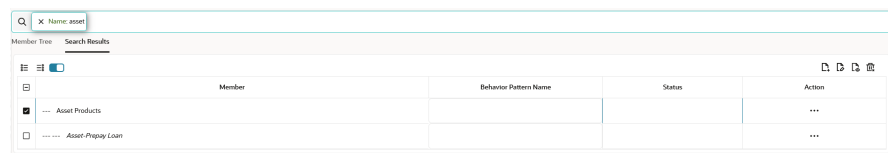
- * Add
 - * Edit
 - * View
 - * Delete
 - * Copy
- **Search Results:** You can also search the members based on the filters. This section shows the searched node(s). To search a member, follow these steps:
- i. Navigate to **Assumption Browser** section of the Rule Definition page.
 - ii. Enter the Member ID, Name, Status, or Is Leaf in Search Criteria.

Figure 4-100 Search Criteria

A screenshot of the 'Search Criteria' form. It contains four input fields: 'Member Id' (text), 'Name' (text with 'asset' entered), 'Status' (dropdown), and 'Is Leaf' (checkbox). Below the fields are 'Search' and 'Reset' buttons.

- iii. Click **Search**. The searched member(s) will be displayed in **Search Results** section of **Assumption Browser**

Figure 4-101 Searching Members

A screenshot of the 'Assumption Browser' interface showing search results. The top bar has a search icon and 'X Home asset'. Below it, a 'Search Results' tab is active. The main area shows a table with columns: Member, Behavior Pattern Name, Status, and Action. Two rows are visible: 'Asset Products' and 'Asset Play Loan', both with a minus sign icon in the Member column and three dots in the Action column.

Member	Behavior Pattern Name	Status	Action
Asset Products			...
Asset Play Loan			...

Here, you can perform the following tasks on the searched node(s):

- * Add
- * Edit
- * View
- * Delete
- * Copy

Click **Show Parentage** icon to view the Parent-child Node level hierarchy details of selected Node.

Use **Show Numeric Code Values (Left)** icon to view the code value left to the Node name.

Use **Show Numeric Code Values (Right)** icon to view the code value right to the Node name.

4. Click **Add** from Assumption Browser section.
5. Click **Save**.

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.

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.
2. Define the Conditions. For more information see Conditional Assumptions section.
3. After defining the conditions, select the Behavior Pattern from Behavior Pattern drop-down list. Here, the Behavior Pattern drop-down list shows the list of existing Behavior Patterns.

Figure 4-102 Defining Behavior Pattern Rule

Click below icon to view the details of selected Behavior Pattern.

Figure 4-103 View Behavior Pattern

You can select only one Behavior Pattern at a time.

4. Click Apply.

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

Associating Conditional Assumptions with Behavior Pattern Rules

The Behavior Pattern Rule UI provides the setup and maintenance of assumptions by integrating the conditional logic (optional) into the setup of Behavior Pattern Rules. You can define Behavior Pattern Rule logics using IF-THEN-ELSE logic based on the underlying characteristics of your financial instruments, such as dates, rates, balances, and code values.

The conditional logic is defined through use of Data Filters. These existing objects provide the building blocks for defining Conditional logic. This type of Data Filter can be selected within the Conditional Assumption section.

The logic included in a Conditional Assumption determines the specific Behavior Pattern Rule assumption that the system will assign to each individual instrument record at run time.

The Conditional Assumption section allows users to select explicit conditions (from Data Filters) and apply methods and rule selections to each condition directly. The Filter Conditions are processed by the engine in the order that they appear on the section. As soon as a condition is satisfied, the related assumption is applied.

If an instrument record does not meet any of the conditions, then the rule logic reverts to the standard assumption that is directly assigned to the Product/Currency combination.

Conditional Assumptions can be applied only to detailed account records (data stored in the Instrument Tables).

To define conditional assumption, follow these steps:

1. Navigate to **Conditional Assumptions** section.

Figure 4-104 Conditional Assumption

The screenshot shows the 'Behavior Pattern Selector' window. It has a top bar with a 'Folder' dropdown set to 'ALMSEG', a 'Select Filters' dropdown, a 'Go' button, another 'Folder' dropdown set to 'ALMSEG', a 'Conditional Groups' dropdown, a 'Go' button, and a three-dot menu. Below this are 'Create Group' and 'Delete' buttons. The main area is a table with columns: 'Condition', 'Action', and 'Status'. A checkbox is on the left. The 'Condition' column contains the text 'Product = -1 and Currency = -1'. The 'Action' column has a 'Define' button. The 'Status' column is empty.

2. Select the Filter Folder and Filter, then click **Go**. The condition is displayed based on selected filter.
3. Here, you can select either group of conditions using **Conditional Group** or Individual condition using the filter section.
 - You can select the conditional groups from the **Conditional Group** drop-down. You can create a new condition group using the **Create Group** button. To create a new condition group, follow these steps:
 - a. Select filters using the **Filter** drop-down list.

 Note:

You must select minimum 2 filters to define a condition group.

- b. Select the conditions (filters) using the corresponding check-boxes.
- c. Click **Create Group**.
- d. The **Save Condition Group** window is displayed. Provide the **Group Name** and select the **Folder** where you want to save the condition group. Click **Save** in **Save Condition Group** window. You can use this saved group from **Condition Group** down-down.

Figure 4-105 Condition Group

The screenshot shows the 'Save Condition Group' dialog box. It has a 'Group Name' text field with a 'Required' label below it, and a 'Folder' dropdown set to 'ALMSEG'. Below these is a large text area containing two lines of SQL-like filter conditions:

[FIL_1708580777000] = FSL_D_ASSET.ACCOUNT_NUMBER IN ('SC48PPMUDP_TC071_BP_NP_ADJ_30/365_ARR_SC1_MMMD_487') AND FSL_D_ASSET.ACCOUNT_NUMBER IN ('SC48PPMUDP_TC011_CONVSC_ADJ_30/365_ARR_SC1_YYD_487') AND FSL_D_ASSET.ACCOUNT_NUMBER IN ('SC48PPMUDP_TC058_TEASELEVEL_ADJ_A/A_ARR_SC1_DDDD_487')

[FIL_1708666561240] = FSL_D_ASSET.AMRT_TYPE_CD IN ('10')
 At the bottom are 'Save' and 'Close' buttons.

- Else, select Individual condition using the corresponding check-box.
4. Click **Define**.

Figure 4-106 Conditional Assumption

Behavior Pattern Selector

Folder: ALMSEG | Select Filters | Go | Folder: ALMSEG | Conditional Groups | Go | ...

Create Group | Delete

Condition	Action	Status
Product = -1 and Currency = -1	Define	
☒ [FIL_708580777000] = FSLD_ASSET.ACCOUNT_NUMBER IN ('SC48PPMUDP_TC071_BP_NP_ADJ_30/365_ARR_SC1_MMMMD_487') AND FSLD_ASSET.ACCOUNT_NUMBER IN ('SC48PPMUDP_TC071_CONV5C_ADJ_30/365_ARR_SC1_YYD_487') AND FSLD_ASSET.ACCOUNT_NUMBER IN ('SC48PPMUDP_TC058_TEASELEVEL_ADJ_A/A_ARR_SC1_DDDD_487')	Define	
☐ [FIL_708666561240] = FSLD_ASSET.AMRT_TYPE_CD IN ('10')	Define	

Use **Delete** button to delete the defined condition(s)

- Define Behavior Pattern Rule, and then click **Apply**. The status of condition assumption is updated as **Defined**.

 Note:

You can edit the condition using **Edit**.

- Define Behavior Pattern rule. For more information, see the [Defining Behavior Pattern Rule Using Node Level Assumptions](#)
- Click **Save**. The status of conditional assumption is also updated in Assumption Browser.

Figure 4-107 Status of Conditional Assumption

Member Tree		Search Results			
Member		Behavior Pattern Name	Conditional Assumption	Status	Action
All Products					...
Asset Products					...
Liability Products			Yes	Defined	...
Off Balance Sheet Products					...
Other Residual Products					...

IFRS 9 Rules

This topic contains information on the IFRS 9 Rules:

- Modelling Sets:** The Modelling Set is a basic building block of IFRS 9 Solution Cloud Services. The Modelling set is primarily defined at the Legal Entity and Organization Unit level. Product and Customer Type are two key dimensions.
- Rating Mapping Rules:** Rating is a key dimension that is required for IFRS 9 Solution Cloud Service to compute various key measures like Stage determination and stage Curing. It is also used further in PD, LGD, CCF assignments and ECL calculations.
- Stage Determination Rules:** The IFRS 9 guidelines require each account to be classified into three different stages on every reporting date, based on the significance of an increase in Credit Risk from the initial recognition. The Out of Box service supports three IFRS 9 Stages i.e., Stage 1, Stage 2, and Stage 3.

- [Stage Curing Rules](#): The Stage Curing Rule feature is introduced in this service to restrict any direct movement of accounts between the higher-risk stage to the lower-risk stage. This movement is allowed only if a particular set of conditions are satisfied.
- [Account Classification Rules](#): Financial instruments are required to be classified into three categories and thereby accounted for as suggested in the Phase 1 section of the IFRS 9 guidelines.
- [Amortization Rules](#): This module discusses the procedure to create rules for Amortization.

Modelling Sets

The Modelling Set is a basic building block of IFRS 9 Solution Cloud Services. The Modelling set is primarily defined at the Legal Entity and Organization Unit level. Product and Customer Type are two key dimensions. Every Modelling set has these two dimensions. While defining the modelling set, other dimensions can also be added. Other dimensions include Industry, Region, Branch, Country, etc. The modelling set is time-bound as the user needs to add an effective start date and effective end date.

Modelling Set Summary Page

This page is the gateway to the Modelling Set feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Modelling Sets**. You can navigate to other pages that are related to Modelling Set from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy\(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

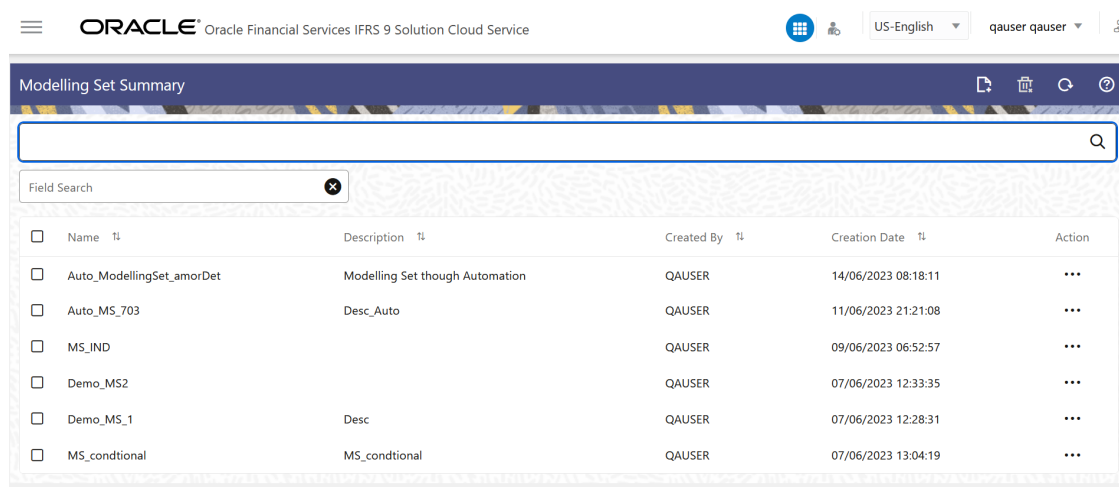
The **Modelling Set Summary** page displays the following columns:

Table 4-35 Modelling Set Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Modelling Set's short name.
Add	Click the Add icon to create a new Modelling Set.
Delete	Click the Action icon adjacent to the Modelling Set Name and select Delete to delete an existing Modelling Set.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Modelling Set help.
Search	Use this field to search for a Modelling set to View , Edit , Copy(Save As) , and Delete . For more information on using this feature, see the Search a Modelling Set section.

Table 4-35 (Cont.) Modelling Set Summary Page – Fields and Descriptions

Column	Description
Field Search	Enter the name of the Modelling set to filter the list of Modelling Sets by values that match the search term. For more information on using this feature, see the Search a Modelling Set section.

Figure 4-108 The Modelling Set Summary Page

The **Modelling Set** pane on the **Modelling Set Summary** page displays the list of Modelling Sets and offers several actions that allow you to perform different tasks. The following tasks are available for the Modelling Set in the **Action** column.

Table 4-36 Modelling Set – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Modelling Set Name and select View to view the contents of a Modelling Set in read/write format.
Edit	Click the Action icon adjacent to the Modelling Set Name and select Edit to edit the contents of a Modelling Set in read/write format.
Save As	Click the Action icon adjacent to the Modelling Set Name and select Save As to create a copy of an existing Modelling Set.
Delete	Click the Action icon adjacent to the Modelling Set Name and select Delete to delete an existing Modelling Set.
Dependency Information	Click the Action icon adjacent to the Modelling Set Name and select Dependency Information to check the higher and lower order dependencies for an existing Modelling Set.

Create a Modelling Set

Perform the following steps to create a Modelling Set definition:

1. On the **Modelling Set Summary** Page, click the Add icon to open the **Modelling Set** Window.

2. Populate the Modelling Set form as tabulated:

Option	Description
Name	Enter a name for the Modelling Set definition. This is a mandatory field.
Description	Enter a description for the Modelling Set definition.
Effective Start Date	Click the Select Date icon to select the effective start date.
Effective End Date	Click the Select Date icon to select the effective end date. Effective End date must always be later than the Effective Start Date.
Legal Entity Hierarchy	Select a Legal Entity Hierarchy from the drop-down list. This is a mandatory field.
Legal Entity	Click the Select Hierarchy icon to select a Legal Entity. On clicking this icon, the Hierarchy Browser window appears. Use this window to select a Legal Entity.
Organization Unit Hierarchy	Select an Organization Unit Hierarchy from the drop-down list. This is a mandatory field.
Organization Unit	Click the Select Hierarchy icon to select a Legal Entity. On clicking this icon, the Hierarchy Browser window appears. Use this window to select a Legal Entity.

Option	Description
Select Dimension (Modelling Dimensions)	Select a dimension from the drop-down list and then click the Add Icon. The selected Dimension is added to the list of Dimensions. For the hierarchy based dimension, select a hierarchy from the drop-down list. To delete a Dimension, hover over the desired Dimension and click the Delete icon.

3. Click **Save**.

The new Modelling Set appears in the list of Modelling Sets on the **Modelling Set Summary** Page.

Dependency Information

You can check dependencies to know where a particular Modelling Set has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Modelling Set:

1. Navigate to the **Modelling Set Summary** page.
2. Either [search](#) for a Modelling Set or navigate to the desired Modelling Set from the list of Modelling Set.
3. Click the **Action** icon that is adjacent to the Modelling Set and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Modelling Set

You can delete an existing Modelling Set from the **Modelling Set Summary** page. Perform the following steps in order to delete single or multiple existing Modelling Sets:

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

Note the following conditions for deleting a Modelling Set:

- If a Modelling Set does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Modelling Set.
 - If an Modelling Set contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Modelling Set.
 - If an Modelling Set contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Modelling Set.
2. Click **Delete**. A warning dialog is displayed.
 3. Click **Yes**.
 4. Additionally, select the checkbox(s) adjacent to the Modelling Set(s) and then click the **Delete** icon on the top of the **Modelling Set Summary** page. A warning dialog is displayed.
 5. Click **Yes**.

The selected definitions are removed from the **Modelling Set Summary** page.

Refresh a Modelling Set

You can refresh an existing Modelling Set from the **Modelling Set Summary** Page to refresh the Modelling Set with newly available data. Perform the following steps to refresh one or more existing Modelling Sets:

1. In the **Modelling Set** Window, select the checkbox(s) adjacent to the Modelling Set(s) that you want to refresh.
2. Click **Refresh**.

The selected Modelling Set(s) are refreshed with newly available data.

View a Modelling Set

The View feature enables you to view the details of an existing Modelling Set. Perform the following steps to view the definition details:

1. In the Modelling Set list, select the **Action** icon adjacent to the Modelling Set name that you want to view.
2. Click **View** to open the **Modelling Set** window.
3. Click **Cancel** to return to the **Modelling Set Summary** page.

Edit a Modelling Set

The edit feature enables you to update the details of an existing Modelling Set. Perform the following steps to edit an existing Modelling Set:

1. In the Modelling Set list, select the **Action** icon adjacent to the Modelling Set name that you want to edit.
2. Click **Edit** to open the **Modelling Set** Window.
3. Only the **Effective End Date**, and **Description** fields are editable.
4. Click **Save**.

The saved Modelling Set is displayed in the Modelling Set list on the **Modelling Set Summary** Page.

Copy (Save as) Modelling Set

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

1. Select the desired Modelling Set.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Click **Save**. The Modelling Set is saved under a new name.

Download a Modelling Set Rule

Perform the following steps to download the Rules:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.

The rules are downloaded in a csv format.

Search a Modelling Set

Search for a Modelling Set to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy\(Save As\)](#)
- [Delete](#)

Procedure

To search for a Modelling Set, perform the following steps:

- Navigate to the **Modelling Set Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Modelling Set and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Description can be used for an Advanced search.
- Additionally, in the **Field Search** field, enter the name of the Modelling set to filter the list of Modelling Sets by values that match the search term.

Only Modelling Sets that match the search criteria are displayed.

Rating Mapping Rules

Rating is a key dimension that is required for IFRS 9 Solution Cloud Service to compute various key measures like Stage determination and stage Curing. It is also used further in PD, LGD, CCF assignments and ECL calculations. All the processing within IFRS9SCS is performed at Account Level granularity and hence it is required for each account to be mapped to a specific Rating.

The service look-up for the following Rating type for every account from various external and internal rating providers:

- Account Rating
- Party Rating
- Sovereign Rating

Users can create a rating mapping rule by using the modelling set. Based on the selection of the modelling set, a legal entity-based rating source will be available for further selection. Users can provide rating source preference and rating type preference. Users can map external ratings with internal ratings by providing the details of rating Type, Term and Rating Source. Rank will be populated against each internal standardized rating.

Pre-Requisites

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

1. Stage Data must be loaded for the Account Rating, Party Rating, and Sovereign Rating. For information on how to load the data, perform the steps mentioned in [Loading External Data Instrument](#).

2. To load the data into the processing layer, execute the data loader batch from the Scheduler Service with the component **MULTIPLE RATING DATA LOADER**. For more information, refer to the [Scheduler Service](#) chapters.
3. Finally the data needs to be defined for the dimensions; Rating Source (ensure that this matches with the stage data), Credit Rating (ensure that this matches with the stage data as well), and Internal Credit Rating. For more information, refer to the [Dimension Management](#) chapters.

Rating Mapping Rule Summary Page

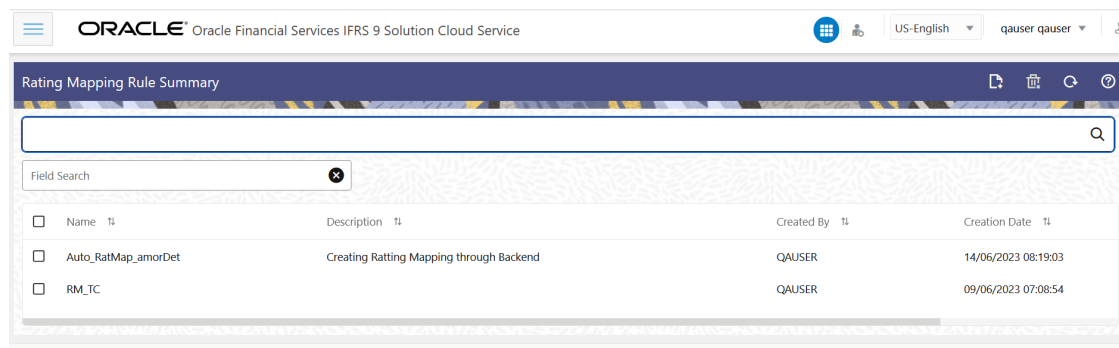
This page is the gateway to the Rating Mapping Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Rating Mapping Rules**. You can navigate to other pages that are related to Rating Mapping Rule from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Rating Mapping Rule Summary** page displays the following columns:

Table 4-37 Rating Mapping Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Rating Mapping Rule's short name.
Add	Click the Add icon to create a new Rating Mapping Rule.
Delete	Click the Action icon adjacent to the Rating Mapping Rule Name and select Delete to delete an existing Rating MappingRule.
Refresh	Click the Refresh icon to refresh the Summary page.
Help	Click the Help icon to view the Rating Mapping Rule help documents.
Search	Use this field to search for a Rating Mapping Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Rating Mapping section.
Field Search	Enter the name of the Rating Mapping Rule set to filter the list of Rating Mapping Rules by values that match the search term. For more information on using this feature, see the Search a Rating Mapping Rule section.

Figure 4-109 The Rating Mapping Rule Summary Page

The **Rating Mapping Rule** pane on the **Rating Mapping Rule Summary** page displays the list of Rating Mapping Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Rating Mapping Rules in the **Action** column.

Table 4-38 Rating Mapping Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Rating Mapping Rule Name and select View to view the contents of a Rating Mapping Rule in read/write format.
Edit	Click the Action icon adjacent to the Rating Mapping Rule Name and select Edit to edit the contents of a Rating Mapping Rule in read/write format.
Save As	Click the Action icon adjacent to the Rating Mapping Rule Name and select Save As to create a copy of an existing Rating Mapping Rule.
Delete	Click the Action icon adjacent to the Rating Mapping Rule Name and select Delete to delete an existing Rating Mapping Rule.
Dependency Information	Click the Action icon adjacent to the Amortization Process Name and select Dependency Information to check the higher and lower order dependencies for an existing Amortization Process.

Create a Rating Mapping Rule

Perform the following steps to create a Rating Mapping Rule:

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

Rating Mapping Summary

Rating Mapping

Cancel Save

Basic Information

Name Required Description Modelling Set Required Folder Required

Rating Source and Rating Type Preference

Rating Source Preference

Rating Source Required Preference Add

Rating Source Preference

No data to display.

Rating Type Preference

Rating Type Required Preference Add

Rating Type Preference

No data to display.

Rating Attributes

Rating Type Required Rating Term Required Rating Source Required Add

Rating Type Rating Term Rating Source Status Action

No data to display.

2. Populate the **Rating Mapping Rule**form as tabulated:

Option

Description

Name

Enter a name for the Rating Mapping Rule definition.
This is a mandatory field

Description

Enter a description for the Rating Mapping Rule definition.

Folder

Select a folder from the drop-down list.
This is a mandatory field

Modelling Set

Select a Modelling Set from the drop-down list.
This is a mandatory field

Rating Source (Rating Source Preference)

Select a Rating Source from the drop-down list. The available options in this drop-down depend on the out of box settings that were configured on the Dimension Management screens:
Each Rating Source can only contain one preference.
This is a required field.

Preference (Rating Source Preference)

Enter a numeric value that is greater than or equal to 1.

Option	Description
Add	Click this button to add the defined Rating Attributes. The Rating Source Preference is added to the table below this icon. Multiple Rating Source Preferences can be added as long as the values in the Rating Source and Preference fields are unique.
Rating Type (Rating Type Preference)	Select a Rating Type from the drop-down list. The available options are: • Account Rating • Party Rating • Sovereign Rating
Preference (Rating Type Preference)	Enter a numeric value that is greater than or equal to 1.
Add (Rating Type Preference)	Click this button to add the defined Rating Attributes. The Rating Type table is populated with the Rating Type and Preference values. Multiple Rating Type Preferences can be added as long as the values in the Rating Type and Preference fields are unique.
Rating Type (Rating Attributes)	Select a Rating Type from the drop-down list. The Rating Type that appears in this list is the Rating Type that you defined in the Rating Type (Rating Type Preference) field. This is a required field.
Rating Term (Rating Attributes)	Select a Rating Term from the drop-down list. The available options are: • Long Term Rating • Short Term Rating
Rating Source (Rating Attributes)	Select a Rating Source from the drop-down list. The Rating Source that appears in this list is the Rating Type that you defined in the Rating Source (Rating Source Preference) field. This is a required field.
Add	Click this button to add the defined Rating Attributes. The defined Rating Attributes appear in the tables in this pane. Multiple Rating attributes can be added.

3. In the Rating Mapping Rule table, click the **Rating Mapping Rule** icon in the **Status** column to open the **Mapping Table** window. In this window, in the **Standardized Rating** column, click the drop-down arrow and select a standardised rating from the drop-down list. When a Standardized Rating is selected, the Rating Rank column is automatically

populated with a rating rank. Click **Apply**. Initially, the status will be *Undefined*. Once the **Mapping Table** is updated, then the status changes to *Defined*.

4. In this Mapping Table, map the Source Rating to the Standardized Rating. Click the drop-down to select and map the required Standardized Rating to a Source Rating.
5. To delete an entry from the Rating Mapping Rule table, click the **Delete** icon that is adjacent to the Rating Attribute.
6. Click **Apply**. The status is updated to *Defined*.
7. Click **Save**.

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

Dependency Information

You can check dependencies to know where a particular Rating Mapping Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Rating Mapping Rule:

1. Navigate to the **Rating Mapping Rule Summary** page.
2. Either [search](#) for a Rating Mapping Rule or navigate to the desired Rating Mapping Rule from the list of Rating Mapping Rule.
3. Click the **Action** icon that is adjacent to the Rating Mapping Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Rating Mapping Rule

Perform the following steps to delete a Rating Mapping Rule.

1. Select the Rating Mapping Rule that you want to delete and click the **Action** icon.

Note the following conditions for deleting a Rating Mapping Rule:

- If a Rating Mapping Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Rating Mapping Rule.
 - If an Rating Mapping Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Rating Mapping Rule.
 - If a Rating Mapping Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Rating Mapping Rule.
2. Select **Delete**.
 3. You can also delete a Rating Mapping Rule by selecting the Rating Mapping Rule that you want to delete and then click the **Delete** icon.

Refresh a Rating Mapping Rule

You can refresh an existing Rating Mapping Rule from the **Rating Mapping Rule Summary** page to refresh the Rating Mapping Rule with newly available data. Perform the following steps to refresh one or more existing Rating Mapping Rules:

1. On the **Rating Mapping Rule Summary** page, select the checkbox(s) adjacent to the Rating Mapping Rule(s) that you want to refresh.
2. Click **Refresh**.

The selected Rating Mapping Rule(s) are refreshed with newly available data.

View a Rating Mapping Rule

Perform the following steps to view a Rating Mapping Rule.

1. Select the Rating Mapping Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Rating Mapping Rule** window opens, displaying the details of the selected Rating Mapping Rule.
4. Click **Cancel**.

Edit a Rating Mapping Rule

The edit feature enables you to update the details of an existing Rating Mapping Rule. Perform the following steps to edit an existing Rating Mapping Rule:

1. In the Rating Mapping Rule list, select the **Action** icon adjacent to the Rating Mapping Rule name that you want to edit.
2. Click **Edit** to open the Rating Mapping Rule window.
3. Update the required fields. Only the **Name** field is not editable.
4. Click **Save**.

The saved Rating Mapping Rule is displayed in the Rating Mapping Rule list on the **Rating Mapping Rule Summary** page.

Save a Rating Mapping Rule

Perform the following steps to save a Rating Mapping Rule under a different name and folder:

1. Select the desired Rating Mapping Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Rating Mapping Rule is saved under a new name and folder.

Download Rating Mapping Rules

Perform the following steps to download the Rules:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.
The rules are downloaded in a csv format.

Search a Rating Mapping

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

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Rating Mapping, perform the following steps:

- Navigate to the **Rating Mapping Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, or pf the Rating Mapping and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Also, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Rating Mapping to filter the list of Rating Mapping by values that match the search term.

Only Rating Mapping that matches the search criteria is displayed.

Stage Determination Rules

The IFRS 9 guidelines require each account to be classified into three different stages on every reporting date, based on the significance of an increase in Credit Risk from the initial recognition. The Out of Box service supports three IFRS 9 Stages i.e., Stage 1, Stage 2, and Stage 3. The guidelines mandate the calculation of a 12 Month or Lifetime Expected Credit Loss for an account, depending upon the stage in which an account, or instrument, has been classified into.

While defining the Stage Determination rule, the user needs to first select the modelling set. The service supports the Stage Determination requirements of the IFRS 9 guidelines by considering the following factors to determine the Significance of an Increase in Credit Risk, thereby deciding the stage into which a particular account is classified. These factors are divided into quantitative and qualitative parameters. Financial institutions can customize this based on regulatory and business requirements.

Quantitative Parameters:

- **Rating (Long term):** Depending on the Long-term Rating on the Date of Initial Recognition and the Rating on the Current reporting date, the accounts are classified into one of the three stages.
- **Rating (Short Term):** Depending upon the Short-term Rating on the Date of Initial Recognition and the Rating on the Current reporting date, the accounts are classified into one of the three stages.
- **Days Past Dues:** The user can create bands based on days past dues and directly tag them to individual stages.
- **FICO Score:** The FICO Score is the same as the credit score. Depending on the FICO score on the Date of Initial Recognition and the FICO Score on the Current reporting date, the accounts are classified into one of the three stages.
- **LTV:** LTV is the Loan to Value. Depending on the LTV on the Date of Initial Recognition and the LTV on the Current reporting date, the accounts are classified into one of the three stages.

- **12 Month PD:** Band creation is not required for 12 Months PD. Based on the absolute change in current PD for origination PD, the accounts are classified into one of the three stages.
- **Lifetime PD:** Band creation is not required for Lifetime PD. Based on the absolute change in current PD for origination PD, the accounts are classified into one of the three stages.

Qualitative parameters:

- **New Account:** New accounts can be tagged as Stage 1.
- **Devolvement:** Devolvement is defined as a situation when a security or debt issue is undersubscribed. Devolved accounts can be tagged as Stage 2.
- **Impaired:** Impaired is defined as an account with a very low credit score. Impaired accounts can be tagged as Stage 2.
- **Default:** Defaulted accounts can be tagged as Stage 3
- **Forbearance:** Forbearance is defined as when a lender allows you to temporarily pay a lower loan payment or pause a loan payment. Forbearance accounts can be tagged as Stage 2.
- **Restructured:** Renegotiated or modified accounts can be tagged as Stage 2.
- **Country:** Users can create groups of countries that show similar economic behaviour. Based on economic guidance, users can tag these country groups under Stage 1, Stage 2 and Stage 3.
- **Industry:** Users can create groups of industries that show similar economic behaviour. Based on economic guidance, users can tag these industry groups under Stage 1, Stage 2 and Stage 3.

Stage Determination Rule Summary Page

This page is the gateway to the Stage Determination Rules feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Stage Determination Rules**. You can navigate to other pages that are related to Stage Determination Rules from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

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

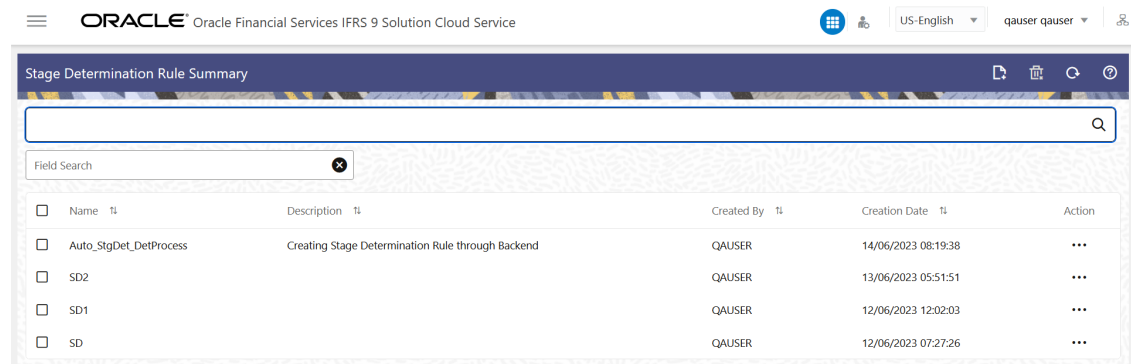
Table 4-39 Stage Determination Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Stage Determination Rules's name.
Add	Click the Add icon to create a new Stage Determination Rule.
Delete	Click the Action icon adjacent to the Stage Determination Rule Name and select Delete to delete an existing Stage Determination Rules.

Table 4-39 (Cont.) Stage Determination Rule Summary Page – Fields and Descriptions

Column	Description
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Stage Determination Rule help.
Search	Use this field to search for a Stage Determination Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Stage Determination Rule section.
Field Search	Enter the name of the Stage Determination Rule to filter the list of Stage Determination Rule by values that match the search term. For more information on using this feature, see the Search a Stage Determination Rule section.

The **Stage Determination Rules** pane on the **Stage Determination Rule Summary** page displays the list of Stage Determination Rule and offers several actions that allow you to perform different tasks. The following tasks are available for the Stage Determination Rule in the **Action** column.

Figure 4-110 The Stage Determination Rule Summary Page**Table 4-40 Stage Determination – Icons and Descriptions**

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

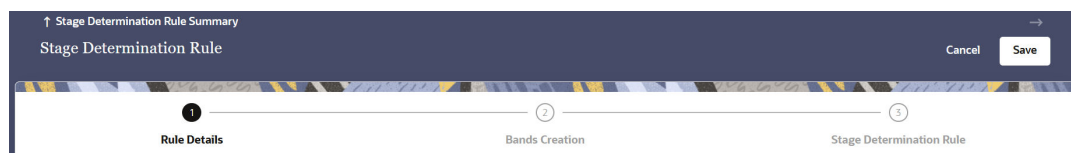
Table 4-40 (Cont.) Stage Determination – Icons and Descriptions

Column	Description
Save As	Click the Action icon adjacent to the Stage Determination Rule Name and select Save As to create a copy of an existing Stage Determination Rule.
Delete	Click the Action icon adjacent to the Stage Determination Rule Name and select Delete to delete an existing Stage Determination Rule.
Dependency Information	Click the Action icon adjacent to the Stage Determination Rule and select Dependency Information to check the higher and lower order dependencies for an existing Stage Determination Rule.

Create a Stage Determination Rule

Perform the following steps to create a Stage Determination Rule:

1. On the **Stage Determination Rules Summary** page, click the **Add** icon to open the **Stage Determination Rule** Window.
2. On the Stage Determination Rules window, you must first define the **Rule Details**, **Bands Creation**, and then the **Stage Determination Rules**.



3. Populate the **Stage Determination Rule - Rule Details** form as tabulated:

Option	Description
Name	Enter a name for the Stage Determination Rule definition. This is a mandatory field.
Description	Enter a description for the Stage Determination Rule definition.
Select Folder	Select a folder from the drop-down list. This is a mandatory field.
Select Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field.

4. **Note:**

When creating a band for DPD, you must create a 0-0 band to track active accounts. The 0-0 band is mandatory. After this, any number of additional bands can be created.

After the mandatory fields are populated, populate the **Stage Determination Rule - Bands Creation - Rule Parameters (Quantitative)** form as tabulated:

Option

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

Description

Click the slider to enable or disable this band.
Click the **Configuration** icon to define the Lower Limit and Upper Limit of this Band:

- In the selected Band's configuration window, click the **Add Button** icon to add a Band to define it.
- Enter the lower and upper limit in the **Lower Limit** and **Upper Limit** fields respectively. Both these fields only support positive integers.
- Click **Apply**
- If you want to delete a band, select a Band and click the **Delete Button** icon to delete it.

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

To add and configure multiple Lower Limit and Upper Limits of this band, click the **Configuration** icon.

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

Click the slider to enable this band.
Click the **Configuration** icon to define the Lower Limit and Upper Limit of this Band:

- Enter the lower and upper limit in the **Lower Limit** and **Upper Limit** fields respectively. Both these fields only support positive integers.

Option	Description
	b. Click the Add Button icon to add additional Bands. c. Click Apply d. If you want to delete a band, select a Band and click the Delete Button icon to delete it. The status of the Defined Staging Bands is updated to <i>Defined</i>. To add and configure multiple Lower Limit and Upper Limits of this band, click the Configuration icon.
Delinquency Past Due Days	Click the slider to enable this band. Click the Configuration icon to define the Lower Limit and Upper Limit of this Band: a. Enter the lower and upper limit in the Lower Limit and Upper Limit fields respectively. Both these fields only support positive integers. b. Click the Add Button icon to add additional Bands. c. Click Apply d. If you want to delete a band, select a Band and click the Delete Button icon to delete it. The status of the Defined Staging Bands is updated to <i>Defined</i>. To add and configure multiple Lower Limit and Upper Limits of this band, click the Configuration icon.
FICO Score	Click the slider to enable this band. Click the Configuration icon to define the Lower Limit and Upper Limit of this Band: a. Enter the lower and upper limit in the Lower Limit and Upper Limit fields respectively. Both these fields only support positive integers. b. Click the Add Button icon to add additional Bands. c. Click Apply d. If you want to delete a band, select a Band and click the Delete Button icon to delete it. The status of the Defined Staging Bands is updated to <i>Defined</i>.

Option**Description**

To add and configure multiple Lower Limit and Upper Limits of this band, click the **Configuration** icon.

LTV

Click the slider to enable this band.
Click the **Configuration** icon to define the Lower Limit and Upper Limit of this Band:

- a. Enter the lower and upper limit in the **Lower Limit** and **Upper Limit** fields respectively. Both these fields only support positive integers.
- b. Click the **Add Button** icon to add additional Bands.
- c. Click **Apply**
- d. If you want to delete a band, select a Band and click the **Delete Button** icon to delete it.

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

To add and configure multiple Lower Limit and Upper Limits of this band, click the **Configuration** icon.

12 Months PD

Click the slider to enable or disable this band.

Lifetime PD

Click the slider to enable or disable this band.

5. Click the **Qualitative** tab to define the **Stage Determination Rule - Bands Creation - Rule Parameters (Qualitative)** form as tabulated:

↑ Stage Determination Rule Summary
Stage Determination Rule

Cancel Save

Rule Details Bands Creation Stage Determination Rule

Rule Parameters

Quantitative Qualitative

Industry ☒

Country ☒

New Accounts ☒

Devovement ☒

Restructured ☒

Forbearance ☒

Impaired ☒

Default ☒

Qualitative (Industry)

Group Name	Group Members	Action
Add Group Detail by click on Configure icon		

Option**Description****Industry**

Click the slider to enable this band:

Option	Description
	a. Click the Industry Configuration icon. b. In the Group Name field, enter a name for the group. c. The Group Member field is populated by default. d. In the left selection pane, select the required parameters and then click Selected industries move to selected to move the selection to the Selected pane on the right. e. To remove a selection from the Selected pane, select the required parameters and then click Move Selected to Industries. f. Click Add Group. Multiple groups can be added by using the above steps. Ensure that the same industry is not added in different stages.
Country	Click the slider to enable this band: a. Click the Country Configuration icon. b. In the Group Name field, enter a name for the group. c. In the Country field, select a country from the drop-down list. Multiple countries can be selected in this field. d. Click the Add Button to add multiple groups with the defined countries. e. To delete a group, click the Delete Button. f. click Apply. Multiple groups can be added by using the above steps. Make sure that the same country is not added in different stages.
New Accounts	Click the slider to enable or disable this band.
Devolvement	Click the slider to enable or disable this band.
Restructured	Click the slider to enable or disable this band.
Forbearance	Click the slider to enable or disable this band.
Impaired	Click the slider to enable or disable this band.

Option	Description
Default	Click the slider to enable or disable this band.
- The rules that are enabled in the **Bands Creation** tab will be available in the **Stage Determination Rules** tab.
 - Click the **Next** icon to open the **Stage Determination Rules** pane.
 - Populate the **Stage Determination Rule - Stage Determination Rules - Rule Parameters (Quantitative)** form as tabulated:

Option	Description
Rating (Long Term)	Click the Configuration icon to define this band.
- In the **Band Filter** field, select the filters for the band. Multiple filters for a band can be selected.
 - In the configuration window, select a band from the Band drop-down list.
 - Define the lower limit in the **Lower Limit** field.
 - Define the upper limit in the **Upper Limit** field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages.
 - Select a stage value from the **Stage** drop-down list.
 - You can click the **Add button** icon to define multiple bands.
 - If you want to delete a band, click the **Delete Button** icon to delete a selected band.

Option	Description
	h. Click Apply The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.
Rating (Short Term)	Click the Configuration icon to define this band. a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected. b. Define the lower limit in the Lower Limit field. c. Define the upper limit in the Upper Limit field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages. d. Select a stage value from the Stage drop-down list. e. You can click the Add button icon to define multiple bands. f. If you want to delete a band, click the Delete Button icon to delete a selected band. g. Click Apply The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.
Delinquency Past Due Days	Click the Configuration icon to define this band. a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected. b. Define the lower limit in the Lower Limit field. c. Define the upper limit in the Upper Limit field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages. d. Select a stage value from the Stage drop-down list.

Option	Description
	e. You can click the Add button icon to define multiple bands. f. If you want to delete a band, click the Delete Button icon to delete a selected band. g. Click Apply Note that the same Bands cannot be shared between different stages. The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.
FICO Score	Click the Configuration icon to define this band. a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected. b. Define the lower limit in the Lower Limit field. c. Define the upper limit in the Upper Limit field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages. d. Select a stage value from the Stage drop-down list. e. You can click the Add button icon to define multiple bands. f. If you want to delete a band, click the Delete Button icon to delete a selected band. g. Click Apply The <i>Band</i> values in the Stage table appear without a highlight, while the <i>Notch Movement</i> values appear with a grey highlight and are denoted in the upper right corner of the Quantitative pane.
LTV	Click the Configuration icon to define this band in percentage. a. In the Band Filter field, select the filters for the band. Multiple filters for a band can be selected. b. Define the lower limit in the Lower Limit field.

Option**Description**

- c. Define the upper limit in the **Upper Limit** field. The upper limit must always be more than the lower limit. Note that the Lower Limit and Upper limit must not overlap between different stages.
- d. Select a stage value from the **Stage** drop-down list.
- e. You can click the **Add button** icon to define multiple bands.
- f. If you want to delete a band, click the **Delete Button** icon to delete a selected band.
- g. Click **Apply**

The *Band* values in the Stage table appear without a highlight, while the *Notch Movement* values appear with a grey highlight and are denoted in the upper right corner of the **Quantitative** pane.

12 Months PD

Click the slider to enable or disable this feature.

The Lower Limit and Upper limit cannot overlap between different stages.

Lifetime PD

Click the slider to enable or disable this feature.

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

Option**Description****Industry**

In this row for each stage, click the adjacent row and select a value.
You can select multiple values in this field

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

10. Click **Save**.

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

Dependency Information

You can check dependencies to know where a particular Stage Determination Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Stage Determination Rule:

1. Navigate to the **Stage Determination Rule Summary** page.
2. Either [search](#) for an Stage Determination Rule or navigate to the desired Stage Determination Rule from the list of Stage Determination Rule.
3. Click the **Action** icon that is adjacent to the Stage Determination Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Stage Determination Rule

Perform the following steps to delete a Stage Determination Rule.

1. Select the Stage Determination Rule that you want to delete and click the **Action** icon.
Note the following conditions for deleting a Stage Determination Rule:
 - If a Stage Determination Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Stage Determination Rule.
 - If a Stage Determination Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Stage Determination Rule.

- If a Stage Determination Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Stage Determination Rule.
2. Select **Delete**.
 3. You can also delete a Stage Determination Rule by selecting the Stage Determination Rules that you want to delete and then click the **Delete** icon.

Refresh a Stage Determination Rule

You can refresh an existing Stage Determination Rule from the **Stage Determination Rule Summary** page to refresh the Stage Determination Rules with newly available data. Perform the following steps to refresh one or more existing Stage Determination Rules:

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

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

View a Stage Determination Rule

Perform the following steps to View a Stage Determination Rule.

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

Edit a Stage Determination Rule

The edit feature enables you to update the details of an existing Stage Determination Rule. Perform the following steps to edit an existing Stage Determination Rule:

1. In the Stage Determination Rule list, select the **Action** icon adjacent to the Stage Determination Rule name that you want to edit.
2. Click **Edit** to open the Stage Determination Rule window.
3. Update the required fields. Only the **Name** field is not editable.
4. Click **Save**.

The saved Stage Determination Rule is displayed in the Stage Determination Rules list on the **Stage Determination Rule Summary** page.

Save a Stage Determination Rule

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

1. Select the desired Stage Determination Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list

6. Click **Save**. The Stage Determination Rule is saved under a new name and folder.

Download the Stage Determination Rules

Perform the following steps to download the Rules:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search a Stage Determination Rules

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

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Stage Determination Rules, perform the following steps:

- Navigate to the **Stage Determination Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Stage Determination Rules and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Also, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Stage Determination Rules to filter the list of Stage Determination Rules by values that match the search term.

Only Stage Determination Rules that match the search criteria are displayed.

Stage Curing Rules

The Stage Curing Rule feature is introduced in this service to restrict any direct movement of accounts between the higher-risk stage to the lower-risk stage. This movement is allowed only if a particular set of conditions are satisfied. The Out of Box service supports rules restrict the movement in the following stages:

1. Stage 3 to Stage 2
2. Stage 2 to Stage 1
3. Stage 3 to Stage 1

The basic principle behind this curing rule is that financial institutions assess the account characteristic for some reasonable period before moving any account from higher risk stages to lower risk stages.

While defining the Stage Curing Rule, the user has to select the modelling set.

By default, all stages are enabled for the curing logic, but the user can disable curing logic for some of those stages as per the requirements.

The below rule parameters are available for customization. By default, all rule parameters are enabled but the user can disable some of those rule parameters based on requirement. The cooling period is a mandatory rule parameter, and the user can select other parameters based on requirements. All selected rules should be passed then only curing logic will apply.

- **Cooling Period:** The cooling period is in days. Users need to customize this for all stages.
- **Days Past Due:** Users can customize days past due for all stages by selecting the combination of arithmetic signs and days.
- **Rating Long Term:** Users can customize rating long term for all stages by selecting the combination of arithmetic sign and internal rating rank.
- **Rating Short Term:** Users can customize rating short term for all stages by selecting the combination of arithmetic sign and internal rating rank.
- **LTV:** Users can customize LTV for all stages by selecting the combination of arithmetic signs and LTV. LTV is in percentage.
- **FICO Score:** Users can customize the FICO Score for all stages by selecting the combination of arithmetic sign and FICO score.
- **12 Month PD:** Users can customize 12 Month PD for all stages by selecting the combination of arithmetic sign and 12 Month PD. 12 Month PD is in percentage.
- **Lifetime PD:** Users can customize Lifetime PD for all stages by selecting the combination of arithmetic sign and Lifetime PD. Lifetime PD is in percentage.

Stage Curing Rule Summary Page

This page is the gateway to the Stage Curing Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Stage Curing Rules**. You can navigate to other pages that are related to a Stage Curing Rule from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

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

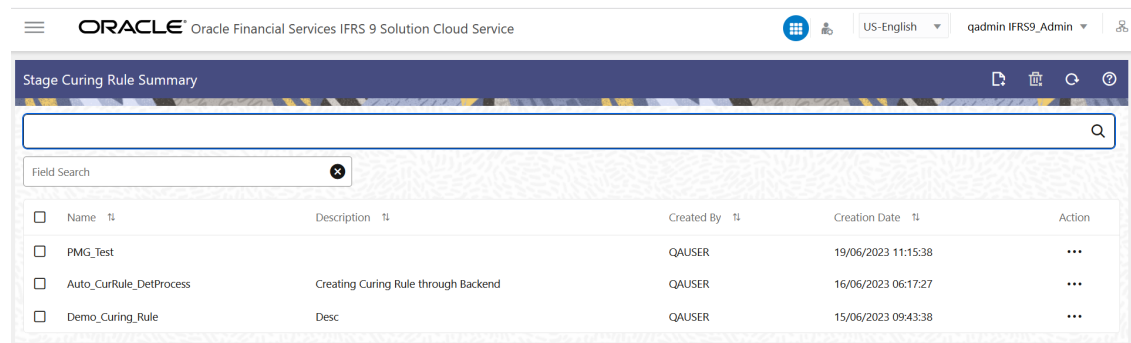
Table 4-41 Stage Curing Rule Summary Page – Fields and Descriptions

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

Table 4-41 (Cont.) Stage Curing Rule Summary Page – Fields and Descriptions

Column	Description
Search	Use this field to search for a Stage Curing Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Stage Curing Rule section.
Field Search	Enter the name of the Stage Curing Rule to filter the list of Stage Curing Rules by values that match the search term. For more information on using this feature, see the Stage Curing Rule section.

The **Stage Curing Rule** pane on the **Stage Curing Rule** page displays the list of Stage Curing Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Stage Curing Rule in the **Action** column.

Figure 4-111 The Stage Curing Rule Summary Page**Table 4-42 Stage Curing Rule – Icons and Descriptions**

Column	Description
View	Click the Action icon adjacent to the Stage Curing Rule Name and select View to view the contents of a Stage Curing Rule in read/write format.
Edit	Click the Action icon adjacent to the Stage Curing Rule Name and select Edit to edit the contents of a Stage Curing Rule in read/write format.
Save As	Click the Action icon adjacent to the Stage Curing Rule Name and select Save As to create a copy of an existing Stage Curing Rule.
Delete	Click the Action icon adjacent to the Stage Curing Rule Name and select Delete to delete an existing Stage Curing Rule.
Dependency Information	Click the Action icon adjacent to the Stage Curing Rule Name and select Dependency Information to check the higher and lower order dependencies for an existing Stage Curing Rule.

Create a Stage Curing Rule

Perform the following steps to create a Stage Curing Rule:

1. On the **Stage Curing Rule Summary** page, click the **Add** icon to open the **Stage Curing Rule** window.

2. Populate the **Stage Curing Rule** form as tabulated:

Option

Name

Description

Enter a name for the Stage Curing Rule definition.
This is a mandatory field.

Description

Enter a description for the Stage Curing Rule definition.

Folder

Select a folder from the drop-down list.
This is a mandatory field.

Modelling Set

Select a Modelling Set from the drop-down list.
This is a mandatory field.

Rule Parameters

Enable or disable the required Rule Parameters in this pane. The available Rule Parameters are:

- **Cooling Period(Days)**
- **Days Past Due**
- **Rating Long Term** (Internal Rating Ranks are considered)
- **Rating Sort Terms** (Internal Rating Ranks are considered)
- **LTV** (Loan to Value Ratio)
- **FICO Score** (Credit Score)

Option	Description
	• 12 Month PD • Life Time PD
Curing Rules (This refers to the previous reporting stage of the account.)	In this pane, the following actions must be performed: • Stage <> - Click the slider to enable or disable this stage curing rule. • Current - This refers to the stage that the account is in. • Target - Target - Select a target stage from the drop-down list. • Source Table - – Cooling Period(Days) - Enter a positive integer in the Cooling Period(Days) row of these source tables. This is a mandatory field. – Days Past Due - * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter only a positive integer in these fields. These are mandatory fields. – Rating Long Term (Internal Rating Ranks are considered) * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter only a positive integer in these fields. This is a mandatory field. These are mandatory fields. – Rating Sort Term (Internal Rating Ranks are considered) * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists.

Option	Description
	* Right Column (Values) - Enter only a positive integer in these fields. This is a mandatory field. These are mandatory fields.
	— LTV (Loan to Value Ratio) * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter only a percentage value. These are mandatory fields. — FICO Score (Credit Score) * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter a value in these fields. This is a mandatory field. These are mandatory fields. — 12 Month PD - * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter a numeric value in a percentage format. These are mandatory fields. — Life Time PD - * Left-Column (Comparison Symbols) - Select a comparison symbol from the drop-down lists. * Right Column (Values) - Enter a numeric value in a percentage format. These are mandatory fields.

3. Click **Save**.

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

Dependency Information

You can check dependencies to know where a particular Stage Curing Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Stage Curing Rule:

1. Navigate to the **Stage Curing Rule Summary** page.
2. Either [search](#) for an Stage Curing Rule or navigate to the desired Stage Curing Rule from the list of Stage Curing Rule.
3. Click the **Action** icon that is adjacent to the Stage Curing Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Stage Curing Rule

Perform the following steps to delete a Stage Curing Rule.

1. Select the Stage Curing Rule that you want to delete and click the **Action** icon.
2. Select **Delete**.

Note the following conditions for deleting an Stage Curing Rule:

- If a Stage Curing Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Stage Curing Rule.
 - If an Stage Curing Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Stage Curing Rule.
 - If an Stage Curing Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Stage Curing Rule.
3. You can also delete a Stage Curing Rule by selecting the Stage Curing Rule that you want to delete and click the **Delete** icon.

Refresh a Stage Curing Rule

You can refresh an existing Stage Curing Rule from the **Stage Curing Rules Summary** page to refresh the Stage Curing Rules with the newly available data. Perform the following steps to refresh one or more existing Stage Curing Rules:

1. In the **Stage Curing Rules Summary** page, select the checkbox(s) adjacent to the Stage Curing Rules that you want to refresh.
2. Click **Refresh**.

The selected Stage Curing Rules are refreshed with newly available data.

View a Stage Curing Rule

Perform the following steps to View a Stage Curing Rule.

1. Select the Stage Curing Rule that you want to view and click the **Action** icon.
2. Select **View**.

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

Edit a Stage Curing Rule

The edit feature enables you to update the details of an existing Stage Curing Rule. Perform the following steps to edit an existing Stage Curing Rule from the **Stage Curing Rule Summary** page:

1. In the Stage Curing Rule list, select the **Action** icon adjacent to the Stage Curing Rule that you want to edit.
2. Click **Edit** to open the **Stage Curing Rule** Window.
3. Update the required fields. Only the **Name** field is not editable.
4. Click **Save**.

The saved Stage Curing Rule is displayed in the Stage Curing Rule list on the **Stage Curing Rule Summary** Page.

Save a Stage Curing Rule

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

1. Select the desired Stage Curing Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Stage Curing Rule is saved under a new name and folder.

Download Stage Curing Rule

Perform the following steps to download the Rules:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search a Stage Curing Rule

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

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Stage Curing Rule, perform the following steps:

- Navigate to the **Stage Curing Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, or pf the Stage Curing Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Also, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Stage Curing Rule to filter the list of Stage Curing Rules by values that match the search term.

Only Stage Curing Rules that match the search criteria are displayed.

Account Classification Rules

Financial instruments are required to be classified into three categories and thereby accounted for as suggested in the Phase 1 section of the IFRS 9 guidelines. The three categories are the following:

- Amortized Cost (AMRTCOST)
- Fair Value through Other Comprehensive Income (FVOCI)
- Fair Value through Profit and Loss (FVTPL)

Financial assets must undergo the Business Model test (BM) and Cash Flow Characteristics test (SPPI) and Financial Liabilities must undergo the Business Model Test for classification in the aforementioned categories. While defining the Account classification rules, the user needs to first select the folder and then the modelling set. Account classification Rules can be customized based on Product and Customer type levels.

Account Classification based on Business Model and SPPI:

Once the Business Model test or Cash Flow Characteristics test is performed, the classification method needs to be assigned, depending on the outcome of the test. As the first step, accounts that have been assigned the classification through staging or based on election, retain that classification.

Table 4-43 Account Classification for Assets

Business Model	SPPI Test	Classification
Held to Collect	Y	AMRTCOST
Held to Collect and Sell	Y	FVOCI
Held to Sell	Y	FVTPL
Held to Collect	N	FVTPL
Held to Collect and Sell	N	FVTPL
Held to Sell	N	FVTPL

Account Classification for Liabilities:

Business Model	Classification
Held to Maturity	AMRTCOST
Available for Sale	FVTPL
Held to Sell	FVTPL

The final process is to optionally select the accounts to be classified under FVTPL or FVOCI. This is done based on the following Rules:

1. Fair Value option: If the fair value flag is Y, then Classification = FVTPL

2. Equity Instruments: For Instrument Type = Equities and Business Model = Held to Collect, then Classification = FVOCI.

Users can configure the Rules as per the requirement.

Account Classification Rule Summary Page

This page is the gateway to the Account Classification Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Account Classification Rules**. You can navigate to other pages that are related to Account Classification Rule from this point.

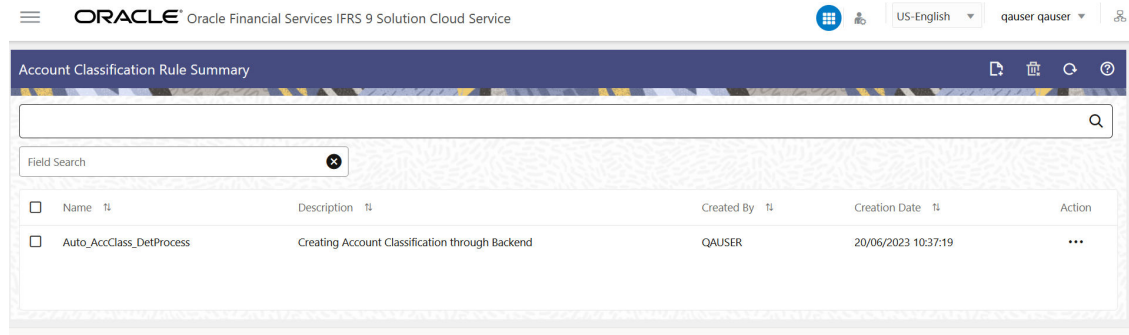
- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

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

Table 4-44 Account Classification Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Account Classification Rule's short name.
Add	Click the Add icon to create a new Account Classification Rule.
Delete	Click the Action icon adjacent to the Account Classification Rule Name and select Delete to delete an existing Account Classification Rule.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Account Classification Rule help.
Search	Use this field to search for an Account Classification Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search an Account Classification Rule section.
Field Search	Enter the name of the Account Classification Rule to filter the list of Account Classification Rules by values that match the search term. For more information on using this feature, see the Search an Account Classification Rule section.

The **Account Classification Rule** pane on the **Account Classification Rule Summary** page displays the list of Account Classification Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Account Classification Rules in the **Action** column.

Figure 4-112 The Account Classification Rule Summary Page**Table 4-45 Account Classification Rules – Icons and Descriptions**

Column	Description
View	Click the Action icon adjacent to the Account Classification Rule Name and select View to view the contents of an Account Classification Rule in read/write format.
Edit	Click the Action icon adjacent to the Account Classification Rule Name and select Edit to edit the contents of an Account Classification Rule in read/write format.
Save As	Click the Action icon adjacent to the Account Classification Rule Name and select Save As to create a copy of an existing Account Classification Rule.
Delete	Click the Action icon adjacent to the Account Classification Rule Name and select Delete to delete an existing Account Classification Rule.
Dependency Information	Click the Action icon adjacent to the Account Classification Rule Name and select Dependency Information to check the higher and lower order dependencies for an existing Account Classification Rule.

Create an Account Classification Rule

Perform the following steps to create an Account Classification Rule:

1. On the **Account Classification Rule Summary** page, click the **Add** icon to open the **Account Classification Rule Window**.

2. Populate the **Account Classification Rule** form as tabulated:

Option	Description
Name	Enter a name for the Account Classification Rule definition. This is a mandatory field.
Description	Enter a description for the Account Classification Rule definition.
Folder	Select a folder from the drop-down list. This is a mandatory field.
Select Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field.
Toggle	Click the Toggle icon on the Left-Hand-Side menu to expand or collapse the Rule pane.
Account Classification	In the Assets and Liabilities sections, select the Account Classification from the drop-down list for each Business Model Test. The available options in the Account Classification drop-down are: - Fair Value through other Comprehensive Income (FVOCI) - Fair Value Through Profit for Loss (FVTPL) - Amortized Cost (AMRTCOST)
Override Logic (Account Classification)	Enable the Override Logic slider to configure the Account Classification: Account Classification - Select a value from the drop-down list. The available options are: - Fair Value through other Comprehensive Income (FVOCI)

Option	Description
	– Fair Value Through Profit for Loss (FVTPL) – Amortized Cost (AMRTCOST) • Instrument Type - Select a value from the drop-down list. The available options are: – Fair Value through other Comprehensive Income (FVOCI) – Fair Value Through Profit for Loss (FVTPL) – Amortized Cost (AMRTCOST)
Cash Flow Characteristics (SPPI) Test	Expand the list to configure the Cash Flow Characteristics: • SPPI Flag: Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Conditional Assumption- Click the Set Conditional Assumption icon to configure the Conditional Assumption: a. Select a customer type from the Customer Type drop-down list. b. Select either <i>Yes</i> or <i>No</i> from the SPPI Flag drop-down list. c. Click Apply For each configured Cash Flow Characteristic of a product, the status is updated to <i>Defined</i>. Click the Go To List View or Go To Tree View icon to toggle between different views.
Override Logic (Cash Flow Characteristics (SPPI) Test)	Enable the Override Logic slider to configure the Rules: • Rule Selection - Click the slider to mark or unmark the rule selection for a Product Attribute. • Conditions - Configure the conditions for the following Product Attributes: – Fixed Interest Rate: Interest Rate - Select a comparison symbol from the Select drop down list and enter a numeric value in the Value field. – Floating Interest Rate: Float Spread - Select a comparison

Option	Description
	symbol from the Select drop down list and enter a numeric value in the Value field. – Embedded Option Flag - Select either <i>Yes</i> or <i>No</i> – Sub Prime Flag - Select either <i>Yes</i> or <i>No</i> – Employee Account Flag - Select either <i>Yes</i> or <i>No</i> – Benchmark Currency - Select <i>US Dollar</i> from the drop-down list. – Amortization Type - Select an Amortization Type from the drop-down list. Multiple Amortization Types can be selected from this drop-down list – Behaviour Pattern Type - This field is disabled and is populated by default.
Business Model Test	Perform the following configurations: • Business Model Classification - Select a Business Model Classification from the drop-down-list: – Held to Collect – Held to Collect and Sell – Held to Sell – Held to Maturity – Available for Sale • Conditional Assumption- Click the Set Conditional Assumption icon to configure the Conditional Assumption: a. Select a value from the drop-down list according to the dimension that was selected in the Modelling Set. Multiple values can be selected in this field. b. Select a business model classification from the Business Model Classification drop-down list. c. Expand the list.

Option	Description
	d. Select the slider to enable or disable the Exposure For Sale Indicator e. Select a business model classification from the Business Model Classification drop-down list. f. Click Apply For each configured Conditional Assumption of a product, the Conditional Assumption is updated to the selected the dimension that was selected in the Modelling Set. Click the Go To List View or Go To Tree View icon to toggle between different views.
3.	To discard all your changes and reset the values, click the Reset icon. This icon is available on the Cash Flow Characteristics (SPPI) Test and Business Model Test tabs on the LHS menu.
4.	Click Save .
The new Account Classification Rule appears in the list of Account Classification Rules on the Account Classification Rule Summary Page.	

Dependency Information

You can check dependencies to know where a particular Account Classification Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Account Classification Rule:

1. Navigate to the **Account Classification Rule Summary** page.
2. Either [search](#) for an Account Classification Rule or navigate to the desired Account Classification Rule from the list of Account Classification Rule.
3. Click the **Action** icon that is adjacent to the Account Classification Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete an Account Classification Rule

Perform the following steps to delete an Amortization Classification Rule.

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

Note the following conditions for deleting an Account Classification Rule:

- If an Account Classification Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Account Classification Rule.

- If an Account Classification Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Account Classification Rule.
 - If an Account Classification Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Account Classification Rule.
2. Select **Delete**.
 3. You can also delete an Account Classification Rule by selecting the Account Classification Rule that you want to delete and then click the **Delete** icon.

Refresh an Account Classification Rule

You can refresh an existing Account Classification Rule from the **Account Classification Rule** page to refresh the Account Classification Rule with newly available data. Perform the following steps to refresh one or more existing Account Classification Rules:

1. On the **Account Classification Rule Summary** page, select the checkbox(s) adjacent to the Account Classification Rule(s) that you want to refresh.
2. Click **Refresh**.

The selected Account Classification Rule(s) are refreshed with newly available data.

View an Account Classification Rule

Perform the following steps to View an Account Classification Rule.

1. Select the Account Classification Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Account Classification Rule** window opens, displaying the details of the selected Account Classification Rule.
4. Click **Cancel**.

Edit an Account Classification Rule

The edit feature enables you to update the details of an existing Account Classification Rule. Perform the following steps to edit an existing Account Classification Rule:

1. In the Account Classification Rule list, select the **Action** icon adjacent to the Account Classification Rule name that you want to edit.
2. Click **Edit** to open the Account Classification Rule window. Only the **Name** field is non-editable.
3. Update the required fields.
4. Click **Save**.

The saved Account Classification Rule is displayed in the Account Classification Rules list on the **Account Classification Rule** page.

Save an Account Classification Rule

Perform the following steps to save an Account Classification Rule under a different name and folder:

1. Select the desired Account Classification Rule.
2. Click the **Action** icon.

3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Account Classification Rule is saved under a new name and folder.

Download Cyclical Factors Rules

Perform the following steps to download the rules:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search an Account Classification Rule

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

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for an Account Classification Rule, perform the following steps:

- Navigate to the **Account Classification Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Account Classification Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Description can be used for an Advanced search.
- Additionally, in the **Field Search** field, enter the name of the Account Classification Rule to filter the list of Account Classification Rules by values that match the search term.

Only Account Classification Rules that match the search criteria are displayed.

Amortization Rules

This module discusses the procedure to create rules for Amortization. Two Amortization Methods are supported that are as follows:

- **Effective Yield Amortization:** As per IFRS 9 guidelines, financial institutions are required to recognize interest income using the Effective Interest Rate computed for the given instrument, instead of the Contractual Rate. Due to this change in the interest recognition process, in addition to the current practice of recognizing the interest using a contractual rate, financial institutions are required to pass an additional adjustment entry - Interest Adjustment Entry to be compliant with the IFRS 9 guidelines.
- **Straight-line Method Amortization:** Straight-line method amortization is the simplest method for calculating amortization over time. Under this method, the same amount of fees, premiums, discounts, and costs are amortized over the life of the instrument.

Amortization Rule Summary Page

This page is the gateway to the Amortization Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **IFRS 9 Assumptions**, and then click **Amortization Rules**. You can navigate to other pages that are related to Amortization Rules from this point.

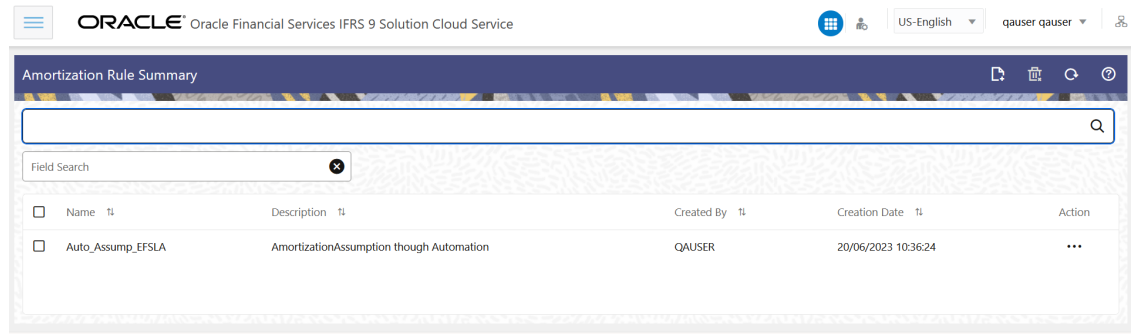
- [Create](#)
- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

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

Table 4-46 Amortization Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Amortization Rule short name.
Add	Click the Add icon to create a new Amortization Rule.
Delete	Click the Action icon adjacent to the Amortization Rule Name and select Delete to delete an existing Amortization Rule.
Refresh	Click the Refresh icon to refresh the Summary page.
Help	Click the Help icon to view the Amortization Rule help.
Search	Use this field to search for an Amortization Rule to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search an Amortization Rule section.
Field Search	Enter the name of the Amortization Rule to filter the list of Amortization Rules by values that match the search term. For more information on using this feature, see the Amortization Rule section.

The **Amortization Rule** pane on the **Amortization Rule Summary** page displays the list of Amortization Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Amortization Rule in the **Action** column.

Figure 4-113 The Amortization Rule Summary Page**Table 4-47 Amortization Rule – Icons and Descriptions**

Column	Description
View	Click the Action icon adjacent to the Amortization Rule Name and select View to view the contents of an Amortization Rule in read/write format.
Edit	Click the Action icon adjacent to the Amortization Rule Name and select Edit to edit the contents of an Amortization Rule in read/write format.
Save As	Click the Action icon adjacent to the Amortization Rule Name and select Save As to create a copy of an existing Amortization Rule.
Delete	Click the Action icon adjacent to the Amortization Rule Name and select Delete to delete an existing Amortization Rule.
Dependency Information	Click the Action icon adjacent to the Amortization Rule Name and select Dependency Information to check the higher and lower order dependencies for an existing Amortization Rule.

Create an Amortization Rule

Perform the following steps to create an Amortization Rule:

1. On the **Amortization Rule Summary** page, click the **Add** icon to open the **Amortization Rules** Window.

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

Option

Description

Name

Enter a name for the Amortization Rule definition.
This is a mandatory field.

Description

Enter a description for the Amortization Rule definition.

Folder

Select a folder from the drop-down list.
This is a mandatory field.

Modelling Set

Select a Modelling Set from the drop-down list.
This is a mandatory field.

Product Hierarchy

Based on the Modelling Set definition, the Product Hierarchy gets automatically selected.

Amortization Method Mapping

Expand the list to define the Amortization Method Mapping. From the **Amortization Method** column select an amortization method from the drop down list:

- **Effective Rate**
- **Straight Line**

Conditional Assumption

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

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

Option	Description
	a. In the Product drop-down list, select a value. b. In the drop-down list, select the dimension that was selected in the Modelling Set, for example Customer, then for the Customer Type click the Add icon. The Customer Type is added to the Customer Type Pane. Multiple customer types can be selected. c. In the Amortization Method drop-down list adjacent to the Customer Type, select either Effective Rate or Straight Line from the drop-down list. d. Click the Customer Type row to configure the Industry hierarchy and Amortization Method. e. Adjacent to the Industry field, click the Please select atleast one tree node icon. f. Use the Hierarchy Browser window to select an industry and then click OK in this window. g. In the Amortization Method field, select either Effective Rate or Straight Line. h. Click the update icon if you want to update the values. i. Click Add to add the dimension that was selected in the Modelling Set, for example if Industry was selected then the Industry pane appears. Multiple entries can be added using the above steps. j. Additionally, you can click the Delete icon adjacent to an entry to delete it. k. Click Apply and then click OK. l. Additionally, you can click the Delete icon to delete unwanted customer types. m. Click the Amortization Rule at the top of the page to navigate back to the Amortization Rule Summary page. n. The status of the product in the Conditional Assumption column changes to <i>Defined</i>.
3.	If you want to configure the Amortization Method Mapping for multiple products, on the Amortization Rule page, select the desired products and then click the Edit all button to modify the Conditional Assumptions as mentioned in the above table.

4. Click **Save**.

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

Dependency Information

You can check dependencies to know where a particular Stage Curing Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Stage Curing Rule:

1. Navigate to the **Stage Curing Rule Summary** page.
2. Either [search](#) for a Stage Curing Rule or navigate to the desired Stage Curing Rule from the list of Stage Curing Rule.
3. Click the **Action** icon that is adjacent to the Stage Curing Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete an Amortization Rule

You can delete an existing Amortization Rule from the **Amortization Rule Summary** Page. Perform the following steps to delete single or multiple existing Amortization Rules:

1. In the **Amortization Rule** window, select the checkbox(s) adjacent to the Amortization Rule(s) that you want to delete.

Note the following conditions for deleting an Amortization Rule:

- If a Amortization Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Amortization Rule.
 - If an Amortization Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Amortization Rule.
 - If an Amortization Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Amortization Rule.
2. Click **Delete**. A warning dialog is displayed.
 3. Click **Yes**.
 4. Additionally, select the checkbox(s) adjacent to the Amortization Assumption(s) and then click the **Delete** icon on the top of the **Amortization Rule** page. A warning dialog is displayed.
 5. Click **Yes**.

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

Refresh an Amortization Rule

You can refresh an existing Amortization Rule from the **Amortization Rule Summary** page to refresh the Amortization Rule with newly available data. Perform the following steps to refresh one or more existing Amortization Rules:

1. On the **Amortization Rule Summary** page, select the checkbox(s) adjacent to the Amortization Rule(s) that you want to refresh.

2. Click **Refresh**.

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

View an Amortization Rule

The View feature enables you to view the details of an existing Amortization Rules. Perform the following steps to view the definition details:

1. In the Amortization Rules list, select the Action icon adjacent to the Amortization Rule name that you want to view.



Note:

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

2. Click View to open the **Amortization Rule** Window.
3. Click **Cancel** to return to the **Amortization Rule Summary** Page.

Edit an Amortization Rule

The edit feature enables you to update the details of an existing Amortization Rule. Perform the following steps to edit an existing Amortization Rule:

1. In the Amortization Rules list, select the **Action** icon adjacent to the Amortization Rule name that you want to edit.
2. Click **Edit** to open the Amortization Rule window. The **Name** and **Hierarchy** fields are not editable.
3. Update the required fields.
4. Click **Save**.

The saved Amortization Rule is displayed in the Amortization Rules list on the **Amortization Rule Summary** Page.

Save an Amortization Rule

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

1. Select the desired Amortization Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Amortization Rule is saved under a new name and folder.

Download Amortization Rules

Perform the following steps to download the rules:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.

The selected rules are downloaded in a csv format.

Search an Amortization Rule

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

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for an Amortization Rule, perform the following steps:

- Navigate to the **Amortization Rule Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Amortization Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search.
- Additionally, in the **Field Search** field, enter the name of the Amortization Rule to filter the list of Amortization Rules by values that match the search term. Only the Name and Description can be used for an Advanced search.

Only the Amortization Rule that matches the search criteria are displayed.

ECL Rules

This topic provides information on the features under ECL Rules:

- [Provision Matrix Rules](#): IFRS9SCS supports the Provision Matrix ECL method. Provision rate is required for the provision matrix method. This UI enables the user to create a Provision Matrix. The provision Matrix Rule is at the modelling set and economic scenario rule level.
- [Economic Scenario Rules](#): Under IFRS 9, it is required to calculate Expected Credit Loss (ECL) for multiple economic scenarios. Multiple economic scenarios are created in dimension.
- [Term Structure Rules](#): IFRS9SCS enables users to provide a series of term structures for the Probability of Default (PD), Loss Given Default (LGD) and Credit Conversion Factor (CCF). Term structure means values across multiple periods.
- [Term Structure and Provision Rate Assignment Rules](#): Term Structure and Provision Rate Assignment rules are created at the Modelling Set and Economic Scenario Rule level. The user can assign the Term Rule (PD, LGD, CCF) and Provision Matrix Rule at the product and Customer type level.

Economic Scenario Rules

Under IFRS 9, it is required to calculate Expected Credit Loss (ECL) for multiple economic scenarios. Multiple economic scenarios are created in a dimension and this can be done by using the [Dimension Management](#) UI. With this UI, the user can map the probability weight with the respective economic scenario. The economic Scenario Rule is created at the Modelling Set level.

Weighted Average scenario is not available for the selection, but it captures the weighted average of all scenarios. The weighted average is used for the final reporting of ECL-related measures.

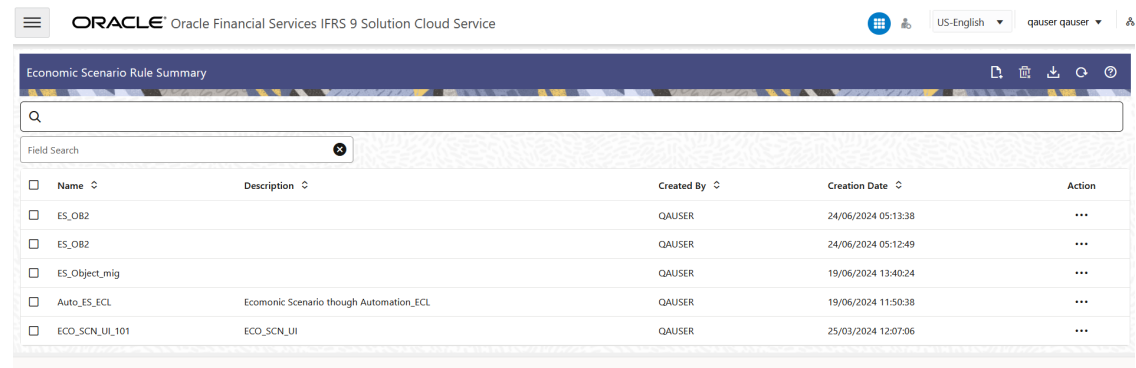
Economic Scenario Rules Summary Page

This page is the gateway to the Economic Scenario Rules feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **ECL Rules**, and then click **Economic Scenario Rules**. You can navigate to other pages that are related to Economic Scenario Rules from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Economic Scenario Rule Summary** page displays the following columns:

Figure 4-114 Economic Scenario Rules Summary Page



Name	Description	Created By	Creation Date	Action
ES_OB2		QAUSER	24/06/2024 05:13:38	...
ES_OB2		QAUSER	24/06/2024 05:12:49	...
ES_Object_mig		QAUSER	19/06/2024 13:40:24	...
Auto_ES_ECL	Economic Scenario through Automation_ECL	QAUSER	19/06/2024 11:50:38	...
ECO_SCN_UI_101	ECO_SCN_UI	QAUSER	25/03/2024 12:07:06	...

Table 4-48 Economic Scenario Rule Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Economic Scenario Rule's name.
Add	Click the Add icon to create a new Economic Scenario Rules.
Delete	Select the desired Economic Scenario Rule Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary page.
Help	Click the Help icon to view the Economic Scenario Rules help.

Table 4-48 (Cont.) Economic Scenario Rule Summary Page – Fields and Descriptions

Column	Description
Search	Use this field to search for a Economic Scenario Rules to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information . For more information on using this feature, see the Search Economic Scenario Rules section.
Field Search	Enter the name of the Economic Scenario Rule to filter the list of Economic Scenario Rules by values that match the search term. For more information on using this feature, see the Search Economic Scenario Rules section.

The **Economic Scenario Rule** pane on the **Economic Scenario Rule Summary** page displays the list of Economic Scenario Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Economic Scenario Rules in the **Action** column.

Table 4-49 Economic Scenario Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Economic Scenario Rules Name and select View to view the contents of an Economic Scenario Rules in read mode.
Edit	Click the Action icon adjacent to the Economic Scenario RulesName and select Edit to edit the contents of an Economic Scenario Rules.
Save As	Click the Action icon adjacent to the Economic Scenario Rules Name and select Save As to create a copy of an existing Economic Scenario Rules.
Delete	Click the Action icon adjacent to the Economic Scenario Rules Name and select Delete to delete an existing Economic Scenario Rules.
Dependency Information	Click the Action icon adjacent to the Economic Scenario Rules and select Dependency Information to check the higher and lower order dependencies for an existing Economic Scenario Rules.

Create Economic Scenario Rules

Perform the following steps to create Economic Scenario Rules:

1. On the **Economic Scenario Rule Summary** page, click the **Add** icon to open the **Economic Scenario Rule** window.
2. Populate the **Economic Scenario Rule** form as tabulated:

Figure 4-115 Create Economic Scenario Rules

Economic Scenario Rule

Cancel

Save

Name

Required

Description Here

Required

Select Folder

Required

Select Modelling Set

Required

+

✕

Economic Scenario Number

Economic Scenario Name

Scenario weightage in Percentage

1

Baseline

100

> Audit

Table 4-50 Economic Scenario Rule

Field	Description
Name	Enter a name.
Description	Enter a description for the definition.
Folder	Select a folder from the drop-down list
Select Modelling Set	Select a Modelling Set from the drop-down list

Table 4-50 (Cont.) Economic Scenario Rule

Field	Description
Add	Click this icon to add an economic scenario entry to the list of economic scenarios. The entries will appear in a sequence from oldest (Default Economic Scenario Number is 1) to newest: • Economic Scenario Number: This depicts the serial numbers of the Economic Scenario Number from oldest to newest, with the oldest having the default serial number as 1. • Economic Scenario Name: In the first row of this table, the Economic Scenario Number and Economic Scenario Name are set as 1 and <i>Baseline</i> respectively. This is set by default and cannot be modified. Select a unique Economic Scenario Name (Preseeded with the application), or a unique Economic Scenario name that was set from the Dimension Management UI.  Note: The Economic Scenario Names must be unique when configuring this list. If a unique Economic Scenario Name is not selected, then the application does not let you save the Economic Scenario Rule and an error message appears. • Scenario Weightage in Percentage: Add a value in this field (in percentage) that will be the weightage for the economic scenario.  Note: Economic Scenario Rule can only be saved if the sum of the Scenario Weightage in Percentage is 100%.
Delete	Click this icon to delete a selected Economic Scenario entry from the list of economic scenarios.

3. Click **Save**. The saved Economic Scenario Rule is added to the list on Economic Scenario Rules on the **Economic Scenario Rule Summary**.

Dependency Information

You can check dependencies to know where a particular Economic Scenario Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Economic Scenario Rule:

1. Navigate to the **Economic Scenario Rule Summary** page.
2. Either [search](#) for an Economic Scenario Rule or navigate to the desired Economic Scenario Rule from the list of Economic Scenario Rules.
3. Click the **Action** icon that is adjacent to the Economic Scenario Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Economic Scenario Rules

Perform the following steps to delete a Economic Scenario Rules:

1. Select the Economic Scenario Rules that you want to delete and click the **Action** icon.
Note the following conditions for deleting an Economic Scenario Rule:
 - If an Economic Scenario Rules does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Economic Scenario Rules.
 - If an Economic Scenario Rules contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Economic Scenario Rules.
 - If an Economic Scenario Rules contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Economic Scenario Rules.
2. Select **Delete**.
3. You can also delete Economic Scenario Rules by selecting the Economic Scenario Rules that you want to delete and then click the **Delete** icon.

Refresh Economic Scenario Rules

You can refresh an existing Economic Scenario Rule from the **Economic Scenario Rule Summary** page to refresh the Economic Scenario Rules with newly available data. Perform the following steps to refresh one or more existing Economic Scenario Rules:

1. On the **Economic Scenario Rule Summary** page, select the **Refresh** icon.
The definitions on the summary page are refreshed with newly available data.

View Economic Scenario Rules

Perform the following steps to View Economic Scenario Rules:

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

Edit Economic Scenario Rules

The edit feature enables you to update the details of an existing Economic Scenario Rules. Perform the following steps to edit an existing Economic Scenario Rule:

1. In the Economic Scenario Rules list, select the **Action** icon adjacent to the Economic Scenario Rules name that you want to edit.
2. Click **Edit** to open the Economic Scenario Rules window.
3. If required, update the **Name**, **Description Here**, **Select Folder**, **Select Modelling Set** fields.
In the list of Economic Scenarios, in the first row the **Economic Scenario Number** and **Economic Scenario Name** cannot be edited, but the **Scenario Weightage in Percentage** field can be edited. The previously configured economic scenarios are editable but new economic scenarios can be configured by clicking the **Add** icon.
4. Click **Save**.
The saved Economic Scenario Rule is displayed in the Economic Scenario Rules list on the **Economic Scenario Rule Summary** page.

Save Economic Scenario Rules

Perform the following steps to save an Economic Scenario Rule under a different name and folder:

1. Select the desired Economic Scenario Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Economic Scenario Rule is saved under a new name and folder.

Download Economic Scenario Rules

Perform the following steps to download a Economic Scenario Rule:

1. To download the list of defined rules, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search Economic Scenario Rules

Search for Economic Scenario Rules to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for Economic Scenario Rules, perform the following steps:

- Navigate to the **Economic Scenario Rule Summary** page.

- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Economic Scenario Rules and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Also, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Economic Scenario Rules to filter the list of Economic Scenario Rules by values that match the search term.

Only Economic Scenario Rules that match the search criteria are displayed.

Term Structure Rules

IFRS9SCS enables users to provide a series of term structures for the Probability of Default (PD), Loss Given Default (LGD) and Credit Conversion Factor (CCF). Term structure means values across multiple periods.

This UI enables users to create Term Structure Rules for PD, LGD and CCF. The term structure rule is at the modelling set and economic scenario rule level. Term structure can be created at frequencies of Monthly, Quarterly, Half Yearly, and Yearly. Term structure can be created at Rating and Days Past Dues level. A term structure can be created for both long-term and short-term ratings. Priority is set for the long-term rating PD. PD term structures are created on a Marginal or Cumulative basis.

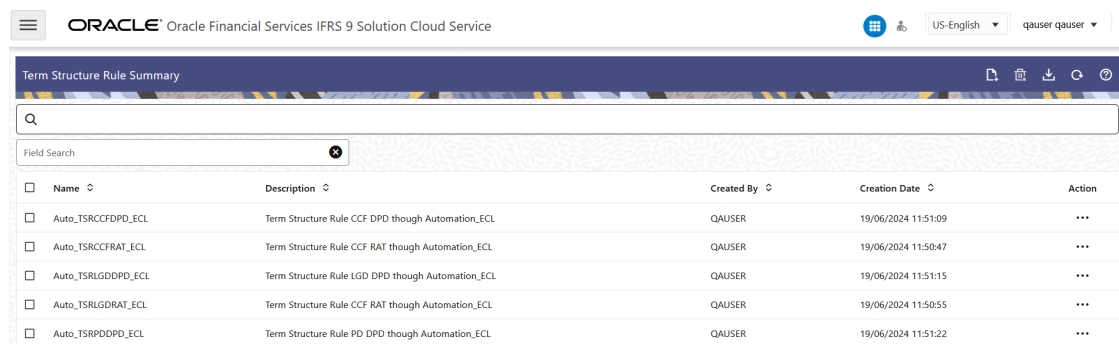
These term structures can be created either by inputting numbers through UI or by using the Excel download. Users can create different term structures at the effective date level.

Term Structure Rule Summary Page

This page is the gateway to the Term Structure Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **ECL Rules**, and then click **Term Structure Rule**. You can navigate to other pages that are related to Term Structure Rules from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Term Structure Rule Summary** page displays the following columns:

Figure 4-116 Term Structure Rule Summary Page


Name	Description	Created By	Creation Date	Action
Auto_TSRCCFPD_ECL	Term Structure Rule CCF DPD though Automation_ECL	QAUSER	19/06/2024 11:51:09	...
Auto_TSRCCFRAT_ECL	Term Structure Rule CCF RAT though Automation_ECL	QAUSER	19/06/2024 11:50:47	...
Auto_TSRIGDDPD_ECL	Term Structure Rule LGD DPD though Automation_ECL	QAUSER	19/06/2024 11:51:15	...
Auto_TSRIGDRAT_ECL	Term Structure Rule CCF RAT though Automation_ECL	QAUSER	19/06/2024 11:50:55	...
Auto_TSRPDOPD_ECL	Term Structure Rule PD DPD though Automation_ECL	QAUSER	19/06/2024 11:51:22	...

Table 4-51 Term Structure Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Term Structure Rules's name.
Add	Click the Add icon to create a new Term Structure Rule.
Delete	Select the desired Term Structure Rules Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Term Structure Rule help.
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information . For more information on using this feature, see the Search a Term Structure Rule section.
Field Search	Enter the name of the Term Structure Rule to filter the list of Term Structure Rule by values that match the search term. For more information on using this feature, see the Search a Term Structure Rule Search a Stage Determination Rule section.

The **Term Structure Rules** pane on the **Term Structure Rule Summary** page displays the list of Term Structure Rule and offers several actions that allow you to perform different tasks. The following tasks are available for the Term Structure Rule in the **Action** column.

Table 4-52 Term Structure Rule – Icons and Descriptions

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

Table 4-52 (Cont.) Term Structure Rule – Icons and Descriptions

Column	Description
Save As	Click the Action icon adjacent to the Term Structure Rule Name and select Save As to create a copy of an existing Term Structure Rule.
Delete	Click the Action icon adjacent to the Term Structure Rule Name and select Delete to delete an existing Term Structure Rule.
Dependency Information	Click the Action icon adjacent to the Term Structure Rule and select Dependency Information to check the higher and lower order dependencies for an existing Term Structure Rule.

Create a Term Structure Rule

Perform the following steps to create a Stage Determination Rule:

1. On the **Term Structure Rules Summary** page, click the **Add** icon to open the **Term Structure Rule** window.
2. Populate the **Term Structure Rules** form as tabulated:

Figure 4-117 Create a Term Structure Rule
Table 4-53 Term Structure Rule

Field	Description
Name	Enter a name.
Description	Enter a description for the definition.
Folder	Select a folder from the drop-down list
Modelling Set	Select a Modelling Set from the drop-down list
Economic Scenario Rule	Select an Economic Scenario Rule from the drop-down list.

Table 4-53 (Cont.) Term Structure Rule

Field	Description
Term Structure Category	Select a value from the drop-down list. The available options are: • PD • LGD - The Term Structure Basis Type field will be disabled if this option is selected. • CCF - The Term Structure Basis Type field will be disabled if this option is selected.
Term Structure Basis Type	Select a value from the drop-down list. The available options are: • Marginal • Cumulative This field is only available if the Term Structure Category is PD.
Term Structure Frequency Unit	Select a value from the drop-down list. The available options are: • Monthly • Quarterly • Half Yearly • Annually
Term Structure Type	Select a value from the drop-down list. The available options are: • Rating • Days Past Dues

 **Note:**

If this option is selected, then the application allows you to add overlapping Days Past Due in the Term Structure Assignments. Up to 9 digit decimal values are supported.

Additionally, with this option, up to 5 digit lower and upper limit values are supported.

Table 4-53 (Cont.) Term Structure Rule

Field	Description
Term Structure Assignments	Select the arrow icon in the Term Structure Assignment column to define the Term Structure Assignments in the Term Structure Assignment Details window. In this window:  Note: The Economic Scenario Name field is automatically selected based on the Economic Scenario that you have selected to define. This field is disabled by default. - If the Rating option was selected then, select either the Long Term Rating or the Short Term Rating tab. If Days Past Due option was selected, then configure the lower and upper limit in the Lower and Upper Limits columns respectively. - Select an Effective Date from the Effective Date field by clicking the Select Date icon. The Effective Date field is automatically populated. - The Effective Date field is automatically populated with the Effective Date that was selected in the Effective Date field. If multiple Effective Dates were applied to an Economic Scenario Name, then those names will also appear in this drop-down list. If the Rating option was selected then, you can select the Long Term Rating or Short Term Rating tab and then select an Effective Date from this drop-down list to view the configurations that were previously set for the selected date. If the Days Past Due option was selected then, you can view the lower and upper limits in the Lower Limit or Upper Limit columns and then select an Effective Date from this drop-down list to view the configurations that were previously set for the selected date. - Click the Add icon adjacent to the table. - If the Rating option was selected then, set the threshold in the respective Long Term Rating or the Short Term Rating field. The Period Applicable column is automatically populated. If the Days Past Due option was selected then, set the configure the lower and upper

Table 4-53 (Cont.) Term Structure Rule

Field	Description
	limit values in the respective Lower Limit or the Upper Limit columns. The Period Applicable column is automatically populated.
f.	Enter a value in the Term Value field. The maximum value that can be entered is 100%.
g.	Optional, click the Delete icon to delete a selected entry.
h.	To download the Term Structure Assignment details, click the Download icon. The details are automatically downloaded to your local system in the form of a csv file. In this csv file, you can add the Term Structure Assignment details and then upload it into the application.
 Note: For the Days Past Due option, only 5 digit lower and upper limit values must be configured.	
i.	To upload the Term Structure Assignment details from a previously downloaded template, click the Upload icon. In the Upload window, drag the previously downloaded files into the Drag and Drop field and then click Upload . Additionally, click Cancel to exit this window.
j.	Click Apply

3. Click **Save** to save the Term Structure Rule or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular Term Structure Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Term Structure Rule:

1. Navigate to the **Term Structure Rule Summary** page.
2. Either [search](#) for an Term Structure Rule or navigate to the desired Term Structure Rule from the list of Term Structure Rule.
3. Click the **Action** icon that is adjacent to the Term Structure Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Term Structure Rule

Perform the following steps to delete a Term Structure Rule.

1. Select the Term Structure Rule that you want to delete and click the **Action** icon.
Note the following conditions for deleting a Term Structure Rule:
 - If a Term Structure Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Term Structure Rule.
 - If a Term Structure Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Term Structure Rule.
 - If a Term Structure Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Term Structure Rule.
2. Select **Delete**.
3. You can also delete a Term Structure Rule by selecting the Term Structure Rules that you want to delete and then click the **Delete** icon.

Refresh a Term Structure Rule

You can refresh an existing Term Structure Rule from the **Term Structure Rule Summary** page to refresh the Term Structure Rules with newly available data. Perform the following steps to refresh one or more existing Term Structure Rules:

1. On the **Term Structure Rule Summary** page, select the **Refresh** icon.
The definitions on the summary page are refreshed with newly available data.

View a Term Structure Rule

Perform the following steps to View a Term Structure Rule:

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

Edit a Term Structure Rule

The edit feature enables you to update the details of an existing Term Structure Rule. Perform the following steps to edit an existing Term Structure Rule:

1. In the Term Structure Rule list, select the **Action** icon adjacent to the Term Structure Rule name that you want to edit.
2. Click **Edit** to open the Term Structure Rule window.
3. If required, update the **Description** field.
Additionally, new Term Structure Assignment details can be added and the existing ones can be modified.
4. Click **Save**.
The saved Term Structure Rule is displayed in the Term Structure Rules list on the **Term Structure Rule Summary** page.

Save a Term Structure Rule

Perform the following steps to save a Term Structure Rule under a different name and folder:

1. Select the desired Term Structure Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list
6. Click **Save**. The Term Structure Rule is saved under a new name and folder.

Download a Term Structure

Perform the following steps to download a Term Structure:

1. To download the list of defined rules, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search a Term Structure Rule

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

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Term Structure Rule, perform the following steps:

- Navigate to the **Term Structure Rule Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Term Structure Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Term Structure Rule to filter the list of Term Structure Rule by values that match the search term.

Only Term Structure Rule that match the search criteria are displayed.

Provision Matrix Rules

IFRS9SCS supports the Provision Matrix ECL method. Provision rate is required for the provision matrix method.

This UI enables the user to create a Provision Matrix. The Provision Matrix Rule is at the modelling set and economic scenario rule level. Provision Matrix Rule can be created at Rating and Days Past Dues level. Provision Matrix Rule can be created for both long-term and short-term ratings. Priority is set for the long-term rating provision rate.

These provision matrixes can be created either by inputting numbers through UI or by using the csv download. Users can create different provision matrices at the effective date level.

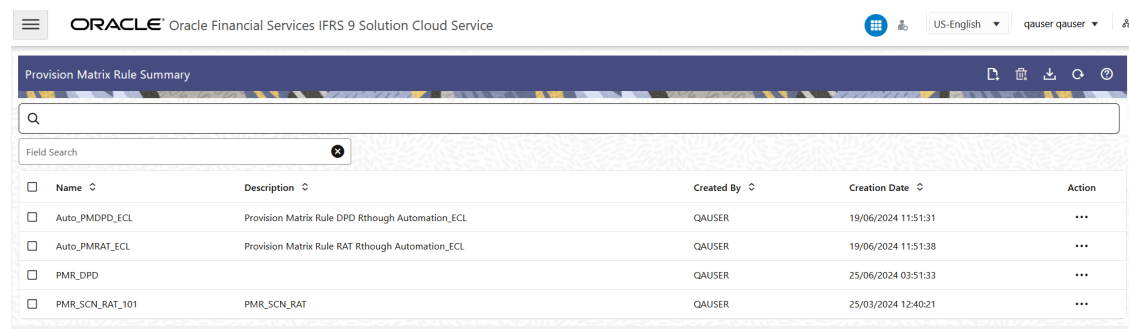
Provision Matrix Rules Summary Page

This page is the gateway to the Provision Matrix Rules feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **ECL Rules**, and then click **Provision Matrix Rules**. You can navigate to other pages that are related to Provision Matrix Rules from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Provision Matrix Rule Summary** page displays the following columns:

Figure 4-118 Provision Matrix Rules Summary Page



Name	Description	Created By	Creation Date	Action
Auto_PMDPD_ECL	Provision Matrix Rule DPD Rthorough Automation_ECL	QAUSER	19/06/2024 11:51:31	...
Auto_PMRAT_ECL	Provision Matrix Rule RAT Rthorough Automation_ECL	QAUSER	19/06/2024 11:51:38	...
PMR_DPD		QAUSER	25/06/2024 03:51:33	...
PMR_SCN_RAT_101	PMR_SCN_RAT	QAUSER	25/03/2024 12:40:21	...

Table 4-54 Provision Matrix Rule Summary page – Fields and Descriptions

Column	Description
Name	Displays the Provision Matrix Rule's name.
Add	Click the Add icon to create a new Provision Matrix Rule.
Delete	Select the desired Provision Matrix Rule Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Provision Matrix Rule's help.

Table 4-54 (Cont.) Provision Matrix Rule Summary page – Fields and Descriptions

Column	Description
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information . For more information on using this feature, see the Search a Provision Matrix Rule section.
Field Search	Enter the name of the Provision Matrix Rule to filter the list of Provision Matrix Rules by values that match the search term. For more information on using this feature, see the Search a Provision Matrix Rule section.

The **Provision Matrix Rules** pane on the **Provision Matrix Rules Summary** page displays the list of Provision Matrix Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Provision Matrix Rules in the **Action** column.

Table 4-55 Provision Matrix Rules – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Provision Matrix Rule Name and select View to view the contents of a Provision Matrix Rule in read format.
Edit	Click the Action icon adjacent to the Provision Matrix Rule Name and select Edit to edit the contents of a Provision Matrix Rule.
Save As	Click the Action icon adjacent to the Provision Matrix Rule Name and select Save As to create a copy of an existing Provision Matrix Rule.
Delete	Click the Action icon adjacent to the Provision Matrix Rule Name and select Delete to delete an existing Provision Matrix Rule.
Dependency Information	Click the Action icon adjacent to the Provision Matrix Rule and select Dependency Information to check the higher and lower order dependencies for an existing Provision Matrix Rule.

Create Provision Matrix Rules

Perform the following steps to create Provision Matrix Rules:

1. On the **Provision Matrix Rule Summary** page, click the **Add** icon to open the **Provision Matrix Rule** window.

Figure 4-119 Create Provision Matrix Rules

Provision Matrix Rule

CancelSave

Name

Required

Description

Required

Folder

Required

Modelling Set

Required

Economic Scenario Rule

Required

Term Structure Details

Term Structure Type

Required

Provision Matrix Assignments

Economic Scenario Name

Provision Matrix Assignment

No data to display.

> Audit

2. Populate the **Provision Matrix Rule** form as tabulated:

Table 4-56 Provision Matrix Rule

Field	Description
Name	Enter a name.
Description	Enter a description for the definition.
Folder	Select a folder from the drop-down list
Modelling Set	Select a Modelling Set from the drop-down list
Economic Scenario Rule	Select an Economic Scenario Rule from the drop-down list.
Term Structure Details	Select a value from the drop-down list. The available options are: - Rating - Days Past Dues

 **Note:**

If this option is selected, then the application allows you to add overlapping Days Past Due in the Term Structure Assignments. Up to 9 digit decimal values are supported. Additionally, with this option, up to 5 digit lower and upper limit values are supported.

Table 4-56 (Cont.) Provision Matrix Rule

Field	Description
Provision Matrix Assignments	Select the arrow icon in the Provision Matrix Assignment column to define the Provision Matrix Assignments in the Provision Matrix Assignment Details window. In this window:  Note: The Economic Scenario Name field is automatically selected based on the Economic Scenario that you have selected to define. This field is disabled by default. a. If the Rating option was selected then, select either the Long Term Rating or the Short Term Rating tab. If Days Past Due option was selected, then configure the lower and upper limit in the Lower Limit and Upper Limit columns respectively. Additionally, with this option, up to 5 digit lower and upper limit values are supported. b. Select an Effective Date from the Effective Date field by clicking the Select Date icon. The Effective Date field is automatically populated. c. The Effective Date field is automatically populated with the Effective Date that was selected in the Effective Date field. If multiple Effective Dates were applied to an Economic Scenario Name, then those names will also appear in this drop-down list. If the Rating option was selected then, you can select the Long Term Rating or Short Term Rating tab and then select an Effective Date from this drop-down list to view the configurations that were previously set for the selected date. If the Days Past Due option was selected then, you can view the lower and upper limits in the Lower Limit or Upper Limit columns and then select an Effective Date from this drop-down list to view the configurations that were previously set for the selected date. d. Click the Add icon adjacent to the table. e. If the Rating option was selected then, set the threshold in the respective Long Term Rating or the Short Term Rating field. The Period Applicable column is automatically populated.

Table 4-56 (Cont.) Provision Matrix Rule

Field	Description
	If the Days Past Due option was selected then, set the configure the lower and upper limit values in the respective Lower Limit or the Upper Limit columns. The Period Applicable column is automatically populated.  Note: You must add a different Long Term and Short Term rating in the Long Term Rating or the Short Term Rating fields f. Enter a value in the Term Value field. The maximum value that can be entered is 100%. g. Optional, click the Delete icon to delete a selected entry. h. To download the Provision Matrix Assignment details, click the Download icon. The details are automatically downloaded to your local system in the form of a csv file. In this csv file, you can add the Provision Matrix Assignment details and then upload it into the application.  Note: For the Days Past Due option, only 5 digit lower and upper limit values must be configured. i. To upload the Provision Matrix Assignment details from a previously downloaded template, click the Upload icon. In the Upload window, drag the previously downloaded files into the Drag and Drop field and then click Upload. Additionally, click Cancel to exit this window. j. Click Apply

3. Click **Save** to save the Term Structure Rule or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular Provision Matrix Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Provision Matrix Rule:

1. Navigate to the **Provision Matrix Rule Summary** page.
2. Either [search](#) for a Provision Matrix Rule or navigate to the desired Provision Matrix Rule from the list of Provision Matrix Rules.
3. Click the **Action** icon that is adjacent to the Provision Matrix Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Provision Matrix Rules

Perform the following steps to delete Provision Matrix Rules:

1. Select the Provision Matrix Rule that you want to delete and click the **Action** icon.
Note the following conditions for deleting a Provision Matrix Rule:
 - If a Provision Matrix Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Provision Matrix Rule.
 - If a Provision Matrix Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Provision Matrix Rule.
 - If a Provision Matrix Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Provision Matrix Rule.
2. Select **Delete**.
3. You can also delete a Provision Matrix Rule by selecting the Provision Matrix Rules that you want to delete and then click the **Delete** icon.

Refresh Provision Matrix Rules

You can refresh existing Provision Matrix Rules from the **Provision Matrix Rule Summary** page to refresh the Provision Matrix Rules with newly available data. Perform the following steps to refresh one or more existing Provision Matrix Rules:

1. On the **Provision Matrix Rule Summary** page, select the **Refresh** icon.
The definitions on the Summary page are refreshed with newly available data.

View Provision Matrix Rules

Perform the following steps to View Provision Matrix Rules:

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

Edit Provision Matrix Rules

The edit feature enables you to update the details of an existing Provision Matrix Rules. Perform the following steps to edit an existing Provision Matrix Rules:

1. In the Provision Matrix Rules list, select the **Action** icon adjacent to the Provision Matrix Rule name that you want to edit.

2. Click **Edit** to open the Provision Matrix Rule window.
3. Update the required fields. Only the **Name**, **Folder**, **Modelling Set**, **Economic Scenario**, and **Term Structure Type** fields are not editable.
4. Click **Save**.
The saved Provision Matrix Rule is displayed in the Provision Matrix Rules list on the **Provision Matrix Rule Summary** page.

Save Provision Matrix Rules

Perform the following steps to save Provision Matrix Rules under a different name and folder:

1. Select the desired Provision Matrix Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The Provision Matrix Rule is saved under a new name and folder.

Download Provision Matrix Rules

Perform the following steps to download Provision Matrix Rules:

1. Select the Provision Matrix Rule that you want to download and click the **Download** icon.
The selected Provision Matrix Rule is downloaded in a csv format.

Search Provision Matrix Rules

Search for Provision Matrix Rules to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for Provision Matrix Rules, perform the following steps:

- Navigate to the **Provision Matrix Rule Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Provision Matrix Rules and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Provision Matrix Rules to filter the list of Provision Matrix Rules by values that match the search term.

Only Provision Matrix Rules that match the search criteria are displayed.

Roll Rate Rules

The Roll Rate rule is created at the Modelling Set and Economic Scenario Rule level. The Roll Rate Rule is a prerequisite for the Roll Rate Method of ECL. The key inputs for the roll rate rule are as follows:

- Base Transition Matrix:
 - Users should provide mandatory inputs like Transition Matrix Type, Transition Matrix Frequency, Computation Basis and Transition Matrix Projection Cap.
 - If a Days Past Dues (DPD) based transition matrix is required, then users can define various DPD bands.
 - Base Transition Matrix can be generated through the Historical Average Transition Matrix (HATM) process or with the manual input.
 - * If users select the HATM process, then the historical data cap is also expected as input.
 - * If users select the manual input option, then the required transition matrix needs to be filled manually.



Note:

The manual input transition matrix is used as the base transition matrix.

- Gross Loss Rate:
 - To calculate Gross Loss Rate, users need to provide inputs for Loss Rate Historical Frequency and Loss Rate Historical Cap.

Roll Rate Rules Summary Page

This page is the gateway to the Roll Rate Rules feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **ECL Rules**, and then click **Roll Rate Rules**. You can navigate to other pages that are related to Roll Rate Rules from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Roll Rate Rule Summary** page displays the following columns:

Figure 4-120 Roll Rate Rules Summary Page

Name	Description	Created By	Creation Date	Action
RR1		QAUSER	24/06/2024 05:37:11	...
RR_		QAUSER	25/06/2024 13:06:04	...

Table 4-57 Roll Rate Rule Summary page – Fields and Descriptions

Column	Description
Name	Displays the Roll Rate Rule's name.
Add	Click the Add icon to create a new Roll Rate Rule.
Delete	Select the desired Roll Rate Rule Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Roll Rate Rule's help.
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information . For more information on using this feature, see the Search a Roll Rate Rule section.
Field Search	Enter the name of the Roll Rate Rule to filter the list of Roll Rate Rules by values that match the search term. For more information on using this feature, see the Search a Roll Rate Rule section.

The **Roll Rate Rules** pane on the **Roll Rate Rules Summary** page displays the list of Roll Rate Rules and offers several actions that allow you to perform different tasks. The following tasks are available for the Roll Rate Rules in the **Action** column.

Table 4-58 Roll Rate Rules – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Roll Rate Rule Name and select View to view the contents of a Roll Rate Rule in read format.
Edit	Click the Action icon adjacent to the Roll Rate Rule Name and select Edit to edit the contents of a Roll Rate Rule.
Save As	Click the Action icon adjacent to the Roll Rate Rule Name and select Save As to create a copy of an existing Roll Rate Rule.
Delete	Click the Action icon adjacent to the Roll Rate Rule Name and select Delete to delete an existing Roll Rate Rule.

Table 4-58 (Cont.) Roll Rate Rules – Icons and Descriptions

Column	Description
Dependency Information	Click the Action icon adjacent to the Roll Rate Rule and select Dependency Information to check the higher and lower order dependencies for an existing Roll Rate Rule.

Create Roll Rate Rules

Perform the following steps to create Roll Rate Rules:

1. On the **Roll Rate Rule Summary** page, click the **Add** icon to open the **Roll Rate Rule** window.

Figure 4-121 Create Roll Rate Rules
Figure 4-122 Create Roll Rate Rules Continued

2. Populate the **Roll Rate Rule** form as tabulated:

Table 4-59 Roll Rate Rule

Field	Description
Name	Enter a name.
Description	Enter a description for the rule.
Folder	Select a folder from the drop-down list
Modelling Set	Select a Modelling Set from the drop-down list

Table 4-59 (Cont.) Roll Rate Rule

Field	Description
Economic Scenario Rule	Select an Economic Scenario Rule from the drop-down list.
Transition Matrix Type (Transition Matrix Details)	Select a transition matrix type from the drop-down list. The available options are: • Rating - If this option is selected, then the status of the Band Details will be <i>Not Applicable</i>. • Days Past Dues - If this option is selected, then the status of the Band Details will be <i>Predefined</i>.
Transition Matrix Frequency (Transition Matrix Details)	Select a transition matrix frequency from the drop-down list. The available options are: • Monthly • Quarterly • Half Yearly • Annually
Computation Basis (Transition Matrix Details)	Select a computation basis from the drop-down list. The available options are: • Count Movement • Value Movement
Transition Matrix Projection Cap (Transition Matrix Details)	Enter a natural numeric value in this field to define the cap of the transition matrix projection.
 Note: Negative and decimal values are not supported in this field.	
Band Details (Transition Matrix Details)	You can define the band details if the Transition Matrix Type is <i>Days Past Dues</i>. Select the arrow adjacent to the status to set the band details in the Transition Matrix Band Details window: - Click the Add button to add a row(s) to the table. The rows 1 and 2 are already present and populated by default. - In the row under the Lower Limit column, set the lower limit for the band. Depending on the value that is set in the incremental rows, the upper limit of the previous row is auto populated with a lower value. - Once the band details are configured, click Apply. The status of the Band Details changes to <i>Defined</i>. Click the Reset button to reset this window to its' default state.

Table 4-59 (Cont.) Roll Rate Rule

Field	Description
Base Transition Matrix (Transition Matrix Creation)	Select a base transition matrix from the drop-down list. The available options are: - Historical Average Transition Matrix  Note: If the Historical Average Transition Matrix is selected then the Transition Matrix Historical Data Cap (Transition Matrix Creation) is a mandatory field. - Manual Input If this value is selected from the drop-down list, then the Days Past Dues / <Transition Matrix Frequency> / Count Movement table appears. The name of this table changes based on the transition matrix frequency that was selected from the Transition Matrix Frequency field.
Default as Absorbing State (Transition Matrix Creation)	Select the default state for the absorbing state from the drop-down list. The available options are: - Yes - No
Transition Matrix Historical Data Cap (Transition Matrix Creation)	Enter a natural numeric value in this field to define the cap of the transition matrix projection.  Note: Negative and decimal values are not supported in this field.

Table 4-59 (Cont.) Roll Rate Rule

Field	Description
Days Past Dues / Monthly / Count Movement	This table only appears if you selected <i>Manual Input</i> in the Base Transition Matrix (Transition Matrix Creation) field. In the Days Past Dues / Monthly / Count Movement table, Click the arrow icon adjacent to the <i>Undefined</i> status. Configure the values in the Days Past Dues / Monthly / Count Movement window: - Select an Effective Date from the Effective Date field by clicking the Select Date icon. The Effective Date field is automatically populated with the Effective Date that was selected in the Effective Date field. If multiple Effective Dates were previously applied, then those names will also appear in this drop-down list. If the Rating option was selected then, you can select the Long Term Rating or Short Term Rating tab and then select an Effective Date from this drop-down list to view the configurations that were previously set for the selected date. - In the Transition Matrix DPD Band field, configure the Bands in % format.  Note: The sum of the % values for the transition probability sum in each row must be 100%. If the sum is not 100% then the application displays a message indicating in which band and for which effective date the sum is not 100%. - Click Apply. - Additionally, click the Delete icon to delete the configured data and reset the page to the default values. After defining the values, the status for the Baseline in the Days Past Dues / Monthly / Count Movement table changes to <i>Defined</i>.
Loss Rate Historical Frequency (Loss Rate Details)	Select a frequency from the drop-down list. The available options are: - Monthly - Quarterly - Half Yearly - Annually

Table 4-59 (Cont.) Roll Rate Rule

Field	Description
Loss Rate Historical Cap (Loss Rate Details)	Enter a numeric value in this field to define the cap of the loss rate historical.

 **Note:**
Negative and decimal values are not supported in this field.

- Click **Save** to save the roll rate rule or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular Roll Rate Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Roll Rate Rule:

- Navigate to the **Roll Rate Rule Summary** page.
- Either [search](#) for a Roll Rate Rule or navigate to the desired Roll Rate Rule from the list of Roll Rate Rules.
- Click the **Action** icon that is adjacent to the Roll Rate Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
- You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Roll Rate Rules

Perform the following steps to delete Roll Rate Rules:

- Select the Roll Rate Rule that you want to delete and click the **Action** icon.
Note the following conditions for deleting a Roll Rate Rule:
 - If a Roll Rate Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Roll Rate Rule.
 - If a Roll Rate Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Roll Rate Rule.
 - If a Roll Rate Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Roll Rate Rule.
- Select **Delete**.
- You can also delete a Roll Rate Rule by selecting the Roll Rate Rules that you want to delete and then click the **Delete** icon.

Refresh Roll Rate Rules

You can refresh existing Roll Rate Rules from the **Roll Rate Rule Summary** page to refresh the Roll Rate Rules with newly available data. Perform the following steps to refresh one or more existing Roll Rate Rules:

1. On the **Roll Rate Rule Summary** page, select the **Refresh** icon.
The definitions on the Summary page are refreshed with newly available data.

View Roll Rate Rules

Perform the following steps to View Roll Rate Rules:

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

Edit Roll Rate Rules

The edit feature enables you to update the details of an existing Roll Rate Rules. Perform the following steps to edit an existing Roll Rate Rule:

1. In the Roll Rate Rules list, select the **Action** icon adjacent to the Roll Rate Rule name that you want to edit.
2. Click **Edit** to open the Roll Rate Rule window.
3. Update the required fields. Only the **Name**, **Modelling Set**, **Economic Scenario Rule**, **Transition Matrix Type**, **Transition Matrix Frequency**, **Computation Basis**, **Base Transition Matrix**, and **Loss Rate Historical Frequency** fields are not editable.
4. Click **Save**.
The saved Roll Rate Rule is displayed in the Roll Rate Rules list on the **Roll Rate Rule Summary** page.

Save Roll Rate Rules

Perform the following steps to save Roll Rate Rules under a different name and folder:

1. Select the desired Roll Rate Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The Roll Rate Rule is saved under a new name and folder.

Download Roll Rate Rules

Perform the following steps to download Roll Rate Rules:

1. To download the list of defined rules, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search Roll Rate Rules

Search for Roll Rate Rules to perform any of the following tasks:

- [Create](#)

- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for Roll Rate Rules, perform the following steps:

- Navigate to the **Roll Rate Rule Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Roll Rate Rules and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Roll Rate Rules to filter the list of Roll Rate Rules by values that match the search term.

Only Roll Rate Rules that match the search criteria are displayed.

Risk Factors Assignment Rules

The Risk Factors Assignment rule is created at the Modelling Set and Economic Scenario Rule level. The user can assign the Term Rule (PD, LGD, CCF), Provision Matrix Rule, and Roll Rate Rule at the product and Customer type level. This assignment can be further extended based on the additional dimensions added in the modelling set definition.

PD, LGD, CCF term structures are further supported by Interpolation and Extrapolation methods. Users can assign interpolation and extrapolation methods through the drop-down.

Supported Interpolation and Extrapolation methods:

- PD:
 - Interpolation Methods:
 - * Arithmetic
 - * Geometric
 - * Poisson
 - Extrapolation Methods:
 - * Arithmetic
 - * Geometric
 - * Poisson
 - * Default Method (Default word is added with the above methods for the differentiation purpose)
- LGD:
 - Interpolation Methods:
 - * Linear

- * Default
 - Extrapolation Methods:
 - * Default
- CCF:
 - Interpolation Methods:
 - * Linear
 - * Default
 - Extrapolation Methods:
 - * Default

Risk Factor Assignment Rule Summary Page

This page is the gateway to the Risk Factor Assignment Rule feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **ECL Rules**, and then click **Risk Factor Assignment Rule**. You can navigate to other pages that are related to Risk Factor Assignment Rule from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Risk Factor Adjustment Summary** page displays the following columns:

Figure 4-123 Risk Factor Assignment Rule Summary Page

Risk Factors Assignment Rule Summary				
Q				
Field Search				
☐ Name	Description	Created By	Creation Date	Action
☐ Auto_RFAR_ECL	Risk Factor Assignment Rule though Automation_ECL	QAUSER	19/06/2024 11:51:45	...
☐ RFA_DPD		QAUSER	25/06/2024 03:26:54	...
☐ RFA_RR_ATTR		QAUSER	26/06/2024 03:53:21	...
☐ RF_PD		QAUSER	21/06/2024 09:59:47	...
☐ TSPRA_SCN_3_101		QAUSER	25/03/2024 12:48:08	...

Table 4-60 Risk Factor Adjustment Summary page – Fields and Descriptions

Column	Description
Name	Displays the Risk Factor Adjustment's name.
Add	Click the Add icon to create a new Risk Factor Adjustment.

Table 4-60 (Cont.) Risk Factor Adjustment Summary page – Fields and Descriptions

Column	Description
Delete	Select the desired Risk Factor Adjustment Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Risk Factor Adjustment's help.
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information . For more information on using this feature, see the Search a Risk Factor Adjustment section.
Field Search	Enter the name of the Risk Factor Adjustment to filter the list of Risk Factor Assignment Rule by values that match the search term. For more information on using this feature, see the Search a Risk Factor Adjustment section.

The **Risk Factor Assignment Rule** pane on the **Risk Factor Assignment Rule Summary** page displays the list of Risk Factor Assignment Rule and offers several actions that allow you to perform different tasks. The following tasks are available for the Risk Factor Assignment Rule in the **Action** column.

Table 4-61 Risk Factor Assignment Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Risk Factor Adjustment Name and select View to view the contents of a Risk Factor Adjustment in read format.
Edit	Click the Action icon adjacent to the Risk Factor Adjustment Name and select Edit to edit the contents of a Risk Factor Adjustment.
Save As	Click the Action icon adjacent to the Risk Factor Adjustment Name and select Save As to create a copy of an existing Risk Factor Adjustment.
Delete	Click the Action icon adjacent to the Risk Factor Adjustment Name and select Delete to delete an existing Risk Factor Adjustment.
Dependency Information	Click the Action icon adjacent to the Risk Factor Adjustment and select Dependency Information to check the higher and lower order dependencies for an existing Risk Factor Adjustment.

Create Risk Factor Assignment Rule

Perform the following steps to create Risk Factor Assignment Rule:

1. On the **Risk Factor Adjustment Summary** page, click the **Add** icon to open the **Risk Factor Adjustment** window.

Figure 4-124 Create Risk Factor Assignment Rule

2. Populate the **Risk Factor Adjustment** form as tabulated:

Table 4-62 Term Structure and Provision Rate Assignment Rules

Field	Description
Name	Enter a name.
Description	Enter a description for the definition.
Folder	Select a folder from the drop-down list.
Modelling Set	Select a Modelling Set from the drop-down list.
Economic Scenario Rule	Select an Economic Scenario Rule from the drop-down list.
Product Hierarchy	This field is selected by default.
Term Structure Category	Select any term structure category. The available options are: • PD • LGD • CCF • Provision Matrix Rule • Roll Rate Rule The PD option is selected by default.

 Note:

At least one Term Structure Category must be selected, if you attempt to deselect all the options, then a pop-up message appears asking you to select at least one term structure category.

Table 4-62 (Cont.) Term Structure and Provision Rate Assignment Rules

Field	Description
Product (table)	Depending on the selected term structure category, the columns are either enabled or disabled. For example, if the PD term structure category is not selected, then the PD-Term Structure Rule, PD-Interpolation, and the PD-Extrapolation columns are disabled. Select a value from the drop-down list for the enabled columns based on the term structure category that was selected.

 Note:

For the Term Structure Category *PD*, in the **PD-Interpolation** column drop-down list if the value *Arithmetic* selected, then in the **PD-Extrapolation** column drop-down list, the options *Arithmetic* and *Default-Arithmetic* are available. Similarly, in the **PD-Interpolation** column drop-down list, if *Geometric* or *Poission* is selected, then the options will be *Geometric* and *Default-Geometric* and *Poission* and *Default-Poission*, respectively.

Use the **Search** field to search for a Product by its name.

You can also click the **Go to List View** or **Go to Tree View** icon to toggle between the list views.

In the **Conditional Assumption** column, click the **Set Conditional Assumption** icon to open the **Conditional Assumption** window. In this window:

- a. Select a value from the field as per the dimension that was selected in the Modelling Set.
The column is populated with the selected dimension.
- b. Select a value from the drop-down list for the enabled columns based on the term structure category that was selected. Depending on the selected term structure category, the columns are either enabled or disabled. For example, if the PD term structure category is not selected, then the PD-Term Structure Rule, PD-Interpolation, and the PD-Extrapolation columns are disabled.
The Conditional Assumptions Based on Dimensions column has the status as *Not Defined*. When the values in this and the

Table 4-62 (Cont.) Term Structure and Provision Rate Assignment Rules

Field	Description
	Industry table are configured, then the status in this column changes to <i>Defined</i> .
c.	Expand the arrow next to the Customer Type to open the Industry table.
d.	In the Industry column, select an industry from the drop-down list.
e.	Select a value from the drop-down list for the enabled columns based on the term structure category that was selected.
f.	Additionally, click the Add icon to add more Industry details.
g.	To delete an Industry row, select the rows and then click the Delete icon.
h.	Click Apply . Depending on the selected term structure category, you can add values in the available rows. If a row has only a few fields configured, then the application does not let you apply the settings and highlights the fields in the row that must be configured.
	You are navigated back to the Create page and the status in the Status column for a configured product is updated.

- Click **Save** to save the Risk Factor Assignment Rule or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular Risk Factor Adjustment has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Risk Factor Adjustment:

- Navigate to the **Risk Factor Adjustment Summary** page.
- Either [search](#) for a Risk Factor Adjustment or navigate to the desired Risk Factor Adjustment from the list of Risk Factor Assignment Rule.
- Click the **Action** icon that is adjacent to the Risk Factor Adjustment and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
- You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Risk Factor Assignment Rule

Perform the following steps to delete Risk Factor Assignment Rule:

- Select the Risk Factor Adjustment that you want to delete and click the **Action** icon.
Note the following conditions for deleting a Risk Factor Adjustment:

- If a Risk Factor Adjustment does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Risk Factor Adjustment.
 - If a Risk Factor Adjustment contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Risk Factor Adjustment.
 - If a Risk Factor Adjustment contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Risk Factor Adjustment.
2. Select **Delete**.
 3. You can also delete a Risk Factor Adjustment by selecting the Risk Factor Adjustments that you want to delete and then click the **Delete** icon.

Refresh Risk Factor Assignment Rule

You can refresh existing Risk Factor Assignment Rule from the **Risk Factor Adjustment Summary** page to refresh the Risk Factor Assignment Rule with newly available data. Perform the following steps to refresh one or more existing Risk Factor Assignment Rule:

1. On the **Risk Factor Adjustment Summary** page, select the **Refresh** icon.
The definitions on the Summary page are refreshed with newly available data.

View Risk Factor Assignment Rule

Perform the following steps to View Risk Factor Assignment Rule:

1. Select the Risk Factor Adjustment that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Risk Factor Adjustment** window opens, displaying the details of the selected Risk Factor Assignment Rule.
4. Click **Cancel**.

Edit Risk Factor Assignment Rule

The edit feature enables you to update the details of an existing Risk Factor Assignment Rule. Perform the following steps to edit an existing Risk Factor Adjustment:

1. In the Risk Factor Assignment Rule list, select the **Action** icon adjacent to the Risk Factor Adjustment name that you want to edit.
2. Click **Edit** to open the Risk Factor Adjustment window.
3. Update the required fields. Only the **Name** is not editable.
4. Click **Save**.
The saved Risk Factor Adjustment is displayed in the Risk Factor Assignment Rule list on the **Risk Factor Adjustment Summary** page.

Save Risk Factor Assignment Rule

Perform the following steps to save Risk Factor Assignment Rule under a different name and folder:

1. Select the desired Risk Factor Adjustment.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.

5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The Risk Factor Adjustment is saved under a new name and folder.

Download Risk Factor Assignment Rule

Perform the following steps to download Risk Factor Assignment Rule:

1. To download the list of defined rules, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search Risk Factor Assignment Rule

Search for Risk Factor Assignment Rule to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for Risk Factor Assignment Rule, perform the following steps:

- Navigate to the **Risk Factor Adjustment Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Risk Factor Assignment Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Risk Factor Assignment Rule to filter the list of Risk Factor Assignment Rule by values that match the search term.

Only Risk Factor Assignment Rule that match the search criteria are displayed.

Portfolio Rules

The portfolio rule is a prerequisite for key functionalities like Models. The user needs to define the Portfolio rule by selecting the Modelling Set. The user can select elements for the respective dimensions which come up with the modelling set.

The user can select various combinations of elements under the available dimensions.

Portfolio Rule Summary Page

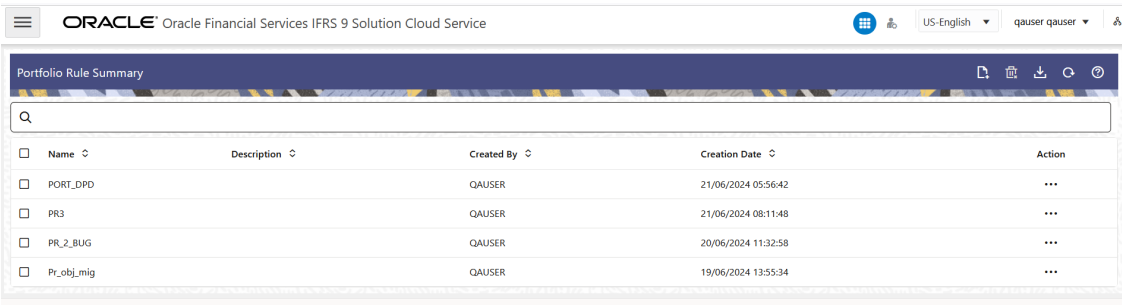
This page is the gateway to the Portfolio Rule feature and related functionality. To access this page from the LHS menu, click **Models**, then click **PD Model**, and then click **Portfolio Rule**. You can navigate to other pages that are related to Portfolio Rule from this point.

- [Create](#)

- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **Portfolio Rule Summary** page displays the following columns:

Figure 4-125 Portfolio Rule Summary Page



Name	Description	Created By	Creation Date	Action
PORT_DPD		QAUSER	21/06/2024 05:56:42	...
PR3		QAUSER	21/06/2024 08:11:48	...
PR_2_BUG		QAUSER	20/06/2024 11:32:58	...
Pr_obj_mig		QAUSER	19/06/2024 13:55:34	...

Table 4-63 Portfolio Rule Summary page – Fields and Descriptions

Column	Description
Name	Displays the Portfolio Rule's name.
Add	Click the Add icon to create a new Portfolio Rule.
Delete	Select the desired Portfolio Rule Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Portfolio Rule's help.
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information an Portfolio Rule. For more information on using this feature, see the Search a Portfolio Rule section.
Field Search	Enter the name of the Portfolio Rule to filter the list of Portfolio Rulees by values that match the search term. For more information on using this feature, see the Search a Portfolio Rule section.

The **Portfolio Rule** pane on the **Portfolio Rule Summary** page displays the list of Portfolio Rule and offers several actions that allow you to perform different tasks. The following tasks are available for the Portfolio Rule in the **Action** column.

Table 4-64 Portfolio Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Portfolio Rule Name and select View to view the contents of a Portfolio Rule in read format.
Edit	Click the Action icon adjacent to the Portfolio Rule Name and select Edit to edit the contents of a Portfolio Rule.
Save As	Click the Action icon adjacent to the Portfolio Rule Name and select Copy (Save As) to create a copy of an existing Portfolio Rule.
Delete	Click the Action icon adjacent to the Portfolio Rule Name and select Delete to delete an existing Portfolio Rule.
Dependency Information	Click the Action icon adjacent to the Portfolio Rule and select Dependency Information to check the higher and lower order dependencies for an existing Portfolio Rule.

Create Portfolio Rule

Perform the following steps to create Portfolio Rule:

1. On the **Portfolio Rule Summary** page, click the **Add** icon to open the **Portfolio Rule** window.
2. Populate the **Basic Details** tab as tabulated:

Figure 4-126 Create Portfolio Rule

The screenshot shows the 'Portfolio Rule' window with the following fields and controls:

- Basic Details:**
 - Name:** Text input field, marked as Required.
 - Description:** Text input field.
 - Folder:** Dropdown menu, marked as Required.
 - Modelling Set:** Dropdown menu, marked as Required.
- Portfolio Details:**
 - Product Hierarchy:** Text input field.
 - Product:** Text input field with a plus icon.
 - Customer Type:** Dropdown menu, marked as Required.
- Footer:**
 - Message: "No data to display."
 - Link: "> Audit"

Table 4-65 Basic Details

Field	Description
Name	Enter a name.
Description	Enter a description for the rule.

Table 4-65 (Cont.) Basic Details

Field	Description
Folder	Select a folder from the drop-down list
Modelling Set	Select a modelling set from the drop-down list. After selecting a modelling set, the Additional Dimensions section with the Industries field appears.
Product Hierarchy	This field is populated by default.
Product	Select the Products icon to open the Hierarchy Browser window. Select a hierarchy and then click OK .
Customer Type	Select a customer type from the drop down list.
Additional Dimensions	Select the hierarchy icon to open the Hierarchy Browser window. Select a hierarchy and then click OK .
Product (Table)	Click the Add icon to add the product details (Product, Customer Type, and Industry) to the table. When one product row is added, the Product , Customer Type , and Additional Dimensions fields are reset to their default state. If more product details need to be added then add values in the Product, Customer Type, and Additional Dimensions fields and then click the Add icon. this step can be repeated for multiple product

3. Click **Save** to save the Portfolio Rule or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular Portfolio Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Portfolio Rule:

1. Navigate to the **Portfolio Rule Summary** page.
2. Either [search](#) for a Portfolio Rule or navigate to the desired Portfolio Rule from the list of Portfolio Rules.
3. Click the **Action** icon that is adjacent to the Portfolio Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Portfolio Rule

Perform the following steps to delete Portfolio Rule:

1. Select the Portfolio Rule that you want to delete and click the **Action** icon.
Note the following conditions for deleting a Portfolio Rule:
 - If a Portfolio Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Portfolio Rule.

- If a Portfolio Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Portfolio Rule.
 - If a Portfolio Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Portfolio Rule.
2. Select **Delete**.
 3. You can also delete a Portfolio Rule by selecting the Portfolio Rule that you want to delete and then click the **Delete** icon.

Refresh Portfolio Rule

You can refresh existing Portfolio Rule from the **Portfolio Rule Summary** page to refresh the Portfolio Rule with newly available data. Perform the following steps to refresh one or more existing Portfolio Rule:

1. On the **Portfolio Rule Summary** page, select the **Refresh** icon.
The definitions on the Summary page are refreshed with newly available data.

View Portfolio Rule

Perform the following steps to View Portfolio Rule:

1. Select the Portfolio Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Portfolio Rule** window opens, displaying the details of the selected Portfolio Rule.
4. Click **Cancel**.

Edit Portfolio Rule

The edit feature enables you to update the details of an existing Portfolio Rule. Perform the following steps to edit an existing Portfolio Rule:

1. In the Portfolio Rule list, select the **Action** icon adjacent to the Portfolio Rule name that you want to edit.
2. Click **Edit** to open the Portfolio Rule window.
3. Update the required fields. Only the **Name**, **Folder Modelling Set**, and **Product Hierarchy** fields are not editable.
4. Click **Save**.
The saved Portfolio Rule is displayed in the Portfolio Rule list on the **Portfolio Rule Summary** page.

Save Portfolio Rule

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

1. Select the desired Portfolio Rule.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The Portfolio Rule is saved under a new name and folder.

Download Portfolio Rule

Perform the following steps to download Portfolio Rule:

1. To download the list of defined rules, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search Portfolio Rule

Search for Portfolio Rule to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for Portfolio Rule, perform the following steps:

- Navigate to the **Portfolio Rule Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Portfolio Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Portfolio Rule to filter the list of Portfolio Rule by values that match the search term.

Only Portfolio Rule that match the search criteria are displayed.

5

Operations

This chapter covers the following topics:

- [Staging and Account Classification Process](#)- This module discusses the procedure for creating and executing the Staging and Account Classification Process.
- [Override Screen](#)- This section provides information on the Override Screen Maker and Override Screen Checker and the prerequisites to access the screen(s).
- [ECL and Amortization Process](#)- This module discusses the procedure for creating and executing the ECL and Amortisation Process.
- [Attribution Analysis](#)- The Attribution Analysis is created at the ECL and Amortization process level. The Attribution Analysis feature enables users to compare the results of ECL Runs for two dates and understand the contribution of each factor that is involved in the computation process to the change in the result value.
- [Cash Flow Edits Process](#)- This module discusses the procedure for validating and cleansing your Instrument Table Data before you process it to generate Cash Flow-based results.
- [Scheduler Services](#)- The Scheduler Service is a service that automates behind-the-scenes work that is necessary to sustain various enterprise applications and their operations.
- [Object Administration](#)- This topic contains information on the tasks that are a part of the Object Administration Module.
- [Viewing Logs](#)- You can view the information about high-level processing steps from User Interface.

Staging and Account Classification Process

This module discusses the procedure for creating and executing the Staging and Account Classification Process. While creating this process, the user needs to select the modelling set. Based on the modelling set selection Rating Mapping Rule, Stage Determination Rule, Stage Curing Rule, Account Classification Rule and Term Structure and Provision Rate Assignment Rule are available for the selection.

Users can define Account Classification Rule Term Structure and Provision Rate Assignment Rule at the process level. The user can define the Rating Mapping Rule, Stage Determination Rule, and Stage Curing Rule at the product, and customer type level and the User can do further customization based on the dimensions which are inherited from the modelling set.

Staging and Account Classification Process Summary Page

This page is the gateway to the Staging and Account Classification Process feature and related functionality. To access this page from the LHS menu, click **Operations and Processes**, then click **Staging and Account Classification Processes**. You can navigate to other pages that are related to Staging and Account Classification Process from this point.

- [Add](#)
- [View](#)

- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

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

Table 5-1 Staging and Account Classification Process Summary Page – Fields and Descriptions

Column	Description
Name	Displays the Staging and Account Classification Process short name.
Add	Click the Add icon to create a new Staging and Account Classification Process.
Delete	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Delete to delete an existing Stage Classification Process.
Refresh	Click the Refresh icon to refresh the Summary page.
Help	Click the Help icon to view the Staging and Account Classification Process help.
Search	Use this field to search for a Staging and Account Classification Process to View , Edit , Copy (Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search a Staging and Account Classification Process section.
Field Search	Enter the name of the Staging and Account Classification Process to filter the list of Staging and Account Classification Process by values that match the search term. For more information on using this feature, see the Search a Staging and Account Classification Process section.
Status	This column displays the status of the process. The available status are <i>Ongoing</i> , <i>Successful</i> , and <i>Fail</i> .

The **Staging and Account Classification Process** pane on the **Staging and Account Classification Process** page displays the list of Staging and Account Classification Process and offers several actions that allow you to perform different tasks. The following tasks are available for the Staging and Account Classification Process in the **Action** column.

Figure 5-1 The Staging and Account Classification Process Summary Screen

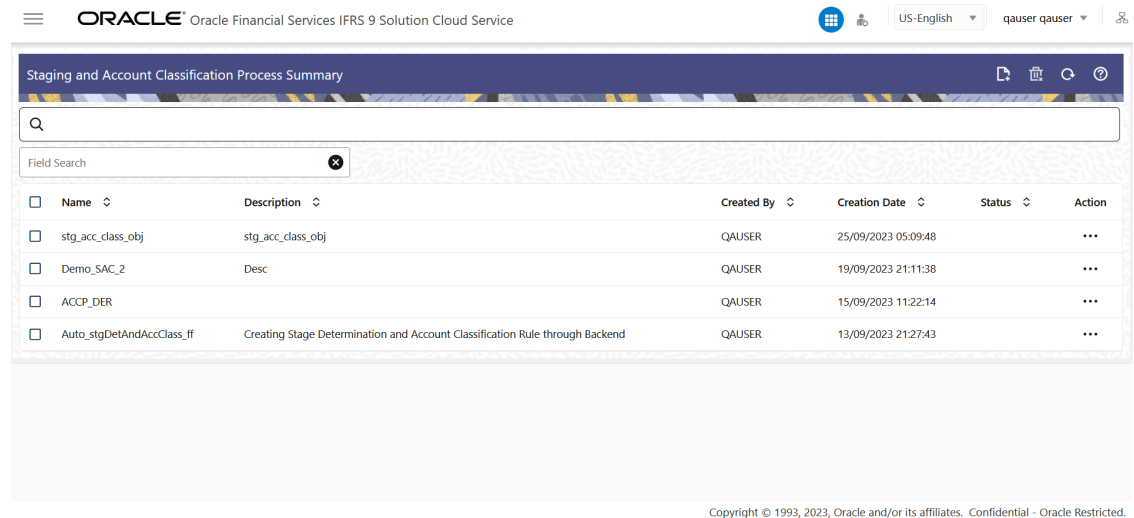


Table 5-2 Staging and Account Classification Process – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Staging and Account Classification Process Name and select View to view the contents of a Staging and Account Classification Process in read/write format.
Edit	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Edit to edit the contents of a Staging and Account Classification Process in read/write format.
Save As	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Save As to create a copy of an existing Staging and Account Classification Process.
Delete	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Delete to delete an existing Staging and Account Classification Process.
Dependency Information	Click the Action icon adjacent to the Staging and Account Classification Process Name and select Dependency Information to check the higher and lower order dependencies for an existing Staging and Account Classification Process.

Create a Staging and Account Classification Process

Perform the following steps to create a Staging and Account Classification Process definition:

1. On the **Staging and Account Classification Process Summary** page, click the **Add** icon to open the **Staging and Account Classification Process** window.

2. Populate the Staging and Account Classification Process Form as tabulated:

Option

Description

Name

Enter a name for the Staging and Account Classification Process definition.
This is a mandatory field.

Description

Enter a description for the Staging and Account Classification Process definition.

Select Folder

Select a folder from a drop-down list.
This is a mandatory field.

Select Modelling Set

Select a folder from a drop-down list.
This is a mandatory field.

Product Hierarchy

When a folder is selected from the **Modelling Set** field, this field is automatically populated.

Data Filter

This field allows you to select a subset of data for processing by selecting a filter that was previously created. Select a data filter from the drop-down list.

 Note:

This service supports only the Data Element Filters

Calculation Elements

This section contains the different Calculation Elements. The available options are:

- **Rating Mapping** - This check box is uneditable. If the Stage Determination is selected, then by default the Rating Mapping will be selected.

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

Option	Description
Go To List View/Go To Tree View	This link is adjacent to the Search field. You can use this icon to toggle the view of the Staging and Account Classification Process table.
Conditional Assumption	Select the Set Conditional Assumption icon to open the Conditional Assumption window: • (The dimension that was selected in the Modelling Set, for example Customer) - Select a Customer Type from the drop-down list. Multiple customer types can be selected in this field. • Select a Rating Mapping Rule from the drop-down list. • Select a Stage Determination Rule from the drop-down list. This field is enabled if the Stage Determination Rule check box was selected. • Select a Stage Curing rule from the drop-down list. This field is enabled if the Stage Curing Rules check box was selected. • To define the Conditional Assumption Based on dimension, select the the dimension that was selected in the Modelling Set, for example if Customer was selected then select the Customer Type. a. Select values from the Industry, Rating Mapping, Stage Determination, and Rules Stage Curing Rules. The Stage Determination and Rules Stage Curing Rules columns are enabled only if the Stage Determination and Rules Stage Curing Rules checkboxes were selected. b. To define additional Conditional Assumption Based on dimensions for the customer type, select the Add Button icon. c. To delete a Conditional Assumption Based on dimension(s), select the desired Conditional Assumption Based on dimension(s), and then click the Delete Button icon. • Click Apply. The status of this product changes to <i>Defined</i>.

3. Click **Save**.

The new Staging and Account Classification Process appears in the list of Staging and Account Classification Process on the **Staging and Account Classification Process Summary** page.

Dependency Information

You can check dependencies to know where a particular Staging and Account Classification Process has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an Staging and Account Classification Process:

1. Navigate to the **Staging and Account Classification Summary** page.
2. Either [search](#) for an Staging and Account Classification Process or navigate to the desired Staging and Account Classification Process from the list of Staging and Account Classification Processes.
3. Click the **Action** icon that is adjacent to the Staging and Account Classification Process and select **Dependency Information** to open the dependency information page. On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete a Staging and Account Classification Process

You can delete an existing Staging and Account Classification Process from the **Staging and Account Classification Process Summary** page. Perform the following steps to delete one or more existing Staging and Account Classification Process:

1. In the **Staging and Account Classification Process** window, select the checkbox(s) adjacent to the Staging and Account Classification Process(s) that you want to delete.

Note the following conditions for deleting a Staging and Account Classification Process:

- If a Staging and Account Classification Process does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Staging and Account Classification Process.
- If an Staging and Account Classification Process contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Staging and Account Classification Process.
- If an Staging and Account Classification Process contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Staging and Account Classification Process.

2. Click **Delete**. A warning dialog is displayed.
3. Click **Yes**.
4. Additionally, select the checkbox(s) adjacent to the Staging and Account Classification Process(s) and then click the Delete icon on the top of the **Staging and Account Classification Process Summary** page. A warning dialog is displayed.
5. Click **Yes**.

The selected definitions are removed from the **Staging and Account Classification Process Summary** page.

Refresh a Staging and Account Classification Process

You can refresh an existing Staging and Account Classification Process from the **Staging and Account Classification Process Summary** page to refresh the Staging and Account Classification Process with newly available data. Perform the following steps to refresh one or more existing Staging and Account Classification Process:

1. In the **Staging and Account Classification Process** window, select the checkbox(s) adjacent to the Staging and Account Classification Process(s) that you want to refresh.
2. Click **Refresh**.

The selected Staging and Account Classification Process(s) are refreshed with newly available data.

View a Staging and Account Classification Process

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

1. In the Staging and Account Classification Process list, select the **Action** icon adjacent to the Staging and Account Classification Process name that you want to view.
2. Click **View** to open the **Staging and Account Classification Process** window.
3. Click **Cancel** to return to the **Staging and Account Classification Process** page.

Edit a Staging and Account Classification Process

The edit feature enables you to update the details of an existing Staging and Account Classification Process. Perform the following steps to edit an existing Staging and Account Classification Process:

1. In the Staging and Account Classification Process list, select the **Action** icon adjacent to the Staging and Account Classification Process name that you want to edit.
2. Click **Edit** to open the **Staging and Account Classification Process** window. Only the name field is not editable.
3. Update the required fields.
4. Click **Save**.

The saved Staging and Account Classification Process is displayed in the Stage Classification Process list on the **Staging and Account Classification Process Summary** page.

Copy (Save as) Staging and Account Classification Process

Perform the following steps to save a Staging and Account Classification Process under a different name:

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

Run a Staging and Account Classification Process

Perform the following steps to Run an Account Classification Process:

1. Select the Account Classification Process that you want to view and click the **Action** icon.
2. Select **Run** to open the **Run Execution Parameters** window.
3. In this window, select the date by clicking the **Select Date.** icon from the **As of Date** field to run this parameter.
4. Click **OK**.

Download Account Classification Rules

Perform the following steps to download the Rules:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.
The selected rules are downloaded in a csv format.

Search a Staging and Account Classification Process

Search for a Staging and Account Classification Process to perform any of the following tasks:

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for a Staging and Account Classification Process, perform the following steps:

- Navigate to the **Staging and Account Classification Process Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the Staging and Account Classification Process and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Description can be used for an Advanced Search.
- Additionally, in the **Field Search** field, enter the name of the Staging and Account Classification Process to filter the list of Staging and Account Classification Process by values that match the search term.

Only Staging and Account Classification Process that match the search criteria are displayed.

Override Screen

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

**Note:**

If a user overrides any **FVTPL** asset to an **FVOCI** or **AMRTCOST** asset, then they must also change the stage from *Stage N/A* to the applicable IFRS 9 stage.

Prerequisites

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

**Note:**

If you want to provide access to both Maker and Checker, then both the roles needs to be mapped to the group. i.e. **ROVRDMKR** and **ROVRDCKR**.

If you want to provide access to only the Maker or only to the Checker, then the required the maker or checker role needs to be mapped to the group. i.e. **ROVRDMKR** or **ROVRDCKR** respectively.

For out of box (OOB) roles, the OOB function codes i.e. **OVRDMKRVIEW** and **OVRDCKRVIEW** need to be mapped to the corresponding newly created roles.

Accessing the Override Screen Maker

Perform the following steps to access the Override Screen Maker in the LHS menu:

1. From the **Oracle Financial Services Accounting Standard Cloud Service** landing page, click the **Admin Console** icon to access the Admin Console page. For more information on the Admin Console page, see [Introduction to Admin Console](#).
2. Click the **Identity Management** tab and then click **Groups** to open the **Groups** window.
3. In the Search field, search for the **IFRS9** Group (Admin or Analyst) that you want to map to the Role (Maker).
4. Click the desired group to open the **Group <Group Name>** window.
5. Click the **Mapped Roles** tab and then click **New Mapping** to open the **Available Roles** window.
6. In this window, use the **Search** field to search for the desired Maker (**Maker Stage and Classification Reassignment**).
7. Select the Maker role (**Maker Stage and Classification Reassignment**) and then click Map.
The Selected Maker is mapped to the group.
8. To authorize the new mapping, enable the **Authorization View** toggle.
9. Select the new mapping and then click **Authorize**.
10. Navigate to the Oracle Financial Services IFRS 9 Solution Cloud Service landing page, in the LHS menu, click **Operations and Processes**.
The **Override Screen Maker** appears.

Accessing the Override Screen Checker

Perform the following steps to access the Override Screen Checker in the LHS menu:

1. From the **Oracle Financial Services Accounting Standard Cloud Service** landing page, click the **Admin Console** icon to access the Admin Console page. For more information on the Admin Console page, see [Introduction to Admin Console](#).
2. Click the **Identity Management** tab and then click **Groups** to open the **Groups** window.
3. In the Search field, search for the **IFRS9** Group (Admin or Analyst) that you want to map to the Role (Checker).
4. Click the desired group to open the **Group <Group Name>** window.
5. Click the **Mapped Roles** tab and then click **New Mapping** to open the **Available Roles** window.
6. In this window, use the **Search** field to search for the desired Checker (**Checker Stage and Classification Reassignment**).
7. Select the desired Role (**Checker Stage and Classification Reassignment**) and then click Map.
The selected role is mapped to the group.
8. To authorize the new mapping, enable the **Authorization View** toggle.
9. Select the new mapping and then click **Authorize**.
10. Navigate to the Oracle Financial Services IFRS 9 Solution Cloud Service landing page, in the LHS menu, click **Operations and Processes**.
The **Override Screen Checker** appears.

The following table shows the Role Code and description:

Table 5-3 Role Code

Role Code	Description
ROVRDMKR	Maker Stage and Classification Reassignment
ROVRDCKR	Checker Stage and Classification Reassignment

The following table shows the Function Code and description:

Table 5-4 Function Code

Function Code	Description
OVRDMKRVIEW	Maker Stage and Classification Reassignment
OVRDCKRVIEW	Checker Stage and Classification Reassignment

The following table shows the Role to Function mapping:

Table 5-5 Role to Function Mapping

Role To Function Mapping	
Role	Function Code
ROVRDMKR	OVRDMKRVIEW
ROVRDCKR	OVRDCKRVIEW

Override Screen Maker

The Override Screen Maker enables users to manually update any stage and account classification that was assigned to every account by the service by using the Staging and Account Classification Process. The Modelling set and Execution Date selection are mandatory. A few more basic filters are added so that users can effectively complete override activity.

Users with maker privileges have access to this LHS menu. The maker will do the Stage Reassignment, and Account Classification Reassignment, and submit it to the checker with proper justification.

On this screen, populate the following fields:

Table 5-6 The Fields on the Override Screen Maker

Field	Description
Execution Date	Select the Select Date icon to set the execution date. This is a mandatory field.
Modeling Set	Select a Modeling Set from the drop-down menu This is a mandatory field.
Customer ID	Enter a value in this field.
Account ID	Enter a value in this field.
Customer Type	Enter a value in this field.
Product	Click the Product icon to select a product from the Hierarchy Browser.
Application Assigned Account Classification	Select an account classification from the drop-down list. The available options are: - Fair Value through Other Comprehensive Income - Fair Value through Profit and Loss - Amortized Cost
Application Assigned Stage	Select a stage from the drop-down list. The available options are: - Total Default Member - Stage 1 - Stage 2 - Stage 3
Reset	Click this button to reset all the fields to their default state.

Table 5-6 (Cont.) The Fields on the Override Screen Maker

Field	Description
Advanced Search	Select this button to open the Advanced Search window: • Organization Unit - Click the Organization Unit icon to select an Organization Unit from the Hierarchy Browser. • Previous Reported Stage - Select a value from the drop-down list. The available options are: – Stage 1 – Stage 2 – Stage 3 • Country - Select a country from the drop-down list. • Impaired - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Defaulted - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Industry - Click the Industry icon to select an Industry from the Hierarchy Browser. • Restructured - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • POCI - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Geography - Select a value from the drop-down list • Devovement - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Workflow Status - Select a workflow status from the drop-down list. The available options are: – Approve – Pending for Approval – Reject – Saved • Show Non Overridden Accounts - Select this option if you want non overridden accounts to be a part of the search results. Click Search to search or click Reset to reset all the fields to their default state. Additionally, click Cancel to navigate back to the main screen.

Group Reassignment

Group Reassignment can be done in three ways:

1. **From the Accounts pane:**
 - a. Select the check box or boxes adjacent to the desired Customer ID(s).
 - b. Select a reassigned stage from the **Reassigned Stage** drop-down list field.
 - c. Select a reassigned account classification from the **Reassigned Account Classification** drop-down list field.

- d. In the **Justification** field add a justification for the Group Reassignment.
2. **From the Group Reassignment (Apply to all accounts) pane:**
To apply the **Reassigned Stage** and **Reassigned Account Classification** to all the accounts:
 - a. In the **Group Reassignment** pane, select a reassigned stage and the reassigned account classification from the **Reassigned Stage** and **Reassigned Account Classification** fields.
 - b. In the **Justification** field, enter a justification for applying the group reassignment.
 - c. Select the **Apply to all accounts** check box.
 - d. In the **Justification** field add a justification for the Group Reassignment.
3. **From the Group Reassignment (Apply to selected accounts) pane:**
To apply the **Reassigned Stage** and **Reassigned Account Classification** to selected accounts:
 - a. In the Accounts pane, select the check box or boxes adjacent to the desired Customer ID(s).
 - b. In the **Group Reassignment** pane, select a reassigned stage and the reassigned account classification from the **Reassigned Stage** and **Reassigned Account Classification** fields.
 - c. In the **Justification** field, enter a justification for applying the group reassignment.
 - d. Select **Save** and then **Submit**.
 - e. Select the **Apply to selected accounts** check box.
 - f. In the **Justification** field add a justification for the Group Reassignment.

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

Override Screen Checker

The Override Screen Checker enables the user to approve or reject the request initiated by the checker for stage reassignment, and account classification reassignment. The Modelling Set and Execution Date Selection are mandatory. A few more basic filters are added so that users can effectively complete override activity.

Users with Checker privileges can have access to this LHS menu. The Checker will approve or reject the request by providing comments. Once the Checker approves the request then only the IFRS 9 stage and Account Classification is updated for the respective accounts.

On this screen, populate the following fields:

Table 5-7 The Fields on the Override Screen Maker

Field	Description
Execution Date	Select the Select Date icon to set the execution date. This is a mandatory field.
Modeling Set	Select a Modeling Set from the drop-down menu. This is a mandatory field.
Customer ID	Enter a value in this field.
Account ID	Enter a value in this field.
Customer Type	Enter a value in this field.

Table 5-7 (Cont.) The Fields on the Override Screen Maker

Field	Description
Product	Click the Product icon to select a product from the Hierarchy Browser.
Application Assigned Account Classification	Select an account classification from the drop-down list. The available options are: • Fair Value Through Other Income • Fair Value through Profit or Loss • Amortized Cost
Application Assigned Stage	Select a stage from the drop-down list. The available options are: • Stage 1 • Stage 2 • Stage 3
Reset	Click this button to reset all the fields to their default state.

Table 5-7 (Cont.) The Fields on the Override Screen Maker

Field	Description
Advanced Search	Select this button to open the Advanced Search window: • Organization Unit - Click the Organization Unit icon to select an Organization Unit from the Hierarchy Browser. • Previous Reported Stage - Select a value from the drop-down list. The available options are: – Stage 1 – Stage 2 – Stage 3 • Country - Select a country from the drop-down list. • Impaired - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Defaulted - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Industry - Click the Industry icon to select an Industry from the Hierarchy Browser. • Restructured - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • POCI - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Geography - Select a value from the drop-down list • Devolverment - Select either <i>Yes</i> or <i>No</i> from the drop-down list. • Workflow Status - Select a workflow status from the drop-down list. The available options are: – Approve – Pending for Approval – Reject – Saved • Show Non Overridden Accounts - Select this option if you want non overridden accounts to be a part of the search results. Click Search to search or click Reset to reset all the fields to their default state. Additionally, click Cancel to navigate back to the main screen.

Group Reassignment

The decision, *Approve* or *Reject*, for the Group Reassignment of the accounts can be done in three ways:

1. From the Accounts pane:

- Select the check box or boxes adjacent to the desired Customer ID(s).
- Select a decision, either *Approve* or *Reject* from the **Decision** drop-down list field.
- Include a comment regarding the decision in the **Approver Comments** field.

2. **From the Group Reassignment (Apply to all accounts) pane:**
To apply the **Decision** and **Approver Comments** to all the accounts:
 - a. Select the check box or boxes adjacent to the desired Customer ID(s).
 - b. Select a decision, either Approve or Reject from the **Decision** drop-down list field.
 - c. Include a comment regarding the decision in the **Approver Comments** field.
3. **From the Group Reassignment (Apply to selected accounts) pane:**
To apply the **Decision** and **Approver Comments** to selected accounts:
 - a. Select the check box or boxes adjacent to the desired Customer ID(s).
 - b. Select a decision, either Approve or Reject from the **Decision** drop-down list field.
 - c. Include a comment regarding the decision in the **Approver Comments** field.

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



Note:

The Checker can reject an already approved request by adding an appropriate comment. Hence, if the checker rejects an already approved request, then the maker can resubmit this rejected request with the necessary changes.

ECL and Amortization Processes

This module discusses the procedure for creating and executing the ECL and Amortisation Process. This process is defined at the Modelling Set and Economic Scenario Rule level. Users can select the Amortization rule. Users can select only EIR calculation also. Users can provide cash flow elements which help to create the cash flow. This cash flow will be used in effective interest rate calculation. With this process, the user can map expected credit loss methods at the product, customer type and other dimensions of the modelling set level.

ECL and Amortization Process Summary Page

This page is the gateway to the ECL and Amortization Process feature and related functionality. To access this page from the LHS menu, click **Operations and Processes**, then click **ECL and Amortization Process**. You can navigate to other pages that are related to ECL and Amortization Process from this point.

- [Add](#)
- [View](#)
- [Edit](#)
- [Copy\(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

The **ECL and Amortization Process** page displays the following columns:

Table 5-8 ECL and Amortization Process Page – Fields and Descriptions

Column	Description
Name	Displays the ECL and Amortization Process's short name.
Add	Click the Add icon to create a new ECL and Amortization Process.
Delete	Click the Action icon adjacent to the ECL and Amortization Process Name and select Delete to delete an existing ECL and Amortization Process.
Refresh	Click the Referee icon to refresh the Summary Page.
Help	Click the Help icon to view the ECL and Amortization Process help documents.
Search	Use this field to search for a ECL and Amortization Process to View , Edit , Copy(Save As) , Delete and find the Dependency Information . For more information on using this feature, see the Search an ECL and Amortization Process section.
Field Search	Enter the name of the ECL and Amortization Process to filter the list of ECL and Amortization Process by values that match the search term. For more information on using this feature, see the Search an ECL and Amortization Process section.
Status	This column displays the status of the process. The available status are <i>Ongoing</i> , <i>Successful</i> , and <i>Fail</i> .

The **ECL and Amortization Process** pane on the **ECL and Amortization Process** page displays the list of ECL and Amortization Process and offers several actions that allow you to perform different tasks. The following tasks are available for the ECL and Amortization Process in the **Action** column.

Table 5-9 ECL and Amortization Process – Action Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the ECL and Amortization Process Name and select View to view the contents of an ECL and Amortization Process in read/write format.
Edit	Click the Action icon adjacent to the ECL and Amortization Process Name and select Edit to edit the contents of an ECL and Amortization Process in read/write format.
Save As	Click the Action icon adjacent to the ECL and Amortization Process Name and select Save As to create a copy of an existing ECL and Amortization Process.
Delete	Click the Action icon adjacent to the ECL and Amortization Process Name and select Delete to delete an existing ECL and Amortization Process.

Table 5-9 (Cont.) ECL and Amortization Process – Action Icons and Descriptions

Column	Description
Dependency Information	Click the Action icon adjacent to the ECL and Amortization Process Name and select Dependency Information to check the higher and lower order dependencies for an existing ECL and Amortization Process.

Create an ECL and Amortization Process

Perform the following steps to add an ECL and Amortization Process:

1. On the **ECL and Amortization Process Summary** page, click the **Add** icon to open the **ECL and Amortization Process** window.

This window contains four tabs that must be configured for a new ECL and Amortization Process:

- **Process Details**
- **Source Data**
- **Calculation Elements**
- **Cash Flow Characteristic**
- **ECL Methods Mapping**

2. Populate the **Process Details** form as tabulated:

Option	Description
Name	Enter a name for the ECL and Amortization Process definition. This is a mandatory field.
Description	Enter a description for the ECL and Amortization Process definition.
Folder	Select a folder from the drop-down list. This is a mandatory field.
Modelling Set	Select a Modelling Set from the drop-down list. This is a mandatory field.
Economic Scenario Rule	Select an Economic Scenario Rule from the drop-down list. This is a mandatory field.

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

The screenshot displays the 'ECL & Amortization Process' configuration window. At the top, a progress bar indicates the current step is 'Source Data' (step 2 of 5). The 'Source Data' section contains the following fields:

- Product Hierarchy:** A text field showing 'All Products'.
- Products:** A text field with a 'Products' icon (a square with a stylized 'P') to its right.
- Data Filter:** A dropdown menu.
- Audit:** A section with a right-pointing arrow and the label 'Audit'.

Option	Description
Product Hierarchy	The product hierarchy is selected by default.
Products	Click the Products icon to open the Hierarchy Browser window. In this window select a member from the Available Members section and then click OK .

Option

Description

Note:

While defining CFE rules, we define the rule by using a product hierarchy. The same product hierarchy must be selected while defining the modelling set which is used in the ECL and amortization process. This step is mandatory in order for the rule to be available in the ECL and amortization process.

Data Filter

This field allows you to select a subset of data for processing by selecting a filter that was previously created. Select a data filter from the drop-down list.

Note:

This service supports only the Data Element Filters.

5. Click **Calculation Elements**.
6. Populate the **Calculation Elements** form as tabulated:

The screenshot shows the 'ECL & Amortization Process' form with a progress bar at the top. The progress bar has five steps: 1. Process Details (checked), 2. Source Data (checked), 3. Calculation Elements (active), 4. Cash Flow Characteristic, and 5. ECL Methods Mapping. Below the progress bar, the 'Calculation Elements' section is visible. It contains two toggle switches: 'Compute EIR' which is turned 'On' (blue), and 'Calculate Amortization' which is turned 'Off' (grey). Below these toggles is a dropdown menu labeled 'Amortization Rule' with a downward arrow. A 'Required' label is positioned below the dropdown menu. A 'Cancel' button is located in the top right corner of the form.

Option

Description

Compute EIR

Enable this feature if you want to compute the EIR for the ECL and Amortization Process.

Calculate Amortization

Enable this feature if you want to calculate the ECL and Amortization for the ECL and Amortization Process.

Option	Description
	If this feature is disabled, then the EIR Computation Type section appears with the Origination Date and As of Date sliders.
Amortization	Select an ECL and Amortization from the drop-down list.
Origination Date	Click the slider to disable or enable this field. This field is enabled by default. This field appears only if the Calculate Amortization field is disabled.
As of Date	Click the slider to disable or enable this field. This field is enabled by default. This field appears only if the Calculate Amortization field is disabled.

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

ECL and Amortization Process Cancel

Process Details ☒ Source Data ☒ Calculation Elements ☒ **Cash Flow Characteristic** ☒ ECL Methods Mapping ☐

Cash Flow Characteristic

Forecast Rates ☐ Enable Holiday Calendar ☐

Prepayment Rule ☐

Product ► All Products Status Undefined

ECL and Amortization Process Cancel

Process Details ☒ Source Data ☒ Calculation Elements ☒ **Cash Flow Characteristic** ☒ ECL Methods Mapping ☐

Cash Flow Characteristic

Forecast Rates ☒ Forecast Rates FR1 ☐ Enable Holiday Calendar ☐

Prepayment Rule ☒ Prepayment Rule Prepayment_rule1

Product ► PRODUCT_ALL Status Undefined

Currency + ✎

Option

Forecast Rates

Forecast Rates (Drop-down)

Description

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

Select a forecast rate from the drop-down list.

This field only appears if the Forecast Rates field is enabled.

See the [Forecast Rate Scenarios](#) to set up the rate scenarios. This is an optional step.

Enable Holiday Calendar

Enable this feature if you want to enable the Holiday Calendar.

By default, this field is disabled. If this field is enabled, then the cash flow dates falling on a holiday get adjusted as per defined conventions. You can also select the holiday calculation option, calendar, and business day convention at the product-currency level. See [Holiday Calendar](#) to set up a Holiday calendar scenario. This is an optional step.

Prepayment Rule

Enable this feature if you want to enable the Prepayment Rule.

Prepayment Rule (Drop-down)

Select a prepayment rule from the drop-down list.

This field only appears if the Prepayment rule field is enabled.

Products

In this pane, click the **Expand** icon to view the list of all the products. Click the **Expand** icon adjacent to each product to define it in the **Currency** field.

Currency (The label of this drop-down changes depending on the selected product from the Products field.)

Select a Currency from the drop-down list. Click the **Add** icon after defining the **Include Accrued Interest**, **Interest Credited**, and **Model with Gross Rates** fields.

Option	Description
Include Accrued Interest	Select either <i>Yes</i> or <i>No</i> as the status of Include Accrued Interest. It is the basis on which the interest accrual on an account is calculated.
Interest Credited	Select either <i>Yes</i> or <i>No</i> as the status of Interest Credited. This option shows the interest payments to be capitalized as principal on simple or non-amortizing instruments.
Model with Gross Rates	Select either <i>Yes</i> or <i>No</i> . If the institution has outsourced loan serving rights for some of the assets (most typically mortgages), the rates paid by customers on those assets (gross rates) are greater than the rates received by the bank (net rates). For these instruments, both a net and gross rate is calculated within the cash flow engine and both gross and net rate financial elements are the output. The gross rate is used for prepayment and amortization calculations. The net rate is used for income simulation and the calculation of retained earnings in the auto-balancing process.
Holiday Calendar Option	Select a value from the drop-down list. The available options are: • Shift Dates Only • Recalculate Payment This option is only available if the Enable Holiday Calendar slider is enabled.
Holiday Calendar	Select a value from the drop-down list. This option is only available if the Enable Holiday Calendar slider is enabled.
Holiday Rolling Convention	Select a value from the drop-down list. The default value is Unadjusted and is enabled, only when Holiday Calendar is selected. This field can have the following values: • Unadjusted: Payment on an actual day, even if it is a non-business day. • Following business day: The payment date is rolled to the next business day. • Modified following business day: The payment date is rolled to the next business day unless doing so would cause the payment to be in the next calendar month, in which case the

Option	Description
	payment date is rolled to the previous business day. • Previous business day: The payment date is rolled to the previous business day. • Modified previous business day: The payment date is rolled to the previous business day unless doing so would cause the payment to be in the previous calendar month, in which case the payment date is rolled to the next business day. Many institutions have month-end accounting procedures to use this. This option is only available if the Enable Holiday Calendar slider is enabled.
Add	Click this button to add the defined currency for a product to the table below.
Update	Additionally, click the Update icon to see the updates in the table based on changes.
delete	Click this icon to delete a currency entry.

The defined products appear in the list.

9. Click **ECL Methods Mapping**.
10. Populate the **ECL Methods Mapping** form as tabulated:

Option	Description
All Products	Select the arrow adjacent to this label to expand the list of products.
ECL Method	Select an ECL Method from the drop-down list.

Option	Description
Conditional Assumption	Click the Conditional Assumption icon to open the Conditional Assumption window. Configure the conditional assumptions: - Select a customer type from the Customer Type drop down list. The customer type table is automatically populated with the selected customer type. - Select a method from the ECL Method drop-down list. - Select the arrow adjacent to the customer type to display the industry and ECL method that you want to define for this conditional assumption. A grid is displayed with the the dimension that was selected in the Modelling Set and ECL Method columns. - Select the dimension that was selected in the Modelling Set. For example if <i>Industry</i> was selected, then select a value from the <i>Industry</i> drop-down list drop-down list. - Select an ECL method from the ECL Method drop-down list. - Additionally click the Add icon to add and configure additional industries and ECL methods for the conditional assumption. To delete an entry, select the desired rows and then click the Delete icon. - Click Apply. The status of this row changes to 'Defined'.
Override Logic for Specific Provision Methods	Click this slider to enable the override logic for a specific provision method. The accounts that fall under the categories defined under the override logic for a specific provision method, will get the Lifetime PD %, 12 Months PD % and Undrawn Amount values overridden as specified on this UI. Select a Stage from the IFRS 9 Stage drop-down list. The default stage is Stage 3. Multiple stages can be added to this field.

Option

Description

- Enable the **POCI Account** slider if you want to add the override logic for POCI Accounts.
- You can modify the values in the **Lifetime PD %**, **12 Months PD %** and **Undrawn Amount (in %)** fields.



Note:

If the percentages are changed in the **Lifetime PD %**, and **12 Months PD %** fields, the values will be overridden with the % provided. For the **Undrawn Amount (in %)** field, if a percentage is added, then the undrawn amount is overridden with that percentage of the original value of the undrawn amount. For example, if 0% is provided in undrawn amount as a value then 0% of the undrawn amount is considered for the ECL calculation.

11. Click **Save**.

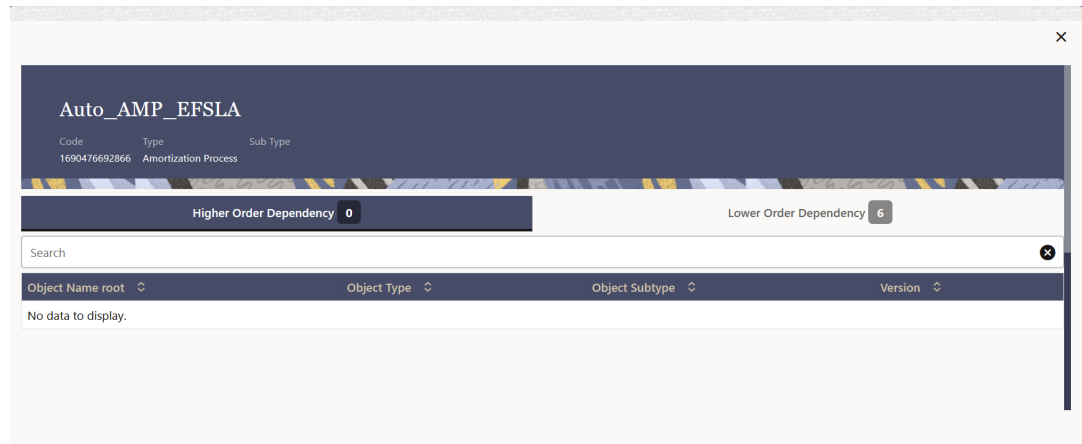
The new ECL and Amortization Process appears in the list of ECL & Amortization Processes on the **ECL and Amortization Process Summary** page.

Dependency Information

You can check dependencies to know where a particular ECL and Amortization Process has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of an ECL and Amortization Process:

1. Navigate to the **ECL and Amortization Process Summary** page.
2. Either [search](#) for an ECL and Amortization Process or navigate to the desired ECL and Amortization Process from the list of ECL and Amortization Process.
3. Click the **Action** icon that is adjacent to the ECL and Amortization Process and select **Dependency Information** to open the Dependency Information page.

Figure 5-2 Dependency Information Window

On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.

4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete an ECL and Amortization Process

Perform the following steps to delete an ECL and Amortization Process.

1. Select the ECL and Amortization Process that you want to delete and click the **Action** icon.
2. Select **Delete**.

Note the following conditions for deleting an ECL and Amortization Process:

- If an ECL and Amortization Process does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected ECL and Amortization Process.
 - If an ECL and Amortization Process contains a *Higher Order Dependency*, then the application does not allow you to delete the selected ECL and Amortization Process.
 - If an ECL and Amortization Process contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected ECL and Amortization Process.
3. You can also delete an ECL and Amortization Process by selecting the ECL and Amortization Process that you want to delete and then click the **Delete** icon.

Refresh an ECL and Amortization Process

You can refresh an existing ECL and Amortization Process from the **ECL and Amortization Process Summary** page to refresh the ECL and Amortization Process with newly available data. Perform the following steps to refresh one or more existing ECL and Amortization Process:

1. On the **ECL and Amortization Process Summary** page, select the checkbox(s) adjacent to the ECL and Amortization Process(s) that you want to refresh.
2. Click **Refresh**.

The selected ECL and Amortization Process(s) are refreshed with newly available data.

View an ECL and Amortization Process

Perform the following steps to view an ECL and Amortization Process.

1. Select the ECL and Amortization Process that you want to view and click the **Action** icon.
2. Select **View**.
3. The **ECL and Amortization Process** window opens, displaying the details of the selected ECL and Amortization Process.
4. Click **Cancel**.

Edit an ECL and Amortization Process

The edit feature enables you to update the details of an existing ECL and Amortization Process. Perform the following steps to edit an existing ECL and Amortization Process:

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

The saved ECL and Amortization Process is displayed in the ECL and Amortization Process list on the **ECL and Amortization Process Summary** page.

Save an ECL and Amortization Process

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

1. Select the desired ECL and Amortization Process.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The ECL and Amortization Process is saved under a new name and folder.

Run an ECL and Amortization Process

Perform the following steps to Run an ECL and Amortization Process.

1. Select the ECL and Amortization Process that you want to run and click the **Action** icon.
2. Select **Run** to open the **Run Execution Parameters** window.
3. In this window, select the date by clicking the **Select Date** icon from the **As of Date** field to run this parameter.
4. Click **OK**.

View the Log File Information of an ECL and Amortization Process

Perform the following steps to view the log file information of a previously run ECL and Amortization Process.

1. Select the ECL and Amortization Process that you want to view and click the **Action** icon.
2. Select **View Logs** to open the **Log Viewer** page.

Download the ECL and Amortization Processes

Perform the following steps to download the processes:

1. To download the list of defined processes, select the **Download** option from the summary UI screen.
The selected processes are downloaded in a csv format.

Search an ECL and Amortization Process

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

- [View](#)
- [Edit](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for an ECL and Amortization Process, perform the following steps:

- Navigate to the **ECL and Amortization Process Summary** page.
- Click the **Search** filed
- Enter the **Name** and **Description**, of the ECL and Amortization Process and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search.
- Additionally, in the **Field Search** field, enter the name of the ECL and Amortization Process to filter the list of ECL and Amortization Process by values that match the search term. Only the Name and Description can be used for an Advanced search.

Only ECL and Amortization Process that match the search criteria are displayed.

Attribution Analysis

The Attribution Analysis is created at the ECL and Amortization process level. The Attribution Analysis feature enables users to compare the results of ECL Runs for two dates and understand the contribution of each factor that is involved in the computation process to the change in the result value. Basic and advanced factors are available for selection. Users can select any factors and attribution analysis will be performed based on these factors.

Attribution Analysis Definitions Summary Page

This page is the gateway to the Attribution Analysis Definitions feature and related functionality. To access this page from the LHS menu, click **Maintenance**, then click **ECL Rules**, and then

click **Attribution Analysis Definitions**. You can navigate to other pages that are related to Attribution Analysis Definitions from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)
- [Run](#)

The **Attribution Analysis Summary** page displays the following columns:

Figure 5-3 Attribution Analysis Summary

Name	Description	Created By	Creation Date	Status	Action
Auto_AttrAnalysis_Val10	Attribution Analysis rule through automation	QAUSER	04/07/2024 07:32:38		...
Auto_AttrAnalysis_Val6	Attribution Analysis rule through automation	QAUSER	04/07/2024 06:11:32		...
Auto_AttrAnalysis_Val5	Attribution Analysis rule through automation	QAUSER	04/07/2024 05:38:43		...
Auto_AttrAnalysis_Val4	Attribution Analysis rule through automation	QAUSER	04/07/2024 05:36:30		...
Auto_AttrAnalysis_Val2	Attribution Analysis rule through automation	QAUSER	04/07/2024 05:30:09		...
abc		QAUSER	03/07/2024 13:38:16		...
ATTR_ANA		QAUSER	26/06/2024 04:12:31	Successful	...

Table 5-10 Attribution Analysis Definition Summary page – Fields and Descriptions

Column	Description
Name	Displays the Attribution Analysis Definition's name.
Add	Click the Add icon to create a new Attribution Analysis Definition.
Delete	Select the desired Attribution Analysis Definition Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Attribution Analysis Definition's help.
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information or Run an Attribution Analysis definition. For more information on using this feature, see the Search a Attribution Analysis Definition section.

Table 5-10 (Cont.) Attribution Analysis Definition Summary page – Fields and Descriptions

Column	Description
Field Search	Enter the name of the Attribution Analysis Definition to filter the list of Attribution Analysis Definitions by values that match the search term. For more information on using this feature, see the Search a Attribution Analysis Definition section.

The **Attribution Analysis Definitions** pane on the **Attribution Analysis Summary** page displays the list of Attribution Analysis Definitions and offers several actions that allow you to perform different tasks. The following tasks are available for the Attribution Analysis Definitions in the **Action** column.

Table 5-11 Attribution Analysis Definitions – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Attribution Analysis Definition Name and select View to view the contents of a Attribution Analysis Definition in read format.
Edit	Click the Action icon adjacent to the Attribution Analysis Definition Name and select Edit to edit the contents of a Attribution Analysis Definition.
Save As	Click the Action icon adjacent to the Attribution Analysis Definition Name and select Save As to create a copy of an existing Attribution Analysis Definition.
Delete	Click the Action icon adjacent to the Attribution Analysis Definition Name and select Delete to delete an existing Attribution Analysis Definition.
Dependency Information	Click the Action icon adjacent to the Attribution Analysis Definition and select Dependency Information to check the higher and lower order dependencies for an existing Attribution Analysis Definition.
Run	Click the Action icon adjacent to the Attribution Analysis Definition Name and select Run to run an Attribution Analysis Definition.

Create Attribution Analysis Definitions

Perform the following steps to create Attribution Analysis Definitions:

1. On the **Attribution Analysis Summary** page, click the **Add** icon to open the **Attribution Analysis Definition** window.

Figure 5-4 Create Attribution Analysis Definitions

2. Populate the **Attribution Analysis Definition** form as tabulated:

Table 5-12 Attribution Analysis Definition

Field	Description
Name	Enter a name.
Description	Enter a description for the definition.
Folder	Select a folder from the drop-down list
ECL and Amortization Process	Select an ECL and Amortization process from the drop-down list. When an ECL and Amortization process is selected, the Modelling Set and Legal Entity fields are populated by default.
Modelling Set	This field is disabled and is automatically populated as per the value that was selected in the ECL and Amortization Process field.
Legal Entity	This field is disabled and is automatically populated as per the value that was selected in the ECL and Amortization Process field.
Basic Factors (Attribution Factors)	This option is selected by default. If this option is selected then you can select any or all of the following factors from the Select required factors field: • Carrying Amount • Undrawn Amount • IFRS9 Stage • New Account • Account Classification • Closed Account

Table 5-12 (Cont.) Attribution Analysis Definition

Field	Description
Advanced Factors (Attribution Factors)	This option is selected by default. If this option is selected then you can select any or all of the following factors from the Select required factors field: • PD • LGD • CCF • Mitigant Effect • Provision Rate • Effective Interest Rate • Cash Flow Amount • Cash Flows Paid • Roll Rate • Gross Loss Rate

3. Click **Save** to save the Attribution Analysis definition or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular Attribution Analysis Definition has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Attribution Analysis Definition:

1. Navigate to the **Attribution Analysis Summary** page.
2. Either [search](#) for a Attribution Analysis Definition or navigate to the desired Attribution Analysis Definition from the list of Attribution Analysis Definitions.
3. Click the **Action** icon that is adjacent to the Attribution Analysis Definition and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Attribution Analysis Definitions

Perform the following steps to delete Attribution Analysis Definitions:

1. Select the Attribution Analysis Definition that you want to delete and click the **Action** icon. Note the following conditions for deleting a Attribution Analysis Definition:
 - If a Attribution Analysis Definition does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Attribution Analysis Definition.
 - If a Attribution Analysis Definition contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Attribution Analysis Definition.
 - If a Attribution Analysis Definition contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Attribution Analysis Definition.
2. Select **Delete**.

3. You can also delete a Attribution Analysis Definition by selecting the Attribution Analysis Definitions that you want to delete and then click the **Delete** icon.

Refresh Attribution Analysis Definitions

You can refresh existing Attribution Analysis Definitions from the **Attribution Analysis Summary** page to refresh the Attribution Analysis Definitions with newly available data. Perform the following steps to refresh one or more existing Attribution Analysis Definitions:

1. On the **Attribution Analysis Summary** page, select the **Refresh** icon.
The definitions on the Summary page are refreshed with newly available data.

View Attribution Analysis Definitions

Perform the following steps to View Attribution Analysis Definitions:

1. Select the Attribution Analysis Definition that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Attribution Analysis Definition** window opens, displaying the details of the selected Attribution Analysis Definitions.
4. Click **Cancel**.

Edit Attribution Analysis Definitions

The edit feature enables you to update the details of an existing Attribution Analysis Definitions. Perform the following steps to edit an existing Attribution Analysis Definition:

1. In the Attribution Analysis Definitions list, select the **Action** icon adjacent to the Attribution Analysis Definition name that you want to edit.
2. Click **Edit** to open the Attribution Analysis Definition window.
3. Update the required fields. Only the **Name**, **Modelling Set**, and **Legal Entity** fields are not editable.
4. Click **Save**.
The saved Attribution Analysis Definition is displayed in the Attribution Analysis Definitions list on the **Attribution Analysis Summary** page.

Save Attribution Analysis Definitions

Perform the following steps to save Attribution Analysis Definitions under a different name and folder:

1. Select the desired Attribution Analysis Definition.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The Attribution Analysis Definition is saved under a new name and folder.

Download Attribution Analysis Definitions

Perform the following steps to download Attribution Analysis Definitions:

1. To download the list of defined definitions, select the **Download** option from the summary UI screen.
The selected definitions are downloaded in a csv format.

Run an Attribution Analysis Definition

Perform the following steps to run an ECL and Amortization Process:

1. In the Attribution Analysis list, select the **Action** icon adjacent to the Attribution Analysis name that you want to run.
2. Click **Run** to open the Run Execution Parameters window.
3. In the **As of Date/Base Date** field, click the **Select Data** icon and select a date from the calendar.
4. In the **Inspect Date** field, click the **Select Data** icon and select a date from the calendar.
5. Click **OK** to run the selected definition.
6. Additionally, you can also run an Attribution Analysis definition from the **Scheduler Service** page:
 - a. From the LHS menu; click **Operations & Processes**, click **Scheduler**, and then click **Schedule Batch** to open the **Scheduler Service Schedule Batch** page.
 - b. Click **Edit Parameters**.
When executing the attribution analysis from the Scheduler screen, the *As_of_Date* in the batch parameters are taken as the **As of Date/Base Date** and the **Inspect Date** can be used by drilling down the task parameters.
 - c. In this window, in the **\$BATCHDATES** field, select the **Select Data** icon and select a date from the calendar.
 - d. In the **\$BATCHDATES** field, select the **Select Data** icon and select a date from the calendar.

 Note:

The **Inspect Date** must always be later than the base date.

- e. Click **Save**.

Search Attribution Analysis Definitions

Search for Attribution Analysis Definitions to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)
- [Run](#)

Procedure

To search for Attribution Analysis Definitions, perform the following steps:

- Navigate to the **Attribution Analysis Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Attribution Analysis Definitions and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Attribution Analysis Definitions to filter the list of Attribution Analysis Definitions by values that match the search term.

Only Attribution Analysis Definitions that match the search criteria are displayed.

Cash Flow Edits Process

This module discusses the procedure for validating and cleansing your Instrument Table Data before you process it to generate Cash Flow-based results. The Cash Flow Edits Process allows you to verify the accuracy and check the completeness of your Instrument Table Data.

Cash Flow Edits Process Summary

This page is the gateway to all Cash Flow Edits Process Rules and related functionality. You can navigate to other pages relating to Cash Flow Edits Process Rules from this point.

Figure 5-5 Cash Flow Edits Process Summary Page

Process Id	Name	Folder	Access Type	Status	Last Run By	Last Run Date	Action
1702280199628	New/25	ALMSEG	Read/Write	INCOMPLETE			...

Search Cash Flow Edits Process

Prerequisites: Predefined Cash Flow Edits Process

To search for a Cash Flow Edits Process, follow these steps:

Click **Search** after entering the search criteria. The search results are displayed in a table containing all the Cash Flow Edits Process Rules that meet the search criteria.

Or

The other method to search a Cash Flow Edits Process is using the **Field Search** option. The Field Search is an inline wildcard UI search that allows you to enter value partially or fully and the rows that match the entered string in any of its column is fetched in the Summary table. Enter the **Id**, **Name**, **Group**, **Condition Column**, or **Is User Defined** of the Cash Flow Edits Process and click **Search**.

- **Add:** Click **Add** icon at the top right of the summary page to build a new Cash Flow Edits Process.

- **Multiple Delete:** Select one or more Rules in the table and then click the **Multiple Delete** icon at the top right of the Summary Page to delete more than one Rule at the same time.

The Cash Flow Edits Process summary table displays the following columns:

- **Process ID:** Displays the Process ID of Cash Flow Process .
- **Name:** Displays the Cash Flow Process's short name.
- **Folder:** Displays the Folder name where the Cash Flow Process is saved.
- **Access Type:** Displays the access type of Rule. It can be Read-Only or Read/Write.
- **Last Run By:** Displays the Name of the user who last runs the Cash Flow Process .
- **Last Run Date:** Displays the Date and Time when Cash Flow Process was run last.
- **Status:** Displays the status of the Cash Flow Process.
- **Action:** Displays the following list of actions that can be performed on the selected Cash Flow Edits Process.
 - **View/Edit:** Based on the user privilege assigned, you can either only view or edit existing Cash Flow Edits Processes. To edit a rule, you must have Read/Write privilege.
 - **Save As:** You can reuse a Cash Flow Edits Process rule by saving it under a new name thus saving time and effort in entering data multiple times; it also leads to reduced data entry errors.
 - **Delete:** You can delete Cash Flow Edits Process rules that are no longer required. Click on the **Action** icon against the Cash Flow Edits Process Name and select **Delete** to delete an existing Cash Flow Edits Process. A process cannot be retrieved after deletion.

 Note:

A Cash Flow Edits Process cannot be retrieved after deletion. Restrictions on deleting Cash Flow Edits Process Rules are:

- * You cannot delete Cash Flow Edits Process Rules if you have only Read privileges. Only users with Read/Write privileges and Cash Flow Edits Process owners can delete Cash Flow Edits Process Rules.
- * You cannot delete a Cash Flow Edits Process that has a dependency.

- **Dependency Check:** You can check dependencies for rules to know where a particular Cash Flow Edits Process has been used. This also prevents accidental deletion of rules having dependencies. Click on the **Action** icon against the Cash Flow Edits Process Name and select Dependency Check to generate a report on all Rules that utilize your selected Cash Flow Edits Process.

 Note:

This is functionality will be released in future.

- **Execute:** Select Execute to execute an existing Cash Flow Edits Process. After clicking Execute, the Run Parameter Execution window is displayed. Select As of Date (Execution Date) and Legal Entity, and then click Run.

- **Execute Details:** Select Execute Details to view execution details of the Cash Flow Edits Process.

Also See:

- [Create Cash Flow Edits Process](#)
- [Execute Cash Flow Edits Process](#)
- [View Cash Flow Edits Process Execution Details](#)

Cash Flow Edits Process Summary Page

This page is the gateway to all Cash Flow Edits Processes and related functionality. You can navigate to other pages relating to Cash Flow Edits Process from this point.

The **Cash Flow Edits Process Summary** Page displays the following column:

Table 5-13 Cash Flow Edits Process – Fields and Descriptions

Field	Description
Process ID	Displays the Process ID of Cash Flow Edits Process.
Name	Displays the Cash Flow Edits Process's short name.
Folder	Displays the Folder name where Cash Flow Edits Process is saved.
Access Type	Displays the access type of Process. It can be Read-Only or Read/Write.
Status	Displays the status of the Process.
Last Run By	Displays the Name of the user who last runs the Cash Flow Edits Process.
Last Run Date	Displays the Date and Time when Cash Flow Edits Process was run last.
Action	Displays the list of actions that can be performed on the Cash Flow Edits Process. For more information, see Cash Flow Edits Process – Icons and Descriptions .

The **Action** column on **Cash Flow Edits Process Summary** Page offers several actions that allow you to perform different functions. The following actions are available for the Cash Flow Edits Process Rule.

Table 5-14 Cash Flow Edits Process – Icons and Descriptions

Field	Description
Add	Click Add icon to build a new Cash Flow Edits Process.
View/Edits	Click on the Action icon against the Cash Flow Edits Process Name and select View/Edits to view or Edits the contents of a Cash Flow Edits Process in read/write format.
Save As	Click on the Action icon against the Cash Flow Edits Process Name and select Save As to create a copy of an existing Cash Flow Edits Process

Table 5-14 (Cont.) Cash Flow Edits Process – Icons and Descriptions

Field	Description
Delete	Click on the Action icon against the Cash Flow Edits Process Name and select Delete to delete an existing Cash Flow Edits.
Execute	Click on the Action icon against the Cash Flow Edits Process Name and select Execute to execute an existing Cash Flow Edits Process. After clicking Execute, the Run Parameter Execution Window is displayed. Select As of Date (Execution Date) and Legal Entity, and then click Run. For more information, see Executing Cash Flow Edits Processes section.
Execution Details	Click on the Action icon against the Cash Flow Edits Process Name and select Execute Details to view execution details of the Cash Flow Edits Process.

You must create and run Cash Flow Edits processes on your Instrument Table Data before you submit Cash Flow Engine based rules for processing.

Search Cash Flow Edits Process

Search for a Cash Flow Edits Process to perform any of the following tasks:

- View
- Edits
- Copy
- Delete
- Refresh

Prerequisites

Predefined Cash Flow Edits Process

Procedure

To search for a new Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Enter the **Code, Name, Description, Dimension, Hierarchy**, or **Folder** of the **Cash Flow Edits Process** and click **Search** . Only Cash Flow Edits Process that match the search criteria are displayed.

Create Cash Flow Edits Process

Creating a Cash Flow Edits Process is a one-step process. You define both the attributes that uniquely describe a particular Cash Flow Edits Process and the data to be validated or cleansed by that process on the Create Cash Flow Edits Process Page.

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Click the **Add** icon. The **Create Cash Flow Edits Process** Page is displayed.

Figure 5-6 Process Details

3. Enter the process details as shown in the following table:

Table 5-15 List of Process details used for Creating Cash Flow Edits Process

Field	Description
Name	Enter the name of the Cash Flow Edits Process.
Description	Enter the description of the Cash Flow Edits Process.
Select to view errors only	Selecting this parameter allows you to view the results of running a Cash Flow Edits Process before the system updates the underlying records in the Instrument tables. The default value of this parameter is checked.
Folder	Enter the Folder details where Cash Flow Edits Process needs to be saved.
Access Type	Select the Access Type as Read-Only or Read/Write.

4. Click **Apply** to navigate to the **Cash Flow Edits Rules** section.

Figure 5-7 Cash Flow Edits Rules

Rule Id	Rule Name	Condition Columns	Error Level	Description	Assignment
1	Original Term > Amortization Term	AMRT_TYPE_CD#AMRT_TERM#AMRT_TERM_MULT#ORG_TERM#ORG_TERM_MULT	Warning	Amortization term can only be equal to zero on Non-Amortizing instruments	ORG_TERM#ORG_TERM_MULT
2	Current Par Balance = Original Par Balance	ORIGINATION_DATE#AS_OF_DATE#CUR_PAR_BAL#ORG_PAR_BAL	Warning	Instrument has originated in past but Current Par Balance and Original Par Balance are equal	NA

5. Enter the Cash Flow Edits Rules details shown in the following table:

Table 5-16 List of Cash Flow Edits Rules details used for Creating Cash Flow Edits Process

Field	Description
Group	Select the group of Cash Flow Edits Rules that you want to include in the process. For example, Cash Flow
Sub Group	Select the sub group of Cash Flow Edits Rules that you want to include in the process. The value of this field varies based on the selected Group. The list of Rules with conditions is displayed.

The details of the process for the selected group and sub-group are listed on the screen for reference.

- Click **Apply** to navigate to the **Source Data** section.

Figure 5-8 Source Data

- Enter the Source Data details as shown in the following table:

Table 5-17 List of Source Data details used for Creating Cash Flow Edits Process

Field	Description
Data Source	This field allows you to select the Instrument tables that must be included in a Cash Flow Edits Process.
Data Filter Folder	Select the Folder from which you want to apply Data Filter.
Data Filter	This field allows you to select a subset of data for processing by selecting a filter that was previously created. Click Action button next to Data Filter to add, edit or view the Data Filter.

- Click **Apply** to navigate to the **Freeze Process** section.

Figure 5-9 Freeze Process

The screenshot shows the 'Cash Flow Edits Process' window. At the top, it says 'As Of Date (09-Oct-2015)' and 'Cash Flow Edits Process'. There are 'Cancel' and 'Save' buttons. Below the header is a progress bar with four steps: 'Process Details' (checked), 'Cash Flow Edit Rules' (checked), 'Source Data' (checked), and 'Freeze Process' (active, indicated by an 'i' icon). Below the progress bar is a list of expandable sections: 'Process Details', 'Cash Flow Edit Rules', 'Source Data', and 'Process Audit Details'. The 'Freeze Process' section is currently expanded.

9. Click **Save** on the **Freeze Process** Window after verifying all the details.
10. The Cash Flow Edits Process is saved and the Summary Page is displayed.

Executing Cash Flow Edits Process

Execute a Cash Flow Edits Process to check the accuracy and the completeness of your Instrument Table Data. When run in Preview Mode, you can view the results of running a Cash Flow Edits Process by querying the FSI_O_CFE_EDITS_MESSAGES_HIST table for generated errors before the system updates the underlying records in the Instrument tables.

You can execute Cash Flow Edits Process using following methods:

- [Cash Flow Edits Process UI](#)
- [Scheduler Service](#)

Using Cash Flow Edits Process UI

To execute the Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Search for a process.
3. Click on the **Action** icon against the Cash Flow Edits Process Name and select Execute to execute an existing Cash Flow Edits Process. The **Run Parameter Execution** Window is displayed.
4. Select the **As of Date (Execution Date)** and **Legal Entity**, and then click **Run**.

Note:

You can select multiple Legal Entities in list view of hierarchy browser at a time for execution. In hierarchy mode you can select one Legal Entity at leaf or parent level. When parent Legal Entity is selected then data of selected entity along with its child and descendants are processed.

5. The **Cash Flow Edits Run Confirmation** Page is displayed. The status of the process is displayed in the **Status** Column. After completion of the process, you can navigate to the Execution Details Page by selecting the **Execution Details** option under the **Action** Column.

**Note:**

You can view the results of running a Cash Flow Edits Process before the system updates the underlying records in the Instrument tables, provided you selected Preview Mode while defining it. If the Process runs in Preview Mode, query the FSI_O_CFE_EDITS_MESSAGES_HIST table for any generated errors

Using Scheduler Service

A batch with following details gets automatically created when Cash Flow Edits Process is saved:

- **Code:** Process Id of Cash Flow Edits Process
- **Name:** Name of Cash Flow Edits Process
- **Description:** Description of Cash Flow Edits Process

To execute the batch, navigate to Operations and Processes , select Scheduler, and then select Schedule Batch.

You can also define new batch to execute any Cash Flow Edits Process by following these steps:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Define Batch**.
2. Define a new batch.
3. Enter the Batch Name and Description, and then Save the batch.
4. To add a task, navigate to **Define Task**.
5. Select the Batch from the **Batch** drop-down list on the **Define Task** Window.
6. Click the **Add** button.
7. Define the task with below details:
 - **Task Code:** Must be same as the Process Id of Cash Flow Edits Process
 - **Task Name:** This can be same a name of the Cash Flow Edits Process or something else
 - **Task Description:** This can be same a name of the Cash Flow Edits Process or something else
 - **Task Type:** REST
 - **Component:** Cash Flow Edits
 - **Process Name:** Select one value from the list
 - **Legal Entity Hierarchy:** Select one value from the list
 - **Legal Entity:** Select one value from the list
8. **Save** and **Execute** the batch with Batch ID and MIS Date.

For more information, see the [Scheduler Service](#).

Viewing Execution Details of Cash Flow Edits Process

To view the execution details of the Cash Flow Edits Process, follow these steps:

1. Navigate to the **Cash Flow Edits Process Summary** Page.
2. Search for a Process.
3. Click on the **Action** icon against the Cash Flow Edits Process Name and select **Execution Details**. The **Execution Details** window is displayed.
4. Click any **Execution ID** to view the log details. The **Log Viewer** Window shows the complete details of process along with Batch Run ID Information.
5. Click **Download** to export the details of cash flow edits in **csv** format. This will help you to understand errors found in instrument data.
6. If process is executed in '**Non-preview**' mode, then records which are modified by Cash Flow Edits Process can be identified by looking at columns `CF_EDITS_BATCH_RUN_ID` and `UPDATED_BY_CF_EDITS` in instrument processing table.

Scheduler Services

Scheduler Services automates behind-the-scenes work that is necessary to sustain various enterprise applications and their operations. Using Scheduler Services, applications can control unattended background jobs program execution.

Scheduler Service operations:

- **Define Batch** - A Batch contains a group of background tasks that are executed together, on a specific date and time during which the resources are available for batch processing.
- **Define Task** - A batch job is a piece of a program meant to meet specific and business-critical functions. The program is a REST API used in a batch.
- **Schedule Batch** - Schedule batch jobs, to automate tasks that are processed on a regular basis but do not need to occur during the day or require human intervention. Jobs that happen on a regular basis are incorporated into batch schedules. You can also edit pre-conditions for batch group execution and pause scheduled executions.
- **Monitor Batch** - Track and access the real-time feedback on the status of the current encoding job and lists the jobs pending in the batch. You can also **Cancel** or **Restart** the service when required.
- **Scheduler Service Dashboard** - The Scheduler Service Dashboard gives the complete status of the Executed Runs, Successful Runs, Failed Runs, Ongoing Runs, Interrupted Runs, and the Upcoming Runs.

User Roles and Functions

You require specific user roles and functions, to use Scheduler Services, and to create and manage batches and tasks.

Table 5-18 User Role Codes and Function Codes

Role Codes	Function Codes
BATCH_READ	BATCH_ADD
BATCH_WRITE	BATCH_DEL
BATCH_ADV	BATCH_MOD
BATCH_AUTH	BATCH_VIEW
BATCH_OPER	BATCH_SCH
BATCH_MAINT	BATCH_SUMM

Table 5-18 (Cont.) User Role Codes and Function Codes

Role Codes	Function Codes
	BATCH_AUTH
	BATCH_PURGE
	BATCH_MON
	BATCH_EXEC
	BATCH_COPY
	LOGVIEW

Accessing Scheduler Services

Using the Scheduler Services, you can create and execute batches and schedules to run various tasks and also monitor them.

To access Scheduler Services:

- Log in to the Service Console and from the left navigation pane in the Service console, click **Operations and Processes > Scheduler**.

Define Batch

You can use batch and batch groups to group a set of background tasks to be executed together.

A Batch contains a group of background tasks that are executed together, on a specific date and time during which the resources are available for batch processing.

Batch Groups consist of batches that need to be executed together. Batch groups help to process date and time-based background tasks based on a defined period when resources are available for batch processing.

To access the list of existing batches and batch groups click **Batch** or **Batch Group** tab respectively. You can also view following details related to each batch/batch group.

- **Batch ID** - The unique alphanumeric code assigned to a specific batch/batch group.
- **Name** - The unique batch/batch group name.
- **Description** - The brief description of the batch/batch group.
- **Last Modified** - The last modified By user, date and time details.

To search for a specific batch/batch group, enter the keywords in the **Search** field and click **Search**. You can search based on **Name**, **Code**, and **Description**. You can also sort the batch/batch group list based on **Code**, **Name**, **Created Date**, and **Last Modified Date**.

Perform one of the following operations, to manage batch/batch group, from the **Scheduler Service (Define Batch)** page.

- [Create New Batch/Batch Group](#)
- [Edit a Batch/Batch Group](#)
- [Copy a Batch/Batch Group](#)
- [Delete a Batch/Batch Group](#)

Creating a Batch/Batch Group

Create a batch/batch group, to execute a group of background tasks together, on a specific date and time, when the resources are available for batch processing.

To create a batch/batch group from the **Scheduler Service (Define Batch)**:

1. In the **Create Batch** page, enter the following **Batch Details**:
 - **Code** - Enter a unique alphanumeric code for the new batch/batch group. The code must start with alphabets, should not contain any spaces, and must not exceed 60 characters. Special characters are not allowed except **underscore (_)**.
 - **Name** - Enter a unique name for the new batch/batch group. The name should start with alphabets, should not contain any spaces, and must not exceed 60 characters. Special characters are not allowed except **underscore (_)**.
 - **Description** - The description/details for the batch/batch group. The description should start with an alphabet and must not exceed 250 characters.
 - Select **Batch** to create a new batch or **Batch Group** to create a new batch group.
 - For new batch groups, select the **Batches** to be added to the batch group.
2. For new batches, after entering the Batch Details, provide the following batch parameters.

From the **Batch Parameters** pane, click **Add** to add a new batch parameter, in the following format.

- **Parameter Name** - A valid parameter name for the new Batch parameter.
- **Parameter Value** - A valid parameter value required for Batch execution.

 Note:

Enclose the parameter Value for a Run time with \$ symbol. For example, \$paramName\$.

By default, **\$FICMISDATES\$** and **\$BATCHRUNID\$** are added as batch Parameters.

 Note:

\$RUNSKEY\$ parameter is added only if you are creating a new batch or copying from an existing batch. It is not supported for existing batches.

To delete a batch parameter, click **Delete** next to that parameter details.

3. Enter the following **Header Parameter** details:
 - **Parameter Name** - A valid parameter name for the new header parameter.
 - **Parameter Value** - A valid parameter value required for batch execution.
4. Click **Save**. The new batch/batch group is created and displayed in the **Scheduler Services (Define Batch)** page.

Creating a Batch Group

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

To create a new Batch Group, perform the following steps:

1. To create a new Batch, click the **Action** and click **Create**.

The **Create Batch Page** is displayed.

Enter the following **Batch Details** :

- **Code** - Enter a Unique Alphanumeric Code for the new Batch group.
The Code name always begins with alphabets and should not contain any space. The maximum limit is 60 characters and should not contain any special characters except **Underscore (_)**.
- **Batch Name** - Enter a unique name for the new batch group.
The Code name always begins with alphabets and should not contain any space. The maximum limit is 60 characters and should not contain any special characters except **Underscore (_)**.
- **Batch Description** - The description/details for the batch group.
The description should start with alphabet and should not be more than 250 characters.

2. Select **Batch Group** option.
3. Select the Batches to be grouped together for processing, from the drop-down list.
4. Click **Save**.

The new Batch Group is created and added to the **Scheduler Services (Define Batch)** page.

Editing a Batch/Batch Group

Edit the batch/batch group details such as **Description** and also add new **Batch Parameters** to a batch, along with adding new **batches** to the batch group.

Seeded batches cannot be edited.

To modify a batch/batch group:

1. In the **Scheduler Services (Define Batch)** page, click **Edit** corresponding to the batch/batch group you want to modify.
2. Modify the required [details](#), in the **Edit Batch** page.
3. Click **Save** to save the edited batch/batch group.

The edited batch will be updated in the **Scheduler Services (Define Batch)** page.

Editing a Batch Group

The Edit Batch Group option allows you to edit the Batch Group details such as Batch Group Name, Added Batches, and Batch Group Description.

To modify a Batch Group, perform the following steps:

1. In the **Scheduler Services (Define Batch)** Page, click **Batch Group** option to list the Batch Groups.

2. Click **Edit** corresponding to the Batch Group you want to modify.
3. Modify the required Batch Group details.
For more information, see [Create New Batch Group](#) section.
4. Click **Save**.

The edited Batch Group is saved and updated in the **Scheduler Services (Define Batch)**.

Copying a Batch/Batch Group

Copy a batch/batch group that you want to clone to create a new batch/batch group.

To copy a batch/batch group:

1. In the **Scheduler Services (Define Batch)** page, click **Copy** corresponding to the batch that you want to copy.
2. In the **Copy Batch** page, modify the required [Batch details](#) to create a new batch/batch group.
3. Click **Save** to add the copied batch to the **Scheduler Services (Define Batch)** page.

Copying a Batch Group

The Copy Batch group option allows you to copy a Batch group that you want to clone or create instances in the system from the Define Batch Page.

To copy a Batch Group, perform the following steps:

1. In the **Scheduler Services (Define Batch)** Page, click **Copy** corresponding to the Batch group that you want to copy.
The Copy Batch group Page is displayed.
2. Specify the Batch group details as you want to clone and copy the existing batch group.
For more information, see [Copy a Batch Group](#) section.
3. Click **Save**.

The copied batch group is saved and displayed in the **Scheduler Services (Define Batch)** Page.

Deleting a Batch/Batch Group

Delete a batch/batch group that is no longer required in the system from the Define Batch page.



Note:

You cannot delete seeded batches.

To delete a batch/batch group:

1. From the **Scheduler Services (Define Batch)** page, click **Delete** corresponding to the batch/batch group you want to delete.
2. Click **OK** to confirm deletion.

 Note:

After confirmation, any active schedules associated with the batch will also be deleted.

Deleting a Batch Group

The Delete Batch group option allows you to delete a Batch group that are no longer required in the system from the Define Batch page.

Seeded batches cannot be deleted.

To delete a Batch Group, perform the following steps:

1. From the **Scheduler Services (Define Batch)** Page, click **Delete** corresponding to the Batch group you want to delete.
2. Click **OK** to confirm deletion.

 Note:

If the batch group has any active schedules all the associated schedules of the batch are also deleted, after confirmation.

Define Tasks

The Define Tasks Page provides the list of tasks associated with a specific Batch Definition. You can create new tasks, and edit or delete existing tasks .

To access the **Define Task** page, from the left Navigation pane in the Service console,

1. From the left menu, click **Operations and Processes**.
2. Select **Define Task**, to view the page.
3. Select Batch/Batch Group from the drop-down list and select the particular batch/batch group.

The list of tasks associated with the specific batch/batch group is displayed. You can view the following details related to each task.

- Task ID
- Name
- Parent Task
- Component
- Created Date
- Last Modified

To search for a specific task, enter the keywords in the **Search** Field and click **Search**. You can search based on the Task Name, code and description. You can also sort the Task list based on Name Precedence, Component, Created Date and Last Modified Date.

You can perform the following operations to manage a Task, from the **Scheduler Service Summary (Define Task)** page.

- [Add a task](#)

- [Modify a task](#)
- [Define a task precedence](#)
- [Delete a task](#)

Adding a Task

Add new tasks to a selected Batch Definition.

To add new task:

1. In the **Scheduler Service (Define Task)**, select the Batch for which you want to add a new task from the drop-down list.
2. Click **Actions** on the page and then click **Add** to access the **Add Task** page.
3. Enter the following details:
 - **Task Code** - Enter a unique alphanumeric code for the new task. The code must begin with letters, should not include spaces, and has a maximum limit of 60 characters. Special characters except **underscore** (**_**) are not allowed.
 - **Task Name** - Enter a unique name for the new task. The name should start with letters, not contain spaces, and have a maximum limit of 60 characters. Special characters except **underscore** (**_**) are not allowed.
 - **Task Description** - The description/details for the task. The description should begin with a letter and not exceed 250 characters. Avoid using phrases like "Select From" or "Delete From" in the description.
 - **Task Type** - Select the task type from the drop-down list.
 - **Component** - Select the custom or the seeded component associated with the task.
4. By default, all Batch Level Parameters are added and enabled as task parameters in the **Task Parameters** pane.

 Note:

You can edit the parameters only for custom components.

- a. Enter the Parameter name in the **Param Name** field.
- b. Enter the Parameter value in the **Param Value** field.

To delete a parameter, click on **Delete** next to the respective parameter.

5. Click **Save** to add the new task to task summary in the **Define Task** page.

 Note:

Sync task will remain active if execution time is more than 15 minutes at target service and till acknowledge status is generated from target API after the execution.

Modifying a Task

Modify details such as Task Description and Task Type in existing tasks.

You can also add a new task parameter and enable or disable existing task parameters.

To modify a task:

1. From the **Define Task** page, select the Batch to modify the task details from the drop-down list.
2. Click **Edit** corresponding to the Task you want to modify.
3. Modify the required Task Details, in the **Edit Task** page.
4. Click **Save** to update the changes.

The modified task is added to the **Define Task** page.

Define Task Precedence

Task Precedence indicates the execution-flow of a Batch. Task Precedence Value helps to determine the order in which the specific Tasks of a Batch are executed.

For example, consider a Batch consisting of four tasks. The first three tasks does not have a precedence defined and hence will be executed simultaneously, during the Batch Execution. However, Task 4 has a precedence value as Task 1 which indicates that, Task 4 is executed only after Task 1 has been successfully executed.

You can set Task precedence between Tasks or define to run a Task after a set of other tasks. However, multiple tasks can be executed simultaneously, and cyclical execution of tasks is not permitted. If the precedence for a Task is not set, the Task is executed immediately on Batch Execution.

To define the task precedence in the Define Task Page, perform the following steps:

1. Click **Add or Remove Precedence** corresponding to the task for which you want to add precedence task.
The Task Precedence Mapping Window is displayed.

 Note:

The **Task Precedence** option is disabled if a batch has only one task associated.

- a. Select the batch that you want to execute before the current task, from the Available Tasks pane and click **Play**.
 - b. To select all the listed batches, click **Move** (Forward arrow).
 - c. To remove a batch, select the task from the Selected Tasks Pane and click **Remove** (Backward arrow).
 - d. To remove all the selected batches, click **Remove All** (double backward arrow).
2. Click **Save** to update Task Precedence in the batches.
 3. Click **Preview** to view the Precedence information.

Deleting a Task

Remove any tasks that are no longer required in the system, from a Batch Definition.

To delete a task:

1. From the **Define Task** page, select the Batch from the drop-down list.
2. Click **Delete** corresponding to the Task you want to delete.
3. Click **OK** in the confirmation dialog to confirm deletion.

Schedule Batch

The Schedule Batch Page facilitates you to run, schedule, re-start, and re-run the batches in the Scheduler Service. After you upload the data in the required format into the Object Storage, you must load the data into the system using the Scheduler Service. You can schedule them to run in a required pattern and view the Run Time Status of the scheduled services using the Monitor Batch Feature.

To access the **Schedule Batch** page, from the left Navigation pane in the Service console,

1. From the left menu, click **Operations and Processes**.
2. Select **Schedule Batch**, to view the page.
3. Select Batch/Batch Group from the drop-down list and select the particular batch/batch group.
The list of tasks associated with the specific batch/batch group is displayed. You can view the following details related to each task.

You can perform the following operation for the batch:

- [Execute a Batch](#)
- Schedule a Batch - [Daily](#), [Weekly](#), [Monthly](#), and [Using Cron expression](#).
- [Re-start a Batch](#)
- [Re-run a Batch](#)
- [Edit Dynamic Parameters](#)
- [Task Definition of a Batch](#)

Task Definitions of a Batch

You can modify the Task Definition state in the Batch Execution Page to exclude or hold the defined task in a Batch from execution. The excluded tasks are therefore assumed to have completed execution and get excluded during the Batch Run.

While executing or scheduling a Batch from the Schedule Batch Page, you can:

- Exclude a task or include the excluded task.
- Hold a task or release the held task.

Execute Batch/Batch Group

Use the Execute Batch to run a batch/batch group instantaneously.

To execute a Batch/Batch Group:

1. In the **Schedule Batch** page, select **Batch** or **Batch Group** to execute from the drop-down list.
2. Select the **Batch /Batch Group** for execution.
3. Click **Execute** to access the **Execution Schedule** page.
4. Click **Exclude Tasks** to add/remove tasks from the execution list.
5. Click **Hold Tasks** to pause/release tasks during execution.
6. Click **Edit Dynamic Parameters** to [modify the dynamic parameters](#).
7. Click **Execute**.

The Batch is executed, and the associated unique Run ID is displayed in the format `<BATCH_CODE>_<MIS_DATE>_<ITERATION-COUNT>`.

You can always click [preview](#) to view the PMF process sequence used to execute the selected batch/batchgroup.

Schedule Once

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

1. Click **Schedule Batch** from the Header panel.
The Schedule Batch Page is displayed.
2. In the **Schedule Batch** Page, click **Schedule Once**.
3. Select **Batch or Bath Group** to execute, from the drop-down list.
4. Select the **Batch or Batch Group** Name you want to schedule for once from the drop-down list.
5. Enter a **Schedule Name**.
6. Select the **Start Date** on which you want to run the Batch.
7. Click **Run Time** and select the time at which you want to run the Batch.
8. Click **Schedule**.

Scheduling and Automating Batch/Batch Group Execution

Automate batch/batch group execution.

Using the various scheduling options, you can automate batch/batch group execution to run based on the specified scheduling parameters.

To automate batch/batch execution:

1. Click **Schedule** from the Header panel.
2. In the **Schedule Batch** page, select from the following options:
 - **Once** - Run only once.
 - **Daily** - Run daily.
 - **Weekly** - Run weekly on selected days and time.
 - **Monthly** - Run monthly on selected days and time.
 - **Quarter** -Run every quarter on selected days and time.

- **Cron Expression** - A Cron Expression is a string comprising of six or seven fields separated by white space. Fields can contain any of the allowed values, along with various combinations of the allowed special characters for that field.
To execute a batch/batch group using a Cron expression, enter the Cron Expression for your schedule. For more information about the Cron Expression, click **Information** next to the Cron Expression field.
3. Enter the following generic information and the parameters:
 - **Batch/Batch Group** - Batch/batch group for execution.
 - **Batch/Batch Group Name** - The specific batch/batch group to be executed.
 - **Schedule Name** - The unique schedule name.
 4. Provide the following scheduling parameters based on the selected schedule option.
For Cron Expression based scheduling, enter the required Cron expression.

Table 5-19 Scheduling Options

Details	Once	Daily	Weekly	Monthly	Quarter
Start Date to begin execution.	Yes	Yes	Yes	Yes	Yes
End Date to stop the execution	No	Yes	Yes	Yes	Yes
Run Time to execute the batch/ batch group	Yes	Yes	Yes	Yes	Yes
Days of the week you want to execute the batch/batch group. You can select multiple days.			Yes	Yes	Yes
Months of the Year you want to execute the batch/batch group. You can select multiple months.				Yes	Yes
Day of the Month to execute batch/batch group				Yes	Yes
First Months of the Year to calculate the year beginning and each quarter beginning.					Yes
Select Quarters to execute batch/batch group You can select multiple quarters.					Yes
Days of Quarter - Select the days to execute the batch/batch group. You can select first day, mid day, last day, First N days, or last N days					Yes
No. of Days - If you select first N days or last N days, select the number of days to execute the batch/batch group at the beginning or end of the selected quarter					Yes

5. **Exclude Tasks** to add/remove tasks from the execution list.
6. **Hold Tasks** to pause/release tasks during execution.
7. Click **Edit Dynamic Parameters** to modify the dynamic parameters.
8. Click **Schedule** to add the new schedule for execution.

You can [set pre-conditions](#) to process batch groups. When a batch group has an associated pre-condition, the execution schedule will not be considered for processing.

9. To manage schedules associated with a specific batch:
 - a. In the **Select Batch** page, select **Batch** and select the **Batch Name** to view the associated schedules.
 - b. Click **View Schedule** to access the list of all the schedules associated with the batch.

You can perform the following tasks:

- Click **Edit** to modify the schedule.
- Click **Pause** and enter the **Start Date** and **End Date** to pause the schedule from execution. Click **Add** to apply the pause.
To remove the pause, click **Delete** next to the specific pause.

Weekly Batch Scheduling

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

1. Click **Schedule Batch** from the Header panel.
The Schedule Batch Page is displayed.
2. In the Schedule Batch Page, click **Weekly**.
3. Select the Batch /Batch Group Name.
4. Select the **Batch or Batch Name** you want to schedule daily from the drop-down menu.
5. Enter a **Schedule Name**.
6. Select the **Start Date** from which you want to run the Batch.
7. Select the **End Date** till which you want to run the Batch.
8. Select the **Time** at which you want to run the Batch every week.
9. Select the days on a week you want to run the Batch from the **Select Days of the Week** multi-select drop down menu.
10. Click **Schedule**.

Monthly Batch Scheduling

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

1. In the **Schedule Batch** Page, click **Monthly**.
2. Select the **Batch /Batch Group Name**.
3. Select the **Batch or Batch Name** you want to schedule daily from the drop-down list.
4. Enter a **Schedule Name**.
5. Select the **Start Date** from which you want to run the Batch.
6. Select the **End Date** till which you want to run the Batch.
7. Select the **Time** at which you want to run the Batch every Month.
8. Select the months in a year you want to run the Batch from the **Select Months of the Year** multi-select drop-down list.
9. Select the day of the month that you want to run the Batch from the **Select Day of the Month** drop down menu.

10. Click **Schedule**.

Schedule Cron Expression

To run a Batch in a user-defined schedule, you can have custom schedule with the help of Cron Expression.

A Cron Expression is a string comprised of six or seven fields separated by white space. Fields can contain any of the allowed values, along with various combinations of the allowed special characters for that field. For more information, click the icon next to the Cron Expression field.

To schedule a Batch based on Cron Expression, perform the following steps:

1. In the Schedule Batch Page, click **Cron Expression**.
2. Select the **Batch /Batch Group**.
3. Select the Batch or Batch Group Name you want to schedule from the Select drop down menu.
4. Enter a **Schedule Name**.
5. Enter the **Cron Expression** for your schedule.

For more information about the Cron Expression, click Information icon next to the Cron Expression field.

6. Click **Schedule**.

Re-start Batch/Batch Group

Re-start a batch/batch group that has not executed successfully or has been explicitly interrupted, canceled, or put on hold during the execution process.

Restarting a batch/batch group enables you to continue execution directly from the point of interruption or failure, allowing you to complete executing the remaining tasks.



Note:

Before restarting a batch/batch group, ensure to provide the [complete cleanup URL](#) and also to enable invoking the cleanup URL before restarting the execution.

To re-start a batch/batch group:

1. Click **Schedule Batch** from the Header panel.
2. From the **Schedule Batch** page, select the **Re-start** tab.
3. Select **Batch/Batch Group**.
4. Select the **Batch or Batch group** you want to schedule daily from the drop-down list.
5. Select the **Batch Run ID**.
6. Click **Re-start**.

Re-run Batch/Batch Group

Re-running a batch/batch group facilitates you to run the batch/batch group irrespective of the previous execution state.

When you re-run a batch/batch group that has been previously executed, a new Run ID is generated, and the batch/batch group is executed as if it were a new run.

To re-run a batch::

1. Click **Schedule Batch** from the Header panel.
2. In the **Schedule Batch** page, select the **Re-run** tab.
3. Select **Batch/Batch Group**.
4. Select the **Batch or Batch group Name** you want to re-run.
5. Select the **Batch Run ID**.
6. Click **Re-run**.

Edit Dynamic Parameters

Dynamic Parameters facilitate you to modify the dynamic parameters for the batch.

You can change the Param Value from the Edit Dynamic Params Page and save the changes to the Batch. The Edit Dynamic Parameters option is available in all the tab in the Schedule Batch Page.

To edit the dynamic parameters for a batch, perform the following steps:

1. In the **Schedule Batch Page**, click **Edit Dynamic Parameters**. The **Edit Dynamic Params** Page is displayed.
2. In the **Edit Dynamic Params** Page, modify the values as required.
3. Click **Save**. The modified parameters are applied to the Batch.

Monitor Batch

The Monitor Batch enables you to view the status of executed Batch along with the tasks details. You can track the issues if any, on regular intervals and ensure smoother Batch Execution. A visual representation as well as tabular view of the status of each Tasks in the Batch is available.

To monitor a batch, perform the following steps:

1. Click **Monitor Batch** from the Header panel. The **Monitor Batch Page** is displayed.
2. Select the **Batch/Batch Group** from the drop-down list and then select the **Batch Run ID**.
3. Click **Start Monitor**. The results are displayed in **Visualization** and **List View** tabs. Details of these tabs are as follows:

The **Visualization** tab displays the details in the form of a chart represented with the following details:

- **Batch Status:** Displays the batch status, the different batch status are NOT-STARTED, ON-GOING, SUCCESSFUL, FAILED, INTERRUPTED, EXCLUDED, HELD, and UNDEFINED.

- **Batch Start Time:** Displays the Batch Start Time details.
- **Batch End Time:** Displays the Batch End Time details.
- **Task Details:** Mouse-over the task to display its status and details.

The **List View** tab displays the details in a tabular form with the following details:

- **Batch Status:** Displays the batch status, the different Batch Status are NOT-STARTED, ON-GOING, SUCCESSFUL, FAILED, INTERRUPTED, EXCLUDED, HELD, and UNDEFINED.
- **Batch Start Time:** Displays the Batch Start Time details.
- **Batch End Time:** Displays the Batch End Time details.
- **Task Details:** Mouse-over the task to display its status and details.
- **More Information:** The message returned by the Rest Service.

Select **Stop Monitor**, to stop monitoring. You can also specify the Start and Stop Monitor options along with refresh interval in the Refresh every second and minute fields.

You can also setup auto refresh to automatically update the status based on the set **Refresh Interval** and **Duration**. At any point, click **Stop Monitor** to stop the auto refresh.

- By default, the refresh interval is set to **5 seconds** and duration is set to **5 minutes**.
 - The refresh interval ranges between 5 to 60 seconds.
 - The duration ranges between 5 to 180 seconds.
4. To restart the Batch /Batch Group, select **Restart**.
 5. To rerun the Batch/Batch Group, select **Rerun**.
 6. To interrupt the Batch /Batch Group, select **Stop**.
 7. In the Log Viewer pop-up the log information is displayed. You can click the **Download** icon to download the log or click the **Close** icon to close the log information.

Scheduler Service Dashboard

View the task executions based on the execution status in the Scheduler Service Dashboard.

To access the **Scheduler Service Dashboard** page, from the left Navigation pane in the Service console, click **Operations and Processes > Scheduler > Dashboard**.

You can access the following details related to batch/batch group execution from the Dashboard:

- The batches/batch groups are categorized based on their execution status - **Executed Runs, Successful Runs, Failed Runs, Ongoing Runs, Interrupted Runs, and Upcoming Runs** tabs. Click the respective tab to view the details of the batches/batch groups based on their execution status. For example, click **Ongoing Runs** to view the details of the batches that are currently running.
- The run time, schedule name and the MISDATE associated with each batch/batch group.
- The batch execution summary for all the batches executed in the last 7, 30 and 120 days. The summary is displayed in the form of a color-coded bar graph with legend for the various execution statuses.
- To view the list of all task executions associated with a specific batch/batch group, select the required execution status tab, select Batch/Batch Group and select the required batch/batch group.

- To view the task executions within a specific date range, select the required execution status tab, select Batch/Batch Group and select the required batch/batch group. Specify both the start and end dates.

External Scheduler Interface

External scheduler interface helps you to execute tasks using any command-line utility, such as cURL commands. You won't require the application interface to execute the tasks.

You can also integrate batches with external schedulers using the external scheduler interface.

Related Topics

- [Rest API Status Codes](#)
Refer to the following table for Rest API status codes and their descriptions.
- [Execution API](#)
The Execution (POST) API triggers a batch or a batch group.
- [Execution Status API](#)
The Execution Status (POST) API provides the current run status of batch/batch group execution.
- [Interrupt API](#)
The Execution Status (POST) API Interrupts a batch/batch group execution.
- [Restart API](#)
The Restart (POST) API restarts a batch/batch group execution.
- [Rerun API](#)
The Rerun (POST) API helps to rerun a batch/batch group execution.

Rest API Status Codes

Refer to the following table for Rest API status codes and their descriptions.

Table 5-20 Status Codes

Status Code	Description
0	Success
-1	Failure
-2	Interrupted
1	Not Started
2	Ongoing
3	Aborted
4	Excluded
5	Held
-3	Object does not exist
-4	Invalid arguments passed in request/not enough params in Request body
-5	Invalid request headers/request headers missing
-6	No executable job is present
-7	Job is already interrupted
-8	Job is not ongoing/aborted

Execution API

The Execution (POST) API triggers a batch or a batch group.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/trigger
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to "WS001" and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to [Generate the Access Token](#).
- **Sample cURL Command**

```
curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
      "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
      "locale:en-US" -H
      "Content-Type: application/json" -H "Authorization: Bearer
<BEARER_TOKEN>" -X POST
      <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'
```

Batch Execution API

Use the Execution API to trigger a batch.

Attributes

- **batchName** - The unique batch code
- **batchType** - The object type. For Batch, the batch type should be set to `rest`.
- **dynamicParamList** - List of run time parameters which should be overridden over actual values for this trigger. This is an optional parameter.
- **excludedTasks** and **held task** should be comma separated values

Request Body

```
{
  "batchName": "<BATCH_CODE>",
  "batchType": "rest",
  "excludedTasks": "",
  "heldTasks": "",
  "dynamicParamList": "{ \"batchParams\": { \"FICMISDATE$\": \"<MISDate(yyyy-mm-dd)>\" }, \"taskRuntimeParams\": { \"<TASK CODE1>\": {}, \"<TASK CODE2>\": {} } }"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```

{
  "severity": "info",
  "summary": "Object triggered successfully with Run Id:
batch1_demo_ext_api_2023-12-06_1701839464230_1",
  "batchRunId": "batch1_demo_ext_api_2023-12-06_1701839464230_1",
  "details": "Object triggered successfully.",
  "status": "success",
  "statusCode": "0"
}

```

Batch Group Execution API

Use the Execution API to trigger a batch group.

• Attributes

- `batchName` - The unique batch code.
- `batchType` - The object type. For Batchgroup, the batch type should be set to `group`.
- `dynamicParamList` - List of run time parameters which should be overridden over actual values for this trigger. This is an optional parameter.
- Exclude and held tasks should be comma separated values of batch code.

Request Body

```

{
  "batchName": "<BATCHGROUP CODE>",
  "batchType": "group",
  "excludedTasks": "",
  "heldTasks": "",
  "dynamicParamList": "[{\"batchName\": \"<BATCH_CODE1>\", \"batchParams\": {\"$FICMISDATE$\": \"<MISDate(yyyy-mm-dd)>\"}, \"taskRuntimeParams\": {\"<TASK_CODE1>\": {}, \"<TASK_CODE2>\": {}}}, {\"batchName\": \"<BATCH_CODE2>\", \"batchParams\": {\"$FICMISDATE$\": \"<MISDate(yyyy-mm-dd)>\"}, \"taskRuntimeParams\": {\"<TASK_CODE1>\": {}, \"<TASK_CODE2>\": {}}}]"
}

```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```

{
  "severity": "info",
  "summary": "Object triggered successfully with Run Id:
batchGroup1_demo_ext_api_2023-12-06_1701840572429_1",
  "batchRunId": "batchGroup1_demo_ext_api_2023-12-06_1701840572429_1",
  "details": "Object triggered successfully.",
  "status": "success",
}

```

```
    "statusCode": "0"
  }
}
```

Execution Status API

The Execution Status (POST) API provides the current run status of batch/batch group execution.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/status
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to "WS001" and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to [Generate the Access Token](#).
- **Sample cURL Command**

```
curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
    "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
"locale:en-US" -H
    "Content-Type: application/json" -H "Authorization: Bearer
<BEARER_TOKEN>" -X POST
    <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'
```

Batch Execution Status API

Use the Execution Status API to view the current run status of a batch execution.

Attributes

- **batchRunId** - Execution ID generated while triggering the object and can be obtained in the response of Execution API.
- **tasks** - List of Task Codes. This is an optional parameter.

Request Body

```
{
  "batchRunId": "<Batchrun_ID>",
}
```

Sample Response Body

The following Response body is a sample for `Success : 200 OK`. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
{
  "severity": "info",
  "batchRunId": "BatchTEST1_2022-05-31_1653994545003_1",
  "taskStatusList": [
    {
      "taskCode": "t1",
      "taskStatus": "SUCCESSFUL",
      "statusCode": "0"
    },
    {
      "taskCode": "t5",
      "taskStatus": "FAILED",
      "statusCode": "-1"
    }
  ],
  "batchStatusCode": "-1",
  "batchList": [],
  "batchStatus": "FAILED",
  "status": "success",
  "statusCode": "0"
}
```

Batch Group Execution Status API

Use the Execution Status API to view the current run status of a batch group execution.

Attributes

- `batchRunId` - Execution ID generated while triggering the object and can be obtained in the response of Execution API.
- `tasks` - List of Task Codes. This is an optional parameter.

Request Body

```
{
  "batchRunId": "<Batchrun_ID>",
}
```

Sample Response Body

The following Response body is a sample for `Success : 200 OK`. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
{
  "severity": "info",
  "batchRunId": "AbTestBG001_2023-01-27_1674798339245_1",
  "batchStatusCode": "0",
  "batchList": [
    {
      "batchRunId": "AbTestBatch002_2023-01-27_1674798339462_1",
      "batchStatusCode": "0",
    }
  ]
}
```

```

        "batchStatus": "SUCCESSFUL"
      },
      {
        "batchRunId": "AbTestBatch003_2023-01-27_1674798339556_1",
        "batchStatusCode": "0",
        "batchStatus": "SUCCESSFUL"
      }
    ],
    "batchStatus": "SUCCESSFUL",
    "status": "success",
    "statusCode": "0"
  }
}

```

Interrupt API

The Execution Status (POST) API Interrupts a batch/batch group execution.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/interrupt
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to “WS001” and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to [Generate the Access Token](#).
- **Sample cURL Command**

```

curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
      "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
"locale:en-US" -H
      "Content-Type: application/json" -H "Authorization: Bearer
<BEARER_TOKEN>" -X POST
      <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'

```

Batch Interrupt API

Use the Interrupt API to interrupt a batch execution.

Attributes

- **batchName** - The unique batch code
- **batchRunID** - Execution ID generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batch_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
{
  "severity": "info",
  "batchRunId": "B2001_2022-05-30_1653233511394_1",
  "details": "Execution interrupted successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Batch Group Interrupt API

Use the Interrupt API to interrupt a batch group execution.

Attributes

- batchName - The unique batch code
- batchRunID - Execution ID generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batchgroup_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
{
  "severity": "info",
  "batchRunId": "B2001_2022-05-30_1653233511394_1",
  "details": "Execution interrupted successfully.",
  "statusCode": "0",
  "status": "success"
}
```


Restart API

The Restart (POST) API restarts a batch/batch group execution.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/restart
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application
 - **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to "WS001" and same should be passed each time.
 - **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
 - **locale** - locale in languageCode-countryCode format. For example, en-US.
 - **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to [Generate the Access Token](#).
- **Sample cURL Command**

```
curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H  
      "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H  
      "locale:en-US" -H  
      "Content-Type: application/json" -H "Authorization: Bearer  
<BEARER_TOKEN>" -X POST  
      <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'
```

Batch Restart API

Use the Restart API to restart a batch execution.

Attributes

- **batchName** - The unique batch code
- **batchRunID** - Execution ID generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{  
  "batchName": "<Batch_code>",  
  "batchRunId": "<Batchrun_ID>"  
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
{
```

```
    "severity": "info",
    "summary": "Object triggered successfully for restart with Run Id:
B0001_2022-04-30_1651731208588_1",
    "batchRunId": "B0001_2022-04-30_1651731208588_1",
    "details": "Object triggered successfully.",
    "statusCode": "0",
    "status": "success"
}
```

Batch Group Restart API

Use the Restart API to restart a batch group execution.

Attributes

- **batchName** - The unique batch code
- **batchRunID** - Execution ID generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batchgroup_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
{
  "severity": "info",
  "summary": "Object triggered successfully for restart with Run Id:
B0001_2022-04-30_1651731208588_1",
  "batchRunId": "B0001_2022-04-30_1651731208588_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Rerun API

The Rerun (POST) API helps to rerun a batch/batch group execution.

- **HTTP Method** - POST
- **URL** - /SchedulerService/rest-api/v1/external/rerun
- **Header Parameters**
 - **ofs_tenant_id** - Tenant ID of the Application
 - **ofs_service_id** - Service ID of the Application

- **ofs_workspace_id** - Workspace ID of the Application. It is defaulted to “WS001” and same should be passed each time.
- **ofs_remote_user** - Used ID of the user. This parameter should be mapped to 'BATCH_EXEC' function.
- **locale** - locale in languageCode-countryCode format. For example, en-US.
- **Authorization: Bearer <token>** - Access token required to authenticate the API. If this token is not provided, 401 Unauthorized error is generated. For more information about Bearer token, refer to [Generate the Access Token](#).
- **Sample cURL Command**

```
curl -i -H "ofs_service_id:<Service ID>" -H "ofs_remote_user:<User ID>" -H
      "ofs_tenant_id:<Tenant ID>" -H "ofs_workspace_id:WS001" -H
      "locale:en-US" -H
      "Content-Type: application/json" -H "Authorization: Bearer
      <BEARER_TOKEN>" -X POST
      <APPLICATION_BASE_PATH>/<URL> -d '<REQUEST_JSON>'
```

Batch Rerun API

Use the Rerun API to rerun an existing batch execution.

Attributes

- **batchName** - The unique batch code
- **batchRunID** - Execution ID generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batch_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for Success : 200 OK. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
Success Scenario: 200 OK
{
  "severity": "info",
  "summary": "Object triggered successfully for rerun with Run Id:
B2001_2022-05-30_1653223084727_1",
  "batchRunId": "B2001_2022-05-30_1653223084727_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Batch Group Rerun API

Use the Rerun API to rerun an existing batch group execution.

Attributes

- `batchName` - The unique batch code
- `batchRunID` - Execution ID generated while triggering the object and can be obtained in the response of Execution API.

Request Body

```
{
  "batchName": "<Batchgroup_code>",
  "batchRunId": "<Batchrun_ID>"
}
```

Sample Response Body

The following Response body is a sample for `Success : 200 OK`. For more information about status code in the response body, refer to [Rest API Status Codes](#).

```
Success Scenario: 200 OK
{
  "severity": "info",
  "summary": "Object triggered successfully for rerun with Run Id:
B2001_2022-05-30_1653223084727_1",
  "batchRunId": "B2001_2022-05-30_1653223084727_1",
  "details": "Object triggered successfully.",
  "statusCode": "0",
  "status": "success"
}
```

Object Administration

This topic contains information on the tasks that are a part of the Object Administration Module.

Object Migration

Object Migration is the process to define, export and import objects across environments (prod and non-prod)/instances. This feature also facilitates to migrate within the same setup or different setups.

Objects refer to the various metadata definitions defined for various domains. You may want to migrate objects for several reasons such as manage global deployments on multiple environments or to create multiple environments so that you can separate the development, testing, and production processes.

For example, you can use the object migration feature to define PMF process object such as balance computation on your testing environment. After successful testing, you can use this feature to export the object to production/non-production environment.

You can migrate the following object types:

- **Schedule** - Schedule provides the instruction to schedule the execution of defined processes. When a schedule is migrated, the associated batch is also migrated.

- **Batch** - Batch is a group of jobs that are scheduled to automatically execute at a preset interval of time, without any user's intervention. When a batch is migrated, the batch and the associated pipeline information are also migrated.
- **Batch_Group** - A set of individual batches are consolidated to form a single Batch_Group. When we migrate a Batch_Group all the batches, tasks and pipeline information associated with that Batch_Group are also migrated.
- **Pipeline** - A pipeline is an embedded data processing engine that runs inside the application to filter, transform, and migrate data on-the-fly. Pipelines are a set of data processing elements called widgets connected in series, where the output of one widget is the input to the next element.
- **Threshold** - The threshold limit associated with set variables values for scenarios in FCCM Cloud Service. These threshold values are set when scenarios are created or installed and can be changed, if required.
- **Job** - Jobs provide set of instructions to execute Workflow Pipelines, based on the set threshold values.
- **Roles** - Roles are used to map functions to a defined set of groups to ensure user access system security.
- **Groups** - Groups are used to map Roles. Specific User Groups can perform only set of functions associated with that group.
- **CM_ADMIN** - The CM_ADMIN object type refers to all the case management related admin screens. Under this object type, you can export case management related admin metadata and settings for Business Domain, Case Actions/Statuses, Case Priority, Case Rules, Case System Parameters, Case Types, Jurisdictions and Security Mapping.

Migration Object Types

You can create Object Export and Import definitions for the following object types using Object Export/Import feature.

The Migration object types are categorized as follows:

Asset Liability Management

- Standardized_IRRBB_Shock
- Static_deterministic_process
- Time_bucket
- Dynamic_deterministic_process
- Forecast_balances
- Multi_dimensional_balance_sheet
- Pricing_margin
- Product_characteristics
- Behaviour_pattern_rule
- Discount_methods
- Forecast_rates
- Prepayment_model
- Prepayment_rules

- Transferring_Price_Rules

Cash Flow Edits

- Cash_flow_edits_rule
- Cash_flow_edits

Cash Flow Engine

- Cashflow_Process

Common Objects

- Batch

 Note:

Ensure to have BATCH_SUMM, BATCH_VIEW and BATCH_ADD rules to view, export and import batches.

- Batch_group

 Note:

Ensure to have BATCH_SUMM, BATCH_VIEW and BATCH_ADD rules to view, export and import batches.

- Currency
- Datamodel_extension_dimension
- Data_file_specification
- Dimensions

 Note:

Dimension definitions should be migrated before migrating the dependent object definitions. The source and the target dimension of the dependent objects should be the same.

- Expressions
- Filters
- Folder
- Hierarchy

 Note:

Dimension definitions should be migrated before migrating the Hierarchy associated with it. The Dimension should be the same in both source and target environments.

- Holiday_calendar
- Job
- Pipeline
- Schedule

 Note:

Ensure to have BATCH_SUMM, BATCH_VIEW and BATCH_ADD riles to view, export and import batches.

- Slowly Changing Dimensions

Data Maintenance Interface (DMI)

- Excel Upload
- Data Entry
- Data Exporter

 Note:

Ensure that the definitions are in **Approved** status before migrating.

Funds Transfer Pricing

- Add-on Rate Rule
- Alternate_Rate_Output_Mapping
- Replicating Portfolio
- Standard_Process

Identity Management

- **Groups** - For more information, refer to [Groups Summary in Admin Console](#).
- **Roles** - For more information, refer to [Roles Summary in Admin Console](#)

Patterns

- Behaviour_pattern
- Payment_pattern
- Reprice_pattern

Profitability Management

- Allocation Model
- Lookup Table
- Allocation Specification
- Static_Table

Profitability Analytics

- Financial Element Mapping
- Segmentation Mapping
- Line Item Display Order
- Geography Mapping

Rate Management

- Interest Rates
- Economic_indicator
- Volatility_surface

Accessing Object Export and Object Import Features

Using the Object Export and Import features, you can create Export and Import Object definitions.

To access the Object Export and Import feature, from the left Navigation pane in the PBSM Console, click **Operations and Processes > Object Administration**.

- To access Object Export feature, click **Export Object**.
- To access Object Import feature, click **Import Object**.

Object Export Definitions

Object Export Definition is a collection of objects that can be exported across environments.

You can view the list of object export definitions that are already created in the **Object Export Summary**. You can also view the following details about each object definition.

- **Name** - The unique name assigned to the collection when the export definition was created.
- **Object Migration Status** - The export status of a specific object definition.
 - **Success** - Indicates that the export is completed successfully.
 - **Failed** - Indicates that the export was not successful. You can reintiate the migration of the specific object definition.
 - **Saved** - Indicates that the object definition is created successfully and is yet to be exported.
 - **In Progress** - Indicates that the export is in progress. Once the export is complete, the status will change to Success/Failed.
- **Last Modified By** - The ID of the Last Modified by user who has modified the definition. On mouse over, the Last Modified Time and Date are displayed.

To filter the list and view specific Object Definition, use one of the following search options:

- To search for a specific Export Object Definition, type the first few letters of the export definition that you want to search in the Search Box and click **Search**. The search results display the names that consist of your search string in the list of available definitions.

- Enter the number of records to be viewed in a single page, in the **Records** box, at the bottom of the page. You can increase or decrease the number of entries that are displayed using the up and down arrows.
- You can navigate between pages in the **View** bar, use the navigation buttons present at the bottom of the page.

Creating Export Definitions

You can create export Meta data objects using the System Configuration tab in Admin Console.

For more information about the supported object types, refer to [Migration Object Types](#). Refer to the following steps, to create a migration export object.

1. Click **Add** in the **Object Export Summary** Page to view the **Migration Definition** page.
2. Enter the following details, in the **Migration Definition** page.
 - **Migration Name:** Enter the code of the export of objects to be migrated definition. This is a unique identifier.
 - **File Name:** The system auto-creates the file name of the objects that can be used to export the definition in the following format:
 - **For Business Objects:** Migration Name_BO_Time Stamp (MMDDYYYY HHMMSS)
 - **For Identity Objects:** Migration Name_IDM_Time Stamp (MMDDYYYY HHMMYY)
3. Click **Apply** to save the details and view the **Object Selection** Page.
4. Click **Add** to include Migration objects to the definition.
5. select the required **Object Type** from the Object Types drop-down list.
6. Select the objects to be added to the Migrate Definition and click **Save**, to create a new migration object.

A confirmation message is displayed, when the definition is saved successfully. The new migration definition is listed in the Object Export Summary Page and the status is set to **Saved**.

You can also click **Export**, to export the object.

Editing Export Object Definitions

You can edit the Export Object definitions that are not exported and their status is **Saved** or **Failed**.

If the definitions is already exported and the status is set to **Success**, you cannot edit that definition.

To edit an Export Object definition, follow these steps.

1. In the Object Export Summary page, highlight the definition and click **Menu**, and select **Edit**.
The **Object Selection** page is displayed.
2. Modify the following details, if required, and click **Save** to changes.
 - Select the required **Object Type** from the Object Types drop-down list.
 - Select the objects to be added to/deleted from the definition.
3. After adding/deleting all the required objects, click **Save**.

The Export definition is saved successfully and a confirmation message is displayed. The new definition is listed in the Object Export Summary page and the status is set to **Saved**.

4. If you want to Save and Export the Definition, click **Export**.

Exporting Object Definition

After creating the object definitions, you can export them for migrating between environments, using Object Migration (Export) feature.

You can export object definitions in **Saved** or **Failed** state from the object Summary page. Refer to the following steps, to export definitions.

1. In the Object Summary Page, highlight the migration definition and click **Menu**.
2. Select **Export** from the menu.

After you export, the following Export status types are displayed:

- **Success** - Indicates that the definition is exported successfully.
- **Failed** - Indicates that the definition was not exported. Right-click and select **Export**, to reintiate the export process.
- **In Progress** - Indicates that the export is in progress. Once the export is completed, the status will change to Success/Failed.

Viewing Export Object Details

Using the **View** option, you can view the list of objects and the dependancies added to an Object definition. You can also view the object details.

1. Highlight the Export definition and click **Menu**.
2. Select **View**. The object types, list of objects and the dependent objects added to the export definition are listed in the left pane.
3. Double-click an object to view the object attribute details.

View Object Definition Export Log Details

View log facilitates you to view the export log information of the object definition with the migration status.



Note:

The View Log page for an object definition with status **Saved** will be empty.

To view the log details of object with migration status **Success** or **Failed**, follow these steps.

1. In the Object Export Summary page, mouseover the object definition and click **Menu**.
2. Select **View Log** from the drop-down menu, to access the **View Log** page.

The migration status of the objects with following details is displayed.

- **Object Migration ID** - The migration ID associated with the definition.
- **Object Type** - The object type of the definition.
- **Object Code** - The object code associated with the definition.

- **Creation Date** - The date of creation of the definition.
- **Created By** - The User Id of the User who created the definition.
- **Status** - The migration status of the definition.
 - **Success** - Indicates that the export migration was completed successfully.
 - **Failed** - Indicates that the export migration did not complete.
 - **Export Status Message** - The complete export status message.

**Note:**

Export status message currently not supported for GL reconciliation.

3. Click **OK** to close the page, after viewing the log details.

Downloading Dump File

You can download the export dump file for exported definitions to a local directory, using Download Dump file option.

The downloaded export dump file can be used to upload objects to a different environment.

**Note:**

This option is enabled, only if the definition is exported successfully and the **Migration Status** is set to **Success**.

To download a export dump file, refer to the following procedure.

1. Mouseover a migrated object and select **Menu**.
2. Select **Download Dump File** from the drop-down menu, to download the associated dump file and store it to the local directory.

Deleting Export Object Definition

You can delete only definitions that are set to **Saved** or **Failed** status.

To delete a export object definition, follow these steps.

1. In the Object Export Summary page, mouseover the definition to be deleted and click **Delete**.
2. Click **Yes** to confirm and proceed with the deletion.

Object Import Definitions

Object Import Definitions is a collection of objects that can be imported across environments. .

You can view the list of Object Import Definitions that are already created in the **Object Import Summary**. You can also view the following details about each Object definition.

- **Name** - The unique name assigned to the collection when the Import definition was created.

- **Object Migration Status** - The import status of a specific Object definition.
 - **Success** - Indicates that the import is completed successfully.
 - **Failed** - Indicates that the import was not successful. You can reinitiate the migration of the Specific Object Definition.
 - **Saved** - Indicates that the Object Definition is created successfully and is yet to be imported.
 - **In Progress** - Indicates that the import is in progress. Once the import is complete, the status will change to Success/Failed.
- **Last Modified By** - The ID of the Last Modified by user who has modified the definition. On mouse over, the Last Modified Time and Date are displayed.

To filter the list and view Specific Object Definition, use one of the following search options.

- To search for a Specific Import Object definition, type the first few letters of the Import definition that you want to search in the Search box and click **Search**. The search results display the names that consist of your search string in the list of available definitions.
- Enter the number of records to be viewed in a single page, in the **Records** box, at the bottom of the page. You can increase or decrease the number of entries that are displayed using the up and down arrows.
- You can navigate between pages in the **View** bar, use the navigation buttons present at the bottom of the page.

Creating Object Import Definitions

You can create Import definitions and add Import Objects using the Object Migration (Import) feature.

1. Click **Add** in the **Object Import Summary** page to view the **Migration Definition** page.
2. Enter the following details, in the **Migration Definition** page.
 - **ID** - The Unique Name for the New Import Object definition.
The migration ID should not contain any space and exceed 30 characters. Underscore () and hyphen (-) are allowed.
 - **Dump File** - Select the .DMP file to be uploaded for creating the Import definition.

Figure 5-10 Importing Dump File

You can select the dump file using one of the following options:

- Select the option **Object Store**, to select the dump file (.DMP file) from the list of dump files available in the same environment.
- Select the option **Local Machine** and click **Drag and Drop**, to add a .DMP file, from the local directory. You can only Add Dump file that are downloaded using Download Dump file option.

Note:

- Uploading a dmp file either created or edited locally will generate an error.
 - You can rename the .DMP file, if required. Ensure to follow the naming convention. For more information, refer to [File Naming Conventions for Migrate Objects](#).
- **Import All** - Select an option to import the objects that are associated with the selected object type. You can edit this option if required, in the **Object Selection** page.
 - **Yes** - Imports all the objects that are included in the dump file.
 - **No** - Imports only those objects that you can select in the **Object Selection** page.
 - **Fail on Error** - Select an option to proceed with the definition creation in case of an error. You can edit this option if required, in the **Object Selection** page.
 - **Yes** - Stops the creation process, if error is generated.
 - **No** - Creates the import definition even when error is generated. The object with the error is not included in the object creation.
 - **Overwrite** - Select an option to overwrite the existing definition. You can edit this option if required, in the **Object Selection** page.
 - **Yes** - Replaces the existing Import definition.

- **No** - Creates a new Import definition.
- 3. Click **Apply** to save the details.

The Import definition is created and **Object Selection** page is displayed. You can add objects to this import definition.
- 4. Click **Add** to include objects to the definition.
- 5. Select the required **Object Type** from the Object Types drop-down list.

Objects that are defined in the environment with respect to the selected object type are listed. For example, if Schedule is selected as the Object Type, all the Objects defined with respect to Schedule, in the environment are only listed.

You can also enter the first few letters of the object name in the Search Field, to narrow down the search.
- 6. Click the check box adjacent to each object, to include the objects associated with a specific object type, to the import definition.
- 7. Repeat steps 4, 5 and 6, to include objects associated with various object types.
- 8. After adding all the required objects, click **Save**.

The Import definition is saved successfully and a confirmation message is displayed. The new definition is listed in the Object Import Summary page and the status is set to **Saved**.
- 9. If you want to Save and Export the Definition, click **Import**.

Editing Import Definitions

You can edit the Import definitions that are not imported and their status is **Saved** or **Failed**.

If the definitions is already imported and the status is set to **Success**, you cannot edit that definition.

To edit an Import definition, follow these steps.

1. In the Object Import Summary page, highlight the definition and click **Menu**, and select **Edit**.

The **Object Selection** page is displayed.
2. Edit the following details, if required, and click **Save** to changes.
 - Select the required **Object Type** from the Object Types drop-down list.
 - Select the objects to be added to/deleted from the definition.
3. After adding/deleting all the required objects, click **Save**.

The import definition is saved successfully and a confirmation message is displayed. The new definition is listed in the Object Import Summary page and the status is set to **Saved**.
4. Click **Save** to update the changes.
5. If you want to Save and import the Definition, click **Import**.

Importing Object Definitions

After creating the object definitions, you can export them for migrating between environments, using Object Migration (Import) feature.

You can import object definitions in **Edited** state from the object Summary page. Refer to the following steps to import Object definitions.

**Note:**

Comments and Documents attached to an Issue/Action will not be migrated.

1. In the Object Summary Page, mouse-over the definition and click **Menu**.
2. Select **Import** from the drop-down menu.

After you import, the following Import status types are displayed:

- **Success** - Indicates that the definition is imported successfully.
- **Failed** - Indicates that the definition was not imported. Right-click and select **Import**, to restart the import process.
- **In Progress** - Indicates that the import is in progress. Once the import is completed, the status will change to Success/Failed.

Viewing Import Object Details

Using the **View** option, you can view the list of objects and the dependancies added to an Object definition. You can also view the object details.

1. Mouseover the migration definition and click **Menu**.
2. Select **View**. The object types, list of objects and the dependent objects added to the export definition are listed in the left pane.
3. Double-click an object to view the object attribute details.

Viewing Object Import Log Details

View log facilitates you to view the log information of the object definition with the migration status.

**Note:**

The View Log page for a definition with migration status **Saved** will be empty.

To view the log details of definition with migration status **Success** or **Failed**, follow these steps.

1. In the Object Import Summary window, mouseover the migration definition and click **Menu**.
2. Select **View Log** from the drop-down menu, to access the **View Log** page.

The migration status with following details is displayed.

- **Object Migration ID** - The migration ID associated with the import object.
- **Object Type** - The object type of the import object.
- **Object Code** - The object code associated with the import object.
- **Creation Date** - The date of creation of the import object.
- **Created By** - The User Id of the User who created the import object.
- **Status** - The import status of the specific object.
 - **Success** - Indicates that the specific object was imported successfully.

- **Failed** - Indicates that the specific object was not imported.
- **Import Status Message** - The complete import status message.

 Note:

Import status message currently not supported for GL reconciliation.

3. Click **OK** to close the page, after viewing the log details.

Deleting Import Definition

You can delete only definitions that are set to **Saved** or **Failed** status.

To delete an import definition, follow these steps.

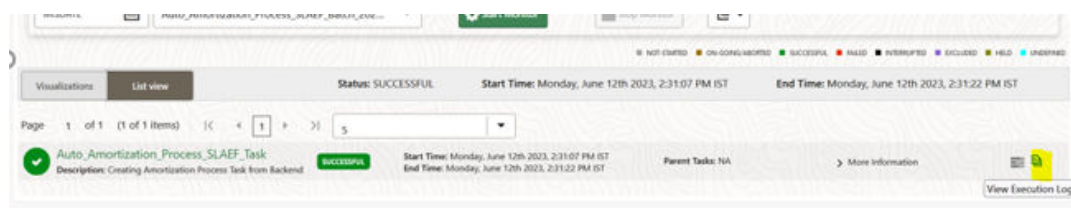
1. In the Object Import Summary page, mouseover the definition to be deleted and click **Delete**.
2. Click **Yes** to confirm and proceed with the deletion.

Viewing Logs

You can view the information about high-level processing steps from User Interface. To view the OFSASBCS Process information, follow these steps:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
2. Select **Batch** and **Run Id**.
3. Click **Start Monitor**.
4. Click **List View** tab
5. Click **View Execution Logs** icon to view **Batch Logs**.

Figure 5-11 View the Process Information



 Note:

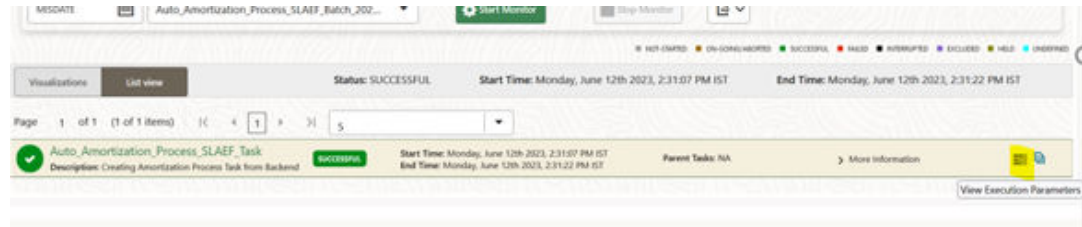
To view the debug level information, from the [Preference](#) screen, select the **Debug** option from the **View Logs Level** drop-down list.

View the Execution Parameters

Perform the following steps to view the execution parameters:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
2. Select **Batch** and **Run Id**.
3. Click **Start Monitor**.
4. Click **List View** Tab.
5. Click **View Execution Logs** icon to view **Batch Logs**.

Figure 5-12 View Execution Parameter

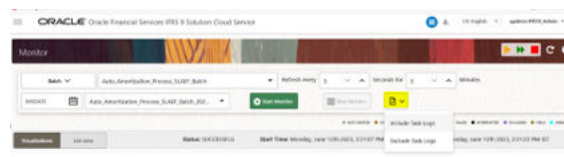


Generate the PDF

Perform the following steps to generate the PDF:

1. Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
2. Select **Batch** and **Run Id**.
3. Click **Start Monitor**.
4. Click **List View** tab
5. Click **Generate PDF - Include Task Logs**.
6. Click **Generate PDF - Exclude Task Logs**.

Figure 5-13 Generate the PDF



Instrument Data Loader (File to Stage)

You can see the messages from User Interface. To view messages, follow these steps:

- Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
- Select **Batch** and **Run Id**.
- Click **Start Monitor**.

Instrument Data Loader (Stage to Processing)

You can see the messages from User Interface. To view messages, follow these steps:

- Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
- Select **Batch** and **Run Id**.
- Click **Start Monitor**.

Dimension Loader (File to Stage to Dimension)

You can see the messages from User Interface. To view messages, follow these steps:

- Navigate to **Operations and Processes**, select **Scheduler**, and then select **Monitor Batch**.
- Select **Batch** and **Run Id**.
- Click **Start Monitor**.

6

Models

This chapter provides information on Models.

PD Models

This chapter provides information on PD Models.

Cyclical Factors Rules

Cyclical Factors are one of the key inputs for the PD model. Cyclical Factor is an important input to convert TTC PD to PIT PD in the Vasicek model. Cyclical Factor is primarily called Z Score or Market Factor or Systematic Factor. Cyclical factors information is required at per period and scenario level.

The cyclical factor rule is defined at the Modelling Set, Portfolio Rule, and Economic Scenario Rule levels. Users also need to provide the frequency of the cyclical factors.

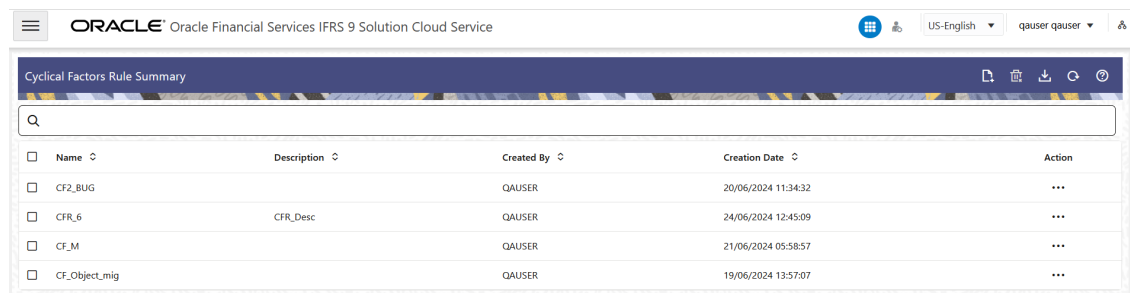
Cyclical Factors Rule Summary Page

This page is the gateway to the Cyclical Factors Rule feature and related functionality. To access this page from the LHS menu, click **Models**, then click **PD Model**, and then click **Cyclical Factors Rule**. You can navigate to other pages that are related to Cyclical Factors Rule from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)
- [Search](#)

The **Cyclical Factors Rule Summary** page displays the following columns:

Figure 6-1 Cyclical Factors Rule Summary Page



☐ Name	Description	Created By	Creation Date	Action
☐ CF2_BUG		QAUSER	20/06/2024 11:34:32	...
☐ CFR_6	CFR_Desc	QAUSER	24/06/2024 12:45:09	...
☐ CF_M		QAUSER	21/06/2024 05:58:57	...
☐ CF_Object_mig		QAUSER	19/06/2024 13:57:07	...

Table 6-1 Cyclical Factors Rule Summary page – Fields and Descriptions

Column	Description
Name	Displays the Cyclical Factors Rule's name.
Add	Click the Add icon to create a new Cyclical Factors Rule.
Delete	Select the desired Cyclical Factors Rule Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.
Help	Click the Help icon to view the Cyclical Factors Rule's help.
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information an Cyclical Factors Rule. For more information on using this feature, see the Search a Cyclical Factors Rule section.
Field Search	Enter the name of the Cyclical Factors Rule to filter the list of Cyclical Factors Rule by values that match the search term. For more information on using this feature, see the Search a Cyclical Factors Rule section.

The **Cyclical Factors Rule** pane on the **Cyclical Factors Rule Summary** page displays the list of Cyclical Factors Rule and offers several actions that allow you to perform different tasks. The following tasks are available for the Cyclical Factors Rule in the **Action** column.

Table 6-2 Cyclical Factors Rule – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the Cyclical Factors Rule Name and select View to view the contents of a Cyclical Factors Rule in read format.
Edit	Click the Action icon adjacent to the Cyclical Factors Rule Name and select Edit to edit the contents of a Cyclical Factors Rule.
Save As	Click the Action icon adjacent to the Cyclical Factors Rule Name and select Save As to create a copy of an existing Cyclical Factors Rule.
Delete	Click the Action icon adjacent to the Cyclical Factors Rule Name and select Delete to delete an existing Cyclical Factors Rule.
Dependency Information	Click the Action icon adjacent to the Cyclical Factors Rule and select Dependency Information to check the higher and lower order dependencies for an existing Cyclical Factors Rule.

Create Cyclical Factors Rule

Perform the following steps to create Cyclical Factors Rule:

1. On the **Cyclical Factors Rule Summary** page, click the **Add** icon to open the **Cyclical Factors Rule** window.

Figure 6-2 Create Cyclical Factor Rule

Cyclical Factors Rule Cancel Save

Basic Details

Name Required Description Required Folder Required Modelling Set Required Economic Scenario Rule Required

Frequency Required Portfolio Rule Required

> **Audit**

Figure 6-3 Create Cyclical Factor Rule with Deatils Pane

Cyclical Factors Rule Cancel Save

Basic Details

Name Rule Description New Rule Folder IFRSEG Modelling Set Auto_MS_ECL Economic Scenario Rule Auto_ES_ECL

Frequency Portfolio Rule

Cyclical Factors Details

☐ Time Sequence	Baseline	Positive	Adverse
☐ 1			

> **Audit**

2. Populate the **Cyclical Factors Rule** form as tabulated:

Table 6-3 Cyclical Factors Rule

Field	Description
Name	Enter a name.
Description	Enter a description for the definition.
Folder	Select a folder from the drop-down list
Modelling Set	Select a modelling set from the drop down list.
Economic Scenario Rule	Select an economic scenario rule from the drop down list.
Frequency	Select a frequency from the drop-down list. The available options are: • Monthly • Quarterly • Half Yearly • Annually
Add (Cyclical Factors Details)	Click this icon to add a row to the Cyclical Factors Details table. When this button is clicked, a new row is added sequentially.
Baseline (Cyclical Factors Details)	Enter a numeric value in this field.

Table 6-3 (Cont.) Cyclical Factors Rule

Field	Description
Positive (Cyclical Factors Details)	Enter a numeric value in this field.
Adverse (Cyclical Factors Details)	Enter a numeric value in this field.
Delete (Cyclical Factors Details)	Select a row or multiple rows and then click the delete icon.

3. Click **Save** to save the Cyclical Factors Rule or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular Cyclical Factors Rule has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a Cyclical Factors Rule:

1. Navigate to the **Cyclical Factors Rule Summary** page.
2. Either [search](#) for a Cyclical Factors Rule or navigate to the desired Cyclical Factors Rule from the list of Cyclical Factors Rule.
3. Click the **Action** icon that is adjacent to the Cyclical Factors Rule and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Cyclical Factors Rule

Perform the following steps to delete Cyclical Factors Rule:

1. Select the Cyclical Factors Rule that you want to delete and click the **Action** icon.
Note the following conditions for deleting a Cyclical Factors Rule:
 - If a Cyclical Factors Rule does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected Cyclical Factors Rule.
 - If a Cyclical Factors Rule contains a *Higher Order Dependency*, then the application does not allow you to delete the selected Cyclical Factors Rule.
 - If a Cyclical Factors Rule contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected Cyclical Factors Rule.
2. Select **Delete**.
3. You can also delete a Cyclical Factors Rule by selecting the Cyclical Factors Rule that you want to delete and then click the **Delete** icon.

Refresh Cyclical Factors Rule

You can refresh existing Cyclical Factors Rule from the **Cyclical Factors Rule Summary** page to refresh the Cyclical Factors Rule with newly available data. Perform the following steps to refresh one or more existing Cyclical Factors Rule:

1. On the **Cyclical Factors Rule Summary** page, select the **Refresh** icon.
The definitions on the Summary page are refreshed with newly available data.

View Cyclical Factors Rules

Perform the following steps to View Cyclical Factors Rules:

1. Select the Cyclical Factors Rule that you want to view and click the **Action** icon.
2. Select **View**.
3. The **Cyclical Factors Rule** window opens, displaying the details of the selected Cyclical Factors Rule.
4. Click **Cancel**.

Edit Cyclical Factors Rules

The edit feature enables you to update the details of an existing Cyclical Factors Rule. Perform the following steps to edit an existing Cyclical Factors Rule:

1. In the Cyclical Factors Rule list, select the **Action** icon adjacent to the Cyclical Factors Rule name that you want to edit.
2. Click **Edit** to open the Cyclical Factors Rule window.
3. Update the required fields. Only the **Name**, **Folder**, **Modelling Set**, **Economic Scenario Rule**, **Frequency** and **Portfolio Rule** fields are not editable.
4. Click **Save**.
The saved Cyclical Factors Rule is displayed in the Cyclical Factors Rules list on the **Cyclical Factors Rule Summary** page.

Save Cyclical Factors Rules

Perform the following steps to save Cyclical Factors Rules under a different name and folder:

1. Select the desired Cyclical Factors Rule Definition.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The Cyclical Factors Rule Definition is saved under a new name and folder.

Download Cyclical Factors Rules

Perform the following steps to download Cyclical Factors Rules:

1. To download the list of defined Rules, select the **Download** option from the summary UI screen.
The selected Rules are downloaded in a csv format.

Search Cyclical Factors Rules

Search for Cyclical Factors Rules to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)

- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for Cyclical Factors Rule, perform the following steps:

- Navigate to the **Cyclical Factors Rule Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the Cyclical Factors Rule and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the Cyclical Factors Rule to filter the list of Cyclical Factors Rule by values that match the search term.

Only Cyclical Factors Rules that match the search criteria are displayed.

Cyclical Factors Models

The Cyclical Factors (CF) Model, commonly referred to as the 'Z Score' model, is widely utilized in the financial industry for credit risk assessment. It provides key inputs for the IFRS 9 PD model, including cyclical factors and asset correlation factors (Merton R), which are based on the Vasicek Single Factor Model.

The Cyclical Factors Model calculates cyclical factors (Z Score) based on observed default rates. Using Ordinary Least Squared (OLS) regression, it establishes a relationship between the target variable (Z Score) and independent variables such as macroeconomic indicators (e.g., GDP, HPI) and sustainability factors (e.g., financed emissions, carbon price index). Once the regression equation is formed, it is used to predict the Z Score based on forecasted values of the independent variables across different macroeconomic scenarios.

Cyclical Factors Model Summary

This page is the gateway to the cyclical factor model feature and related functionality. To access this page from the LHS menu, click **Models**, then click **PD Models**, and then click **Cyclical Factors Models**. You can navigate to other pages that are related to cyclical factors model from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)
- [Predict](#)
- [Model Explainability Report](#)

- [Create a New Version](#)
- [Version History and Execution](#)
- [Search](#)

The **Cyclical Factors Model Summary** page displays the following columns:

Figure 6-4 Cyclical Factors Model Summary

Name	Description	Modelling Set	Economic Scenario Rule	Created By	Creation Date	Status	Action
Auto_ECL_CyclicalFactorModelProcess_6	Test_1	Auto_MS_ECL	Auto_ES_ECL	QAUUSER	17/10/2024 10:50:09		...
CFM_ANNUALLY		MS_CFM		QAUUSER	27/09/2024 13:46:03		...
TEST		Auto_MS_ECL	Auto_ES_ECL	QAUUSER	18/10/2024 06:08:19		...
TEST1		Auto_MS_ECL	Auto_ES_ECL	QAUUSER	18/10/2024 06:01:57		...
TEST3		Auto_MS_ECL	Auto_ES_ECL	QAUUSER	18/10/2024 06:20:17		...

Table 6-4 Cyclical Factors Model Summary page – Fields and Descriptions

Column	Description
Name	Displays the cyclical factor model's name.
Add	Click the Add icon to create a new cyclical factor model.
Delete	Select the desired cyclical factor model name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the summary Page.
Help	Click the Help icon to view the cyclical factor model help.
Search	Use this field to search for a cyclical factor model to View , Edit , Copy (Save As) , Delete , Download , Predict , View a Report , Create a New Version , View the Version History and Execution and find the Dependency Information of a cyclical factor model. For more information on using this feature, see the Search a Cyclical Factors Models section.
Field Search	Enter the name of the cyclical factors models to filter the list of cyclical factors models by values that match the search term. For more information on using this feature, see the Search a Cyclical Factors Models section.

The **Cyclical Factors Models** pane on the **Cyclical Factors Model Summary** page displays the list of cyclical factors models and offers several actions that allow you to perform different tasks. The following tasks are available for the cyclical factors models in the **Action** column.

Table 6-5 Cyclical Factors Models – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the cyclical factors model's name and select View to view the contents of a cyclical factors model in read format.
Edit	Click the Action icon adjacent to the cyclical factors model's name and select Edit to edit the contents of a cyclical factors model.
Save As	Click the Action icon adjacent to the cyclical factors model's name and select Copy (Save As) to create a copy of an existing cyclical factors model.
Delete	Click the Action icon adjacent to the cyclical factors model's name and select Delete to delete an existing cyclical factors model.
Dependency Information	Click the Action icon adjacent to the cyclical factors model and select Dependency Information to check the higher and lower order dependencies for an existing Cyclical Factors Models.
Predict	Click the Action icon adjacent to the cyclical factors model and select Predict to predict a cyclical factor model
Model Explainability Report	Click the Action icon adjacent to the cyclical factors model and select the Model Explainability Report to view the predict run report of a cyclical factor model.
Create Version	Click the Action icon adjacent to the cyclical factors model and select Create Version to create a new version of a cyclical factor model.
Version History and Execution	Click the Action icon adjacent to the cyclical factors model and select Version History and Execution to view the version and perform additional tasks on a cyclical factor model.

Create Cyclical Factor Models

Perform the following steps to create cyclical factors models:

1. On the **Cyclical Factors Model Summary** page, click the **Add** icon to open the **Cyclical Factor Models** window.
2. Populate the **Cyclical Factor Model - Basic Details** form as tabulated:

Figure 6-5 Cyclical Factor Model - Basic Details
Table 6-6 Cyclical Factor Model - Basic Details

Field	Description
Name	Enter a name.
Description	Enter a description for the definition.
Folder	Select a folder from the drop-down list
Modelling Set	Select a modelling set from the drop down list.
Economic Scenario Rule	Select an economic scenario rule from the drop down list.
Portfolio Rule	Select a portfolio rule from the drop down list.
Computation Basis	Select a computation basis from the drop down list. The available options are: - Count Movement - Value Movement
Frequency	Select a frequency from the drop-down list. The available options are: - Monthly - Quarterly - Half Yearly - Annually

3. Populate the **Cyclical Factor Models - Historical Data Window** form as tabulated:

Figure 6-6 Cyclical Factor Model - Historical Data

Table 6-7 Cyclical Factor Model - Historical Data Window

Field	Description
From Date	Select the Select Date. icon and select a from date.
To Date	Select the Select Date. icon and select a to date.
Projection Period	Enter a numeric value in this field. This is a mandatory field.

4. Populate the **Cyclical Factor Models - Model Variables Selection** form as tabulated:

Figure 6-7 Cyclical Factor Model - Model Variables Selection

Model Variables Selection

Country Required Region

Macroeconomic Variable Selection

Macroeconomic Variables

Sustainability Variables

Sustainability Variables Required +

Sustainability Variables	Operation	Action
No data to display.		

Table 6-8 Cyclical Factor Model - Model Variables Selection

Field	Description
Country	Select a country from the drop-down list.
Region	Select a region from the drop-down list.
Macroeconomic Variable Selection	Select a value from the drop-down list.
Sustainability Variables	Select a value from the drop-down list and then click the Add icon to add the entry to the table. Carbon Price Index - Select this entry and then click the Add icon to add the entry to the table Financed Emission - When this variable is selected, the Operation drop-down field appears. Select either <i>Average</i> or <i>Weighted Average</i>.

Note:

If a sustainability variable has been added to the table, it cannot be added again. You can click the **Delete** icon to delete the variable and then add it again.

5. Populate the **Cyclical Factor Model - Feature Engineering** form as tabulated:

Figure 6-8 Cyclical Factor Model - Feature Engineering

Feature Engineering

Model Training Dataset: 70

Missing Data Threshold: 5

Complete Dataset Training: ☒

Automated Features Selection: ☒

VIF Threshold: 5

Observed Default Rate

Lower Cap: 0.05

Upper Cap: 99.99

Imputation: Mean

Model Variables

VariableCategory	Variables	Type	Imputation	Interpolation	Aggregation	DataTreatment	Period	Lag	Action
No data to display.									

Table 6-9 Cyclical Factor Model - Feature Engineering

Field	Description
Model Training Dataset	Enter a value in this field.
Missing Data Threshold	Enter a value in this field.
Complete Dataset Training	This field is enabled by default. Click the slider if you do not want to do a complete dataset training.
Automated Features Selection	This field is enabled by default. Click the slider if you do not want the automated features selection.
VIF Threshold	Enter a value in this field. The default value is 5.
Observed Default Rate	In this pane, define the observed default rates: Lower Cap- Enter a numeric value in this field to define the lower cap. Decimal values are supported in this field. Upper Cap- Enter a numeric value in this field to define the upper cap. Decimal values are supported in this field. Imputation- Select a value from the drop-down list: - Median - Mean - Rolling Mean - Rolling Median
Model Variables	This table is populated based on the configurations that were done in the Sustainability Variables pane. In this table, you can modify the values in the Imputation, Interpolation, Aggregation, Data Treatment, Period, and Lag columns. Click Edit, to modify the variable. Additionally, click the Refresh icon to refresh the changes.

- Click **Save** and then submit to save the cyclical factor model and then submit it to the approver or click **Cancel** to exit this window.

 Note:

For to execute a predict run, the definition must be submitted first.

View a Cyclical Factor Models

Perform the following steps to view a cyclical factor model:

- Select the cyclical factor model that you want to view and click the **Action** icon.
- Select **View**.
- The **Cyclical Factor Models** window opens, displaying the details of the selected cyclical factor model.
- Click **Cancel**.

 Note:

If we view cyclical factor model definition directly from the **Cyclical Factors Model Summary** screen it displays the latest definition.

Edit a Cyclical Factors Model

The edit feature enables you to update the details of an existing cyclical factor model. Perform the following steps to edit an existing cyclical factor model:

- In the cyclical factors models list, select the **Action** icon adjacent to the cyclical factor model name that you want to edit.
- Click **Edit** to open the cyclical factor model window.

 Note:

Only the draft version of the definitions are editable.

- Update the required fields. Only the **Name**, **Folder**, **Modelling Set**, **Economic Scenario Rule**, **Frequency** and **Portfolio Rule** fields are not editable.
- Click **Save**.
The saved cyclical factor model is displayed in the cyclical factor model list on the **Cyclical Factors Model Summary** page.

Dependency Information

You can check dependencies to know where a particular cyclical factor model has been used. This prevents accidental deletions that have higher order or lower order dependencies.

To check the dependency of a cyclical factor model:

- Navigate to the **Cyclical Factors Model Summary** page.

2. Either [search](#) for a cyclical factor model or navigate to the desired cyclical factor model from the list of cyclical factor model.
3. Click the **Action** icon that is adjacent to the cyclical factor model and select **Dependency Information** to open the dependency information page.
On this page use the **Higher Order Dependency** and **Lower Order Dependency** tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete Cyclical Factors Models

Perform the following steps to delete cyclical factors models:

1. Select the cyclical factor model that you want to delete and click the **Action** icon.
Note the following conditions for deleting a cyclical factor model:
 - If a cyclical factor model does not have any higher order or lower dependencies, then the application allows you to delete the selected cyclical factor models.
 - If a cyclical factor model contains a *Higher Order Dependency*, then the application does not allow you to delete the selected cyclical factor model.
 - If a cyclical factor model contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected cyclical factor model.
2. Select **Delete**.
3. You can also delete a cyclical factor model by selecting the cyclical factor model that you want to delete and then click the **Delete** icon.



Note:

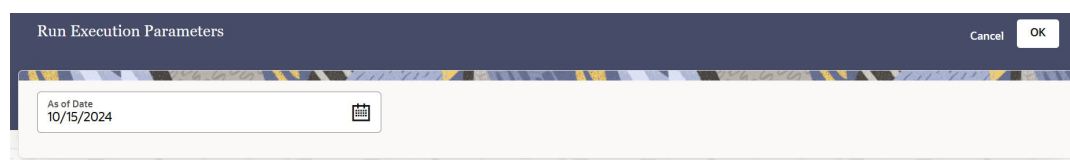
Only the draft version of the definitions can be deleted.

Predict a Cyclical Factors Model

Perform the following steps to predict a cyclical factor model:

1. On the **Cyclical Factors Model Summary** page, select the cyclical factor model that needs to be predicted.
2. Click the **Action** icon and then select **Predict** to open the **Run Execution Parameters** window.

Figure 6-9 Run Execution Parameters Window



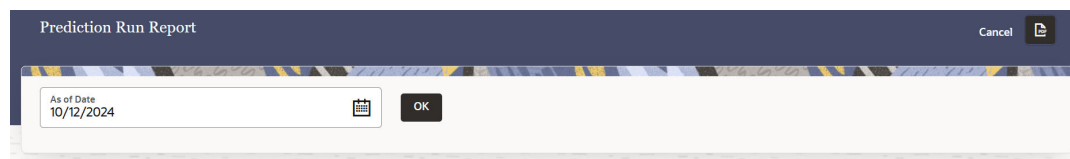
3. In the **As of Date** field, click the **Select Date.** icon and then select a date.
4. Click **OK**.

View the Model Explainability Report of a Cyclical Factor Model

Perform the following steps to view the model explainability report of a cyclical factor model:

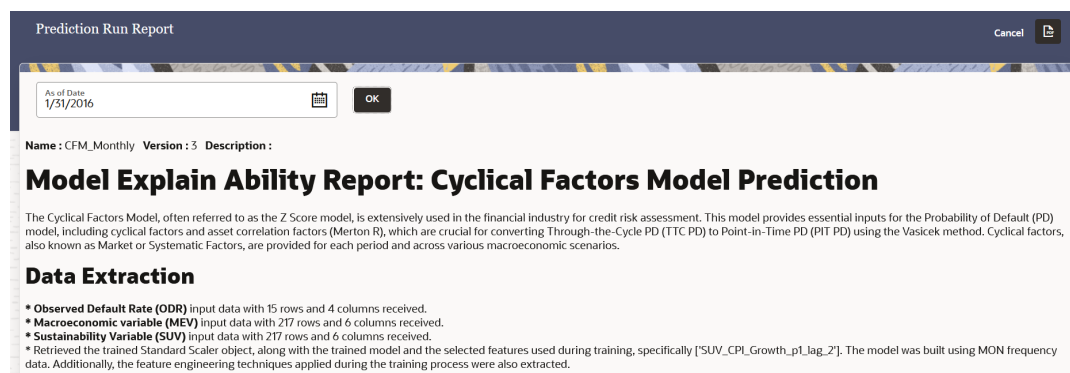
1. On the **Cyclical Factors Model Summary** page, select the cyclical factor model that you want to view the model explainability report of.
2. Click the **Action** icon and then select **Report** to open the **Prediction Run Report** window.

Figure 6-10 Prediction Run Report Window



3. In the **As of Date** field, click the **Select Date.** icon and then select a date.
4. Click **OK**.
The model explainability report appears.

Figure 6-11 Prediction Run Report for a Selected Date



5. Additionally, click the **PDF** icon to view the report in the PDF format. Printing this report from the PDF window is supported.

Create a New Version of a Cyclical Factors Model

Perform the following steps to create a new version of a cyclical factor model:

1. On the **Cyclical Factors Model Summary** page, select the cyclical factor model that you want to create a new version of.
2. Click the **Action** icon and then select **Create Version** to open the **Cyclical Factors Model** window.

Figure 6-12 Cyclical Factor Model

In this window the **Name**, **Folder**, **Modelling Set**, **Economic Scenario Rule**, **Portfolio Rule**, **Computation Basis**, and **Frequency** are not editable.

3. Modify the desired editable fields.
4. Click **Save** and then click **Submit**.
A new version of the cyclical factor model is created.

Refresh Cyclical Factors Models

You can refresh existing cyclical factors models from the **Cyclical Factors Model Process Summary** page to refresh the cyclical factors models with newly available data. Perform the following steps to refresh one or more existing cyclical factors models:

1. On the **Cyclical Factors Model Process Summary** page, select the **Refresh** icon.
The definitions on the summary page are refreshed with newly available data.

Save a Cyclical Factor Model

Perform the following steps to save a cyclical factor models under a different name and folder:

1. Select the desired cyclical factor model.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The cyclical factor models is saved under a new name and folder.

Note:

Only the latest version is copied when the cyclical factor model is saved.

Download Cyclical Factors Models

Perform the following steps to download cyclical factors models:

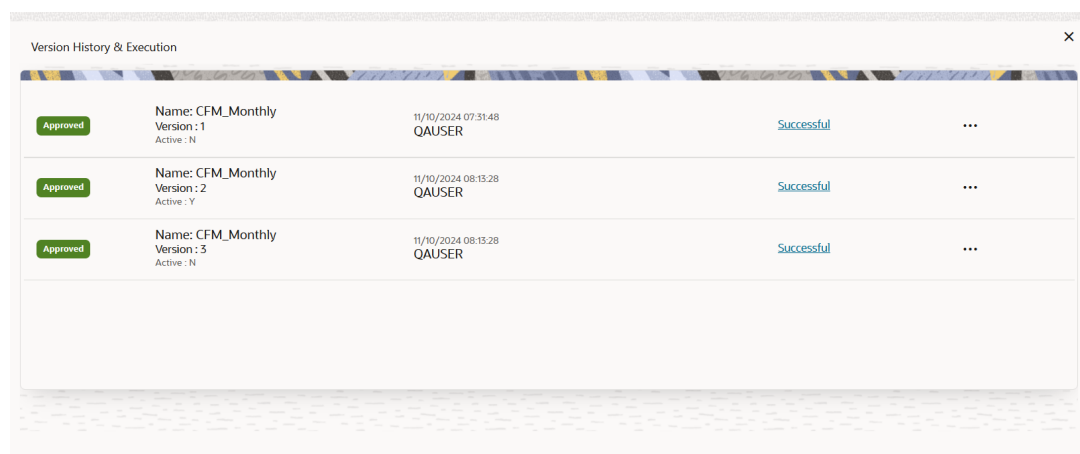
1. To download the list of defined cyclical factors models, select the **Download** option from the summary UI screen.
The selected cyclical factors models are downloaded in a csv format.

Version History and Execution of a Cyclical Factors Model

Perform the following steps to view the version and perform additional tasks on a cyclical factor model:

1. On the **Cyclical Factors Model Summary** page, select the cyclical factor model that you want to create a new version of.
2. Click the **Action** icon and then select **Version History & Execution** to open the **Version History & Execution** window.

Figure 6-13 Version History & Execution Window



The screenshot shows a window titled "Version History & Execution" with a close button (X) in the top right corner. The window contains a table with three rows of data. Each row represents a version of a cyclical factor model. The first column contains a green "Approved" status badge. The second column contains the model name and version. The third column contains the execution date and time, and the user who executed it. The fourth column contains the execution status, which is "Successful" for all three versions. The fifth column contains a three-dot menu icon for each row.

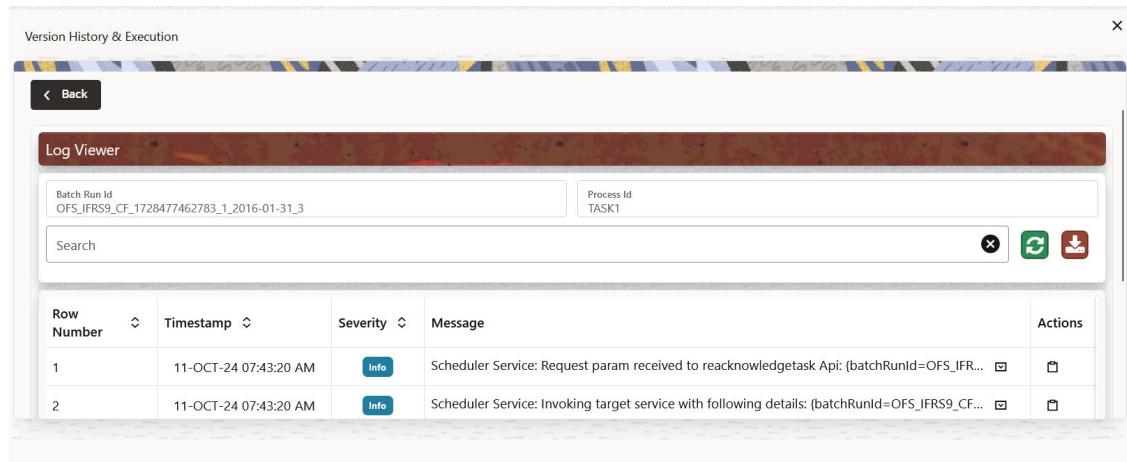
Status	Name: CFM_Monthly Version: 1 Active: N	11/10/2024 07:31:48 QAUSER	Successful	...
Approved	Name: CFM_Monthly Version: 2 Active: Y	11/10/2024 08:15:28 QAUSER	Successful	...
Approved	Name: CFM_Monthly Version: 3 Active: N	11/10/2024 08:15:28 QAUSER	Successful	...

This window displays the version history of the selected cyclical factor model.

3. The following actions are supported in this feature:
 - [View the Log Details of a Cyclical Factor Model](#)
 - [View the Cyclical Factor Model Details](#)
 - [Run the Batch of the Cyclical Factor Model](#)
 - [View the Report of a Cyclical Factor Model](#)
 - [View the Model Explainability Report Detail](#)

View the Log Details of a Cyclical Factor Model

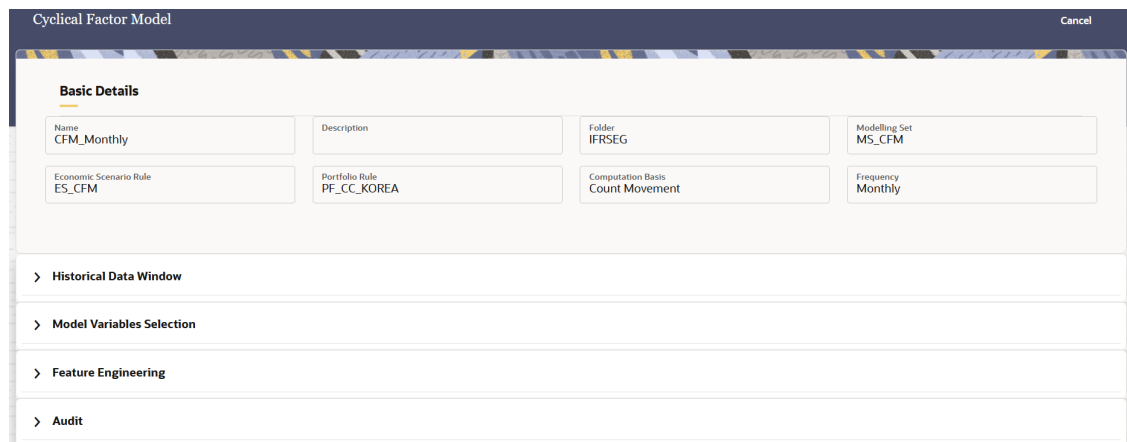
View the Log: Click the status link of a cyclical factor model to view the log details.

Figure 6-14 Log Viewer Feature

Click **Back**: to navigate back to the **Version History and Execution** section.

View the Cyclical Factor Model Details

Click the more icon and then select **View** to view the cyclical factor model details.

Figure 6-15 Cyclical Factors Model Details

Run the Batch of a Cyclical Factor Model

Click the more icon and then select **Run** to trigger the batch of the cyclical factors model.

A confirmation message appears informing you if the batch was triggered successfully or not.

View the Cyclical Factor Model Development Report

Click the more icon and then select **Report** to view the cyclical factor model details in a report format.

On this window, from the **Version** drop-down lists, select the desired versions to see the generated reports side by side.

Figure 6-16 Cyclical Factor Model Report

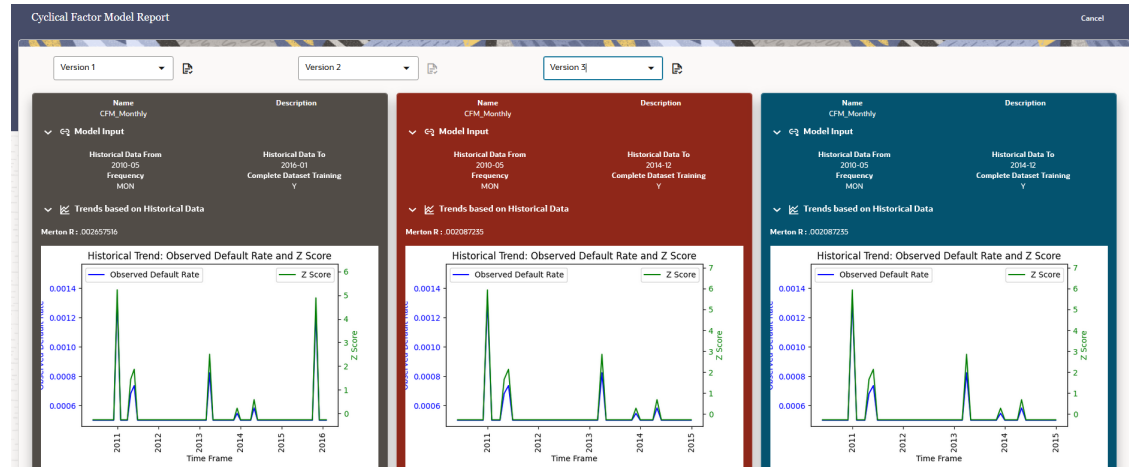


Figure 6-17 Cyclical Factor Model Report Continued

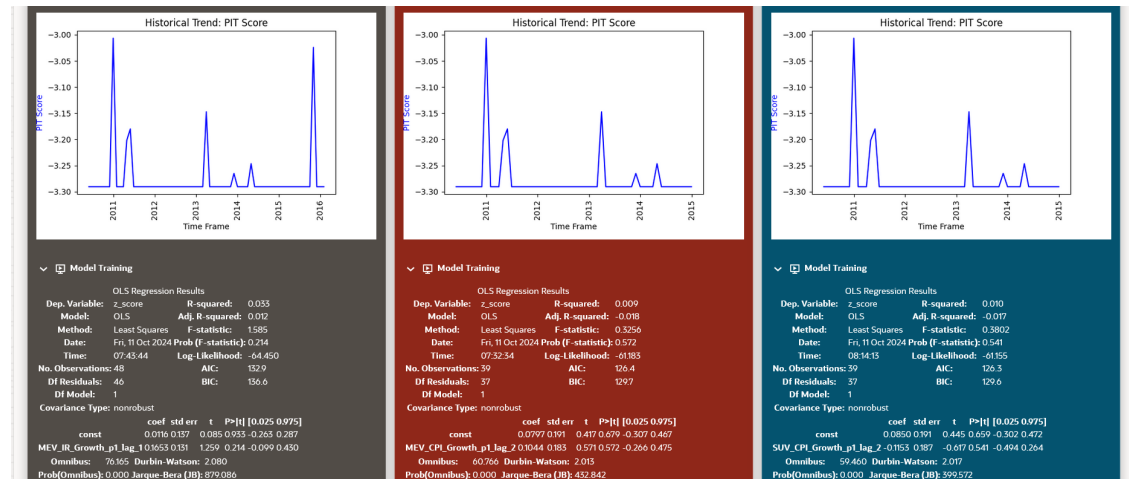
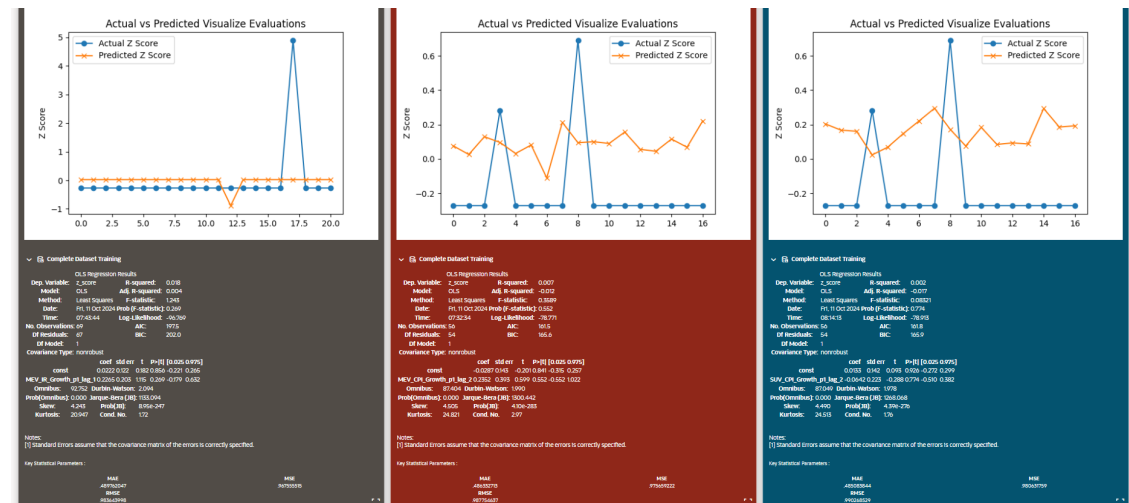


Figure 6-18 Cyclical Factor Model Report Continued

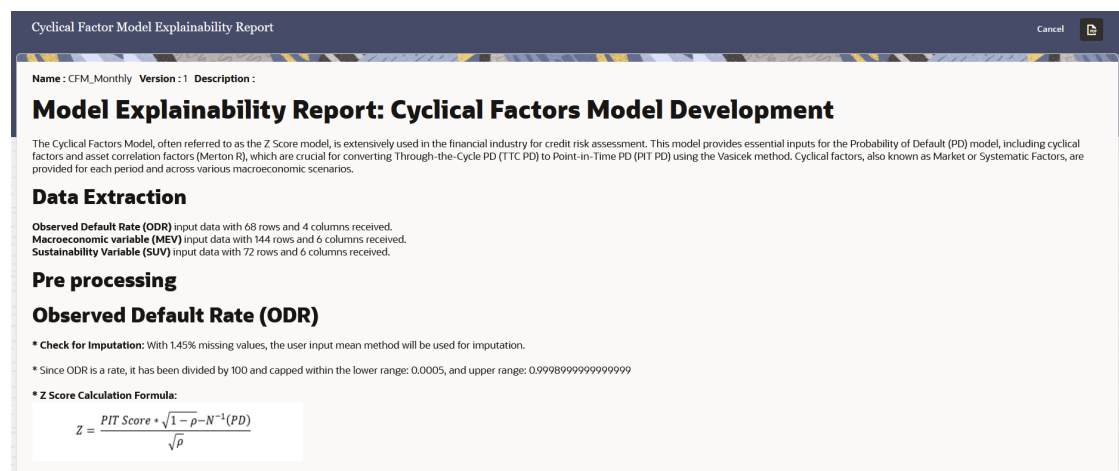


Additionally, click the **Finalize** icon to finalize the reports. A confirmation window pops up, confirming if you want to create a new version of the cyclical factors model while finalizing the report.

View the Model Explainability Report of the Cyclical Factors Model Development

Click the more icon and then select **Model Explainability Report** to view the model explainability report details.

Figure 6-19 Cyclical Factor Model Explainability Report



Additionally, click the **PDF** icon to view the report in the PDF format. Printing this report from the PDF window is supported.

Search Cyclical Factors Models

Search for cyclical factors models to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)
- [Predict](#)
- [Report](#)
- [Create Version](#)
- [Version History and Execution](#)

Procedure

To search for cyclical factors models, perform the following steps:

- Navigate to the **Cyclical Factors Model Summary** page.
- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the cyclical factors models and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the **Advanced Search** can be used with the name and description.
- Additionally, in the **Field Search** field, enter the name of the cyclical factor models to filter the list of cyclical factors models by values that match the search term.

Only cyclical factors models that match the search criteria are displayed.

PD Model Processes

The probability of default (PD) model provides the PD term structure based on multi-state Markov (MSM) transformation. Through the cycle (TTC) PD is the output of MSM transformation. The Vasicek model converts TTC PD to point-in-time (PIT) PD. In the Vasicek single-factor model, PDs are estimated based on a single common factor, typically an economic factor. The model assumes that the systematic factor influences the PD of an entity and can be modelled as a function of that factor.

The PD Model Process is defined at the Modelling Set, Portfolio Rule, and Economic Scenario Rule levels. Cyclical Factor Rule is also attached while defining the PD Model Process.

PD Model Process Summary Page

This page is the gateway to the PD Model Process feature and related functionality. To access this page from the LHS menu, click **Models**, then click **PD Model**, and then click **PD Model Process**. You can navigate to other pages that are related to PD Model Process from this point.

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)
- [Search](#)

The **PD Model Process Summary** page displays the following columns:

Table 6-10 PD Model Process Summary page – Fields and Descriptions

Column	Description
Name	Displays the PD Model Process's name.
Add	Click the Add icon to create a new PD Model Process.
Delete	Select the desired PD Model Process Name and then select the Delete icon.
Refresh	Click the Refresh icon to refresh the Summary Page.

Table 6-10 (Cont.) PD Model Process Summary page – Fields and Descriptions

Column	Description
Help	Click the Help icon to view the PD Model Process's help.
Search	Use this field to search for a Term Structure Rule to View , Edit , Copy (Save As) , Delete , Download , and find the Dependency Information an PD Model Process. For more information on using this feature, see the Search a PD Model Process section.
Field Search	Enter the name of the PD Model Process to filter the list of PD Model Processes by values that match the search term. For more information on using this feature, see the Search a PD Model Process section.

The **PD Model Process** pane on the **PD Model Process Summary** page displays the list of PD Model Process and offers several actions that allow you to perform different tasks. The following tasks are available for the PD Model Process in the **Action** column.

Table 6-11 PD Model Process – Icons and Descriptions

Column	Description
View	Click the Action icon adjacent to the PD Model Process Name and select View to view the contents of a PD Model Process in read format.
Edit	Click the Action icon adjacent to the PD Model Process Name and select Edit to edit the contents of a PD Model Process.
Save As	Click the Action icon adjacent to the PD Model Process Name and select Save As to create a copy of an existing PD Model Process.
Delete	Click the Action icon adjacent to the PD Model Process Name and select Delete to delete an existing PD Model Process.
Dependency Information	Click the Action icon adjacent to the PD Model Process and select Dependency Information to check the higher and lower order dependencies for an existing PD Model Process.

Create PD Model Process

Perform the following steps to create PD Model Process:

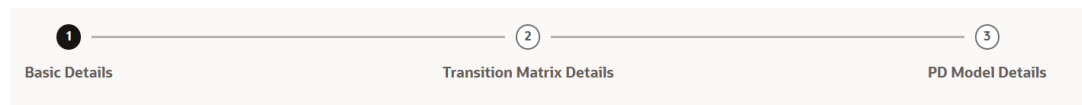
1. On the **PD Model Process Summary** page, click the **Add** icon to open the **PD Model Process** window.

Figure 6-20 PD Model Process

The screenshot shows the 'PD Model Process' window with a dark blue header and a 'Cancel' button in the top right. Below the header is a progress bar with three steps: 1. Basic Details, 2. Transition Matrix Details, and 3. PD Model Details. The 'Basic Details' tab is selected and highlighted. It contains five required fields: 'Name', 'Description', 'Folder', 'Modelling Set', 'Economic Scenario Rule', and 'Portfolio Rule'. Each field has a 'Required' label below it. At the bottom of the tab is an 'Audit' link with a right-pointing arrow.

2. This window contains tabs that must be configured for a new PD Model Process:

Figure 6-21 PD Model Process



- Basic Details
 - Transition Matrix Details
 - PD Model Details
3. Populate the **Basic Details** tab as tabulated:

Figure 6-22 Basic Details Tab

This screenshot is identical to Figure 6-20, showing the 'Basic Details' tab of the 'PD Model Process' window. It highlights the required fields: Name, Description, Folder, Modelling Set, Economic Scenario Rule, and Portfolio Rule, each with a 'Required' label. An 'Audit' link is at the bottom.

Table 6-12 Basic Details

Field	Description
Name	Enter a name.

Table 6-12 (Cont.) Basic Details

Field	Description
Description	Enter a description for the process.
Folder	Select a folder from the drop-down list
Modelling Set	Select a modelling set from the drop-down list.
Economic Scenario	Select a economic scenario from the drop-down list.
Portfolio Rule	Select a portfolio rule from the drop-down list.

4. Populate the **Transition Matrix Details** tab as tabulated:

Figure 6-23 Transition Matrix Details Tab
Table 6-13 Transition Matrix Details

Field	Description
Transition Matrix Type	Select either <i>Rating</i> or <i>Days Past Dues</i>
Transition Matrix Frequency	Select a transition matrix frequency from the drop-down list. The available options are: - Monthly - Quarterly - Half Yearly - Annually
Computation Basis	Select a computation basis from the drop-down list. The available options are: - Count Movement - Value Movement

Table 6-13 (Cont.) Transition Matrix Details

Field	Description
Transition Matrix Projection Cap	Enter a numeric value in this field to define the projection cap for the transition matrix.
	 Note: Negative and decimal values are not supported in this field.
Default as Absorbing State	Select either <i>Yes</i> or <i>No</i> .
Band Details (Days Past Dues)	This option is only available if the <i>Days Past Dues</i> option was selected in the Transition Matrix Type field. You can define the band details of the Transition Matrix. Select the arrow adjacent to the status to set the band details in the Transition Matrix Band Details window: - Click the Add button to add a row(s) to the table. The rows 1 and 2 are already present and populated by default. - In the row under the Lower Limit column, set the lower limit for the band. Depending on the value that is set in the incremental rows, the upper limit of the previous row is auto populated with a lower value. - Once the band details are configured, click Apply. The status of the Band Details changes to <i>Defined</i>. Click the Reset button to reset this window to its' default state.
Rating Type (Rating)	This option is only available if the <i>Rating</i> option was selected in the Transition Matrix Type field. Select either <i>Long Term</i> or <i>Short Term</i> or both.
Transition Matrix Name	Enter an alphanumeric name.
Transition Matrix Description	Enter a description.
Base Transition Matrix	Select the value <i>Manual Input</i> from the drop-down list. This option is disabled if the <i>Rating</i> option was selected in the Transition Matrix Type field. If this value is selected from the drop-down list, then the Days Past Dues / <Transition Matrix Frequency> / Count Movement table appears. The name of this table changes based on the transition matrix frequency that was selected from the Transition Matrix Frequency field.

Table 6-13 (Cont.) Transition Matrix Details

Field	Description
Days Past Dues (Table)	In the Days Past Dues table, click the arrow icon adjacent to the <i>Undefined</i> status. Configure the values: - Select an Effective Date from the Effective Date field by clicking the Select Date icon. The Effective Date field is automatically populated with the Effective Date that was selected in the Effective Date field. If multiple Effective Dates were previously applied, then those names will also appear in this drop-down list. - In the Transition Matrix DPD Band field, configure the Bands in % format.  Note: The sum of the % values for the transition probability sum in each row must be <i>100%</i>. If the sum is not <i>100%</i> then the application displays a message indicating in which band and for which effective date the sum is not <i>100%</i>. - Click Apply. - Additionally, click the Delete icon to delete the configured data and reset the page to the default values. After defining the values, the status for the PD Model Assignment in the table changes to <i>Defined</i>.

Table 6-13 (Cont.) Transition Matrix Details

Field	Description
Rating (Table)	In the Rating table, click the arrow icon adjacent to the <i>Undefined</i> status. Configure the values: - Select an Effective Date from the Effective Date field by clicking the Select Date icon. The Effective Date field is automatically populated with the Effective Date that was selected in the Effective Date field. If multiple Effective Dates were previously applied, then those names will also appear in this drop-down list. If the Rating option was selected then, you can select the Long Term Rating or Short Term Rating tab and then select an Effective Date from this drop-down list to view the configurations that were previously set for the selected date. - For each Transition Matrix Rating, enter a value in % in each field.  Note: The sum of the % values for the transition probability sum in each row must be 100%. If the sum is not 100% then the application displays a message indicating in which band and for which effective date the sum is not 100%. - Click Apply. - Additionally, click the Delete icon to delete the configured data and reset the page to the default values. After defining the values, the status for the PD Model Assignment in the table changes to <i>Defined</i>.

5. Populate the **PD Model Details** tab as tabulated:

Figure 6-24 PD Model Details

PD Model Process

Cancel Save

Basic Details Transition Matrix Details PD Model Details

PD Model Details

Cyclical Factors Required Cyclical Factors Period Merton R 0 Smoothing Period 0

Matrix Selection

From	To	Assign Matrix
		33

> Audit

Table 6-14 PD Model Details

Field	Description
Cyclical Factors	Users can choose either <i>Cyclical Factors Rule</i> or the <i>Cyclical Factors Model</i> from this drop-down list. If Cyclical Factors Model is selected, it must be executed first as a prerequisite before running the PD model
Cyclical Factors Period	This field is automatically populated when the cyclical factor is selected in the Cyclical Factor field.
Merton R	If Cyclical Factors rule is used, then manual input is required. If Cyclical Factors Model is used, then this field is auto populated based on the model. If required, the user can edit it.
Smoothing Period	Smoothing is an optional field. If cyclical factors are unavailable for the entire projection period, smoothing offers a gradual fallback to the conditional TTC PD values.
Matrix Selection (Table)	In this table: Enter numeric values in the From and To fields.

**Note:**

The **To** value must be greater than the **From** value.

- Select a value from the **Assign Matrix** drop-down field.
- Click **Add** to add additional rows to this table.
- Click **Delete** to delete a row or multiple selected roles.

- Click **Save As** to save the PD Model Process or click **Cancel** to exit this window.

Dependency Information

You can check dependencies to know where a particular PD Model Process has been used. This prevents accidental deletions that have Higher Order or Lower Order Dependencies.

To check the dependency of a PD Model Process:

1. Navigate to the **PD Model Process Summary** page.
2. Either [search](#) for a PD Model Process or navigate to the desired PD Model Process from the list of PD Model Process.
3. Click the **Action** icon that is adjacent to the PD Model Process and select **Dependency Information** to open the dependency information page.
On this page use the Higher Order Dependency and Lower Order Dependency tabs to toggle between the higher and lower order dependencies.
4. You can also use the **Search** field in either tabs to search for a desired dependency.

Delete PD Model Process

Perform the following steps to delete PD Model Process:

1. Select the PD Model Process that you want to delete and click the **Action** icon.
Note the following conditions for deleting a PD Model Process:
 - If a PD Model Process does not have any Higher Order or Lower Dependencies, then the application allows you to delete the selected PD Model Process.
 - If a PD Model Process contains a *Higher Order Dependency*, then the application does not allow you to delete the selected PD Model Process.
 - If a PD Model Process contains a *Lower Order Dependency*, then a message appears asking if you want to delete the selected PD Model Process.
2. Select **Delete**.
3. You can also delete a PD Model Process by selecting the PD Model Process that you want to delete and then click the **Delete** icon.

Refresh PD Model Process

You can refresh existing PD Model Process from the **PD Model Process Summary** page to refresh the PD Model Process with newly available data. Perform the following steps to refresh one or more existing PD Model Process:

1. On the **PD Model Process Summary** page, select the **Refresh** icon.
The definitions on the Summary page are refreshed with newly available data.

View PD Model Process

Perform the following steps to View PD Model Process:

1. Select the PD Model Process that you want to view and click the **Action** icon.
2. Select **View**.
3. The **PD Model Process** window opens, displaying the details of the selected PD Model Process.
4. Click **Cancel**.

Edit PD Model Process

The edit feature enables you to update the details of an existing PD Model Process. Perform the following steps to edit an existing PD Model Process:

1. In the PD Model Process list, select the **Action** icon adjacent to the PD Model Process name that you want to edit.
2. Click **Edit** to open the PD Model Process window.
3. Update the required fields. Only the **Name**, **Modelling Set**, and **Legal Entity** fields are not editable.
4. Click **Save**.
The saved PD Model Process is displayed in the PD Model Process list on the **PD Model Process Summary** page.

Save PD Model Process

Perform the following steps to save PD Model Process under a different name and folder:

1. Select the desired PD Model Process.
2. Click the **Action** icon.
3. Select **Save As** to open the **Save As** window.
4. In the **Save As** window, enter a name and description in the **Name** and **Description** fields.
5. Select a folder from the **Folder** drop-down list.
6. Click **Save**. The PD Model Process is saved under a new name and folder.

Download PD Model Process

Perform the following steps to download PD Model Process:

1. To download the list of defined process, select the **Download** option from the summary UI screen.
The selected processes are downloaded in a csv format.

Search PD Model Process

Search for PD Model Process to perform any of the following tasks:

- [Create](#)
- [View](#)
- [Edit](#)
- [Download](#)
- [Copy \(Save As\)](#)
- [Delete](#)
- [Dependency Information](#)

Procedure

To search for PD Model Process, perform the following steps:

- Navigate to the **PD Model Process Summary** page.

- Click the **Search** field
- Enter either the **Name** or **Description**, either one of these fields are required for the search, of the PD Model Process and click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Additionally, the Advanced Search can be used with the Name and Description.
- Additionally, in the **Field Search** field, enter the name of the PD Model Process to filter the list of PD Model Process by values that match the search term.

Only PD Model Process that match the search criteria are displayed.

7

Technical Documents

This chapter covers the following topics:

1. [Download Specification](#) - A download specification provides an efficient way to manage the sourcing of data into the Staging Area. This is done by mapping the Staging Model at a column level to use cases. This mapping information is embedded in ERwin at a column level using metadata called User Defined Properties (UDPs). The Download specifications can be extracted using pre-built templates, in a manner similar to the Data Dictionary.
2. [CFE Reference Guide](#): The Reference Guide emphasizes business analysis and provides definitions, analytical concepts, processes, and calculations used in the Oracle Financial Services Cash Flow Engine (CFE). The information provided includes data requirements, payment and repricing event logic, calculation formulas, and various methodologies used to produce cash flows.
3. [Data Dictionary Guide](#): The Data Dictionary Guide contains detailed information necessary for correct data population, including field definitions, and recommended default values for the cash flow processing fields.
4. [IFRS9SCS Reference Guide](#): The Reference Guide emphasizes business analysis and provides rules, processes, and calculations used in the Oracle Financial Services IFRS 9 Solution Cloud Service (IFRS9SCS). The information provided includes data Stage determination, Account Classification, Amortization Rules and calculation formulas, and various methodologies used to calculate Expected Credit Loss.