Oracle® Financial Services Climate Change Analytics Cloud Service

User Guide

Release 23C
F88932-02
January 2024

ORACLE

Oracle Financial Services Climate Change Analytics Cloud Service User Guide, Release 23C

F88932-02

Contents

3 Data Administration

4 Business Rules Administration

5 Operations

9 Thresholds

10 Reports

11 Glossary

1

About This Content

This guide provides information on the newly released Oracle Financial Services Climate Change Analytics Cloud Service (OFS CCA CS).

Audience

This document is intended for users of the Oracle Financial Services Climate Change Analytics Cloud Service (OFS CCA CS) application.

Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

Access to Oracle Support

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

Related Resources

See these Oracle resources:

- Getting Started with Oracle Cloud
- Admin Console User Guide
- OFS Climate Change Analytics Cloud Service User Guide

Conventions

The following text conventions are used in this document.

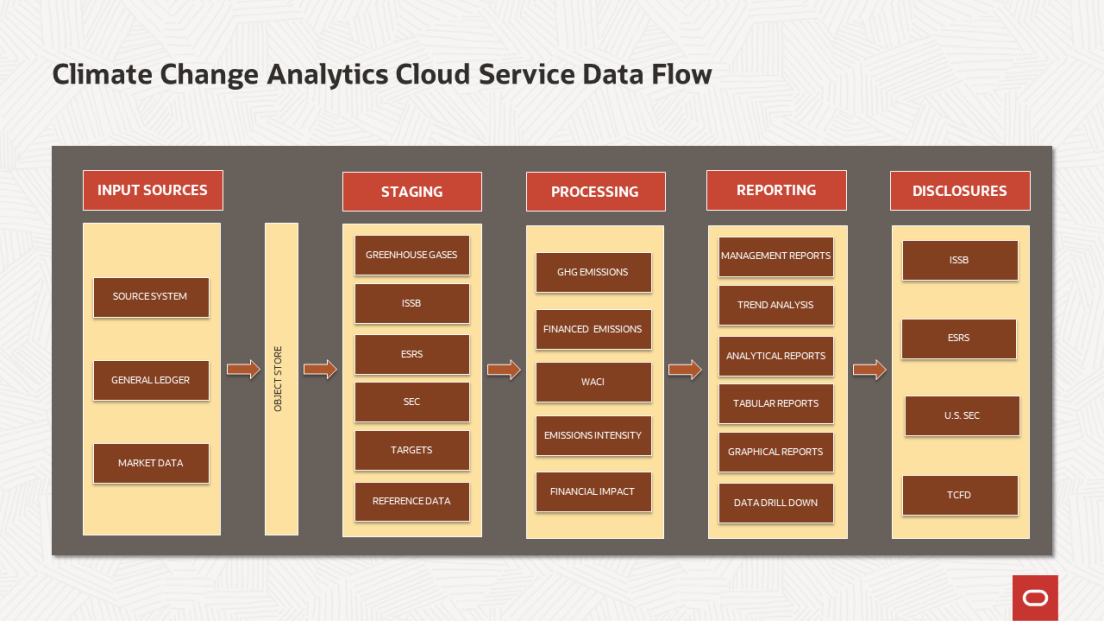
Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates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

2

Oracle Financial Services Climate Change Analytics Cloud Service (OFS CCA CS)

This chapter provides the functional and business overview of the Oracle Financial Services Climate Change Analytics Cloud Service workflow.

Figure 2-1 The OFS Climate Change Analytics Cloud Service Workflow



Oracle Financial Services Climate Change Analytics Cloud Service (OFS CCA CS) is a one-stop-shop-solution to help banks and financial institutions in their endeavor of complying with their climate change-related reporting and analytical requirements across the following standards and/or frameworks:

- The sustainability Disclosure Standard is issued by the International Sustainability Standards Board (ISSB) by the IFRS Foundation.
- European Sustainability Reporting Standard (ESRS) issued by the European Financial Reporting Advisory Group (EFRAG).
- Climate-related Disclosures issued by the U.S. Securities and Exchange Commission (SEC), USA.
- Task Force on Climate-related Financial Disclosures (TCFD) issued by The Financial Stability Board (FSB).

> **Note:**
>
> This standard uses draft/interim provisions, and requirements of ISSB, ESRS, and U.S. SEC standards/rules. Over time, application calculations and reports may change in line with updates made in these respective standards/rules.

The application supports compliance with these standards and/or frameworks by having specific and out-of-the-box analytics for the following reporting requirements:

- Greenhouse Gas (GHG) Emissions
- Climate Change Risk Management
- The Upstream and Downstream impact of Climate Change Risk
- Climate Change Targets, and Performance Evaluation
- Management Overview

Frameworks Supported by Oracle Financial Services Climate Change Analytics Cloud Service

This section provides information on the various frameworks that are supported by Oracle Financial Services Climate Change Analytics Cloud Service:

> **Note:**
>
> The purpose of this section is to only highlight the various requirements of the mentioned frameworks and/or standards. Over time, the application calculations and reports may change in line with updates made in these respective standards/rules.

- **European Sustainability Reporting Standards (ESRS)**
- **International Sustainability Standards Board (ISSB)**
- **U.S. Securities Exchange and Commission (SEC Rules)**
- **Task Force on Climate-Related Financial Disclosures (TCFD Requirements)**

ESRS

The following is the set of disclosure requirements from ESRS relating to climate change that a reporting entity needs to report:

- **Disclosure Requirement E1-1** – Transition plan for climate change mitigation
- **Disclosure Requirement E1-2** – Policies related to climate change mitigation and adaptation
- **Disclosure Requirement E1-3** – Actions and resources about climate change policies

- **Disclosure Requirement E1-4** – Targets related to climate change mitigation and adaptation
- **Disclosure Requirement E1-5** – Energy consumption and mix
- **Disclosure Requirement E1-6** – Gross Scopes 1, 2, 3 and Total GHG emissions
- **Disclosure Requirement E1-7** – GHG removals and GHG mitigation projects financed through carbon credits
- **Disclosure Requirement E1-8** – Internal carbon pricing
- **Disclosure Requirement E1-9** – Potential financial effects from material physical and transition risks and potential climate-related opportunities

ISSB

The following are the set of disclosure requirements from ISSB relating to climate change that a reporting entity needs to report.

- **Governance**
- **Strategy**
- **Risk Management**
- **Metrics**

Governance

An entity shall disclose information about the identity of the governance body or bodies that are responsible for the oversight of climate-related risks and opportunities; a reflection of its policies on board mandates, and other policies; updates on climate-related risks and opportunities; consideration given to climate-related risks and opportunities when overseeing entity's strategy.

Strategy

An entity shall disclose information about the significant climate-related risks and opportunities that it reasonably expects could affect its business model and strategy; the effects of such risks and opportunities on its business model, value chain, strategy, transition plans, and financial position; and the climate resilience of its strategy.

Risk Management

An entity shall disclose processes used to identify climate-related risks and opportunities; monitor, manage, and prioritize climate-related risks and opportunities; and the extent of integration of such risks and opportunities into the overall Risk Management Process.

Metrics

An entity shall disclose financial disclosures on metrics and targets related to the relevant cross-industry metric categories; industry-based metrics; other metrics used by the board or management to measure progress towards the targets; and targets set by the entity relating to climate-related risks and opportunities.

U.S. SEC Rules

The following are the set of disclosure requirements from the SEC relating to climate change that a reporting entity needs to comply report.

- The oversight and governance of climate-related risks by the registrant's board and management;
- How many climate-related risks identified by the registrant have had or are likely to have a material impact on its business and consolidated financial statements, which may manifest over the short-, medium-, or long-term;
- How many identified climate-related risks have affected or are likely to affect the registrant's strategy, business model, and outlook;
- The registrant's processes for identifying, assessing, and managing climate-related risks and whether any such processes are integrated into the registrant's overall risk management system or processes;
- If the registrant has adopted a transition plan as part of its climate-related risk management strategy, a description of the plan, including the relevant metrics and targets used to identify and manage any physical and transition risks;
- If the registrant uses scenario analysis to assess the resilience of its business strategy to climate-related risks, a description of the scenarios used, as well as the parameters, assumptions, analytical choices, and projected principal financial impacts;
- If a registrant uses an internal carbon price, information about the price and how it is set;
- The impact of climate-related events (severe weather events and other natural conditions) and transition activities on the line items of a registrant's consolidated financial statements, as well as the financial estimates and assumptions used in the financial statements;
- The registrant's direct GHG emissions (Scope 1) and indirect GHG emissions from purchased electricity and other forms of energy (Scope 2), separately disclosed, expressed both by disaggregated constituent greenhouse gases and in the aggregate, and absolute terms, not including offsets, and in terms of intensity (per unit of economic value or production);
- Indirect emissions from upstream and downstream activities in a registrant's value chain (Scope 3), if material, or if the registrant has set a GHG emissions target or goal that includes Scope 3 emissions, in absolute terms, not including offsets, and in terms of intensity; and
- If the registrant has publicly set climate-related targets or goals, information about:
  - The scope of activities and emissions included in the target, the defined time horizon by which the target is intended to be achieved, and any interim targets;
  - How the registrant intends to meet its climate-related targets or goals;
  - Relevant data to indicate whether the registrant is making progress toward meeting the target or goal and how much progress has been achieved, with updates each fiscal year; and
  - If carbon offsets or renewable energy certificates ("RECs") have been used as part of the registrant's plan to achieve climate-related targets or goals, certain

information about the carbon offsets or RECs, including the amount of carbon reduction represented by the offsets or the amount of generated renewable energy represented by the RECs.

TCFD Requirements

The following are the set of disclosure suggestions from TCFD relating to climate change that a reporting entity needs to report:

- Governance
- Strategy
- Risk Management
- Metrics and Targets

Governance

Discloses the organization's governance around climate-related risks and opportunities including a description of the board's oversight of climate-related risks and opportunities; and management's role in assessing and managing climate-related risks and opportunities.

Strategy

Discloses the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning where such information is material. The required information would include a description of the identified climate-related risks and opportunities in the company; the impact of such risks and opportunities on the company's businesses, strategy, and financial planning; and describe the resilience of the company's strategy.

Risk Management

Discloses how the company identifies, assesses, and manages climate-related risks by including a description of the company's processes for identifying and assessing such risks; processes for managing them; and their integration into the company's overall Risk Management.

Metrics and Targets

Discloses the Metrics and Targets used to assess and manage relevant climate-related risks and opportunities where such information is material. Disclosures include metrics used by the organization to assess climate-related risks and opportunities; Greenhouse Gas (GHG) Emissions; Climate Targets; and a performance evaluation against targets.

Working with Oracle Financial Services Climate Change Analytics Cloud Service

The following sections provide an overview of the OFS CCA CS User Groups, Guidelines for working with the application, launching the application, and common features.

User Groups

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

Table 2-1 User Groups and Activities

User Groups	Activities
CCA Administrator User Group	• Set User and Application Preferences • Set Setup Parameters • Currency and Rate Management • Dimension Management
CCA Analyst User Group	• Data Management: Metadata and Data Loaders • Schedule Batch Processes
CCA Auditor User Group	• View privileges for all application-specific modules: • Review/Analyze Results • Review Process Logs • View Reports
CCA Approver User Group	• Emissions Calculator • Data Model Interface • Data Model Extension • Data Quality Framework

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.

Guidelines for working with Oracle Financial Services Climate Change Analytics Cloud Service

This topic describes an approach to designing and building applications based on your Security Role and the tasks it enables you to perform.

Table 2-2 List of Roles referred to in Oracle Financial Services Climate Change Analytics Cloud Service

Module Details				OFS CCA CS Roles			
Module	**Access Code**	**Functionality**	**Module Role Code**	**CCA Approver**	**CCA Admin**	**CCA Analyst**	**CCA Auditor**

Table 2-2 (Cont.) List of Roles referred to in Oracle Financial Services Climate Change Analytics Cloud Service

Module Details				OFS CCA CS Roles			
File Upload	File Upload, File Download, File Delete, List of Files (summary)	User mapped to this role can perform File upload, download, delete and view the list of files uploaded	File advance	N	Y	N	N
File Upload	File List	This role will have access to view the list of File uploaded into the Object Store	File read	N	Y	Y	Y
Batch Scheduler	Batch Advanced	This role can perform Batch create, edit, delete, purge, schedule, execute, copy, view	Batch adv	N	Y	N	N
Batch Scheduler	Batch Operator	This role can perform Batch execute, schedule, view, list of batches	Batch oper	N	N	Y	N
Batch Scheduler	Batch Read	This role can view batch, list of batches	Batch read	N	N	N	Y
Dimension Member	Member Advanced	This role can add, edit, view, delete, authorize, view list of members	Member adv	N	Y	N	N

Table 2-2 (Cont.) List of Roles referred to in Oracle Financial Services Climate Change Analytics Cloud Service

Module Details				OFS CCA CS Roles			
Dimension Member	Member write	This role can add, edit, view, view list of members	Member write	N	N	Y	N
Dimension Member	Member read	This role can view member and list of members (summary)	Member read	N	N	N	Y
Hierarchy	Hierarchy Advanced role	This role can add, edit, view, delete, authorize, view list of hierarchies	Hierarchy Adv	N	Y	N	N
Hierarchy	Hierarchy Write role	This role can add, edit, view, view list of hierarchies	Hierarchy write	N	N	Y	N
Hierarchy	Hierarchy Read role	This role can view hierarchy definition and view the list of hierarchies	Hierarchy read	N	N	N	Y
Attribute	Attribute Advanced role	This role can add, edit, view, delete, authorize, view list of attribute definitions	Attribute advanced	N	Y	N	N
Attribute	Attribute write role	This role can add, edit, view, view list of attribute definitions	Attribute write	N	N	Y	N

Table 2-2 (Cont.) List of Roles referred to in Oracle Financial Services Climate Change Analytics Cloud Service

Module Details				OFS CCA CS Roles			
Attribute	Attribute read role	This role can view, view list of attribute definitions	Attribute read	N	N	N	Y
Currency	Currency Admin role	This role can add, edit, View, delete currency definition	Currency admin	N	Y	Y	N
Currency	Currency auditor role	This role can view currency definition	Currency auditor	N	N	N	Y
Currency rates	Currency rates Admin role	This role can add, edit, view, delete the Currency rates	Currency rates admin	N	Y	Y	N
Currency Rates	Currency Rates Auditor	This role can view the Currency rates	Currency rates auditor	N	N	N	Y
Data File Specification	Data File Specification Advanced	This role can add, edit, view, delete, copy, data upload	Data file specification adv	N	Y	Y	N
Data File Specification	Data File Specification Read	This role can view the Data file specification definition	Data file specification read	N	N	N	Y
Data Model Extension	Data Model Column Extension Advanced Access	The User Group mapped to this role will have advanced access to columns in the Data Model Extension Service.	DMEXTCOLADV	Y	N	N	N

Table 2-2 (Cont.) List of Roles referred to in Oracle Financial Services Climate Change Analytics Cloud Service

Module Details				OFS CCA CS Roles			
Data Model Extension	Data Model Column Extension Authorization Access	User Group mapped to this role will have access to Authorize the changes in Data Model Extension Service column segment	DMEXTCOLAUTH	Y	N	N	N
Data Model Extension	Data Model Column Extension Read Access	User Group mapped to this role will have access to Data Model Extension Service	DMEXTMLREAD	Y	N	N	N
Emissions Calculator	Emission Calculator Approver	Emission Calculator Auditor	RLEMICALAPPROVER	Y	N	N	N
Data Model Maintenance	DMM Write	The Data Model Maintenance Write Role	DMMWRITE	Y	N	N	N
Data Quality	DQ AccessRole	This is the Read role in the Data Quality Framework service.	DQACC	Y	N	N	N
Data Quality	DQ Read	Data Quality Read-only Role	DQREAD	Y	N	N	N
Data Quality	DQ Phantom	Data Quality Phantom Role	DQPHTM	Y	N	N	N
Data Quality	DQ Write	Data Quality Write Role	DQWRITE	Y	N	N	N

Table 2-2 (Cont.) List of Roles referred to in Oracle Financial Services Climate Change Analytics Cloud Service

Module Details				OFS CCA CS Roles			
Data Quality	DQ Auto Authorize Role	Data Quality Auto Authorize Role	DQAUTOAUTHR	Y	N	N	N
Data Quality	DQ Advanced	Data Quality Advanced Role	DQADVND	Y	N	N	N
Data Quality	DQ Authorize	Data Quality Authorize Role	DQAUTH	Y	N	N	N

Accessing Oracle Financial Services Climate Change Analytics Cloud Service

See the Getting Started Guide for information on how to subscribe and set up the service.

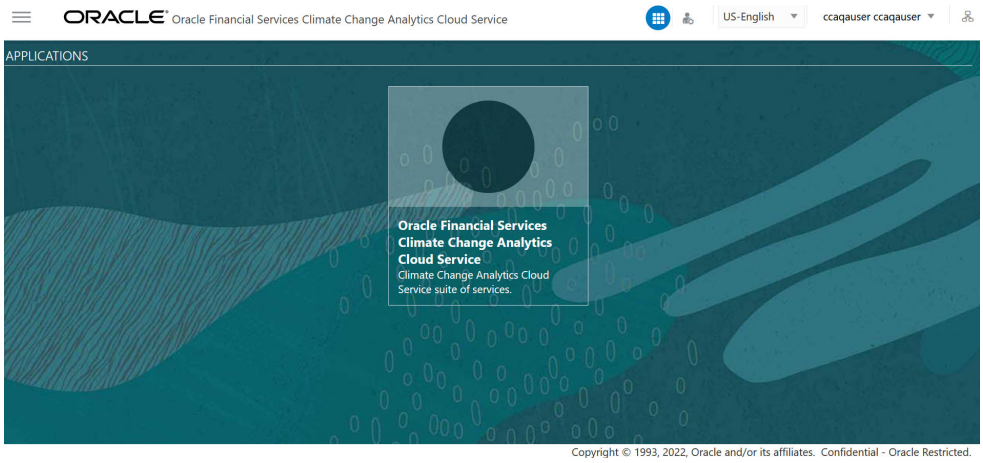
Launching Oracle Financial Services Climate Change Analytics Cloud Service

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 Climate Change Analytics Cloud Service** Home page is displayed.

Figure 2-2 Oracle Financial Services Climate Change Analytics Cloud Service Home Page



Oracle Financial Services Climate Change Analytics Cloud Service Home Page

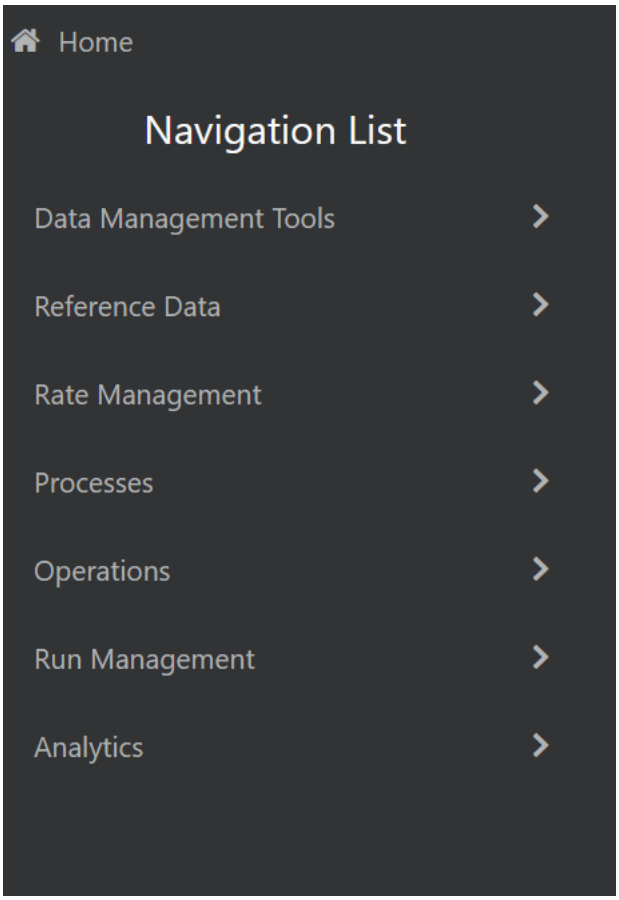
When you log in, you see the Oracle Financial Services Climate Change Analytics Cloud Service Home page.

Click the **Navigator Screen** icon

Figure 2-3 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.

Figure 2-4 The LHS Navigation



The OFS CCA Cloud Service Navigation Paths are displayed in the List of Navigation Paths. Access all these pages through the CCA Admin, or CCA Analyst, CCA Auditor or CCA Approver User.

Common Icons

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

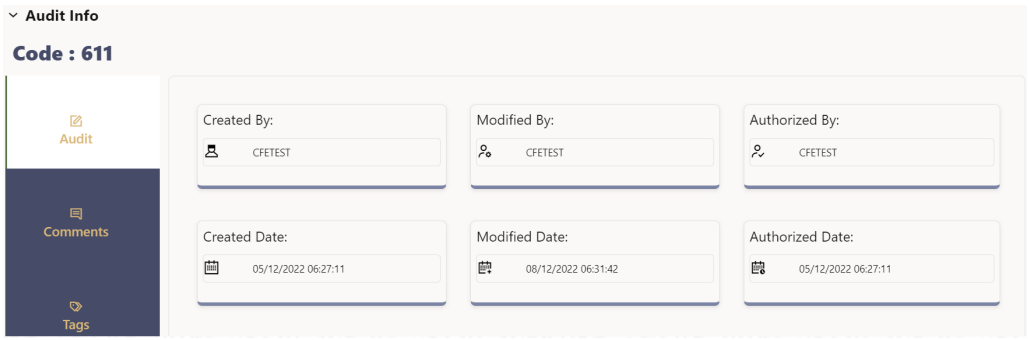
Figure 2-5 Common Icons

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.

Common Feature Controls

The OFS CCA Cloud Service includes many common feature controls.

Figure 2-6 Audit Info



Audit

The Audit Trail container is a standard footer container for every OFS CCS CS rule type. It displays Created By, Creation Date, Last Modified By, Modification Date, Authorized By, and Authorized Date on the Audit tab.

User Comments

The User Comments tab may be used to add comments to any rule, subject to a maximum of 4000 characters.

Tags

The Tags tab allows you to add a tag to the selected Rule ID.

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 Climate Change Analytics Cloud Service.

Table 2-3 Quick Tour

Order	Task	Who Does This?	Action
1	CPQ Order Placement	Tenant Admin	Subscribe to the application. You will receive a Welcome e-mail with the URL and temporary password. See Getting Started with Oracle Cloud.
2	Provision Users	Sys Admin	Configure the Security Management System (SMS) to create users, assign roles, and implement user authorization and authentication. For more information, see Getting Started with Oracle Cloud. Review Standard User Groups and Roles Create Groups and Roles Create/Import Users Assign applications and groups to users Send notification to users.

Table 2-3 (Cont.) Quick Tour

Order	Task	Who Does This?	Action
3	Load Global Preferences	CCA Admin or CCA Analyst	Perform the following tasks: • Load Setup Master Data file to the Object store • Execute Setup Master data loader • Load Canvas threshold Data file to the Object store (Refer to the Download Specifications on MOS for data file preparation) • Execute Canvas threshold data loader • Load Unit of Measurement conversion Data file to the Object store (Refer to the Download Specifications on MOS for data file preparation) • Execute Unit of Measurement conversion data loader Additionally, you must refer to the Reference Guide for Batch Information on MOS.
4	Configure Market data	CCA Admin or CCA Analyst	Configure the following data: • Activate Currency • Add Currency Exchange Rate For more information see Currency and Currency Exchange Rate.
5	Load Dimensions	CCA Admin or CCA Analyst	Load Dimension Data files to the Object store Execute the Dimension Data Loader Update the Dimension Data (Member, Attribute, or Hierarchy) from the Dimension Management feature. Refer to the Download Specifications for the data file preparation and the Reference Guide for Batch Information and preseeded dimensions on MOS.
6	Load GL Data	CCA Admin or CCA Analyst	Load the GL (Financial Statement Item) Data file to Object store Execute the GL Data Loader Refer to the Download Specifications for the data file preparation and to the Reference Guide for Batch information on MOS.
7	Load Source Data	CCA Admin or CCA Analyst	Load the Source Data files to Object store. For more information, refer to the Download Specifications on MOS & preseeded Data File Specifications for the data file preparation Execute the Source Data Loaders. For more information, refer to the Reference Guide for Batch information on MOS.
8	Load the Emissions Factor Source Data	CCA Admin or CCA Analyst	Load the Emissions Factor Source Data files to the Object store. For more information, refer to the Download Specifications on MOS & preseeded Data File Specifications for the data file preparation Execute the Emissions Factor Source Data. For more information, refer to the Reference Guide for Batch information on MOS.
9	Run Processing batches	CCA Analyst	Execute the Year-To Date (YTD) Loaders with the Consolidation or Standalone Parameter. For more information, refer to the Reference Guide for Batch information on MOS.
10	Generate Reports	CCA Analyst	Review the Reporting canvases. For more information, see the Reports document.

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, Dimensions and 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.

Data Model Extension

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

> **Note:**
>
> The Management Ledger tables are applicable only to Profitability and Balance Sheet Management Cloud Services.

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

- Dimensions Registration
- Columns Registration
- Management Ledger Registration

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

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

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

The Data Model Extension summary screen displays the following tiles:

- Dimensions
- Columns
- Management Ledger
- Pending Registration

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

Registering Dimensions

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

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

Register a Simple Dimension

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

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

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

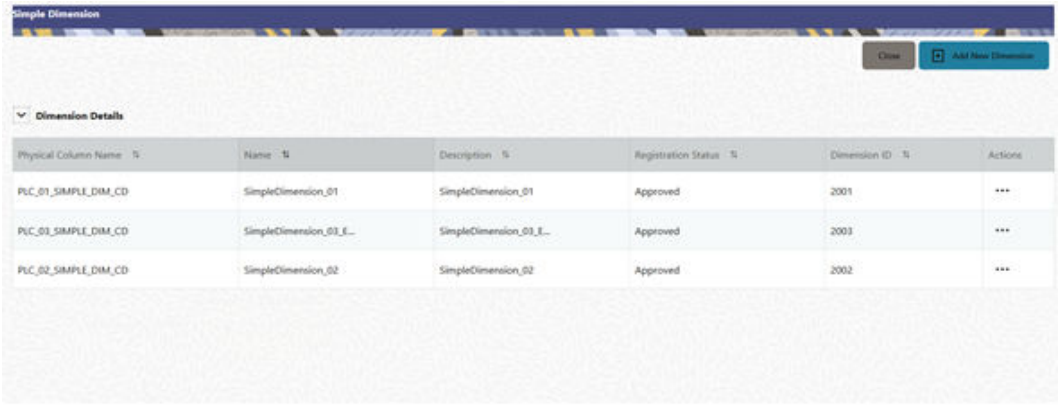
The Cloud Service Data Model comes with a set of placeholder Simple Dimensions for configuration and use. The member details of simple dimensions are stored in two tables:

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

To register a Simple Dimension:

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

Figure 3-1 Simple Dimension summary screen



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

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

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

3. Enter the following details:

   - **Name** (mandatory): Specify the required logical name of the dimension.
   - **Description** (mandatory): Specify the required description of the dimension.
   - **Comment**: Specify the required maker/checker comment. Note that special characters *, newline, and double quotes are not allowed.
     The **Details** section displays the Physical Column and Data Type information that the dimension uses for user reference. As and when a registration takes place successfully and the physical column is utilized, the next registration process proceeds to take the next-in-numerical-order physical column available for registration.

4. Click **Save**. The details are saved as a Draft and displayed on the summary screen. You can change the Name, Description, and Comments later by double clicking the details.

5. Click **Submit for Approval** to send the Dimension Details for approval. Or select a Name from the list and click the Actions icon to View, View, Edit, Submit for Approval or Delete the simple dimension.

   Or

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

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

View a Simple Dimension

To view a Simple Dimension, perform the following steps.

To view a Simple Dimension, perform the following steps:

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

Edit a Simple Dimension

To edit a Simple Dimension, perform the following steps:

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

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

Delete a Simple Dimension

To delete a Simple Dimension, perform the following steps:

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

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

Register a Key Processing Dimension

Key Processing Dimensions have the following features:

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

Metadata for Key Processing Dimensions is stored in four tables:

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

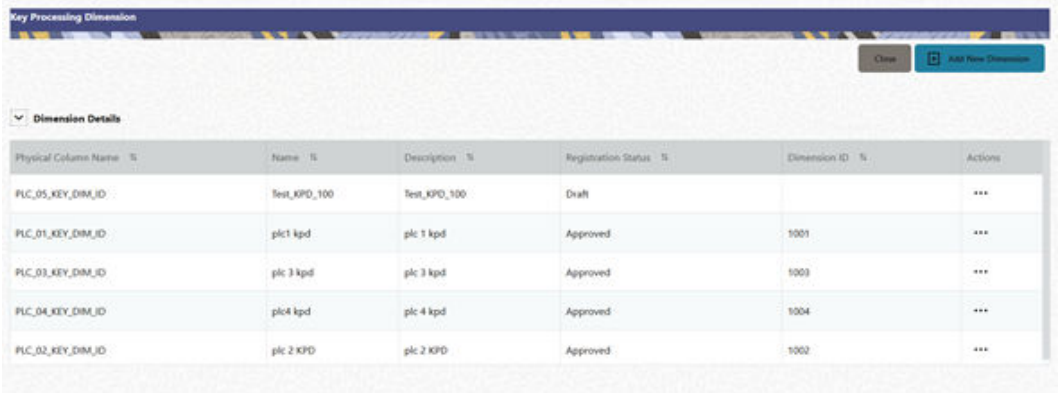
Base tables store basic information about each Dimension Member and Translation Tables store names and descriptions for each Dimension Member in multiple languages.

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

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

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

Figure 3-2 Key Processing Dimensions summary screen



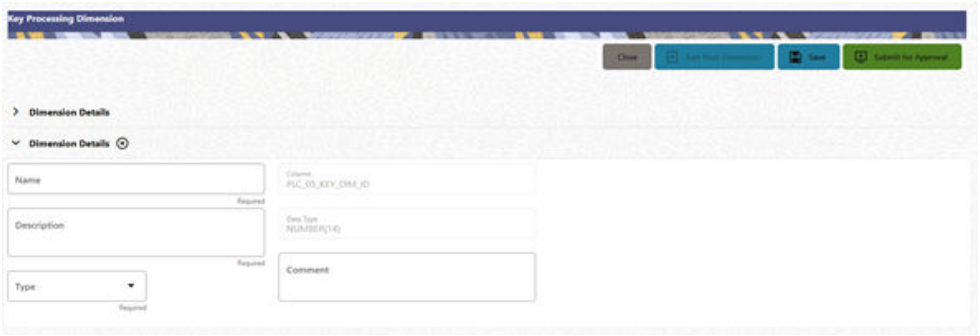
The summary screen displays the summary of existing Key Processing Dimensions with the details Physical Column Names, Name, Description, Registration Status, Dimension ID, and Actions icon.

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

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

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

Figure 3-3 Key Processing Dimension screen



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

   The **Details** section displays the Physical Column and Data Type information that the dimension uses for user reference. As and when a registration is successful and the physical column is utilized, the next registration process proceeds to take the next-in-numerical-order physical column available for registration.
4. Click **Save** to save the details. The details are saved as a Draft and displayed on the summary screen. You can change the Name, Description, and Comments later by double clicking the details.
5. Click **Submit for Approval** to send the Dimension Details for approval.
Or

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

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

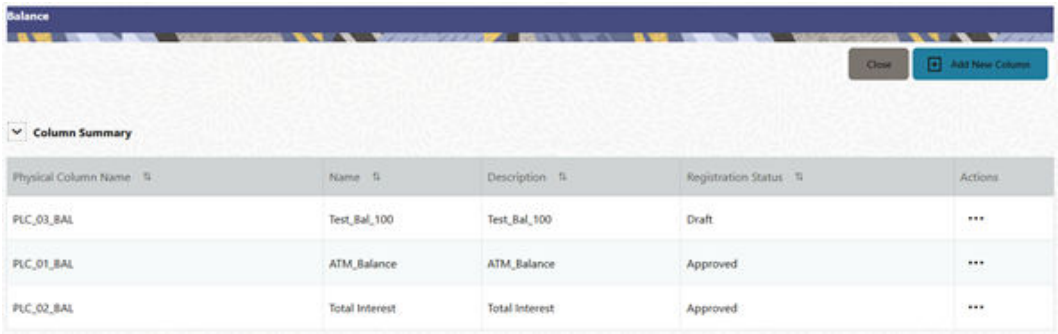
Registering Columns

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

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

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

Figure 3-4 Column Summary screen

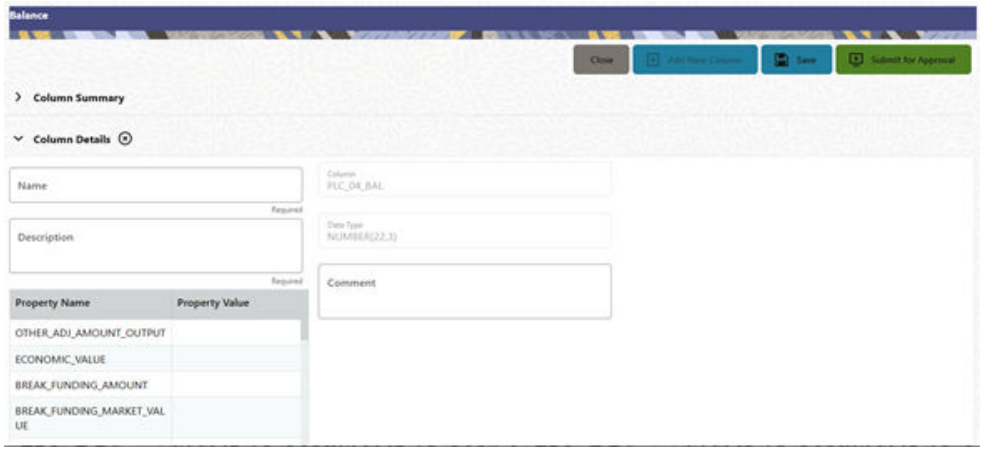


The summary screen displays the summary of existing Columns with the details Physical Column Names, Name, Description, Registration Status, and Actions icon.

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



3. Enter the following details:
   - **Name**: This is mandatory. Specify the required logical name of the column.
   - **Description**: This is a mandatory field. Specify the required description of the column.
   - **Property Name**: This is an optional field used to select a relevant Property from the drop-down list, as applicable to the Column.
   - **Property Value**: Double click to display a drop-down where you can select Yes if it is applicable to the Column.
   - **Comment**:Specify any maker/approver comment. Note that special characters *, newline, and double quotes are not allowed.
     The **Details** section displays the Physical Column and Data Type Information that the column uses for user reference. As and when a registration takes place successfully and the Physical Column is utilized, the next registration process proceeds to take the next-in-numerical-order physical column available for registration.
4. Click **Save**. The details are saved as a Draft and are displayed on the Summary screen. You can change the Name, Description, and Comments later by double clicking the details.
5. Click **Submit for Approval** to send the column details for approval.
   OR

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

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

Domain Types

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

Table 3-1 Domain Types

Profitability and Balance Sheet Management Domain Types	Climate Chante Analytics Domain Types	Accounting Standards for Banking Cloud Service
• Data • Rate • Volume • CHAR • Long Description • Flag • Balance	• Date • Number • Short Description • Rate • Percentage • CHAR • Long Description • Flag • Balance	• Data • Rate • Volume • CHAR • Long Description • Flag • Balance

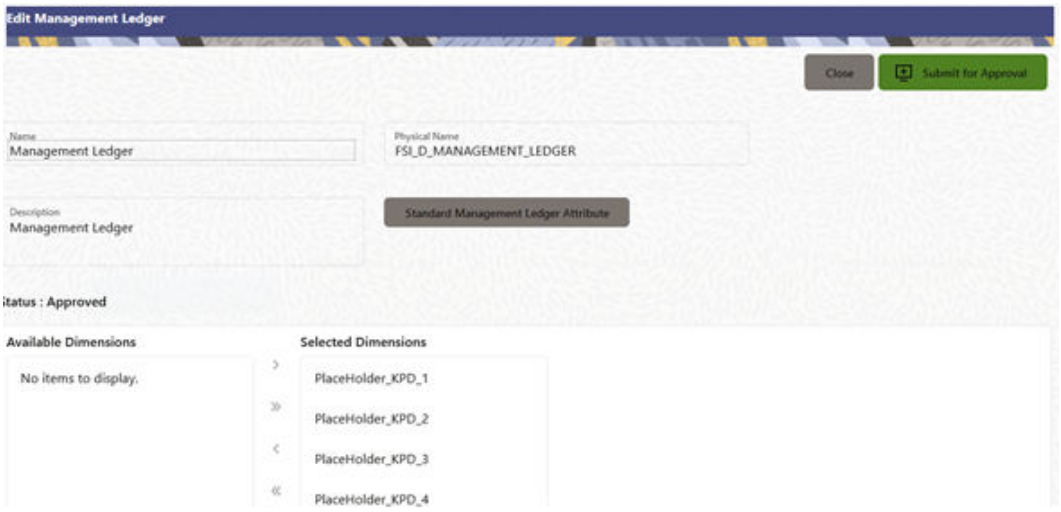
Registering a Management Ledger

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

To view and edit the Management Ledger:

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

Figure 3-6 Edit Management Ledger Screen



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

- **Name** (non-editable)
- **Physical Name** (non-editable)
- **Description** (non-editable)

2. Click **Standard Management Ledger Attribute** to collapse and see the available Standard Dimensions, Standard Columns, and Approved Dimensions.

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

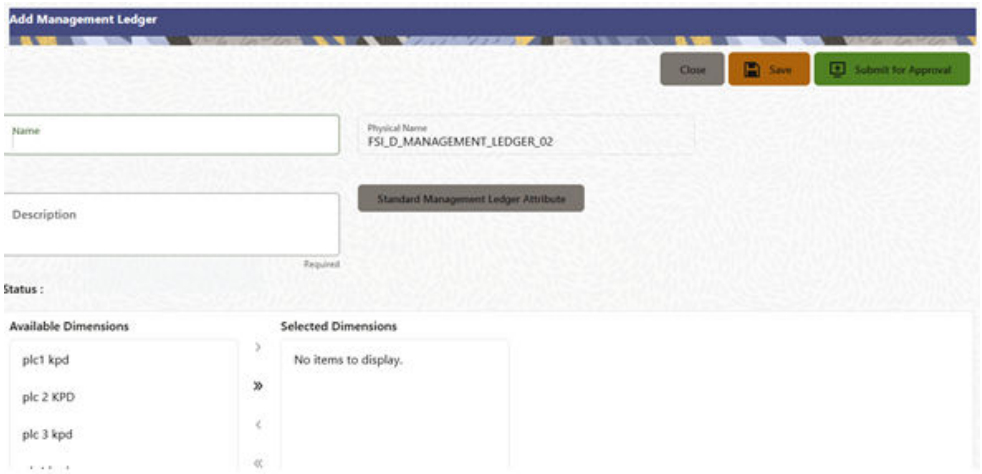
   The Standard Columns comprises of the OOTB Ledger-level Simple Dimensions and Admin Columns. The Approved Dimensions shows the list of Custom Dimensions approved for the Management Ledger.

Adding a Management Ledger

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

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

Figure 3-7 Add Management Ledger Screen



2. Enter the following details:

   - **Name**: This is a mandatory field. Specify the logical name of the Management Ledger.
   - **Description**: This is a mandatory field. Specify the description of the Management Ledger.

3. Select the applicable Dimensions from the **Available Dimensions** box and click the **Move** button to move them to Selected Dimensions box. The selected Dimensions are included as the additional activated Key Processing Dimensions for the Management Ledger.

4. Click **Submit for Approval** to send the column details for approval.

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

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

Approving or Rejecting the Registrations

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

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

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

Figure 3-8 Data Model Extension Summary Screen

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

2. Click on any Tile to open to the **Pending Dimension** and **Column Registration** screen or **Approve Management Ledger Registration** screen.
3. Enter a comment and click the **Approve** or **Reject** buttons.
4. Select **OK**.
   a. The approved Dimension or Column or Management Ledger is displayed in the summary screen with *Approved* status.
   b. Select **Cancel** to keep the Dimension or Column or Management Ledger in a Pending for Approval Status.

5. Click **Reject** to reject the registration. Complete the approval process. The Registration will be marked with status Rejected in the summary screen.
6. After it is approved or rejected, the registration is available for further modification by the Maker and can be submitted again.

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

Data File Specification

This chapter covers the following topics:

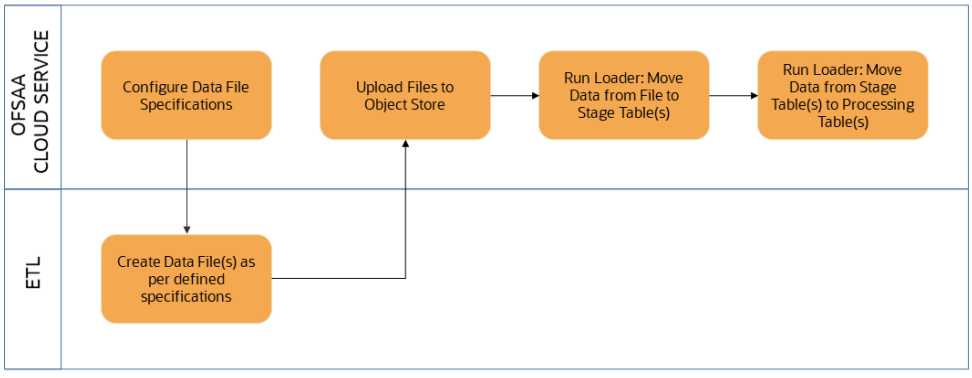
Loading External Data

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.

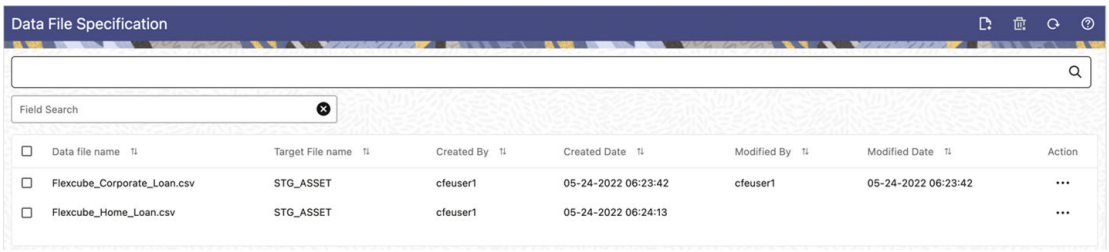
Data File Specification

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



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.

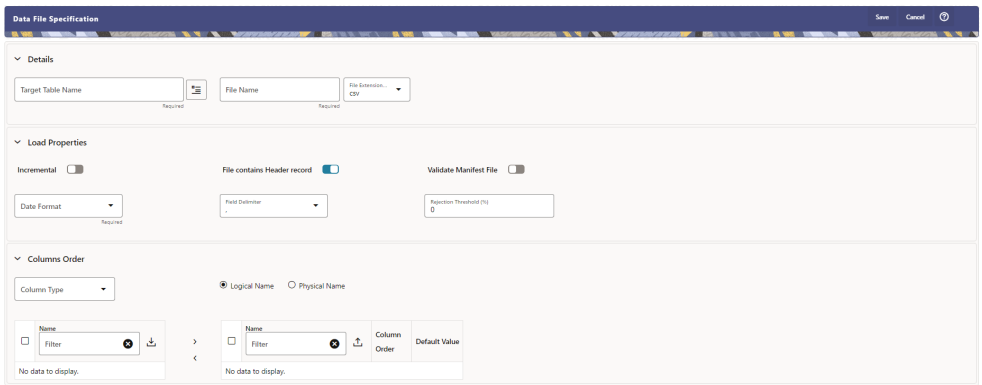
For the complete list of available columns, see the Data Requirements as follows:

- 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



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":"2587cdb6a2b
87835c6adfce627671486","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.

Table 3-2 (Cont.) MANIFEST File Details

Property Name	Notes
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 option 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

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

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 must be same as the Data File Specification with a prefix of “input_yyyymmdd” where yyyymmdd is the Date (As of Date) for which the Data File is prepared. For example:
  - Data File Specification Name is “Asset.dat”
  - The As of Date is 06-July-2022
  - Data File Name must be “input_20220706_asset.dat”
- Unique Data Validations:
  - Instrument Data Files: Account Numbers must be unique across the data files for a single As of Date.
  - Management Ledger Data Files: The combination of KPDs and Simple Dimensions must be unique across the data files for a single As of Date.
  - Transaction Summary Data Files: The combination of Account Numbers and KPDs must be unique across the data files for a single As of Date.
- Permitted Delimiters are comma (,) and pipeline (|).
- Data Validations:
  - Number fields: only numbers and dot (.) are allowed.
  - Description fields: comma (,) pipeline (|), single quotes (‘’), and double quotes (“ “) are not supported.
  - Any nullable fields which are mapped in the Data File Specification definitions should not skipped in the Data File.
  - The column order in the Data File should be in sync with the order defined in the Data File Specification definition.
  - Field Enclosures: Only double quotes (“”) are considered as Field Enclosures.

See the following sample files for your reference:

- input_20151009_asset.dat
- input_20150330_ASSETTXN.dat
- input_20220110_STGML.dat

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

Data Loaders

Oracle Financial Services Profitability and Balance Sheet Management (PBSM) 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.

PBSM Cloud Service supports the following types of Data Loaders:

- **Dimension Data Loaders**: The Dimension Data Loaders are used to populate the Dimension Members, Attributes, and Hierarchies from the Staging Dimension Tables to the Dimension Tables registered with the PBSM 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 PBSM Cloud Services to enrich the data.

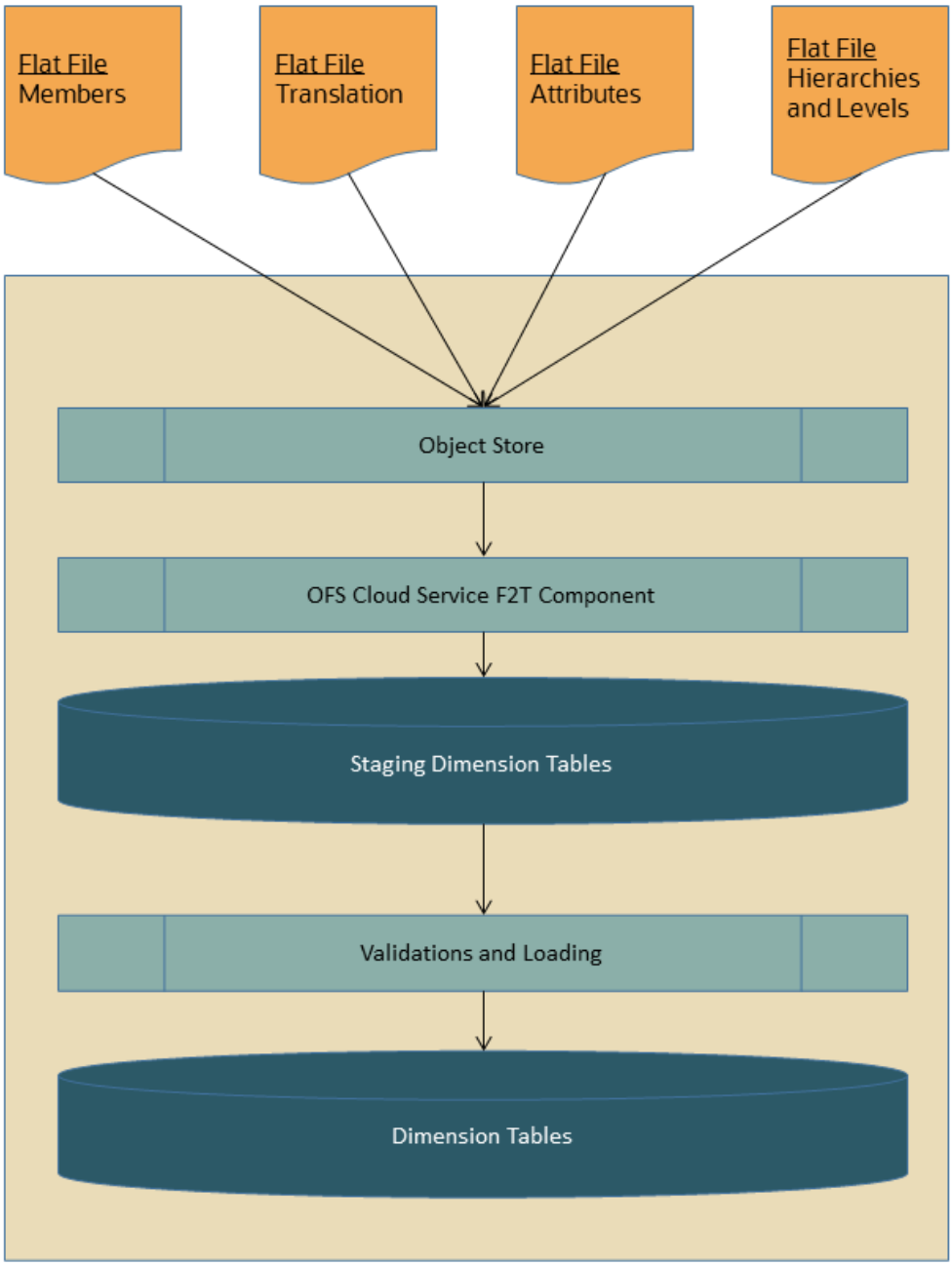
Dimension Data Loader

The Dimension Loader procedure populates Dimension Members, Attributes, and Hierarchies from Staging Dimension Tables into the Dimension Tables registered with Profitability and Balance Sheet Management (PBSM) Cloud Service. You can view the Members and Hierarchies loaded by the Dimension Loader though the PBSM 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. 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

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	Parent Task
1	Stage Dimension Loader	Stage Dimension Loader	
2	Stage Hierarchy Loader	Stage Hierarchy Loader	1
3	Stage DRM Loader	Stage DRM Loader	2

> **Note:**
>
> The above Tasks must be executed in the same order.
> The Stage DRM Loader allows you to select a Dimension.

3. Execute the Batch.

Dimension Loader with ZIP File Support

You can zip all the DAT files into a single file and upload it to the Object Store.

To process the zip file:

- Create a Batch.
- Create a Task with the Component Name as **Dimension and Hierarchy Loader**.
- 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

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	Parent Task
1	Stage Dimension Loader	Stage Dimension Loader	
2	Stage DRM Loader	Stage DRM Loader	1

> **Note:**
>
> The above Tasks must be executed in the same order.
> The Stage DRM Loader allows you to select a Dimension.

3. Execute the Batch.

Dimension Loader with ZIP File Support

You can zip all the DAT files into a single file and upload it to the Object Store.

To process the zip file:

- Create a Batch.
- Create a Task with the Component Name as **Dimension and Hierarchy Loader**.
- Execute the Batch.

For detailed instructions on Creating a Batch, Defining a Task, Execute the Task, and Schedule a Batch, see Scheduler Services.

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 3-5 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 form the available list. **File Name**: free text where file name uploaded to the object store to be provided. **Note:** You can also zip the file and then upload. Ensure the file name in the zip file is inline with the Data File Specification.

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

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

For detailed instructions on Creating a Batch, Defining a Task, Execute the Task, and Schedule a Batch, see the Scheduler Services User Guide.

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 3-6 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.

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:

1. From the LHS menu, select **Data Management Tools**, select **Data File Administration**, and then select **File upload and download** to display the File Upload/Download screen. The File Upload/Download screen displays the list of files that are uploaded to the Object Store 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.
2. 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 3-7 Data File

Data	Data File Name	Object Store File Name
Exchange Rates	stg_exchange_rates.dat	input_20230622_stg_exchange_rates.dat

Table 3-7 (Cont.) Data File

Data	Data File Name	Object Store File Name
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 #unique_73.

The following are the sample files for reference:

- stg_exchange_rates.dat
- input_20230701_bploaderdata.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 3-8 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

The above three tasks can be executed individually or together under same batch. If created together, then the precedence mapping must be created as follows:

- Stage Validator must be executed after the Stage Loader is executed.
- Processing Loader must be executed after the Stage Loader is executed. Stage Validator is not mandatory.
- If Stage Validator is included, then the Processing Loader must be executed after the Stage Validator is executed.

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

   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.

4. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Create Batch**. For more details, see Define Batch.
5. From the LHS menu, navigate to **Operations and Processes**, select **Scheduler**, and then select **Ceate Task**. For more details, see Define Tasks.
   a. Task Type: REST
   b. Component:
      - Stage Loader: IRCLoader Stage Loader
      - Stage Validator: IRCLoader Stage Validator
      - Processing Loader: IRCLoader Processing Loader
   c. 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.

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.

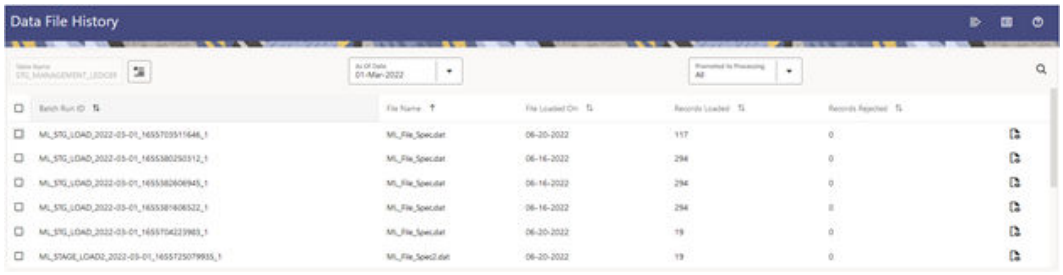
The Data File History summary screen allows you to do the following:

- 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 3-15 Data File History summary screen



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

- **Batch Run ID**: The ID used to run the batch.
- **File Name**: The data file name.

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

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

Figure 3-16 File Details

- **Promote selected files to Processing** (button): To promote the selected file or files for processing. This triggers the Batch Scheduler and queues the selected file or files for processing.
- **Advanced Actions** (button): 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 3-9 Advanced Actions

	As Of Date	Table Name	Data File Specification	File Name(s)	Comments / Notes
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 3-10 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.

Promoting a Data File for Processing

By promoting a Data File for processing, you insert the Data from the Data Staging Tables to the Processing Tables.

To promote a Data File for processing, perform the following steps:

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

- Instruments

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

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

This section provides information on the different topics in this feature:

Roles and Functions

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

Role Code	Function Code
FILE_READ	FILE_SUMMARY
FILE_UPLOAD	FILE_UPLOAD

Role Code	Function Code
FILE_DOWNLOAD	FILE_DOWNLOAD
FILE_ADV	FILE_UPLOAD
	FILE_DOWNLOAD
	FILE_DELETE
	FILE_SUMMARY

File Upload and Download Utility

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

Upload or Download File from Object Store Using Console

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

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

Field	Description
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 **Download** to download a copy of the uploaded file.
Delete	Click **Delete** to delete the file.

Related Topics

- Uploading/Downloading a File Using Utility
  Complete the following steps to Upload or Download a file using the Utility.
-

Uploading/Downloading a File Using Utility

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

1. Click **Drag and Drop** to browse and select a file for upload from the local directory.

   You can also browse to the local directory from the **File Explorer** and select the file and drop it here.

   The file name is automatically updated in the **Selected File** field.

2. Enter the **Prefix** to be added to the file name.

   The Prefix is added to the file name. In case, you have two files with the same file name, you can save them with different prefixes.
   Example: **/abc/test.txt** and **/def/test.txt**. Both these files have the same file name but different Prefixes.

3. Click **Upload** to upload the selected file.

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

Uploading/Downloading a File Using PAR URL

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

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 file and drop it here. The file name is automatically updated in the **Selected File** field.

2. Enter the **Prefix** to be added to the file name.

3. Click **Get PAR URL**.

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

   You can also generate PAR URL using Rest API.

4. Copy PAR URL and note the related File ID.

5. You can upload file content referred with the specific PAR URL into the object store using one of the following options: Console, CLI, or SDK.

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

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

   You can also use the following command.

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

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

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

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

File Upload Process Outline

This section provides the step-by-step process that is implemented within the File Upload utility.

Background Information

Client for URLs

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

Sending API requests using cURL

View list of Uploaded Files

For information regarding how to view a list of uploaded files in your Cloud Service, access the following link:

Viewing List of Uploaded Files

Step 1: Generate Access Token

Generate the Access Token for your Cloud Service by:

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

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

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

Step 2: Generate PAR URL

Generate the PAR URL your Cloud Service by:

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

Note a sample code snippet has been provided below using cURL to generate the PAR URL and 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 file to the Object Store of your Cloud Service by:

1. Submitting a RESTful API Post Request to your Cloud Service as defined in the 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 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 2953162.1.

Software Prerequisites

Python 3.10 (Note this is used to access data elements from the API JSON responses)

File Upload Using File Upload Utility

To upload files using the File Upload utility, follow these steps:

1. Extract the **FILEUPLOAD_UTIL.zip** file under the **$HOME** directory.
2. Place the Data Loader input file in the **$HOME/FILEUPLOAD_UTIL** directory.

Figure 3-17 Data Loader Input File Path

3. Edit the **Env_setup.sh** file to update the ENV variables. For more information to get the IDCS URL, see
IDCS_URL=<idcs-url>/oauth2/v1/token

   Example: https://idcs-0cb0c2b3ba624afca67467fd5eb9db49.identity.xxyy.xxyyy.com/oauth2/v1/token

   ENCODED=<OAuth Client ID>:<OAuth Client Secret> (Encode them using **base64encode**)

   See Get the OAuth Client ID and Client Secret for getting the URL. for the Client ID and Client Secret details.

   Example:

   ZnRwcWExMDEyMzEtcHJkX0FQUElEOjBkMmU5MDBiLTlhYjItNGFmOS05OWM0LTEwNTYyMDVkYWYwNQ==

   USERNAME=<App login user>

   > **Note:**
   >
   > <App login user> should have FILE_UPLOAD role mapped.

   PASSWORD=<App login password>

   TENANT=<abcdef-prd>

   CCAHOST=<CCAhostdetail>

   Example : dc.ccacloud.us-xxxxx -1.ocs.oc-test.com

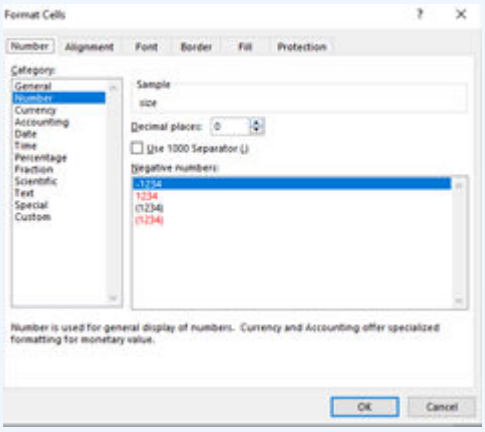
Figure 3-18 OFS CCA CS Host Details

4. The **input1.csv** file is the input file that stores the file name, size, and type. To run the multiple files for upload, you must have multiple entries of the details of the file that need to be included.

Note:

While running this in windows,the size field must be numeric as displayed in the following image:

Figure 3-19 Example



5. Run **./wrapper.sh**.

Figure 3-20 Running ./wrapper.sh

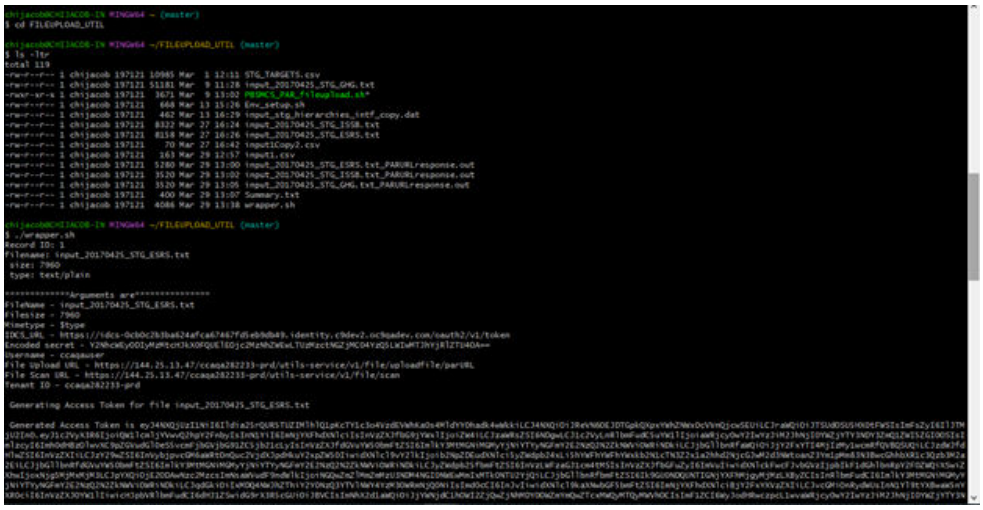


Figure 3-21 PAR URL Generation is Successful

6. The script generates the parresponse for each input file and **summary.txt**.

Figure 3-22 The Generated summary.txt File

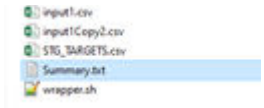
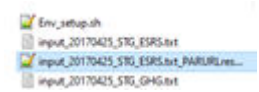


Figure 3-23 The Generated Response File



The following image displays the contents of the generated summary file:

Figure 3-24 The Generated Summary File

```
   Objectstore
10 input_20170425_stg_dimensions_attr_intf.dat is successfully stored in
   Objectstore
11 input_20170425_stg_dimensions_b_intf.txt is successfully stored in
   Objectstore
12 input_20170425_stg_dimensions_tl_intf.dat is successfully stored in
   Objectstore
13 input_20170425_stg_dimensions_attr_intf.dat is successfully stored in
   Objectstore
14 input_20170425_stg_dimensions_hier_intf.dat is successfully stored in
   Objectstore
15 input_20170425_stg_hierarchies_intf.dat is successfully stored in
   Objectstore
16 input_20170425_STG_GHG.txt is successfully stored in Objectstore
17 input_20170425_STG_ISSB.txt is successfully stored in Objectstore
18 input_20170425_STG_ESRS.txt is successfully stored in Objectstore
19 input_2017025_STG_TARGETS.txt is successfully stored in Objectstore
20
```

7. After the execution is completed, check the File Upload/Download UI to confirm that the uploaded file is appearing.

Figure 3-25 File Upload/Download UI

Uploading/Downloading a File Using PAR URL

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

1. Click **Drag and Drop** to browse and select a file for upload from the local directory.

   You can also browse to the local directory from the File Explorer and select file and drop it here. The file name is automatically updated in the **Selected File** field.

2. Enter the **Prefix** to be added to the file name.
3. Click **Get PAR URL**.

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

   You can also generate PAR URL using Rest API.

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

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

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

   You can also use the following command.

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

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

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

```
--header 'ofs_workspace_id: <WorkspaceId>' \
--header 'Authorization: Bearer <Generated_Token>'
```

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

Generating PAR URL for File Operations

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

Generating PAR URL for File Upload

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

Related Topics

•

End Point Details

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

Calling the API to Generate the URL

To call the API, follow these steps:

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
eyJ4NXQjUzI1NiI6Ildia25rQUR5TUZIMlhlQ1pKcTY1c3o4VzdEVWhKa0s4MldYY0ha
dk4wWkkiLCJ4
...
...
sQXj0iohsSIEmQXVwwjhhqnc4eJNnmCjx8Tb7TXjx1MIQLeOIcfrIj5gkzoMKX94_7US
xHv-6LhBzw'
```

Request JSON Parameters

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

Table 3-11 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 less than 7 GB.

Table 3-11 (Cont.) Request JSON Parameters

Name	Type	Required	Description
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 3-12 POST JSON Response

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

Response JSON Sample

```
{
   "payload": {
       "uploadURL": "https://objectstorage.us-phoenix-1.oraclecloud.com/p/
bdSI-hzigiAoUU0lyEKnuk0YGs05L172gt_woZAgqNFYmUFQeexV3BDfTO97mhBI/n/
oraclegbudevcorp/b/fsgbu_pbsm_cndevcorp_ftpqa101231-prd_default/o/default/
2023-01-31/jfr/f9ce031f-4a42-471d-b4da-d0577f3eca15",
       "createUser": "user1",
       "stripeName": "default",
       "fileId": 5025,
       "createDate": "2023-01-31T09:14:16",
       "token": "",
       "status": "success"
   }
}
```

Viewing List of Uploaded Files

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

Syntax

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

Example

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

Response

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

Generating PAR URL For File Download

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

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

To call the API, follow these steps:

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

Syntax

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

Example

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

Response

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

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 cURL command.
2. Prepare a cURL command with the authentication token and other details. For more information, refer to the following code.

   Syntax

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

   Example

   ```
   curl -k --location --request GET 'https://<hostname>/<TENANT-ID>/utils-
   service/v1/file/downloadfile/9916' \
   ```

```
--header 'ofs_remote_user: cneadmin' \
--header 'locale: en-US' \
--header 'ofs_tenant_id: aaitestdev1001-prd' \
--header 'ofs_workspace_id: WS001' \
--header "Authorization: Bearer ${TOKEN}"
```

Response


```
{"payload":{"downloadURL":"https://objectstorage.us-
phoenix-1.oraclecloud.com/p/
gTxxzhqLEea4Or2TRkBqTqHxt_JogVFa9G_0wtN8NYy_op0Zk4lvKGDxxeXGhLq7/n/
oraclegbudevcorp/b/fsgbu_pbsm_cndevcorp_aaitestdev1001-
prd_default/o/default/2023-01-31/fae/2d63d2fe-2090-4fb7-
a4c8-9940d22987db?
httpResponseContentDisposition=ATTACHMENT%3B%20filename%3DIdcs_log3.
txt"}}
```


Data Maintenance Interface

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

Designer View

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

Data View

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

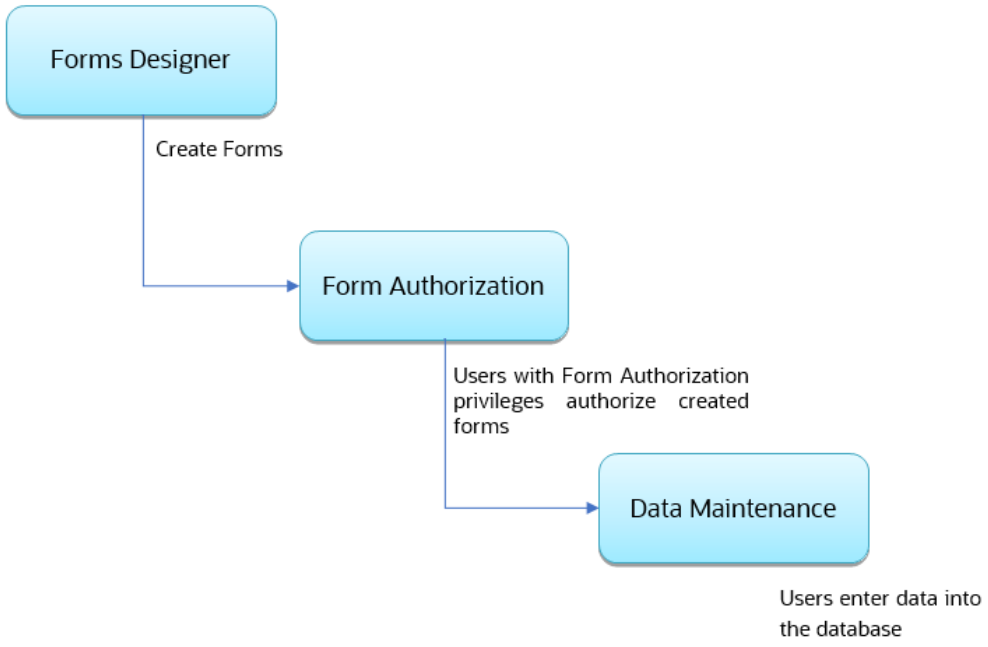
Related Topics

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

Process of DMI Windows

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

Figure 3-26 DMI Process Flowchart



User Role Mapping and Access Rights

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

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

Table 3-13 User Role Mapping for Data Maintainence Interface

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

Table 3-13 (Cont.) User Role Mapping for Data Maintainence Interface

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

Note:

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

Access the Data Maintenance Interface

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

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

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

> **Note:**
>
> The navigation steps vary for different applications. Refer to the respective application documentation for accessing Data Maintainence Interface.

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

   The **Navigation List** is displayed.

4. Click one of the following menu items to access the respective windows:
   - Designer View
   - Data View

Form Designer Summary Page

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

To view the Forms Designer page, follow these steps:

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

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

Table 3-14 Field Description

Field	Description
Name	The unique name of the Form Definition.
Status	The processing status of the form definition. The various processing statuses are: • **Draft** – when the form is under development and is yet to be submitted for approval. • **Waiting for Approval** – When the approval is pending. • **Approved** – When the form definition is approved.
Type	The form definition type: • **Data Exporter** – creates form based on an entity table. • **Excel Upload** – creates form based on uploaded Excel Sheet. • **View** – Creates form based on Database views. • **Designer** – creates the form based on the entities, attributes and rulesets provided by the user.
Description	The Form Definition description.
Created By	The username of the logged in User who created the form.

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

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

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

Related Topics

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

Accessing Information in Summary Page

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

Searching a Summary Page

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

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

Sorting a Summary Page

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

Setting Number of Records Per Page

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

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

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

To navigate between pages, use the following buttons:

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

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

Creating New Forms in Form Designer

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

To add a form, follow these steps:

1. In the DMI Summary page, click **Add**.

   The **Create Forms Definition page** is displayed.

2. Enter/select the following details.

Table 3-15 Field Description

Field	Description
Type	Select the Definition Type: • **Data Exporter** – creates form based on an entity table. • **Excel Upload –** creates form based on uploaded excel sheet. • **View** – Creates form based on Database views. • **Designer** – creates the form based on the entities, attributes and rulesets provided by the user.
Code	The application generates a unique value for Form Code and does not require any input.
Name	Enter the name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.
Description	The Form Definition description. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed
Created By	The username of the logged in User who created the form.

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

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

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

Related Topics

- Creating Forms Using Data Exporter
  Forms created using Data Exporter are used to export table data to CSV or JSON format.
- Creating Forms Using Excel Upload

- Creating Forms Using View
- Creating Forms Using Designer

Creating Forms Using Data Exporter

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

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

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

   Click **Close** to return to the Form Designer Summary Page.

   The **Table selection** tab is displayed.
4. Select the Table from the drop-down list and click **Apply**.

   The **Attributes tab** is displayed.
5. Click the drop-down arrow corresponding to the table in the **Entity Name** field.

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

   If the selected table has Child tables, the Child tables that you select from the Mapped Entities tab are also displayed in the **Attributes** tab. You can configure the attributes for the master table and its child tables.
6. Click **Filter** to apply filters to the form data. For more information, refer Creating Data Filters for New Form Definitions.
7. Select **Participate in Data Security** if you want to configure a specific condition. The condition that you configure is applicable when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry Page. For more information, refer Enabling Data Security for New Form Definitions.
8. Click **Select columns** to view only specific columns.
9. Click **Data Preview** to preview the form data.

10. Select **Auto Approve** if you do not want to the Forms Definition through the PMF workflow. When you select this option, the Forms Definition is automatically approved from Forms **Definition Summary Page** and is available for Data Entry. A user with the required role can then perform the data entry without the need for an approval process. For more information, see Enabling Data Security for New Form Definitions.
11. Click **Save as Draft** if you want to save the Forms Definition in draft format.
12. Click **Submit** if you want to submit the Forms Definition for approval.

Creating Forms Using Excel Upload

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

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

Table 3-16 Field Description

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

4. Click **Apply**.

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

Table 3-17 Field Description

Field	Description
Name	nter the name of the form in Form Name. You can enter between 3 to 100 characters. Only alphabets, numbers, spaces, and underscores are allowed.

Table 3-17 (Cont.) Field Description

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

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

> **Note:**
>
> You can also drag and drop the required excel file in the Drag and Drop Field.

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

The **Mapped Entities Tab** is displayed.

7. Enter the name of the table that you want to modify in the Primary Entity Field.

   If the table has Child tables, the Child tables also get displayed in the **Mapped Entities** tab. You can select the required child tables for which data should be input during data entry.

8. 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.

9. Click **Apply**. To update the data in the mapped attribute tab, you have click **Apply** every time you update the Mapped entities.

   The **Mapped Attributes Tab** is displayed.

10. Click the drop-down arrow corresponding to the table in the Entity Name.

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

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

11. Click the required mapping in the **Override Mapping Column** and enter the required attribute name if you want to change the default mapping.

12. Click **Select Columns** to select the columns for bulk update, during Data entry.

13. Select **Participate in Data Security** if you want to configure a specific condition. The condition that you configure is applicable when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry Page. For more information, refer Enabling Data Security for New Form Definitions.

14. Click **Filter** to apply filters to the form definition.

    This filters the data based on specified filter conditions. For more information, refer Creating Data Filters for New Form Definitions.

15. Click **User Security** to select the user or user groups who can perform data entry to maintain the data in the table. For more information about adding user security, refer to Enabling User Security for New Form Definitions.
16. Click **Data Preview** to preview the form data.
17. Select **Auto Approve** if you do not want to the Forms Definition through the PMF workflow. When you select this option, the Forms Definition is automatically approved from Forms Definition Summary page and is available for Data Entry. A user with the required role can then perform the data entry without the need for an approval process. For more information, see User Role Mapping and Access Rights.
18. Click **Save as Draft** if you want to save the Forms Definition in draft format. The form is added to the summary page with Draft status.
19. Click **Submit** if you want to submit the Forms Definition for approval. For more information refer to Approving and Rejecting New Form Definitions. After approval/auto approval, the form is added to the Form Definition Summary page.

Creating Forms Using View

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

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

Table 3-18 Field Description

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

3. Click **Apply**.

   The **View Selection tab** is displayed.

4. Click **Apply**.

   The **Attribute Selection Tab** is displayed.

5. Click the drop-down arrow in the **View Name** field.

   The source attributes from the table and the mapped attributes from the Excel file are displayed. If the selected table has Child tables, the Child tables that you select from the Mapped Entities tab are also displayed in the Attributes tab.

6. Click the check-box next to an Attribute Name , to include the Attribute in the Form definition.

To remove the attribute from the form definition, uncheck the selection.

7. Click **Filter** to apply filters to the form definition.

   For more information, refer Creating Attribute Filters for New Form Definitions.

8. Click **Apply**.

   The **Data Preview Tab** is displayed. You can view the sample form based on the selected view, attributes and filter conditions.

9. Click **Download CSV** to download the preview data.
10. Click **Save as Draft** if you want to save the Forms Definition in draft format.
11. Click **Submit** if you want to submit the Forms Definition for approval.

Creating Forms Using Designer

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

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

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

Table 3-19 Field Description

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

3. Click **Apply**.

   The **Entities tab** is displayed.

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

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

> **Note:**
>
> You can select up to four Child tables only for each Master table.

5. Select **Enable Bulk Authorization**, if you want to enable the bulk authorization of records while performing data entry.
6. Click **Apply**.

   The **Attributes tab** is displayed.
7. Click the drop-down arrow corresponding to the table in the Entity Name field.

   The attributes in the entity table are displayed.

   If your table has Child tables, the Child tables that you select from the Entities tab also gets displayed in the Attributes tab.
8. Select the attributes for which you want to modify the data from the Attribute Name field.
9. Select **Participate in Data Security i**f you want to configure a specific condition. The condition that you configure is applicable when a user performs the data entry for the table records for each approved Forms Definition from the Data Entry Page. For more information, refer Enabling Data Security for New Form Definitions.
10. Click **Filter** to apply filters to the form definition.

    For more information, refer Creating Attribute Filters for New Form Definitions.
11. Click **Select Columns** to search and select specific columns.
12. Click **Apply**.

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

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

    A user with the required role can then perform the data entry without the need for an approval process. For more information, see Enabling Data Security for New Form Definitions.
16. 16. Click **Save as Draft** if you want to save the Forms Definition in draft format.

    Click **Submit** if you want to submit the Forms Definition for approval.

Creating Data Filters for New Form Definitions

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

1. Click **Launch Filter** Condition.

   The Filter Condition pane is displayed.
2. Enter/ select the following details.
   - **Column** - Select the column from the applying the filter.
   - **Condition** - Select one of the following filter conditions, to filter the column data.

  - **=** - Equal to
  - **IN** - <Verify>Validates the filter condition and return True or False.
  - **<>** - Not equal to
  - **<** - Lesser than
  - **<=** - Lesser than or equal to
  - **>** - Greater than
  - **>=** - Greater than or equal to
  - **IS** - <TBD>
- **Type** - Select one of the following filter types.
  - **Static** - Select Static, to enter a value and execute the filter using only one value. You cannot change the value at a later point.
  - **Dynamic** - Select Dynamic, to change the filter value when needed. After setting the filter type to Dynamic, select the **Placeholder** and set one of the default seeded values, to process the filter.

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

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

> **Note:**
>
> For Language Placeholder the default locale language is displayed and cannot be modified.

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

   The filter is added to the list of filters.

   Mouse-over the place holder filter, to view more details about the filter.
4. Click **Validate** to verify the filter condition is valid.

   A confirmation is message is displayed, if the filter is valid.
5. Click **Apply**.

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

Enabling Data Security for New Form Definitions

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

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

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

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

   > **Note:**
   >
   > Data Security information must be configured for each attribute name, separately.

2. Click **Data Security**.

   The **Data Security page** is displayed.

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

Enabling User Security for New Form Definitions

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

1. Click **User Security** to select the user or user groups who can perform data entry to maintain the data in the table.

   The **User Security** page is displayed.

2. Enter the required user group or user to assign permissions from the Map Users /Groups Field.

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

Table 3-20 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

Table 3-20 (Cont.) Permissions in the Map Users / Groups Pane

Option	Description
Duration From	Optional. Select the start date for which the permissions are available to the user or user group.
Duration To	Optional. Select the end date for which the permissions are available to the user or user group.

The User Security Configuration is complete.

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

Approving and Rejecting New Form Definitions

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

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

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

Approving a Forms Definition

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

To approve a Forms Definition, perform the following steps:

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

   The **Configure page** is displayed.
2. Click **Approve** and then enter the required description for the approval in the Comments field.
3. Click **Submit**.

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

Rejecting a Forms Definition

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

To reject a Forms Definition, perform the following steps:

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

   The **Configure page** is displayed.

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

3. Click **Submit**.

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

   For more information on editing a Forms Definition, see Editing Form Definitions.

Managing Form Definitions

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

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

Table 3-21 Action Details

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

Viewing Form Definitions

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

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

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

The **Form Definition page** is displayed.

Editing Form Definitions

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

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

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

   The **Form Definition page** is displayed with the details.
3. Edit the required information and click **Save**.

Copying Form Definitions

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

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

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

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

Re-Uploading Form Definitions

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

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

1. Highlight the Definition and click **Action**.
2. Click **Upload**.

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

Deleting Form Definitions

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

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

Data View

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

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

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

Viewing Data Entry

You can view records based on the assigned roles. For more information about the roles, refer. 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 Maintainence Interface.

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

   The **Navigation List** is displayed.

4. Click **Data View**.

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

Data Entry – Forms Created Using Designer

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

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

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

   The **Entity Details Page is** displayed.

   The records are classified based on the following Status:

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

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

Related Topics

- Adding/Editing a Draft Record
- Deleting Draft Records

Adding/Editing a Draft Record

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

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

   The entity records with Draft status are displayed.
2. To add a new record, click **Add**.

   A new entry with Draft Status is added to Entity details page. This entry is empty. Edit the record to add the attribute details.
3. To edit a record, click **Edit** next to the record.

   The **Edit page** is displayed.
4. Enter the values in the attributes that you want to modify and click **OK**.

   You can repeat the steps for all the records for which the data needs to be entered.
5. Click the modified record in draft status, and then click **Submit for Approval** or **Submit with Auto Approval**.

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

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

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

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

Deleting Draft Records

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

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

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

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

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

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

Editing Approved Records

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

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

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

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

   An edit pane is displayed.

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

4. Enter a valid reason for modification.

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

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

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

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

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

Forms Created Using Excel Upload

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

- To approve records, see Approving a Record.
- To reject records, see Rejecting a Record.
- To edit a record in draft status, see Editing a Rejected Record.

Approving and Rejecting Records

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

Approving Draft Records

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

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

   The entity records with Draft status are displayed.

2. Select the required record.

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

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

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

Rejecting a Record

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

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

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

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

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

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

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

Editing a Rejected Record

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

To edit a record, perform the following steps:

1. Select **Draft** from the Status drop-down list.
2. Click **Edit** in the record that you want to edit.

   The Edit pane is displayed.
3. Modify the required attributes, and click **OK**.
4. Select the record and then click **Send for Approval**.

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

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

Exporting Forms Creating Using Data Exporter - View Option

After creating Forms using View as the source, you can export or download the reports to CSV or JSON format.

Complete the following steps to export or download a report.

1. Login to your Oracle Cloud account, with the required credentials to access Data Management Interface (DMI)s.
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.
5. Click **Action** next to the form to be exported and click **Export**.

6. Use one of the following options to export or download the report.
   - Exporting Forms Created using Data Exporter - View Option - Without Placeholder
   - Exporting Forms Created using Data Exporter - View Option - With Placeholder

Exporting Forms Creating Using Data Exporter - View Option - Without Placeholder

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

Complete the following steps to export forms created using Data Exporter (View) option and Static Filter type. Forms created with static filter type do not have placeholders.

1. Click **Action** next to the form to be exported and click **Export**.

   The **Data View** page with the **View** details associated with the form, is displayed.
2. Click **Attribute Selection** tab, to review the values and the filters and modify if required. You can also use the default values for export.

   You can also change the filter type to **Dynamic** and assign a placehoder.
3. Click **Data Preview**, to view the form based on the selected table, columns and the set filter attributes.
4. Click **Export CSV** to export the report in CSV format.
5. After the confirmation, click **Download Report**, to save the exported report to your local directory.

Exporting Forms Creating Using Data Exporter - View Option - With Placeholder

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

Complete the following steps to export Data Export forms:

1. Click **Action** next to the form to be exported and click **Export**.

   The **Data View** page with the **View** details associated with the form, is displayed.
2. Click **Attribute Selection** tab, to review the values and the filters and modify if required. You can also use the default values for export.

   You can also change the filter type to **Static**. Then, the existing placehoder filter condition will be deleted.
3. Click **Data Preview**, to view the form based on the selected table, columns and the set filter attributes.
4. Click **Export CSV** to export the report in CSV format.
5. After the confirmation, click **Download Report**, to save the exported report to your local directory.

Exporting Forms Creating Using Data Exporter - Table Option

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

Complete the following steps to export or download a report.

1. Login to your Oracle Cloud account, with the required credentials to access Data Management Interface (DMI)s.
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.
5. Click **Action** next to the form to be exported and click **Export**.
6. Use one of the following options to export or download the report.
   - Exporting Forms Created using Data Exporter - Table Option - Without Placeholder
   - Exporting Forms Created using Data Exporter - Table Option - With Placeholder

Exporting Forms Creating Using Data Exporter - Table Option - Without Placeholder

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

Complete the following steps to export forms created using Data Exporter (Table) option and Static Filter type. Forms created with static filter type do not have placeholders.

1. Click **Action** next to the form to be exported and click **Export**.

   The **Data View** page with the **Table** details associated with the form, is displayed.
2. Click **Attribute Selection** tab, to review the values and the filters and modify if required. You can also use the default values for export.

   You can also change the filter type to **Dynamic** and assign a placehoder.
3. Click **Data Preview**, to view the form based on the selected table, columns and the set filter attributes.
4. To export the report, complete one of the following steps:
   - Click **Export CSV** to export the report in CSV format.
   - Select the **File Format** as **CSV** or **JSON** and click **Export**.

   A confirmation message is displayed after the export is completed, and the **Data Entry Summary** is displayed.
5. To download an exported report, click **Action** and click **Status**.

   The **Data Exporter Status** page with the list of all the reports that are exported is displayed.
   - Click **Download**, to save the report to the local directory.

- Click **Download Link**, to copy the link. You can paste the link in a Web browser and download the CSV report to the local directory.
- Click **Delete** to delete the exported report.

Exporting Forms Creating Using Data Exporter

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

Complete the following steps to export Data Export forms:

1. Click **Action** next to the form to be exported and click **Export**.

   The Export Page with the default values is displayed.
2. Click **Apply** to proceed with the export.
3. In the **Generate Report Confirmation** pop-up,
   - Click **Yes** to use the default values for the report.
   - Click **No** to change the default values.
     The **Data View** page with the **View** details associated with the form, is displayed.
4. Click **Attribute Selection** tab, to review the values and the filters and modify if required. You can also use the default values for export.

   You can also change the filter type to **Static**. Then, the existing placehoder filter condition will be deleted.
5. Click **Data Preview**, to view the form based on the selected table, columns and the set filter attributes.
6. To export the report, complete one of the following steps:
   - Click **Export CSV** to export the report in CSV format.
   - Select the **File Format** as **CSV** or **JSON** and click **Export**.

   A confirmation message is displayed after the export is completed, and the **Data Entry Summary** is displayed.
7. To download an exported report, click **Action** and click **Status**.

   The **Data Exporter Status** page with the list of all the reports that are exported is displayed.
   - Click **Download**, to save the report to the local directory.
   - Click **Download Link**, to copy the link. You can paste the link in a Web browser and download the CSV report to the local directory.
   - Click **Delete** to delete the exported report.

Audit Trail

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

Data Quality Framework

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

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

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

Roles and Functions for Managing DQ Framework

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

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

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

Data Quality Groups

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

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

DQ Groups Summary

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

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

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

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

  - **Name** - The Unique Identifier Name of the Data Quality Group.
  - **Status** - The Approval status of the specific group.
    - **Approval** - The group is approved and ready for execution.
    - **Pending for Approval** - The group requires approval and can be executed only after approval.
    - **Draft** - A defined group is set to **Draft** status until it is submitted for approval by the creator.
    - **Rejected** - The rejected rules are sent back to the user with the Approver comments.
  - **Version** - The current active version of the group.
    When a new definition is created, it will be saved as version 1 and once it is authorized, it will be in Active status. After you modify any DQ Group and save, it will be saved with version as highest available version +1. For example, if you modify a DQ Group of version 2 and the highest version available is 4, after you save the definition, its version becomes 5. Only the latest version will be in **Active** status.
  - **Folder** - The folder associated with the group.
  - **Created Date** - The group creation date.
  - **Created By** - The login name of the user who created the Group.
  - **Last Run Date** - The last date on which the DQ Group was executed.
  - **Last Run Status** - The last execution state if the specific DQ Group.
    - **Success** - The last execution of the selected DQ Group was completed successfully.
    - **Failed** - The last execution did not complete.
    - **NA** - The DQ Group was not executed.
  - **Action** - Click **Action**, to view, approve, reject edit, or delete the group.

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

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

Creating DQ Groups

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

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

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

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

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

   - **Name** - The unique identifier name for the groups.
     The name should start with alphabet and should not be more than 50 characters.

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

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

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

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

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

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

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

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

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

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

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

   All the details pertaining to the selected rule is displayed.
3. Click **Approve/Reject**, after reviewing the groups.
4. Enter valid reason for approval or rejection.

5. Click **Approve/Reject**.
6. The DQ Group is approved/rejected and a confirmation message is displayed.

Bulk Approving/Rejecting Data Quality Groups

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

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

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

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

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

1. Filter Group Summary, to view only the groups with **Pending For Approval** Status.

   All the groups that need be approved/rejected are displayed.
2. Select the groups for approval/rejection.

   You can select all the groups displayed in a page, by clicking the check box next to the **Name** header. To select all the groups in the Summary, with **Pending** Status, select **Click All Groups in Summary** link.
3. Click **View Details**, to view the Group details of all the selected Groups.

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

   You can also **Proceed without Viewing** the details.
4. Click **Approve/Reject**.

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

Deleting a Data Quality Group

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

To delete a DQ Group:

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

The selected group is deleted after confirmation.

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

Purging a Data Quality Group

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

To delete a DQ Group:

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

   The selected Group is is deleted permanently after confirmation.

Adding a DQ Check Task

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

For more information about adding a task to the Batch and about Scheduler Services, refer to Scheduler Services Documentation.

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

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

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

Execution Summary

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

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

To view the Execution Summary Details:

- Click **Execution Summary**, to access the consolidated Execution Summary.

  The Execution Summary page with the following details is displayed.

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

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

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

Viewing Run Details

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

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

4
Business Rules Administration

This chapter covers the following topics.

- Reference Data
  - 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.
  - 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.
- Common Rules: This section explains about rules which are common across all multiple applications in the Cloud Service
  - Preferences: This section covers the procedures to set the Global Preference Settings.

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

Components of Dimension Management

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

- Members
- Attributes
- Hierarchy

Object Security

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

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

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

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

Members

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

Member Summary Page

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

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

1. From the left menu, click **Common Object Maintenance.**
2. Select Dimension Management and select **Member**.
   The **Member Summary page** containing the following details is displayed.
   - **Alphanumeric Code**- The Alphanumeric Code assigned to a Member.
   - **Numeric Code**- The Numeric Code assigned to a Member.

- **Name**- The Unique Member Name.
- **Is Leaf**- The Leaf node status of the Member Definition.
  - **Yes**- The member is set as a Leaf node in any hierarchy and Child cannot be added to this node.
  - **No**- The member is a not a Leaf and can have Child nodes.
- **Action**- Click to View, Edit, Copy or Delete a Member Definition.

Creating Member Definitions

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

To create a Member Definition in the Members page:

1. To create a Member definition, click the **Add** in the Member Summary page. The Add Member Definition page is displayed.
2. Enter the following **Member Details** as described in the following table:
   - **Dimension**- Select the Dimension to be associated with the new Member.
   - **Alphanumeric Code**- The Alphanumeric Code to be assigned to the new Member Definition.
     You can enter up to 100 characters. We recommend using only Underscore (“_”) as a special character.
   - **Numeric Code**- The Numeric Code to be assigned to the new Member Definition.
     You can enter the value between 0 and 999,999,999 manually or click **Generate**, to auto-generate a unique code.
     If you enter the value manually, it is assigned after validation.
   - **Name**- The unique Member Definition Name.
     You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
   - **Description**- A brief description about the Member Definition.
     You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".
   - **Is Leaf**- Check this option if the member is a Leaf of another member. By default, it is set to **Yes**.
     - **Yes**- The member can be used as a Leaf node in any hierarchy and Child cannot be added to this node.
     - **No**-The Member is not set as a Leaf and can have Child nodes.

     > **Note:**
     >
     > If a Member is set as a Non-Leaf and is associated with Child nodes, it cannot be set as a Leaf again.
   - **Enabled**- This field is set to **Yes** by default and can be edited only after the Member is created. To edit a Member, refer Editing Member Definition Details.

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

- **Copy Attribute Assignment**- Attach an existing attribute to this new Member Definition.

3. Click **Copy Attribute Assignment**, to access the **Attributes page** associated with the selected Dimension.

   This is an optional field.

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

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

5. Click **Save**, to create the new Member definition and view it the Member Summary.

   Click **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 Details.

Viewing Member Definition Details

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

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

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

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

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

Editing Member Definition Details

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

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

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

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

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

Copying Member Definition Details

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

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

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

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

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

Deleting Member Definition Details

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

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

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

   The Member Definition is deleted after confirmation.

Attributes

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

Attribute Summary Page

The list of created Attribute Definitions are displayed in the Attribute Summary page.

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

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

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

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

Field	Description
Code	The Numeric Code assigned to the Attribute Definition.
Name	The unique Attribute Definition Name.
Data Type	The Data Type associated with the Attribute. The Data Type is set to Date, Dimension, Number or String.
Required	• **Yes** – Attribute Value is mandatory for the Dimension Member. • **No**- The Attribute Value is optional for the Dimension Member.
Seeded	• **Yes**- This Attribute is seeded by the service. • **No**- The Attribute is created by the user.
Action	Click to View, Edit, Copy or Delete an Attribute Definition.

Navigating Attribute Summary Page

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

Creating Attribute Definition

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

1. Click the **Add** in the Attribute Summary page.

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

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

Field	Description
Attribute Details	
Dimension	Select the Dimension for which the new Attribute is getting created.
Numeric Code	The Numeric Code to be assigned to the new Attribute Definition. You can enter the value manually or click **Generate**, to auto-generate a unique code. If you enter the value manually, the system will verify if the value is unique and assigns it. You can enter any number between 0 and 999,999,999.
Name	The unique Attribute Definition Name. You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".

Field	Description
Alphanumeric Field Value	The name of physical column name that will be used to store attribute value in the Report Dimension Table. You can enter up to 100 characters. We recommend using only Underscore (“_”) as a special character.
Description	A brief description about the Attribute Definition. You can enter up to 100 characters. All characters are allowed except " & ' + @ and ~.
Attribute Properties	
Data Type	Select the Data Type as Date, Dimension, Number, or String from the drop-down list. If Number is selected as the Data Type: Enter a Scale value >= 0. If it is left as 0, values for this attribute will be limited to Integers. If you wish to enable decimal entries for this attribute, the maximum Scale Value must be > 0 and <= the scale defined for NUMBER in the dimension's underlying attribute table. The maximum value of the NUMBER is set to 22.
Dimension	Select the Dimension to be associated with the new Attribute Definition. This field is enabled only if the Data Type is set to Dimension.
Default Value	The Default Value is set based on the selected Data Type. The Default Value is mandatory if this attribute is set as a Required Attribute. • If Dimension is set as the Data Type, select the Default Value from the drop-down list of members mapped to the selected Dimension. • If NUMBER is selected as the Data Type, enter a Numeric Value in the Default Value field, and it must be consistent with the Scale you have defined. • If DATE is selected as the Data Type: Click button to select a valid date as the Default Value from the calendar. • If STRING is selected as the Data Type: Enter the Alphanumeric Value in the Default Value field. The Maximum characters allowed in Default Value field for String Data Type is 1000.

Field	Description
Required Attribute	• **Yes** - This Attribute is mandatory for the associated Dimension Members. • **No** - This is an optional Attribute for the associated Dimension Members. This field is disabled in Add and Edit Modes if any members already exist for the Dimension on which this attribute is defined.
Seeded Value	• **Yes** – This is selected only when the attribute is seeded out of box by the Cloud Service. • **No** – Always select this when you are creating a new attribute.

3. Click **Save**.

Managing Attribute Definitions

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

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

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

Viewing Attribute Definition

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

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

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

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

Copying Attribute Definition

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

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

Refer to the following steps, to copy an Attribute Definition.

1. Highlight the Attribute Definition and click **Action**.

2. Click **Copy**.

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

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

Deleting Attribute Definition

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

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

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

   The Attribute Definition is deleted after confirmation.

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

Hierarchy

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

A Default Hierarchy definition is required to support BI Users to perform 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.

Hierarchy Summary Page

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

To access the Hierarchy Summary page, complete the following procedure:

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

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

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

Navigating Hierarchy Summary Page

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

Creating Hierarchy Definitions

To create a Hierarchy Definition in the Hierarchy Summary page, complete the following steps:

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

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

Table 4-1 Field Description

Field	Description
Basic Details	
Name	The unique Hierarchy Definition Name. **Note:** You can enter up to 100 characters. All characters are allowed except " & ' and " ' ".

Table 4-1 (Cont.) Field Description

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

To Add a Child to the Hierarchy:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

4. **To define Level Properties:**

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

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

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

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

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

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

6. **To Delete/Undelete**

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

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

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

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

In the Hierarchies page you can also:

- Click **Collapse** or Expand, to collapse or expand a branch .
- Click **Focus** or **Unfocus**, to focus or unfocus a selected node except the Root Node.
- Click **Sort** to sort the list in ascending or descending order.

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

Audit Info

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

Managing Hierarchy Definitions

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

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

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

Viewing Hierarchy Definition Details

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

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

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

Editing Hierarchy Definition Details

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

To edit the existing Hierarchy Definition Details:

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

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

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

Copying Hierarchy Definition Details

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

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

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

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

Deleting Hierarchy Definition Details

To delete a Hierarchy Definition:

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

   The Hierarchy Definition is deleted after confirmation.

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

Viewing Data in a Summary Page

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

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

Currency Setup

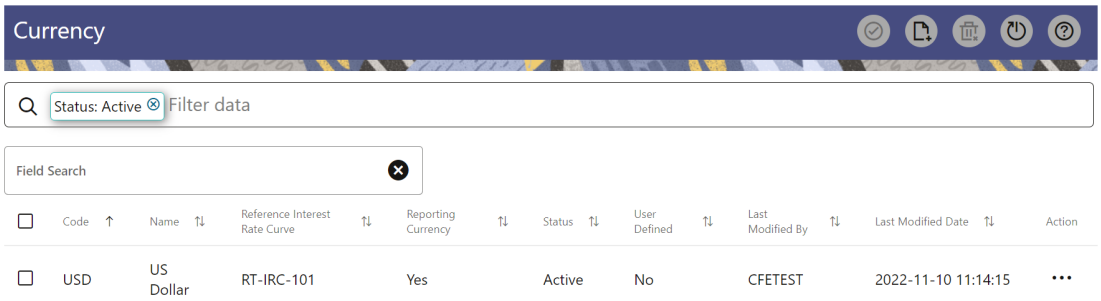
Financial institutions transact business in more than one currency. Transacting business in multiple currencies demands functional capabilities for multi-currency accounting and currency rate management.

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



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.

- **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.
  - 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 Currency Rules. To edit a rule, you must have Read/Write privilege.
  - Save As: You can reuse a Currency 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 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.
- 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.

> **Note:**
>
> This is functionality will intended for a future release.

Also See:

- Add a Currency

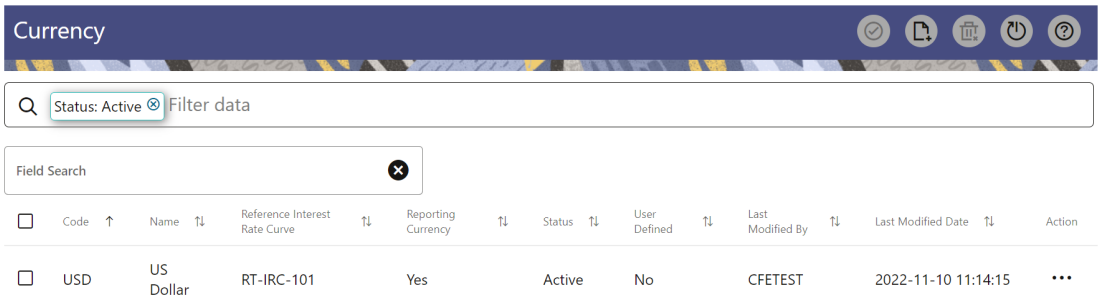
Currency Summary Page

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 4-2 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 4-3 Table: Currency– Icons and Descriptions

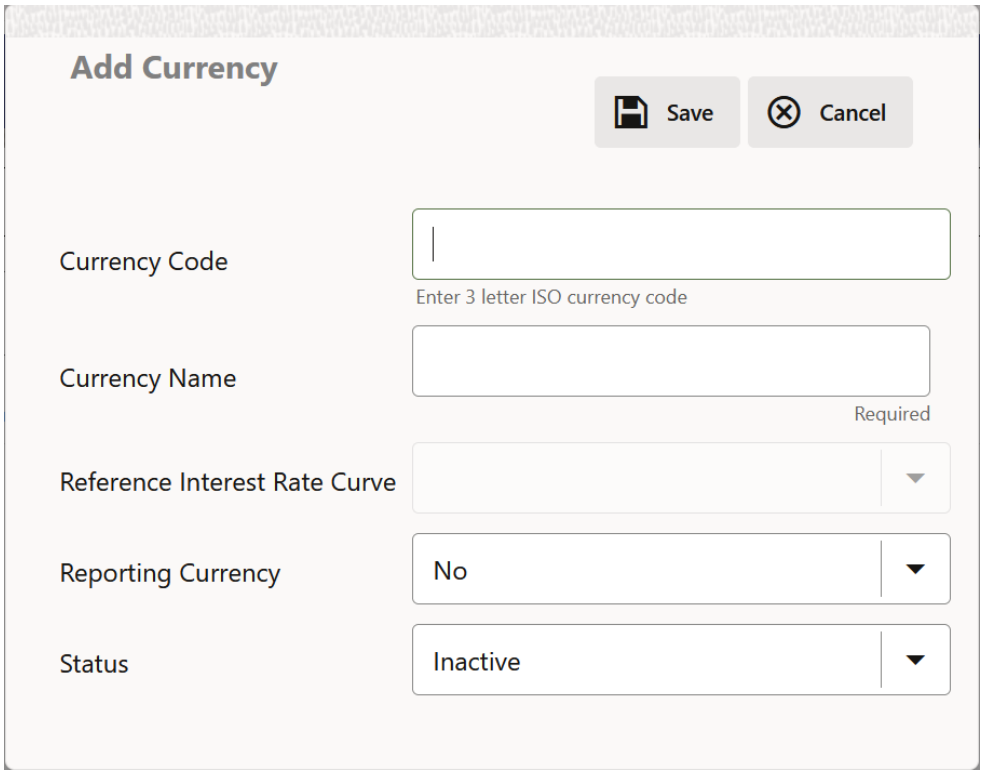
Fields	Description
Activate	Select one or more currency and click Activate icon to change status to active.
Add	Click Add icon to create a new Currency.
Multiple Delete	Select one or more currencies in the table and then click the Delete icon at the top right of the summary page to delete more than one Currencies at the same time.
View/Edit	Click on the **Action** icon against the Currency Name and select View/Edit to view or edit the contents of a Currency in read/write format. Depending on user privileges the currency will open in either View or Edit mode.
Delete	Click on the **Action** icon against the Currency Name and select Delete to delete an existing Currency.

Add Currency

To add a Currency, follow these steps:

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

Figure 4-3 Add Currency Page



3. Enter the following details:

Table 4-4 Adding a Currency – Fields and Descriptions

Fields	Description
Currency Code	For seeded currencies, these are ISO Currency Codes. For user-defined currencies, these can be any pure character string (no numbers) up to a length of 3 characters.
Currency Name	For seeded currencies, these are ISO Currency Codes. For user-defined currencies, these can be any string up to a length of 40 characters.
Reference Interest Rate Curve	Reference Interest Rate Curve is the Interest Rate Curve with which currency is associated for exchange rate forecasting purposes. Define multiple yield curves each of which has the same Reference Currency, but a currency can only have one Reference Interest Rate Curve.

Table 4-4 (Cont.) Adding a Currency – Fields and Descriptions

Fields	Description
Reporting Currency	A reporting currency is an active currency to which balances in other currencies can be consolidated to facilitate reporting. Balances in reporting currencies can be, in turn, consolidated to the functional currency. For example, an American multinational bank might consolidate its holdings in Asian currencies to the Japanese yen (Reporting Currency) and its balances in European currencies to the Euro (Reporting Currency) after which it might consolidate these reporting currencies to the U.S. dollar (Functional Currency).
Status	The status of any currency can be either Active or Inactive. You must Activate a currency before doing the followings: a. Define that currency as a Reference Currency for an Interest Rate curve. b. Enter Exchange Rate data for a currency. c. Define Forecast Rates for that currency. d. Define any other business rule like Prepayment, Transfer Pricing for that currency.

Note:

- For the Oracle Financial Services Climate Change Analytics Cloud Service application, select '*Yes*' for the Reporting Currency. This supports the Exchange Rate Conversion in the Currency Rate feature.
- The Reference Interest Rate Curve is not applicable for processing and analytical purposes in Oracle Financial Services Climate Change Analytics Cloud Service.

4. Click **Save**.

Search a Currency

Search for a Currency to perform any of the following tasks:

- Activate
- View
- Edit
- Delete

Prerequisites

Predefined Currencies

Procedure

To search the Currency, follow these steps:

1. Navigate to **Reference Data** and select **Currency** .
2. Enter the **Code, Name, Status, Reporting Currency**, or **User Defined** status of the Currency.
3. Click **Search**.

Only Currencies that match the search criteria are displayed.

View and Edit Currency

You can view existing Currency, and you can edit existing Currencies, provided you have read/write privileges.

To view and edit a Currency, follow these steps:

1. Navigate to **Currency Summary** Page.
2. Search for a Currency. For further information, see the Searching a Currency section.
3. Click on the **Action** icon against the Currency Name and select **View/Edit** to open the Currency you want to update.
4. Update the Currency details.
5. Click **Save**.

Delete a Currency

You can delete Currencies that are no longer required.

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

To delete a Currency, follow these steps:

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

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

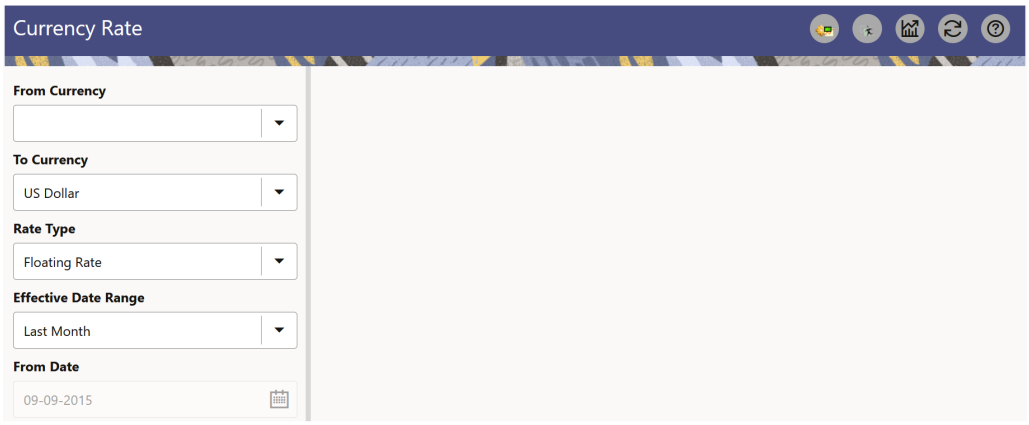
Select one or more check boxes on the left-hand side of any row to enable the **Delete** icon. After clicking Delete, a confirmation message is displayed. Click **Ok**.

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 4-5 Floating Currency Rates

Fields	Description
Effective Date	Directly enter a date or select the Calendar icon to choose an effective date for your new Exchange Rate data point. Rate Management Stores the Historical Exchange Rate Data. You cannot enter Exchange Rate data for dates greater than the current date.
Exchange Rate	This must be entered as 1 unit of From Currency are converted to n unit of To Currency.
Status	Status is a read-only display that is updated after the Currency Rates Validation has been run.
Data Origin	The Data Origin is displayed read-only and indicates whether the rates were input through the UI or the Data Loader.

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

Adding Fixed Rate Data

To add the Exchange Rate Data, follow these steps:

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

Table 4-6 Fixed Currency Rates

Fields	Description
Effective From Date	Directly enter a date or select the Calendar icon to choose a starting effective date for your new Exchange Rate Data Point.
Effective To Date	Directly enter a date or select the Calendar icon to choose a ending effective date for your new Exchange Rate Data Point.
Currency Exchange Rate	This must be entered as 1 unit of From Currency are converted to n unit of To Currency.
Status	Status is a read-only display that is updated after the Currency Rates Validation has been run.
Data Origin	The Data Origin is displayed read-only and indicates whether the rates were input through the UI or the Data Loader.

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

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 4-7 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.
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.
    - **Start Date:** This defaults to the date of last rate validation.
    - **End Date:** This defaults to the current date.

- **Validate For All Dates:** Select this option to validate all the rates irrespective of dates.

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

Download

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

Importing Currency Rates

To import the Currency Rate, follow these steps:

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

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

5. Click **Upload**.

Common Rules

This section covers the following topics:

1. Preferences: This section covers the procedures to set the Global Preference Settings.

Preferences

This section discusses the procedure to set the Global Preference Settings:

- Select Preferences
- Global Preferences

Select Preferences

To configure the User Preferences, perform the following steps:

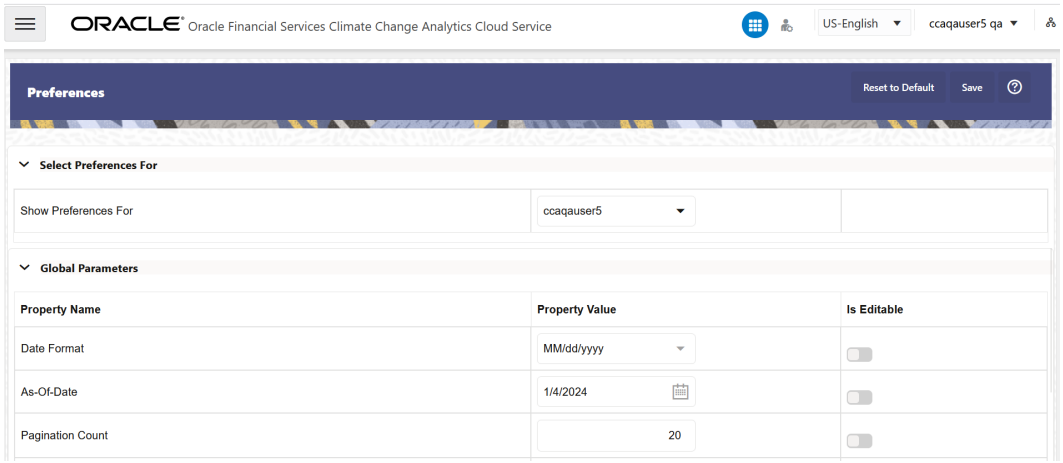
1. From the LHS Menu, navigate to **Reference Data**, and select **Preferences** to display the **Preferences** Screen.
2. In the **Select Preferences For** pane, select the user from **Show Preferences For** drop-down list. This contains the following options:
   - **ALL USER**: If you have Administrator Privileges, then 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 per-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 Preferences

To set the Global Preferences, perform the following steps:

1. From the LHS Menu, navigate to Maintenance, select Preferences, and Global Parameters.
2. Enter following values as described in the following table.
   Is Editable status is disabled since individual users are not expected to modify the following parameters.

Figure 4-5 The Preferences Screen



Fields	Description
Date Format	Select one value from available list. dd-MMM-yy yyyy/MM/dd MM/dd/yyyy dd.MM.yyyy MM-dd-yyyy yyyy.MM.dd yyyy/MMM/dd dd-MMM-yyyy dd/MMM/yyyy yyyy.MMM.dd dd/MM/yyyy MM.dd.yyyy dd-MM-yyyy yyyy-MM-dd dd.MMM.yyyy yyyy-MMM-dd
As-of-Date	Click the **Select Date.** icon to select a date.
Pagination Count	Pagination Records determine how many rows are displayed on summary and other screens. If the value 25 is entered, then any screen displaying results in a tabular format displays a maximum of 25 records.
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.
Reporting Currency	This is a list of pre-seeded reporting currencies. Users can add more reporting currencies by using the Currency UI screen. Select one of the following currencies: • Pound Sterling • US Dollar
Default Legal Entity Hierarchy	This displays list of Legal Entity Hierarchies that have been configured in Dimension Management. Select one hierarchy from the drop-down list.
Hierarchy Member Navigation Size	This field determines the size of the Hierarchy Member Navigation. If the value 25 is entered, then any screen displaying results in a tabular format displays a maximum of 25 records.

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

5
Operations

This chapter covers the following topics:

- Scheduler Services
- Viewing Logs

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. This automation helps the applications to control unattended background jobs program execution.

You can perform the following operations using Scheduler Services utility:

- **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** - Batch jobs are scheduled to automate the tasks to be processed on a regular basis but don't necessarily need to occur during the day or have an employee interacted with the system are batch schedule. Jobs that happen on a regular basis are incorporated into batch schedules. You can also execute a Batch instantaneously and schedule batches.
- **Monitor Batch** - Track your batch executions using a Web browser. You can 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.
- External Scheduler Interface: PBSM Cloud Services allows you to run your batches with an external scheduler.

User Roles and Functions

The following roles and functions are required to use Scheduler Services, and create and manage Batches and tasks, and also use Scheduler Service Dashboard.

Role Codes

- BATCH_READ
- BATCH_WRITE
- BATCH_ADV
- BATCH_AUTH

- BATCH_OPER
- BATCH_MAINT

Function Codes

- BATCH_ADD
- BATCH_DEL
- BATCH_MOD
- BATCH_VIEW
- BATCH_SCH
- BATCH_SUMM
- BATCH_AUTH
- BATCH_PURGE
- BATCH_MON
- BATCH_EXEC
- BATCH_COPY

Accessing Scheduler Services

Using the Scheduler Service feature, you can create and execute batches and schedules to run various tasks and also monitor them.

To access the Scheduler Service feature, from the left Navigation pane in the Service console, click **Operations and Processes > Scheduler**.

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.

Batch Groups are a set of batches that are required to be execute together. Batch groups help to process Date and time-based background tasks based on a defined period during which the resources were available for Batch Processing.

To access the **Define Batch** page, from the left Navigation pane in the application console, click **Operations and Processes** > **Scheduler** > **Define Batch**.

The **Scheduler Service Summary Page (Define Batch)** with the list of Batches and Batch Groups is displayed. You can view the following details related to each Batch/ Batch Group.

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

To search for a specific Batch/Batch Group, enter the keywords in the **Search** Field and click **Search**. You can search based on the Batch/Batch group name, code and description. You can also sort the Batch/Batch group list based on Code, Name, Created Date and Last Modified Date.

You can perform the following operations to manage Batch/Batch Groups, from the **Scheduler Service Summary (Define Batch)** page.

- Create New Batch
- Create New Batch Group
- Edit a Batch
- Edit a Batch Group
- Copy a Batch
- Copy a Batch Group
- Delete a Batch
- Delete a Batch Group

Creating a Batch

A Batch contains a group of background tasks that are executed together, on a specific date and time, when the resources are available for batch processing.

Refer to the following steps, to create a batch from the **Scheduler Service Summary (Define Batch)** page.

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.
     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.
     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.
     The description should start with alphabet and should not be more than 250 characters.
   - **Service URL Name/ Service URL** - Select the **Service URL Name** from the drop-down list.
     You can also enter the **Service URL Name** and associated URL is displayed in the **Service URL**. You can also provide the partial URL here and the complete URL in the Task Service URL.

2. After entering the Batch Details, provide the following Batch Parameters.

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

   - **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, $paramName$.

To delete a Batch parameter, click **Delete** next to 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 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

The **Edit Batch** option allows you to edit the Batch details such as Batch Description, Service URL Name and Service URL and also add a new Batch Parameter.

Seeded batches cannot be edited.

1. In the **Scheduler Services (Define Batch)** Page, click **Edit** corresponding to the Batch you want to modify.

The Edit Batch Page is displayed.

2. Modify the required **Batch** details.

   For more information, see Create New Batch.

3. Click **Save**.

   The edited batch is saved and displayed 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

The Copy Batch option allows you to copy a Batch that you want to clone or create instances in the system from the Define Batch Window.

To copy a Batch, perform the following steps:

1. In the **Scheduler Services (Define Batch)** Page, click **Copy** corresponding to the Batch that you want to copy.

   The Copy Batch Page is displayed.

2. Specify the Batch details as you want to clone and copy the existing batch.

   For more information, see Create New Batch section.

3. Click **Save**.

   The copied batch is saved and displayed in 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

The Delete Batch option allows you to delete a Batch that are no longer required in the system from the Define Batch Page.

Seeded batches cannot be deleted.

To delete a Batch, perform the following steps:

1. From the **Scheduler Services (Define Batch)** Page, click **Delete** corresponding to the Batch you want to delete.
2. Click **OK** to confirm deletion.

> **Note:**
>
> If the batch has any active schedules all the associated schedules of the batch are also deleted, after confirmation.

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

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

To add new task, perform the following steps:

1. In the **Scheduler Service (Define Task)** select the Batch for which you want to add new task from the drop-down list.
2. Click **Actions** in page and click **Add**.

   Add Task page is displayed.
3. Enter the details in the Add Task page:
   - **Task Code** - Enter a Unique Alphanumeric Code for the new Task.
     The Code 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 (_)**.
   - **Task Name** - Enter a unique name for the new batch.
     The task 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 (_)**.
   - **Task Description** - The description/details for the batch.
     The description should start with alphabet and should not be more than 250 characters. Words like Select From or Delete From should not be entered in the Description.
   - **Task Type** - Select the task type from the drop-down list.

- **Batch Service URL** - Select the **Batch Service URL** from the drop-down list. You can also enter the **Task Service URL** and associated URL is displayed in the **Service URL**. You can also provide the partial URL here and the complete URL in the Task Service URL.
- **Task Service URL** - Enter task service URL if it is different from Batch Service URL.

4. From the Task Parameters Pane, by default, all Batch Level Parameters are added and enabled as task parameters.
   a. Enter the Parameter name in the **Param Name** field.
   b. Enter the Parameter value in the **Param Value** field.

   You can delete a parameter by clicking corresponding to the parameter.
5. Click **Save**.

Modifying a Task

Modifying Task option allows you to modify the details of existing tasks of a Batch Definition such as Task Description, Task Type, Batch Service URL and Task Service URL.

You can also add a new task parameter and enable or disable already existing task parameters.

To modify a Task, perform the following steps:

1. From the **Define Task** Page, select the Batch to modify the task details, from the drop-down list.
2. Click **Edit** corresponding to the Task to be modified.

   The **Edit Task** Page is displayed.
3. Modify the required Task Details.

   For more information, see Add a task Section.
4. Click **Save**.

Define Task Precedence

Task Precedence indicates the execution-flow of a Batch. Task Precedence Value 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

You can remove a task from a Batch Definition which are no longer required in the system by deleting it from the Define Task page.

To delete a Task, perform the following steps:

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 a Batch and Batch Group

The Execute Batch option allows you to run a batch instantaneously.

To execute a Batch/Batch Group, perform the following steps:

1. In the **Schedule Batch** page, select Batch or Bath Group to execute, from the drop-down list.
2. Select the Batch /Batch Group Name from the drop-down list. For example, AMLDataLoad.
3. Click **Execute**.

   The **Execution Schedule** Page is displayed.
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 execution ID is displayed.
8. Schedule a Batch/Batch Group.

   You can schedule a Batch/Batch Group to run just for Daily, Weekly, and Monthly. for scheduling the batches. You can also have a user defined schedule to schedule and run a batch, Using Cron expression.

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**.

Daily Batch Scheduling

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

1. Click **Schedule Batch** from the Header panel. The Schedule Batch Page is displayed.
2. In the Schedule Batch Page, click **Daily** .
3. Select the **Batch /Batch Group Name**.
4. Select the **Batch or Batch Name** you want to schedule daily from the dro-down list.
5. Enter a **Schedule Name**.
6. Select the **Start Date** from which you want to run the Batch.
7. Select the **End Date** till which you want to run the Batch.
8. Select the **Time** at which you want to run the Batch daily.
9. Click **Schedule**.

Weekly Batch Scheduling

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

1. Click **Schedule Batch** from the Header panel.

   The Schedule Batch Page is displayed.
2. In the Schedule Batch Page, click **Weekly**.
3. Select the Batch /Batch Group Name.
4. Select the **Batch or Batch Name** you want to schedule daily from the 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 a Batch

You can re-start a Batch which has not been executed successfully or which has been explicitly interrupted, or cancelled, or put on hold during the execution process.

By re-starting a Batch, you can continue Batch execution directly from the point of interruption or failure and complete executing the remaining tasks.

To re-start a batch, perform the following steps:

1. Click **Schedule Batch** from the Header panel.

   The Schedule Page is displayed.
2. From the **Schedule** Page, select Re-start tab.
3. Select **Batch /Batch Group**.
4. Select the **Batch or Batch Name** you want to schedule daily from the drop-down list.
5. Select the **Batch Run ID**.
6. Click **Re-start**.

Re-run a Batch

You can re-run a Batch which has previously been executed. Re-run Batch facilitates you to run the Batch irrespective of the previous execution state.

A new Batch Run ID is generated during the Re-run process and the Batch is executed as similar to the new Batch Run.

To re-run a batch, perform the following steps:

1. Click **Schedule Batch** from the Header panel.

   The **Schedule Batch** Page is displayed.
2. In the **Schedule Batch** Page, select **Re-run** tab.
3. Select **Batch /Batch Group**.
4. Select the **Batch or Batch group Name** you want to re-run from the Select Name drop down menu.
5. Select the **Batch Run ID**.
6. Click **Re-run**.

Edit Dynamic Parameters

Dynamic Parameters facilitate you to modify the dynamic parameters for the batch.

You can change the Param Value from the Edit Dynamic Params Page and save the changes to the Batch. The Edit Dynamic Parameters option is available in all the tab in the Schedule Batch Page.

To edit the dynamic parameters for a batch, perform the following steps:

1. In the **Schedule Batch Page**, click **Edit Dynamic Parameters**.
   The **Edit Dynamic Params** Page is displayed.
2. In the **Edit Dynamic Params** Page, modify the values as required.
3. Click **Save**. The modified parameters are applied to the Batch.

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

You can view and monitor the complete status of the Executed Runs, Successful Runs, Failed Runs, Ongoing Runs, Interrupted Runs, and the Upcoming Runs, from 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**.

The Scheduler Service Dashboard with the following details is displayed.

- The Executed Runs, Successful Runs, Failed Runs, Ongoing Runs, Interrupted Runs, and Upcoming Runs tabs. You can click the tabs to view the details of the

Batches based on their status. For example, click **Ongoing Runs** to view the details of the batches that are currently running.

- The Batches that were executed within the last 7 or 30 days contain details such as Batch Name, Batch Run ID, and Run Time. Click 30 days to view the batches that were executed within the last 30 days. You can click the icon corresponding to a Batch to monitor it.
- The Batch Execution Summary Pane displays the count of total batches executed that were executed within the last 7 days, 30 days, and 120 days. You can also view the separate count of successful batches, failed batches, interrupted batches, on-going batches, and the batches which are yet to start, by hovering your mouse the batches.

External Scheduler Interface

External scheduler interface help you to execute 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 the 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 description.
- 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 description.

Table 5-1 Status Codes

Status Code	Description
0	Success
-1	Failure
-2	Interrupted
1	Not Started
2	Ongoing
3	Aborted
4	Excluded
5	Held

Table 5-1 (Cont.) Status Codes

Status Code	Description
-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"
}
```

Viewing Logs

This section describes the OFS CCA CS log details.

Kubectl Commands

To get the subnamespace:

```
kubectl get subnamespaces
```

To get the pods:

```
kubectl -n <subnamespace> get pods
```

For example:

```
kubectl -n fsgbu-ofscca--fsafnd-ccaqa313233-prd get pods
```

```
kubectl -n fsgbu-ofscca--ofscca-ccaqa313233-prd get pods
```

To get the node level details and logs:

```
kubectl logs <servicename> -n <subnamespace>
```

For example:

```
kubectl logs dataload-ofscca-czpv5 -n fsgbu-ofscca--ofscca-ccaqa282233-prd
```

To delete a pod:

```
kubectl delete pod <ppodname> -n fsgbu-ofscca--ofscca-<tenanted>
```

For example:

```
kubectl delete pod cca-loader-cfdf7b4f4-8vk4x -n fsgbu-ofscca--ofscca-
ccaqa313233-prd
```

Scaling the pods:

```
Kubectl get deployments
```

```
kubectl scale deployment jobless-ordering-service --replicas=3(Scale up)
```

```
kubectl scale deployment jobless-ordering-service --replicas=0 (Scale
Down)
```

Kubectl Commands

```
kubectl logs dataload-ofscca-czpv5 -n
    fsgbu-ofscca--ofscca-ccaqa282233-prd
```

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**.

Additional information is available in table AAICL_MESSAGE_LOG of data schema.

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
GHG Emissions Calculator

The GHG Emissions Calculator Engine is an integral part of the Oracle Financial Services Climate Change Analytics Cloud Service solution. This engine enables users to calculate their Greenhouse Gas (GHG) emissions across various classifications like Scope 1, 2, and 3 and emissions categories. Logic and Formulas used in this engine have been developed based on various industry-leading guidance and standards like The GHG Protocol Corporate Accounting and Reporting Standard and The Global GHG Accounting and Reporting Standard issued by Partnership for Carbon Accounting Financials (PCAF).

GHG Emissions and Classification

Greenhouse Gases refer to a collection of seven greenhouse gases listed in the Kyoto Protocol, i.e., carbon dioxide (CO2); methane (CH4); nitrous oxide (N2O); hydrofluorocarbons (HFCs); nitrogen trifluoride (NF3); perfluorocarbons (PFCs); and sulfur hexafluoride (SF6). These GHGs are released into the atmosphere as a result of emissions from various activities undertaken as part of several business operations and/or an entity's value chain.

Classification

GHG Emissions are broadly classified into two sources and three reporting categories which are consistently used across these standards and/or frameworks:

Table 6-1 Classification of GHG Emissions

Source	Reporting Category
Direct Emissions	Scope 1
Indirect Emissions	Scope 2
Indirect Emissions	Scope 3

These emissions reporting categories can be distinguished based on the following definitions:

- Scope 1 – Emissions from sources that are owned or controlled by an entity
- Scope 2 – Emissions from sources that are purchased and controlled by an entity
- Scope 3 – Emissions from all other sources

These reporting categories are further sub-divided into various activities as listed below:

Table 6-2 Reporting Categories

Reporting Category	Emissions Source Activity
Scope 1	Fuels
Scope 1	Refrigerants
Scope 1	Owned Transportation
Scope 2	Electricity
Scope 2	Heat and Steam
Scope 2	District Cooling

Table 6-2 (Cont.) Reporting Categories

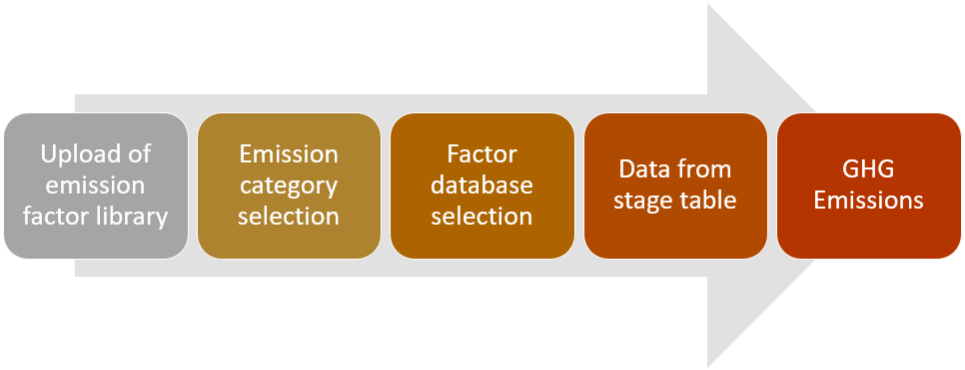
Scope 3	Purchased goods and services
Scope 3	Capital goods
Scope 3	Fuel and energy-related activities
Scope 3	Upstream transportation and distribution
Scope 3	Waste generated in operations
Scope 3	Business travel
Scope 3	Employee commuting
Scope 3	Upstream leased assets
Scope 3	Downstream transportation and distribution
Scope 3	Processing of sold products
Scope 3	Use of sold products
Scope 3	End-of-life treatment of sold products
Scope 3	Downstream leased assets
Scope 3	Franchises
Scope 3	Investments

Process Overview

The GHG emissions calculator engine is an integral part of the Oracle Financial Services Climate Change Analytics Cloud Service solution. This engine enables users to calculate their greenhouse gas (GHG) emissions across various classifications like Scope 1, 2, and 3 and emissions categories. Logics and formulas used in this engine have been developed based on various industry-leading guidance and standards like The GHG Protocol Corporate Accounting and Reporting Standard and The Global GHG Accounting and Reporting Standard issued by Partnership for Carbon Accounting Financials (PCAF).

The following diagram illustrates the steps to be performed in order to obtain the GHG Emissions at an Emissions Category level.

Figure 6-1 The GHG Emissions Process



- **Upload emission factor library** – Users must upload the relevant emissions factors that they want the calculation engine to use for processing purposes at a

source level like PCAF, DEFRA, UNFCC, etc. For more details, refer to the MOS page.

- **Data from staging tables** – Users must provide relevant data elements required to calculate GHG emissions using the Object Store. For more details on the data format and required data elements, please refer MOS page.
- **Create user definitions** – Users must create a definition at a legal entity level using the Greenhouse Gas Emissions Calculator UI screen. For more details, please refer section on the Greenhouse Gas Emissions Calculator UI screen.
- **Calculate GHG Emissions** – In this step, users direct the service to execute a run to process data provided and defined user inputs for calculating GHG emissions.
- **Reports & Analytics** – Output of GHG emissions is then utilized for various visualizing various pre-built dashboards, reports, and metrics using the Oracle Analytics platform.

The following list of emissions categories are currently being supported by this engine:

1. Fuels
2. Refrigerants
3. Owned Transportation
4. Electricity
5. Heat and Steam
6. District Cooling
7. Purchased goods and services
8. Fuel and energy related activities
9. Upstream transportation and distribution
10. Waste generated in operations
11. Business Travel
12. Employee commuting
13. Upstream leased assets
14. Downstream transportation and distribution
15. Downstream leased assets
16. Investments
17. Emissions Removals
18. Avoided Emissions

Supported Individual Emissions Categories

This section provides information on the details related to the GHG Emissions categories. As a standard practice for all emissions categories, the user must provide the Emissions Factor Database in a standard format.

The following are the supported emissions categories in the OFS CCA CS Application, for more details, see the Oracle Financial Services Climate Change Analytics Reference Guide on MOS:

- **Fuels**- This category is used to report emissions resulting from the combustion of various forms of fuels from sources owned by the reporting entity. Results from this category will be reported under Scope 1 emissions.
- **Refrigerants**- This category is used to report emissions resulting from the manufacturing or processing of various forms of chemicals and materials. As these emissions are from sources owned by the reporting entity, their results will also be reported under Scope 1 emissions.
- **Owned Transportation** - This category is used to report emissions resulting from the combustion of fuels in reporting the company's owned or controlled combustion sources like cars, buses, airplanes, etc. Results from this category will be reported under Scope 1 emissions.
- **Electricity** - This category is used to report emissions resulting from the generation of electricity that is purchased or otherwise brought into the reporting entity. Results from this category will be reported under Scope 2 emissions.
- **Heat and Steam** - This category is used to report emissions resulting from the generation of heat and steam that is purchased or otherwise brought into the reporting entity. Heat is generally used by organizations to control interior climates, heat water, and some equipment. Steam is a valuable energy resource for various industrial processes. Results from this category will be reported under Scope 2 emissions.
- **District Cooling** - This category is used to report emissions resulting from the production of cooling from electricity or through the distribution of cooled air or water. Results from this category will be reported under Scope 2 emissions.
- **Purchased goods and services** - This category is used to report upstream emissions (cradle-to-gate) resulting from the extraction, production, and transportation of goods and services purchased or acquired by the reporting company. Results from this category will be reported under Scope 3 emissions.
- **Fuel and Energy related Activities** - This category is used to report emissions resulting from the extraction, production, and transportation of fuel and energy purchased or acquired by the reporting company that is not included in Scope 1 and Scope 2. This includes upstream emissions of purchased fuels, purchased electricity, transmission and distribution losses, and generation of purchased electricity which is sold to end users. Results from this category will be reported under Scope 3 emissions.
- **Upstream Transportation and Distribution** - This category is used to report emissions resulting from transportation and distribution of purchased products between a reporting company's tier 1 suppliers and its operations in vehicles and facilities not owned or operated by the reporting company. It also includes transportation and distribution services purchased by the reporting entity, incl. both inbound and outbound logistics and transportation, and distribution between the company's various facilities. Results from this category will be reported under Scope 3 emissions.
- **Waste Generated in Operations** - This category is used to report emissions resulting from third-party disposal and treatment of waste generated in reporting company's operations (i.e., in facilities not owned/controlled by the reporting company). Results from this category will be reported under Scope 3 emissions.
- **Business Travel** - This category is used to report emissions resulting from transportation of a reporting company's employees for business-related activities, in vehicles not owned or controlled by the reporting company. Results from this category will be reported under Scope 3 emissions.

- **Employee Commuting** - This category is used to report emissions resulting from transportation of a reporting company's employees between their homes and their worksites, in vehicles not owned or controlled by the reporting company. Results from this category will be reported under Scope 3 emissions.
- **Upstream Leased Assets** - This category is used to report emissions resulting from the operation of assets that are leased by the reporting company (i.e., lessees) and not already included in Scope 1 and 2 inventories. Results from this category will be reported under Scope 3 emissions.
- **Downstream Transportation and Distribution** - This category is used to report emissions resulting from the transportation and distribution of products sold by the reporting company. This transportation and distribution is between the reporting company's operations and the end consumer in vehicles and facilities not owned by the reporting company. Results from this category will be reported under Scope 3 emissions.
- **Downstream Leased Assets** - This category is used to report emissions resulting from the operation of assets that are owned by the reporting company (i.e., lessors) and leased to lessees which are already not included in Scope 1 and 2 inventories. Results from this category will be reported under Scope 3 emissions.
- **Investments** - This category is used to report emissions associated with the reporting company's investments that are already not included in scopes 1 and 2. Results from this category will be reported under Scope 3 emissions.
- **Emissions Removals** - This category is used to report emissions removals from the atmosphere and storage through various means like trees, soil, etc. These are financed through various projects. Results from this category will be reported under the GHG Savings section.
- **Avoided Emissions** - This category is used to report emissions reductions that the financed project produces versus what would have been emitted in the absence of the project (the baseline emissions).

Note:

Calculation of the following emissions categories and other asset classes are currently not supported by the application. In this case the GHG Emissions will not be calculated but the user must provide the required carbon dioxide equivalent (GHG Emissions) information that needs to be used for Analytics and other processes:

- Capital Goods
- Processing of Sold Products
- Use of Sold Products
- End of Life Treatment of Sold Products
- Franchises
- Purchase of Carbon Offsets

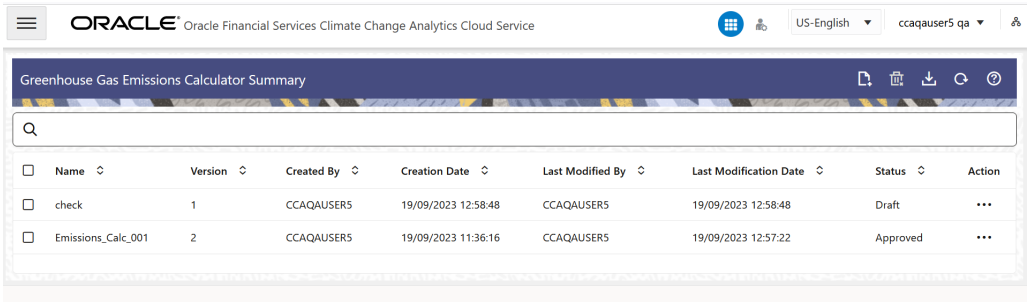
Emissions Calculator

This chapter provides detailed information about the Greenhouse Gas Emissions Calculator.

Greenhouse Gas Emissions Calculator Summary Page

This page is the gateway to the Greenhouse Gas Emissions Calculator feature and related functionality. To access this page from the LHS menu, click **Processes**, then click **Emissions Calculator**.

Figure 6-2 The Greenhouse Gas Emissions Calculator Summary screen



Use the Greenhouse Gas Emissions Calculator Summary screen to perform the following actions:

- Create
- Delete
- Refresh
- View
- Edit
- Save As
- Approve or Reject
- View a Version

The **Greenhouse Gas Emissions Calculator Summary** page contains the following features:

Table 6-3 Greenhouse Gas Emissions Calculator Summary page – Fields and Descriptions

Column	Description
Add	Click the **Add** icon to create a new Greenhouse Gas Emissions Calculator Definition.

Table 6-3 (Cont.) Greenhouse Gas Emissions Calculator Summary page – Fields and Descriptions

Column	Description
Delete	Select a Greenhouse Gas Emissions Calculator Definition and then click the **Action** icon adjacent to the selected Greenhouse Gas Emissions Calculator Definition and select **Delete** to delete an existing Greenhouse Gas Emissions Calculator Definition. This action is disabled for definitions that contain the status *Approved* or *Pending for Authorization*.
Refresh	Click the **Refresh** icon to refresh the Summary Page.
Help	Click the **Help** icon to view the Greenhouse Gas Emissions Calculator Definition Help page.
Search	Use this field to search for a Greenhouse Gas Emissions Calculator Definition to View, Edit, Save As, Delete, Approve or Reject, and View a Version. For more information on using this feature, see the Search a Greenhouse Gas Emissions Calculator Definition section.
Field Search	Enter the name of the Greenhouse Gas Emissions Calculator Definition to filter the list of Greenhouse Gas Emissions Calculator Definition by values that match the search term. For more information on using this feature, see the Search a Greenhouse Gas Emissions Calculator Definition section.

The **Greenhouse Gas Emissions Calculator Summary** page displays the list of Greenhouse Gas Emissions Calculator Definitions that have been defined by the user and offers several actions that allow you to perform different tasks. This page contains the following columns:

Table 6-4 Greenhouse Gas Emissions Calculator Columns

Column	Description
Name	Displays the Greenhouse Gas Emissions Calculator Definition's name.
Created By	Displays the User ID of the user who created the definition.
Creation Date	Displays the date and time of the creation of the definition.
Last Modified By	Displays the User ID of the user who last modified the definition.
Last Modified Date	Displays the date and time of the last modification of the definition.

Table 6-4 (Cont.) Greenhouse Gas Emissions Calculator Columns

Column	Description
Status	This column displays the status of the definition: • **Approved** - The definition has been approved by the Approver. Definitions that are in this status can be Viewed and Copied (Saved As) • **Pending for Authorization** - The definition has been submitted to the approver and is pending approval. When a definition is in this status, only the View action is available. • **Rejected** - The definition has been rejected by the Approver and has been sent back to the Analyst. Definitions that are in the *Rejected* status can be Viewed, Edited or Deleted by an Analyst user. Additionally, when using the View or Edit action, you can view the comments from the Approver in the **Comments** tab of the **Audit Panel**. The Analyst user can modify a definition with this status and then resubmit it to the approver for approval. • **Draft**-The definition has been saved but has not been submitted to the approver for approval. Definitions that are in the *Draft* status can be Viewed, Edited or Deleted by an Analyst user. For more information on the approval process, see Approve a Greenhouse Gas Emissions Calculator Definition.

Table 6-4 (Cont.) Greenhouse Gas Emissions Calculator Columns

Column	Description
Action	The following tasks are available for the Greenhouse Gas Emissions Calculator Definition in the **Action** column. • **View**- Click the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition Name and select **View** to view the contents of a Greenhouse Gas Emissions Calculator Definition in read format. • **Edit**- Click the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition Name and select **Edit** to edit the contents of a Greenhouse Gas Emissions Calculator Definition in read/write format. • **Save As**- Click the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition Name and select **Save As** to copy the Emissions Factor Database Mappings from one Legal Entity to a new Legal Entity. • **Delete**- Click the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition name and select **Delete** to delete an existing Greenhouse Gas Emissions Calculator Definition. • **Approve/Reject**- Click the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition name and select **Approve** to Approve an existing Greenhouse Gas Emissions Calculator Definition. This action can only be performed by a user with the *Approver* role. • **Show Versions**- Click the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition name and select **Show Versions** to view the version of the selected Greenhouse Gas Emissions Calculator Definition.

Create a Greenhouse Gas Emissions Calculator Definition

The application enables the creation of Greenhouse Gas Emissions Calculator definitions. Only an *Analyst* and *Admin* user can create a Greenhouse Gas Emissions Calculator Definition.

> **Note:**
>
> Before creating a Greenhouse Gas Emissions Calculator Definition, execute the batch **CCA_LOAD_EMISSION_FACTOR_SOURCE_DATA**. Execution of this batch loads the data into the Emissions Factor Database - Option 1 and Option 2 drop-down list fields.

Perform the following steps to create a Greenhouse Gas Emissions Calculator definition:

1. On the **Greenhouse Gas Emissions Calculator Summary** page, click the Add icon to open the **Greenhouse Gas Emissions Calculator** window.
2. Populate the Greenhouse Gas Emissions Calculator Form as tabulated:

Table 6-5 Green House Gas Emissions Calculator Form

Field	Description
Name (**Definition Summary** pane)	Enter a name for the definition. This is a mandatory field.
Legal Entity (**Definition Summary** pane)	Click the **Select Legal Entity** icon to open the Legal Entity window: a. In this window, click the Legal Entity field to select a Legal Entity from the drop-down list. Multiple Legal Entities can be selected in this window. When multiple Legal Entities are selected, they will appear in the Legal Entity drop-down list in the **Definition Summary** pane. **Note:** • A definition can only use Legal Entities that are not part of existing definitions. • The application supports one definition using multiple Legal Entities that have not been used in other definitions. b. Click **Apply**. The **Selection of Emission Factor Database** is automatically populated in the Emission Factor Database Grid.
Emission Factor Database - Option 1 (**Selection of Emission Factor Database** pane)	Select an Emissions Factor Database from the drop-down list. If multiple Legal Entities were selected in the Legal Entity field, then you need to select each Legal Entity from the Legal Entity drop-down list and then select an Emission Factor Database from the drop-down list. You must perform this action for each selected Legal Entity

Table 6-5 (Cont.) Green House Gas Emissions Calculator Form

Field	Description
Emission Factor Database - Option 2 (**Selection of Emission Factor Database** pane)	Select an Emissions Factor Database from the drop-down list. If multiple Legal Entities were selected in the Legal Entity field, then you need to select each Legal Entity from the Legal Entity drop-down list and then select an Emission Factor Database from the drop-down list. You must perform this action for each selected Legal Entity
Copy Across	Click this button if you want to copy the Emissions Factor information from one Legal Entity to a new Legal Entity within a definition. For more information on this feature, see the Copy (Save As) a Green House Gas Emission Calculator Definition section.
Reset to Default	Click this button to use the latest user defined default values, values that were modified in the default Legal Entity. If the default Legal Entity is not selected, then the application uses the seeded values.
Audit Panel	The Audit Panel pane is a standard footer pane for every OFSAA Rule type. For more information, see Audit Pane.

3. Click **Save**. The status changes to *Draft* and the definition is saved.
4. Click **Submit**. The status changes to *Pending for Authorization*, and is submitted to the Approver.

The new definition will appear in the list of Greenhouse Gas Emissions Calculator definitions on the **Greenhouse Gas Emissions Calculator Summary** page with the status as *Draft* or *Pending for Authorization*.

Refresh a Greenhouse Gas Emissions Calculator Definition

You can refresh an existing Greenhouse Gas Emissions Calculator Definition from the **Greenhouse Gas Emissions Calculator Summary** page to refresh it with newly available data. Perform the following steps to refresh one or more existing Greenhouse Gas Emissions Calculator Definition(s):

1. On the **Greenhouse Gas Emissions Calculator Summary** page, select the checkbox(s) adjacent to the Greenhouse Gas Emissions Calculator Definition(s) that you want to refresh.
2. Click **Refresh**.

The selected Greenhouse Gas Emissions Calculator Definition(s) are refreshed with newly available data.

View a Greenhouse Gas Emissions Calculator Definition

The View feature enables you to view the details of an existing Greenhouse Gas Emissions Calculator Definition. Perform the following steps to view the definition details:

1. In the Greenhouse Gas Emissions Calculator Definition list, select the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition name that you want to view.
2. Click **View** to open the **Gas Emissions Calculator Definition** window.
   If a definition has been rejected by the Approver, then you can view the comments from the Approver in the **Comments** tab of the **Audit Panel**.
3. Click **Cancel** to return to the **Gas Emissions Calculator Definition** page.

Edit a Green House Gas Emissions Calculator Definition

The Edit feature enables you to update the details of an existing Green House Gas Emissions Calculator Definition. Perform the following steps to edit an existing Green House Gas Emissions Calculator Definition:

> **Note:**
>
> Definitions that have the status as *Approved* or *Pending for Authorization* cannot be edited.

1. In the Green House Gas Emissions Calculator Definition list, select the **Action** icon adjacent to the Green House Gas Emissions Calculator Definition name that you want to edit.
2. Click **Edit** to open the **Green House Gas Emissions Calculator Definition** window.
3. Edit the relevant fields.
4. Click **Save** and then click **Submit**.
   If a previously *Rejected* definition was modified, then when the **Submit** button is clicked, the Approval Process begins.
5. Additionally, navigate to the **Audit Panel** and then to the **Comments** tab to view any comments from the Approver in case the definition has the status as *Rejected*.

The saved Green House Gas Emissions Calculator Definition is displayed in the Green House Gas Emissions Calculator Definition list on the **Green House Gas Emissions Calculator Summary** page.

Copy (Save As) a Green House Gas Emissions Calculator Definition

The Copy Save As feature enables you to copy the details from an existing definition to a new definition by using a new Legal Entity or Entities. Perform the following steps to copy and save a Green House Gas Emissions Calculator Definition:

1. Select the desired Green House Gas Emissions Calculator Definition.

   > **Note:**
   >
   > Only *Approved* definitions can be copied.

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. In the **Source Legal Entities** drop-down list to select the Legal Entity that was used in the Definition that has been copied.
   By selecting the *Source* Legal Entity, you can to copy its' mappings to the *Target* Legal Entity in the **Greenhouse Gas Emissions Calculator** (Edit) screen.
6. In the **Target Legal Entities** drop-down list, select the required Legal Entity(s).
   The Legal Entities in this list are those that have not been used in other definitions.
7. Click **Save**. The Green House Gas Emissions Calculator Definition is saved under a new name.
8. Select the newly saved definition from the **Greenhouse Gas Emissions Calculator Summary** page.
9. Click the **Action** icon and then select **Edit**.
10. Populate the relevant fields.
    If a Legal Entity that has already been used in another definition is selected, then the application gives you an error message when you try to save this definition, hence ensure that a unique Legal Entity is selected.
11. It is mandatory to select a new Legal Entity(s) and then delete the old Legal Entity before clicking **Submit**. Perform the following steps depending on whether you want to copy the old definition's Emissions Factor Database Mappings the newly selected Legal Entities or not:
    a. **If you want to copy the old definition's Emissions Factor Database Mappings to the new Legal Entity**:
       i. Click the **Select Legal Entity** icon to open the Legal Entity window:
       ii. In this window, click the Legal Entity field to select a Legal Entity from the drop-down list. Multiple Legal Entities can be selected in this window. When multiple Legal Entities are selected, they will appear in the Legal Entity drop-down list in the **Definition Summary** pane.

       > **Note:**
       >
       > - A definition can only use Legal Entities that are not part of existing definitions.
       > - The application supports one definition using multiple Legal Entities that have not been used in other definitions.

       iii. Click **Apply**. The **Copy Across** button is enabled.
       iv. Click **Copy Across**. The old definition's Emissions Factor Database Mappings are copied to the newly selected Legal Entity(s)
       v. If required, modify the mappings.
       vi. Click the **Select Legal Entity** icon to open the Legal Entity window:
       vii. In this window, delete the old Legal Entity.
    b. **If you do not want to copy the old definition's Emissions Factor Database Mappings to the new Legal Entity:**

i. Click the **Select Legal Entity** icon to open the Legal Entity window:

ii. In this window, delete the old Legal Entity.

iii. Select a Legal Entity from the drop-down list. Multiple Legal Entities can be selected in this window. When multiple Legal Entities are selected, they will appear in the Legal Entity drop-down list in the **Definition Summary** pane.

> **Note:**
>
> - A definition can only use Legal Entities that are not part of existing definitions.
> - The application supports one definition using multiple Legal Entities that have not been used in other definitions.

iv. Click **Apply**.

v. If required, modify the mappings.

12. Click **Save** and then click **Submit** to submit this definition to the Approver for approval.

Delete a Green House Gas Emissions Calculator Definition

You can delete an existing Green House Gas Emissions Calculator Definition from the **Greenhouse Gas Emissions Calculator Summary** page. Perform the following steps in order to delete single or multiple existing Green House Gas Emissions Calculator Definitions:

> **Note:**
>
> Definitions that have the status as *Approved* cannot be deleted.

1. On the **Greenhouse Gas Emissions Calculator Summary** page, select the checkbox(s) adjacent to the Greenhouse Gas Emissions Calculator Definition(s) that you want to delete.
2. Click **Delete**. A warning dialog is displayed.
3. Click **Yes**.
4. Additionally, select the checkbox(s) adjacent to the Green House Gas Emissions Calculator Definition(s) and then click the **Delete** icon on the top of the **Greenhouse Gas Emissions Calculator Summary** page. A warning dialog is displayed.
5. Click **Yes**.

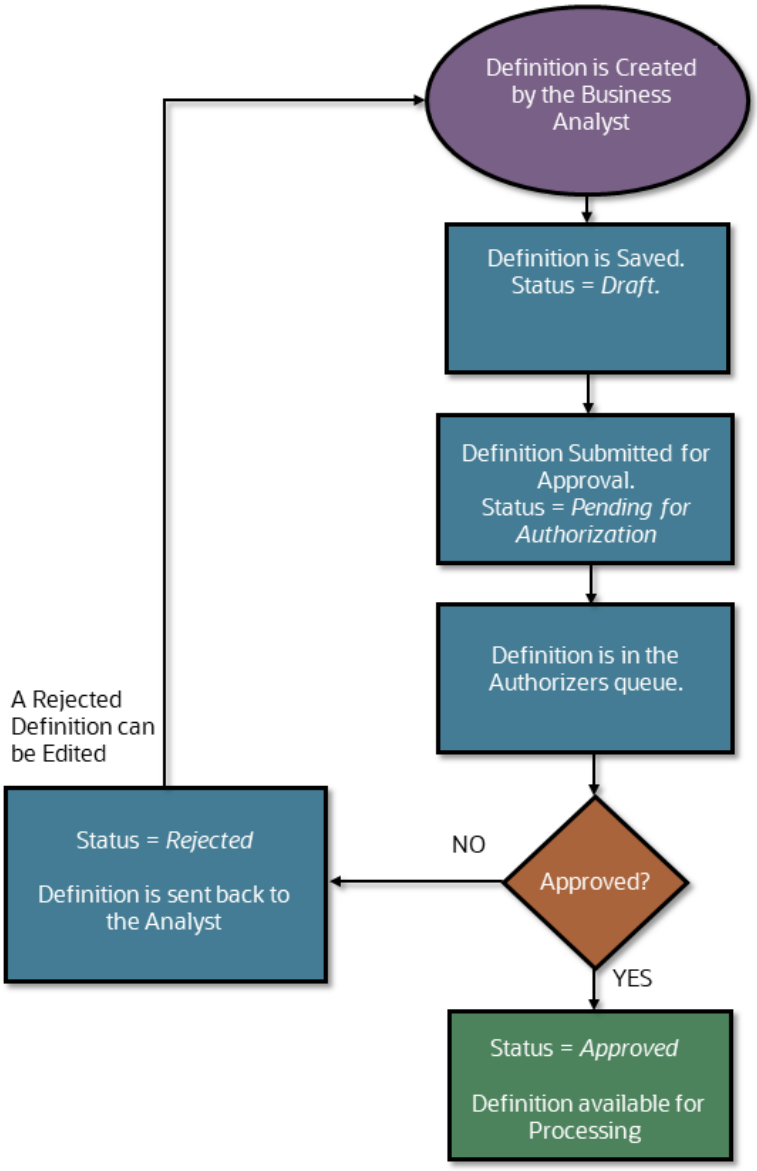
The selected definitions are removed from the **Greenhouse Gas Emissions Calculator Summary** page.

Approve or Reject a Greenhouse Gas Emissions Calculator Definition

All definitions that have been created must be approved by the *Approver User* only. If a definition has only been *Saved* and not *Submitted* to the *Approver* for approval, will not be used for processing. Only **Approved** definitions are used for processing/runs.

The following diagram illustrates the Approval Workflow status:

Figure 6-3 The Approval Workflow Process



Perform the following steps to *Approve* or *Reject* a Greenhouse Gas Emissions Calculator definition:

1. Log in as an Approver and navigate to the **Green House Gas Emissions Calculator Summary** page. Only definition with the status as Pending for Authorization are available for Approval or Rejection.
2. Select the Greenhouse Gas Emissions Calculator definition that you want to approve or reject and then click the **Action** icon.

> **Note:**
>
> As an Approver, you can only **View** or **Approve** or **Reject** a definition from the **Action** icon.

3. Click **View** or **Approve/Reject** to open the page for the selected Greenhouse Gas Emissions Calculator definition.
4. On this page view the form and then select either **Approve** or **Reject**.
   - If you select **Approve**, then a window appears. In this window, enter your comments for the Approval, and then click **Approve**.
   - If you select **Reject**, then a window appears. In this window, enter your comments for the Rejection, and then click **Reject**.

If the definition was Approved , then the status is marked as *Approved* and can be used for processing or runs. If the definition was rejected, then the status of the definition is marked as *Rejected* and the definition is sent back to the Analyst for modification and resubmission.

Create a New Version of an Approved Definition

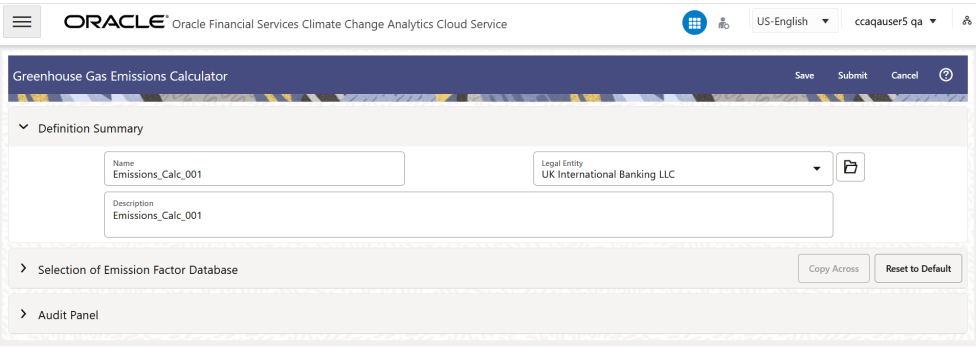
The application enables you to create a new version of an *Approved* definition. In this feature when you create a new version of an *Approved* definition, except for the Legal Entity, you can modify the relevant fields and **Save** and then **Submit** this modified definition for the Approval process. The *Approver User* will either *Approve* or *Reject* this new version of the definition:

- Rejected: If this version of the definition is Rejected, it will go back to the Analyst or Admin user for modification and these users can resubmit this version until it is *Approved*.
- **Approved:** If this version of the definition is *Approved*, then it will be available for viewing or creating a new version again if required.

Perform the following steps to create a new version of an *Approved* definition:

1. In the Greenhouse Gas Emissions Calculator Definition list, select the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition name that you want to create a new version of.
2. Click **Create New Version**. The **Greenhouse Gas Emissions Calculator** window appears.

Figure 6-4 The Greenhouse Gas Emissions Calculator Window



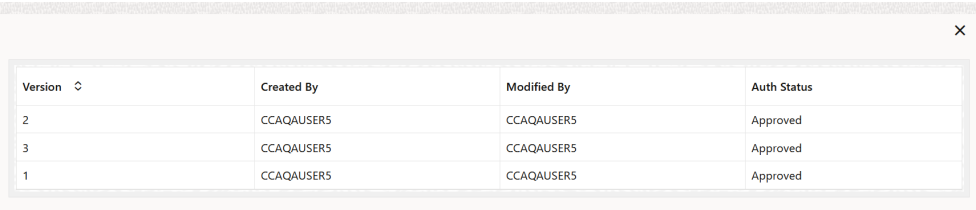
3. Edit the relevant information.
4. Click the **Close** button to return to the **Greenhouse Gas Emissions Calculator Summary** page.

View the Version of an Approved Definition

After creating a new version of an Approved Definition, the version number changes. Perform the following steps to check the version of a definition:

1. In the Greenhouse Gas Emissions Calculator Definition list, select the **Action** icon adjacent to the Greenhouse Gas Emissions Calculator Definition name that you want to view the version of.
2. Click **Show Versions**. A window pops up displaying the version information of the definition.
   In this window, you can view the version information via the **Version**, **Created By**, **Modified By**, and **Auth Status** columns.

Figure 6-5 View the Version Information



Version	Created By	Modified By	Auth Status
2	CCAQAUSER5	CCAQAUSER5	Approved
3	CCAQAUSER5	CCAQAUSER5	Approved
1	CCAQAUSER5	CCAQAUSER5	Approved

3. Click the **Close** button to return to the **Greenhouse Gas Emissions Calculator Summary** page.

Search for a Green House Gas Emissions Calculator Definition

Search for a Green House Gas Emissions Calculator Definition to perform any of the following tasks:

- View
- Edit
- Save As
- Delete

- Approve or Reject
- View a Version

Procedure

To search for a Green House Gas Emissions Calculator Definition, perform the following steps:

- Navigate to the **Green House Gas Emissions Calculator Summary** page.
- Click the **Search** field.
- Enter the **Name** of the Green House Gas Emissions Calculator Definition.
- In the Status field, select a value to filter the search by the status of the Green House Gas Emissions Calculator Definition. The available options are:
  - Approved
  - Pending for Authorization
  - Rejected
  - Draft
- Click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Status can be used for an Advanced Search.

Only Green House Gas Emissions Calculator Definition that match the Search Criteria are displayed.

7

Climate Scorecard

The Climate Scorecard is an integral part of the Oracle Financial Services Climate Change Analytics Cloud Service solution. With the increasing effects and impacts of climate risk, financial institutions need a mechanism to integrate climate risk into their overall Enterprise Risk Management practices. Further, the reporting/disclosure requirements from various climate change-related reporting standards and/or frameworks require reporting entities to disclose their processes for identifying, assessing, and managing climate-related risks.

To facilitate banks and financial institutions to confidently integrate climate risk into their risk management, this framework on Climate Scorecard by Oracle Financial Services enables a financial institution to measure, monitor, and assess its financial exposures. This is achieved by way of rating its customers based on various climate change-related factors like carbon emissions, governance, climate targets, and so on. CCA defines climate change factors as those factors that can materially influence the climate risk assessment of a rated customer.

OFS CCA's Climate Scorecard Framework performs an assessment based on several quantitative and qualitative parameters. Users, additionally, have the option to add custom parameters and sub-parameters to meet internal policies and/or practices. This objective evaluation is based on several publicly available information and other information obtained from the customers.

Assessment Process

To arrive at the overall customer Climate Rating, weights are assigned at a sectional level (quantitative vs. qualitative) and to each parameter as well. Additionally, users can configure slabs for each parameter by specifying the upper and lower limits for them. Users can either accept the pre-configured setup or configure these weights, and slabs based on their internal risk management policies and practices.

Quantitative Parameters

Oracle Financial Services' Climate Change Analytics' Climate Scorecard model comes along with several pre-packaged quantitative parameters to factor in climate risk in the overall risk assessment process. These parameters are important to assess a customer based on numerical values attached to climate risk metrics and disclosures. Users can utilize the Data Model Extensions module to add custom quantitative parameters per their requirements.

Examples of quantitative parameters used in this framework are:

- **GHG Emissions** – Total reported greenhouse gas (GHG) emissions of the rated customer
- **Emissions Intensity** – Popular emissions intensity metrics like economic emissions intensity of the rated customer
- **Emission Targets** – Climate targets set by the rated customer

For more details on the pre-packaged quantitative parameters, see the Reference Guide on MOS.

Qualitative Parameters

Similar to Quantitative Parameters, the Climate Scorecard model comes with several pre-packaged qualitative parameters to factor in climate risk in the overall risk assessment process. Users can utilize the Data Model Extensions module to add custom qualitative parameters per their requirements.

Examples of qualitative parameters used in this framework are:

- **Governance** – Metrics on the Board of Directors, Management involvement in managing climate risk
- **Level of disclosures** – Maturity level of the rated customer in the form of several climate change disclosures made
- **Sector and Industry Classification** – Categorization of the rated customer based on the sector and industry it belongs to

For more details on the pre-packaged qualitative parameters, see the Reference Guide on MOS.

Output

Depending upon the underlying data, a score is assigned to each parameter which is then aggregated to arrive at the final score. Based on the final score, each customer gets assigned a Climate Rating and Rating Reference. Climate Rating is an alphabetic symbol assigned to a customer, for example, AAA is the highest rating symbol, and Highly Positive is the Rating Reference attached to it.

The following table provides an example of the symbols and references used in the application:

Rating Symbol	Rating Reference
AAA	Highly Positive
ABB	Moderate
BBB	Neutral
CCC	Highly Negative

For detailed information on the symbols and ratings used in the application, see the Symbols and Ratings section in the OFS CCA CS Reference Guide on MOS.

The following table provides an example of the range of scores used in the application with the number of ratings being 4:

> **Note:**
>
> The preseeded values may change depending on the user selection from the Climate Scorecard screen.

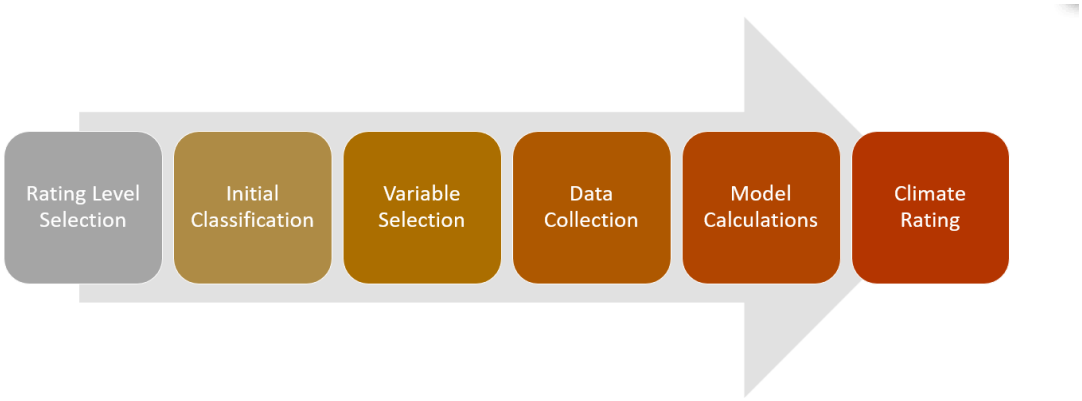
Number of Ratings	4
AAA	3.51-4
ABB	2-3.5
BBB	1.51-2
CCC	0.9-1.5

For detailed information on the range of scores used in the application, see the Range of Scores section in the OFS CCA CS Reference Guide on MOS.

For more details on the various rating levels, rating symbols, and rating references, see the Reference Guide on MOS.

The following diagram illustrates the Climate Scorecard Process Flow:

Figure 7-1 Climate Scorecard Process Flow

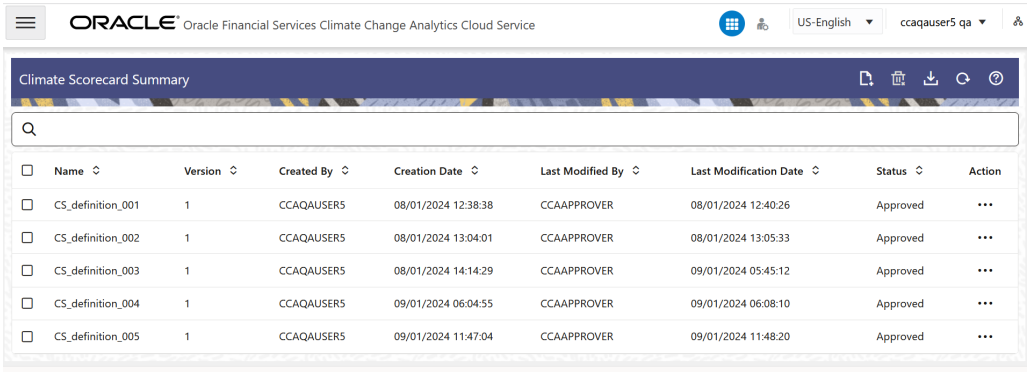


1. **Rating Level Selection**- Select the desired Rating Level from the <Screen name> UI based on the available options such as 4, 5, 6, and so on. The rating symbols, rating references, and increasing or decreasing the available band of ratings are non-editable by the user. For more information on how to use this feature, see the section on Climate Scorecard UI. For information on the rating levels, symbols, and rating references, see the Reference Guide on MOS.
2. **Initial Classification** - Select relevant legal entity(s), industry classification type, customer category, customer type, and so on to proceed with various variable selections.
3. **Variable Selection**- Confirm, copy, or modify weights, and slabs across each parameter. For custom parameters generated using the Data Model Extensions module, the user must copy the score and slab type of an existing parameter.
4. **Data Selection**- The framework utilizes existing counterparty-related data from the staging and FSI tables.
5. **Model Calculations**- The framework then performs the assessment process by computing a score for each parameter, and section (quantitative and qualitative) based on the user definition in the Climate Scorecard UI screen and underlying data.
6. **Climate Rating**- Obtain the final climate rating and rating reference at each counterparty level.

Climate Scorecard Summary Page

This page is the gateway to the Climate Scorecard feature and related functionality. To access this page from the LHS menu, click **Data Management Tools**, then click **Climate Scorecard**.

Figure 7-2 The Climate Scorecard Summary Page



Use the Climate Scorecard Summary screen to perform the following actions:

- Create
- Refresh
- View
- Edit
- Save As
- Delete
- Approve or Reject
- Search

The **Climate Scorecard Summary** page contains the following features:

Table 7-1 Climate Scorecard Summary page – Fields and Descriptions

Column	Description
Add	Click the **Add** icon to create a new Climate Scorecard definition.
Delete	Select a Climate Scorecard definition and then click the **Action** icon adjacent to the selected definition and select **Delete** to delete an existing Climate Scorecard definition. This action is disabled for definitions that contain the status *Approved* or *Pending for Authorization*.
Refresh	Click the **Refresh** icon to refresh the Summary Page.
Help	Click the **Help** icon to view the Climate Scorecard definition **Help** page.
Search	Use this field to search for a Climate Scorecard to View, Edit, Save As, Delete, and Approve or Reject. For more information on using this feature, see the Search a Climate Scorecard definition section.

Table 7-1 (Cont.) Climate Scorecard Summary page – Fields and Descriptions

Column	Description
Field Search	Enter the name of the Climate Scorecard Definition to filter the list of Climate Scorecard Definition by values that match the search term. For more information on using this feature, see the Search a Climate Scorecard definition section.

The **Climate Scorecard Summary** page displays the list of Climate Scorecard Definitions that have been defined by the user and offers several actions that allow you to perform different tasks. This page contains the following columns:

Table 7-2 Climate Scorecard Columns

Column	Description
Name	Displays the Climate Scorecard Definition's name.
Version	Displays the version of the definition.
Created By	Displays the User ID of the user who created the definition.
Creation Date	Displays the date and time of the creation of the definition.
Last Modified By	Displays the User ID of the user who last modified the definition.
Last Modified Date	Displays the date and time of the last modification of the definition.

Table 7-2 (Cont.) Climate Scorecard Columns

Column	Description
Status	This column displays the status of the definition: • **Approved** - The definition has been approved by the Approver. Definitions that are in this status can be Viewed and Copied (Save As) • **Pending for Authorization** - The definition has been submitted to the approver and is pending approval. When a definition is in this status, only the View action is available. • **Rejected** - The definition has been rejected by the Approver and has been sent back to the Analyst. Definitions that are in the *Rejected* status can be Viewed, Edited or Deleted by an Analyst user. Additionally, when using the View or Edit action, you can view the comments from the Approver in the **Comments** tab of the **Audit Panel**. The Analyst user can modify a definition with this status and then resubmit it to the approver for approval. • **Draft** -The definition has been saved but has not been submitted to the Approver for approval. Definitions that are in the *Draft* status can be Viewed, Edited or Deleted by an Analyst user. For more information on the approval process, see Approve or Reject a Climate Scorecard Definition.

Table 7-2 (Cont.) Climate Scorecard Columns

Column	Description
Action	The following tasks are available for the Climate Scorecard Definition in the **Action** column. • **View**- Click the **Action** icon adjacent to the Climate Scorecard Definition Name and select **View** to view the contents of a Climate Scorecard Definition in read format. • **Edit**- Click the **Action** icon adjacent to the Climate Scorecard Definition Name and select **Edit** to edit the contents of a Climate Scorecard Definition in read/write format. • **Save As**- Click the **Action** icon adjacent to the Climate Scorecard Definition Name and select **Save As** to copy the Mappings from one Legal Entity to a new Legal Entity or from one definition to a new one.. • **Delete**- Click the **Action** icon adjacent to the Climate Scorecard Definition name and select **Delete** to delete an existing Climate Scorecard Definition. **Note:** Approved definitions cannot be deleted. • **Approve/Reject**- Click the **Action** icon adjacent to the Climate Scorecard Definition name and select **Approve or Reject** to Authorize or Reject an existing Climate Scorecard Definition. This action can only be performed by a user with the *Approver* role.

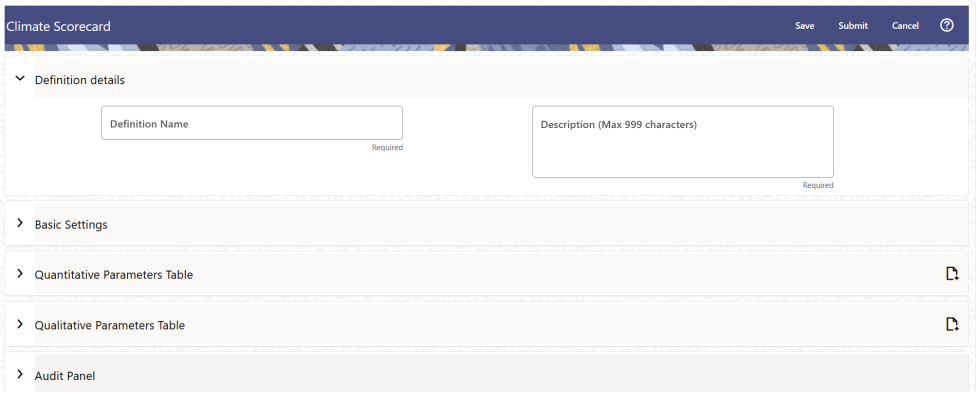
Create a Climate Scorecard Definition

The application enables the creation of Climate Scorecard definition. Only an *Analyst* and *Admin* user can create a Climate Scorecard definition.

Perform the following steps to create a Climate Scorecard definition:

1. On the **Climate Scorecard Summary** page, click the **Add** icon to open the **Climate Scorecard** window.

Figure 7-3 The Create Climate Scorecard page



2. Populate the **Definition Details** tab as tabulated:

Figure 7-4 The Definition Details tab

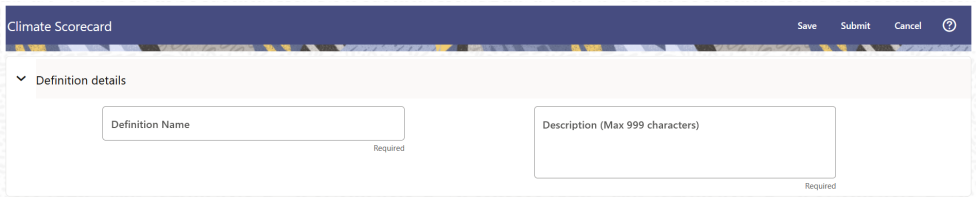


Table 7-3 Definition Details pane

Field	Description
Name (**Definition details** pane)	Enter a name for the Climate Scorecard definition. This is a mandatory field.
Description (**Definition details** pane)	Add a description for the definition. This is a mandatory field.

3. Populate the Basic Settings pane as tabulated

Figure 7-5 The Basic Settings pane

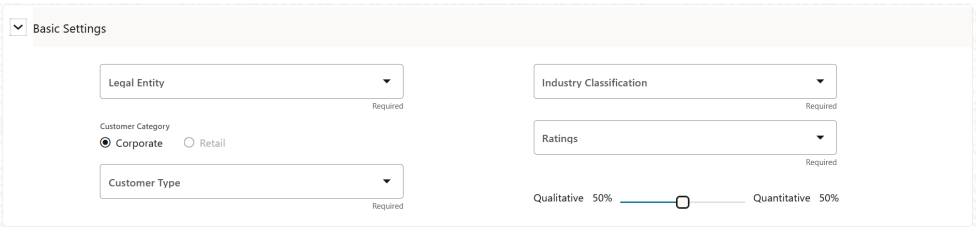


Table 7-4 Basic Settings form

Field	Description
Legal Entity (**Basic Settings** pane)	Select a legal entity from the drop-down list.
Industry Classification (**Basic Settings** pane)	Select an Industry Classification from the drop-down list. The available options are: • **European Classification of Economic Activities (NACE)** • **Global Industry Classification Standard (GICS)** • **North American Industry Classification System (NAICS)** • **Sustainable Investments and Climate Solutions (SICS)** • **Standard Industrial Classification (SIC)**
Customer Category (**Basic Settings** pane)	This field contains two customer categories; *Corporate* and *Retail*. The *Corporate* customer type is selected by default.
Customer Type	This field is used to define the type of customer. The customer must be defined by the user. Select a customer type from the drop-down list. An example of the customer types are; Large, Small and Medium Enterprise, Sovereign, Public, PSUs etc.
Ratings (**Basic Settings** pane)	Select a rating from the drop-down list. The available ratings are: • 4 • 5 • 6 • 7 • 8 When a rating is selected, the Qualitative and Quantitative slider appears. You can move this slider to adjust the Qualitative and Quantitative values. The default value for Qualitative and Quantitative is *50%* each. **Note:** After a rating is selected and you try to select a new rating from the drop-down list, then a confirmation message appears asking you if you want to modify the rating value as this will affect the slab bands.
Qualitative/Quantitative	Use this scale to define the weightage for the Qualitative and Quantitative parameters.

4. The **Quantitative Parameters** pane contains a list of pre-seeded parameters that can be configured for scoring. Populate the **Quantitative Parameters** pane as tabulated:

Figure 7-6 The Quantitative Parameters pane

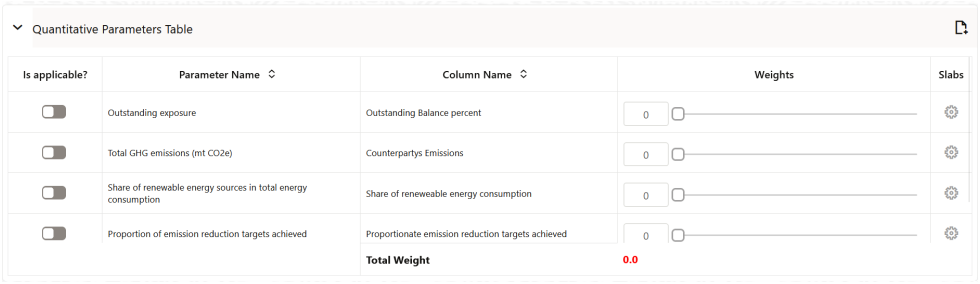


Table 7-5 Quantitative Parameters pane

Field	Description
Is applicable?	Click the slider in this column if you want to enable or disable the parameter and column (Logical) name that is applicable in this row for scoring. Only enabled parameters are considered for processing.
Parameter Name	By default, this column lists the pre-seeded parameters.
Column Name	By default, this column lists the pre-seeded <need more information on what this particular column is listing>.
Weights	Specify the relevant weight or move the slider to define the weightage of the impact on the overall score for a specific parameter. You can also enter a value in this field to define the weightage. The sum total of the weights in this table must always be 100 for the Weights Acceptable indicator to display 100% . If the sum total is not 100%, the lable changes to **Weights Unacceptable** and will be highlighted and you will not be able to save the definition.

Table 7-5 (Cont.) Quantitative Parameters pane

Field	Description
Slabs (**Quantitative Parameters table** pane)	For each parameter, the thresholds and slabs are per-seeded. To modify this threshold and slab, click the **Settings** icon within the **Slabs** column to modify each slab and to open the parameter configuration window: **a.** Define the lower and upper limit slab in % in the **Lower Limit** and **Upper Limit** fields. The Lower Limit can only be defined for the first score. When the Upper Limit is defined for the first score, for example, Score 4, the Lower Limit of the next score, in this case Score 3, is automatically defined with the same value. After the first score, only the **Upper Limits** fields can be modified. **b.** To reset the fields to its default values, click the **Reset** icon. **c.** Click **Apply** to apply the changes.

Table 7-5 (Cont.) Quantitative Parameters pane

Field	Description
Quantitative Mirror Parameters table	This feature enables you to create a custom parameter. Click this icon to open the **Quantitative Mirror Parameters Table** window. In this window: a. To add a new parameter, click the **Add** icon to open the **Quantitative Parameter Placeholder** window. In this window, populate the following fields: i. **Parameter Name** - Enter a name for the parameter(s). ii. **Column Name** - Select a defined column name from the drop-down list to map the parameter to a column. **Note:** For using custom columns, first register them by using the Data Model Extensions feature. iii. Select an existing parameter from the drop-down list to mirror the structure, logic and function of the selected parameter. iv. Click **Add**. The newly created parameter is added to the list of Quantitative Parameter Placeholders. v. Select one or more parameters from the list that need to be used in the definition and then click **Apply**. The custom parameter is added to the list of quantitative parameters **Note:** If the custom parameter is not applied, then it will remain in the list of Quantitative Mirror Parameters.

5. The **Qualitative Parameters** pane contains a list of preseeded parameters that can be configured for scoring. In this table, sub-parameters are also available . The sub-parameters can be configured to define the overall score at the parameter level. Populate the **Qualitative Parameters** pane as tabulated:

Figure 7-7 The Qualitative Parameters pane

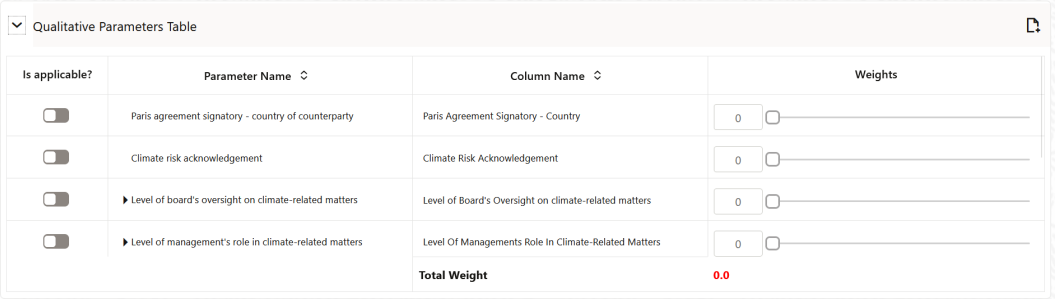


Table 7-6 Qualitative Parameters pane

Field	Description
Is applicable?	Click the slider in this column if you want to enable or disable the parameter and column (Logical) name that is applicable in this row for scoring.
Parameter Name	By default, this column lists the pre-seeded parameters.
Column Name	By default, this column lists the pre-seeded <need more information on what this particular column is listing>.
Weights	Move the slider to define the weightage of the impact on the overall score for a specific parameter. You can also enter a value in this field to define the weightage. The sum total of the weights in this table must always be 100 for the Weights Acceptable indicator to display 100% . If the sum total is not 100%, the lable changes to **Weights Unacceptable** and will be highlighted in red and you will not be able to save the definition.
Slabs	For each parameter, the thresholds and slabs are per-seeded. To modify this threshold and slab, click the **Settings** icon within the **Slabs** column to modify each slab and to open the parameter configuration window: **a.** Define the lower and upper limit slab in % in the **Lower Limit** and **Upper Limit** fields. The Lower Limit can only be defined for the first score. When the Upper Limit is defined for the first score, for example, Score 4, the Lower Limit of the next score, in this case Score 3, is automatically defined with the same value. After the first score, only the **Upper Limits** fields can be modified. **b.** To reset the fields to its default values, click the **Reset** icon. **c.** Click **Apply** to apply the changes.

Table 7-6 (Cont.) Qualitative Parameters pane

Field	Description
Qualitative Mirror Parameters table	This feature enables you to create a custom parameter. Click this icon to open the **Qualitative Mirror Parameters Table** window. In this window: a. To add a new parameter, click the **Add** icon to open the **Qualitative Parameter Placeholder** window. In this window, populate the following fields: i. **Parameter Name** - Enter a name for the parameter(s). ii. **Column Name** - Select a defined column name from the drop-down list to map the parameter to a column. **Note:** For using custom columns, first register them by using the Data Model Extensions feature. iii. Select an existing parameter from the drop-down list to mirror the structure, logic and function of the selected parameter. iv. Click **Add**. The newly created parameter is added to the list of Qualitative Parameter Placeholders. v. Select one or more parameters from the list that need to be used in the definition and then click **Apply**. The custom parameter is added to the list of Qualitative parameters **Note:** If the custom parameter is not applied, then it will remain in the list of Qualitative Mirror Parameters.

6. Click **Save**. The status changes to *Draft* and the definition is saved.
7. Click **Submit**. The status changes to *Pending for Authorization*, and is submitted to the Approver.

The new definition will appear in the list of Climate Scorecard definition on the **Climate Scorecard Summary** page with the status as *Draft* or *Pending for Authorization*.

Refresh a Climate Scorecard Definition

You can refresh an existing Climate Scorecard definition from the **Climate Scorecard Summary** page to refresh it with newly available data. Perform the following steps to refresh one or more existing Climate Scorecard definition(s):

1. On the **Climate Scorecard Summary** page click **Refresh**.

The selected Climate Scorecard definition(s) are refreshed with newly available data.

View a Climate Scorecard Definition

The View feature enables you to view the details of an existing Climate Scorecard definition. Perform the following steps to view the definition details:

1. In the Climate Scorecard definition list, select the **Action** icon adjacent to the Climate Scorecard definition name that you want to view.
2. Click **View** to open the **Climate Scorecard** window.
   If a definition has been rejected by the Approver, then you can view the comments from the Approver in the **Comments** tab of the **Audit Panel**.
3. Click **Cancel** to return to the **Climate Scorecard** page.

Edit a Climate Scorecard Definition

The Edit feature enables you to update the details of an existing Climate Scorecard definition. Perform the following steps to edit an existing Climate Scorecard definition:

> **Note:**
>
> Definitions that have the status as *Approved* or *Pending for Authorization* cannot be edited.

1. In the Climate Scorecard definition list, select the **Action** icon adjacent to the Climate Scorecard definition name that you want to edit.
2. Click **Edit** to open the **Climate Scorecard** window.
3. Edit the relevant fields.
4. Click **Save** and then click **Submit**.
   If a previously *Rejected* definition was modified, then when the **Submit** button is clicked, the Approval Process begins.
5. Additionally, navigate to the **Audit Panel** and then to the **Comments** tab to view any comments from the Approver in case the definition has the status as *Rejected*.

The saved Climate Scorecard definition is displayed in the Climate Scorecard definition list on the **Climate Scorecard Summary** page.

Copy (Save As) a Climate Scorecard Definition

The Copy Save As feature enables you to copy the details from an existing definition to a new definition by using a new Legal Entity or Entities. Perform the following steps to copy and save a Climate Scorecard definition:

1. Select the desired Climate Scorecard definition.

   > **Note:**
   >
   > Only *Approved* definitions can be copied.

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. In the **Source Legal Entities** drop-down list to select the Legal Entity that was used in the Definition that has been copied.
   By selecting the *Source* Legal Entity, you can to copy its' mappings to the *Target* Legal Entity in the **Climate Scorecard** (Edit) screen.
6. In the **Target Legal Entities** drop-down list, select the required Legal Entity(s). The Legal Entities in this list are those that have not been used in other definitions.
7. Click **Save**. The Climate Scorecard definition is saved under a new name.
8. Select the newly saved definition from the **Climate Scorecard Summary** page.
9. Click the **Action** icon and then select **Edit**.
10. Populate the relevant fields.
    If a Legal Entity that has already been used in another definition is selected, then the application gives you an error message when you try to save this definition, therefore, ensure that a unique Legal Entity is selected.
11. It is mandatory to select a new Legal Entity(s) and then delete the old Legal Entity before clicking **Submit**. Perform the following steps depending on whether you want to copy the old definition's Emissions Factor Database Mappings the newly selected Legal Entities or not:
    a. **If you want to copy the old definition's Emissions Factor Database Mappings to the new Legal Entity**:
       i. Click the **Select Legal Entity** icon to open the Legal Entity window:
       ii. In this window, click the Legal Entity field to select a Legal Entity from the drop-down list. Multiple Legal Entities can be selected in this window. When multiple Legal Entities are selected, they will appear in the Legal Entity drop-down list in the **Definition Summary** pane.

> **Note:**
>
> - A definition can only use Legal Entities that are not part of existing definitions.
> - The application supports one definition using multiple Legal Entities that have not been used in other definitions.

iii. Click **Apply**. The **Copy Across** button is enabled.

iv. Click **Copy Across**. The old definition's Emissions Factor Database Mappings are copied to the newly selected Legal Entity(s).

v. If required, modify the mappings.

vi. Click the **Select Legal Entity** icon to open the Legal Entity window:

vii. In this window, delete the old Legal Entity.

b. **If you do not want to copy the old definition's Emissions Factor Database Mappings to the new Legal Entity:**

i. Click the **Select Legal Entity** icon to open the Legal Entity window:

ii. In this window, delete the old Legal Entity.

iii. Select a Legal Entity from the drop-down list. Multiple Legal Entities can be selected in this window. When multiple Legal Entities are selected, they will appear in the Legal Entity drop-down list in the **Definition Summary** pane.

> **Note:**
>
> - A definition can only use Legal Entities that are not part of existing definitions.
> - The application supports one definition using multiple Legal Entities that have not been used in other definitions.

iv. Click **Apply**.

v. If required, modify the mappings.

12. Click **Save** and then click **Submit** to submit this definition to the Approver for approval.

Delete a Climate Scorecard Definition

You can delete an existing Climate Scorecard definition from the **Climate Scorecard Summary** page. Perform the following steps in order to delete single or multiple existing Climate Scorecard definitions:

> **Note:**
>
> Definitions that have the status as *Approved* cannot be deleted.

1. On the **Climate Scorecard Summary** page, select the check box(s) adjacent to the Climate Scorecard definition(s) that you want to delete.
2. Click **Delete**. A warning dialog is displayed.
3. Click **Yes**.
4. Additionally, select the check box(s) adjacent to the Climate Scorecard definition(s) and then click the **Delete** icon on the top of the **Climate Scorecard Summary** page. A warning dialog is displayed.
5. Click **Yes**.

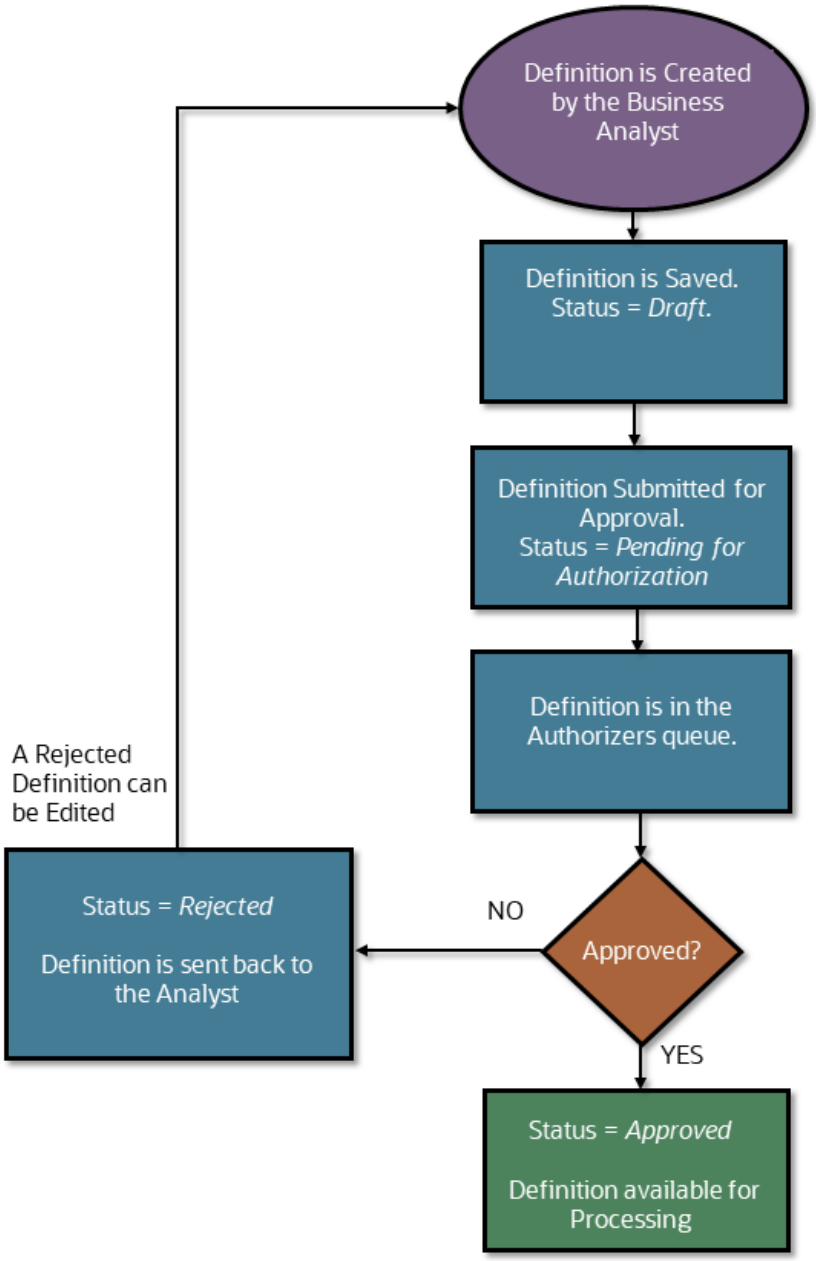
The selected definitions are removed from the **Climate Scorecard Summary** page.

Approve or Reject a Climate Scorecard Definition

All definitions that have been created must be approved by the *Approver User* only. If a definition has only been *Saved* and not *Submitted* to the *Approver* for approval, will not be used for processing. Only **Approved** definitions are used for processing/runs.

The following diagram illustrates the Approval Work flow status:

Figure 7-8 The Approval Work flow Process



Perform the following steps to *Approve* or *Reject* a Climate Scorecard Definition:

1. Log in as an Approver and navigate to the **Climate Scorecard Definition Summary** page. Only definitions with the status as *Pending for Authorization* are available for *Approval* or *Rejection*.
2. Select the Climate Scorecard definition that you want to approve or reject and then click the **Action** icon.

> **Note:**
>
> As an Approver, you can only **View** or **Approve** or **Reject** a definition from the **Action** icon.

3. Click **View** or **Approve/Reject** to open the page for the selected Climate Scorecard definition.
4. On this page view the form and then select either **Approve** or **Reject**.
   - If you select **Approve**, then a window appears. In this window, enter your comments for the Approval, and then click **Approve**.
   - If you select **Reject**, then a window appears. In this window, enter your comments for the Rejection, and then click **Reject**.

If the definition was Approved, then the status is marked as *Approved* and can be used for processing or runs. If the definition was rejected, then the status of the definition is marked as *Rejected* and the definition is sent back to the Analyst for modification and resubmission.

Search for a Climate Scorecard Definition

Search for a Climate Scorecard Definition to perform any of the following tasks:

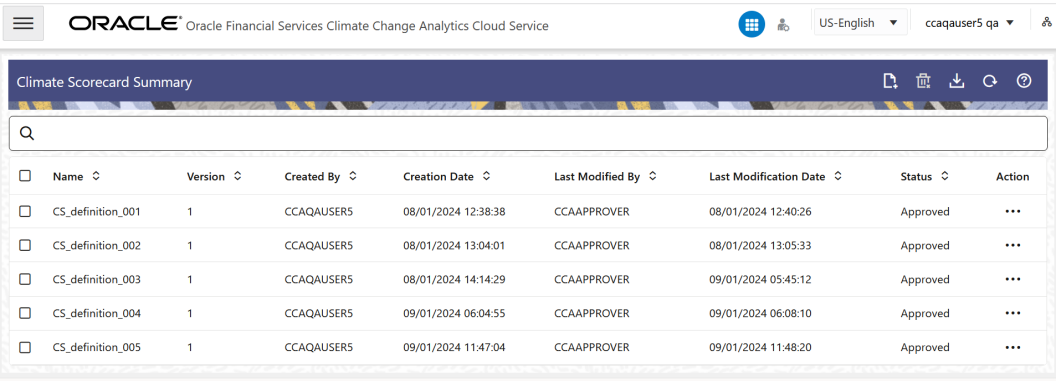
- View
- Edit
- Save As
- Delete
- Approve or Reject

Procedure

To search for a Climate Scorecard Definition, perform the following steps:

- Navigate to the **Climate Scorecard Summary** page.

Figure 7-9 The Climate Scorecard Summary page



- Click the **Search** field.
- Enter the **Name** of the Climate Scorecard Definition.
- In the Status field, select a value to filter the search by the status of the Climate Scorecard Definition. The available options are:
  - Approved
  - Pending for Authorization
  - Rejected
  - Draft
- Click **Search** or **Reset** to reset the values in the search box or **Cancel** to cancel the search. Only the Name and Status can be used for an Advanced Search.

Only Climate Scorecard Definitions that match the Search Criteria are displayed.

8
Processing

This chapter provides the processing information of the OFS CCA CS Application.

Intercompany Elimination and Consolidation

Introduction

Oracle Financial Services Climate Change Analytics Cloud Service enables users to perform elimination and consolidation of intercompany balances in accordance with widely accepted accounting frameworks and standards.

For the elimination and consolidation to perform effectively, users need to ensure that legal entity hierarchy is properly set up within the database. Essentially, there needs to be a proper mapping of holding or parent and subsidiary or child companies.

The application will eliminate all intercompany balances for subsidiary/child entities falling with the hierarchy of holding/parent entity and aggregate all other third-party balances to present a consolidated result.

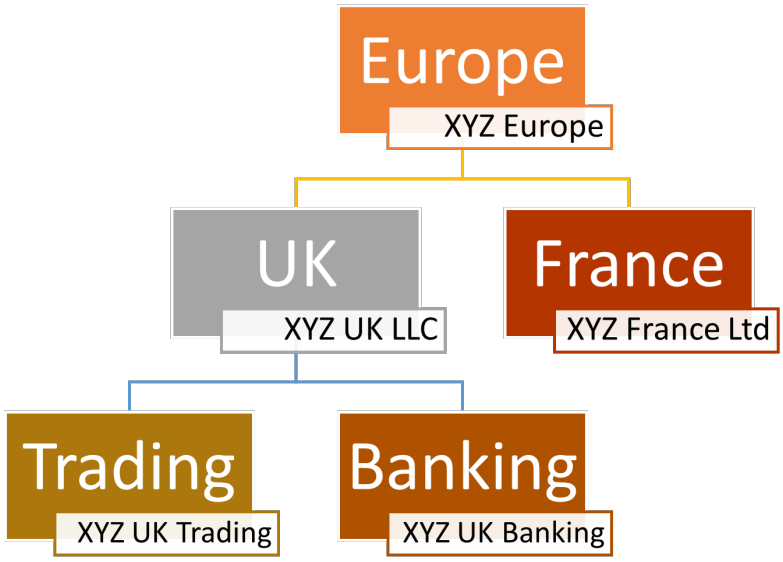
The following illustration depicts the legal entity hierarchy and displays the consolidation logic:

Example

In this section, we will look at how intercompany balances will be eliminated and third-party balances will be aggregated to produce a consolidated result.

In the below legal entity hierarchy, we can see that there is a regional holding/parent company called XYZ Europe. It has two subsidiaries namely XYZ UK LLC and XYZ France Ltd. Further down, UK LLC has two subsidiaries called XYZ UK Trading and XYZ UK Banking.

Figure 8-1 Example of Elimination of Inter Company Balances



The following table displays the standalone entity balances as of 1st January 2023. *Since this application only stores the receivables leg of a transaction (i.e., Investments), only they are considered here:*

Table 8-1 The Standalone Entity Balances as of 1st January 2023

Legal Entity	Balance	Intercompany (IC) Balance	Receivable from	Third-party Balance
XYZ Europe	200	75	XYZ UK LLC	125
XYZ UK LLC	200	50	XYZ UK Trading	150
XYZ France Ltd	100	0	N/A	100
XYZ UK Trading	50	0	N/A	50
XYZ UK Banking	75	0	N/A	75
Total	**625**	**125**		**500**

For a consolidation that is performed at XYZ Europe level, the following set of intercompany balances will be eliminated and consequently, only third-party balances will be aggregated to arrive at a total consolidated value of 500, made up of 125, 150, 100, 50 and 75 from the five legal entities within the hierarchy of XYZ Europe.

Table 8-2 Intercompany Balances that will be Eliminated

Legal Entity	Intercompany (IC) Balance eliminated
XYZ Europe	75
XYZ UK LLC	50

Legal Entity values after Inter-Company Elimination (excluding Asian Companies)

The date used is 31 January, 2023.

Table 8-3 Legal Entity values after Inter-Company Elimination

Legal Entity (LE)	Standalone LE Value
XYZ LLC	200
XYZ Europe	180
XYZ France	200
XYZ UK	90

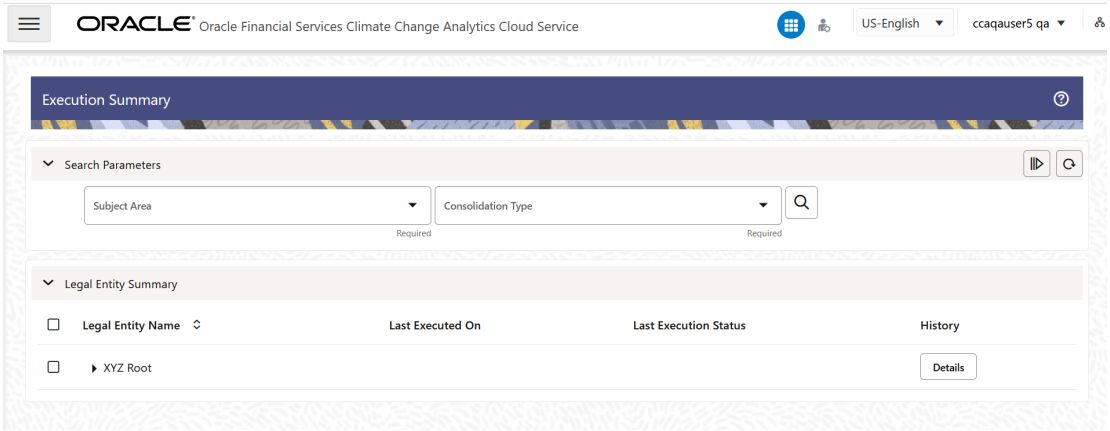
Execution Summary

This chapter provides information about the Execution Summary feature.

Execution Summary Page

This page is the gateway to the Execution Summary feature and related functionality. To access this page from the LHS menu, click **Run Management** and then click **Execution Summary** to open the **Execution Summary** page. This page enables you to view the execution details of a Legal Entity as well as allows you to run a Legal Entity.

Figure 8-2 The Execution Summary page



The **Execution Summary** page contains the following features:

Table 8-4 Execution Summary page – Fields and Descriptions

Field	Description
Execute	Follow the step mentioned in the **Procedure to Execute a Legal Entity** section to execute a Legal Entity for a selected FIC MIS Date.
Refresh	Click this button to refresh the **Execution Summary** Data Grid completely irrespective of the Subject Area and Consolidation Type.

Table 8-4 (Cont.) Execution Summary page – Fields and Descriptions

Field	Description
Subject Area	Select a Subject Area from the drop-down field. This drop-down field contains the available Datasets in the application. Select any one available Subject Area: • Green House Gases • U.S Securities & Exchange Commission • International Sustainability Standards Board • European Sustainability Reporting Standards • Targets **Note:** This is a **Required** field. If no Subject Area is selected, the **Last Executed On** and **Last Execution Status** columns will not display any status for the Legal Entities.
Consolidate Type	Select a Consolidated Type from the drop-down field. This drop-down field contains the available consolidated types in the application. Select any one available consolidated type: • Consolidated • Standalone • Both **Note:** This is a **Required** field. If no Consolidated Type is selected, the **Last Executed On** and **Last Execution Status** columns will not display any status for the Legal Entities.

Table 8-4 (Cont.) Execution Summary page – Fields and Descriptions

Field	Description
Search	Click **Search** after selecting the **Subject Area** and **Consolidated Type** to refresh the **Execution Summary** pane with the latest execution status: • The **Last Executed On** and **Last Execution Status** columns display the latest status. • Only Legal Entities with the selected combination of the Subject Area and Consolidation Type appear in the **Execution Summary** pane. This grid displays the default structure of the seeded hierarchy and shows all the Legal Entities irrespective of whether the last execution was run or not
Details	Click the **Details** button adjacent to a Legal Entity in the **History** column to view the following details: • **Subject Area**-This displays the Subject Area that was selected at the time of execution. • **Consolidation Type**-This displays the Consolidation Type that was selected at the time of execution. • **Execution Date**-The selected FIC MIS date for the run. • **Executed By**-The name of the user who executed the run. • **Execution Status**-This provides information for the status of the run, if it was successful or not. When the link of the status is clicked, the **Log Viewer** page is displayed. This page displays the Batch Run Id, Process ID, Timestamp, Severity, and Message. The **Copy to Clipboard** icon in the **Actions** column enables you to copy the batch details to the clipboard. Additionally you can filter the search results based on the keywords added to the **Search** field.

Procedure to Execute a Legal Entity

On the **Execution Summary** page, perform the following actions to execute a Legal Entity for a selected **Subject Area** and **Consolidation Type**:

> **Note:**
>
> It is mandatory to select a Subject Area and Consolidation Type from the **Subject Area** and **Consolidation Type** drop-down fields.

1. In the **Legal Entity Summary** pane, select the check box(s) adjacent to the Legal Entities that you want to execute. You can either select the Child Legal Entities

individually or select the Parent Legal Entity to include all the Children that are a part of it. This can be done for multiple Parent and Children within them.

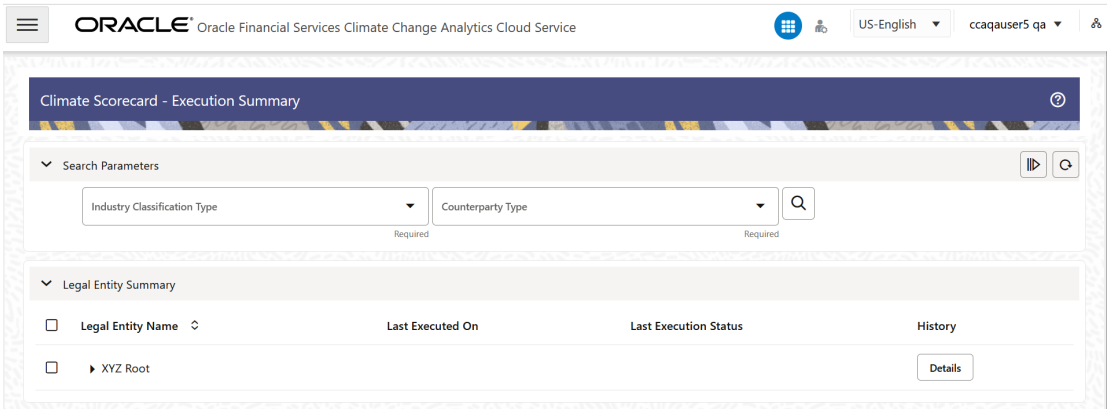
2. Click **Execute** to open the **Run Parameters** window. Enter the details:
   a. **Subject Area**-Select a Subject Area from the drop-down list. The available options are:
      - Green House Gases
      - U.S Securities & Exchange Commission
      - International Sustainability Standards Board
      - European Sustainability Reporting Standards
      - Targets
   b. **Consolidation Type**- Select a Consolidation Type from the drop-down field. This drop-down field contains the available consolidation types in the application. Select any one available consolidation type:
      - Consolidated
      - Standalone
      - Both
   c. **MIS Date**- Click the calendar icon to select a **FIC_MIS** date for the execution.
3. Click **Apply**.
   The execution uses the seeded batch and can be monitored via the **Batch Monitor** screen.

   .
4. Additionally, in the **History** column, click the **Details** button to view the execution history. This provides information for the status of the run, if it was successful or not. When the link of the status is clicked, the **Log Viewer** page is displayed. This page displays the Batch Run Id, Process ID, Timestamp, Severity, and Message. The **Copy to Clipboard** icon in the **Actions** column enables you to copy the batch details to the clipboard.

Climate Scorecard- Execution Summary Page

This page is the gateway to the Execution Summary feature and related functionality. To access this page from the LHS menu, click **Run Management** and then click **Climate Scorecard Run** to open the **Climate Scorecard- Execution Summary** page. This page enables you to view the execution details of a Climate Scorecard as well as allows you to run it.

Figure 8-3 The Climate Scorecard - Execution Summary page



The **Climate Scorecard- Execution Summary** page contains the following features:

Table 8-5 Climate Scorecard- Execution Summary page – Fields and Descriptions

Field	Description
Execute	Follow the step mentioned in the **Procedure to Execute a Legal Entity** section to execute a Legal Entity for a selected FIC MIS Date.
Refresh	Click this button to refresh the **Climate Scorecard - Execution Summary** Data Grid completely irrespective of the Industry Classification Type and Counterparty Type.

Table 8-5 (Cont.) Climate Scorecard- Execution Summary page – Fields and Descriptions

Field	Description
Industry Classification Type	Select a Industry Classification Type from the drop-down field. This drop-down field contains the available Datasets in the application. Select any one available Subject Area: • North American Industry Classification System (NAICS) • European Classification of Economic Activities (NACE) • SASB Sustainable Industry Classification System (SICS) • Global Industry Classification Standard (GICS) • Standard Industry Classification (SIC) **Note:** This is a **Required** field. If no Industry Classification Type is selected, the **Last Executed On** and **Last Execution Status** columns will not display any status for the Legal Entities.
Counterparty Type	Select a Counterparty Type from the drop-down field. This drop-down field contains the available counterparty types in the application. Select any one available counterparty type: • Individual • Small and Medium Enterprise • Bank **Note:** This is a **Required** field. If no Counterparty Type is selected, the **Last Executed On** and **Last Execution Status** columns will not display any status for the Legal Entities.

Table 8-5 (Cont.) Climate Scorecard- Execution Summary page – Fields and Descriptions

Field	Description
Search	Click **Search** after selecting the **Industry Classification Type** and **Counterparty Type** to refresh the **Climate Scorecard - Execution Summary** pane with the latest execution status: • The **Last Executed On** and **Last Execution Status** columns display the latest status. • Only Legal Entities with the selected combination of the Industry Classification Type and Counterparty Type appear in the **Climate Scorecard - Execution Summary** pane. This grid displays the default structure of the seeded hierarchy and shows all the Legal Entities irrespective of whether the last execution was run or not
Details	Click the **Details** button adjacent to a Legal Entity in the **History** column to view the following details: • **Industry Classification Type**-This displays the Industry Classification Type that was selected at the time of execution. • **Counterparty Type**-This displays the Counterparty Type that was selected at the time of execution. • **Execution Date**-The selected FIC MIS date for the run. • **Executed By**-The name of the user who executed the run. • **Execution Status**-This provides information for the status of the run, if it was successful or not. When the link of the status is clicked, the **Log Viewer** page is displayed. This page displays the Batch Run Id, Process ID, Timestamp, Severity, and Message. The **Copy to Clipboard** icon in the **Actions** column enables you to copy the batch details to the clipboard. Additionally you can filter the search results based on the keywords added to the **Search** field.

Procedure to Execute a Climate Scorecard

On the **Execution Summary** page, perform the following actions to execute a Climate Scorecard for a selected **Industry Classification Type** and **Counterparty Type**:

> **Note:**
>
> It is mandatory to select a Industry Classification Type and Counterparty Type from the **Industry Classification Type** and **Counterparty Type** drop-down fields.

1. In the **Legal Entity Summary** pane, select the check box(s) adjacent to the Legal Entities that you want to execute. You can either select the Child Legal Entities individually or select the Parent Legal Entity to include all the Children that are a part of it. This can be done for multiple Parent and Children within them.
2. Click **Execute** to open the **Run Parameters** window. Enter the details:
   a. **Industry Classification Type**-Select an Industry Classification Type from the drop-down list. The available options are:
      - North American Industry Classification System (NAICS)
      - European Classification of Economic Activities (NACE)
      - SASB Sustainable Industry Classification System (SICS)
      - Global Industry Classification Standard (GICS)
      - Standard Industry Classification (SIC)
   b. **Counterparty Type**- Select a Counterparty Type from the drop-down field. This drop-down field contains the available Counterparty Type in the application. Select any one available Counterparty Type:
      - Individual
      - Small and Medium Enterprise
      - Bank
   c. **MIS Date**- Click the calendar icon to select a **FIC_MIS** date for the execution.
3. Click **Apply**.
   The execution uses the seeded batch and can be monitored via the **Batch Monitor** screen.

   .
4. Additionally, in the **History** column, click the **Details** button to view the execution history. This provides information for the status of the run, if it was successful or not. When the link of the status is clicked, the **Log Viewer** page is displayed. This page displays the Batch Run Id, Process ID, Timestamp, Severity, and Message. The **Copy to Clipboard** icon in the **Actions** column enables you to copy the batch details to the clipboard.

9

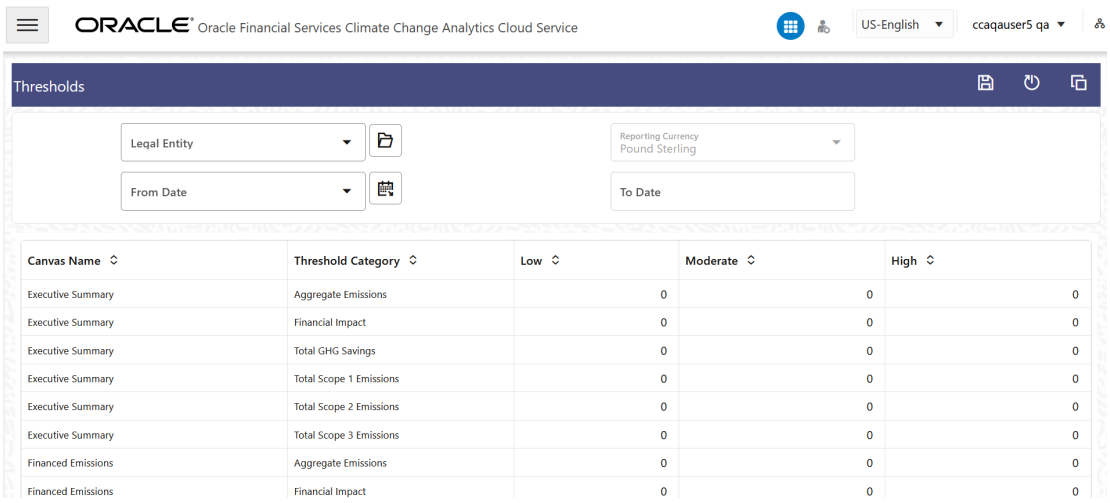
Thresholds

This topic provides information on the Thresholds feature.

Thresholds

Perform the following steps to configure the Thresholds:

Figure 9-1 The Thresholds page



1. Select a Legal Entity from the **Legal Entity** drop-down list:
   - Click the folder icon to open the add legal entities window.
   - In this window, select the Legal Entity that you want to add to the Legal Entity drop-down list.
   - Click **Apply**.
     The selected Legal Entities are added to the **Legal Entity** list.

     The Copy as option allows you to make it applicable to other entities.
   - If you want to remove the selected Legal Entity from the **Legal Entity** drop-down list, then click the folder icon to open the add legal entities window.
   - In this window, remove the Legal Entity that you want to remove from the Legal Entity drop-down list and then click **Apply**.
     The Legal Entity will not appear in the **Legal Entity** drop-down list.
2. The **Reporting Currency** field is selected and disabled by default.
3. In the **From Date** drop-down list, select a date from the drop-down list or select the **Calendar** icon and select a date.
   The selected date is added to the **From Date** drop-down list <Need information on To Date>

4. In the canvas and threshold category table, set the **Low**, **Moderate** and **High** threshold values for the canvases.
5. Click **Save**.
6. To copy the threshold configurations from one Legal Entity, click the **Copy** icon:
   - In the pop-up window, select the legal entity, from the Legal Entity drop-down list that you want to copy the configurations to.
   - In the adjacent drop-down list, select the Legal Entity that you want to copy the previous Legal Entity's configurations to and click **Apply**.
7. To rest the Threshold configurations to its' default state, click the **Reset** icon.

10
Reports

This chapter contains information on the various sections of reports that are available in the Oracle Financial Services Climate Change Analytics Cloud Service:

Executive Summary

This section contains reports to aid executives, and senior management in visualizing the state of affairs in their organization across various emission categories, countries of operation, and industries.

The Executive Summary contains the following visualizations:

Figure 10-1 Executive Summary Visualizations

Users will be able to filter reports using various prompts. Examples of such prompts include:

- **Fiscal Year** - You can use this filter to select a specific Fiscal Year derived from As of-Date.
- **Month** - You can use this filter to select a specific Month derived from As-of-Date.
- **Region** – Use this filter to select a Region.
- **Legal Entity** - Use this filter to select a Legal Entity.
- **LOB** – Use this filter to select a Line of Business.
- **Business Unit** – Use this filter to select a business unit.

The reports can be filtered by using the following two prompts via a single select drop-down field:

- **Consolidation Type** – Use this filter to select either Standalone or Consolidated status.
- **Currency** – Use this filter to select a currency.

Several reports within this section allow users with a data drill-down capability, leveraging underlying data across below data elements.

- **Legal Entity** – Displays the breakup of various legal entities holding relevant value.
- **Line of Business** - Displays the breakup of various lines of businesses holding relevant value.
- **Business Unit** - Displays the breakup of various business units holding relevant value.
- **Country of Incorporation** - Displays the breakup of various countries wherein relevant legal entities are incorporated.
- **Counterparty** – Displays the breakup of various counterparties holding relevant value.
- **Country of Counterparty** - Displays the breakup of various countries where relevant counterparties are incorporated.

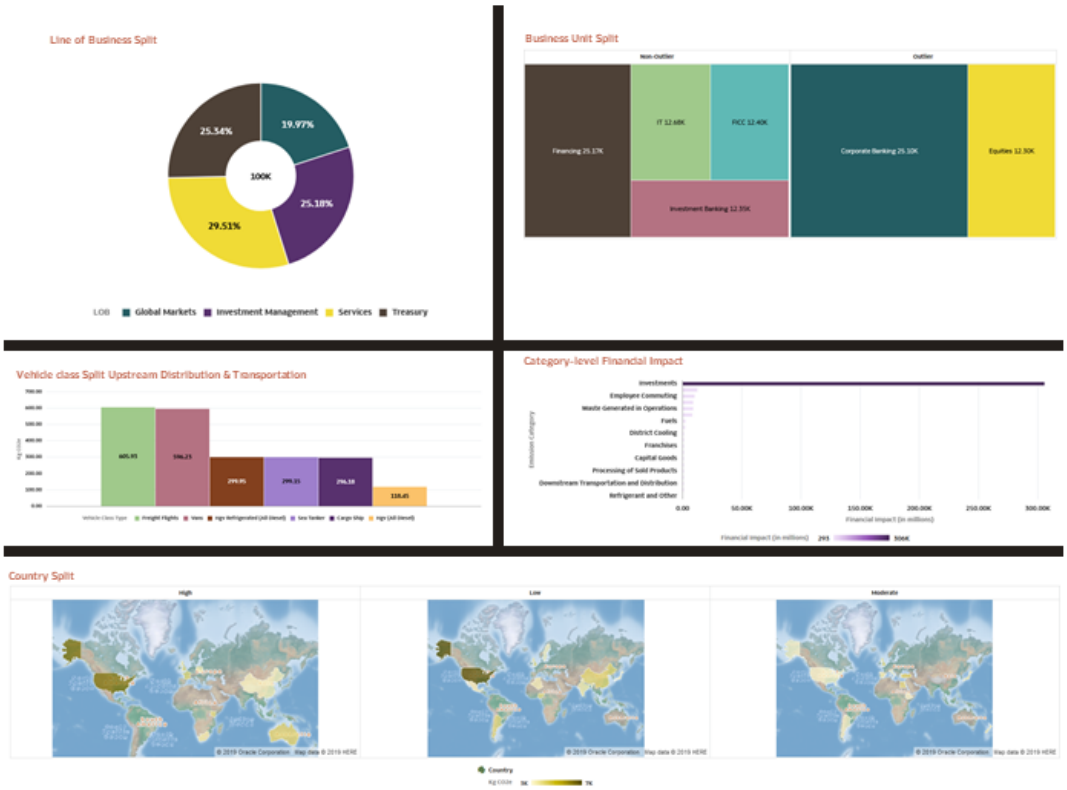
For more details on prompts and drill-down capabilities, users can refer to the Reports document on MOS.

Annual Reports

This section contains reports to aid users with a summary of annual emissions and financial impact numbers with a specific focus on individual categories of GHG emissions.

The Annual Reports - Annual Emissions Summary contains the following visualizations:

Figure 10-2 Annual Reports Annual Emissions Summary Visualizations



Users will be able to filter reports using various prompts. Examples of such prompts include:

- **Fiscal Year** - You can use this filter to select a specific Fiscal Year derived from As of-Date.
- **Month** - You can use this filter to select a specific Month derived from As-of-Date.
- **Region** – Use this filter to select a Region.
- **Legal Entity** - Use this filter to select a Legal Entity.
- **LOB** – Use this filter to select a Line of Business.
- **Business Unit** – Use this filter to select a business unit.

The reports can be filtered by using the following two prompts via a single select drop-down field:

- **Consolidation Type** – Use this filter to select either Standalone or Consolidated status.
- **Currency** – Use this filter to select a currency.

Several reports within this section allow users with a data drill-down capability, leveraging underlying data across below data elements.

- **Legal Entity** – Displays the breakup of various legal entities holding relevant value.
- **Line of Business** - Displays the breakup of various lines of businesses holding relevant value.
- **Business Unit** - Displays the breakup of various business units holding relevant value.
- **Country of Incorporation** - Displays the breakup of various countries wherein relevant legal entities are incorporated.
- **Counterparty** – Displays the breakup of various counterparties holding relevant value.
- **Country of Counterparty** - Displays the breakup of various countries where relevant counterparties are incorporated.

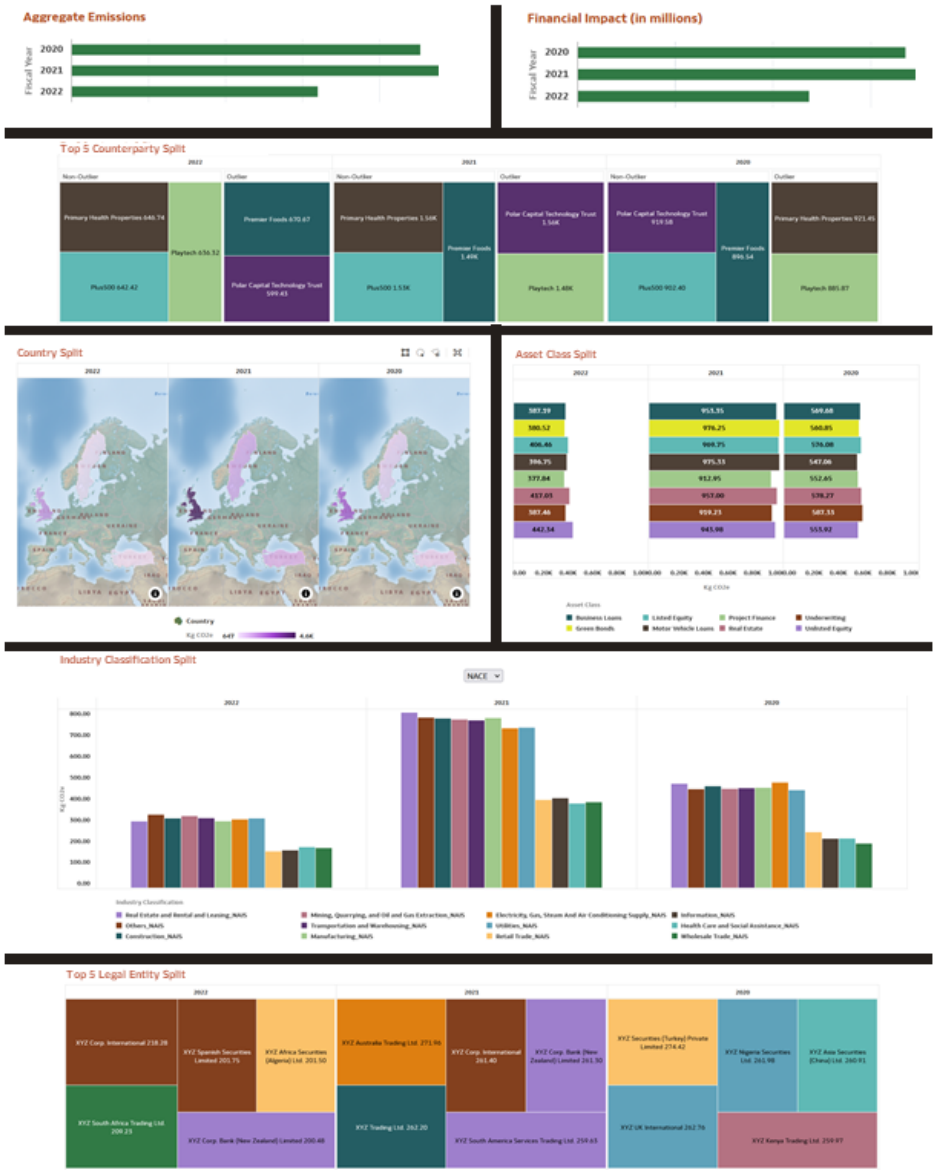
For more details on prompts and drill-down capabilities, users can refer to the Reports document on MOS.

Trend Analysis Reports

This section contains reports to aid users with trend analysis across multiple years. The topic includes subjects like Financed Emissions, Climate Targets etc.

The Trend Analysis Reports contains the following visualizations:

Figure 10-3 Trend Reports Visualizations



Users will be able to filter reports using various prompts. Examples of such prompts include:

- **Fiscal Year** - You can use this filter to select a specific Fiscal Year derived from As of-Date.
- **Region** - Use this filter to select a Region.
- **Legal Entity** - Use this filter to select a Legal Entity.
- **LOB** - Use this filter to select a Line of Business.
- **Business Unit** – Use this filter to select a business unit
- **Counterparty** - Use this filter to select a Counterparty.
- **Sector** - Use this filter to select a sector.

The reports can be filtered by using the following two prompts via a single select drop-down field:

- **Consolidation Type** – Use this filter to select either Standalone or Consolidated status.
- **Currency** – Use this filter to select a currency.

Several reports within this section allows users with a data drill-down capability, leveraging underlying data across below data elements.

- **Legal Entity** – Displays the breakup of various legal entities holding relevant value.
- **Line of Business** - Displays the breakup of various lines of businesses holding relevant value.
- **Business Unit** - Displays the breakup of various business units holding relevant value.
- **Country of Incorporation** - Displays the breakup of various countries wherein relevant legal entities are incorporated.
- **Counterparty** – Displays the breakup of various counterparties holding relevant value.
- **Country of Counterparty** - Displays the breakup of various countries where relevant counterparties are incorporated.

For more details on prompts and drill-down capabilities, users can refer to the Reports document on MOS.

U.S. SEC Reports

This section contains reports to aid users visualize reports curated to the specific needs of U.S. SEC climate change reporting rules.

The U.S. SEC Reports contain the following visualizations:

Figure 10-4 U.S. SEC Reports Visualizations

Users will be able to filter reports using various prompts. Examples of such prompts include:

- **Fiscal Year** - You can use this filter to select a specific Fiscal Year derived from As of-Date.
- **Month** - You can use this filter to select a specific Month derived from As-of-Date.
- **Region** – Use this filter to select a Region.
- **Legal Entity** - Use this filter to select a Legal Entity.
- **LOB** – Use this filter to select a Line of Business.
- **Business Unit** – Use this filter to select a business unit.

The reports can be filtered by using the following two prompts via a single select drop-down field:

- **Consolidation Type** – Use this filter to select either Standalone or Consolidated status.
- **Currency** – Use this filter to select a currency.

Several reports within this section allow users with a data drill-down capability, leveraging underlying data across below data elements.

- **Legal Entity** – Displays the breakup of various legal entities holding relevant value.

- **Line of Business** - Displays the breakup of various lines of businesses holding relevant value.
- **Business Unit** - Displays the breakup of various business units holding relevant value.
- **Country of Incorporation** - Displays the breakup of various countries wherein relevant legal entities are incorporated.
- **Counterparty** – Displays the breakup of various counterparties holding relevant value.
- **Country of Counterparty** - Displays the breakup of various countries where relevant counterparties are incorporated.

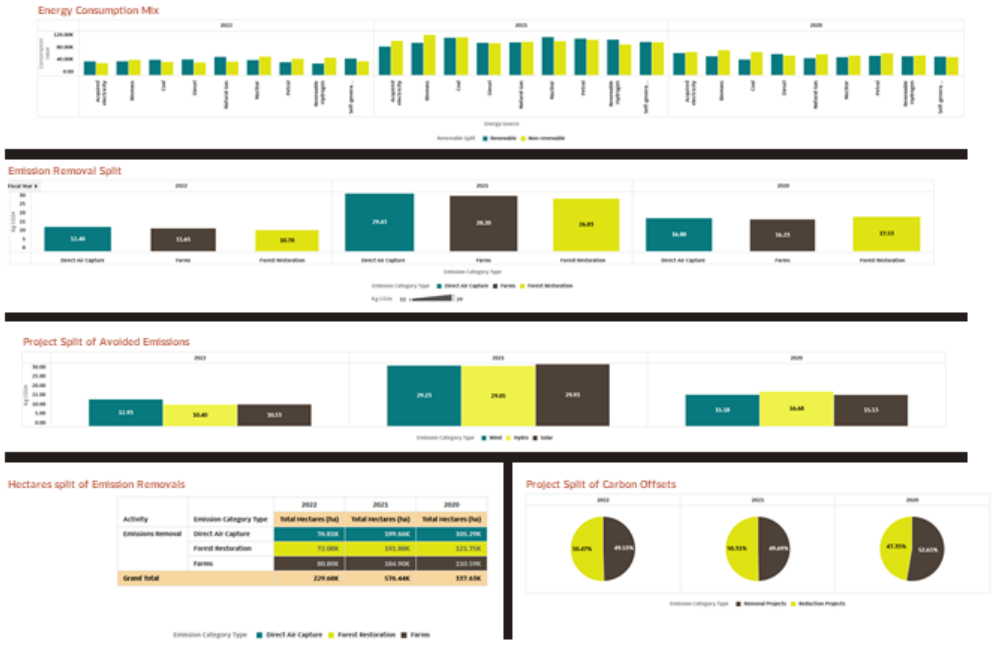
For more details on prompts and drill-down capabilities, users can refer to the Reports document on MOS.

ESRS Reports

This section contains reports to aid users visualize reports curated to the specific needs of ESRS climate change reporting rules.

The ESRS Reports contain the following visualizations:

Figure 10-5 ESRS Reports Visualizations



Users will be able to filter reports using various prompts. Examples of such prompts include:

- **Fiscal Year** - You can use this filter to select a specific Fiscal Year derived from As of-Date.
- **Month** - You can use this filter to select a specific Month derived from As-of-Date.

- **Region** – Use this filter to select a Region.
- **Legal Entity** - Use this filter to select a Legal Entity.
- **LOB** – Use this filter to select a Line of Business.
- **Business Unit** – Use this filter to select a business unit.

The reports can be filtered by using the following two prompts via a single select drop-down field:

- **Consolidation Type** – Use this filter to select either Standalone or Consolidated status.
- **Currency** – Use this filter to select a currency.

Several reports within this section allow users with a data drill-down capability, leveraging underlying data across below data elements.

- **Legal Entity** – Displays the breakup of various legal entities holding relevant value.
- **Line of Business** - Displays the breakup of various lines of businesses holding relevant value.
- **Business Unit** - Displays the breakup of various business units holding relevant value.
- **Country of Incorporation** - Displays the breakup of various countries wherein relevant legal entities are incorporated.
- **Counterparty** – Displays the breakup of various counterparties holding relevant value.
- **Country of Counterparty** - Displays the breakup of various countries where relevant counterparties are incorporated.

For more details on prompts and drill-down capabilities, users can refer to the Reports document on MOS.

ISSB Reports

This section contains reports to aid users visualize reports curated to the specific needs of ISSB climate change reporting rules.

The ISSB Reports contains the following visualizations:

Users will be able to filter reports using various prompts. Examples of such prompts include:

- **Fiscal Year** - You can use this filter to select a specific Fiscal Year derived from As of-Date.
- **Month** - You can use this filter to select a specific Month derived from As-of-Date.
- **Region** - Use this filter to select a Region.
- **Legal Entity** - Use this filter to select a Legal Entity.
- **LOB** - Use this filter to select a Line of Business.
- **Business Unit** – Use this filter to select a business unit.
- **Asset Class** - Use this filter to select an Asset Class.
- **Counterparty** - Use this filter to select a Counterparty.
- **Sector** - Use this filter to select a sector.

The reports can be filtered by using the following two prompts via a single select drop-down field:

- **Consolidation Type** – Use this filter to select either Standalone or Consolidated status.
- **Currency** – Use this filter to select a currency.

Several reports within this section allow users with a data drill-down capability, leveraging underlying data across below data elements.

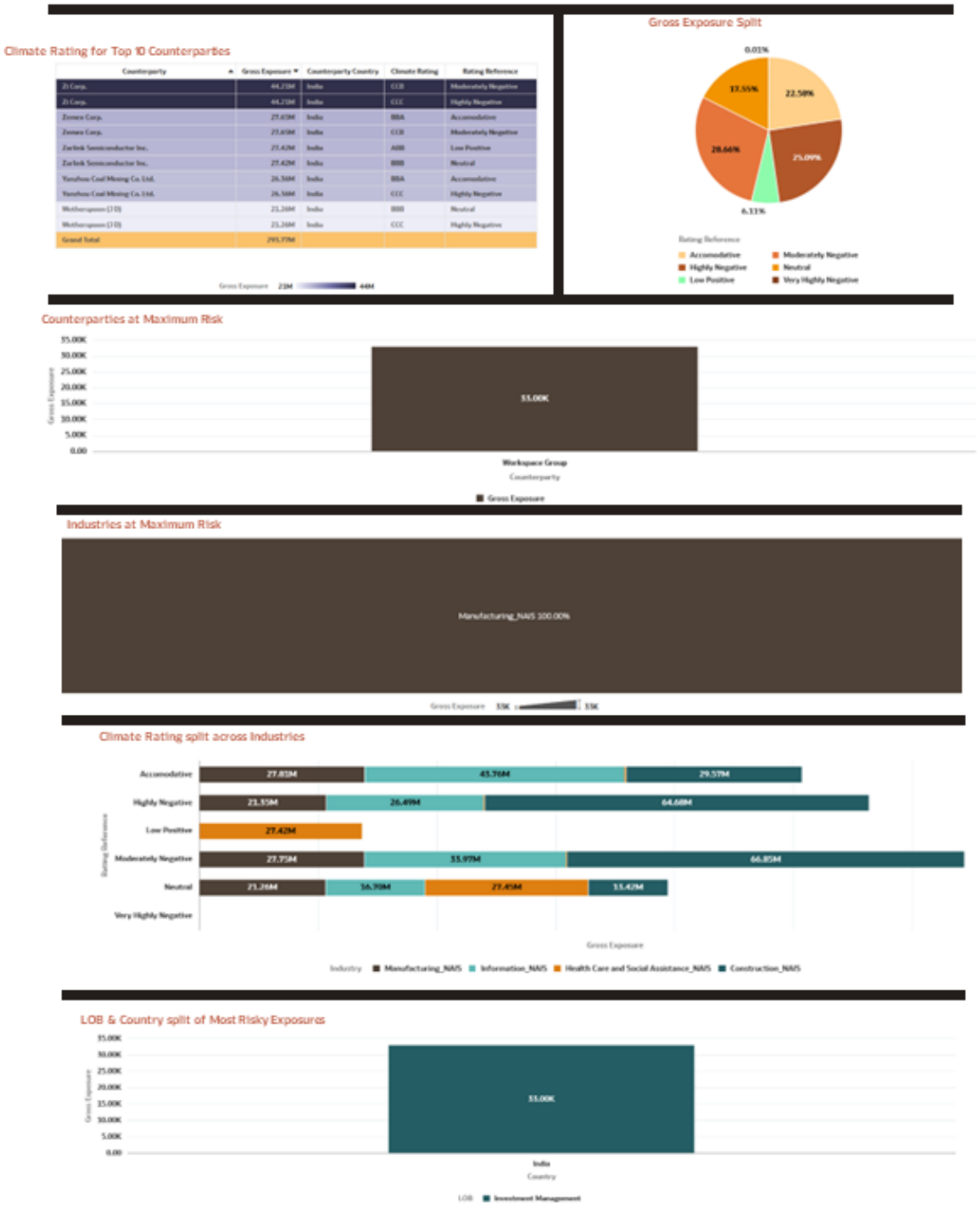
- **Legal Entity** – Showcasing breakup of various legal entities holding relevant value.
- **Line of Business** - Showcasing breakup of various lines of businesses holding relevant value.
- **Business Unit** - Showcasing the breakup of various business units holding relevant value.
- **Country of Incorporation** - Showcasing the breakup of various countries wherein relevant legal entities are incorporated.
- **Counterparty** – Showcasing breakup of various counterparties holding relevant value.
- **Country of Counterparty** - Showcasing breakup of various countries where relevant counterparties are incorporated.

For more details on prompts and drill-down capabilities, users can refer to the Reports document on MOS.

Counterparty Reports

This section provides the visualization of reports curated to the analytical needs on a counterparty. It contains the following visualizations.

Figure 10-6 Counterparty Reports



You can also filter the visualizations by using the following prompts:

- **Fiscal Year** - Use this filter to select a specific Fiscal Year derived from As of-Date.
- **Month** - Use this filter to select a specific Month derived from As-of-Date.
- **Region** – Use this filter to select a Region.
- **Legal Entity** - Use this filter to select a Legal Entity.

- **LOB** – Use this filter to select a Line of Business.
- **Business Unit** – Use this filter to select a Business Unit.

The reports can be filtered by using the following two prompts via a single select drop-down field:

- **Consolidation Type** – Use this filter to select either Standalone or Consolidated status.
- **Currency** – Use this filter to select a currency.

Several reports within this section allow users with a data drill-down capability, leveraging underlying data across below data elements.

- **Legal Entity** – Displays the breakup of various legal entities holding relevant value.
- **Line of Business** - Displays the breakup of various lines of businesses holding relevant value.
- **Business Unit** - Displays the breakup of various business units holding relevant value.
- **Country of Incorporation** - Displays the breakup of various countries wherein relevant legal entities are incorporated.
- **Counterparty** – Displays the breakup of various counterparties holding relevant value.
- **Country of Counterparty** - Displays the breakup of various countries where relevant counterparties are incorporated.

For more details on prompts and drill-down capabilities, users can refer to the Reports document on MOS.

11
Glossary

This chapter provides information on the common terms related to various climate disclosure requirements and their descriptions. These terms and their descriptions have been adopted based on reference to the following standards and/or frameworks*:

- Greenhouse Gas Protocol
- Partnership for Carbon Accounting Financials (PCAF)
- International Sustainability Standards Board (ISSB)
- European Sustainability Reporting Standards (ESRS by EFRAG)
- U.S. Securities and Exchange Commission (U.S. SEC)
- **Absolute emissions** - Emissions attributed to a financial institution's lending and investing activity. Expressed in tonnes CO2e.
- **Associated/affiliated company -** The parent company has significant influence over the operating and financial policies of the associated/affiliated company, but not financial control.
- **Asset class** - A group of financial instruments that have similar financial characteristics.
- **Attribution factor** - The share of total greenhouse gas (GHG) emissions of the borrower or investee that are allocated to the loan or investments.
- **Avoided emissions** - Emission reductions that the financed project produces versus what would have been emitted in the absence of the project (the baseline emissions). In the context of the Financed Emissions Standard, avoided emissions are only from renewable power projects.
- **Borrower** A person or company that borrows money from a bank.
- **Business loan -** On-balance sheet loans and lines of credit to businesses, nonprofits, and any other structure of organization that are not traded on a market and are for general corporate purposes (i.e., with unknown use of proceeds as defined by the GHG Protocol).
- **Climate impact -** In the context of this Financed Emissions Standard, climate impact refers to the emissions financed by loans and investments.
- **Climate-Related Physical Risks -** Risks resulting from climate change that can be event-driven (acute physical risk) or from longer-term shifts in climatic patterns (chronic physical risk). Acute physical risks arise from weather-related events such as storms, floods, drought or heatwaves, which are increasing in severity and frequency. Chronic physical risks arise from longer-term shifts in climatic patterns including changes in precipitation and temperature which could lead to sea level rise, reduced water availability, biodiversity loss and changes in soil productivity. These risks could carry financial implications for an entity, such as costs resulting from direct damage to assets or indirect effects of supply-chain disruption. The entity's financial performance could also be affected by changes in water availability, sourcing and quality; and extreme temperature changes affecting the entity's premises, operations, supply chains, transportation needs and employee health and safety.

- **Climate-Related Risks and Opportunities -** Climate-related risks refers to the potential negative effects of climate change on an entity. These risks are categorised as **climate-related physical risks** and **climate-related transition risks**. Climate-related opportunities refers to the potential positive effects arising from climate change for an entity. Efforts to mitigate and adapt to climate change can produce climate related opportunities for an entity.
- **Climate-Related Transition Plan -** An aspect of an entity's overall strategy that lays out the entity's targets, actions or resources for its transition towards a lower-carbon economy, including actions such as reducing its **greenhouse gas** emissions.
- **Climate-Related Transition Risks -** Risks that arise from efforts to transition to a lower-carbon economy. Transition risks include policy, legal, technological, market and reputational risks. These risks could carry financial implications for an entity, such as increased operating costs or asset impairment due to new or amended climate-related regulations. The entity's financial performance could also be affected by shifting consumer demands and the development and deployment of new technology.
- **Climate Resilience -** The capacity of an entity to adjust to climate-related changes, developments or uncertainties. Climate resilience involves the capacity to manage **climate-related risks** and benefit from **climate-related opportunities**, including the ability to respond and adapt to **climate-related transition risks** and **climate related physical risks**. An entity's climate resilience includes both its strategic resilience and its operational resilience to climate-related changes, developments and uncertainties.
- **Climate risk -** The potential for adverse effects on lives, livelihoods, health status, economic, social and cultural assets, services (including environmental), and infrastructure due to climate change.
- **CO2 equivalent (CO2-e) -** The universal unit of measurement to indicate the global warming potential (GWP) of each of the six greenhouse gases, expressed in terms of the GWP of one unit of carbon dioxide. It is used to evaluate releasing (or avoiding releasing) different greenhouse gases against a common basis.
- **Commercial real estate (CRE) -** This asset class includes on-balance sheet loans for specific corporate purposes, namely the purchase and refinance of CRE, and on-balance sheet investments in CRE. This definition implies that the property is used for commercial purposes, such as retail, hotels, office space, industrial, or large multifamily rentals. In all cases, the owner of the building (the borrower or investor) uses the property to conduct income-generating activities. This includes using the property for their own business as well as renting or leasing the property to tenants who use the property for either commercial or residential purposes.
- **Consumer finance -** Finance provided to individual and household consumers, such as mortgages and motor vehicle loans.
- **Consolidation -** Combination of GHG emissions data from separate operations that form part of one company or group of companies.
- **Control -** The ability of a company to direct the policies of another operation. More specifically, it is defined as either operational control (the organization or one of its subsidiaries has the full authority to introduce and implement its operating policies at the operation) or financial control (the organization has the ability to direct the financial and operating policies of the operation with a view to gaining economic benefits from its activities).

- **Corporate debt -** Money that is owed by companies rather than by governments or individual people.
- **Debt -** A financing instrument that requires repayment by the borrower. In the context of this Financed Emissions Standard, debt refers only to the principal amount owed by the borrower and excludes interest.
- **Direct GHG emissions -** Emissions from sources that are owned or controlled by the reporting company.
- **Double Counting -** Occurs when GHG emissions (generated, avoided, or removed) are counted more than once in a GHG inventory or toward attaining mitigation pledges or financial pledges for the purpose of mitigating climate change.
- **Emissions** The release of GHG into the atmosphere.
- **Emission Factor -** A factor allowing GHG emissions to be estimated from a unit of available activity data (e.g. tonnes of fuel consumed, tonnes of product produced) and absolute GHG emissions.
- **Emission Intensity Metric -** Emissions per a specific unit, for example: tCO2e/€M or $M invested, tCO2e/MWh, tCO2e/tonne product produced, tCO2e/MWh, tCO2e/ton product produced, tCO2e/€M or $M company revenue.
- **Emission Removals -** The action of removing GHG emissions from the atmosphere and store it through various means, such as in soils, trees, underground reservoirs, rocks, the ocean, and even products like concrete and carbon fiber.
- **Environmentally Extended Input-Output (EEIO) Data -** EEIO data refers to EEIO emission factors that can be used to estimate scope 1, 2, and upstream scope 3 GHG emissions for a given industry or product category. EEIO data is particularly useful in screening emissions sources when prioritizing data collection efforts.
- **Enterprise Value Including Cash (EVIC) -** The sum of the market capitalization of ordinary shares at fiscal year end, the market capitalization of preferred shares at fiscal year-end, and the book values of total debt and minorities' interests. No deductions of cash or cash equivalents are made to avoid the possibility of negative enterprise values.
- **Equity -** The ownership of banks or investors in a company or project. There are various types of equity, but equity typically refers to shareholder equity, which represents the amount of money that would be returned to a company's shareholders if all company assets were liquidated and all company debt were paid off.
- **Financed Emissions -** Absolute emissions that banks and investors finance through their loans and investments.
- **Financial Institution** A company engaged in the business of dealing with financial and monetary transactions such as deposits, loans, investments, and currency exchange. Financial institutions encompass a broad range of business operations within the financial services sector, including commercial banks, investment banks, development banks, asset owners/managers (mutual funds, pension funds, close-end funds, investment trusts), and insurance companies.
- **Finance Lease -** A lease which transfers substantially all the risks and rewards of ownership to the lessee and is accounted for as an asset on the balance sheet of the lessee. Also known as a Capital or Financial Lease. Leases other than Capital/Financial/ Finance leases are Operating leases. Consult an accountant for further detail as definitions of lease types differ between various accepted accounting principles.
- **Fixed Asset Investment -** Equipment, land, stocks, property, incorporated and non-incorporated joint ventures, and partnerships over which the parent company has neither significant influence nor control.

- **Greenhouse Gases (GHG) -** For the purposes of this standard, GHGs are the six gases listed in the Kyoto Protocol: carbon dioxide (CO2); methane (CH4); nitrous oxide (N2O); hydrofluorocarbons (HFCs); perfluorocarbons (PFCs); and sulphur hexafluoride (SF6).
- **GHG Accounting -** A means of measuring the direct and indirect emissions to the Earth's biosphere of CO2 and its equivalent gases from industrial activities.
- **GHG Accounting of Financial Portfolios -** The annual accounting and disclosure of GHG emissions associated with loans and investments at a fixed point in time in line with financial accounting periods. This is also called portfolio GHG accounting.
- **GHG Credit -** GHG offsets can be converted into GHG credits when used to meet an externally imposed target. A GHG credit is a convertible and transferable instrument usually bestowed by a GHG program.
- **GHG Offset -** Offsets are discrete GHG reductions used to compensate for (i.e., offset) GHG emissions elsewhere, for example to meet a voluntary or mandatory GHG target or cap. Offsets are calculated relative to a baseline that represents a hypothetical scenario for what emissions would have been in the absence of the mitigation project that generates the offsets. To avoid double counting, the reduction giving rise to the offset must occur at sources or sinks not included in the target or cap for which it is used.
- **GHG Program -** A generic term used to refer to any voluntary or mandatory international, national, sub-national, government or non-governmental authority that registers, certifies, or regulates GHG emissions or removals outside the company. e.g. CDM, EU ETS, CCX, and CCAR.
- **GHG Project -** A specific project or activity designed to achieve GHG emission reductions, storage of carbon, or enhancement of GHG removals from the atmosphere. GHG projects may be stand-alone projects, or specific activities or elements within a larger non-GHG related project.
- **GHG Protocol Calculation Tools -** A number of cross-sector and sector-specific tools that calculate GHG emissions on the basis of activity data and emission factors (available at www.ghgprotocol.org).
- **GHG Protocol Initiative -** A multi-stakeholder collaboration convened by the World Resources Institute and World Business Council for Sustainable Development to design, develop and promote the use of accounting and reporting standards for business. It comprises of two separate but linked standards—the *GHG Protocol Corporate Accounting and Reporting Standard* and the *GHG Protocol Project Quantification Standard.*
- **GHG Protocol Project Quantification Standard -** An additional module of the GHG Protocol Initiative addressing the quantification of GHGreduction projects. This includes projects that will be used to offset emissions elsewhere and/or generate credits. More information available at www.ghgprotocol.org.
- **Global Warming Potential (GWP) -** A factor describing the radiative forcing impact (degree of harm to the atmosphere) of one unit of a given GHG relative to one unit of CO**2**.
- **Green Power -** A generic term for renewable energy sources and specific clean energy technologies that emit fewer GHG emissions relative to other sources of energy that supply the electric grid. Includes solar photovoltaic panels, solar thermal energy, geothermal energy, landfill gas, low-impact hydropower, and wind turbines.

- **Group Company / Subsidiary -** The parent company has the ability to direct the financial and operating policies of a group company/subsidiary with a view to gaining economic benefits from its activities.
- **Global Trade Analysis Project (GTAP) database -** GTAP is a global network of researchers and policy makers conducting quantitative analysis of international policy issues. GTAP is coordinated by the Center for Global Trade Analysis in Purdue University's Department of Agricultural Economics. The centerpiece of the GTAP is a global database describing bilateral trade patterns, production, consumption, and intermediate use of commodities and services.
- **Home Equity Line of Credit (HELOC) -** A revolving line of credit usually with an adjustable interest rate, which allows homeowners to borrow up to a certain amount over a period of time. HELOCs work in a manner similar to credit cards, where the homeowner can continuously borrow up to an approved limit while paying off the balance.
- **Home Equity Loan (HEL) -** Sometimes referred to as a second mortgage, usually allows homeowners to borrow a lump sum against their current home equity for a fixed rate over a fixed period of time. Usually, home equity loans are used to finance large expenditures, such as home repairs or college tuition.
- **IFRS Sustainability Disclosure Standards -** Standards of that name issued by the International Sustainability Standards Board.
- **Indirect GHG Emissions -** Emissions that are a consequence of the operations of the reporting company, but occur at sources owned or controlled by another company.
- **Intensity Ratios -** Ratios that express GHG impact per unit of physical activity or unit of economic value (e.g. tonnes of CO**2** emissions per unit of electricity generated). Intensity ratios are the inverse of productivity/efficiency ratios.
- **Intergovernmental Panel on Climate Change (IPCC) -** International body of climate change scientists. The role of the IPCC is to assess the scientific, technical and socio-economic information relevant to the understanding of the risk of human-induced climate change (www.ipcc.ch).
- **Internal Carbon Price -** Price used by an entity to assess the financial implications of changes to investment, production and consumption patterns, and of potential technological progress and future emissions abatement costs. An entity can use internal carbon prices for a range of business applications. Two types of internal carbon prices that an entity commonly uses are: (a) a shadow price, which is a theoretical cost or notional amount that the entity does not charge but that can be used to understand the economic implications or tradeoffs for such things as risk impacts, new investments, the net present value of projects, and the cost and benefit of various initiatives; and (b) an internal tax or fee, which is a carbon price charged to a business activity, product line, or other business unit based on its **greenhouse gas** emissions (these internal taxes or fees are similar to intracompany transfer pricing).
- **Inventory -** A quantified list of an organization's GHG emissions and sources.
- **Inventory Boundary -** An imaginary line that encompasses the direct and indirect emissions that are included in the inventory. It results from the chosen organizational and operational boundaries.
- **Investee Company or Investee Project-** A company or project in which an investor makes a direct investment.
- **Investment** - The term investment (unless explicitly stated otherwise) is used in the broad sense: "Putting money into activities or organizations' with the expectation of making a profit." Most forms of investment involve some form of risk taking, such as

investment in equities, debt, property, projects, and even fixed interest securities which are subject to inflation risk, among other risks.

- **Known use of proceeds -** Known use of proceeds relates to investments and loans for specific (corporate or consumer) purposes, i.e., the financial institution knows for what activity the money is used.
- **Kyoto Protocol -** A protocol to the United Nations Framework Convention on Climate Change (UNFCCC). Once entered into force it will require countries listed in its Annex B (developed nations) to meet reduction targets of GHG emissions relative to their 1990 levels during the period of 2008–12.
- **Latest International Agreement on Climate Change -** An agreement by states, as members of the United Nations Framework Convention on Climate Change, to combat climate change. The agreements set norms and targets for a reduction in **greenhouse gases**.
- **Life Cycle Analysis -** Assessment of the sum of a product's effects (e.g. GHG emissions) at each step in its life cycle, including resource extraction, production, use and waste disposal.
- **Listed equity and corporate bonds -** This asset class includes all on-balance sheet listed corporate bonds and all on-balance sheet listed equity that are traded on a market and are for general corporate purposes, i.e., unknown use of proceeds as defined by the GHG Protocol.
- **Material Information -** In the context of **sustainability-related financial disclosures**, information is material if omitting, misstating or obscuring that information could reasonably be expected to influence decisions that **primary users of general purpose financial reports** make on the basis of those reports, which include financial statements and sustainability-related financial disclosures and which provide information about a specific **reporting entity**.
- **Mortgages -** This asset class includes on-balance sheet loans for specific consumer purposes—namely the purchase and refinance of residential property, including individual homes and multi-family housing with a small number of units. This definition implies that the property is used only for residential purposes and not for commercial activities.
- **Motor Vehicle Loans** - This asset class refers to loans and lines of credit to businesses and consumers for specific (corporate or consumer) purposes—namely the finance of one or several motor vehicles.
- **Operating Lease -** A lease which does not transfer the risks and rewards of ownership to the lessee and is not recorded as an asset in the balance sheet of the lessee. Leases other than Operating leases are Capital/Financial/Finance leases. Consult an accountant for further detail as definitions of lease types differ between various accepted financial standards.
- **Paris Agreement -** The Paris Agreement, adopted within the UNFCCC in December 2015, commits participating countries to limit global temperature rise to well-below 2°C above preindustrial levels and pursue efforts to limit warming to 1.5°C, adapt to changes already occurring, and regularly increase efforts over time.
- **Primary Users of General Purpose Financial Reports (Primary Users) -** Existing and potential investors, lenders and other creditors.
- **Project Finance -** This asset class includes all on-balance sheet loans or equities to projects for specific purposes, i.e., with known use of proceeds as defined by the GHG Protocol. The financing is designated for a defined activity or set of

activities, such as the construction and operation of a gas-fired power plant, a wind or solar project, or energy efficiency projects.

- **Reporting Entity -** An entity that is required, or chooses, to prepare general purpose financial statements.
- **Scenario Analysis -** A process for identifying and assessing a potential range of outcomes of future events under conditions of uncertainty.
- **Science-based Reduction Targets (SBTs) -** Targets adopted by companies to reduce GHG emissions are considered science-based if they are in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement—to limit global warming to well-below 2°C above preindustrial levels and pursue efforts to limit warming to 1.5°C.
- **Scope -** Defines the operational boundaries in relation to indirect and direct GHG emissions.
- **Scope 1 Emissions** - Direct GHG emissions that occur from sources owned or controlled by the reporting company—i.e., emissions from combustion in owned or controlled boilers, furnaces, vehicles, etc.
- **Scope 2 Emissions** - Indirect GHG emissions from the generation of purchased or acquired electricity, steam, heating, or cooling consumed by the reporting company. Scope 2 emissions physically occur at the facility where the electricity, steam, heating, or cooling is generated.
- **Scope 3 Emissions** - All other indirect GHG emissions (not included in Scope 2) that occur in the value chain of the reporting company. Scope 3 can be broken down into upstream emissions and downstream emissions:
  - Upstream emissions include all emissions that occur in the life cycle of a material/product/service up to the point of sale by the producer, such as from the production or extraction of purchased materials.
  - Downstream emissions include all emissions that occur as a consequence of the distribution, storage, use, and end-of-life treatment of the organization's products or services.
- **Scope 3 Category 15 (Investments) Emissions -** This category includes scope 3 emissions associated with the reporting company's loans and investments in the reporting year, not already included in scope 1 or scope 2.
- **Sequestered Emissions** - Refers to atmospheric CO2 emissions that are captured and stored in solid or liquid form, thereby removing their harmful global warming effect.
- **Sovereign Debt -** This asset class includes sovereign bonds and sovereign loans of all maturities issued in domestic or foreign currencies. Both sovereign loans and bonds lead to the transfer of funds to the country, which in turn creates a debt obligation to be repaid by the borrowing country.
- **Stationary Combustion -** Burning of fuels to generate electricity, steam, heat, or power in stationary equipment such as boilers, furnaces etc.
- **Sustainability-Related Financial Disclosures -** A particular form of **general purpose financial reports** that provide information about the **reporting entity**'**s** sustainability related risks and opportunities that could reasonably be expected to affect the entity's cash flows, its access to finance or cost of capital over the short, medium or long term, including information about the entity's governance, strategy and risk management in relation to those risks and opportunities, and related metrics and targets.

- **Total Balance Sheet Value -** A balance sheet is a financial statement that reports a company's assets, liabilities, and shareholders' equity. The balance sheet value refers to the sum of total equity and liabilities, which is equal to the company's total assets.
- **United Nations Framework Convention on Climate Change (UNFCCC) -** Signed in 1992 at the Rio Earth Summit, the UNFCCC is a milestone Convention on Climate Change treaty that provides an overall framework for international efforts to (UNFCCC) mitigate climate change. The Kyoto Protocol is a protocol to the UNFCCC.
- **Unknown Use of Proceeds -** Unknown use of proceeds refers to investments and loans for general (corporate or consumer) purposes, i.e., the financial institution does not know exactly for what activity the money is used, which holds for general-purpose loans.
- **Unlisted Equity -** All on-balance sheet equity investments to businesses, nonprofits, and any other structure of organization that are not traded on a market and are for general corporate purposes, i.e., with unknown use of proceeds as defined by the GHG Protocol. Unlisted equity is also referred to as equity investments in private companies (i.e., the financial institution obtains shares of the company).
- **Users of General Purpose Financial Reports (users) -** See **Primary users of General Purpose Financial Reports (primary users)**. These definitions describe the same population.
- **Value chain emissions -** Emissions from the upstream and downstream activities associated with the operations of the reporting company.
- **Vehicle make -** The name of the company that manufactures the vehicle. Vehicle model The product name of the vehicle.