

**Oracle Banking Common Core User Guide**

## **Oracle Banking Cash Management**

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## Oracle Banking Common Core User Guide

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# 1 Preface

## 1.1 Introduction

This user guide is designed to help you quickly get acquainted with the many functions routinely executed every day.

## 1.2 Audience

This user guide is intended for the central administrator of the Bank who controls the system and application parameters and ensures smooth functionality and flexibility of the banking application.

## 1.3 Document 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>.

## 1.4 Acronyms and Abbreviations

Following are some of the acronyms and abbreviations you are likely to find in this user manual:

**Table 1: Acronyms and Abbreviations**

| Abbreviation | Description                     |
|--------------|---------------------------------|
| System       | Core Maintenance Module         |
| NLP          | Natural Language Processing     |
| REST         | Representational State Transfer |

## 1.5 List of Topics

This user guide is organized as follow:

**Table 2: List of Topics**

| Topics                            | Description  |
|-----------------------------------|--|
| <b>Core Maintenance</b>           | This topic describes about Core Maintenance module.  |
| <b>NLP Framework</b>              | This topic describes about NLP Framework.  |
| <b>Machine Learning Framework</b> | This topic describes about Machine Learning Framework.   |
| <b>File Upload</b>                | This topic describes about the various file upload features supported in common core maintenances. |
| <b>Error Codes and Messages</b>   | This topic describes list of error codes and messages.   |

| Topics                        | Description   |
|-------------------------------|---|
| <b>Glossary</b>               | This topic provides list of glossary and their definitions.   |
| <b>List of Menus</b>          | This topic has alphabetical list of Core Maintenance processes with page references for quick navigation. |
| <b>Reference and Feedback</b> | This topic provides the reference documents and information about feedback and support.                   |

## 1.6 Related Documents




For more information on any related features, you can refer to the following documents:

- Oracle Banking Security Management System User Guide
- Getting Started User Guide

## 1.7 Symbols and Icons

The following are some of the Symbols you are likely to find in the guide:

**Table 3: Symbols and Icons - Common**

| Symbol/Icon   | Function                        |
|---|---------------------------------|
| →   | Represents Results              |
|  | Minimize                        |
|  | Maximize                        |
| ×   | Close                           |
|  | Perform Search                  |
| ▼   | Open a list                     |
| +   | Add a new record                |
| K   | Navigate to the first record    |
| ⌵   | Navigate to the last record     |
| <   | Navigate to the previous record |









| Symbol/Icon   | Function   |
|---|--|
| >   | Navigate to the next record                                    |
|    | Grid view  |
|    | List view  |
|    | Refresh  |
|    | Click this icon to add a new row.                              |
|    | Click this icon to delete an existing row.                     |
|    | Click to view the created record.                              |
|    | Click to modify the fields.                                    |
|  | Click to unlock, delete, authorize or view the created record. |

Table 4: Symbols and Icons – Audit Details









| Symbol/Icon   | Function                      |
|---|-------------------------------|
|  | A user                        |
|  | Date and time                 |
|  | Unauthorized or Closed status |
|  | Authorized or Open status     |

Table 5: Symbols and Icons - Widget

| Symbol/Icon   | Function            |
|---|---------------------|
|  | Open status         |
|  | Unauthorized status |



| Symbol/Icon   | Function          |
|---|-------------------|
|  | Closed status     |
|  | Authorized status |

## 1.8 Basic Actions

Most of the screens contain buttons to perform all or few of the basic actions. The table below gives a snapshot of them:

**Table 6: Basic Actions**

| Actions          | Description  |
|------------------|--|
| <b>New</b>       | Click to add a new record. When you click New, system displays a new record enabling you to specify the required data. It is mandatory to specify details for the fields marked with '*' symbol.<br><br><b>NOTE:</b> This button is displayed only for the records that are already created. |
| <b>Save</b>      | Click to save the details entered or selected in the screen.   |
| <b>Unlock</b>    | Click to update the details of an existing record. System displays an existing record in editable mode.<br><br><b>NOTE:</b> This button is displayed only for the records that are already created.  |
| <b>Authorize</b> | Click to authorize the record created. A maker of the screen is not allowed to authorize the same. Only a checker can authorize a record.<br><br><b>NOTE:</b> This button is displayed only for the already created records. For more information on the process, see Authorization Process. |
| <b>Approve</b>   | Click to approve the initiated record.<br><br><b>NOTE:</b> This button is displayed, once you click <b>Authorize</b> .   |
| <b>Audit</b>     | Click to view the maker details, checker details of the particular record.<br><br><b>NOTE:</b> This button is displayed only for the records that are already created.   |
| <b>Close</b>     | Click to close a record. This action is available only when a record is created.   |
| <b>Confirm</b>   | Click to confirm the action you performed.   |
| <b>Cancel</b>    | Click to cancel the action you performed.  |

| Actions                     | Description  |
|-----------------------------|--|
| <b>Compare</b>              | Click to view the comparison through the field values of old record and the current record.<br><br><b>NOTE:</b> This button is displayed in the widget, once you click <b>Authorize</b> .                    |
| <b>View</b>                 | Click to view the details in a particular modification stage.<br><br><b>NOTE:</b> This button is displayed in the widget, once you click <b>Authorize</b> .  |
| <b>View Difference only</b> | Click to view a comparison through the field element values of old record and the current record, which has undergone changes.<br><br><b>NOTE:</b> This button is displayed, once you click <b>Compare</b> . |
| <b>Expand All</b>           | Click to expand and view all the details in the sections.<br><br><b>NOTE:</b> This button is displayed, once you click <b>Compare</b> .  |
| <b>Collapse All</b>         | Click to hide the details in the sections.<br><br><b>NOTE:</b> This button is displayed, once you click <b>Compare</b> .   |
| <b>OK</b>                   | Click to confirm the details in the screen.  |

## 2 Core Maintenance

This section is designed to help you quickly get acquainted with the many functions routinely executed everyday.

This section contains the following topics:

- [2.1 Additional Field Maintenance](#)
- [2.2 Advice](#)
- [2.3 Amount Text Language](#)
- [2.4 BIC Directory](#)
- [2.5 Branch EOD](#)
- [2.6 Country Code](#)
- [2.7 Currency Definition](#)
- [2.8 Currency Exchange Rate](#)
- [2.9 Currency Holiday Master](#)
- [2.10 Currency Pair Definition](#)
- [2.11 Currency Rate Type](#)
- [2.12 Customer Access Group](#)
- [2.13 Customer Category](#)
- [2.14 ECA System](#)
- [2.15 External Bank Parameters](#)
- [2.16 External Branch Parameters](#)
- [2.17 External Chart Account](#)
- [2.18 External Customer](#)
- [2.19 External Customer Account](#)
- [2.20 External Customer Account Structured Address](#)
- [2.21 External Virtual Account Structured Address](#)
- [2.22 Forget Process](#)
- [2.23 Host Code](#)
- [2.24 Language Code](#)
- [2.25 Local Holiday](#)

- [2.26 Media](#)
- [2.27 Multi-Currency Account Linkage](#)
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- [2.34 Integrating Bureau Integration Service with Oracle Banking Routing Hub](#)
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- [2.36 Credit Bureau Display](#)
- [2.37 Lookup](#)
- [2.38 Criteria](#)
- [2.39 System Parameter](#)
- [2.40 Integrating Decision Service with Oracle Banking Routing Hub](#)
- [2.41 Decision Service](#)
- [2.50 Scoring Feature and Scoring Model](#)
- [2.52 Decision Grade Matrix](#)
- [2.53 Pricing](#)
- [2.54 Execution Summary](#)

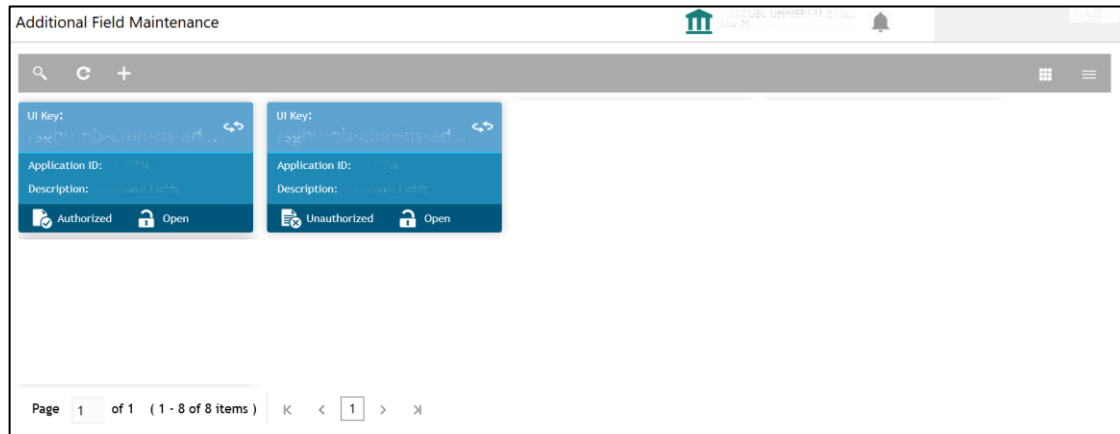
## 2.1 Additional Field Maintenance

This screen is used to configure and maintain the additional fields for the transaction screens. To process this screen, perform the following steps:

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Additional Field Maintenance**.

→ The **Additional Field Maintenance Summary** screen is displayed.

**Figure 1: Additional Field Maintenance Summary**



For more information on fields, refer to the field description table below.

**Table 7: Additional Field Maintenance Summary – Field Description**

| Field                 | Description  |
|-----------------------|--|
| <b>UI Key</b>         | Displays the UI key of the additional field.                 |
| <b>Application ID</b> | Displays the related application ID of the additional field. |
| <b>Description</b>    | Displays the description of the additional field.            |
| <b>Status</b>         | Displays the status of the record.                           |

2. On **Additional Field Maintenance Summary** screen, click **+** icon.

→ The **Additional Fields Maintenance** screen is displayed.

**Figure 2: Additional Fields Maintenance**

- On **Additional Fields Maintenance** screen, specify the fields. For more information on fields, refer to the field description table below.

**Table 8: Additional Fields Maintenance – Field Description**

| Field                                       | Description  |
|---|--|
| <b>Component Name</b>                       | Click Search icon and select the component name from the list of                           |
| <b>Product Code</b>                         | Click Search icon and select the product code from the list of                             |
| <b>Product Name</b>                         | Displays the product name for the specified product code.                                  |
| <b>Description</b>                          | Displays the description as <b>Additional Fields</b> , and it can be modified.             |
| <b>Application ID</b>                       | Displays the Application ID.   |
| <b>Construct Additional Fields MetaData</b> | Specify the details under this section to configure metadata for each field.               |
| <b>Select</b>                               | Check this box to select/unselect a row.   |
| <b>Field ID</b>                             | Specify the field ID.  |
| <b>Field Label</b>                          | Specify the field label.   |
| <b>Category</b>                             | Specify the category.  |
| <b>Field Type</b>                           | Select the field type from the drop-down values.   |
| <b>Edit</b>                                 | Click this icon to edit the fields in the row.   |
| <b>Mandatory</b>                            | Check this box if the field needs to be configured as mandatory.                           |
| <b>Construct Validation MetaData</b>        | Specify the details under this section for validations to be applied on configured fields. |

| Field                             | Description  |
|-----------------------------------|--|
| <b>Select</b>                     | Check this box to select/unselect a row.                     |
| <b>Validation Name</b>            | Specify the validation name.                                 |
| <b>Validation Template To Use</b> | Select the template to be used for the validation.           |
| <b>Custom Error Message</b>       | Specify the error message that needs to be displayed for the |
| <b>Edit Arguments</b>             | Click this icon to edit the fields in the row.               |

4. Click **Save**. You can view the confirmation advice details in the [Additional Field Maintenance Summary](#).

## 2.2 Advice

You can configure various BIP advices that are available for the process.

This section contains following subsections:

- [2.2.1 Advice Summary](#)
- [2.2.2 Advice Maintenance](#)

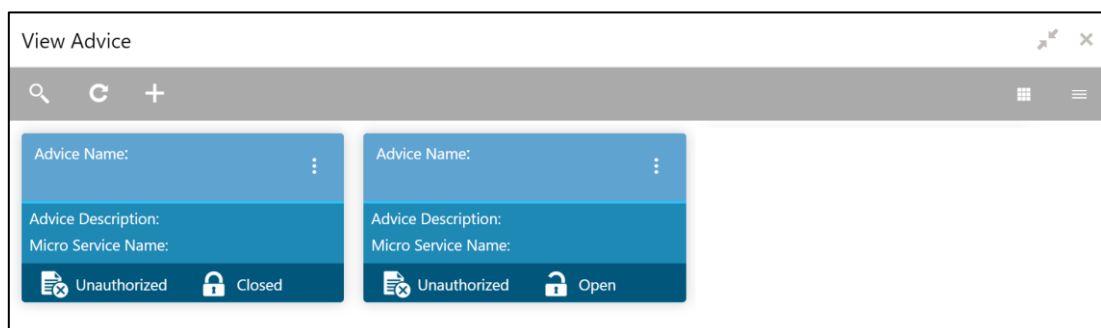
### 2.2.1 Advice Summary

The summary screen provides a list of configured advice. You can configure an advice for a process using the [Advice Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Advice**.
2. Under **Advice**, click **View Advice**.

→ The **View Advice** screen is displayed.

**Figure 3: View Advice**





For more information on fields, refer to the field description table below.

**Table 9: View Advice – Field Description**

| Field                     | Description                             |
|---------------------------|---|
| <b>Advice Name</b>        | Displays the name of the advice.        |
| <b>Advice Description</b> | Displays information about the advice.  |
| <b>Micro Service Name</b> | Displays the name of the micro service. |
| <b>Status</b>             | Displays the status of the record.      |

## 2.2.2 Advice Maintenance

The maintenance screen allows you to configure advices. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Advice**.
2. Under **Advice**, click **Create Advice**.

→ The **Create Advice** screen is displayed.

**Figure 4: Create Advice**

3. On **Create Advice** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 10: Create Advice – Field Description**

| Field                     | Description                               |
|---------------------------|---|
| <b>Advice Name</b>        | Specify the name of the advice.           |
| <b>Advice Description</b> | Specify the information about the advice. |

| Field                          | Description  |
|--------------------------------|--|
| <b>Micro Service Name</b>      | Specify the name of the micro service.   |
| <b>Swift Micro Service</b>     | Specify the information about the swift micro service.   |
| <b>Micro Service Endpoint</b>  | Specify the endpoint micro service.  |
| <b>Application Name</b>        | Specify the application name for which advice is generated.  |
| <b>Application Description</b> | Specify the additional information about the application.  |
| <b>Media</b>                   | Search and select the required media.  |
| <b>Branch</b>                  | Search and select the required branch.   |
| <b>Currency</b>                | Search and select the required currency.   |
| <b>Report Locale</b>           | Specify the locale report details.   |
| <b>Report Absolute Path</b>    | Specify the report absolute path.  |
| <b>Format</b>                  | Select a download file format for an advice from the dropdown list.<br>The formats available are, PDF, PPTX, HTML, XLS, and RTF. |
| <b>Swift Endpoint</b>          | Specify the swift endpoint.  |

- Click **Save**. You can view the confirmation advice details in the [Advice Summary](#).

## 2.3 Amount Text Language

You can configure an amount text language.

This section contains following subsections:

- [2.3.1 Amount Text Language Summary](#)
- [2.3.2 Amount Text Language Maintenance](#)

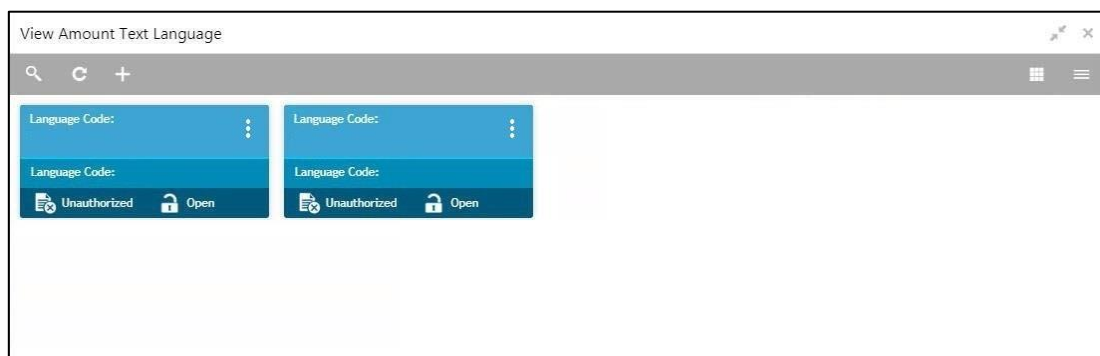
### 2.3.1 Amount Text Language Summary

The summary screen provides a list of configured amount text language. You can configure an amount text language using the [Amount Text Language Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Amount Text Language**.
2. Under **Amount Text Language**, click **View Amount Text Language**.

→ The **View Amount Text Language** screen is displayed.

**Figure 5: View Amount Text Language**



For more information on fields, refer to the field description table below.

**Table 11: View Amount Text Language – Field Description**

| Field         | Description   |
|---------------|---|
| Language Code | Displays the language code associated with the amount word. |
| Status        | Displays the status of the record.                          |

## 2.3.2 Amount Text Language Maintenance

The maintenance screen allows you to configure amount text language. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Amount Text Language**.
2. Under **Amount Text Language**, click **Create Amount Text Language**.

→ The **Create Amount Text Language** screen is displayed.

**Figure 6: Create Amount Text Language**

3. On **Create Amount Text Language** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below. .

**Table 12: Create Amount Text Language – Field Description**

| Field                            | Description  |
|----------------------------------|--|
| <b>Language Code</b>             | Search and select the required language code.                |
| <b>Amount Word Currency List</b> | Specify the amount word currency details.                    |
| <b>CCY Symbol</b>                | Specify the CCY symbols.                                     |
| <b>Decimals As Fraction</b>      | Select a decimals as fraction value from the drop-down list. |

| Field                        | Description  |
|------------------------------|--|
| <b>Final Text</b>            | Specify the final text for the amount word currency list.                |
| <b>CCY</b>                   | Search and select the CCY.   |
| <b>Post Decimal</b>          | Specify the post decimal details.  |
| <b>Pre Decimal</b>           | Specify the pre decimal details.   |
| <b>Text Before</b>           | Select an option for the before text.                                    |
| <b>Text Between</b>          | Specify the text that must appear between the amount word currency list. |
| <b>Amount Word Text List</b> | Specify the amount word text details.                                    |
| <b>Amount</b>                | Select the amount details.   |
| <b>One Flag</b>              | Select an option for the amount word text list.                          |
| <b>Text</b>                  | Specify the text for the amount word.                                    |

4. Click **Save**. You can view the configured amount text language details in the [Amount Text Language Summary](#).

## 2.4 BIC Directory

As part of setting up basic information, you must maintain Bank Identifier Codes (BIC). You can configure the BIC directory for a customer.

This section contains following subsections:

- [2.4.1 BIC Directory Summary](#)
- [2.4.2 BIC Directory Maintenance](#)

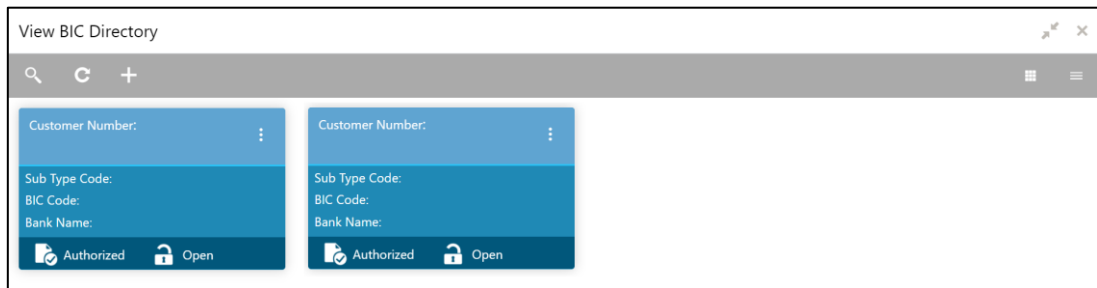
### 2.4.1 BIC Directory Summary

The summary screen provides a list of configured BIC directory. You can configure the BIC directory using the [BIC Directory Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **BIC Directory**.
2. Under **BIC Directory**, click **View BIC Directory**.

→ The **View BIC Directory** screen is displayed.

**Figure 7: View BIC Directory**



For more information on menus, refer to the field description table below. .

**Table 13: View BIC Directory – Field Description**

| Field                  | Description   |
|------------------------|---|
| <b>Customer Number</b> | Displays the number of the customer.                            |
| <b>Sub-type Code</b>   | Displays the sub-type code associated with the customer number. |
| <b>BIC Code</b>        | Displays the defined BIC code for the associated customer       |
| <b>Bank Name</b>       | Displays the name of the bank.                                  |
| <b>Status</b>          | Displays the status of the record.                              |

## 2.4.2 BIC Directory Maintenance

The maintenance screen allows you to configure a BIC directory for a customer. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **BIC Directory**.
2. Under **BIC Directory**, click **Create BIC Directory**.

→ The **Create BIC Directory** screen is displayed.

**Figure 8: Create BIC Directory**

3. On **Create BIC Directory** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below. .

**Table 14: Create BIC Directory – Field Description**

| Field                   | Description  |
|-------------------------|--|
| <b>BIC Code</b>         | Specify the unique BIC Code by which the bank is identified by SWIFT.            |
| <b>Bank Name</b>        | Specify the name for the bank.   |
| <b>Customer Number</b>  | Search and select the required customer number.                                  |
| <b>Customer Name</b>    | Based on the <b>Customer Number</b> selected, the information is auto-populated. |
| <b>Bank Address 1-3</b> | Based on the <b>Customer Number</b> selected, the information is auto-populated. |
| <b>SWIFT Key</b>        | Specify the swift key details.   |
| <b>Telex Key</b>        | Specify the unique telex key for the BIC directory.                              |

| Field                                 | Description  |
|---------------------------------------|--|
| <b>SWIFT Key Arrangement</b>          | Select the SWIFT key arrangement from the drop-down list.  |
| <b>Relationship</b>                   | <p>Select one of the following options:</p> <ul style="list-style-type: none"> <li>• <b>No:</b> If selected, indicates that the BIC Entity is not a customer of your bank</li> <li>• <b>Mail:</b> If selected, the BIC entity is not a recognized SWIFT entity but an address internal to your bank. In such cases, all correspondence directed to the particular BIC entity is sent as mail messages.</li> <li>• <b>Keys:</b> If selected, a SWIFT/Telex connectivity exists between your bank and the bank for which you are maintaining details. Subsequently, you must specify the SWIFT/Telex Key in the adjacent field.</li> </ul> |
| <b>Sub-type Code</b>                  | Search and select the required sub-type code.  |
| <b>BEI Indicator</b>                  | Based on the <b>Sub-type Code</b> selected, the information is auto-populated.   |
| <b>ADB Member</b>                     | Select the ADB member from the drop-down list.   |
| <b>Payment Message</b>                | Specify the payment message details.   |
| <b>MT103+ Preferred</b>               | By default, this is disabled. If selected, indicates the counter party whose BIC code details you are capturing capacitate to receive payment messages in the MT 103 format.   |
| <b>Blacklisted</b>                    | By default, this is disabled. If selected, indicates the BIC entity is blacklisted.  |
| <b>CUG Member</b>                     | By default, this is disabled. If selected, indicates the BIC entity is a closed user group member. Remit Member: By default, this is disabled. If selected, indicates the customer is registered with MT 103 extended remittance information multiple user group.  |
| <b>Update During Upload</b>           | By default, this is disabled. If selected, updated the BIC directory during an upload.   |
| <b>Multi-Customer Credit Transfer</b> | Specify the Multi-Customer Credit Transfer details.  |
| <b>Multi-Customer Credit Transfer</b> | By default, this is disabled. If selected, indicates multiple credit transfer feature [MT102 support] exists between the bank and the BIC entity.  |



| Field                                  | Description  |
|--|--|
| <b>Generate 102+</b>                   | By default, this is disabled. If selected, generates 102+ message.   |
| <b>Maximum Size in Bytes</b>           | Specify the maximum size.  |
| <b>Request for Transfer</b>            | Specify the Request for Transfer details.  |
| <b>Generate MT101</b>                  | By default, this is disabled. If selected, indicates MT101 can be sent/received from this BIC. Select to generate MT101 message. |
| <b>Number of Transactions Per Page</b> | Specify the number of transactions to view per page. If you do not specify a value it is defaulted to 10.                        |
| <b>Real Customer Number</b>            | Search and select the required real customer number.   |
| <b>Real Customer Name</b>              | Based on the <b>Real Customer Number</b> selected, the information is auto- populated.   |

4. Click **Save**. You can view the configure BIC directory in the [BIC Directory Summary](#).

## 2.5 Branch EOD

You can invoke End of Day (EOD) to indicate that all the activities for the day are complete. Activities can be performed on the system only after the system date is changed to the next working day and authorized.

Most of the automated functions are part of the beginning of day operations. Thereafter, some of them must be executed when the system is in the EOTI (End of Transaction Input) stage.

This section contains following subsections:

- [2.5.1 Branch EOD Summary](#)
- [2.5.2 Branch EOD Maintenance](#)
- [2.5.3 Branch EOD Invoke](#)

### 2.5.1 Branch EOD Summary

The summary screen provides list of branch workflow mappings. You can configure branch workflow mapping using the [Branch EOD Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Branch EOD**.
2. Under **Branch EOD**, click **View EOD**.

→ The **View EOD** screen is displayed.

**Figure 9: View EOD**

The screenshot displays the 'View EOD' interface. It features a header with search and navigation icons. Below, there are two side-by-side panels, each representing a branch workflow mapping. Each panel includes fields for 'Branch Code', 'Maker', 'OnceAuthorized', and 'Workflow Name'. At the bottom of each panel are two status icons: 'Authorized' (a green checkmark) and 'Open' (a red lock). A pagination bar at the bottom indicates 'Page 1 of 1 (1 - 2 of 2 items)' with navigation arrows.

For more information on fields, refer to the field description table below.

**Table 15: View EOD – Field Description**

| Field                | Description                        |
|----------------------|------------------------------------|
| <b>Branch Code</b>   | Displays the branch code details.  |
| <b>Workflow Name</b> | Displays the name of the workflow. |
| <b>Status</b>        | Displays the status of the record. |

## 2.5.2 Branch EOD Maintenance

The maintenance screen allows you to create/configure the EOD workflow with a Branch. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Branch EOD**.
2. Under **Branch EOD**, click **Configure EOD**.

→ The **Configure EOD** screen is displayed.

**Figure 10: Configure EOD**

3. On **Configure EOD** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 16: Configure EOD – Field Description**

| Field                | Description   |
|----------------------|---|
| <b>Branch Code</b>   | Specify the branch code that is associated with the logged in user. |
| <b>Description</b>   | Displays the description of the branch.                             |
| <b>Workflow Name</b> | Specify the workflow name that is already created.                  |

For more information on EOD Workflow creation and related terminologies please refer to **EOD Configuration Guide** of the respective products.

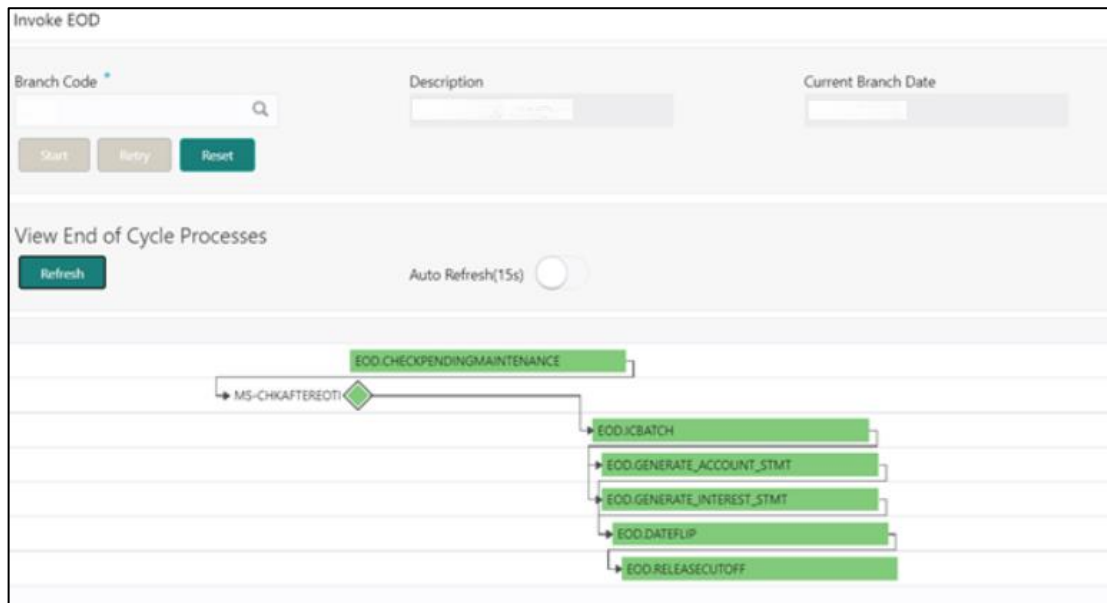
## 2.5.3 Branch EOD Invoke

The action screen allows you to invoke the branch EOD process as per branch and workflow mapping configured using [Branch EOD Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Branch EOD**.
2. Under **Branch EOD**, click **Invoke EOD**.

→ The **Invoke EOD** screen is displayed.

**Figure 15: Invoke EOD**



3. On **Invoke EOD** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 17: Invoke EOD – Field Description**

| Field                      | Description   |
|----------------------------|---|
| <b>Branch Code</b>         | Specify the branch code that is associated with the logged in user. |
| <b>Description</b>         | Displays the description of the branch.                             |
| <b>Current Branch Date</b> | Displays the current branch date.                                   |

4. Click **Start** to invoke EOD for selected branch and Click **Refresh** to view the current status of batch.
5. Click **Retry** to restart the EOD workflow from the failed task.

**NOTE:** **Retry** button will be enabled only if the failed task status is encountered.

6. Click **Reset** to clear the branch selected.
7. Click **Refresh** to view the current status of batch.
8. Mouse-hover on the task to view the relevant details such as Start time, End time and Error if any.

**Table 18: EOD Task – Status Description**

| Status               | Description  |
|----------------------|--|
| <b>Green</b>         | Task is completed  |
| <b>Yellow</b>        | Task is in progress  |
| <b>Red</b>           | Task failed due to some error.   |
| <b>Grey</b>          | Task is scheduled but not executed   |
| <b>Diamond Shape</b> | Task has reached a milestone stage where execution will be paused.<br>Right-click on milestone stage and select “Proceed” to resume batch execution. |

For more information on EOD stages, please refer to EOD Configurations Guide of the respective products.

## 2.6 Country Code

You can configure a country code.

This section contains following subsections:

- [2.6.1 Country Code Summary](#)
- [2.6.2 Country Code Maintenance](#)

### 2.6.1 Country Code Summary

The summary screen provides a list of configured country code. You can configure a country code using the [Country Code Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Country Code**.
2. Under **Country Code**, click **View Country Code**.

→ The **View Country Code** screen is displayed.

**Figure 12: View Country Code**

For more information on fields, refer to the field description table below.

**Table 19: View Country Code – Field Description**

| Field                   | Description  |
|-------------------------|--|
| <b>Country Code</b>     | Displays the country code details.                         |
| <b>Country Name</b>     | Displays the name of the country.                          |
| <b>ISO Numeric Code</b> | Displays the ISO numeric code details of the country code. |
| <b>Status</b>           | Displays the status of the record.                         |

## 2.6.2 Country Code Maintenance

The maintenance screen allows you to configure a country code. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Country Code**.
2. Under **Country Code**, click **Create Country Code**.

→ The **Create Country Code** screen is displayed.

**Figure 13: Create Country Code**

3. On **Create Country Code** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 20: Create Country Code – Field Description**

| Field                         | Description                         |
|-------------------------------|-------------------------------------|
| <b>Country Code</b>           | Specify the country code.           |
| <b>Country Name</b>           | Specify the name of the country.    |
| <b>Alternate Country Code</b> | Specify the alternate country code. |
| <b>Region Code</b>            | Specify the region code.            |
| <b>ISO Country Code</b>       | Specify the ISO country code.       |
| <b>ISO Code</b>               | Specify the ISO code.               |
| <b>Limit Currency</b>         | Specify the limit currency.         |
| <b>Overall Limit</b>          | Specify the overall limit.          |

| Field                      | Description   |
|----------------------------|---|
| <b>Blacklist</b>           | By default, this is disabled. If selected, indicates the country is blacklisted.  |
| <b>EU Member</b>           | By default, this is disabled. If selected, indicates the country is recognized by Swift as a part of the Intra European countries.  |
| <b>Generate 205</b>        | By default, this is disabled. If selected, indicates the cover message 205COV or 205 need to be generated for transactions involving this country. If you do not select this option, RTGS, 202 or 202COV message is generated.          |
| <b>IBAN Check Required</b> | By default, this is disabled. If selected, indicates check required for an IBAN is mandatory.   |
| <b>BIC Clearing Code</b>   | By default, this is disabled. If selected, indicates the National ID in the BIC plus file is the clearing code. During upload of clearing codes from BIC plus file, the records belong to countries against which this box is selected. |
| <b>Intra European</b>      | By default, this is disabled. If selected, indicates the country is an intra European country.  |

- Click **Save**. You can view the configured country code details in the [Country Code Summary](#).



## 2.7 Currency Definition

You can define the attributes of the currencies in which the bank can deal. For each currency, you can define attributes such as, the SWIFT code for the currency, the country the currency belongs to, the interest method, the spot days, the settlement days, and so on.

Currencies can be maintained only at the Head Office. The list of currencies are available to the branches based on the currencies defined for the country linked to the branch.

This section contains following subsections:

- [2.7.1 Currency Definition Summary](#)
- [2.7.2 Currency Definition Maintenance](#)

### 2.7.1 Currency Definition Summary

The summary screen provides a list of defined currency. You can define a currency using the [Currency Definition Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Definition**.
2. Under **Currency Definition**, click **View Currency Definition**.

→ The **View Currency Definition** screen is displayed.

**Figure 14: View Currency Definition**

For more information on fields, refer to the field description table below.

**Table 21: View Currency Definition – Field Description**

| Field                          | Description                                  |
|--------------------------------|--|
| <b>Currency Code</b>           | Displays the code of the currency.           |
| <b>Currency Name</b>           | Displays the name of the currency.           |
| <b>Alternate Currency Code</b> | Displays the code of the alternate currency. |

| Field               | Description  |
|---------------------|--|
| Country             | Displays the country associated with the currency. |
| Maintenance Country | Displays the maintenance country.                  |
| Status              | Displays the status of the record.                 |

## 2.7.2 Currency Definition Maintenance

The maintenance screen allows you to define currency. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Definition**.
2. Under **Currency Definition**, click **Create Currency Definition**.  
→ The **Create Currency Definition** screen is displayed.

**Figure 15: Create Currency Definition**

**Create Currency Definition**

Currency Code \*  Maintenance Country \*

Currency Name  Alternate Currency Code  Currency Type  ISO Numerical Currency Code

Currency Country \*  Currency Decimals \*  Currency Interest Method \*  Currency Spot Days \*

Foreign Exchange Netting Days  Settlement Message Days \*  Position GL  Position Equivalent GL

Currency Tolerance Limit  Index Base Currency  Commodity Code

**Cut Off Time**

Cut Off Days  Cut Off Hour \*  Cut Off Min \*  CLS Currency

Generate 103+  Index Flag  Euro Conversion Required  New Cover Message Format Required

Validate Tag-50F

**Rounding**

Currency Round Rule \*  Currency Round Unit

**Currency Format Mask**

Currency Format Mask  
☐ XXXX.XXX.XXX.XXX  
☐ XXXX.XXX.XXX.XXX

**Euro Type**

Currency Euro Type  
☐ EURO Currency  
☐ In Currency  
☐ Out Currency  
☐ EUTO Closed

**Auto Exchange Rate**

Credit Auto Exchange Rate Limit  Debit Auto Exchange Rate Limit

**Currency Country Mapping**

| <input type="checkbox"/> | Country code | Country Name | Currency Code |
|--------------------------|--------------|--------------|---------------|
| No data to display.      |              |              |               |

Page 1 (0 of 0 items) < 1 >

3. On **Create Currency Definition** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 22: Create Currency Definition – Field Description**

| Field                              | Description   |
|------------------------------------|---|
| <b>Currency Code</b>               | Specify the currency code.  |
| <b>Maintenance Country</b>         | Search and select the required maintenance country.                             |
| <b>Currency Name</b>               | Specify the name of the currency.   |
| <b>Alternate Currency Code</b>     | Specify the code of the alternate currency.                                     |
| <b>Currency Type</b>               | Specify the currency type.  |
| <b>ISO Numerical Currency Code</b> | Specify the International Standardization Organization numerical currency code. |
| <b>Currency Country</b>            | Search and select the required currency country.                                |

| Field                                | Description   |
|--------------------------------------|---|
| <b>Currency Decimals</b>             | Select the currency decimals.   |
| <b>Currency Interest Method</b>      | Select the currency interest method from the drop-down list.  |
| <b>Currency Spot Days</b>            | Select the number of spot working days applicable for the currency.   |
| <b>Foreign Exchange Netting Days</b> | Select the number of days for the foreign exchange netting.   |
| <b>Settlement Message Days</b>       | Select the settlement message days.   |
| <b>Position GL</b>                   | Search and select the required position GL.   |
| <b>Position Equivalent GL</b>        | Search and select the required position equivalent GL.  |
| <b>Currency Tolerance Limit</b>      | Specify the currency tolerance limit.   |
| <b>Index Base Currency</b>           | Search and select the required index base currency.   |
| <b>Commodity Code</b>                | By default, this is disabled. If selected, enables a commodity code.  |
| <b>Cut Off Time</b>                  | Specify the cut off time details.   |
| <b>Cut Off Days</b>                  | Select the cut off days for the payment transaction involving the currency.   |
| <b>Cut Off Hour</b>                  | Select the hour of the day for the cut off.   |
| <b>Cut Off Min</b>                   | Select the minute of the hour for the cut off.  |
| <b>CLS Currency</b>                  | By default, this is disabled. If selected, allow customers of your bank to settle their FX deals via the CLS (Continuous Linked Settlements) Bank, you can identify the currency to be a CLS Currency. FX deals in the CLS currency is only eligible to be routed through the CLS bank. |
| <b>Generate 103+</b>                 | By default, this is disabled. If selected, generate outgoing MT 103 messages in the MT 103 + format.  |
| <b>Index Flag</b>                    | By default, this is disabled. If selected, derives index rate of the currency.  |

| Field                                    | Description  |
|--|--|
| <b>Euro Conversion Required</b>          | By default, this is disabled. If selected, indicates the Euro conversion is required.  |
| <b>New Cover Message Format Required</b> | By default, this is disabled. If selected, indicates a new cover message format is required.   |
| <b>Validate Tag-50F</b>                  | By default, this is disabled. If selected, indicates validations must be performed for the 50F details captured for the ordering customer during contract input. |
| <b>Rounding</b>                          | Specify the Rounding details of currency.  |
| <b>Currency Round Rule</b>               | Select the currency round rule from the dropdown list.   |
| <b>Currency Round Unit</b>               | Select the currency round unit.  |
| <b>Currency Format Mask</b>              | Specify the currency format mask details.  |
| <b>Currency Format Mask</b>              | Select one of the currency format.   |
| <b>Euro Type</b>                         | Specify the Euro Type details.   |
| <b>Currency Euro Type</b>                | Select one of the currency Euro type.  |
| <b>Auto Exchange Rate</b>                | Specify the Auto exchange rate details.  |
| <b>Credit Auto Exchange Rate Limit</b>   | Specify the credit automatic exchange rate limit.  |
| <b>Debit Auto Exchange Rate Limit</b>    | Specify the debit automatic exchange rate limit.   |
| <b>Currency Country Mapping</b>          | Specify the currency country mapping details.  |
| <b>Country Code</b>                      | Search and select the required country code.   |
| <b>Country Name</b>                      | Specify the name of the country.   |
| <b>Currency Code</b>                     | Search and select the required currency code.  |

**Cut Off Time**

Refers to the time by which all transactions involving a currency should be generated. For a currency, you can indicate the cut-off hour and minute. This time should be expressed in the local time of the bank.

The maintenance of a cut-off time for a currency has particular reference to outgoing funds transfers involving it.

Example: The value date of a funds transfer transaction (incoming payment) involving USD, is 3rd June 2018. The number of cut-off days specified for the currency is 2. This means that the payment must be received on or before 1st June 2018. If the payment is received on 1st June, it must be received before the cut-off time specified for USD.

If the USD cut-off time is 1200 hrs, if the payment is received on 1st June 2018, it must be received before 1200 hrs.

4. Click **Save**. You can view the defined currency in the [Currency Definition Summary](#).

## 2.8 Currency Exchange Rate

You can maintain exchange rates for a currency pair, the rates at which you buy and sell one currency for another. A bank determines its buy and sell rate for a currency pair by applying a spread (that is, its profit margin) to the mid-rate of the currency pair. Mid-rate is the basic rate at which a currency pair is exchanged.

The spread applied for a currency pair varies with the transaction type, while the mid-rate usually remains constant. Consequently, different rates are applicable to different transaction types. For instance dollars in currency are purchased at a certain rate, while USD traveler's checks are bought at a different rate. You can define a rate type which you would like to associate with a transaction type example: CASH, TRAVCHKS, and so on.

You can define the mid-rate, buy and sell spread applicable to each rate type; the buy and sell exchange rates are computed by the system. Buy rates and sell rates can either be maintained by individual branches or can be input by the HO and propagated to all the branches.

If the branch for which the rate is being uploaded or maintained is the head office branch, then the rate would be copied to all those branches that have the same country code as the head office branch.

If the branch for which the rate is being uploaded or maintained is not the head office branch, but it has the same country code as the head office branch, then the rate being uploaded or maintained would be specific to the branch and would not be copied to any other branch.

If the branch for which the rate is being uploaded or maintained is not the head office branch and also does not have the same country code as the head office branch, then the rate being maintained would be copied to all the branches that has the same country code linked as the branch for which the rate is being maintained or uploaded.

This section contains following subsections:

- [2.8.1 Currency Exchange Rate Summary](#)
- [2.8.2 Currency Exchange Rate Maintenance](#)

### 2.8.1 Currency Exchange Rate Summary

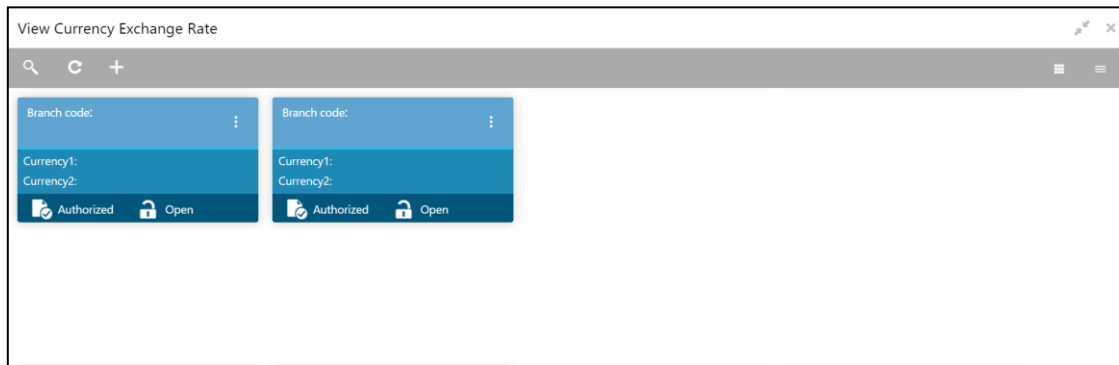
The summary screen provides a list of configured currency exchange rates. You can configure a currency exchange rate using the [Currency Exchange Rate Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Exchange Rate**.

2. Under **Currency Exchange Rate**, click **View Currency Exchange Rate**.

→ The **View Currency Exchange Rate** screen is displayed.

**Figure 16: View Currency Exchange Rate**



For more information on fields, refer to the field description table below.

**Table 23: View Currency Exchange Rate – Field Description**

| Field               | Description   |
|---------------------|---|
| <b>Branch Code</b>  | Displays the code of the branch.                      |
| <b>Currency 1-2</b> | Displays the currency associated with the branch code |
| <b>Status</b>       | Displays the status of the record.                    |



## 2.8.2 Currency Exchange Rate Maintenance

The maintenance screen allows you to configure a currency exchange rate. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under Core Maintenance, click **Currency Exchange Rate**.
2. Under **Currency Exchange Rate**, click **Create Currency Exchange Rate**.

→ The **Create Currency Exchange Rate** screen is displayed.

**Figure 17: Create Currency Exchange Rate**

3. On Create Entity screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 24: Create Currency Exchange Rate – Field Description**

| Field                | Description                                 |
|----------------------|---|
| <b>Branch Code</b>   | Search and select the required branch code. |
| <b>Currency 1</b>    | Search and select the required currency.    |
| <b>Currency 2</b>    | Search and select the required currency.    |
| <b>Currency Rule</b> | Specify the currency rule details.          |
| <b>Rate Type</b>     | Select a rate type from the drop-down list. |
| <b>Buy Rate</b>      | Specify the buy rate details.               |
| <b>Buy Spread</b>    | Specify the buy spread details.             |
| <b>Mid Rate</b>      | Specify the mid-rate details.               |

| Field              | Description                                     |
|--------------------|---|
| <b>Sale Spread</b> | Specify the sale spread details.                |
| <b>Sale Rate</b>   | Specify the sale rate details.                  |
| <b>Rate Date</b>   | Select a rate date from the drop-down calendar. |

4. Click **Save**. You can view the configured currency exchange rate details in the [Currency Exchange Rate Summary](#).

## 2.9 Currency Holiday Master

You can configure a yearly list of holidays, for the currencies, defined in the currency screen. The system uses the information maintained to check if any settlement involving a foreign currency (in the foreign Exchange, Money market, and Funds Transfer, Loans and Deposit modules) falls on that currency's holiday. If yes, the system displays a message stating and ask the user for an override.

For any schedule or contract maturing at a future date, five years hence, you can input the future date, only if the calendar for that year is maintained. The currency holiday is maintained at the bank level by the Head Office.

This section contains following subsections:

- [2.9.1 Currency Holiday Master Summary](#)
- [2.9.2 Currency Holiday Master Maintenance](#)

### 2.9.1 Currency Holiday Master Summary

The summary screen provides a list of configured currency holiday. You can configure a currency holiday using the [Currency Holiday Master Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Holiday Master**.
2. Under **Currency Holiday Master**, click **View Currency Holiday Master**.

→ The **View Currency Holiday Master** screen is displayed.

**Figure 18: View Currency Holiday Master**

View Currency Holiday Master

Search Refresh Add

Currency: Weekly Holidays: Year: Authorized Open

Currency: Weekly Holidays: Year: Authorized Open

Page 1 of 1 (1 - 7 of 7 items) K < 1 > X

For more information on fields, refer to the field description table below.

**Table 25: View Currency Holiday Master – Field Description**

| Field                  | Description  |
|------------------------|--|
| <b>Currency</b>        | Displays the currency details.                             |
| <b>Weekly Holidays</b> | Displays the weekly holidays associated with the currency. |
| <b>Status</b>          | Displays the status of the record.                         |

## 2.9.2 Currency Holiday Master Maintenance

The maintenance screen allows you to configure a currency holiday. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Holiday Master**.
2. Under **Currency Holiday Master**, click **Create Currency Holiday Master**.

→ The **Create Currency Holiday Master** screen is displayed.

**Figure 19: Create Currency Holiday Master**

3. On **Create Currency Holiday Master** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 26: Create Currency Holiday Master – Field Description**

| Field                  | Description   |
|------------------------|---|
| <b>Currency</b>        | Search and select the required currency.                                  |
| <b>Year</b>            | Specify the year details.   |
| <b>Weekly Holidays</b> | By default, this is disabled. If selected, indicates the weekly holidays. |

4. Select the dates using the calendar. The selected dates appear in blue highlighted circle.
5. Click **Save**. You can view the configured currency holidays in the Currency Holiday Master Summary.

## 2.10 Currency Pair Definition

In the foreign exchange markets, the exchange rates for some currency pairs such as the USD-GBP or USD-JPY are easily obtainable, since these are frequently traded. The exchange rates of other currencies such as the ZAR-INR (South African Rand - Indian Rupee), which is not traded very often, is determined through a third currency. The third currency is usually the US dollar, since the US dollar is quoted in all trading centers.

You can define the static attributes of currency pairs for which a regular market quote is readily available. For other pairs, which do not have a regular market quote, you need to specify the third currency through which the system should compute the exchange rate. The currency pair is maintained at the bank level by the Head Office branch.

This section contains following subsections:

- [2.10.1 Currency Pair Definition Summary](#)
- [2.10.2 Currency Pair Definition Maintenance](#)

### 2.10.1 Currency Pair Definition Summary

The summary screen provides a list of define a currency pair. You can define a currency pair using the [Currency Pair Definition Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Pair Definition**.
2. Under **Currency Pair Definition**, click **View Currency Pair Definition**.

→ The **View Currency Pair Definition** screen is displayed.

**Figure 20: View Currency Pair Definition**

The screenshot shows the 'View Currency Pair Definition' window. It has a title bar with search, refresh, and add icons. The main content area contains two identical panels. Each panel has a 'Maintenance Country' field with a dropdown arrow, followed by 'Number of Units', 'Currency 1', and 'Currency 2' fields. At the bottom of each panel are 'Authorized' and 'Open' buttons, each with a lock icon.

For more information on fields, refer to the field description table below.

**Table 27: View Currency Pair Definition – Field Description**

| Field                      | Description  |
|----------------------------|--|
| <b>Maintenance Country</b> | Displays the maintenance country details.          |
| <b>Number of Units</b>     | Displays the number of units.                      |
| <b>Currency 1-2</b>        | Displays the currency associated with the country. |
| <b>Status</b>              | Displays the status of the record.                 |

## 2.10.2 Currency Pair Definition Maintenance

The maintenance screen allows you to define currency pair. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Pair Definition**.
2. Under **Currency Pair Definition**, click **Create Currency Pair Definition**.

→ The **Create Currency Pair Definition** screen is displayed.

**Figure 21: Create Currency Pair Definition**

3. On **Create Currency Pair Definition** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 28: Create Currency Pair Definition – Field Description**

| Field                         | Description   |
|-------------------------------|---|
| <b>Currency 1-2</b>           | <p>Search and select the required currency. A currency pair (specified as currency 1 and currency 2, in the currency pair) represents the two currencies for which you need to maintain exchange rates.</p> <p>To specify the pair, choose from the list provided against Currency 1. Select the pair for which you want to maintain parameters. The pair must be selected according to the quotation method followed by the market, which can be direct or indirect. Exchange rates can be defined for currency 1 against currency 2 or currency 2 against currency 1.</p> |
| <b>Maintenance Country</b>    | Search and select the required maintenance country.   |
| <b>Check through Currency</b> | By default, this is disabled. If selected, indicates a check through currency.  |
| <b>Through Currency</b>       | Search and select the required through currency for which the exchange rate between the currencies must be calculated.  |
| <b>Number of Units</b>        | Select one of the number of units.  |
| <b>Points Multiplier</b>      | Select the points multiplier.   |
| <b>Quotation</b>              | <p>Select one of the required quotation:</p> <ul style="list-style-type: none"> <li>Direct method the exchange rate for the currency pair is quoted as follows: Buy rate = mid rate - buy spread<br/> Sell rate = mid rate + sell spread<br/> Ccy 1 = Rate x Ccy 2</li> <li>Indirect method the exchange rate for the currency pair is quoted as follows: Buy rate = mid rate + buy spread<br/> Sell rate = mid rate - sell spread<br/> Ccy 2 = Rate x Ccy 1</li> </ul>   |
| <b>Spread Definition</b>      | <p>Select one spread definition. The effective spread can be calculated using any of the following two methods:</p> <ul style="list-style-type: none"> <li>Percentage: Spread/100 x mid rate</li> <li>Points: Spread x points multiplier</li> </ul>   |

| Field | Description   |
|-------|---|
|       | <p>The method of spread definition that you specify applies to two instances:</p> <ul style="list-style-type: none"> <li>• While maintaining exchange rates for the currency pair</li> <li>• While maintaining customer spread for the currency pair</li> </ul> |

4. Click **Save**. You can view the defined currency pair details in the [Currency Pair Definition Summary](#).

## 2.11 Currency Rate Type

You can configure a currency rate type.

This section contains following subsections:

- [2.11.1 Currency Rate Type Summary](#)
- [2.11.2 Currency Rate Type Maintenance](#)

### 2.11.1 Currency Rate Type Summary

The summary screen provides a list of configured currency rate type. You can configure a currency rate type using the [Currency Rate Type Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Rate Type**.
2. Under **Currency Rate Type**, click **View Currency Rate Type**.

→ The **View Currency Rate Type** screen is displayed.

**Figure 22: View Currency Rate Type**

For more information on fields, refer to the field description table below.

**Table 29: View Currency Rate Type – Field Description**

| Field                     | Description   |
|---------------------------|---|
| <b>Currency Rate Type</b> | Displays the currency rate type.                              |
| <b>Description</b>        | Displays additional information about the currency rate type. |



|               |                                    |
|---------------|------------------------------------|
| <b>Status</b> | Displays the status of the record. |
|---------------|------------------------------------|

## 2.11.2 Currency Rate Type Maintenance

The maintenance screen allows you to configure currency rate type. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Currency Rate Type**.
2. Under **Currency Rate Type**, click **Create Currency Rate Type**.

→ The **Create Currency Rate Type** screen is displayed.

**Figure 23: Create Currency Rate Type**

3. On **Create Currency Rate Type** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 30: Create Currency Rate Type – Field Description**

| Field                                 | Description  |
|---------------------------------------|--|
| <b>Currency Rate Type</b>             | Specify the currency rate type.                              |
| <b>Currency Rate Type Description</b> | Specify additional information about the currency rate type. |

4. Click **Save**. You can view the configured currency rate type details in the [Currency Rate Type Summary](#).

## 2.12 Customer Access Group

You can configure a customer access group.

This section contains following subsections:

- [2.12.1 Customer Access Group Summary](#)
- [2.12.2 Customer Access Group Maintenance](#)

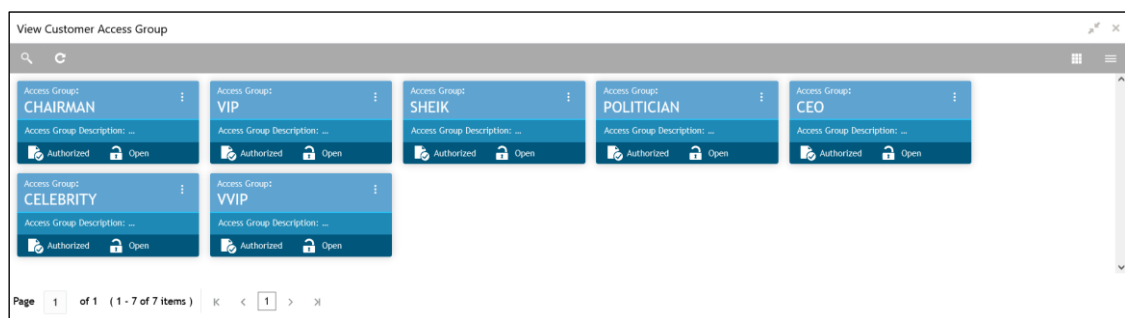
### 2.12.1 Customer Access Group Summary

The summary screen provides a list of configured customer access group. You can configure a customer access group using the [Customer Access Group Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Customer Access Group**.
2. Under **Customer Access Group**, click **View Customer Access Group**.

→ The **View Customer Access Group** screen is displayed.

**Figure 24: View Customer Access Group**



For more information on fields, refer to the field description table below.

**Table 31: View Customer Access Group – Field Description**

| Field                           | Description  |
|---------------------------------|--|
| <b>Access Group</b>             | Displays the access group.                                       |
| <b>Access Group Description</b> | Displays additional information about the customer access group. |
| <b>Status</b>                   | Displays the status of the record.                               |

## 2.12.2 Customer Access Group Maintenance

The maintenance screen allows you to configure a customer access group. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Customer Access Group**.
2. Under **Customer Access Group**, click **Create Customer Access Group**.

→ The **Create Customer Access Group** screen is displayed.

**Figure 25: Create Customer Access Group**

3. On **Create Customer Access Group** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 32: Create Customer Access Group – Field Description**

| Field                           | Description  |
|---------------------------------|--|
| <b>Access Group</b>             | Specify the access group.                                  |
| <b>Access Group Description</b> | Specify the additional information about the access group. |

4. Click **Save**. You can view the configured customer access group details in the Customer Access Group Summary.

**NOTE:** Customer Access Group can be linked at the user level to restrict unauthorized access to Customer details. Refer **Oracle Banking Security Management System User Guide** for more details.

## 2.13 Customer Category

You can configure a customer category.

This section contains following subsections:

- [2.13.1 Customer Category Summary](#)
- [2.13.2 Customer Category Maintenance](#)

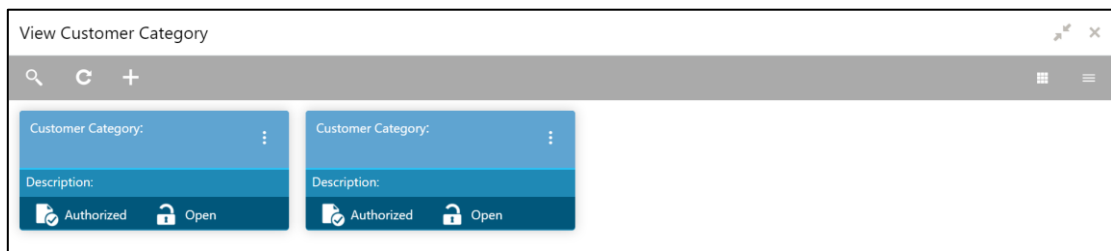
### 2.13.1 Customer Category Summary

The summary screen provides a list of configured customer category. You can configure a customer category using the [Customer Category Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Customer Category**.
2. Under **Customer Category**, click **View Customer Category**.

→ The **View Customer Category** screen is displayed.

**Figure 26: View Customer Category**



For more information on fields, refer to the field description table below.

**Table 33: View Customer Category – Field Description**

| Field                    | Description  |
|--------------------------|--|
| <b>Customer Category</b> | Displays the customer category.                              |
| <b>Description</b>       | Displays additional information about the customer category. |
| <b>Status</b>            | Displays the status of the record.                           |

## 2.13.2 Customer Category Maintenance

The maintenance screen allows you to configure a customer category. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Customer Category**.
2. Under **Customer Category**, click **Create Customer Category**.

→ The **Create Customer Category** screen is displayed.

**Figure 27: Create Customer Category**

3. On **Create Customer Category** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 34: Create Customer Category – Field Description**

| Field                                | Description  |
|--------------------------------------|--|
| <b>Customer Category</b>             | Specify the customer category.                                   |
| <b>Customer Category Description</b> | Specify the additional information about the customer category.  |
| <b>Populate Changes</b>              | By default, this is disabled. If selected, displays the changes. |

4. Click **Save**. You can view the configured customer category details in the [Customer Category Summary](#).

## 2.14 ECA System

You can configure the External Credit Approval (ECA) system.

This section contains following subsections:

- [2.14.1 ECA System Summary](#)
- [2.14.2 ECA System Maintenance](#)

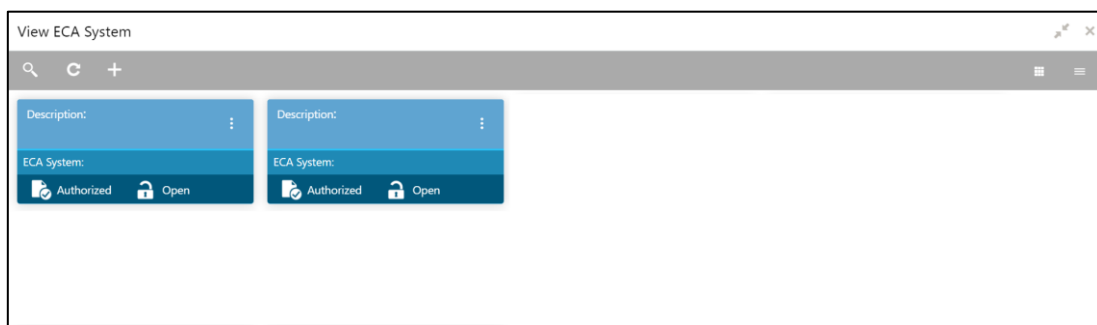
### 2.14.1 ECA System Summary

The summary screen provides a list of configured ECA system. You can configure the ECA system details using the ECA System Maintenance. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **ECA System**.
2. Under **ECA System**, click **View ECA System**.

→ The **View ECA System** screen is displayed.

**Figure 28: View ECA System**



For more information on fields, refer to the field description table below.

**Table 35: View ECA System – Field Description**

| Field              | Description  |
|--------------------|--|
| <b>Description</b> | Displays any additional information of the ECA system. |
| <b>ECA System</b>  | Displays the name of the ECA system.                   |
| <b>Status</b>      | Displays the status of the record.                     |

## 2.14.2 ECA System Maintenance

The maintenance screen allows you to configure ECA system details. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **ECA System**.
2. Under **ECA System**, click **Create ECA System**.

→ The **Create ECA System** screen is displayed.

**Figure 29: Create ECA System**

3. On **Create ECA System** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 36: Create ECA System – Field Description**

| Field                | Description  |
|----------------------|--|
| <b>Source System</b> | Specify the source system.                               |
| <b>Description</b>   | Specify the additional information about the ECA system. |

4. Click **Save**. You can view the configure ECA system details in the [ECA System Summary](#).

## 2.15 External Bank Parameters

You can configure bank level parameters.

This section contains following subsections:

- [2.15.1 External Bank Parameters Summary](#)
- [2.15.2 External Bank Parameters Maintenance](#)

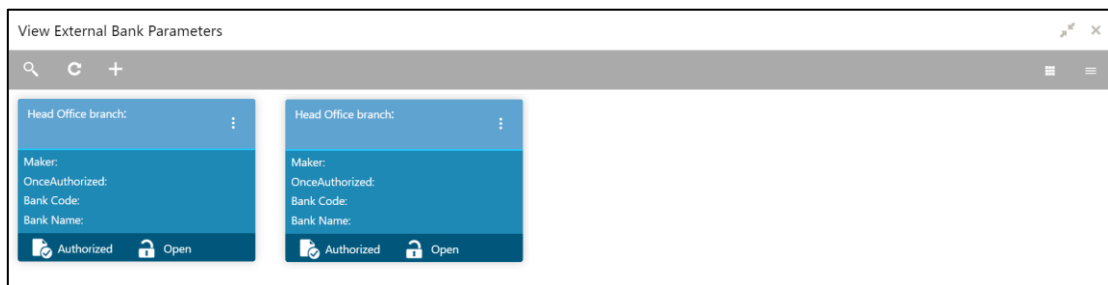
### 2.15.1 External Bank Parameters Summary

The summary screen provides a list of configured external bank parameters. You can configure the external bank parameters using the [External Bank Parameters Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Bank Parameters**.
2. Under **External Bank Parameters**, click **View External Bank Parameters**.

→ The **View External Bank Parameters** screen is displayed.

**Figure 30: View External Bank Parameters**



For more information on fields, refer to the field description table below.

**Table 37: View External Bank Parameters – Field Description**

| Field                     | Description  |
|---------------------------|--|
| <b>Head Office Branch</b> | Displays the head office branch details.                           |
| <b>Maker</b>              | Displays the name of the user who has configured the bank details. |
| <b>Once Authorized</b>    | Indicates if the record is authorized once or not.                 |
| <b>Bank Code</b>          | Displays the code of the bank.                                     |
| <b>Bank Name</b>          | Displays the name of the bank.                                     |
| <b>Status</b>             | Displays the status of the record.                                 |



## 2.15.2 External Bank Parameters Maintenance

The maintenance screen allows you to configure external bank parameters. The Bank Code will be auto-created for an entity when the entity is created. Please refer the **View External Bank Parameters** screen for the bank code created. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Bank Parameters**.
2. Under **External Bank Parameters**, click **Create External Bank Parameters**.

→ The **Create External Bank Parameters** screen is displayed.

**Figure 31: Create External Bank Parameters**

3. On **Create External Bank Parameters** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 38: Create External Bank Parameters – Field Description**

| Field                                    | Description  |
|--|--|
| <b>Bank Code</b>                         | Specify the code for the bank.   |
| <b>Bank Name</b>                         | Specify the name of the bank.  |
| <b>Head Office Branch</b>                | Search and select the required head office branch.                           |
| <b>Branch Description</b>                | Based on the Head Office Branch selected, the information is auto-populated. |
| <b>Number of Days to Forget Customer</b> | Specify the number of days to inactive/forget the customer.                  |

4. Click **Save**. You can view the configure core bank parameter details in the [External Bank Parameters Summary](#).

## 2.16 External Branch Parameters

You can configure branch level parameters.

This section contains following subsections:

- [2.16.1 External Branch Parameters Summary](#)
- [2.16.2 External Branch Parameters Maintenance](#)

### 2.16.1 External Branch Parameters Summary

The summary screen provides a list of configured external branch parameters. You can configure the external branch parameters using the [External Branch Parameters Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Branch Parameters**.
2. Under **External Branch Parameters**, click **View External Branch Parameters**.

→ The **View External Branch Parameters** screen is displayed.

**Figure 32: View External Branch Parameters**

The screenshot shows a web application window titled "View External Branch Parameters". The window has a search bar and navigation icons at the top. Below the search bar, there are two side-by-side panels. Each panel contains the following fields: "Branch Code:", "Branch Name:", "Local Currency:", and "Source Branch Code:". Below these fields, there are two buttons: "Authorized" (with a lock icon) and "Open" (with an open lock icon).

For more information on fields, refer to the field description table below.

**Table 39: View External Branch Parameters – Field Description**

| Field                     | Description   |
|---------------------------|---|
| <b>Branch Code</b>        | Displays the code of the branch associated with the bank. |
| <b>Branch Name</b>        | Displays the name of the branch associated with the bank. |
| <b>Local Currency</b>     | Displays the local currency details.                      |
| <b>Source Branch Code</b> | Displays the code of the source branch.                   |
| <b>Status</b>             | Displays the status of the record.                        |

**NOTE:** The Branch Parameters for the Head Office (HO) Branch of the entity will get auto-created when the entity is defined in the Multi-Entity Maintenance. Further changes/configuration of the HO Branch can be performed by modifying the record for the HO Branch's Parameters

## 2.16.2 External Branch Parameters Maintenance

The maintenance screen allows you to configure the branch parameters. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Branch Parameters**.
2. Under **External Branch Parameters**, click **Create External Branch Parameters**.

→ The **Create External Branch Parameters** screen is displayed.

**Figure 33: Create External Branch Parameters**

- On **Create External Branch Parameters** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 40: Create External Branch Parameters – Field Description**

| Field                     | Description   |
|---------------------------|---|
| <b>Branch Details</b>     | Specify the branch details.   |
| <b>Branch Code</b>        | Specify a branch code.  |
| <b>Branch Name</b>        | Specify a name for the branch.                                      |
| <b>Local Currency</b>     | Search and select the required local currency.                      |
| <b>Source System</b>      | Search and select the required source system.                       |
| <b>Source Branch Code</b> | Specify a source branch code.                                       |
| <b>Branch Address</b>     | Specify the branch address details.                                 |
| <b>Address Line 1-3</b>   | Specify the address details.  |
| <b>Other Details</b>      | Specify the other details.  |
| <b>Host Code</b>          | Search and select the required host code.                           |
| <b>Country Code</b>       | Based on the Host Code selected, the information is auto-populated. |
| <b>Host Name</b>          | Specify the name for the host.                                      |

| Field                     | Description   |
|---------------------------|---|
| <b>Walk-in Customer</b>   | Search and select the required walk-in customer.  |
| <b>Weekly Holiday 1-2</b> | <p>Select a weekly holiday from the dropdown list.</p> <p><b>Note</b><br/>There are two days of weekly holiday depending on the geographical zone.</p> <ul style="list-style-type: none"> <li>• Auto Authorization: By default, it is disabled. If selected, the record is automatically authorized.</li> <li>• Report DSN: Specify the details of the report DSN.</li> </ul> |
| <b>Swift Address</b>      | Specify the swift address details.  |
| <b>SWIFT Address</b>      | Search and select the required SWIFT address.   |
| <b>Default BIC</b>        | If selected, indicates the selected SWIFT address as the default BIC.   |

4. Click **Save**. You can view the configure branch parameter details in the [External Branch Parameters Summary](#).

## 2.17 External Chart Account

You can configure an external chart.

This section contains following subsections:

- [2.17.1 External Chart Account Summary](#)
- [2.17.2 External Chart Account Maintenance](#)

### 2.17.1 External Chart Account Summary

The summary screen provides a list of configured external chart accounts. You can configure an external chart account using the [External Chart Account Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Chart Account**.
2. Under **External Chart Account**, click **View External Chart Account**.

→ The **View External Chart Account** screen is displayed.

**Figure 34: View External Chart Account**

For more information on fields, refer to the field description table below.

**Table 41: View External Chart Account – Field Description**

| Field                        | Description                                |
|------------------------------|--|
| <b>General Ledger Code</b>   | Displays the code of the general ledger.   |
| <b>Source System</b>         | Displays the source system.                |
| <b>Source System GL Code</b> | Displays the GL code of the source system. |
| <b>Status</b>                | Displays the status of the record.         |

## 2.17.2 External Chart Account Maintenance

The maintenance screen allows you to configure external chart accounts. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Chart Account**.
2. Under **External Chart Account**, click **Create External Chart Account**.

→ The **Create External Chart Account** screen is displayed.

**Figure 35: Create External Chart Account**

3. On **Create External Chart Account** screen, specify the fields. For more information on fields, refer to the field description table below.

**Table 42: Create External Chart Account – Field Description**

| Field                             | Description   |
|-----------------------------------|---|
| <b>General Ledger Code</b>        | Specify the general ledger code.  |
| <b>General Ledger Description</b> | Specify the additional information about the general ledger.                                |
| <b>Source System</b>              | Search and select the required source system.   |
| <b>Source System GL Code</b>      | Specify the source system GL code.  |
| <b>Category</b>                   | Select the category from the drop-down list.  |
| <b>Blocked</b>                    | By default, this is disabled. If selected, indicates the external chart account is blocked. |

4. Click **Save**. You can view the configured external chart details in the [External Chart Account Summary](#).

## 2.18 External Customer

You can configure the external customer details.

This section contains following subsections:

- [2.18.1 External Customer Summary](#)
- [2.18.2 External Customer Maintenance](#)

### 2.18.1 External Customer Summary

The summary screen provides a list of configured external customer details. You can configure the external customers using the [External Customer Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Customer**.
2. Under **External Customer**, click **View External Customer**.

→ The **View External Customer** screen is displayed.

**Figure 36: View External Customer**

The screenshot shows the 'View External Customer' interface. It features a header bar with search, refresh, and add icons. Below the header, there are two identical panels. Each panel contains a list of fields: 'Customer Name', 'Source System', 'Customer Type', 'Customer Number', and 'Source Customer ID'. At the bottom of each panel, there are two buttons: 'Authorized' and 'Open'.

For more information on fields, refer to the field description table below.

**Table 43: View External Customer – Field Description**

| Field                     | Description   |
|---------------------------|---|
| <b>Customer Name</b>      | Displays the name of the customer.  |
| <b>Source System</b>      | Displays the source system details.                                       |
| <b>Customer Type</b>      | Displays the type of the customer.  |
| <b>Customer Number</b>    | Displays the customer number associated with the customer name.           |
| <b>Source Customer ID</b> | Displays the source of the customer ID associated with the customer name. |
| <b>Status</b>             | Displays the status of the record.  |



## 2.18.2 External Customer Maintenance

The maintenance screen allows you to configure the external customer details. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Customer**.
2. Under **External Customer**, click **Create External Customer**.

→ The **Create External Customer** screen is displayed.

**Figure 37: Create External Customer**

3. On **Create External Customer** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 44: Create External Customer – Field Description**

| Field                   | Description                              |
|-------------------------|--|
| <b>Customer Details</b> | Specify the customer details.            |
| <b>Customer Number</b>  | Specify the number for the customer.     |
| <b>Customer Name</b>    | Specify the name for the customer.       |
| <b>Short Name</b>       | Specify the short name for the customer. |

| Field                          | Description   |
|--------------------------------|---|
| <b>Customer Type</b>           | Select one of the options: <ul style="list-style-type: none"> <li>Individual: If selected, the customer is an individual customer.</li> <li>Corporate: If selected, the customer is a corporate customer.</li> <li>Bank: If selected, the customer is a bank employee.</li> </ul> |
| <b>Source Customer ID</b>      | Specify the source customer ID.   |
| <b>Source System</b>           | Search and select the required source system.   |
| <b>Customer Category</b>       | Search and select the required customer category.   |
| <b>Relationship Manager ID</b> | Specify the relationship manager ID.  |
| <b>Access Group</b>            | Search and select the required access group.  |
| <b>Address</b>                 | Specify the address details.  |
| <b>Address Line 1-4</b>        | Specify the customer address details.   |
| <b>Country</b>                 | Search and select the required country.   |
| <b>Other Details</b>           | Specify the other details.  |
| <b>Postal Code</b>             | Specify the postal code details.  |
| <b>Deceased</b>                | By default, this is disabled. If selected, indicates the customer is deceased.  |
| <b>Frozen</b>                  | By default, this is disabled. If selected, indicates the customer account is frozen.  |
| <b>Whereabouts Unknown</b>     | By default, this is disabled. If selected, indicates the customer's whereabouts are unknown.  |
| <b>Sanction Check Required</b> | By default, this is disabled. If selected, indicates the sanction check is required.  |
| <b>Walk-in Customer</b>        | By default, this is disabled. If selected, indicates a walk-in customer.  |
| <b>Staff</b>                   | By default, this is disabled. If selected, indicates a staff customer.  |

| Field       | Description                                 |
|-------------|---|
| Language    | Search and select the required language.    |
| Nationality | Search and select the required nationality. |

- Click **Save**. You can view the configured external customer details in the [External Customer Summary](#). In addition, the external customers can be directly replicated from the host system using service API.

## 2.19 External Customer Account

You can configure the external customer account details.

This section contains following subsections:

- [2.19.1 External Customer Account Summary](#)
- [2.19.2 External Customer Account Maintenance](#)

### 2.19.1 External Customer Account Summary

The summary screen provides a list of configured external customer accounts. You can configure the external customer accounts using the [External Customer Account Maintenance](#). To process this screen, perform the following steps:

- From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Customer Account**.
- Under **External Customer Account**, click **View External Customer Account**.

→ The **View External Customer Account** screen is displayed.

**Figure 38: View External Customer Account**

For more information on fields, refer to the field description table below.

**Table 45: View External Customer Account – Field Description**

| Field                          | Description  |
|--------------------------------|--|
| <b>Customer Number</b>         | Displays the customer number associated with the account name.         |
| <b>Customer Account Number</b> | Displays the customer account number associated with the account name. |
| <b>Account Name</b>            | Displays the name of the account.                                      |
| <b>Status</b>                  | Displays the status of the record.                                     |

## 2.19.2 External Customer Account Maintenance

The maintenance screen allows you to configure external customer account details. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Customer Account**.
2. Under **External Customer Account**, click **Create External Customer Account**.

→ The **Create External Customer Account** screen is displayed.

**Figure 39: Create External Customer Account**

3. On **Create External Customer Account** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 46: Create External Customer Account – Field Description**

| <b>Field</b>                   | <b>Description</b>  |
|--------------------------------|---|
| <b>Account Details</b>         | Specify the account details.  |
| <b>Customer Account Number</b> | Specify the customer account number.  |
| <b>Account Name</b>            | Specify the name for an account.  |
| <b>Customer Number</b>         | Search and select the required customer number.   |
| <b>Customer Name</b>           | Based on the Customer Number selected, the information is auto-populated.                           |
| <b>Account Currency</b>        | Search and select the required account currency.  |
| <b>Account Class</b>           | Select the account class from the drop-down list.   |
| <b>Source Account Branch</b>   | Search and select the required source account branch.   |
| <b>Source Customer Account</b> | Based on the Source Account Branch selected, the information is auto- populated.                    |
| <b>Account IBAN</b>            | Specify the account IBAN details.   |
| <b>Address</b>                 | Specify the address details.  |
| <b>Address Line 1-4</b>        | Specify the address details.  |
| <b>Country</b>                 | Search and select the required country.   |
| <b>Other Details</b>           | Specify the other details.  |
| <b>No Credit</b>               | By default, this is disabled. If selected, indicates the account does not have any credit facility. |
| <b>No Debit</b>                | By default, this is disabled. If selected, indicates the account does not have any debit facility.  |
| <b>Blocked</b>                 | By default, this is disabled. If selected, indicates the account status is blocked.                 |
| <b>Frozen</b>                  | By default, this is disabled. If selected, indicates the account status is frozen.                  |

| Field                                    | Description   |
|--|---|
| <b>Dormant</b>                           | By default, this is disabled. If selected, indicates the account status is dormant.                           |
| <b>External Credit Approval Required</b> | By default, this is disabled. If selected, indicates ECA check is required for the external customer account. |
| <b>External Credit Approval System</b>   | Search and select the required external credit approval system.   |
| <b>Host Code</b>                         | Specify the host code details.  |
| <b>Account Open Date</b>                 | Select an effective date for the account from the dropdown calendar.  |

- Click **Save**. You can view the configured external customer account details in the [External Customer Account Summary](#). In addition, the external customer accounts can be directly replicated from the host system using service API.

## 2.20 External Customer Account Structured Address

You can configure the external customer account structured address details.

This section contains following subsections:

- [2.20.1 View External Customer Account Structured Address](#)
- [2.20.2 Create External Customer Account Structured Address](#)

### 2.20.1 View External Customer Account Structured Address

The summary screen provides a list of configured external customer account structured addresses.

You can configure the external customer account structured address using the [Create External Customer Account Structured Address](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Customer Account Structured Address**.
2. Under **External Customer Account Structured Address**, click **View External Customer Account Structured Address**.

→ The **View External Customer Account Structured Address** screen is displayed.

**Figure 40: View External Customer Account Structured Address**

For more information on fields, refer to the field description table below.

**Table 47: View External Customer Account Structured Address – Field Description**

| Field                  | Description                             |
|------------------------|---|
| <b>Customer Number</b> | Displays the customer number.           |
| <b>Town Name</b>       | Displays the town name of the customer. |
| <b>Country</b>         | Displays the country of the customer.   |

## 2.20.2 Create External Customer Account Structured Address

The maintenance screen allows you to configure external customer account structured address. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Customer Account Structured Address**.
2. Under **External Customer Account Structured Address**, click **Create External Customer Account Structured Address**.

→ The **Create External Customer Account Structured Address** screen is displayed.

**Figure 41: Create External Customer Account Structured Address**

3. On **Create External Customer Account Structured Address** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 48: Create External Customer Account Structured Address – Field Description**

| Field                     | Description                                      |
|---------------------------|--|
| <b>Account Details</b>    | Specify the account details.                     |
| <b>Customer Account</b>   | Search and select the required customer account. |
| <b>Account Name</b>       | Specify the name for an account.                 |
| <b>Structured Address</b> | Specify the structured address details.          |
| <b>Department</b>         | Specify the department.                          |
| <b>Sub Department</b>     | Search and select the required country.          |
| <b>Street Name</b>        | Specify the street name.                         |



| Field                       | Description                       |
|-----------------------------|-----------------------------------|
| <b>Building Number</b>      | Specify the building number.      |
| <b>Building Name</b>        | Specify the building name.        |
| <b>Floor</b>                | Specify the floor.                |
| <b>Post Box</b>             | Specify the post box details.     |
| <b>Room</b>                 | Specify the room number.          |
| <b>Post Code</b>            | Specify the post code.            |
| <b>Town Name</b>            | Specify the town name.            |
| <b>Town Location Name</b>   | Specify the town location name.   |
| <b>District Name</b>        | Specify the district name.        |
| <b>Country Sub Division</b> | Specify the country sub division. |
| <b>Country</b>              | Specify the country name.         |

4. Click **Save**. You can view the configured external customer structured address details in [View External Customer Account Structured Address](#).

## 2.21 External Virtual Account Structured Address

You can view the external virtual account structured address details.

This section contains following subsections:

- [2.21.1 View External Virtual Account Structured Address](#)

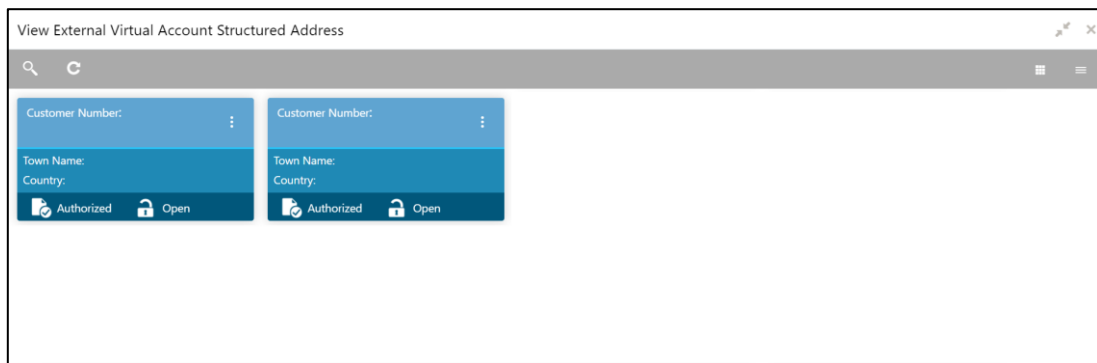
### 2.21.1 View External Virtual Account Structured Address

The summary screen provides a list of configured virtual account structured addresses. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **External Virtual Account Structured Address**.
2. Under **External Virtual Account Structured Address**, click **View External Virtual Account Structured Address**.

→ The **View External Virtual Account Structured Address** screen is displayed.

**Figure 42: View External Virtual Account Structured Address**



For more information on fields, refer to the field description table below.

**Table 49: View External Virtual Account Structured Address – Field Description**

| Field                  | Description                   |
|------------------------|-------------------------------|
| <b>Customer Number</b> | Displays the customer number. |
| <b>Town Name</b>       | Displays the town name.       |
| <b>Country</b>         | Displays the country name.    |

Click on the specific tile to view the structured address details.

## 2.22 Forget Process

The Personally identifiable information (PII) is any data that could potentially identify a specific individual. PII data access can be controlled based on the user role and you can configure details of a customer who wants to be forgotten if the customer withdraws/does not avail the virtual account facility.

This section contains following subsections:

- [2.22.1 Forgotten Customers Summary](#)
- [2.22.2 Forget Customer Maintenance](#)

### 2.22.1 Forgotten Customers Summary

The summary screen provides a list of configured customer to be forgotten. You can configure a customer detail who wants to be forgotten using the [Forget Customer Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Forget Process**.
2. Under **Forget Process**, click **View Forgotten Customer**.

→ The **View Forgotten Customer** screen is displayed.

**Figure 43: View Forgotten Customers**

For more information on fields, refer to the field description table below.

**Table 50: View Forgotten Customers – Field Description**

| Field               | Description  |
|---------------------|--|
| <b>Process Type</b> | Indicates if the process is initiated by the customer/bank                       |
| <b>Process ID</b>   | Displays the forgotten customer's process ID.                                    |
| <b>Maker</b>        | Displays the name of the user who has configured the forgotten customer details. |
| <b>Status</b>       | Displays the status of the record.   |

## 2.22.2 Forget Customer Maintenance

The maintenance screen allows you to configure a customer to be forgotten. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Forget Process**.
2. Under **Forget Process**, click **Forget Customer**.

→ The **Forget Customer** screen is displayed.

**Figure 44: Forget Customer**

3. On **Forget Customer** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 51: Forget Customer – Field Description**

| Field                               | Description  |
|-------------------------------------|--|
| <b>Forget Customer Process ID</b>   | Specify a forget customer process ID.  |
| <b>Forget Customer Process Type</b> | Select one of the options <ul style="list-style-type: none"> <li>• Customer Initiated: If selected, indicates the customer has initiated the process.</li> <li>• Bank Initiated: If selected, indicates the bank has initiated the process.</li> </ul> |

4. Click + to add a row and provide the customer/bank details.
5. Click **Save**. You can view the configured forgotten customers in the [Forgotten Customers Summary](#).

## 2.23 Host Code

You can group branches in the same zone or region under a host for specific processing. You can have multiple hosts depending on processing requirements.

This section contains following subsections:

- [2.23.1 Host Code Summary](#)
- [2.23.2 Host Code Maintenance](#)

### 2.23.1 Host Code Summary

The summary screen provides a list of configured host codes. You can configure the host code using the [Host Code Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Host Code**.
2. Under **Host Code**, click **View Host Code**.

→ The **View Host Code** screen is displayed.

**Figure 45: View Host Code**

For more information on fields, refer to the field description table below.

**Table 52: View Host Code – Field Description**

| Field                       | Description   |
|-----------------------------|---|
| <b>Default Branch Code</b>  | Displays the default branch code associated with the host code. |
| <b>Processing Time Zone</b> | Displays the processing time zone.                              |
| <b>Host Code</b>            | Displays the host code details.                                 |
| <b>Country Code</b>         | Displays the country code details.                              |
| <b>Status</b>               | Displays the status of the records.                             |

## 2.23.2 Host Code Maintenance

The maintenance screen allows you to configure host code. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Host Code**.
2. Under **Host Code**, click **Create Host Code**.

→ The **Create Host Code** screen is displayed.

**Figure 46: Create Host Code**

3. On **Create Host Code** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 53: Create Host Code – Field Description**

| Field                       | Description   |
|-----------------------------|---|
| <b>Host Code</b>            | Specify the host code details.                          |
| <b>Description</b>          | Specify the additional information about the host code. |
| <b>Country Code</b>         | Search and select the required country code.            |
| <b>Processing Time Zone</b> | Specify the processing time zone details.               |
| <b>Default Branch Code</b>  | Search and select the required default branch code.     |

4. Click **Save**. You can view the configured host code details in the [Host Code Summary](#).

## 2.24 Language Code

You can configure a language code.

This section contains following subsections:

- [2.24.1 Language Code Summary](#)
- [2.24.2 Language Code Maintenance](#)

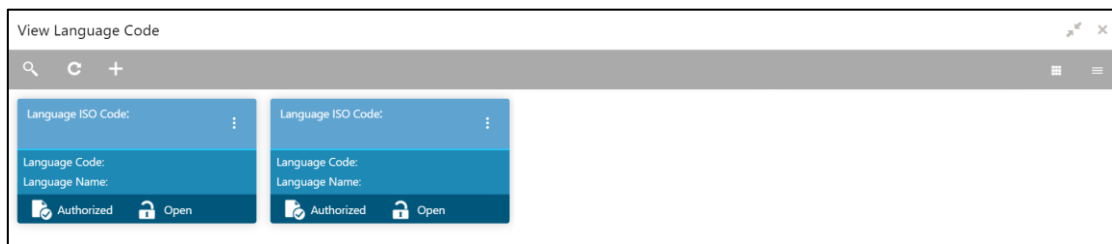
### 2.24.1 Language Code Summary

The summary screen provides a list of configured language code. You can configure a language code using the [Language Code Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, **Core Maintenance**. Under **Core Maintenance**, click **Language Code**.
2. Under **Language Code**, click **View Language Code**.

→ The **View Language Code** screen is displayed.

**Figure 47: View Language Code**



For more information on fields, refer to the field description table below.

**Table 54: View Language Code – Field Description**

| Field                    | Description   |
|--------------------------|---|
| <b>Language ISO Code</b> | Displays the default branch code associated with the host code. |
| <b>Language Code</b>     | Displays the processing time zone.                              |
| <b>Language Name</b>     | Displays the host code details.                                 |
| <b>Status</b>            | Displays the status of the records.                             |

## 2.24.2 Language Code Maintenance

The maintenance screen allows you to configure a language code. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Language Code**.
2. Under **Language Code**, click **Create Language Code**.

→ The **Create Language Code** screen is displayed.

**Figure 48: Create Language Code**

3. On **Create Language Code** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 55: Create Language Code – Field Description**

| Field                    | Description  |
|--------------------------|--|
| <b>Language Code</b>     | Specify the code for the language.                                   |
| <b>Language Name</b>     | Specify the name for the language associated with the language code. |
| <b>Display Direction</b> | Specify the display direction.                                       |
| <b>Language ISO Code</b> | Specify the language ISO code.                                       |

4. Click **Save**. You can view the configured language code details in the [Language Code Summary](#).



## 2.25 Local Holiday

You can configure a local holiday.

This section contains following subsections:

- [2.25.1 Local Holiday Summary](#)
- [2.25.2 Local Holidays Maintenance](#)

### 2.25.1 Local Holiday Summary

The summary screen provides a list of configured local holidays. You can configure a local holiday using the [Local Holidays Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Local Holiday**.
2. Under **Local Holiday**, click **View Local Holiday**.

→ The **View Local Holiday** screen is displayed.

**Figure 49: View Local Holiday**

For more information on fields, refer to the field description table below.

**Table 56: View Local Holiday – Field Description**

| Field                     | Description                                       |
|---------------------------|---|
| <b>Branch Code</b>        | Displays the code of the branch.                  |
| <b>Unexpected Holiday</b> | Indicates if the record is an unexpected holiday. |
| <b>Year</b>               | Displays the year of the holiday.                 |
| <b>Status</b>             | Displays the status of the record.                |

## 2.25.2 Local Holidays Maintenance

The maintenance screen allows you to configure local holidays. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Local Holiday**.
2. Under **Local Holiday**, click **Create Local Holiday**.

→ The **Create Local Holiday** screen is displayed.

**Figure 50: Create Local Holiday**

3. On **Create Local Holiday** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 57: Create Local Holiday – Field Description**

| Field                      | Description  |
|----------------------------|--|
| <b>Branch Code</b>         | Search and select the required branch code.                                    |
| <b>Year</b>                | Specify the year details.  |
| <b>Weekly Holidays</b>     | By default, this is disabled. If selected, you can define weekly holidays.     |
| <b>Unexpected Holidays</b> | By default, this is disabled. If selected, you can define unexpected holidays. |

4. Select the dates using the calendar. The selected dates appear in pink highlighted circle.
5. Click **Save**. You can view the configured local holiday details in the Local Holiday Summary.

## 2.26 Media

You can configure media information.

This section contains following subsections:

- [2.26.1 Media Summary](#)
- [2.26.2 Media Maintenance](#)

### 2.26.1 Media Summary

The summary screen provides a list of configured media. You can configure a media using the Media Maintenance. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Media**.
2. Under **Media**, click **View Media**.

→ The **View Media** screen is displayed.

**Figure 51: View Media**

For more information on fields, refer to the field description table below.

**Table 58: View Media – Field Description**

| Field               | Description                        |
|---------------------|------------------------------------|
| <b>Media</b>        | Displays the name of the media.    |
| <b>Media Number</b> | Displays the number of the media.  |
| <b>Status</b>       | Displays the status of the record. |

## 2.26.2 Media Maintenance

The maintenance screen allows you to configure media. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Media**.
2. Under **Media**, click **Create Media**.

→ The **Create Media** screen is displayed.

**Figure 52: Create Media**

3. On **Create Media** screen, specify the fields. The fields, which are marked with asterisk, are mandatory. For more information on fields, refer to the field description table below.

**Table 59: Create Media – Field Description**

| Field                     | Description   |
|---------------------------|---|
| <b>Media Code</b>         | Specify a unique media code to identify while associating with an advice.                                 |
| <b>Media Description</b>  | Specify additional information about the media.   |
| <b>Media Number</b>       | Specify a unique number for the media type.   |
| <b>Message Terminator</b> | Specify the padded characters to mark the end of an incoming messages.                                    |
| <b>Message Suffix</b>     | Specify the padding characters to mark the end of an outgoing messages.                                   |
| <b>Stop Process</b>       | By default, this option is disabled. If selected, halts the processing of incoming and outgoing messages. |

| Field                                 | Description  |
|---------------------------------------|--|
| <b>Padding Required</b>               | By default, this option is disabled. If selected, pads the characters in every outgoing messages.  |
| <b>TW (Test Word) Required Status</b> | By default, this option is disabled. If selected, enables the option for word testing.   |
| <b>Media Priority</b>                 | Select a media priority from the spin box. When a message is dispatched to the customers, the media type used for sending the messages will be the one that is on high priority. |
| <b>Number of Character</b>            | Select a number the padding characters should be repeated for the advice from the spin box.  |
| <b>Media Details</b>                  | Specify the media details.   |
| <b>Media Code</b>                     | Specify the unique media code to identify while associating with an advice.  |
| <b>Compatible Media</b>               | By default, this option is disabled. If selected, indicates the media is compatible.   |

- Click **Save**. You can view the configured media details in the [Media Summary](#).

## 2.27 Multi-Currency Account Linkage

The Multi-Currency Account (MCA) linkage enables the user to link the sub-accounts to a core multi-currency account. This section contains following subsections:

- [2.27.1 Create MCA Linkage](#)
- [2.27.2 View MCA Linkage](#)

### 2.27.1 Create MCA Linkage

This maintenance screen allows you to link the sub-accounts to a core multi-currency account. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Multi-Currency Account Linkage**.
2. Under **Multi-Currency Account Linkage**, click **Create MCA Linkage**.

→ The **Create MCA Linkage** screen is displayed.

**Figure 53: Create MCA Linkage**

On **Create MCA Linkage** screen, specify the fields. The fields, which are marked with asterisk, are mandatory. For more information on fields, refer to the field description table below.

**Table 60: Create MCA Linkage – Field Description**

| Field                            | Description  |
|----------------------------------|--|
| <b>Multi-Currency Account No</b> | Click search icon, and select the multi-currency account number from the list of values. |
| <b>Sub Accounts</b>              | Displays the details of the sub accounts.  |
| <b>Currency Code</b>             | Specify the currency code of the sub account.  |
| <b>Account Number</b>            | Specify the account number of the sub account.   |

| Field          | Description   |
|----------------|---|
| <b>Primary</b> | Select <b>Yes</b> , if the sub account is Primary. If it is not Primary, select <b>No</b> . |

- Click **Save**. You can view the configured sub-account details in the [View MCA Linkage](#).

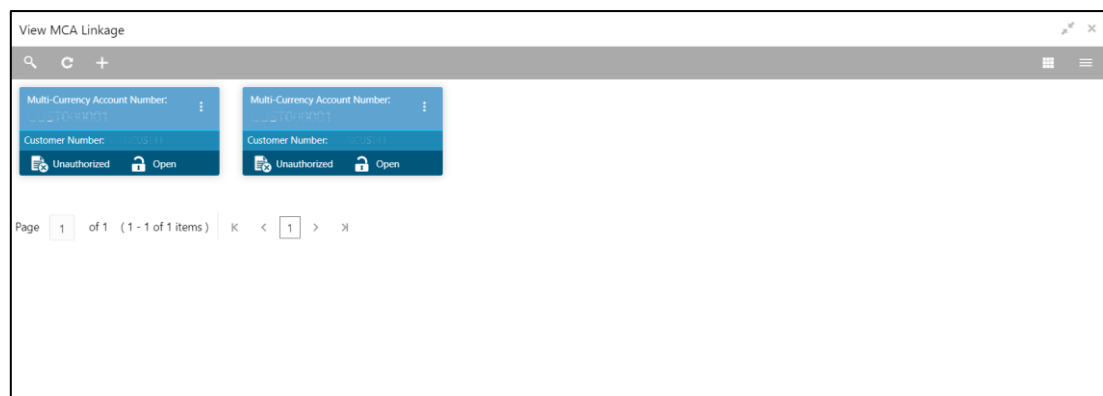
## 2.27.2 View MCA Linkage

This summary screen provides a list of configured sub-accounts to a core multi-currency account. To process this screen, perform the following steps:

- From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Multi-Currency Account Linkage**.
- Under **Multi-Currency Account Linkage**, click **View MCA Linkage**.

→ The **View MCA Linkage** screen is displayed.

**Figure 54: View MCA Linkage**



For more information on fields, refer to the field description table below.

**Table 61: View MCA Linkage – Field Description**

| Field                                | Description                                 |
|--------------------------------------|---|
| <b>Multi-Currency Account Number</b> | Displays the multi-currency account number. |
| <b>Customer Number</b>               | Displays the customer number.               |
| <b>Status</b>                        | Displays the status of the record.          |

## 2.28 Process Code

Process code enables the user to set the process code to the individual stages according to the process.

This section contains following subsections:

- [2.28.1 View Process Code](#)
- [2.28.2 Process Code Maintenance](#)

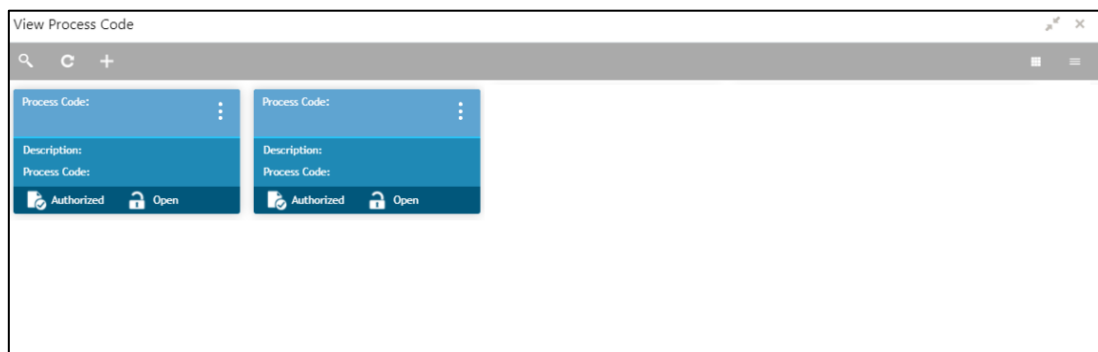
### 2.28.1 View Process Code

The summary screen provides a list of configured process codes. You can add a process code using the [Process Code Maintenance](#). To process this screen, perform the following steps:

3. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Process Code**.
4. Under **Process Code**, click **View Process Code**.

→ The **View Process Code** screen is displayed.

**Figure 55: View Process Code**



For more information on fields, refer to the field description table below.

**Table 62: View Process Code – Field Description**

| Field               | Description                               |
|---------------------|---|
| <b>Process Code</b> | Displays the process code.                |
| <b>Description</b>  | Displays the description of process code. |
| <b>Status</b>       | Displays the status of the record.        |



## 2.28.2 Process Code Maintenance

Process Code Maintenance screen allows you to define the stages for a particular process. The process code information that is defined in this screen will be used in further business processing to construct the stages. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Process Code**.  
→ The **Process Code** screen is displayed.

**Figure 56: Process Code**

2. On **Process Code** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 63: Process Code – Field Description**

| Field                    | Description   |
|--------------------------|---|
| <b>Process Code</b>      | Specify the code.   |
| <b>Process Name</b>      | Specify the process name.   |
| <b>Process Version</b>   | Specify the process version.  |
| <b>Domain</b>            | Specify the process domain.   |
| <b>Stage ID</b>          | Specify the unique stage ID.  |
| <b>Stage Description</b> | Specify the stage description.  |
| <b>Seq Order</b>         | Displays the sequential order of the stage in the entire process.               |
| <b>Source Stage</b>      | Select it to indicate if the specific stage is the source stage of the process. |

| Field                    | Description  |
|--------------------------|--|
| <b>Add Row</b>           | Click <b>Add Row</b> to add a row and to capture the stage details that needs to be mapped to the process code.                            |
| <b>Delete Row</b>        | Click <b>Delete Row</b> to delete an existing row with stage details.  |
| <b>Phase Code</b>        | Specify the phase code.  |
| <b>Phase Description</b> | Specify the phase description.   |
| <b>Seq Order</b>         | Displays the sequential order of the phase.  |
| <b>Stage ID</b>          | Select the stage ID from the drop down list. Available options in the drop-down will be based on Stage ID mentioned at Process Code level. |
| <b>Add Row</b>           | Click <b>Add Row</b> to add a row and to capture the phase details that needs to be mapped to the process code.                            |
| <b>Delete Row</b>        | Click <b>Delete Row</b> to delete an existing row with phase details.  |

- Click **Save**. You can view the configured process codes in the [View Process Code](#).

## 2.29 System Dates

You can view the system date details.

This section contains following subsections:

- [2.29.1 System Dates Summary](#)

### 2.29.1 System Dates Summary

The summary screen provides a list of configured system date. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **System Dates**.
2. Under **System Dates**, click **View System Dates**.

→ The **View System Dates** screen is displayed.

**Figure 57: View System Dates**

For more information on fields, refer to the field description table below.

**Table 64: View System Dates – Field Description**

| Field                       | Description                                  |
|-----------------------------|--|
| <b>Branch Code</b>          | Displays the code of the branch.             |
| <b>Today's Date</b>         | Displays system's current date.              |
| <b>Today's Date in Text</b> | Displays the system's current date in words. |
| <b>Status</b>               | Displays the status of the record.           |

**NOTE:** When the entity is created from the Multi-Entity Maintenances, the System Dates for the Head Office (HO) Branch would be automatically created

## 2.30 Transaction Code

You can configure the transaction code.

This section contains following subsections:

- [2.30.1 Transaction Code Summary](#)
- [2.30.2 Transaction Code Maintenance](#)

### 2.30.1 Transaction Code Summary

The summary screen provides a list of configured transaction code. You can configure a transaction code using the [Transaction Code Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Transaction Code**.
2. Under **Transaction Code**, click **View Transaction Code**.

→ The **View Transaction Code** screen is displayed.

**Figure 58: View Transaction Code**

For more information on fields, refer to the field description table below.

**Table 65: View Transaction Code – Field Description**

| Field                          | Description  |
|--------------------------------|--|
| <b>Source System</b>           | Displays the source system details.  |
| <b>Transaction Code</b>        | Displays the transaction code details.                                     |
| <b>Source Transaction Code</b> | Displays the source transaction code associated with the transaction code. |
| <b>Status</b>                  | Displays the status of the record,   |

## 2.30.2 Transaction Code Maintenance

The maintenance screen allows you to configure transaction code details. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Transaction Code**.
2. Under **Transaction Code**, click **Create Transaction Code**.

→ The **Create Transaction Code** screen is displayed.

**Figure 59: Create Transaction Code**

3. On **Create Transaction Code** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 66: Create Transaction Code – Field Description**

| Field                          | Description  |
|--------------------------------|--|
| <b>Transaction Code</b>        | Specify the transaction code details.                      |
| <b>Description</b>             | Specify additional information about the transaction code. |
| <b>Source System</b>           | Search and select the required source system.              |
| <b>Source Transaction Code</b> | Specify the source transaction code details.               |

4. Click **Save**. You can view the configured transaction code details in the [Transaction Code Summary](#).

## 2.31 Upload Source

You can upload a source code.

This section contains following subsections:

- [2.31.1 Upload Source Summary](#)
- [2.31.2 Upload Source Maintenance](#)

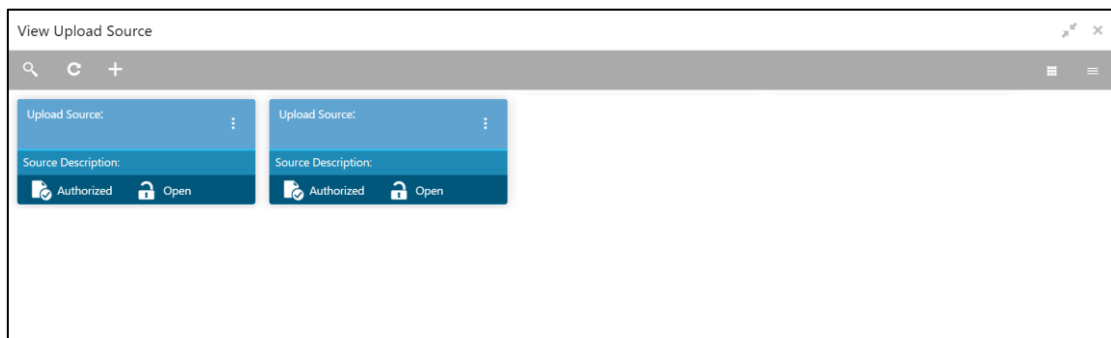
### 2.31.1 Upload Source Summary

The summary screen provides a list of configured source code. You can upload a source code using the [Upload Source Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Upload Source**.
2. Under **Upload Source**, click **View Upload Source**.

→ The **View Upload Source** screen is displayed.

**Figure 60: View Upload Source**



For more information on fields, refer to the field description table below.

**Table 67: View Upload Source – Field Description**

| Field                     | Description                                 |
|---------------------------|---|
| <b>Upload Source</b>      | Displays the upload source details.         |
| <b>Source Description</b> | Displays information about the source code. |
| <b>Status</b>             | Displays the status of the record.          |

## 2.31.2 Upload Source Maintenance

The maintenance screen allows you to upload source. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Upload Source**.
2. Under **Upload Source**, click **Create Upload Source**.

→ The **Create Upload Source** screen is displayed.

**Figure 61: Create Upload Source**

3. On **Create Upload Source** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 68: Create Upload Source – Field Description**

| Field                                | Description   |
|--------------------------------------|---|
| <b>Source Code</b>                   | Specify the source code details.  |
| <b>Source Description</b>            | Specify additional information of the source code.                                      |
| <b>Base Data from Flexcube</b>       | By default, this is disabled. If selected, indicates the base data is from FLEXCUBE.    |
| <b>System Authorization Required</b> | By default, this is disabled. If selected, indicates the system requires authorization. |

4. Click **Save**. You can view the configured upload source details in the [Upload Source Summary](#).

## 2.32 Upload Source Preference

You can configure upload source preference.

This section contains following subsections:

- [2.32.1 Upload Source Preference Summary](#)
- [2.32.2 Upload Source Preference Maintenance](#)

### 2.32.1 Upload Source Preference Summary

The summary screen provides a list of configured upload source preferences. You can configure an upload source preference using the [Upload Source Preference Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Upload Source Preference**.
2. Under **Upload Source Preference**, click **View Upload Source Preference**.

→ The **View Upload Source Preference** screen is displayed.

**Figure 62: View Upload Source Preference**

For more information on fields, refer to the field description table below.

**Table 69: View Upload Source Preference – Field Description**

| Field              | Description                             |
|--------------------|---|
| <b>Source Code</b> | Displays the code of the source.        |
| <b>Status</b>      | Displays the status of the post upload. |
| <b>Purge Days</b>  | Displays the number of purge days.      |
| <b>Status</b>      | Displays the status of the record.      |



## 2.32.2 Upload Source Preference Maintenance

The maintenance screen allows you to configure upload source preference. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Upload Source Preference**.
2. Under **Upload Source Preference**, click **Create Upload Source Preference**.

→ The **Create Upload Source Preference** screen is displayed.

**Figure 63: Create Upload Source Preference**

3. On **Create Upload Source Preference** screen, specify the fields. For more information on fields, refer to the field description table below.

**Table 70: Create Upload Source Preference – Field Description**

| Field                          | Description  |
|--------------------------------|--|
| <b>Source Code</b>             | Search and select the required source code.              |
| <b>Error Handling</b>          | Specify the error handling details.                      |
| <b>On Error</b>                | Select an error from the drop-down list.                 |
| <b>On Override</b>             | Select an override from the drop-down list.              |
| <b>On Repairable Exception</b> | Select the repairable exception from the drop-down list. |
| <b>On Queue Exception</b>      | Select the queue exception from the drop-down list.      |
| <b>Post Upload</b>             | Specify the post upload details.                         |
| <b>Status</b>                  | Select a status from the dropdown list.                  |

| Field                            | Description  |
|----------------------------------|--|
| <b>Purge Days</b>                | Specify the purging days if you want to maintain any days to be purged while processing interface. |
| <b>Allow Deferred Processing</b> | By default, this is disabled. If selected, defers process the upload source preference.            |
| <b>Allow EOD with Deferred</b>   | By default, this is disabled. If selected, processes the EOD with deferred.                        |
| <b>Deletion Allowed</b>          | By default, this is disabled. If selected, deletes the upload source preferences.                  |
| <b>Reverse Allowed</b>           | By default, this is disabled. If selected, reverses the upload source preferences.                 |
| <b>Amend Allowed</b>             | By default, this is disabled. If selected, amends the upload source preferences.                   |
| <b>Proceed with EOD</b>          | By default, this is disabled. If selected, proceeds with the EOD.                                  |

- Click **Save**. You can view the configured upload source preference details in the [Upload Source Preference Summary](#).

## 2.33 Pricing Source System

You can configure the pricing source system.

This section contains following subsections:

- [2.33.1 Pricing Source System Summary](#)
- [2.33.2 Pricing Source System Maintenance](#)

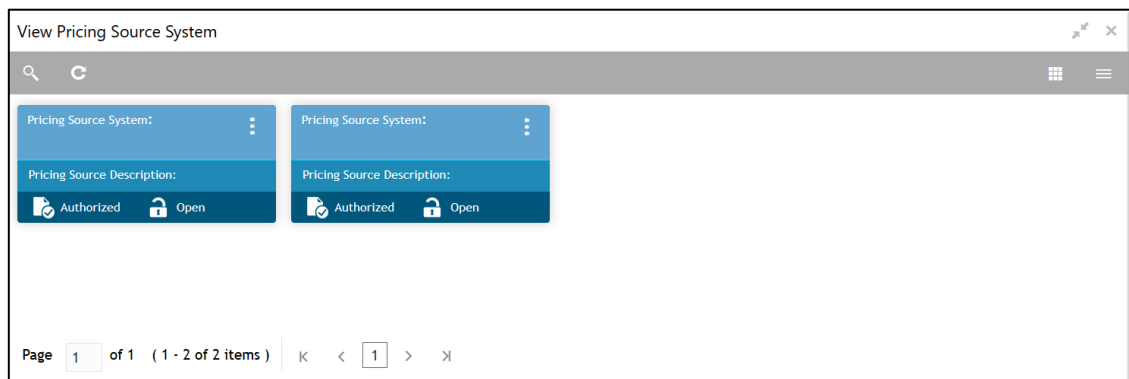
### 2.33.1 Pricing Source System Summary

The summary screen provides a list of configured Pricing Source system. You can configure the pricing source system details using the [Pricing Source System Maintenance](#). To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Pricing Source System**.
2. Under **Pricing Source System**, click **View Pricing Source System**.

→ The **View Pricing Source System** screen is displayed.

**Figure 64: View Pricing Source System**



For more information on fields, refer to the field description table below.

**Table 71: View Pricing Source System – Field Description**

| Field                             | Description   |
|-----------------------------------|---|
| Pricing Source System             | Displays the name of the Pricing Source system.                   |
| Pricing Source System Description | Displays any additional information of the Pricing Source system. |
| Status                            | Displays the status of the record.                                |

## 2.33.2 Pricing Source System Maintenance

The maintenance screen allows you to configure Pricing Source System details. To process this screen, perform the following steps:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Pricing Source System**.
2. Under **Pricing Source System**, click **Create Pricing Source System**.

→ The **Create Pricing Source System** screen is displayed.

**Figure 65: Create Pricing Source System**

3. On **Create Pricing Source System** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 72: Create Pricing Source System – Field Description**

| Field                             | Description   |
|-----------------------------------|---|
| <b>Pricing Source System</b>      | Specify the pricing source system.                                  |
| <b>Pricing Source Description</b> | Specify the additional information about the Pricing Source system. |

4. Click **Save**. You can view the configure Pricing Source system details in the [Pricing Source System Summary](#).

## 2.34 Integrating Bureau Integration Service with Oracle Banking Routing Hub

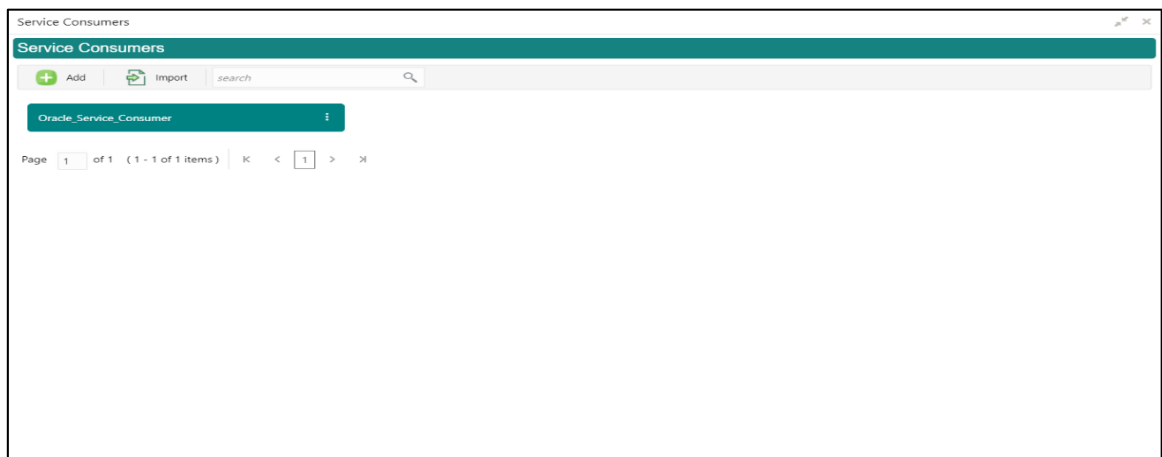
### 2.34.1 Oracle Banking Routing Hub Configuration

Need to import existing service consumer and providers in the system. Service Consumer is Oracle product, which invokes oracle banking routing hub API, oracle banking routing hub analyses evaluates destination product processor and transform data into format of the same. Service consumer comprises of the source and destination integration details.

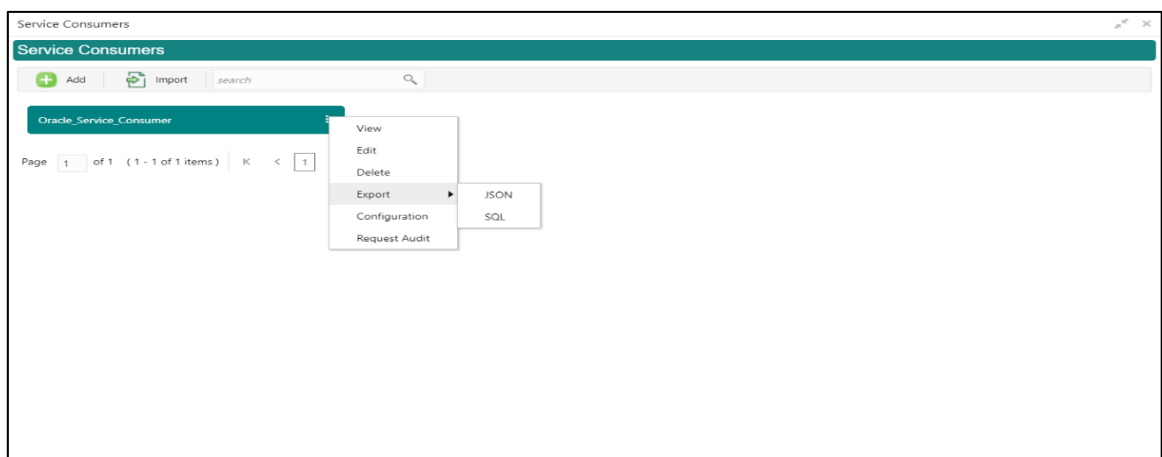
1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Routing Hub**.
2. Under **Routing Hub**, click **Service Consumers**.

→ The **Service Consumers** screen is displayed.

**Figure 66: Service Consumers**



**Figure 67: Oracle Banking Routing Hub Configuration**



**Table 73: Oracle Banking Routing Hub Configuration**

| Component Name       | Component Type | Condition    | Comments  |
|----------------------|----------------|--------------|---|
| <b>Add</b>           | Button         |              | Pops up add dialog  |
| <b>Import</b>        | Button         |              | Pops up import dialog   |
| <b>Search</b>        | Combo Box One  |              | Provides search functionality with case insensitive (Service Consumer Name) |
| <b>View</b>          | menu option    | Non-editable | Pops up view dialog   |
| <b>Edit</b>          | menu option    |              | Pops up edit dialog   |
| <b>Delete</b>        | menu option    |              |   |
| <b>Export</b>        | Sub menu item  |              |   |
| <b>JSON</b>          | menu option    |              | Exports in JSON   |
| <b>SQL</b>           | menu option    |              | Exports in SQL  |
| <b>Configuration</b> | menu option    |              | Pops up configuration dialog  |
| <b>Request Audit</b> | menu option    |              | Pops up request audit log   |

This section contains the following subsections:

- [2.34.1.1 Add](#)
- [2.34.1.2 Environment Variables](#)
- [2.34.1.3 Import](#)
- [2.34.1.4 View](#)
- [2.34.1.5 Edit](#)
- [2.34.1.6 Delete](#)
- [2.34.1.7 JSON Export](#)
- [2.34.1.8 SQL Export](#)

### 2.34.1.1 Add

You can create service consumer manually.

On **Service Consumers** screen, click **Add** to create service consumer.

**Figure 68: Add**

**Table 74: Add**

| Component Name               | Component Type | Is Mandatory | Data type                            | Validation   | Comments                     |
|------------------------------|----------------|--------------|--------------------------------------|--|------------------------------|
| <b>Name</b>                  | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>Name cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255</li> <li>No numeric value at beginning and no space allowed</li> </ul> | Unique Service Consumer name |
| <b>Environment Variables</b> | Table Content  |              |                                      |  |                              |
| <b>Save</b>                  | Button         |              |                                      |  | Saves the Service Consumer   |



### 2.34.1.2 Environment Variables

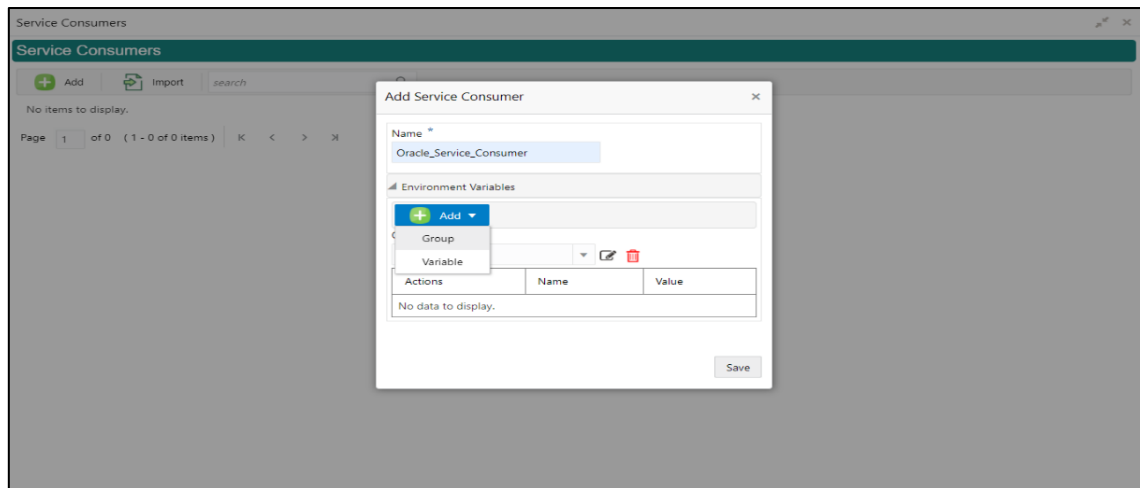
You can define the group of variables, which can be accessed through the specific consumer's configuration.

**Below is the syntax for accessing environment variables:**

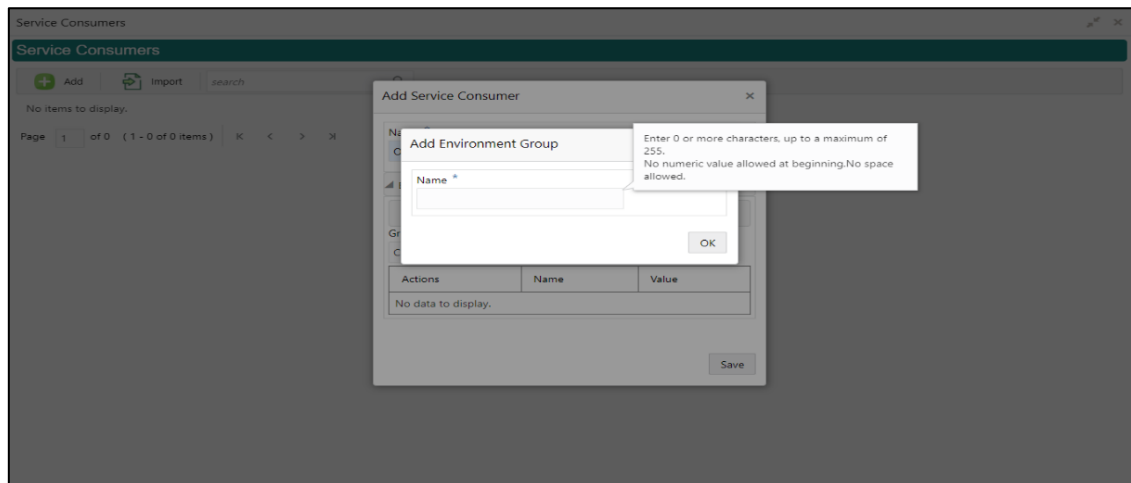
`$env.Environment_Group_Name.Environment_Variable_Name`

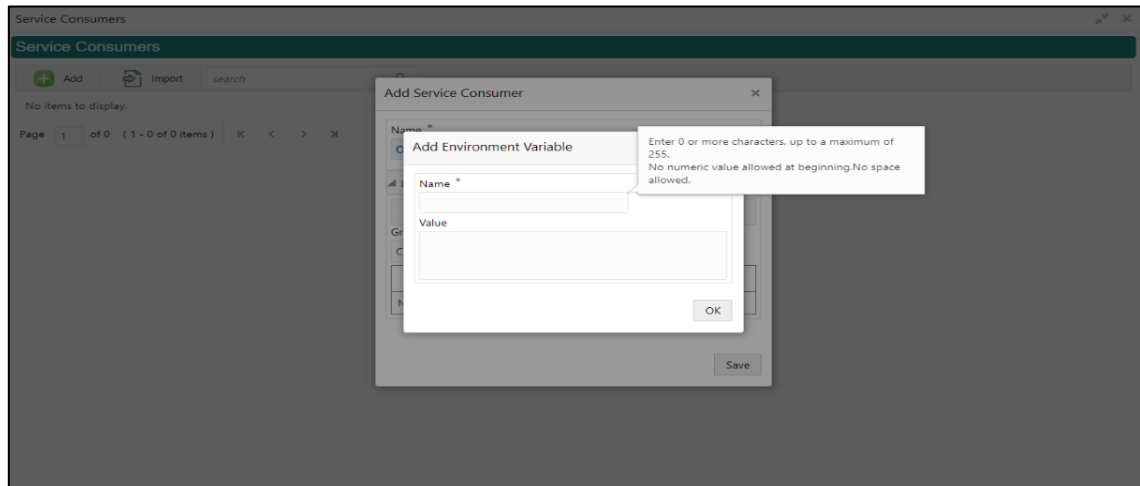
such as: `$env.COMMON.BRANCH_CODE`

**Figure 69: Environment Variables**



**Figure 70: Environment Variables**



**Figure 71: Environment Variables****Table 75: Environment Variables**

| Component Name  | Component Type     | Is Mandatory | Data type                            | Validation  | Comments                    |
|---|--------------------|--------------|--------------------------------------|---|-----------------------------|
| <b>Add</b>  | Menu Item          |              |                                      |   |                             |
| <b>Group</b>  | Menu option        |              |                                      |   | Pops up add group dialog    |
| <b>Variable</b>   | Menu option        |              |                                      |   | Pops up add variable dialog |
| <b>Navigation: Service Consumer -&gt; Environment Variables -&gt; 3 dot icon (operation menu)</b> |                    |              |                                      |   |                             |
| <b>Edit</b>   | menu option / icon |              |                                      |   | Pops up edit dialog         |
| <b>Delete</b>   | menu option / icon |              |                                      |   | Deletes group / variable    |
| <b>Environment Group / Variable</b>   |                    |              |                                      |   |                             |
| Name  | Text Box           | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>Name cannot be blank</li> <li>Specify 0 or more characters, up to a</li> </ul> |                             |

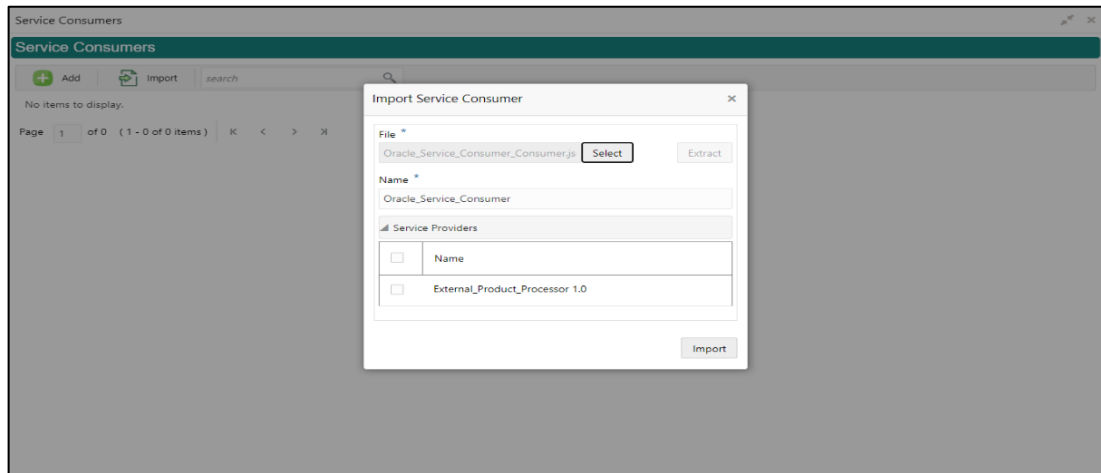
|       |           |  |  |  |   |
|-------|-----------|--|--|--|---|
|       |           |  |  | maximum<br>of 255<br><br>• No numeric<br>value at<br>beginning<br>and no<br>space<br>allowed |   |
| Value | Text Area |  |  |  | Value can either<br>be hardcoded or<br>Velocity<br>mapping.     |
| OK    | Button    |  |  |  | Saves the group<br>/ variable and<br>displays it in the<br>list |

### 2.34.1.3 Import

You can create a service consumer by importing the JSON file and manually selecting the service providers or select all providers that needs to be imported.

On **Service Consumers** screen, click **Import**.

**Figure 72: Import**



**Table 76: Import**

| Component Name | Component Type | Is Mandatory | Data type                            | Validation   | Condition              | Comments  |
|----------------|----------------|--------------|--------------------------------------|--|------------------------|---|
| <b>File</b>    | File picker    | Yes          |                                      | Allows only to select one file   | Accepts only JSON file | Pops up file selection dialog box   |
| <b>Extract</b> | Button         | Yes          |                                      |  |                        | Extracts Consumer Name and Service Provider list from JSON file and displays it in the respective elements. |
| <b>Name</b>    | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>Name cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255</li> </ul> | Editable               | Unique  |

| Component Name          | Component Type               | Is Mandatory | Data type | Validation   | Condition | Comments   |
|-------------------------|------------------------------|--------------|-----------|--|-----------|--|
|                         |                              |              |           | <ul style="list-style-type: none"> <li>No numeric value at beginning and no space allowed</li> </ul> |           |  |
| <b>Service Provider</b> | Collapsible Header & Content |              |           |  |           | Displays the list of service providers that are present in JSON file |
| <b>Import</b>           | Button                       |              |           |  |           | Imports Service Consumer   |

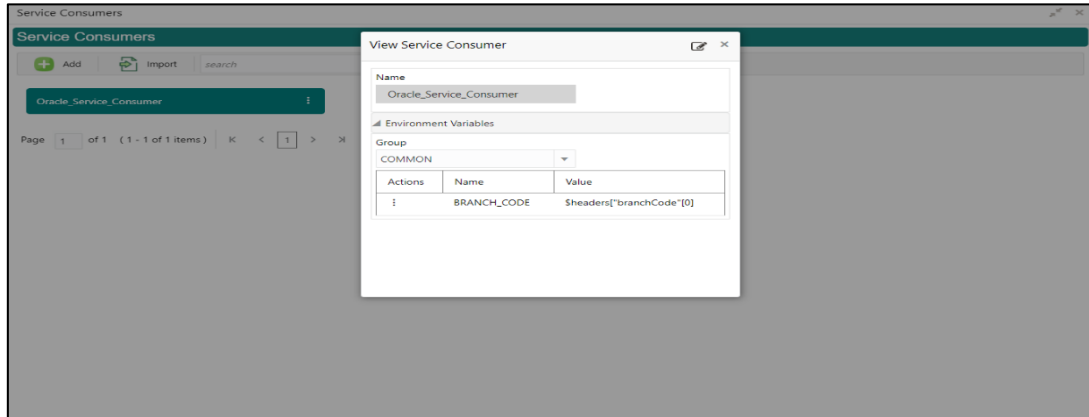
**Note:** Below data needs to be changed after importing consumer configuration file:

- Implementation Host and Port
- Implementation Authentication Password

### 2.34.1.4 View

You can view consumer details and can also switch to edit form by clicking on edit icon.  
On **Service Consumers** screen, click **Operation Menu (3 dot icon)**, and select **View**.

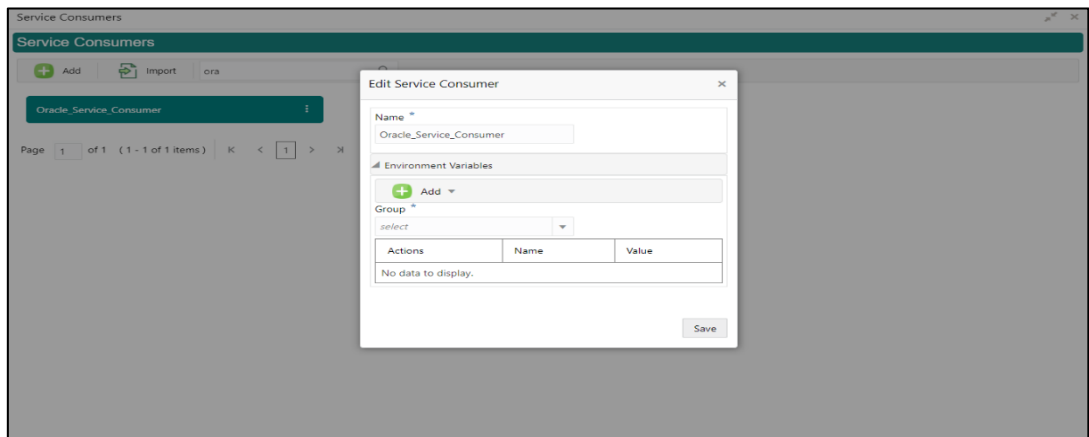
**Figure 73: View**



### 2.34.1.5 Edit

You can modify the consumer details.  
On **Service Consumers** screen, click **Operation Menu (3 dot icon)**, and select **Edit**.

**Figure 74: Edit**

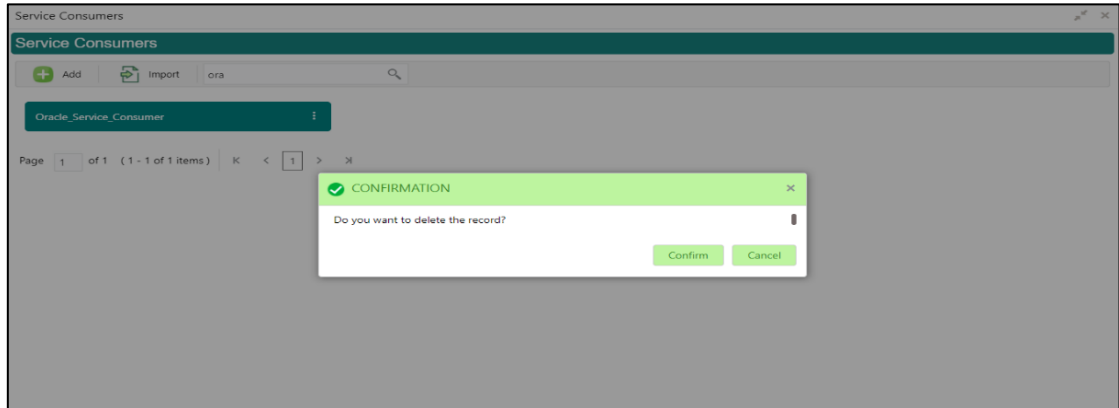


### 2.34.1.6 Delete

You can delete the consumer.

On **Service Consumers** screen, click **Operation Menu (3 dot icon)**, and select **Delete**.

**Figure 75: Delete**



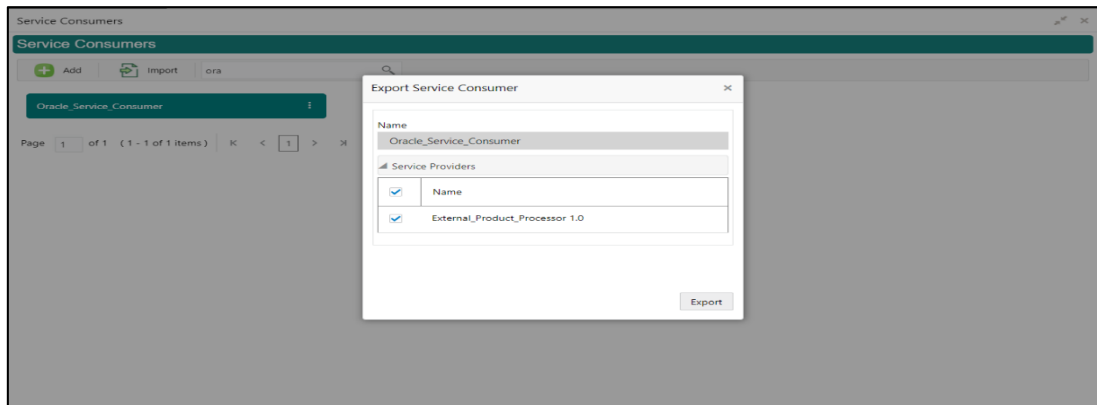
### 2.34.1.7 JSON Export

You can export the consumer configuration as JSON file.

On **Service Consumers** screen, click **Operation Menu (3 dot icon)**, and select **Export**

Then, Click **JSON**.

**Figure 76: JSON Export**



**NOTE:** You have an option to select service providers from the list that needs to be exported or can click on Select All option for all service providers.

JSON Export feature will export below data:

- Selected service consumer
- All consumer services
- Selected service providers with services
- Default implementation of selected service providers with services (without Host, Port, and Authentication Password)
- Default transformations
- All default implementation routes

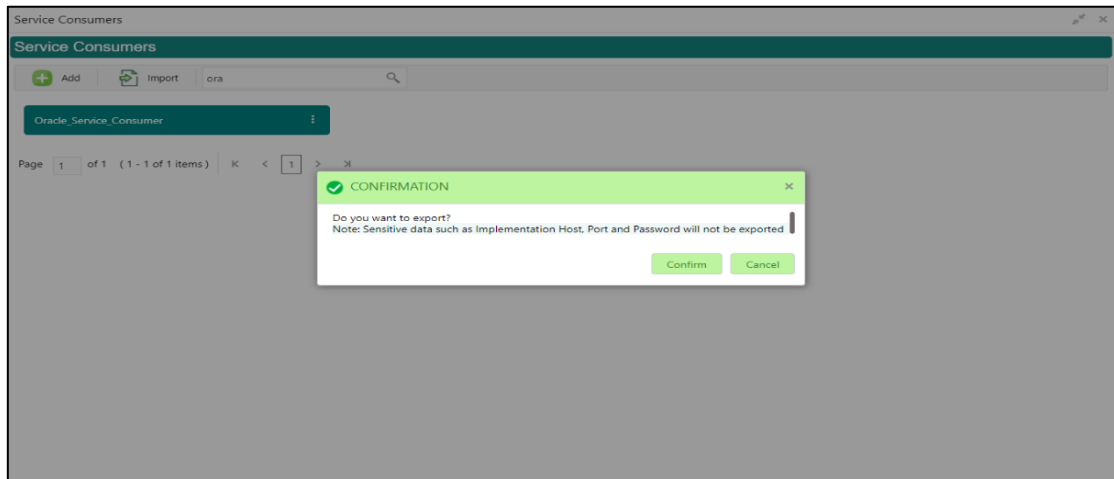
### 2.34.1.8 SQL Export

You can export the consumer configuration as SQL file.

On **Service Consumers** screen, click **Operation Menu (3 dot icon)**, and select **Export**

Then, Click **SQL**.

**Figure 77: SQL Export**



**NOTE:** SQL Export feature will export entire configuration without Host, Port and Authentication Password details.



## 2.34.2 Service Providers

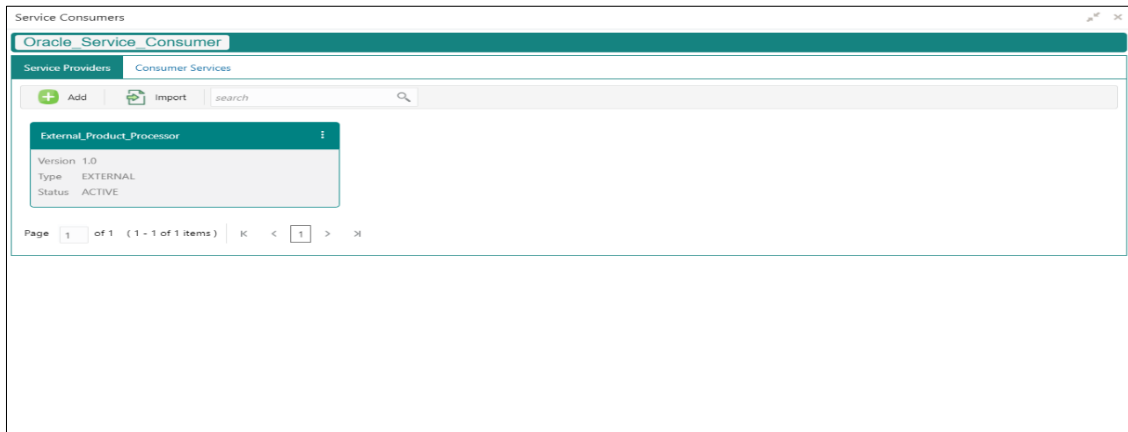
Service Providers are the product processors configure to process request send by oracle banking routing hub on behalf of service consumers.

The Service Provider comprises of destination integration details.

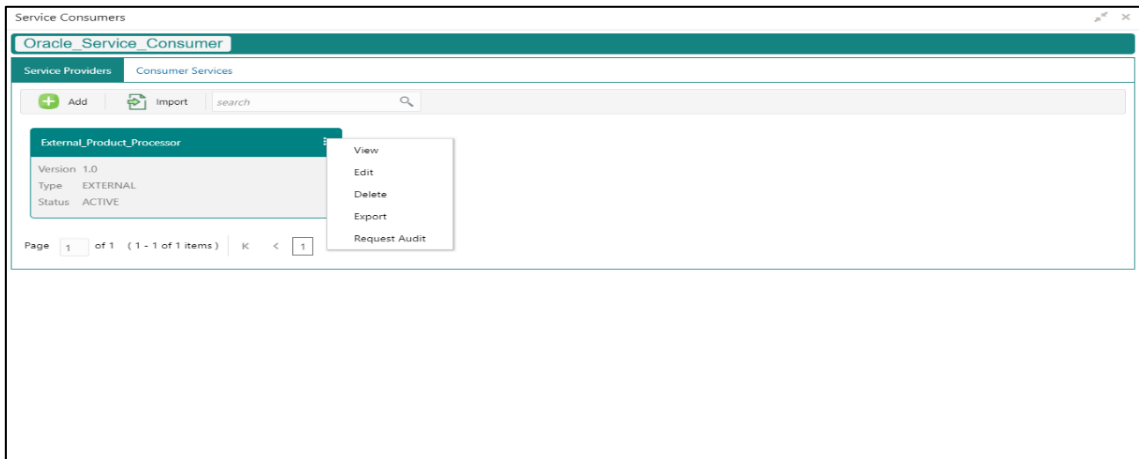
1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Routing Hub**.
2. Under **Routing Hub**, click **Service Consumers**. Under **Service Consumers**, click **<Specific Service Consumer>**.

→ The **Service Providers** screen is displayed.

**Figure 78: Service Providers**



**Figure 79: Service Providers**



**Table 77: Service Providers**

| Component Name     | Component Type | Is Mandatory | Data type | Validation | Condition | Comments                            |
|--------------------|----------------|--------------|-----------|------------|-----------|-------------------------------------|
| <Service Consumer> | Button         |              |           |            |           | Navigates back to Service Consumers |
| Add                | Button         |              |           |            |           | Pops up add dialog                  |

|  |               |  |  |  |              |   |
|--|---------------|--|--|--|--------------|---|
| <b>Import</b>  | Button        |  |  |  |              | Pops up import dialog   |
| <b>Search</b>  | Combo Box One |  |  |  |              | Provides search functionality with case insensitive (Service Provider Name) |
| Navigation: <b>Service Providers -&gt; 3 dot icon (operation menu)</b> |               |  |  |  |              |   |
| <b>View</b>  | menu option   |  |  |  | Non-editable | Pops up view dialog   |
| <b>Edit</b>  | menu option   |  |  |  |              | Pops up edit dialog   |
| <b>Delete</b>  | menu option   |  |  |  |              |   |
| <b>Export</b>  | menu option   |  |  |  |              | Exports in JSON   |
| <b>Request Audit</b>   | menu option   |  |  |  |              | Pops up request audit log   |

This section contains the following subsections:

- [2.34.2.1 Add](#)
- [2.34.2.2 Headers](#)
- [2.34.2.3 Service](#)
- [2.34.2.4 WSDL](#)
- [2.34.2.5 SWAGGER](#)
- [2.34.2.6 Import](#)
- [2.34.2.7 View](#)
- [2.34.2.8 Edit](#)
- [2.34.2.9 Delete](#)
- [2.34.2.10 Export](#)

### 2.34.2.1 Add

You can create service provider manually.

On **Service Providers** screen, click **Add** to create service providers.

**Figure 80: Add**

**Table 78: Add**

| Component Name      | Component Type | Is Mandatory | Data type                            | Validation   | Comments                               |
|---------------------|----------------|--------------|--------------------------------------|--|--|
| <b>Product Name</b> | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>Name cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255.</li> <li>No numeric value at beginning and no space allowed.</li> </ul> | Unique provider name                   |
| <b>Type</b>         | Combo Box One  | Yes          |                                      |  | Predefined Values: INTERNAL / EXTERNAL |

| Component Name | Component Type               | Is Mandatory | Data type | Validation  | Comments   |
|----------------|------------------------------|--------------|-----------|---|--|
| <b>Version</b> | Text Box                     | Yes          | Number    | <ul style="list-style-type: none"> <li>Version cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255.</li> <li>Specify only numeric or decimal values.</li> </ul> | Unique provider version  |
| <b>Active</b>  | Switch                       |              |           |   | Predefined Values:<br>ACTIVE / INACTIVE<br>If provider is marked as inactive, then all related routes will be stopped. |
| <b>Headers</b> | Collapsible Header & Content |              |           |   | Provider specific headers  |
| <b>Service</b> | Collapsible Header & Content |              |           |   | Provider specific service details  |
| <b>Save</b>    | Button                       |              |           |   | Saves the Service Provider   |

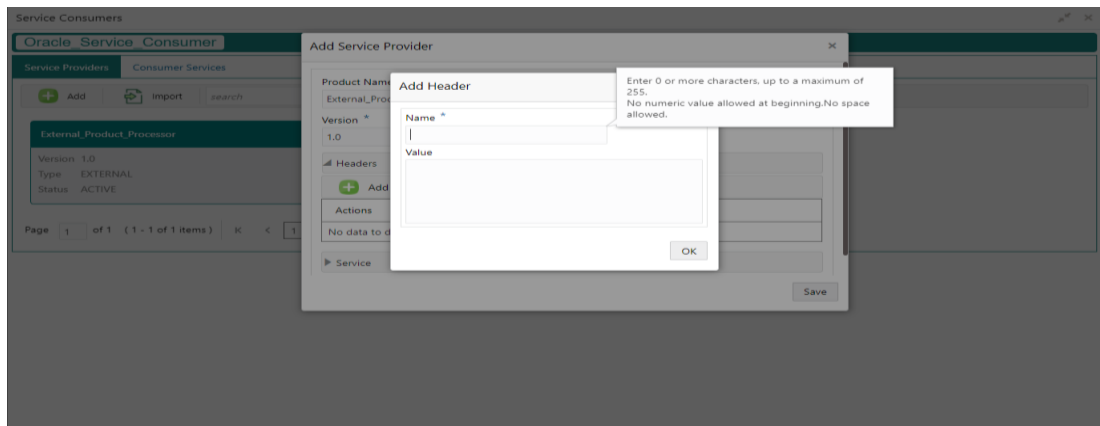
## 2.34.2.2 Headers

External product processor might require some standard headers to be passed along with the request.

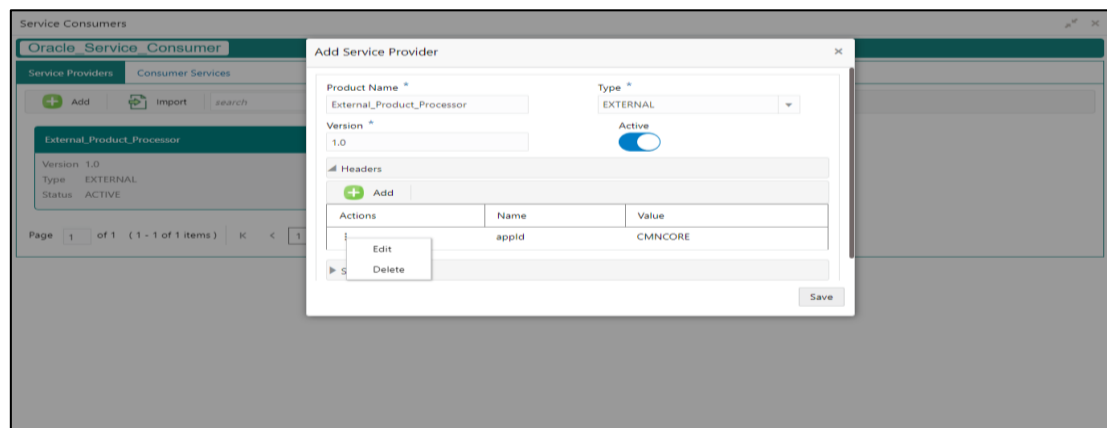
You can specify the headers which are required by service endpoints for its all implementations but not present in swagger file.

These headers can be configured in oracle banking routing hub using the steps given below.

**Figure 81: Headers**



**Figure 82: Headers**



**Table 79: Headers**

| Component Name   | Component Type | Is Mandatory | Data type | Validation | Condition | Comments            |
|--|----------------|--------------|-----------|------------|-----------|---------------------|
| <b>Add</b>   | Button         |              |           |            |           | Pops up add dialog  |
| Navigation: <b>Service Providers -&gt; Headers -&gt; 3 dot icon (operation menu)</b> |                |              |           |            |           |                     |
| <b>Edit</b>  | menu option    |              |           |            |           | Pops up edit dialog |
| <b>Delete</b>  | menu option    |              |           |            |           | Deletes header      |

| Component Name   | Component Type | Is Mandatory | Data type                            | Validation   | Condition | Comments  |
|--|----------------|--------------|--------------------------------------|--|-----------|---|
| Navigation: <b>Service Providers -&gt; Headers -&gt; Add</b> |                |              |                                      |  |           |   |
| <b>Name</b>  | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>• Name cannot be blank</li> <li>• Specify 0 or more characters, up to a maximum of 255.</li> <li>• No numeric value at beginning and no space allowed.</li> </ul> |           |   |
| <b>Value</b>   | Text Area      | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>• Value cannot be blank</li> <li>• Specify 0 or more characters, up to a maximum of 255.</li> <li>• No space allowed.</li> </ul>                                  |           | Value can either be hardcoded or can be Velocity mapping. |
| <b>OK</b>  | Button         |              |                                      |  |           | Saves the header details and displays it in the list      |

### 2.34.2.3 Service

Figure 83: Service

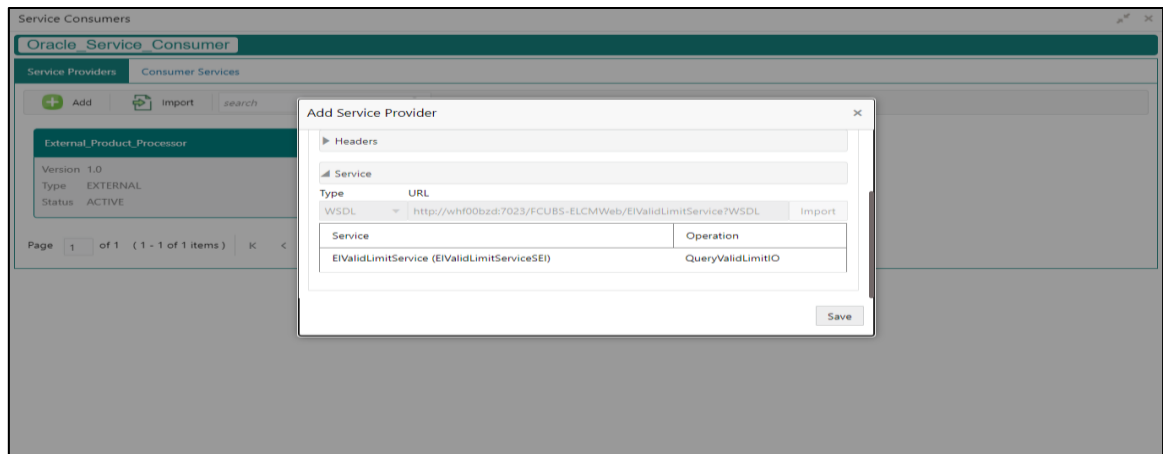


Table 80: Service

| Component Name | Component Type | Is Mandatory | Comments  |
|----------------|----------------|--------------|---|
| Type           | Combo Box One  | Yes          | Predefined Values:<br>WSDL / SWAGGER  |
| URL            | Text Box       | Yes          | Service URL of the file location  |
| Gateway Prefix | Text Box       |              | Gateway Prefix is context path of below formatted URL<br>http://host:port/gateway-prefix/endpoint |
| Import         | Button         |              | Extracts the service information from URL and displays it in the Service list                     |

### 2.34.2.4 WSDL

The Web Services Description Language (WSDL) is an XML-based interface description language that is used for describing the functionality offered by a web service.

Currently, non-SSL WSDL URL is only supported.

**NOTE:** In case there is a change in wsdl file, then same wsdl file need to be imported again in order to update the provided service information in routing hub.

### 2.34.2.5 SWAGGER

Swagger is an Interface Description Language for describing RESTful APIs expressed using JSON.

Currently, Swagger 2.0 & OpenAPI 3.0 both are supported.

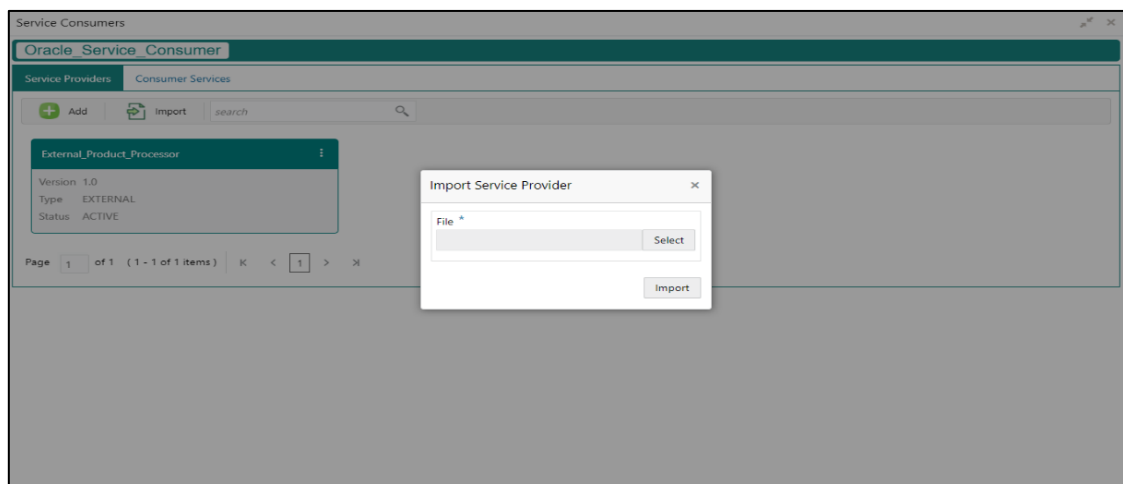
**NOTE:** In case there is a change in swagger file, then same swagger file need to be imported again in order to update the provided service information in routing hub.

### 2.34.2.6 Import

You can create a service provider by importing the JSON file.

On **Service Providers** screen, click **Import**.

**Figure 84: Import**



**Table 81: Import**

| Component Name | Component Type | Is Mandatory | Validation                     | Condition              | Comments                          |
|----------------|----------------|--------------|--------------------------------|------------------------|-----------------------------------|
| File           | File picker    | Yes          | Allows only to select one file | Accepts only JSON file | Pops up file selection dialog box |
| Import         | Button         |              |                                |                        | Imports Service Provider          |

**NOTE:** Below data needs to be changed after importing provider configuration file:

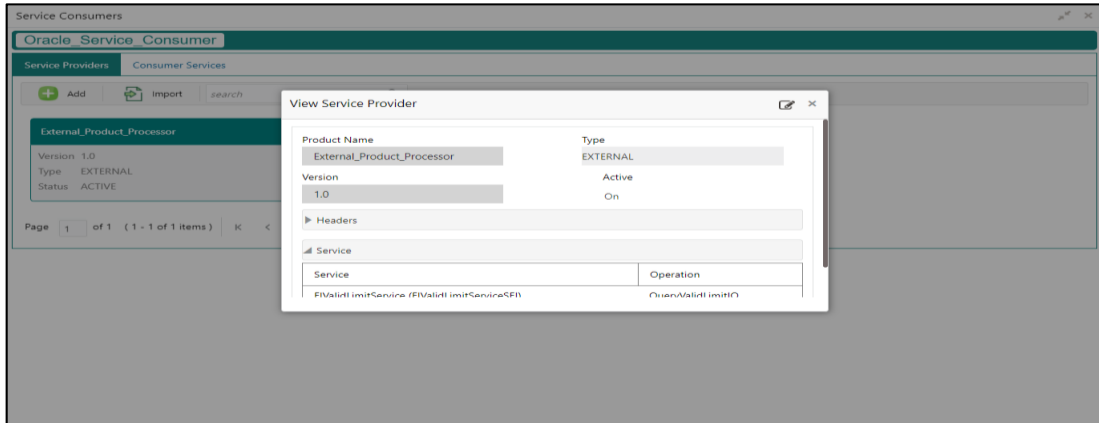
- Implementation Host and Port
- Implementation Authentication Password



### 2.34.2.7 View

You can view provider details and can also switch to edit form by clicking on edit icon.  
On **Service Providers** screen, click **Operation Menu (3 dot icon)**, and click **View**.

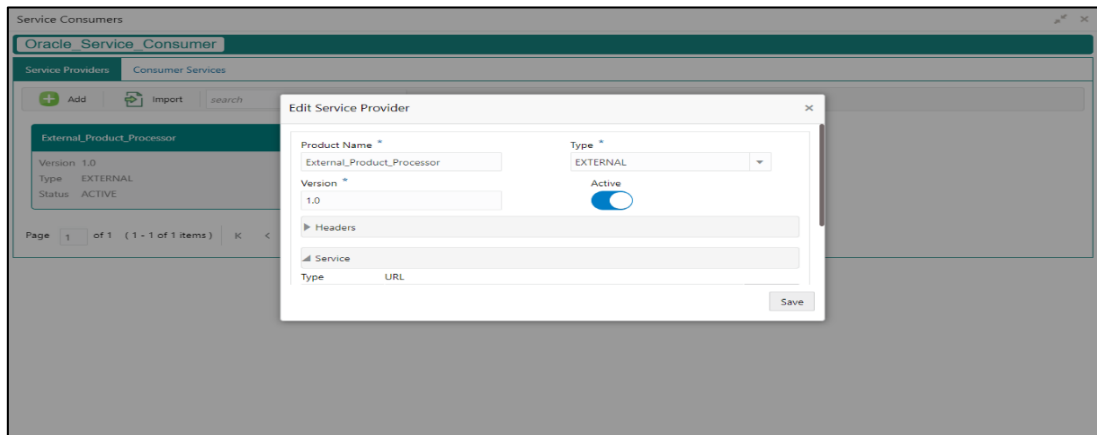
**Figure 85: View Service Provider**



### 2.34.2.8 Edit

You can modify the provider details.  
On **Service Providers** screen, click **Operation Menu (3 dot icon)**, and click **Edit**.

**Figure 86: Edit**

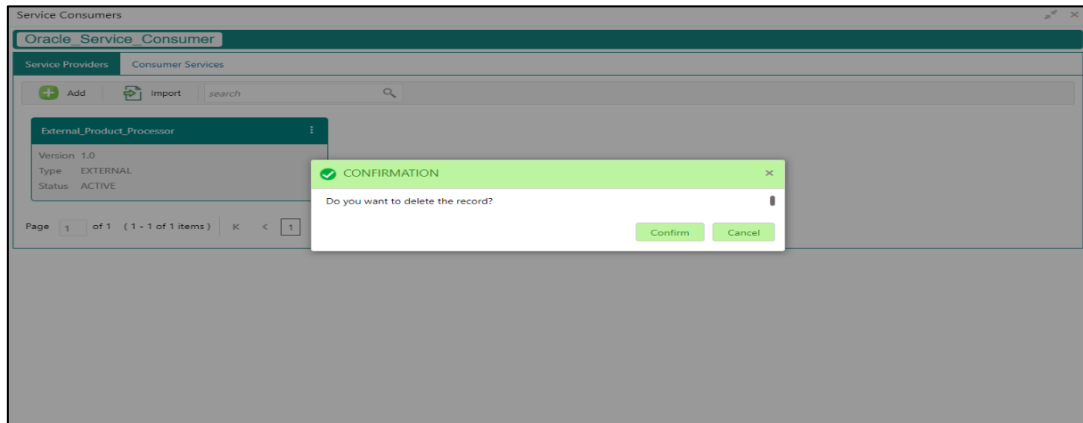


### 2.34.2.9 Delete

You can delete the provider.

On **Service Providers** screen, click **Operation Menu (3 dot icon)**, and click **Delete**.

**Figure 87: Delete**

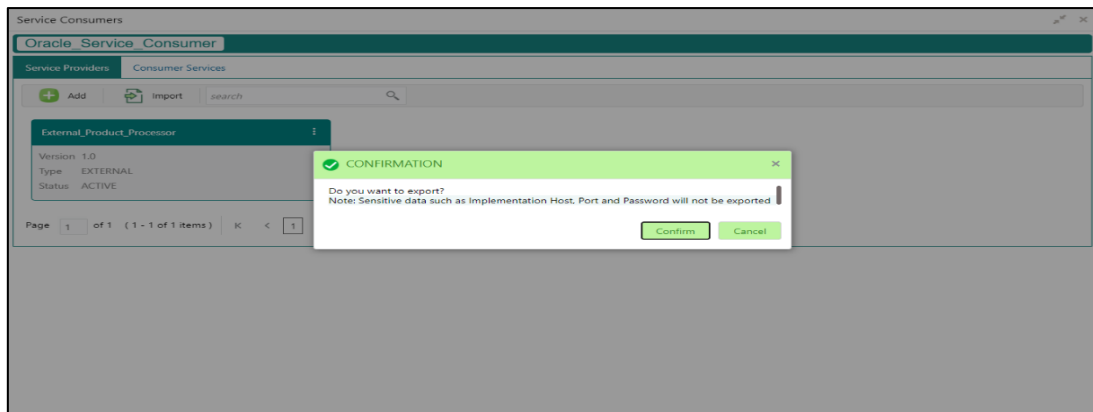


### 2.34.2.10 Export

You can export the provider configuration as JSON file.

On **Service Providers** screen, click **Operation Menu (3 dot icon)**, and click **Export**.

**Figure 88: Export**



**NOTE:** Below data is not be exported:

- Implementation Host
- Implementation Port
- Implementation Authentication Password

The above data needs to be configured manually after importing the configuration file.

Same has been mentioned in Import section

## 2.34.3 Experian Configuration

### 2.34.3.1 Experian Fetch Credit Report

**Figure 89: Experian Fetch Credit Report**

**View Transformation**

**Request Transformation**

| Template Type | Template   |
|---------------|--|
| VELOCITY      | <pre>{   #set(\$dictionary = {})   #if(\$body.dictionary &amp;&amp; \$body.dictionary.size()&gt;0)     #foreach(\$dictionaryItem in \$body.dictionary)       #if(!\$dictionaryItem.isFactDictionary)         #--       }     }</pre> |

**Response Transformation**

| Template Type | Template  |
|---------------|---|
| VELOCITY      | <pre>{   #define( \$htmlContent   )#if(\$body.creditProfile.get(0).consumerIdentity.dob)&lt;div   style="padding:5px;margin:10px"&gt; &lt;b&gt;Date of Birth&lt;/b&gt;   &lt;/div&gt; &lt;div style="text-align:center;display: inline-block"&gt;   &lt;b&gt;DOB&lt;/b&gt; &lt;b&gt;DOB&lt;/b&gt; &lt;b&gt;DOB&lt;/b&gt;   &lt;/div&gt;   }</pre> |

Mocking required?  
Off

**Figure 90: Experian Fetch Credit Report**

**View Transformation**

| Product Processor | Implementation   |
|-------------------|------------------|
| EXPERIAN 14.4     | EXPERIAN_Default |

Transformation  
TRANSFORMATION1

► Headers

▲ Product Processor

Service  
CreditReports -/v2/credit-report

▲ Request Transformation

| Template Type | Template   |
|---------------|--|
| VELOCITY      | <pre>{   #set(\$dictionary = {})   #if(\$body.dictionary &amp;&amp; \$body.dictionary.size()&gt;0)     #foreach(\$dictionaryItem in \$body.dictionary)       #if(!\$dictionaryItem.isFactDictionary)         #--       }     }</pre> |

### 2.34.3.2 Experian Sandbox

Service Consumer is used to export details of fetch credit report from sandbox environment

**Figure 91: Experian Sandbox**

| Service Consumers  |                          |   |
|--|--------------------------|---|
| CBSToBureau  |                          |   |
| <div> <div>Service Providers</div> <div>Consumer Services</div> </div>                       |                          |   |
| <div> <div>+ Add</div> <div>Import</div> <div>search</div> </div>                            |                          |   |
| Actions  | Name                     | Description   |
| ⋮  | Fetch_Credit_Report      | To fetch credit report                                      |
| ⋮  | fetchCreditReportDev     | This service is used to fetch the credit report of a person |
| ⋮  | fetchCreditReport        | Fetch Credit Report Response DTO changes                    |
| ⋮  | fetchCreditReportBackup1 | This service is used to fetch the credit report of a person |
| ⋮  | authorize                | Fetch the jwt authorization taken from the Credit Bureau    |
| <div> <div>Page 1</div> <div>of 1 (1 - 5 of 5 items)</div> <div>K &lt; 1 &gt; X</div> </div> |                          |   |

### 2.34.4 Equifax Configuration

Equifax is configured in lookup as a bureau and rule services to configure in oracle banking routing hub as consumer service to fetch details from Equifax sand.

#### 2.34.4.1 Equifax Fetch Credit Report

**Figure 92: Equifax Fetch Credit Report**

View Transformation

QueryParams

Request Transformation

Template Type

VELOCITY

Template

```
{
  #set($body = $snapshot.get(0).body)
  "consumers": [
    {
      "name": [

```

Response Transformation

Template Type

VELOCITY

Template

```
#set ($obj = "") ## dummy object
#set ($int_class = $obj.class.forName("java.lang.Number"))
#set ($bool_class = $obj.class.forName("java.lang.Boolean"))
#set ($string_class = $obj.class.forName("java.lang.String"))
#set ($map_class = $obj.class.forName("java.util.Map"))

```

Transformation Routing

+ Add

Import

search

| Action... | Name                                       | Status | Product Processor | Implementation   | Service   |
|-----------|--|--------|-------------------|------------------|---|
| ⋮         | EXP_AUTH_TRANS                             | ACTIVE | EXPERIAN 14.4     | EXPERIAN_Default | expenanAuth - /oauth2/v1/token  |
| ⋮         | EXP_TRANSFORMATION                         | ACTIVE | EXPERIAN 14.4     | EXPERIAN_Default | CreditReports - /v2/credit-report                                       |
| ⋮         | EXP_Extended_View_Attributes_and_Score_Doc | ACTIVE | EXPERIAN 14.4     | EXPERIAN_Default | ExtendedViewAttributesAndScore - /v1/extended-view-attributes-and-score |
| ⋮         | EXP_DOCUMENT                               | ACTIVE | EXPERIAN 14.4     | EXPERIAN_DOC     | premierprofilespdf - /v1/reports/premierprofiles/pdf                    |
| ⋮         | EQUIFAX_AUTH_TRANS                         | ACTIVE | EQUIFAX 14.4      | EQUIFAX_Default  | equifaxAuth - /v2/oauth/token   |
| ⋮         | EQUIFAX_TRANS                              | ACTIVE | EQUIFAX 14.4      | EQUIFAX_Default  | requestConsumerCreditReport - /reports/credit-report                    |
| ⋮         | EXP_Extended_View_Attributes_and_Score     | ACTIVE | EXPERIAN 14.4     | EXPERIAN_Default | ExtendedViewAttributesAndScore - /v1/extended-view-attributes-and-score |

Page 1

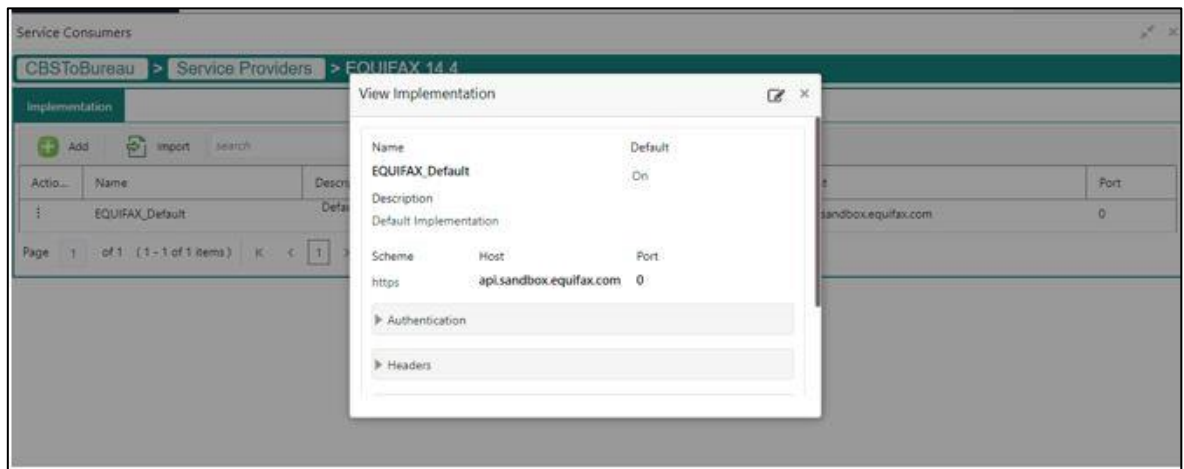
of 1 (1 - 7 of 7 items)

K < 1 > X

### 2.34.4.2 Equifax Sandbox

Service consumer exports details of fetch credit report from sandbox environment.

**Figure 93: Equifax Sandbox**



### 2.34.5 Document Configuration

Bureaus usually send applicants credit reports in PDF or encrypted format. The product processors prefer the PDF reports for easy readability and usability. In addition, product processors want to display PDF reports in their system and share these reports with the applicants. In such cases, the PDF credit reports are stored in the document server, which can be accessed by the bureau integration service and the product processor.

#### 2.34.5.1 Content Management Server

The Oracle content management server is used to store and manage documents. It can accept encoded strings of data and stores them in the provided extension format like (pdf, jpeg, png). The content management server allows to view the document online.

The latest available version is 12.2.1.4.

The cmc-document-service is a gateway to access the oracle content management server. Using this service, other applications can store, manage and process the document with ease.

#### 2.34.5.2 Environment Configuration

To install cmc-document-services, additional configuration is added. This includes the moc domain.

Dflyway.domain.locations=db/migration/domain/plato,db/migration/domain/sms,db/migration/domain/moc,db/migration/domain/cmc

-Dflyway.domain.placeHolders.moc.cmc-comments-services.server.port=<MOC\_PORT>

-Dflyway.domain.placeHolders.moc.cmc-document-services.server.port=<MOC\_PORT>

```

-Dflyway.domain.placeHolders.dmsServiceUrl=<CONTENT_SERVER_URL>
-Dflyway.domain.placeHolders.dmsServiceUsrname=<CONTENT_SERVER_USERNAME>
-Dflyway.domain.placeHolders.dmsServicePwd=<CONTENT_SERVER_PASSWORD>
-Dflyway.domain.placeHolders.cmc-document-services.schema=<SCHEMA_NAME>
-Dflyway.domain.placeHolders.cmc-document-services.server.port=<SCHEMA_PORT>
-Dflyway.domain.placeHolders.cmc-document-services.username=<SCHEMA_USERNAME>
-Dflyway.domain.placeHolders.cmc-document-services.password=<SCHEMA_PASSWORD>
-Dflyway.domain.placeHolders.cmc-document-services.domain.jndi=jdbc/CMNCORE
-Dflyway.domain.placeHolders.cmc-document-services.jndi=jdbc/CMNCORE
-Dflyway.domain.placeHolders.cmc-document-services.db.jndi=jdbc/CMNCORE
-Dflyway.domain.placeHolders.cmc-document-
services.jdbcUrl=jdbc:oracle:thin:@//<SCHEMA_IP>:<SCHEMA_PORT>/<SERVICE_NAME>
-Dflyway.domain.placeHolders.cmc-document-
services.db.jdbcUrl=jdbc:oracle:thin:@//<SCHEMA_IP>:<SCHEMA_PORT>/<SERVICE_NAME>

```

## 2.34.6 Troubleshooting

### 2.34.6.1 Oracle FLEXCUBE Onboarding issues faced during cmc-obcbs-service and cmc-obrh-services integration

Experian password expired

The password for the Experian account had expired

The solution is to login to the Experian website and reset the password. The new password is generated via mail and you can configure in oracle banking routing hub for token generation.

### 2.34.6.2 Unable to connect to external server

The oracle banking routing hub server is unable to connect to the experian server. The proxy is not configured

The VM arguments were added for oracle banking routing hub's managed server.

```
-Dhttps.proxyHost=www-proxy-idc.in.oracle.com
```

```
-Dhttps.proxyPort=80
```

```
https://confluence.oraclecorp.com/confluence/pages/viewpage.action?pageId=2863487960
```

### 2.34.6.3 Oracle Banking Routing Hub environment variable value not found

The environment variable for the Bureau Integration Service product processor is improper.

`($.headers["bureauType"])[0]`

The correct path was provided `($.headers["bureauType"])[0]`

## 2.35 Bureau Integration Service

### 2.35.1 Overview

Bureau integration service facilitates financial institutions to send requests to the credit bureau agencies for credit scores and reports. It also facilitates viewing reports received from the bureaus.

The credit report presents the credit information of an individual or a company, which is fetched by credit bureaus from various financial institutions. It is a detailed report, which contains the history of borrowings, repayment routine, defaults, and delays. This report contains vital information about a customer's credit score, personal information, employment details, contact information, and details of accounts in various banks of a given geographical region. The objective of this report is to present the financial history of an individual or a company, which further helps a bank to take a decision on granting a loan based on the credit score of a company or an individual.

For requesting and receiving the credit reports, bureau integration service is integrated with the financial institution or the product processor.

The oracle banking routing hub facilitates routing and transforming the information between the product processor, the underlying integration service and the bureau. The flow is as follows:

5. The product processor requests bureau integration service for credit reports. It provides the required customer information for whom the report is requested.
6. The routing hub transforms the data and forwards the request to the bureau integration service.
7. Once the integration service receives the request, the data is processed based on various criteria. The criteria contain the rules and facts of the product processor that are maintained in the rules engine.
8. Bureaus to be called are identified based on evaluation of the rules.
9. The integration service then sends the request to the routing hub, which transforms the data and sends the request to the respective credit bureaus.
10. The bureau processes the request and sends the credit report back.
11. The routing hub receives the report and transforms the report as per the defined template and sends it back to bureau integration service.
12. Bureau integration service then saves the data, displays the credit report, and sends the same to the product processor through the routing hub.



One or more bureaus can be called based on evaluation of the rules. The bureaus can be either called simultaneously or based on the response from the previous bureau call.

Bureau integration service maintains aging for credit report of an applicant. History service allows to store and pull existing credit report of an individual customer. The integration service retrieves report from history for those applicants if subsequent call to same bureau is made within defined period, beyond which a new credit report is called from the bureau. Existing credit reports from history are sent back to the product processor.

In case of multiple applicants being received by bureau integration service as a part of a lending application, based on the evaluation of criteria, the integration service consolidates all the multiple bureau responses into one and sends it to the product processor.

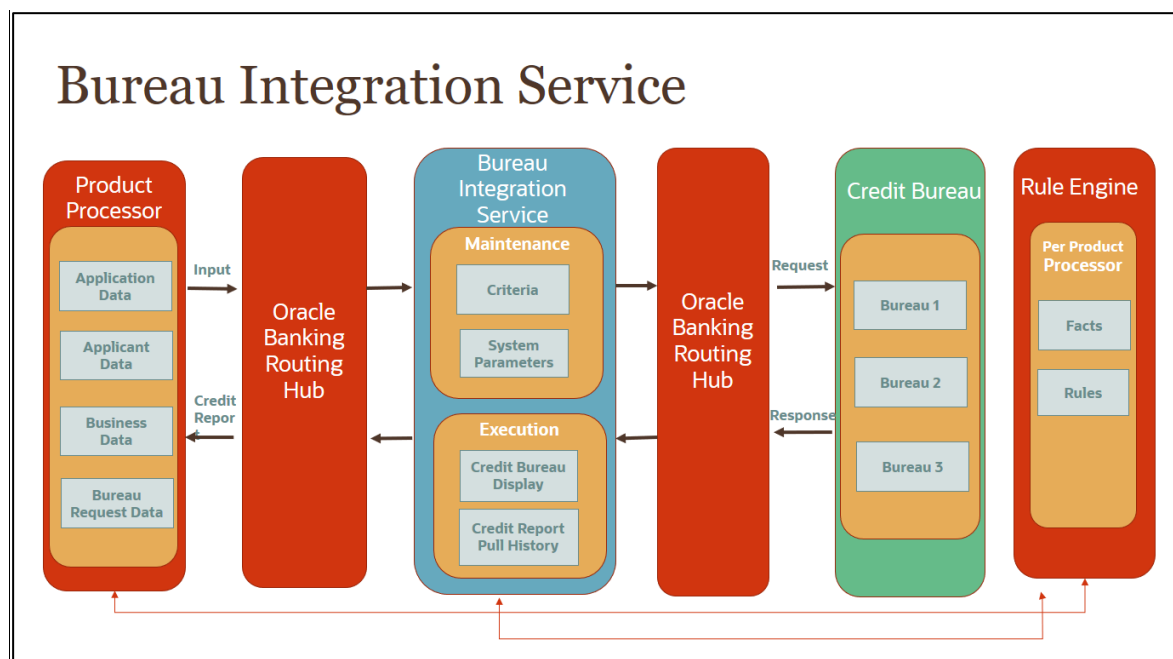
A new bureau can be added with only a configuration and without any change in the code. Two lookup types are required to be created in the bureau integration service. One for bureau and another for bureau product type. The additional maintenance required is configuration of the new bureau in the routing hub.

Bureau integration service supports override of criteria rules if the product processor wants to call a specific bureau or bureau product, for an applicant. In such cases, bureau service will not check criteria for rules evaluation. Instead, bureau service will call the bureau as intimated by the product processor in the request. Here, product processor can list one or more bureau's to be called.

Bureau Integration service supports decoding of encoded pdf string from a bureau response to a pdf report using web content document server. The document server generates a unique document ID for each record stored. Bureau service can access the pdf reports using this document ID.

The below flow diagram depicts how bureau integration service works with the integrated product processor and interfaces with the routing hub for fetching and displaying the credit bureau reports:

**Figure 94: Bureau Integration Service**



**Authorization process**

To authorize and approve record, you need to perform the following actions:

1. Navigate to the required screen.
2. Click **Authorize**. The record pending for authorization are displayed.
3. Select the required record and click **Approve**.
4. The records are displayed in a widget. If you have modified the lookup, criteria twice, system displays two widgets with respective modification number along with the modified details.
5. Specify remarks for approving the record in the **Remarks** field.
6. Click **Confirm** and authorize the record.  
The record is authorized successfully.

## 2.36 Credit Bureau Display

The credit bureau display screen facilitates to view the reports received from the various bureaus. The report includes credit history details of the customer and the credit score of the customer based on these details.

This section contains the following subsection:

- [2.36.1 View Credit Bureau Report](#)

### 2.36.1 View Credit Bureau Report

The **Credit Bureau Display** screen allows the user to view the credit bureau report based on the various filter options provided.

**To view a credit bureau report:**

1. From **Home screen**, click **Credit Bureau**. Under **Credit Bureau**, click **Operations**.
2. Under **Operations**, click **Credit Bureau Display**.

→ The **Credit Bureau Display** screen is displayed.

**Figure 95 : Credit Bureau Display**

3. Specify the fields on **Credit Bureau Display** screen. The fields, which are marked with asterisk, are mandatory. For more information on fields, refer to the field description table below.

**Table 82: Credit Bureau Display- Field Description**

| Field         | Description  |
|---------------|--|
| <b>Filter</b> | <p>Select the required option based on which you can search for the credit bureau reports from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• External Reference Number</li> <li>• Inquiry ID</li> <li>• Inquiry Date</li> </ul> |

| Field            | Description   |
|------------------|---|
|                  | <ul style="list-style-type: none"> <li>Bureau Name</li> <li>Product Processor</li> <li>Application Number</li> <li>Bureau Report ID</li> </ul>  |
| <b>Value</b>     | <p>Specify the required details or select the appropriate option for the selected filter option.</p> <p>This field appears once you select an option from the <b>Filter</b> list.</p>                   |
| <b>From Date</b> | <p>Select the start of the period during which the report was generated.</p> <p>This field appears once the user select the filter option as <b>Inquiry Date</b> and value as <b>Date Range</b>.</p>    |
| <b>To Date</b>   | <p>Select the end date of the period during which the report was generated.</p> <p>This field appears if you have selected the filter option as <b>Inquiry Date</b> and value as <b>Date Range</b>.</p> |

4. In the **Search Criteria** section, specify the details and click **Search**.

→ The **Credit Bureau Display – Report History** screen displays showing a list of records based on the specified search criteria.

**Figure 96 : Credit Bureau Display – Report History**

| Inquiry Date | External Reference Number | Product Processor |
|--------------|---------------------------|-------------------|
| 2023-01-01   | 1000000001                | 001               |
| 2023-01-01   | 1000000002                | 002               |
| 2023-01-01   | 1000000003                | 003               |
| 2023-01-01   | 1000000004                | 004               |
| 2023-01-01   | 1000000005                | 005               |
| 2023-01-01   | 1000000006                | 006               |
| 2023-01-01   | 1000000007                | 007               |
| 2023-01-01   | 1000000008                | 008               |
| 2023-01-01   | 1000000009                | 009               |
| 2023-01-01   | 1000000010                | 010               |

For more information on fields, refer to the field description table below.

**Table 83: Credit Bureau Display – Field Description**

| Field               | Description  |
|---------------------|--|
| <b>Inquiry Date</b> | Displays the inquiry date of the request from product processor to bureau integration service. |

| Field                            | Description   |
|----------------------------------|---|
| <b>External Reference Number</b> | Displays the external reference number provided by the product processor. |
| <b>Product Processor</b>         | Displays the name of the product processor that sent the request.         |

5. Click the arrow icon to view the corresponding list of reports.


→ The **Credit Bureau Display – View List of Report** screen displays.

**Figure 97 : Credit Bureau Display - View List of Report**

[illegible]

For more information on fields, refer to the field description table below.

**Table 84: Create Bureau Display View List of Report – Field Description**

| Field  | Description   |
|--|---|
| The Following fields appear if you click  |   |
| <Applicant Name>   | Displays the name of the applicant.   |
| <Bureau Name>  | Displays the name of the credit bureau agency.                                  |
| Inquiry ID   | Displays the inquiry ID generated by bureau integration service.                |
| Report ID  | Displays the report ID provided by the credit bureau agency.                    |
| Report Date  | Displays the date on which the credit bureau report is generated by the bureau. |
| Product  | Displays the product of the credit bureau agency.                               |

| Field                                      | Description   |
|--|---|
| The Following fields appear if you click ▶ |   |
| <b>View</b>                                | Click <b>View</b> to view the credit bureau report. |

6. Click the **View** link to view the credit bureau report.

→ The **Credit Bureau Report** displays.

**Figure 98 : Credit Bureau Report**

Credit Bureau Display

**Bureau Report**

Bureau Name: EXPERIAN      Report ID: 000000000000  
Product Name: CREDIT\_PROFILE      Report Date: 2021-02-21

Date of Birth  
DOB: 19-01-1980

Name

| firstName | middleName | surname | type |
|-----------|------------|---------|------|
| JOHN      | NORMAN     | SMITH   | 1    |
| JOHN      | W          | CARD    | 2    |
| JOHN      | BARRY      | W       | 3    |

Social Security Number

| Number       | SSN Indicator |
|--------------|---------------|
| 123456789012 | 1             |

Risk Model

| Evaluation | Model Indicator | Score | Score Factors            |
|------------|-----------------|-------|--------------------------|
| 1          | 1               | 100   | Importance: 1, Score: 11 |
| 1          | 2               | 100   | Importance: 2, Score: 12 |
| 1          | 3               | 100   | Importance: 3, Score: 13 |
| 1          | 4               | 100   | Importance: 4, Score: 14 |

Close

For more information on fields, refer to the field description table below.

**Table 85: Create Bureau Report – Field Description**

| Field               | Description   |
|---------------------|---|
| <b>Bureau Name</b>  | Displays the name of the credit bureau agency.                                  |
| <b>Product Name</b> | Displays the product name of the credit bureau agency.                          |
| <b>Report ID</b>    | Displays the report ID provided by the credit bureau agency.                    |
| <b>Report Date</b>  | Displays the date on which the credit bureau report is generated by the bureau. |

## 2.37 Lookup

Lookup is the service for mapping of keys and values that is used to enrich the description of the data displayed to the user. The lookup screen facilitates to define the contents for drop-down or list of value fields. Lookup fields are used throughout the system. The identified fields will only accept entries stored in this screen. Below are some examples of the lookup fields.

- Static/Enumeration values
  - Credit Bureau: For example, credit bureau1, credit bureau 2, and credit bureau 3.
  - Comparison Operator: Equals, Greater than.
- Dependent lookups based on another selection
  - Based on Country, State should have different values in the lookup.
  - Based on Country, Currency should have different values in the lookup.

This section contains the following subsections:

- [2.37.1 Create Lookup](#)
- [2.37.2 View Lookup](#)

### 2.37.1 Create Lookup

The **Create Lookup** screen allows the user to create lookup definitions by updating various details.

**To create lookup:**

1. From **Home** screen, click **Core maintenance**. Under **Core Maintenance**, click **Credit Bureau**.
2. Under **Credit Bureau**, click **Maintenance**. Under **Maintenance**, click **Lookup**.
3. Under **Lookup**, click **Create Lookup**.

→ The **Create Lookup** screen is displayed.

**Figure 99 : Create Lookup**

The screenshot shows the 'Create Lookup' window. It includes a 'New' button at the top left. Below it, the 'Create' section contains 'Basic Details' with 'Lookup Type' and 'Description' fields. The 'Lookup Codes' section shows a table with columns: 'Lookup Code', 'Description', 'Sort Order', 'Dependent Identifier', and 'Enable'. The table is currently empty, displaying 'No data to display.' At the bottom right, there are 'Save' and 'Cancel' buttons.

- Specify the fields on **Create Lookup** screen.

The fields which are marked with asterisk, are mandatory. For more information on fields, refer the field description table.

**Table 86: Create Lookup – Field Description**

| Field                       | Description                                      |
|-----------------------------|--|
| <b>Lookup Type</b>          | Specify the unique lookup type name.             |
| <b>Description</b>          | Specify the short description for lookup.        |
| <b>+ button</b>             | Click to add a new row.                          |
| <b>- button</b>             | Click to delete an existing row.                 |
| <b>Lookup Code</b>          | Specify the unique lookup code.                  |
| <b>Description</b>          | Specify the short description for lookup.        |
| <b>Sort Order</b>           | Specify the sort Order.                          |
| <b>Dependent Identifier</b> | Specify the dependent Identifier.                |
| <b>Enable</b>               | Click the toggle status to enable the parameter. |

- Click **Save** to save the details.

The lookup is successfully created and can be viewed using the **View Lookup** screen.



## 2.37.2 View Lookup

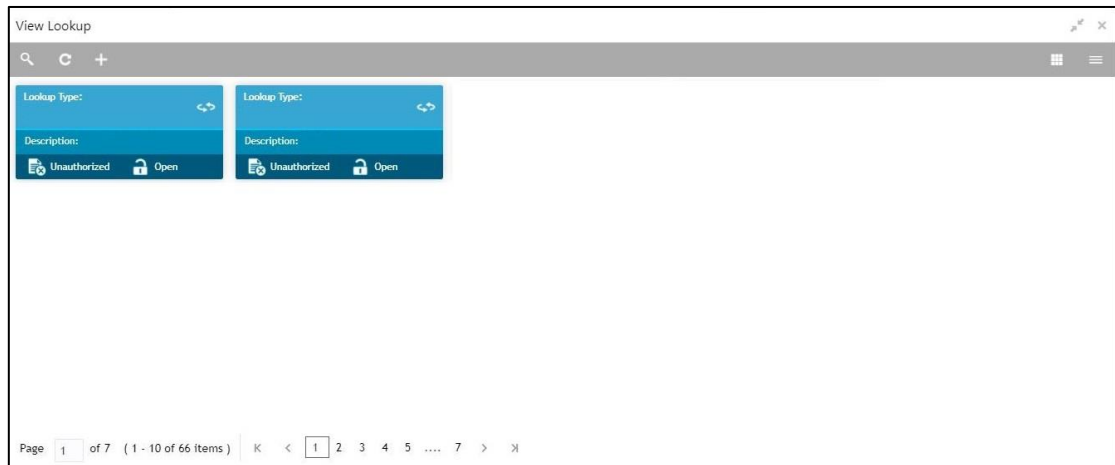
The **View Lookup** screen allows user to view the lookup created using the **Create Lookup** screen. The status of the created lookup is displayed as **Unauthorized** and **Open**. Once the checker authorizes the lookup, the status is updated to **Authorized** and **Open**.

**To view created lookup:**

1. From the **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Bureau**.
2. Under **Credit Bureau**, click **Maintenance**. Under **Maintenance**, click **Lookup**.
3. Under **Lookup**, click **View Lookup**.

→ The **View Lookup** screen is displayed.

**Figure 100 : View Lookup**



For more information on field, refer the field description table.

**Table 87 View Lookup – Field Description**

| Field              | Description                             |
|--------------------|---|
| <b>Lookup Type</b> | Displays the lookup type.               |
| <b>Description</b> | Displays the description of the lookup. |
| <b>Status</b>      | Displays the status of the record.      |

4. Click **Search**.
5. Specify the search criteria to fetch the required lookup.

→ The **View Lookup Search** screen displays.

**Figure 101 : View Lookup - Search**



For more information on fields, refer to the field description table below.

**Table 88: View Lookup – Search Option – Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Lookup Type</b>          | Displays the lookup type.  |
| <b>Authorization Status</b> | <p>Select the authorization status of the lookup.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>        | <p>Select the record status of the lookup.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

6. Click **Search**.
7. Click **three-dots** icon to unlock, delete, authorize or view the created criteria code
8. Click Unlock icon to modify the following fields. The fields are displayed in the **Lookup Maintenance** screen.
  - Lookup Code
  - Description
  - Sort Order
  - Dependent Identifier
  - Enable

**Figure 102 : Lookup Maintenance – Modify**

For more information on fields, refer to the field description table below.

**Table 89: Lookup Maintenance – Modify- Field Description.**

| Field                       | Description   |
|-----------------------------|---|
| <b>Basic Details</b>        |   |
| <b>Lookup Type</b>          | Displays the lookup type.   |
| <b>Description</b>          | Displays the description of the lookup.   |
| <b>Lookup Codes</b>         |   |
| <b>+ button</b>             | Click to add a new row.   |
| <b>- button</b>             | Click to delete an existing row.  |
| <b>Lookup Code</b>          | Displays the lookup code for the created lookup.<br>You can modify the same.          |
| <b>Description</b>          | Displays the description for the created lookup.                                      |
| <b>Sort Order</b>           | Displays the sort order for the created lookup.                                       |
| <b>Dependent Identifier</b> | Displays the dependent Identifier for the created lookup.<br>You can modify the same. |
| <b>Enable</b>               | Indicates if the lookup is enabled or not.<br>You can modify the same.                |

9. Click **Save** to update the modified fields.
10. Click **View** icon to view the created lookup code. The fields are displayed in **Lookup Maintenance** screen.

**Figure 103 : Lookup Maintenance – View**

Lookup Maintenance

**Basic Details**

Lookup Type \*  
Lookup00208

Description \*  
Lookup Desc 12

**Lookup Codes**

| Lookup Code | Description | Sort Order | Dependent Identifier | Enable                   |
|-------------|-------------|------------|----------------------|--------------------------|
| LC0002      | Lookup code | 1          | Code                 | <input type="checkbox"/> |

Audit

For more information on fields, refer to the field description table below.

**Table 90: Lookup Maintenance – View- Field Description.**

| Field                       | Description   |
|-----------------------------|---|
| <b>Basic Details</b>        |   |
| <b>Lookup Type</b>          | Displays the created lookup type.                           |
| <b>Description</b>          | Displays the description for the created lookup.            |
| <b>Lookup Codes</b>         |   |
| <b>Lookup Code</b>          | Displays the lookup code for the created lookup.            |
| <b>Description</b>          | Displays the description for the created lookup.            |
| <b>Sort Order</b>           | Displays the sort order for the created lookup.             |
| <b>Dependent Identifier</b> | Displays the dependent identifier for the created lookup.   |
| <b>Enable</b>               | Displays the lookup code if enabled for the created lookup. |

## 2.38 Criteria

The Criteria screen facilitates to setup criteria definition, which are used in evaluating request and response criteria (business rules) to identify which bureau is to be called for the request.

### Examples:

- Call credit bureau 1, for personal loan product, and call credit bureau 1 and 2 for home loan products.
- Call credit bureau 1, if zip code of the applicant is between 70000 – 80000 and call credit bureau 2, if zip code of the applicant is between 30000 – 40000.
- Call credit bureau 3, if score from credit bureau 1 is less than 600.

This section contains the following subsections:

- [2.38.1 Create Bureau Criteria](#)
- [2.38.2 View Bureau Criteria](#)

### 2.38.1 Create Bureau Criteria

The **Create Bureau Criteria** screen allows the user to create bureau criteria by updating various details.

#### To create bureau criteria:

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Bureau**.
2. Under **Credit Bureau**, click **Maintenance**. Under **Maintenance**, click **Criteria**.
3. Under **Criteria**, click **Create Bureau Criteria**.



→ The **Create Bureau Criteria** screen is displayed.

**Figure 104 : Create Bureau Criteria**

4. Specify the fields on **Create Bureau Criteria** screen. The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table.

Table 91: Create Bureau Criteria – Field Description.

| Field   | Description  |
|---|--|
| <b>Basic Details</b>  |  |
| <b>Criteria Code</b>  | Specify the unique criteria code.  |
| <b>Description</b>  | Specify a short description for the criteria code.                             |
| <b>Product Processor</b>  | Specify the product processor for which the criteria is being created.         |
| <b>+ button</b>   | Click to add a new row.  |
| <b>- button</b>   | Click to delete an existing row.   |
| <b>Rule ID</b>  | Specify the rule ID.   |
|    | Click to get the information about the rule.                                   |
| <b>Description</b>  | Displays the description of the rule ID selected.                              |
| <b>Priority</b>   | Specify the priority of the criteria.  |
| <b>Call All Bureau</b>  | Click the toggle status to call all bureaus.                                   |
| <b>Enable</b>   | Click the toggle status to enable the rule criteria.                           |
| <b>Actions</b>  | This field is enabled if <b>Call All Bureau</b> field is selected as <b>No</b> |
| <b>+ button</b>   | Click this icon to add a new row.  |
| The below fields appear if <b>Call All Bureau</b> toggle status is not clicked. To add the child rule to the parent rule. |  |
| <b>Rule ID</b>  | Select the rule ID from the drop-down list.                                    |
|                                        | Click to get the information about the rule.                                   |
| <b>Description</b>  | Displays the description of the rule ID selected it is auto populated.         |
| <b>Priority</b>   | Specify the priority of the criteria.  |
| <b>Enable</b>   | Click the toggle status to enable the rule criteria.                           |

- Click **Save** to save the details.

The criteria are successfully created and can be viewed using the **View Criteria** screen.

## 2.38.2 View Bureau Criteria

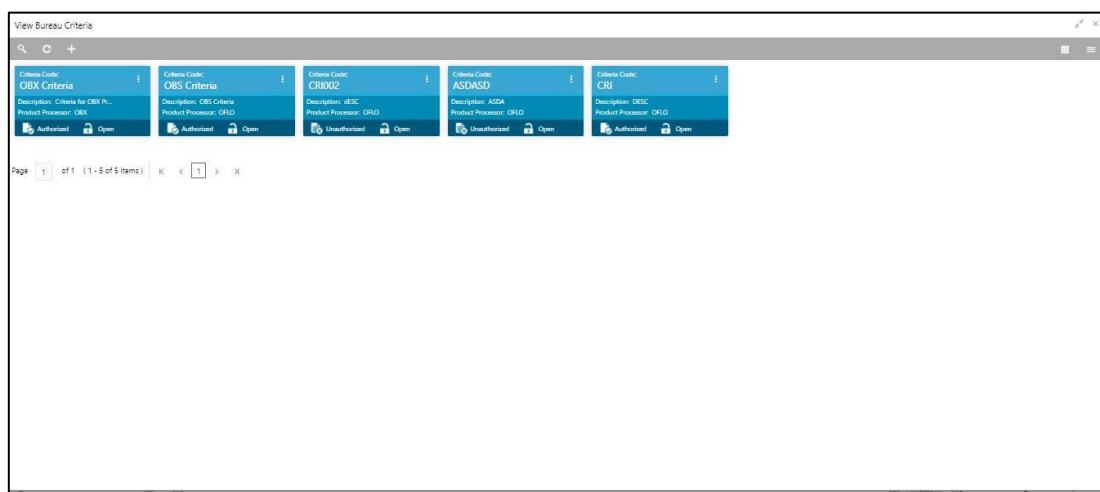
The **View Bureau Criteria** screen allows the user to view the criteria created using the **Create Bureau Criteria** screen. The status of the created criteria is displayed as **Unauthorized** and **Open**. Once the checker authorizes the criteria, the status is updated to **Authorized** and **Open**.

To view created criteria:

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Bureau**.
2. Under **Credit Bureau**, click **Maintenance**. Under **Maintenance**, click **Criteria**.
3. Under **Criteria**, click **View Bureau Criteria**.

→ The **View Bureau Criteria** screen is displayed.

**Figure 105 : View Bureau Criteria**



For more information on fields refer to the field description table.

**Table 92: View Bureau Criteria – Field Description.**

| Field                    | Description                                     |
|--------------------------|---|
| <b>Criteria Code</b>     | Displays the criteria code.                     |
| <b>Description</b>       | Displays the description of the criteria code.  |
| <b>Product Processor</b> | Displays the product processor of the criteria. |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required criteria.
6. Click **Search**.

The **View Criteria - Search** screen displays.

**Figure 106 : View Criteria –Search Option**

The screenshot shows a web interface titled "View Criteria". It contains a search form with the following fields:

- Criteria Code:** A text input field.
- Description:** A dropdown menu with "All Description Criteria" selected.
- Product Processor:** A dropdown menu.
- Authorization Status:** A dropdown menu.
- Record Status:** A dropdown menu.

At the bottom left of the form are two buttons: "Search" and "Reset".



For more information on fields, refer to the field description table below.

**Table 93: View Criteria – Field Description.**

| Field                       | Description   |
|-----------------------------|---|
| <b>Criteria Code</b>        | Specify the criteria code.  |
| <b>Description</b>          | Specify the criteria description.   |
| <b>Product Processor</b>    | Select the product processor from the drop-down list.   |
| <b>Authorization Status</b> | Select the authorization status of the criteria.<br><br>The available options are: <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>        | Select the record status from the drop-down list.<br><br>The available options are: <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>             |

7. Click **three-dots** icon to unlock, delete, authorize or view the created criteria code.
8. Click **Unlock** icon to modify the following fields. The fields are displayed in the **Bureau Criteria Maintenance** screen.
  - Rule ID
  - Description
  - Priority
  - Call All Bureau Status
  - Enable

**Figure 107 : Bureau Criteria Maintenance- Modify**

**Bureau Criteria Maintenance**

**Basic Details**

Criteria Code: OBS Criteria | Description: Criteria for OBS Product Processor | Product Processor: OBS

**Criteria Definition**

| Rule ID              | Description          | Priority | Call All Bureau | Enable                              | Actions |
|----------------------|----------------------|----------|-----------------|-------------------------------------|---------|
| PROD_TYPE_MULTIFA CL | Multiple Fact Rule   | 2        | Yes No          | <input checked="" type="checkbox"/> |         |
| OBS_RULE_BFX         | OBS_Rule_CBS_Equifax | 1        | Yes No          | <input checked="" type="checkbox"/> |         |

Audit Save Cancel

For more information on fields, refer to the field description table below.

**Table 94: Bureau Criteria Maintenance – Modify - Field Description.**

| Field                      | Description  |
|----------------------------|--|
| <b>Basic Details</b>       |  |
| <b>Criteria Code</b>       | Displays the created criteria code.                                    |
| <b>Description</b>         | Displays the description for the created criteria code.                |
| <b>Product Processor</b>   | Displays the product processor for which the criteria being created.   |
| <b>Criteria Definition</b> |  |
| <b>Rule ID</b>             | Displays the rule ID for the created criteria.                         |
| <b>Description</b>         | Displays the description for the created criteria.                     |
| <b>Priority</b>            | Displays the priority for the created criteria.                        |
| <b>Call All Bureau</b>     | Displays if call all bureau has been enabled for the created criteria. |
| <b>Enable</b>              | Displays the criteria code if enabled for the created criteria.        |
| <b>Actions</b>             | Displays the actions of the created criteria.                          |

10. Click **Save** to update the modified fields.

11. Click **View** icon to view the created criteria code. The fields are displayed in **Bureau Criteria Maintenance** screen.

**Figure 108 : Bureau Criteria Maintenance - View**

**Basic Details**

Criteria Code: OBX Criteria

Description: Criteria for OBX Product Processor

Product Processor: OBX

**Criteria Definition**

| Rule ID            | Description          | Priority | Call All Bureau | Enable | Actions |
|--------------------|----------------------|----------|-----------------|--------|---------|
| PRD_TYPE.MULTIFACT | Multiple Fact Rule   | 2        | Yes/No          | Yes/No | + -     |
| OBS_RULE.EFX       | OBS_Rule,CBS,Equifax | 1        | Yes/No          | Yes/No | + -     |

**Audit**

For more information on fields, refer to the field description table below.

**Table 95: Bureau Criteria Maintenance- View – Field Description.**

| Field                      | Description  |
|----------------------------|--|
| <b>Basic Details</b>       |  |
| <b>Criteria Code</b>       | Displays the created criteria code.                                    |
| <b>Description</b>         | Displays the created criteria description.                             |
| <b>Product Processor</b>   | Displays the product processor of the created criteria.                |
| <b>Criteria Definition</b> |  |
| <b>Rule ID</b>             | Displays the rule ID for the created criteria.                         |
| <b>Description</b>         | Displays the description for the created criteria.                     |
| <b>Priority</b>            | Displays the priority for the created criteria.                        |
| <b>Call All Bureau</b>     | Displays if call all bureau has been enabled for the created criteria. |
| <b>Enable</b>              | Displays the criteria code if enabled for the created criteria.        |
| <b>Actions</b>             | Displays the actions of the created criteria.                          |

## 2.39 System Parameter

System parameters define the information or values used throughout the system and drives the behavior of the features. They control the way task is executed, or whether the system performs a particular task. Some of the parameters are set when the system is installed, but the values associated with the parameter needs to be reviewed and is to be maintained.

### Example:

- Set minimum days to pull credit bureau report from same bureau from initial pull.
- Credit bureau report purge days.

This section contains the following subsections:

- [2.39.1 Create System Parameter](#)
- [2.39.2 View System Parameter](#)

### 2.39.1 Create System Parameter

The **Create System Parameter** screen allows the user to create system parameter by updating various details.

#### To create system parameter:

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Bureau**.
2. Under **Credit Bureau**, click **Maintenance**. Under **Maintenance**, click **System Parameter**.
3. Under **System Parameter**, click **Create System Parameter**

→ The **Create System Parameter** screen is displayed.

**Figure 109 : Create System Parameter**

4. Specify the fields on **Create System Parameter** screen. The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 96: System Parameter – Field Description.**

| Field                        | Description  |
|------------------------------|--|
| <b>Basic Details</b>         |  |
| <b>Parameter Code</b>        | Select the parameter code from the drop-down list.   |
| <b>Parameter Description</b> | Specify a short description for the parameter code.  |
| <b>Product Processor</b>     | Select the product processor from the drop-down list for which the parameter is being created. |
| <b>Value</b>                 | Specify the value for the parameter code.  |

6. Click **Save** to save the details.

The parameter is successfully created and can be viewed using the **View System Parameter** screen.

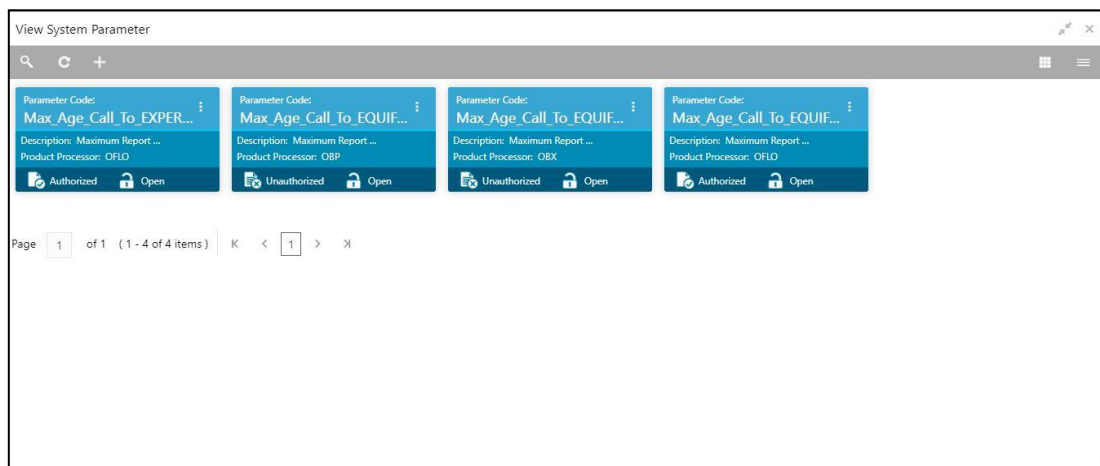
## 2.39.2 View System Parameter

The **View System Parameter** screen allows the user to view the system parameter created using the **Create System Parameter** screen. The status of the created system parameter is displayed as **Unauthorized** and **Open**. Once the checker authorizes the parameter, the status is updated to **Authorized** and **Open**.

**To view created parameter:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Bureau**.
2. Under **Credit Bureau**, click **Maintenance**. Under **Maintenance**, click **System Parameter**.
3. Under **System Parameter**, click **View System Parameter**.

→ The **View System Parameter** screen is displayed.

**Figure 110 : View System Parameter**

For more information on fields, refer to the field description table.

**Table 97: View System Parameter – Field Description.**

| Field                    | Description                                      |
|--------------------------|--|
| <b>Parameter Code</b>    | Displays the parameter code.                     |
| <b>Description</b>       | Displays the description of the parameter code.  |
| <b>Product Processor</b> | Displays the product processor of the parameter. |
| <b>Status</b>            | Displays the status of the record.               |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required parameter.
6. Click **Search**.

**Figure 111 : View System Parameter –Search Option**

For more information on fields, refer to the field description table below.

**Table 98: View System Parameter – Field Description.**

| Field                       | Description  |
|-----------------------------|--|
| <b>Parameter Code</b>       | Specify the parameter code.  |
| <b>Authorization Status</b> | <p>Select the authorization status of the criteria.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>        | <p>Select the record status of the criteria.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created parameter code.
8. Click **Unlock** icon to modify the following fields. The fields are displayed in the **System Parameter Maintenance** screen.
  - Product Processor
  - Value

**Figure 112 : System Parameter Maintenance - Modify**

For more information on fields, refer to the field description table below.

**Table 99: System Parameter Maintenance – Modify – Field Description.**

| Field                        | Description  |
|------------------------------|--|
| <b>Basic Details</b>         |  |
| <b>Parameter Code</b>        | Displays the created parameter code.                     |
| <b>Parameter Description</b> | Displays the description for the created parameter.      |
| <b>Product Processor</b>     | Displays the product processor of the created parameter. |
| <b>Value</b>                 | Displays the value of the created parameter.             |

10. Click **Save** to update the modified fields.

11. Click **View** icon to view the created parameter code. The fields are displayed in **System Parameter Maintenance** screen.

**Figure 113 : System Parameter Maintenance - View**

For more information on fields, refer to the field description table below.

**Table 100: System Parameter Maintenance- View – Field Description.**

| Field                        | Description  |
|------------------------------|--|
| <b>Basic Details</b>         |  |
| <b>Parameter Code</b>        | Displays the created parameter code.                     |
| <b>Parameter Description</b> | Displays the created parameter description.              |
| <b>Product Processor</b>     | Displays the product processor of the created parameter. |
| <b>Value</b>                 | Displays the value for the created parameter.            |



## 2.40 Integrating Decision Service with Oracle Banking Routing Hub

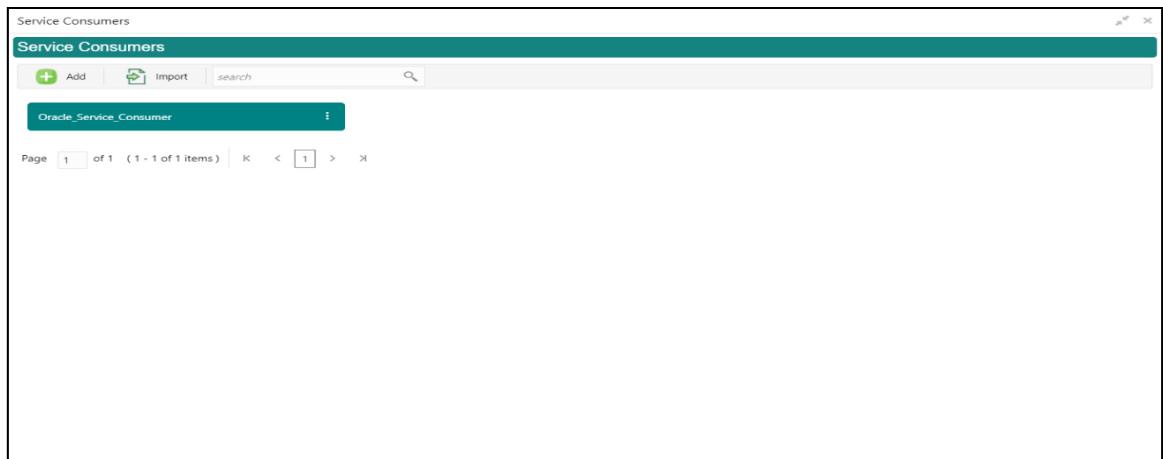
### 2.40.1 Oracle Banking Routing Hub Configuration

Need to import existing service consumer and providers in the system. Service Consumer is oracle product, which invokes oracle banking routing hub API, oracle banking routing hub analyses evaluates destination product processor and transform data into format of the same. Service Consumer comprises of the source and destination integration details.

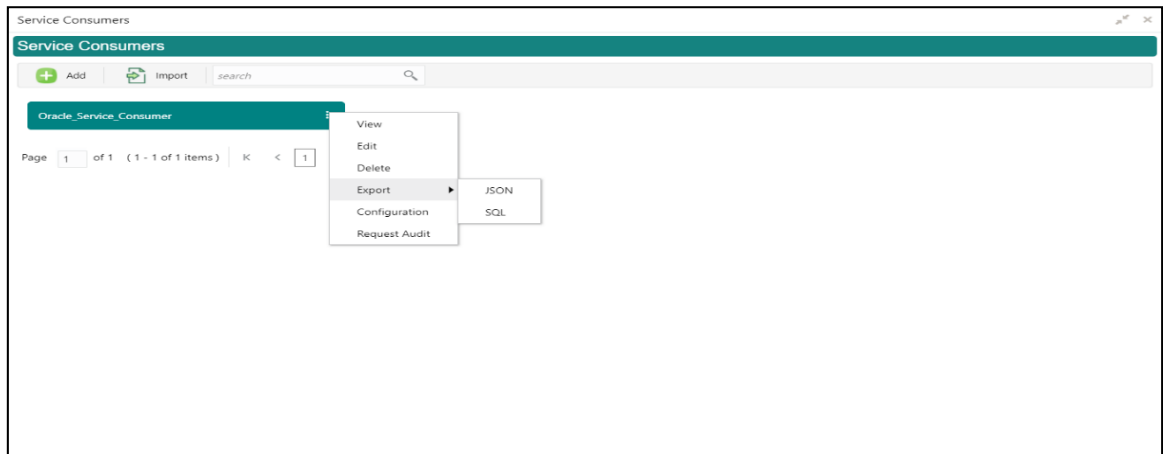
1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Routing Hub**.
2. Under **Routing Hub**, click **Service Consumers**.

→ The **Service Consumers** screen is displayed.

**Figure 114: Service Consumers**



**Figure 115: Oracle Banking Routing Hub Configuration**



**Table 101: Oracle Banking Routing Hub Configuration**

| Component Name | Component Type | Condition | Comments              |
|----------------|----------------|-----------|-----------------------|
| <b>Add</b>     | Button         |           | Pops up add dialog    |
| <b>Import</b>  | Button         |           | Pops up import dialog |

|                      |               |              |   |
|----------------------|---------------|--------------|---|
| <b>Search</b>        | Combo Box One |              | Provides search functionality with case insensitive (Service Consumer Name) |
| <b>View</b>          | menu option   | Non-editable | Pops up view dialog   |
| <b>Edit</b>          | menu option   |              | Pops up edit dialog   |
| <b>Delete</b>        | menu option   |              |   |
| <b>Export</b>        | Sub menu item |              |   |
| <b>JSON</b>          | menu option   |              | Exports in JSON   |
| <b>SQL</b>           | menu option   |              | Exports in SQL  |
| <b>Configuration</b> | menu option   |              | Pops up configuration dialog  |
| <b>Request Audit</b> | menu option   |              | Pops up request audit log   |

### 2.40.1.1 Add

You can create Service Consumer manually.

On **Service Providers** screen, click **Add** to create service providers.

**Figure 116: Add**

The screenshot shows the 'Add Service Consumer' dialog box. The 'Name' field is populated with 'Oracle\_Service\_Consumer'. A tooltip provides validation rules: 'Enter 0 or more characters, up to a maximum of 255. No numeric value allowed at beginning.No space allowed.' The 'Environment Variables' section includes an 'Add' button and a 'Group' dropdown. Below this is a table with columns 'Actions', 'Name', and 'Value', which is currently empty. A 'Save' button is located at the bottom right of the dialog.

Table 102: Add

| Component Name        | Component Type | Is Mandatory | Data type                            | Validation   | Comments                     |
|-----------------------|----------------|--------------|--------------------------------------|--|------------------------------|
| Name                  | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>Name cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255</li> <li>No numeric value at beginning and no space allowed</li> </ul> | Unique Service Consumer name |
| Environment Variables | Table Content  |              |                                      |  |                              |
| Save                  | Button         |              |                                      |  | Saves the Service Consumer   |

### 2.40.1.1 Environment Variables

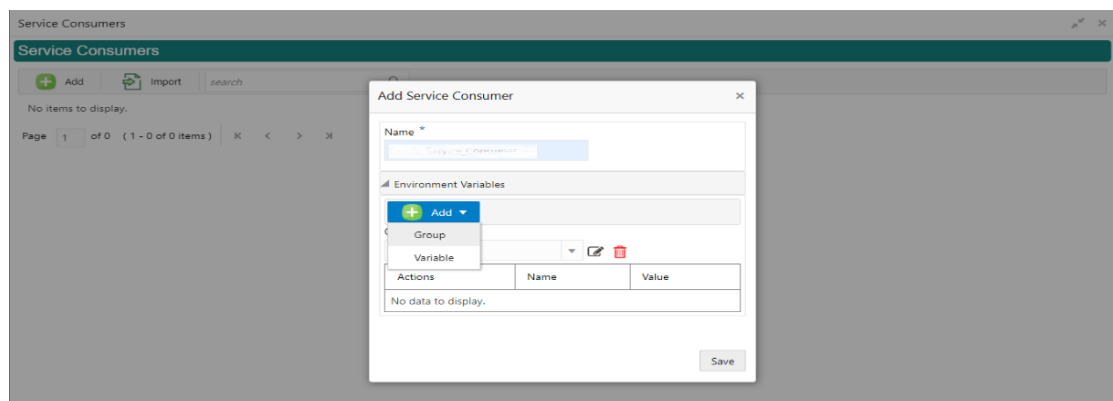
You can define the group of variables that can be accessed throughout the specific consumer's configuration.

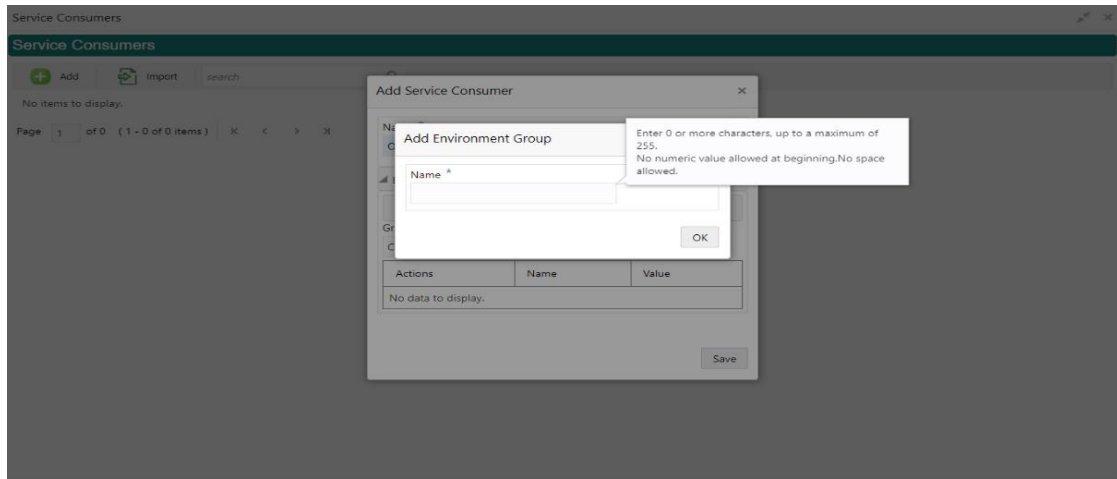
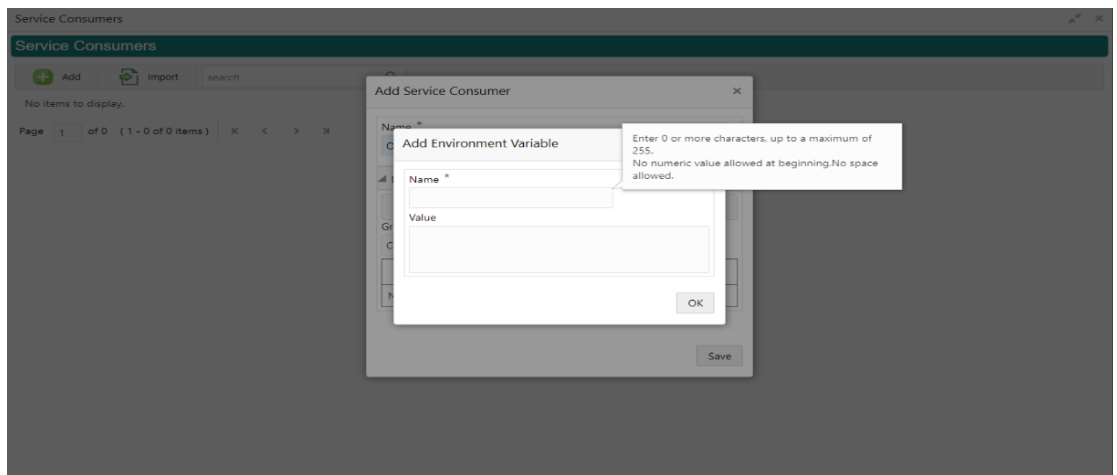
**Below is the syntax for accessing environment variables:**

`$env.Environment_Group_Name.Environment_Variable_Name`

such as : `$env.COMMON.BRANCH_CODE`

Figure 117: Environment Variables



**Figure 118: Environment Variables****Figure 119: Environment Variables****Table 103: Environment Variables**

| Component Name  | Component Type     | Is Mandatory | Data type | Validation | Comments                    |
|---|--------------------|--------------|-----------|------------|-----------------------------|
| <b>Add</b>  | Menu Item          |              |           |            |                             |
| <b>Group</b>  | Menu option        |              |           |            | Pops up add group dialog    |
| <b>Variable</b>   | Menu option        |              |           |            | Pops up add variable dialog |
| <b>Navigation: Service Consumer -&gt; Environment Variables -&gt; 3 dot icon (operation menu)</b> |                    |              |           |            |                             |
| <b>Edit</b>   | menu option / icon |              |           |            | Pops up edit dialog         |
| <b>Delete</b>   | menu option / icon |              |           |            | Deletes group / variable    |

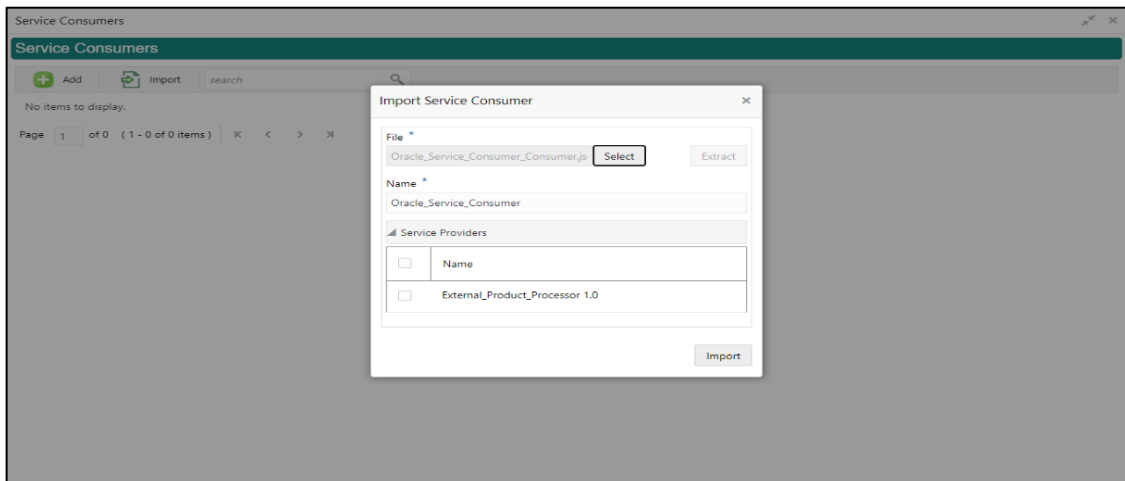
| Environment Group / Variable |           |     |                                      |  |  |
|------------------------------|-----------|-----|--------------------------------------|--|--|
| Name                         | Text Box  | Yes | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>• Name cannot be blank</li> <li>• Specify 0 or more characters, up to a maximum of 255</li> <li>• No numeric value at beginning and no space allowed</li> </ul> |  |
| Value                        | Text Area |     |                                      |  | Value can either be hardcoded or Velocity mapping.     |
| OK                           | Button    |     |                                      |  | Saves the group / variable and displays it in the list |

### 2.40.1.2 Import

You can create a service consumer by importing the JSON file and manually selecting the service Providers or select all providers that needs to be imported.

On **Service Providers** screen, click **Import**.

**Figure 120: Import**



**Table 104: Import**

| Component Name | Component Type | Is Mandatory | Data type                            | Validation   | Condition              | Comments  |
|----------------|----------------|--------------|--------------------------------------|--|------------------------|---|
| <b>File</b>    | File picker    | Yes          |                                      | Allows only to select one file   | Accepts only JSON file | Pops up file selection dialog box   |
| <b>Extract</b> | Button         | Yes          |                                      |  |                        | Extracts Consumer Name and Service Provider list from JSON file and displays it in the respective elements. |
| <b>Name</b>    | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>Name cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255</li> </ul> | Editable               | Unique  |

| Component Name          | Component Type               | Is Mandatory | Data type | Validation   | Condition | Comments   |
|-------------------------|------------------------------|--------------|-----------|--|-----------|--|
|                         |                              |              |           | <ul style="list-style-type: none"> <li>No numeric value at beginning and no space allowed</li> </ul> |           |  |
| <b>Service Provider</b> | Collapsible Header & Content |              |           |  |           | Displays the list of service providers that are present in JSON file |
| <b>Import</b>           | Button                       |              |           |  |           | Imports Service Consumer   |

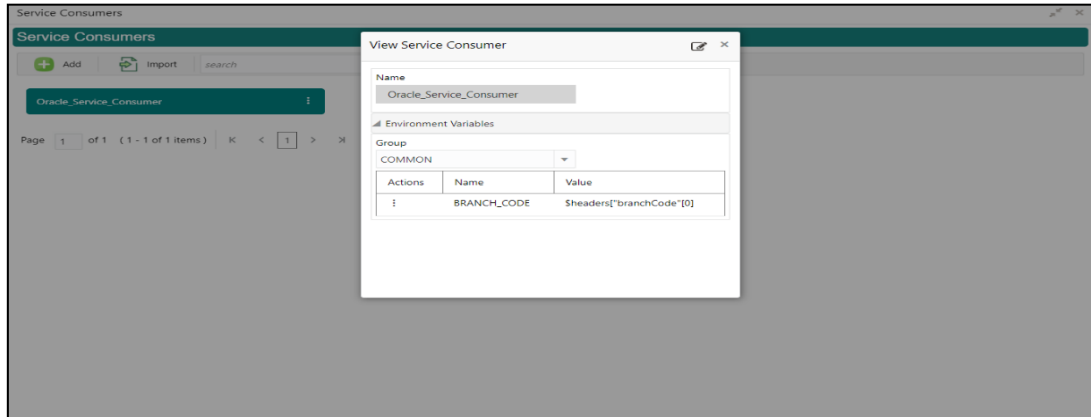
**Note:** Below data needs to be changed after importing consumer configuration file:

- Implementation Host and Port
- Implementation Authentication Password

### 2.40.1.3 View

You can view consumer details and can switch to edit form by clicking on edit icon.  
On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **View**.

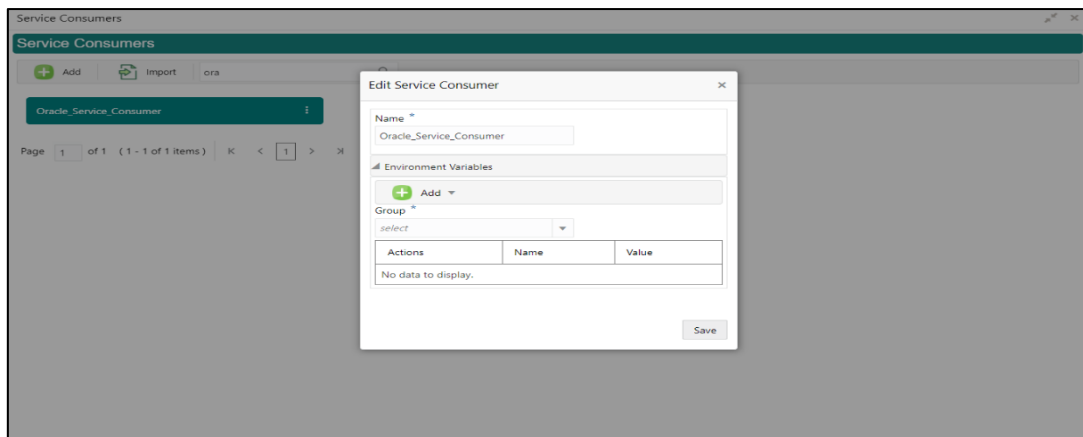
**Figure 121: View**



### 2.40.1.4 Edit

You can modify the consumer details.  
On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **Edit**.

**Figure 122: Edit**



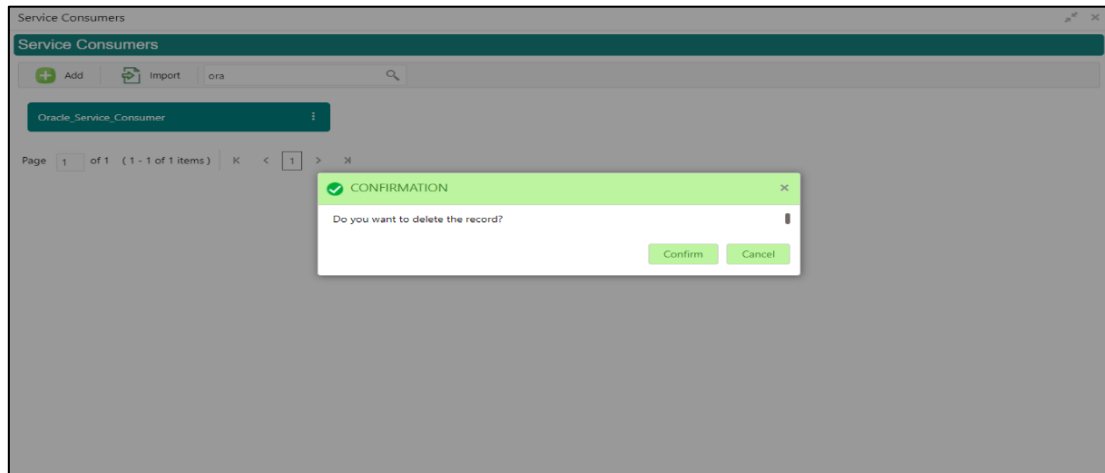


### 2.40.1.5 Delete

You can delete the consumer.

On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **Delete**.

**Figure 123: Delete**



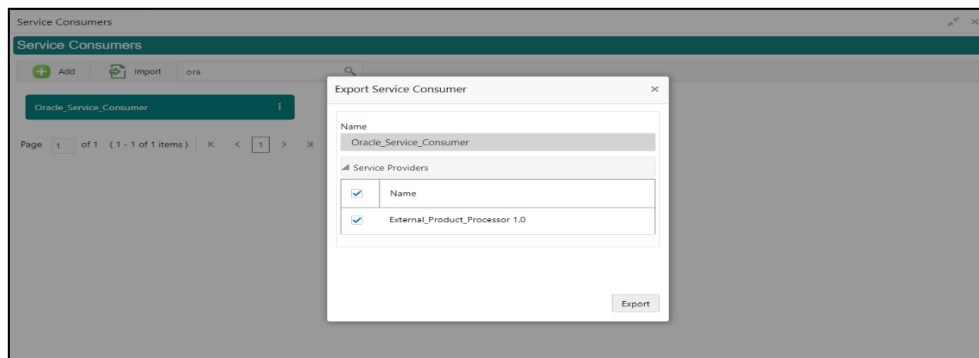
### 2.40.1.6 JSON Export

You can export the consumer configuration as JSON file.

On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **Export**.

and then, Click **JSON**.

**Figure 124: JSON Export**



**NOTE:** You have an option to select service providers from the list that needs to be exported or can click on Select All option for all service providers.

JSON Export feature will export below data:

- Selected service consumer
- All consumer services
- Selected service providers with services
- Default implementation of selected service providers with services (without Host, Port and Authentication Password)
- Default transformations
- All default implementation routes

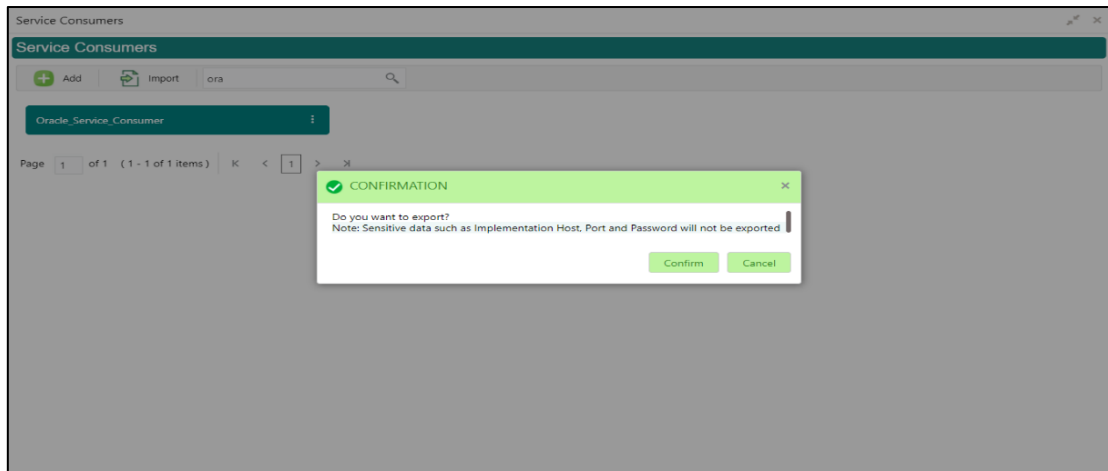
### 2.40.1.7 SQL Export

You can export the consumer configuration as SQL file.

On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **Export**.

and then, click **SQL**.

**Figure 125: SQL Export**



**NOTE:** SQL Export feature will export entire configuration without Host, Port and Authentication Password details.

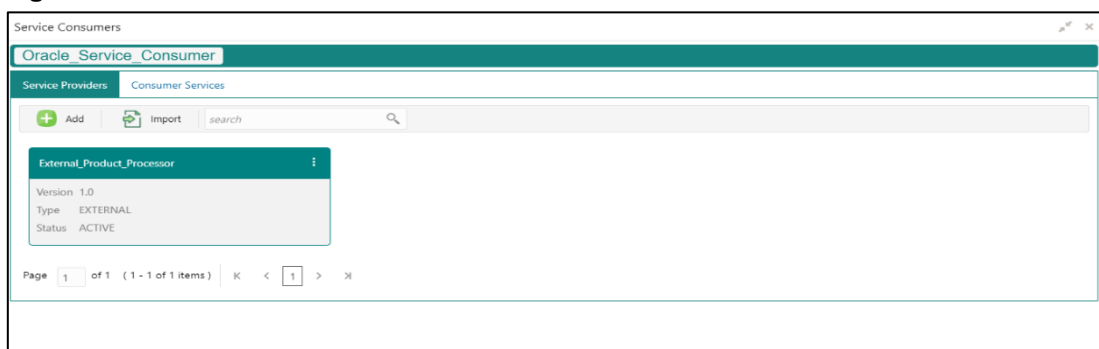
### 2.40.2 Service Providers

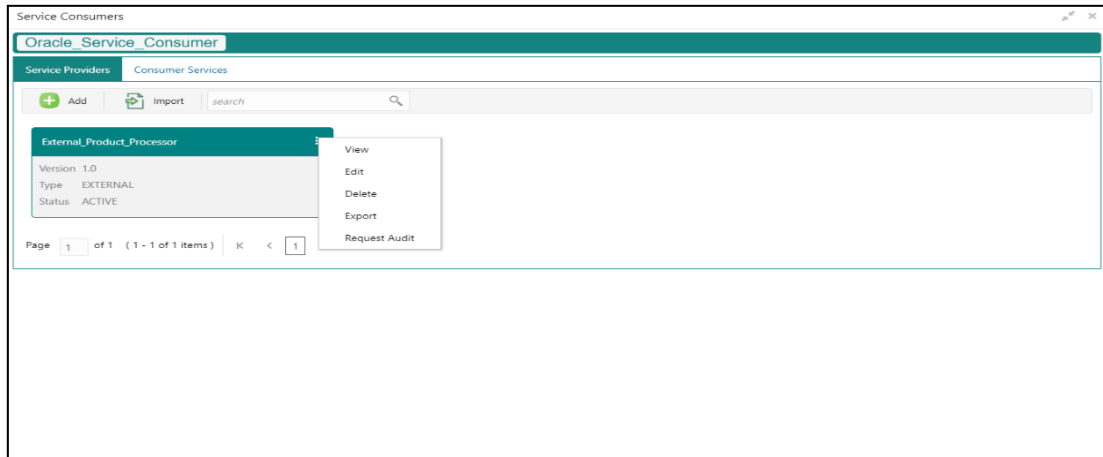
Service Providers are the product processors configure to process request send by oracle banking routing hub on behalf of service consumers. Service Provider comprises of destination integration details.

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Routing Hub**.
2. Under **Routing Hub**, click **Service Consumers**. Under **Service Consumers**, click **<Specific Service Consumer>**.

→ The **Service Providers** screen is displayed.

**Figure 126: Service Providers**



**Figure 127: Service Providers****Table 105: Service Providers**

| Component Name   | Component Type | Condition    | Comments  |
|--|----------------|--------------|---|
| <Service Consumer>   | Button         |              | Navigates back to Service Consumers   |
| Add  | Button         |              | Pops up add dialog  |
| Import   | Button         |              | Pops up import dialog   |
| Search   | Combo Box One  |              | Provides search functionality with case insensitive (Service Provider Name) |
| Navigation: <b>Service Providers -&gt; 3 dot icon (operation menu)</b> |                |              |   |
| View   | menu option    | Non-editable | Pops up view dialog   |
| Edit   | menu option    |              | Pops up edit dialog   |
| Delete   | menu option    |              |   |
| Export   | menu option    |              | Exports in JSON   |
| Request Audit  | menu option    |              | Pops up request audit log   |

### 2.40.2.1 Add

You can create service provider manually.

On **Service Providers** screen, click **Add** to create service providers.

**Figure 128: Add**

The screenshot shows the 'Add Service Provider' modal window. It contains the following elements:

- Product Name \***: A text input field with a tooltip: "Enter 0 or more characters, up to a maximum of 255. No numeric value allowed at beginning. No space allowed."
- Version \***: A text input field.
- Active**: A toggle switch currently set to 'On'.
- Buttons**: 'Save' and 'Cancel' buttons at the bottom right.
- Background**: The 'Service Providers' table with one entry:
 

| Product Name               | Version | Type     | Status |
|----------------------------|---------|----------|--------|
| External Product Processor | 1.0     | EXTERNAL | ACTIVE |

**Table 106: Add**

| Component Name      | Component Type | Is Mandatory | Data type                            | Validation   | Comments                               |
|---------------------|----------------|--------------|--------------------------------------|--|--|
| <b>Product Name</b> | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>Name cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255.</li> <li>No numeric value at beginning and no space allowed.</li> </ul> | Unique provider name                   |
| <b>Type</b>         | Combo Box One  | Yes          |                                      |  | Predefined Values: INTERNAL / EXTERNAL |

| Component Name | Component Type               | Is Mandatory | Data type | Validation  | Comments   |
|----------------|------------------------------|--------------|-----------|---|--|
| <b>Version</b> | Text Box                     | Yes          | Number    | <ul style="list-style-type: none"> <li>Version cannot be blank</li> <li>Specify 0 or more characters, up to a maximum of 255.</li> <li>Specify only numeric or decimal values.</li> </ul> | Unique provider version  |
| <b>Active</b>  | Switch                       |              |           |   | Predefined Values:<br>ACTIVE / INACTIVE<br>If provider is marked as inactive, then all related routes will be stopped. |
| <b>Headers</b> | Collapsible Header & Content |              |           |   | Provider specific headers  |
| <b>Service</b> | Collapsible Header & Content |              |           |   | Provider specific service details  |
| <b>Save</b>    | Button                       |              |           |   | Saves the Service Provider   |

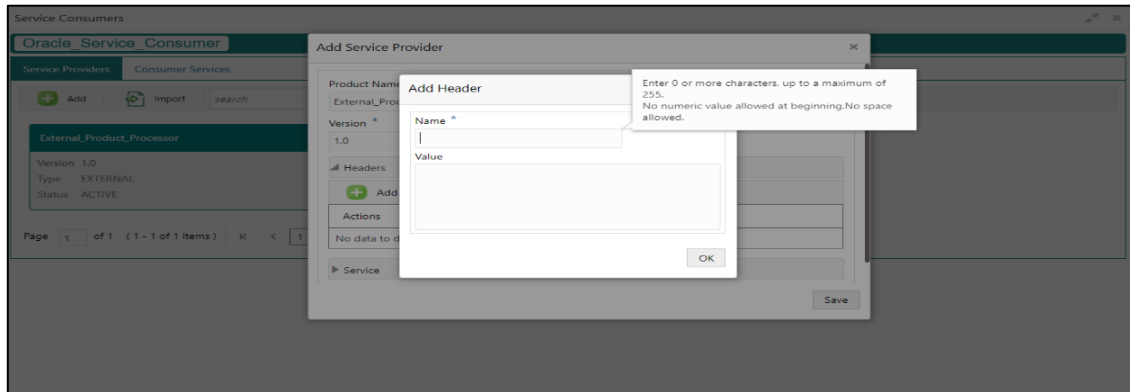
## 2.40.2.2 Headers

External product processor might require some standard headers to be passed along with the request.

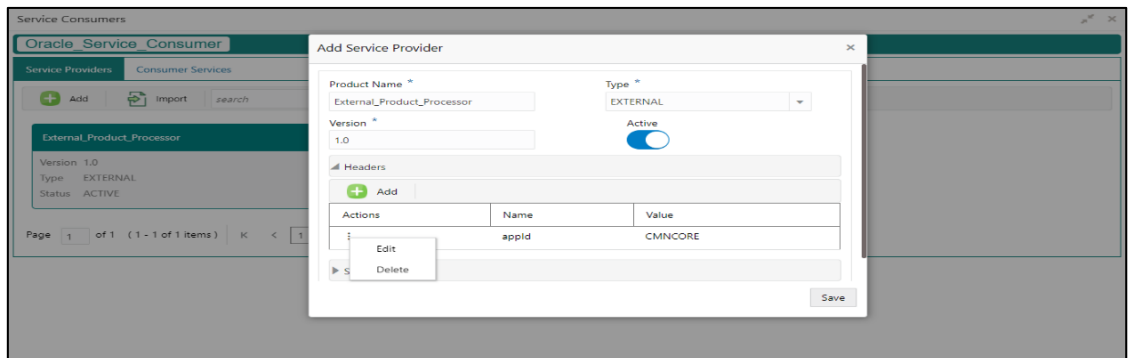
You can specify the headers which are required by service endpoints for its all implementations but not present in swagger file.

These headers can be configured in oracle banking routing hub using the steps given below.

**Figure 129: Headers**



**Figure 130: Headers**



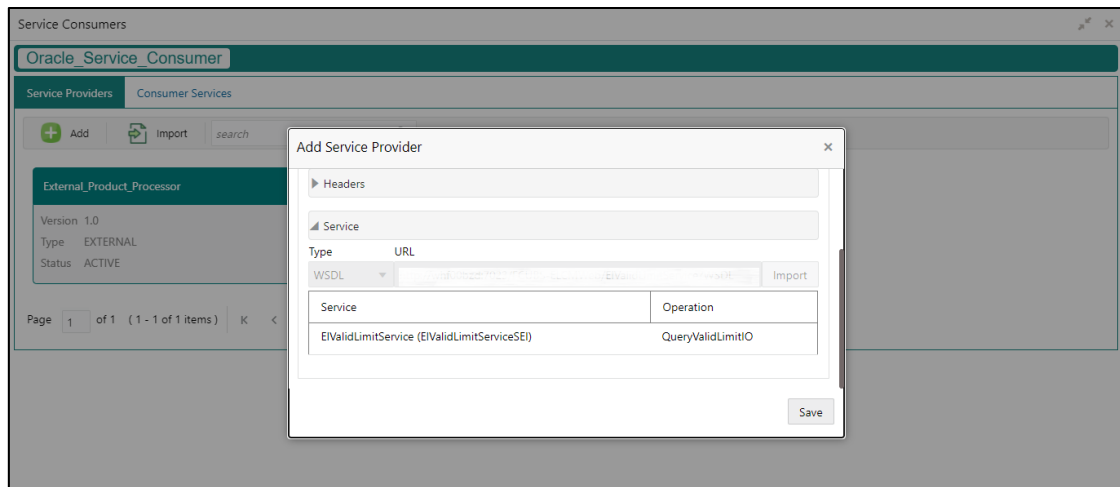
**Table 107: Headers**

| Component Name | Component Type | Is Mandatory | Data type | Validation | Comments            |
|----------------|----------------|--------------|-----------|------------|---------------------|
| Add            | Button         |              |           |            | Pops up add dialog  |
| Edit           | menu option    |              |           |            | Pops up edit dialog |
| Delete         | menu option    |              |           |            | Deletes header      |

| Component Name   | Component Type | Is Mandatory | Data type                            | Validation   | Comments  |
|--|----------------|--------------|--------------------------------------|--|---|
| Navigation: <b>Service Providers -&gt; Headers -&gt; Add</b> |                |              |                                      |  |   |
| <b>Name</b>  | Text Box       | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>• Name cannot be blank</li> <li>• Specify 0 or more characters, up to a maximum of 255.</li> <li>• No numeric value at beginning and no space allowed.</li> </ul> |   |
| <b>Value</b>   | Text Area      | Yes          | Alphanumeric with special characters | <ul style="list-style-type: none"> <li>• Value cannot be blank</li> <li>• Specify 0 or more characters, up to a maximum of 255.</li> <li>• No space allowed.</li> </ul>                                  | Value either can be hardcoded or can be Velocity mapping. |
| <b>OK</b>  | Button         |              |                                      |  | Saves the header details and displays it in the list      |

### 2.40.2.3 Service

**Figure 131: Service**



**Table 108: Service**

| Component Name | Component Type | Is Mandatory | Comments  |
|----------------|----------------|--------------|---|
| Type           | Combo Box One  | Yes          | Predefined Values: WSDL / SWAGGER   |
| URL            | Text Box       | Yes          | Service URL of the file location  |
| Gateway Prefix | Text Box       |              | Gateway Prefix is context path of below formatted URL<br>http://host:port/gateway-prefix/endpoint |
| Import         | Button         |              | Extracts the service information from URL and displays it in the Service list                     |

### 2.40.2.4 WSDL

The Web Services Description Language (WSDL) is an XML-based interface description language that is used for describing the functionality offered by a web service.

Currently, non-SSL WSDL URL is only supported.

**NOTE:** In case there is a change in wsdl file, then same wsdl file need to be imported again in order to update the provided service information in routing hub.



### 2.40.2.5 SWAGGER

Swagger is an Interface Description Language for describing RESTful APIs expressed using JSON.

Currently, Swagger 2.0 & Open API 3.0 both are supported.

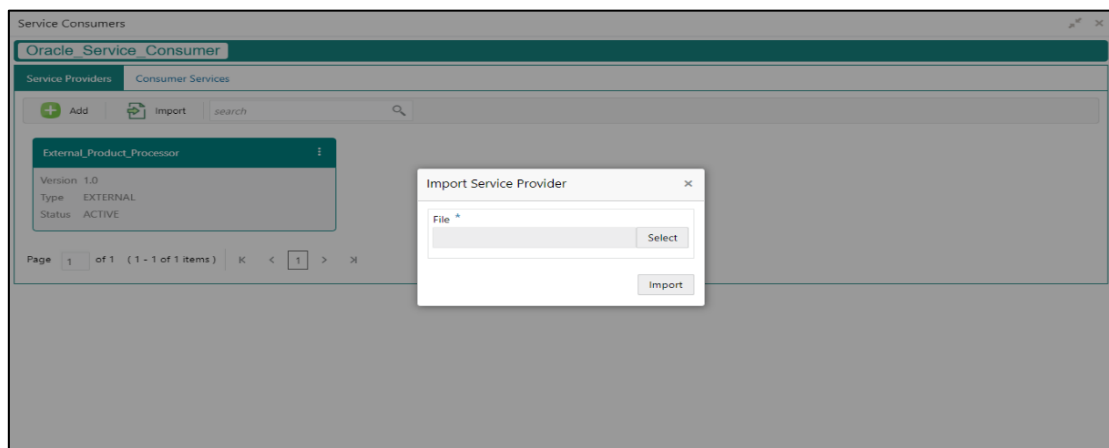
**NOTE:** In case there is a change in swagger file, then same swagger file need to be imported again in order to update the provided service information in routing hub.

### 2.40.2.6 Import

You can create a service provider by importing the JSON file.

On **Service Providers** screen, click **Import**.

**Figure 132: Import**



**Table 109: Import**

| Component Name | Component Type | Is Mandatory | Validation                     | Condition              | Comments                          |
|----------------|----------------|--------------|--------------------------------|------------------------|-----------------------------------|
| <b>File</b>    | File picker    | Yes          | Allows only to select one file | Accepts only JSON file | Pops up file selection dialog box |
| <b>Import</b>  | Button         |              |                                |                        | Imports Service Provider          |

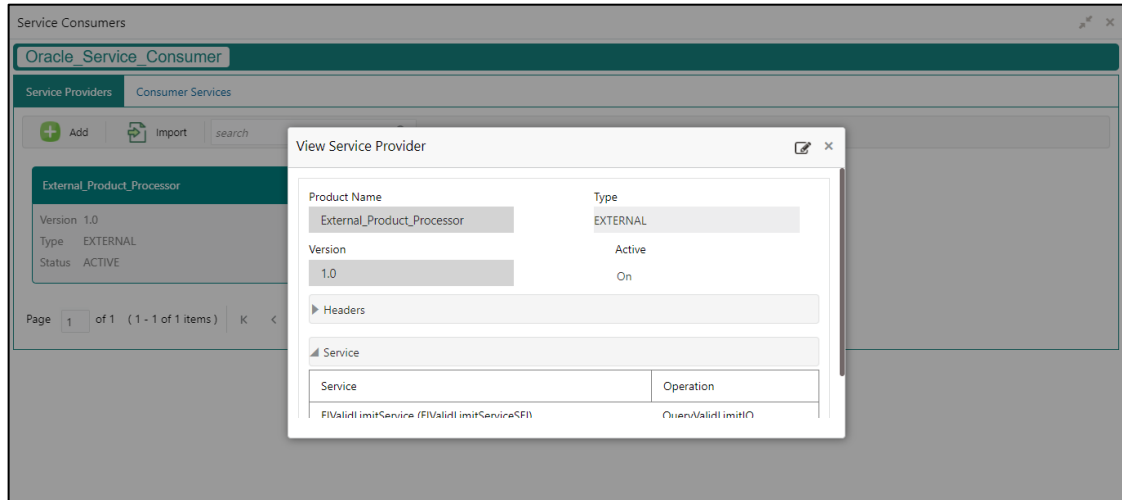
**NOTE:** Below data needs to be changed after importing provider configuration file:

- Implementation Host and Port
- Implementation Authentication Password

### 2.40.2.7 View

You can view provider details and can switch to edit form by clicking on edit icon.  
On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **View**.

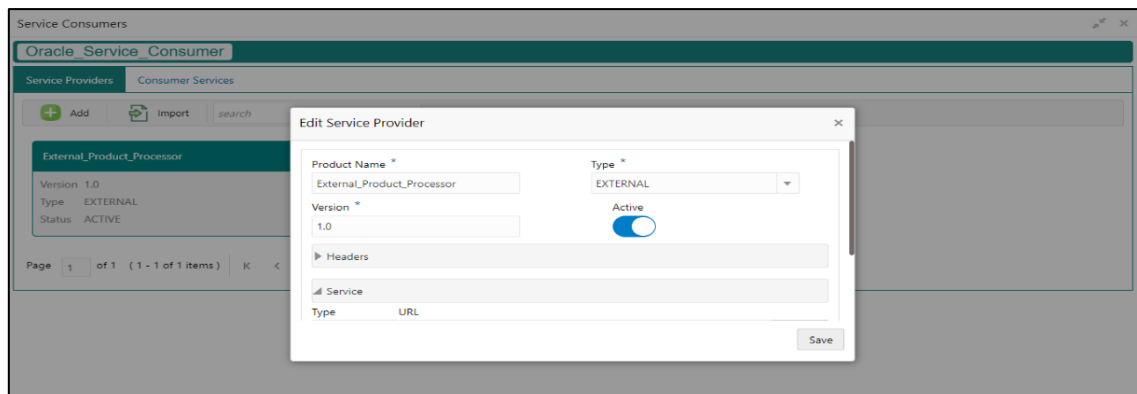
**Figure 133: Oracle Banking Routing Hub Configuration**



### 2.40.2.8 Edit

You can modify the provider details.  
On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **Edit**.

**Figure 134: Edit**

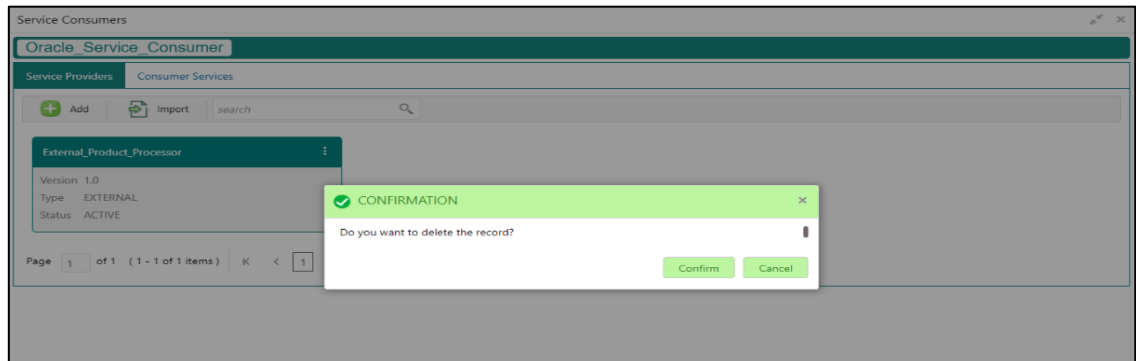


### 2.40.2.9 Delete

You can delete the provider.

On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **Delete**.

**Figure 135: Delete**

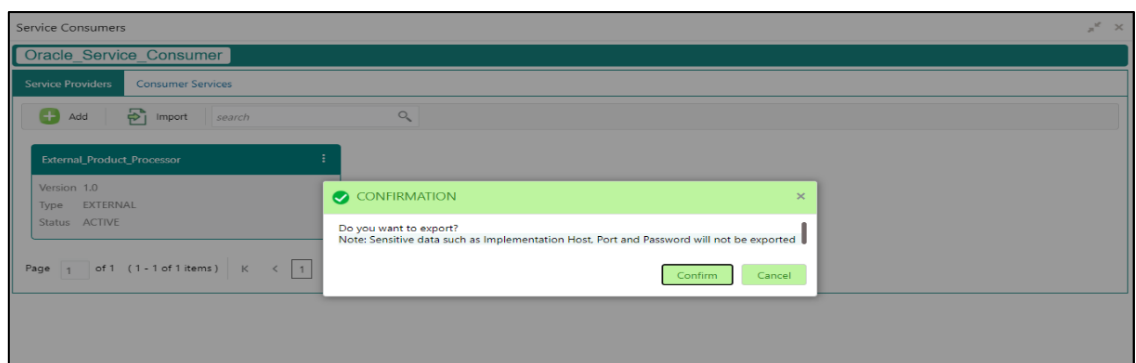


### 2.40.2.10 Export

You can export the provider configuration as JSON file.

On **Service Providers** screen, click **Operation Menu (3-dot icon)**, and click **Export**.

**Figure 136: Export**



**NOTE:** Below data is not be exported:

- Implementation Host
- Implementation Port
- Implementation Authentication Password

The above data needs to be configured manually after importing the configuration file.

Same has been mentioned in Import section

## 2.40.3 Oracle FLEXCUBE Onboarding to Decision Service Configuration

### 2.40.3.1 Fetch Credit Decision

Figure 137: Fetch credit decision – Header

The screenshot shows the 'View Transformation' window with the 'Headers' section expanded. It displays a table with three columns: 'Actions', 'Name', and 'Value'. The table contains three rows of header information.

| Actions | Name       | Value |
|---------|------------|-------|
| 1       | appld      | ----- |
| 1       | userid     | ----- |
| 1       | branchCode | ----- |

Other sections visible in the window include 'Product Processor', 'Service', 'Operation', 'PathParams', and 'QueryParams'.

Figure 138: Fetch credit decision - Transformation:

The screenshot shows the 'View Transformation' window with the 'Request Transformation' and 'Response Transformation' sections expanded. Both sections show a 'Template Type' of 'VELOCITY' and a 'Template' field containing a Velocity script.

**Request Transformation:**

```

$(esc.q)context$(esc.q): {
  $(esc.q)productProcessor$(esc.q): $(esc.q)$body.productProcessor$(esc.q),
  $(esc.q)isCreditBureauCallRequired$(esc.q): $(esc.q)$body.isCreditBureauCallRequired,
  $(esc.q)postingDate$(esc.q): $(esc.q)$body.postingDate$(esc.q),
  $(esc.q)isCreditBureauCallRequired$(esc.q): $(esc.q)$body.isCreditBureauCallRequired
}

```

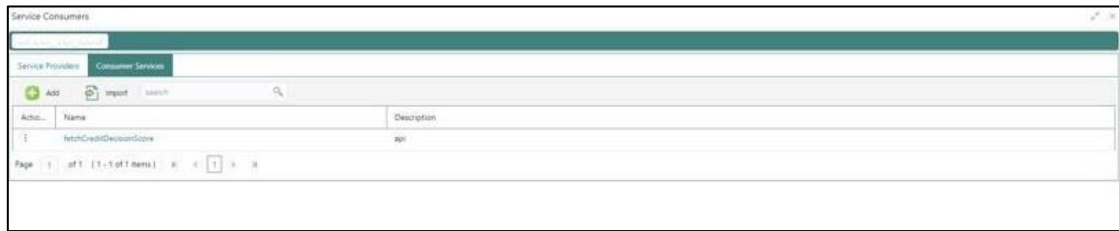
**Response Transformation:**

Template Type: VELOCITY

Template:

Mocking required? Off

Mock Template:

**Figure 139: Consumer Services**

## 2.41 Decision Service

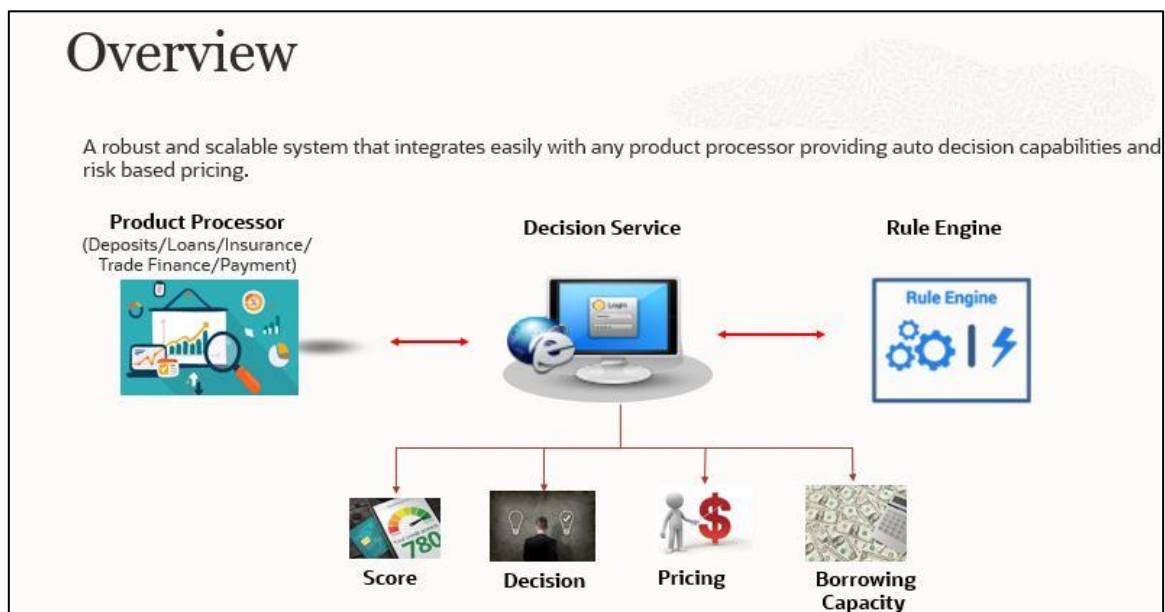
### 2.41.1 Overview

The decision service provides automatic decision making capabilities that can allow lenders to develop simple business processes and strengthen the decision-making process.

It gives flexibility to adjust the credit scoring model according to the lending policy.

When an organization calls the decision service to make a decision based on data attributes shared, system solves the best fit scoring model and provide scores and decisions.

Decision Service is a robust and scalable system that can be easily integrated with any product processor providing auto decision capability and risk based pricing.

**Figure 140 : Decision Service Overview**

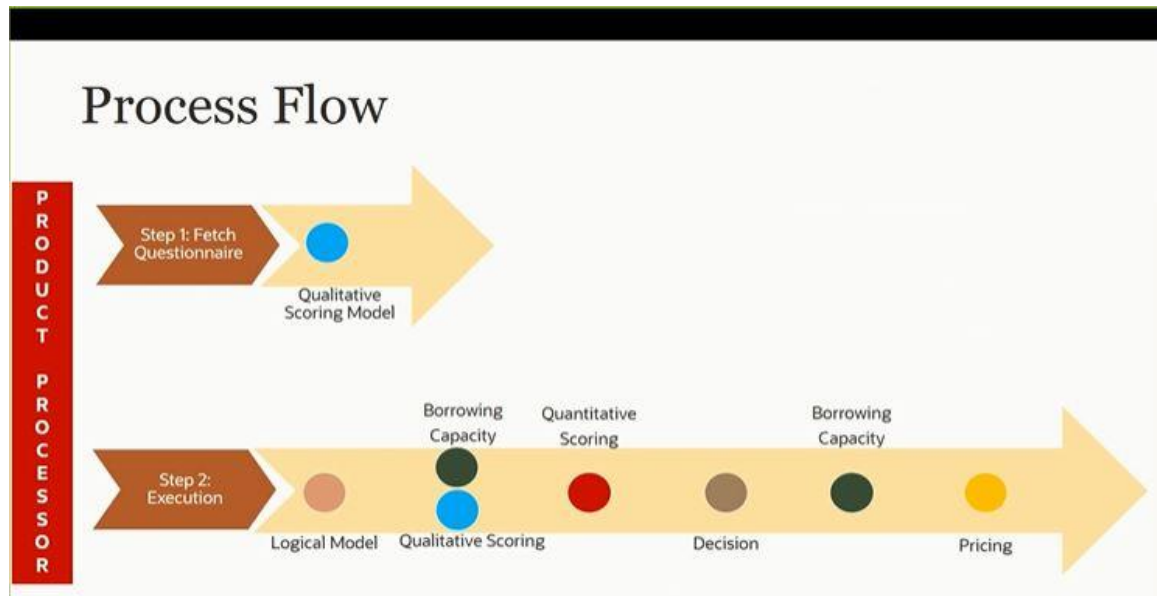
Decision service can be called from various product processor such as Collections, Deposits, Loans, Insurance, Trade Finance or Payment etc. This product processor calls the decision service and the decision service internally uses the rule engine to configure various complex rules.

The decision service can calculate behavioral scores and suggest the best recommended collection strategy accordingly. For lending products, it can offer a credit score, a decision based on the score, the recommended rate of interest and the ability to calculate which is the maximum amount that can be borrowed by the applicant.

### 2.41.2 Process Flow

The below diagram depicts the entire process flow of how decision service works.

**Figure 141 : Decision Service Process Flow**



#### 2.41.2.1 Questionnaire

The first step is to get the questionnaire. The product processor sends the data of all the applicants in the application. A qualitative scoring model is resolved for each applicant and this information along with the details of the questionnaire is sent back to the product processor. The product processor captures the response to the questions and sends back as part of the second step which is the execution of the credit decision.

#### 2.41.2.2 Logical Model

First step in execution of the credit decision is logical screening. In this application pre screening is done to check the basic eligibility of the application as per the bank's policy. For example, if the bank's policy is not to fund to property in flood prone area, then as a part of this step, if the property is in flood prone area then the application will be rejected and the application will not be processed further. Or the applicants minimum age should be more than 18 and the applicant applying is of less than 18, in that case the application is rejected and it will not be processed further.

#### 2.41.2.3 Borrowing Capacity

Once eligibility is checked, the next step is borrowing capacity. This is the maximum loan amount the applicant is eligible for. The stage at which it is to be calculated depends on the configuration made. It can be calculated before the scoring after the decision. The loan amount considered for decision is minimum of requested loan amount or the amount calculated for scoring, decision and pricing.

#### 2.41.2.4 Qualitative Score

After borrowing capacity, the next step is qualitative scoring done using the feedback from the applicants for questionnaire.

#### 2.41.2.5 Quantitative Score

After qualitative scoring next step is quantitative scoring where scoring is done using application and bureau attributes such as salary, number of credit lines, bureau score etc.

#### 2.41.2.6 Decision and Grade

The decision on the application is done based on the quantitative and qualitative scores. The decision can be approve, manual or decline.

The borrowing capacity can also be calculated after the decision, in this case, the amount calculated will be used only for pricing.

#### 2.41.2.7 Pricing

The last step is to determine the recommended interest rate. This is a risk-based price that refers to offering different interest rates to different customers depending on their risk exposure.

### 2.41.3 Strategy Configuration

Decision service is used for multiple purposes such as borrowing capacity, borrowing capacity plus pricing, only pricing, only decision, logical plus decision etc. System should have an ability to configure the strategy like when the decision service is being called for borrowing capacity, should the request pass through the logical check. In addition, the product processor can configure different strategies for different product types or customer types. Strategy configuration allows the product processor to configure the strategy as per its requirements for all the modes for which decision service can be called. Separate strategy can be defined for origination, servicing or collection. In addition, multiple strategy can be defined for the same module like for origination i.e. multiple strategy can be defined. This maintenance allows the product processor to configure the strategy according to its need for all the modes for which the decision service can be called for.

The various request types using which the product processor can call the decision service are mentioned below:

- Score, Decision and Pricing
- Score and Decision
- Scores
- Pricing and Borrowing Capacity
- Pricing

- Borrowing Capacity
- Decision
- Qualitative Score
- Quantitative Score

## 2.42 Product Processor

The source system calling the decision system for decisioning the credit application is defined as product processor. There are multiple data segments like account information, customer details, collateral details, credit bureau information or any additional notes if any is received from the product processor for credit decisioning and pricing in decision service.

This section contains the following subsections:

- [2.42.1 Create Product Processor](#)
- [2.42.2 View Product Processor](#)

### 2.42.1 Create Product Processor

The **Create Product Processor** screen allows the user to create product processor by updating various details.

**To Create Product Processor:**

1. From **Home screen**, click **Core Maintenance**, Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Product Processor**.
3. Under **Product Processor**, click **Create Product Processor**.

→ The **Create Product Processor** screen is displayed.

**Figure 142 : Create Product Processor**

4. Specify the fields on **Create Product Processor** screen.

The fields, which are marked with asterisk, are mandatory.



For more information on fields, refer to the field description table below.

**Table 110 : Create Product Processor - Field Description**

| Field                                | Description  |
|--------------------------------------|--|
| <b>Basic Details</b>                 |  |
| <b>Product Processor Code</b>        | Specify the unique product processor code.               |
| <b>Product Processor Description</b> | Specify the short description for the product processor. |
| <b>Effective Date</b>                | Specify the effective date.                              |
| <b>Expiry Date</b>                   | Specify the expiry date.                                 |

- Click **Save** to save the details.

The product processor is created successfully and can be viewed using the **View Product Processor** screen.

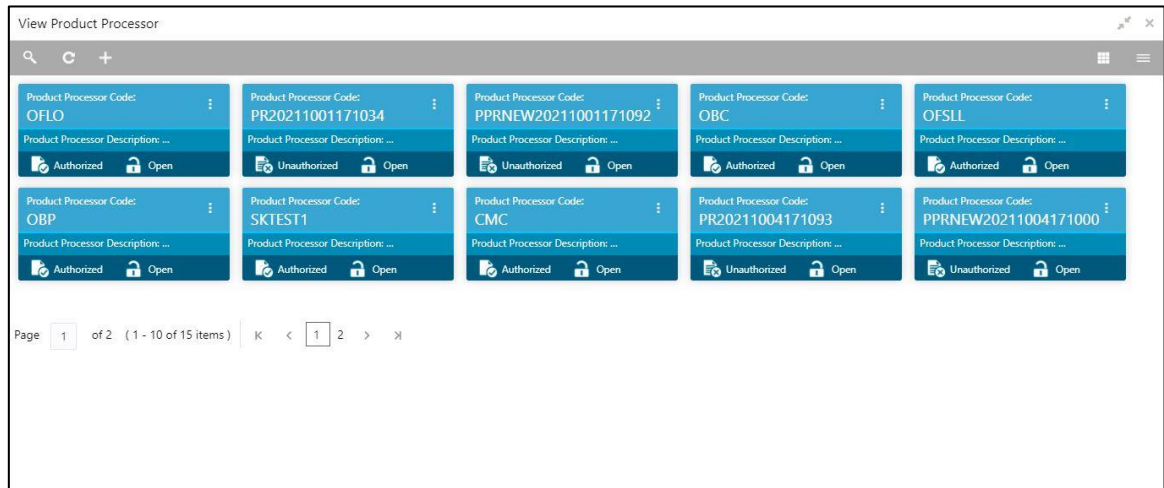
## 2.42.2 View Product Processor

The **View Product Processor** screen allows the user to view the product processor created using the **Create Product Processor** screen. The status of the created product processor is displayed as **Unauthorized** and **Open**. Once the checker authorizes the product processor, the status is updated to **Authorized** and **Open**.

**To view created product processor:**

- From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Decision**.
- Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Product Processor**.
- Under **Product Processor**, click **View Product Processor**.

→ The **View Product Processor** screen is displayed.

**Figure 143 : View Product Processor****Table 111 : View Product Processor - Field Description**

| Field                                | Description                                 |
|--------------------------------------|---|
| <b>Product Processor Code</b>        | Displays the product processor code.        |
| <b>Product Processor Description</b> | Displays the product processor description. |
| <b>Status</b>                        | Displays the status of the record.          |

- Click **Search** icon.
- Specify the search criteria to fetch the required product processor.

**Figure 144 : View Product Processor - Search Option**

For more information on fields, refer to the field description table below.

**Table 112 : View Product Processor- Search Option - Field Description**

| Field                                | Description                                |
|--------------------------------------|--|
| <b>Product Processor Code</b>        | Specify the product processor code.        |
| <b>Product Processor Description</b> | Specify the product processor description. |

| Field                       | Description  |
|-----------------------------|--|
| <b>Authorization Status</b> | Select the authorization status of the product processor.<br><br>The options are: <ul style="list-style-type: none"> <li>Authorized</li> <li>Unauthorized</li> </ul> |
| <b>Record Status</b>        | Select the record status of the product processor.<br><br>The options are: <ul style="list-style-type: none"> <li>Open</li> <li>Close</li> </ul>                     |

- Click **Search**.
- Click **three-dots** icon to modify, delete, authorise or view the created product processor.
- To authorise the product processor, see the **Error! Reference source not found.**
- Click **Unlock** icon to modify the following fields. The fields are displayed in the **Product Processor Maintenance** screen.
  - Product Processor Description
  - Effective Date, before authorization
  - Expiry Date

**Figure 145 : Product Processor Maintenance – Modify**

Product Processor Maintenance

Basic Details

Product Processor Code \*  
OFLO

Product Processor Description \*  
OFLO

Effective Date \*  
Sep 1, 2020

Expiry Date \*  
May 6, 2025

Audit Save Cancel

For more information on fields, refer to the field description table below.

**Table 113 : Product Processor Maintenance - Modify - Field Description**

| Field                | Description |
|----------------------|-------------|
| <b>Basic Details</b> |             |

| Field                                | Description   |
|--------------------------------------|---|
| <b>Product Processor Code</b>        | Displays the product processor code.  |
| <b>Product Processor Description</b> | Displays the product processor description.<br>User can modify the same.  |
| <b>Effective Date</b>                | Displays the effective date of created product processor.<br><br>User can modify the same before authorization if it is future dated. |
| <b>Expiry Date</b>                   | Displays the expiry date of created product processor.<br><br>User can modify the same.   |

10. Click **Save** to update the modified fields.

11. Click **View** icon to view the created product processor.

The fields are displayed in **Product Processor Maintenance** screen.

**Figure 146 : Product Processor Maintenance – View**

Product Processor Maintenance

Basic Details

|                          |                                 |
|--------------------------|---------------------------------|
| Product Processor Code * | Product Processor Description * |
| OFLO                     | OFLO                            |
| Effective Date *         | Expiry Date *                   |
| Sep 1, 2020              | May 6, 2025                     |

Audit

For more information on fields, refer to the field description table below.

**Table 114 : Product Processor Maintenance - View - Field Description**

| Field                                | Description   |
|--------------------------------------|---|
| <b>Basic Details</b>                 |   |
| <b>Product Processor Code</b>        | Displays the product processor code.                          |
| <b>Product Processor Description</b> | Displays the product processor description.                   |
| <b>Effective Date</b>                | Displays the effective date of the created product processor. |

| Field       | Description  |
|-------------|--|
| Expiry Date | Displays the expiry date of the created product processor. |

## 2.43 Lookup

Lookup are the service for mapping of keys and values that is used to enrich the description of the data displayed to the user. The lookup screen facilitates to define the contents for drop-down or list of value fields. Lookup fields are used throughout the system. The identified fields will only accept entries stored in this screen. Below are some examples of the lookup fields.

- Static/Enumeration values
  - Credit Bureau: Like Credit Bureau 1, Credit Bureau 2 and Credit Bureau 3.
  - Comparison Operator: Equals, Greater than.
- Dependent lookups based on another selection
  - Based on Country, State should have different values in the lookup.
  - Based on Country, Currency should have different values in the lookup.

This section contains the following subsections:

- [2.43.1 Create Lookup](#)
- [2.43.2 View Lookup](#)

### 2.43.1 Create Lookup

The **Create Lookup** screen allows the user to create lookup definitions by updating various details.

**To create lookups:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Lookup**.
3. Under **Lookup**, click **Create Lookup**.

→ The **Create Lookup** screen is displayed.

**Figure 147 : Create Lookup Screen**

4. Specify the fields on **Create Lookups** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 115 : Create Lookups - Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Basic Details</b>        |  |
| <b>Lookup Type</b>          | Specify the unique lookup type name.   |
| <b>Description</b>          | Specify the short description for lookup.                                      |
| <b>+ button</b>             | Click to add a new row.  |
| <b>- button</b>             | Click to delete an existing row.   |
| <b>Lookup Code</b>          | Specify the unique lookup code.  |
| <b>Description</b>          | Specify the short description for lookup.                                      |
| <b>Sort Order</b>           | Specify the sort order.  |
| <b>Dependent Identifier</b> | Specify the dependent Identifier.  |
| <b>Enable</b>               | By default, this option is enabled. Indicates if the lookup is enabled or not. |

6. Click **Save** to save the details.

The lookup is successfully created and can be viewed using the **View Lookup** screen.

## 2.43.2 View Lookup

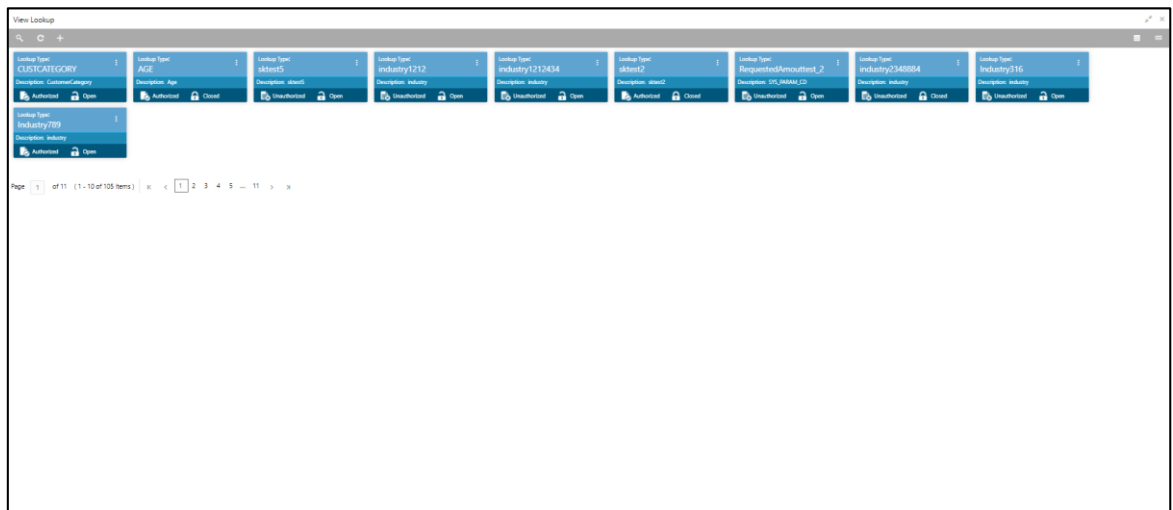
The **View Lookup** screen allows the user to view the lookup created using the **Create Lookup** screen. The status of the created lookup is displayed as **Unauthorized** and **Open**. Once the checker authorizes the lookup, the status is updated to **Authorized** and **Open**.

**To view created lookups:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Lookup**.
3. Under **Lookup**, click **View Lookup**.

→ The **View Lookup** screen is displayed.

**Figure 148 : View Lookup**



For more information on the fields, refer to the field description table below.

**Table 116 : View Product Processor - Field Description**

| Field              | Description                             |
|--------------------|---|
| <b>Lookup Type</b> | Displays the lookup type.               |
| <b>Description</b> | Displays the description of the lookup. |
| <b>Status</b>      | Displays the status of the record.      |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required lookups.

**Figure 149 : View Lookups- Search Option**



6. Click **Search**.



For more information on fields, refer the field description table below.

**Table 117 : View Lookups - Search Option - Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Lookup Type</b>          | Displays the lookup type.  |
| <b>Authorization Status</b> | Select the authorization status of the lookups.<br><br>The options are: <ul style="list-style-type: none"> <li>Authorized</li> <li>Unauthorized</li> </ul> |
| <b>Record Status</b>        | Select the record status of the lookups.<br><br>The options are: <ul style="list-style-type: none"> <li>Open</li> <li>Close</li> </ul>                     |

7. Click **three-dot** icon to unlock, delete, authorize or view the created lookups.

8. Click **Unlock icon** to modify the following fields.

The fields are displayed in the **Lookup Maintenance** screen.

- Description
- Lookup Code
- Sort Order
- Dependent Identifier
- Enable

**Figure 150 : Lookup Maintenance - Modify**

| Lookup Code                       | Description           | Sort Order | Dependent Identifier | Enable                              |
|-----------------------------------|-----------------------|------------|----------------------|-------------------------------------|
| <input type="checkbox"/> SILVER   | Silver                | 1          |                      | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> GOLD     | Gold                  | 2          |                      | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> HNI      | HighNetworthInd       | 3          |                      | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> REGULAR  | Regular               | 4          |                      | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> PLATINUM | Platinum              | 5          |                      | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> ULTRAHNI | Ultra-HighNetworthInd | 6          |                      | <input checked="" type="checkbox"/> |

For more information on fields, refer to the field description table below.

**Table 118 : Lookup Maintenance - Modify - Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Basic Details</b>        |  |
| <b>Lookup Type</b>          | Displays the created lookup type.  |
| <b>Description</b>          | Displays the description of the created lookup.<br>User can modify the same.             |
| <b>Lookup Codes</b>         |  |
| <b>+ button</b>             | Click to add a new row.  |
| <b>- button</b>             | Click to delete an existing row.   |
| <b>Lookup Code</b>          | Displays the lookup code for the created lookups.<br>User can modify the same.           |
| <b>Description</b>          | Displays the description for the created lookups.<br>User can modify the same.           |
| <b>Sort Order</b>           | Displays the sort order for the created lookups.<br>User can modify the same.            |
| <b>Dependent Identifier</b> | Displays the dependent identifier for the created lookups.<br>User can modify the same.  |
| <b>Enable</b>               | Displays the lookup code if enabled for the created lookup.<br>User can modify the same. |

9. Click **Save** to update the modified fields.

10. Click **View** icon to view the created lookup code.

The fields are displayed in **Lookup Maintenance** screen.

**Figure 151 : Lookup Maintenance – View**

Lookup Maintenance

**Basic Details**

Lookup Type \*  
Lookup00208

Description \*  
Lookup Desc 12

**Lookup Codes**

| Lookup Code | Description | Sort Order | Dependent Identifier | Enable                   |
|-------------|-------------|------------|----------------------|--------------------------|
| LC0002      | Lookup code | 1          | Code                 | <input type="checkbox"/> |

Audit

For more information on fields, refer to the field description table below.

**Table 119 : Lookup Maintenance - View - Field Description**

| Field                       | Description   |
|-----------------------------|---|
| <b>Basic Details</b>        |   |
| <b>Lookup Type</b>          | Displays the created lookup type.                           |
| <b>Description</b>          | Displays the created lookup type description.               |
| <b>Lookup Codes</b>         |   |
| <b>Lookup Code</b>          | Displays the lookup code for the created lookup.            |
| <b>Description</b>          | Displays the description for the created lookup.            |
| <b>Sort Order</b>           | Displays the sort order for the created lookup.             |
| <b>Dependent Identifier</b> | Displays the dependent identifier for the created lookup.   |
| <b>Enable</b>               | Displays the lookup code if enabled for the created lookup. |

## 2.44 System Parameter

System Parameter define the information or values used throughout the system and drives the behavior of the features. They control the way task is executed, or whether the system performs a particular task. Some of the parameters are set when the system is installed, but the values associated with the parameter needs to be reviewed and is to be maintained.

### Example:

- Set minimum days to pull credit bureau report from same bureau from initial pull.
- Credit bureau report purge days.

This section contains the following subsections:

- [2.44.1 Create System Parameter](#)
- [2.44.2 View System Parameter](#)

### 2.44.1 Create System Parameter

The **Create System Parameter** screen allows the user to create parameters by updating various details.

#### To Create System Parameter:

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **System Parameters**.
3. Under **System Parameter**, click **Create System Parameter**.

→ The **Create System Parameter** screen is displayed.

**Figure 152 : Create System Parameter**

4. Specify the fields on **Create System Parameter** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 120 : Create System Parameter - Field Description**

| Field                        | Description   |
|------------------------------|---|
| <b>Basic Details</b>         |   |
| <b>Parameter Code</b>        | Select the parameter code from the drop-down list.  |
| <b>Parameter Description</b> | Specify a short description for the parameter code. |
| <b>Parameter Description</b> | Specify a short description for the parameter code. |
| <b>Value</b>                 | Specify the value for the parameter code.           |

- Click **Save** to save the details.

The system parameters is successfully created and can be viewed using the **View System Parameter** screen.

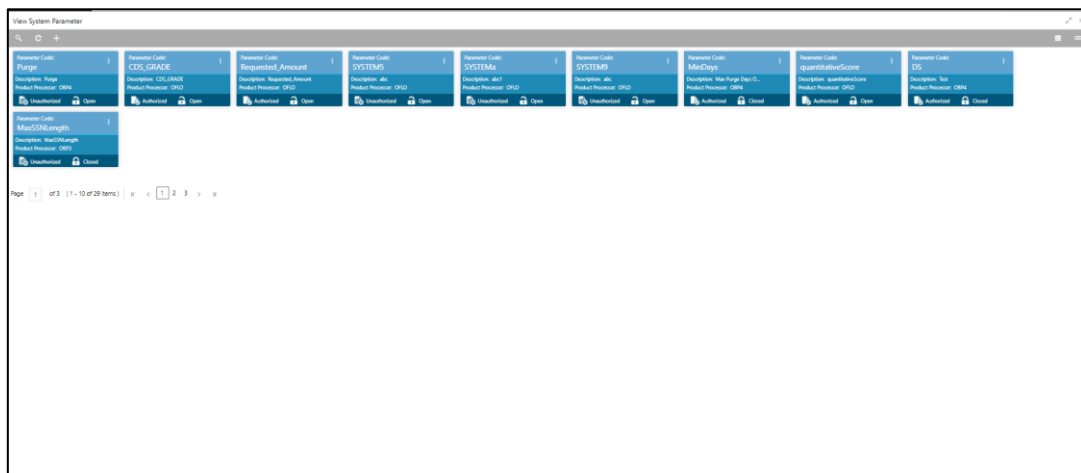
## 2.44.2 View System Parameter

The View System Parameter screen allows user to view the parameters created using the **Create System Parameter** screen. The status of the created system parameter is displayed as **Unauthorized** and **Open**. Once the checker authorizes the parameter, the status is updated to **Authorized** and **Open**.

**To view created system parameter:**

- From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
- Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **System Parameter**.
- Under **System Parameter**, click **View System Parameter**.

→ The **View System Parameter** screen is displayed.

**Figure 153 : View System Parameter**

For more information on the fields, refer to the field description table below.

**Table 121 : View System Parameter - Field Description**

| Field                    | Description                                      |
|--------------------------|--|
| <b>Parameter Code</b>    | Displays the parameter code.                     |
| <b>Description</b>       | Displays the description of the parameter code.  |
| <b>Product Processor</b> | Displays the product processor of the parameter. |
| <b>Status</b>            | Displays the status of the record.               |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required system parameter.
6. Click **Search**.

**Figure 154 : View System Parameters- Search Option**
**Table 122 : View System Parameters - Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Parameter Code</b>       | Specify the parameter code.  |
| <b>Authorization Status</b> | <p>Select the authorisation status of the parameters.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Authorised</li> <li>• Unauthorised</li> </ul> |
| <b>Record Status</b>        | <p>Select the record status of the parameters.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created system parameter.
8. Click **Unlock** icon to modify the following fields.

The fields are displayed in the **System Parameter Maintenance** screen.

- Product Processor
- Value

**Figure 155 : System Parameter Maintenance – Modify**

The screenshot displays the 'System Parameter Maintenance' window in 'Modify' mode. It features a 'Basic Details' section with the following fields:

- Parameter Code \***: A dropdown menu currently showing 'Maximum\_Report\_Age\_For\_New...'.
- Parameter Description \***: A text input field containing 'Maximum Report Age to call Experian'.
- Product Processor \***: A dropdown menu currently showing 'OFLO'.
- Value \***: A text input field containing the number '4'.

At the bottom of the window, there are three buttons: 'Audit', 'Save', and 'Cancel'.

For more information on fields, refer to the field description table below.

**Table 123 : System Parameter Maintenance - Modify - Field Description**

| Field                        | Description   |
|------------------------------|---|
| <b>Basic Details</b>         |   |
| <b>Parameter Code</b>        | Displays the created system parameter code.   |
| <b>Parameter Description</b> | Displays the description for the created system parameter code.                                       |
| <b>Product Processor</b>     | Displays the product processor of the created system parameter code.<br><br>User can modify the same. |
| <b>Value</b>                 | Displays the value of the system parameter.<br><br>User can modify the same.                          |

9. Click **Save** to update the modified fields.
10. Click View icon to view the created system parameter code.

The fields are displayed in **System Parameter Maintenance** screen.

**Figure 156 : System Parameter Maintenance – View**

System Parameter Maintenance

Basic Details

|                                    |                                     |
|------------------------------------|-------------------------------------|
| Parameter Code *                   | Parameter Description *             |
| Maximum_Report_Age_For_New_Call... | Maximum Report Age to call Experian |
| Product Processor *                | Value *                             |
| OFLO                               | 4                                   |

Audit

For more information on fields, refer to the field description table below.

**Table 124 : System Parameter Maintenance - View - Field Description**

| Field                        | Description   |
|------------------------------|---|
| <b>Basic Details</b>         |   |
| <b>Parameter Code</b>        | Displays the created system parameter code.                     |
| <b>Parameter Description</b> | Displays the created system parameter description.              |
| <b>Product Processor</b>     | Displays the product processor of the created system parameter. |
| <b>Value</b>                 | Displays the value for the created system parameter.            |



## 2.45 Strategy Configuration

Decision service is used for multiple purposes such as borrowing capacity, borrowing capacity plus pricing, only pricing, only decision, logical plus decision etc. System should have an ability to configure the strategy like when the decision service is being called for borrowing capacity, should the request pass through the logical check. In addition, the product processor can configure different strategies for different product types or customer types. Strategy configuration allows the product processor to configure the strategy as per its requirements for all the modes for which decision service can be called. Separate strategy can be defined for origination, servicing or collection. In addition, multiple strategy can be defined for the same module like for origination i.e. multiple strategy can be defined. This maintenance allows the product processor to configure the strategy according to its need for all the modes for which the decision service can be called for.

This section contains the following subsections:

- [2.45.1 Create Strategy Configuration](#)
- [2.45.2 View Strategy Configuration](#)

### 2.45.1 Create Strategy Configuration

The **Create Strategy Configuration** screen allows user to configure the strategy as per the requirement.

**To Create Strategy Configuration:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Strategy Configuration**.
3. Under **Strategy Configuration**, click **Create Strategy Configuration**.

→ The **Create Strategy Configuration** screen is displayed.

**Figure 157 : Create Strategy Configuration**

The screenshot shows the 'Create Strategy Configuration' window. It has a title bar with standard window controls. The main content area is divided into two sections. The top section, 'Basic Details', contains two columns of form fields. The left column has 'Strategy Code' (dropdown), 'Product Processor' (dropdown), 'Industry' (dropdown), 'Account Category' (radio buttons for 'Asset' and 'Liability'), and 'Effective Date' (calendar icon). The right column has 'Strategy Code Description' (text), 'Product Processor Description' (text), 'Line of Business' (dropdown), 'Module' (dropdown), and 'Expiry Date' (calendar icon). The bottom section, 'Additional Information', contains a table with a teal header row with columns 'Type' and 'Value'. Below the header, it says 'No data to display.' Below the table is a 'Modes' section with a row of checkboxes: 'Borrowing Capacity', 'Decision & Grade', 'Pricing', 'Qualitative Score', 'Quantitative Score', 'Score', 'Score & Decision', and 'Score, Decision & Pricing'.

4. Specify the fields on **Create Strategy Configuration** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 125 : Create Strategy Configuration - Field Description**

| Field                                | Description   |
|--------------------------------------|---|
| <b>Basic Details</b>                 |   |
| <b>Strategy Code</b>                 | Specify the unique strategy code.   |
| <b>Strategy Code Description</b>     | Specify a short description for the strategy code.  |
| <b>Product Processor</b>             | Specify the product processor for which the strategy is being configured.   |
| <b>Product Processor Description</b> | Displays the product processor description.   |
| <b>Industry</b>                      | <p>Select the industry type from the drop down list.</p> <p>The values are configurable based on the lookup values maintained.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Banking Industry</li> <li>• Insurance</li> <li>• Trade Finance</li> </ul> |
| <b>Line of Business</b>              | <p>Select the line of business type from the drop down list. The values are configurable based on the lookup values maintained.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Corporate</li> <li>• Retail</li> <li>• SMENT</li> </ul>                  |
| <b>Account Category</b>              | <p>Select the category from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Asset</li> <li>• Liability</li> </ul>  |

| Field                         | Description  |
|-------------------------------|--|
| <b>Module</b>                 | <p>Select the module from the drop down list. The values are configurable based on the lookup values maintained.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Collection</li> <li>• Origination</li> <li>• Servicing</li> </ul>  |
| <b>Effective Date</b>         | Specify the effective date.  |
| <b>Expiry Date</b>            | Specify the expiry date.   |
| <b>Additional Information</b> |  |
| <b>+ button</b>               | Click to add a new facts.  |
| <b>- button</b>               | Click to delete an existing row.   |
| <b>Type</b>                   | Select the fact type from the drop down list.  |
| <b>Value</b>                  | Select the value configured for the fact type from the drop down list. The values are configurable based on the lookup values maintained.  |
| <b>Modes</b>                  | <p>Select the modes from the list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Borrowing Capacity</li> <li>• Decision &amp; Grade</li> <li>• Pricing</li> <li>• Qualitative Score</li> <li>• Quantitative Score</li> <li>• Score</li> <li>• Score &amp; Decision</li> <li>• Score, Decision &amp; Pricing</li> </ul> <p>If the <b>Module</b> is selected as <b>Collection</b>, then below options are available.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Decision and Grade</li> <li>• Qualitative Score</li> <li>• Quantitative Score</li> <li>• Score</li> <li>• Score and Decision</li> </ul> |

| Field | Description   |
|-------|---|
| Steps | <p>Steps are defined based on the modes selected.</p> <p>For example:</p> <p>If <b>Borrowing Capacity</b> mode is selected, the check box for borrowing capacity is by default selected and disabled, you can select the other steps.</p> |

5. Click **Save** to save the details.

The strategy configuration is successfully created and can be viewed using the **View strategy Configuration** screen.

## 2.45.2 View Strategy Configuration

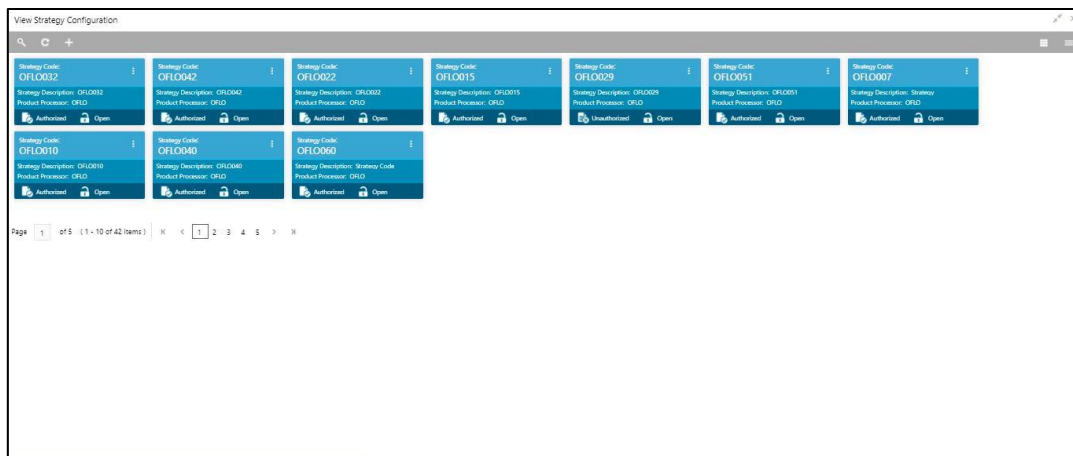
The **View Strategy Configuration** screen allows the user to view the strategy configuration created using the **Create Strategy Configuration** screen. The status of the created strategy configuration is displayed as **Unauthorized** and **Open**. Once the checker authorizes the parameter, the status is updated to **Authorized** and **Open**.

**To view Created Strategy Configuration:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Strategy Configuration**.
3. Under **Strategy Configuration**, click **View Strategy Configuration**.

→ The **View Strategy Configuration** screen is displayed.

**Figure 158 : View Strategy Configuration**



For more information on the fields, refer to the field description table below.

**Table 126 : View Strategy Configuration - Field Description**

| Field                       | Description                        |
|-----------------------------|------------------------------------|
| <b>Strategy Code</b>        | Displays the strategy code.        |
| <b>Strategy Description</b> | Displays the strategy description. |
| <b>Product Processor</b>    | Displays the product processor.    |
| <b>Status</b>               | Displays the status of the record. |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required strategy configuration.

**Figure 159 : View Strategy Configuration- Search Option**

6. Click **Search**.

For more information on fields, refer the field description table below.

**Table 127 : View Strategy Configuration – Search Option - Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Strategy Code</b>        | Specify the strategy code.   |
| <b>Strategy Description</b> | Specify the strategy description.  |
| <b>Authorization Status</b> | <p>Select the authorization status of the parameters.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Authorized</li> <li>Unauthorized</li> </ul> |
| <b>Record Status</b>        | <p>Select the record status of the parameters.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Open</li> <li>Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created strategy configuration.

8. To authorize the strategy configuration, see the Authorization process.

9. Click **Unlock** icon to modify the following fields.

The fields are displayed in the **Strategy Configuration Maintenance** screen.

- Expiry Date
- Fact Type and Value
- Modes
- Steps

**Figure 160 : Strategy Configuration Maintenance – Modify**

**Strategy Configuration Maintenance**

---

**Main Details**

|   |   |
|---|---|
| <b>Strategy Code *</b><br>CR00000<br><b>Product Processor *</b><br>CR00<br><b>Industry *</b><br>Banking<br><b>Account Category *</b><br><input checked="" type="checkbox"/> Asset <input type="checkbox"/> Liability<br><b>Effective Date *</b><br>Sep 18, 2022 | <b>Strategy Code Description *</b><br>CR00029<br><b>Product Processor Description *</b><br>CR00<br><b>Line of Business *</b><br>Retail<br><b>Model *</b><br>Organizational<br><b>Entry Date *</b><br>Sep 28, 2022 |
|---|---|

---

**Additional Information**

| ID | Type | Name |
|----|------|------|
| 1  | Agit |      |

---

**Notes**

Select the Models to configure as per requirement

☐ RemotelyCapacity  
 ☐ DecisionGrade  
 ☒ Pricing  
 ☒ QuantitativeScore  
 ☐ QuantitativeScore  
 ☐ Score  
 ☒ ScoreDecision  
 ☐ ScoreDecisionPricing

---

**Flags**

None

The mandatory flags are by default checked and disabled. The optional flags are enabled and unchecked. The user can decide which flags need to be configured for a model.

---

**# Qualitative Scores**

1 of 1 added   2 of 2 removed

For more information on fields, refer to the field description table below.

### Table 128 : Strategy Configuration Maintenance - Modify - Field Description

| Field                                | Description   |
|--------------------------------------|---|
| <b>Basic Details</b>                 |   |
| <b>Strategy Code</b>                 | Displays the strategy code.   |
| <b>Strategy Code Description</b>     | Displays the strategy code description.   |
| <b>Product Processor</b>             | Displays the product processor for the created strategy configuration.                            |
| <b>Product Processor Description</b> | Displays the product processor description for the created strategy configuration.                |
| <b>Industry</b>                      | Displays the industry for the created strategy configuration.                                     |
| <b>Line of Business</b>              | Displays the line of business for the created strategy configuration.                             |
| <b>Account Category</b>              | Displays the account category for the created strategy configuration.                             |
| <b>Module</b>                        | Displays the module for the created strategy configuration.                                       |
| <b>Effective Date</b>                | Displays the effective date for the created strategy configuration.                               |
| <b>Expiry Date</b>                   | Displays the expiry date for the created strategy configuration.<br><br>User can modify the same. |
| <b>Additional Information</b>        |   |
| <b>Type</b>                          | Displays the fact type for the created strategy configuration.<br><br>User can modify the same.   |

| Field        | Description   |
|--------------|---|
| <b>Value</b> | Displays the fact value for the created strategy configuration.<br>User can modify the same.    |
| <b>Modes</b> | Displays the modes defined for the created strategy configuration.<br>User can modify the same. |
| <b>Steps</b> | Displays the steps defined for the created strategy configuration.<br>User can modify the same. |

10. Click **Save** to update the modified fields.

11. Click **View** icon to view the created strategy configuration.

The fields are displayed in **Strategy Configuration Maintenance** screen.

**Figure 161 : Strategy Configuration Maintenance – View**

For more information on fields, refer to the field description table below.

**Table 129 : Strategy Configuration Maintenance - View - Field Description**

| Field                                | Description  |
|--------------------------------------|--|
| <b>Basic Details</b>                 |  |
| <b>Strategy Code</b>                 | Displays the strategy code.  |
| <b>Strategy Code Description</b>     | Displays the strategy code description.  |
| <b>Product Processor</b>             | Displays the product processor for the created strategy configuration.             |
| <b>Product Processor Description</b> | Displays the product processor description for the created strategy configuration. |
| <b>Industry</b>                      | Displays the industry for the created strategy configuration.                      |



| Field                         | Description   |
|-------------------------------|---|
| Line of Business              | Displays the line of business for the created strategy configuration. |
| Account Category              | Displays the account category for the created strategy configuration. |
| Module                        | Displays the module for the created strategy configuration.           |
| Effective Date                | Displays the effective date for the created strategy configuration.   |
| Expiry Date                   | Displays the expiry date for the created strategy configuration.      |
| <b>Additional Information</b> |   |
| Type                          | Displays the fact type for the created strategy configuration.        |
| Value                         | Displays the fact value for the created strategy configuration.       |
| Steps                         | Displays the steps defined for the created strategy configuration.    |

## 2.46 Logical Model

During credit decision, system evaluates a credit score that represents the creditworthiness of an individual. Banks also do an initial evaluation by using some rules to decide whether to proceed with credit decisioning process or not. A bank can perform this evaluation by maintaining a logical model. Multiple levels of rule can be setup in logical model. The system will process the next step of credit decisioning only if all the rules are satisfied. If any rule fails, then system will stop the processing and decline the request.

This section contains the following subsections:

- [2.46.1 Create Logical Model](#)
- [2.46.2 View Logical Model](#)

### 2.46.1 Create Logical Model

The Create Logical Model screen allows user to create logical model based on the various input.

User can configure the strategy as per the requirement.

**To create Logical Model:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Logical Model**.
3. Under **Logical Model**, click **Create Logical Model**.  
→ The **Create Logical Model** screen is displayed.

**Figure 162 : Create Logical Model**

4. Specify the fields on **Create Logical Model** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 130 : Create Logical Scoring Model - Field Description**




| Field                            | Description   |
|----------------------------------|---|
| <b>Basic Details</b>             |   |
| <b>Logical Model Code</b>        | Specify the unique logical model code.  |
| <b>Logical Model Description</b> | Specify a short description for the logical model.  |
| <b>Effective Date</b>            | Specify the effective date.   |
| <b>Expiry Date</b>               | Specify the expiry date.  |
| <b>Product Processor</b>         | Specify the product processor for which the logical model is being defined.   |
| <b>Priority</b>                  | Specify the priority for the logical model.   |
| <b>Stop on Failure</b>           | By default, this option is disabled. Indicates whether system should stop execution of rules if any rules fails or continue ahead with the remaining rules as per the sequence. |



5. Click the **Selection Criteria** tab to define selection criteria rules for logical model.

**Figure 163 : Create Logical Scoring Model - Selection Criteria**

For more information on fields, refer to the field description table below.

**Table 131 : Create Logical Scoring Model – Selection Criteria - Field Description**

| Field  | Description   |
|--|---|
| The following fields appear if you click the <b>Selection Criteria</b> Tab   |   |
| <b>Use Existing Rule</b>   | By default, this option is enabled. Indicates if the existing rule is linked. |
| <b>Rules</b>   |   |
| <b>Rule Code</b>   | Select the rule code from the drop down list.                                 |
|   | Click to get the information about the rule.                                  |
| <b>Rule Name</b>   | View the rule name.   |
| <b>Create New Rule</b>   | Select this option to create new rule.  |
| <b>Rules</b>   |   |
| <b>Code</b>  | Specify the rule code.  |
| <b>Description</b>   | Specify the rule description.   |
| <b>Select Existing Rule</b>  | Select the existing rule from the drop-down list.                             |
|   | Click to view the existing rule.  |
| Below field appears once you click the  icon. |   |
| <b>Rule ID</b>   | Displays the rule ID.   |
| <b>Rule Name</b>   | Displays the rule name.   |

| Field  | Description   |
|--|---|
| <b>Description</b>   | Displays the rule description.  |
| <b>Rule Version</b>  | Displays the rule version.  |
|   | Click to view the list of rule versions.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                     |
| Below field appears once you click the  icon. |   |
| <b>List of Versions</b>  |   |
| <b>Version</b>   | Displays the rule version.  |
| <b>Description</b>   | Displays the rule description.  |
| <b>Creation Date</b>   | Displays the rule creation date.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                             |
| <b>Expression Builder</b>  |   |
| <b>+ button</b>  | Click to add new expression.  |
| <b>Fact / Rules</b>  | Select the fact or rule from the drop-down list.<br><br>Once you select the fact/rules one more field opens adjacent to it, update the same based on the selected option. |

| Field            | Description   |
|------------------|---|
| <b>Operator</b>  | <p>Select the comparison operator from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• &lt;</li> <li>• &gt;</li> <li>• +</li> <li>• =</li> <li>• %</li> <li>• !=</li> <li>• -</li> <li>• &gt;=</li> <li>• &lt;=</li> <li>• *</li> <li>• /</li> <li>• Contains</li> <li>• In</li> <li>• Matches</li> <li>• Notmatches</li> <li>• Notcontains</li> <li>• Notin</li> </ul>  |
| <b>Data Type</b> | <p>Select the data type for the fact or rule. Once you select the data type one more field opens adjacent to the output, update the same based on the selected output option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> <li>• Rules</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |

| Field             | Description   |
|-------------------|---|
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output one more field opens adjacent to the output, update the same based on the selected output option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Text</li> <li>Number</li> <li>Boolean</li> <li>Date</li> <li>Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>True</li> <li>False</li> </ul> |
| <b>Expression</b> | View the expression updated in the expression builder.  |

6. Click the **Logical Model** tab to define various logical modeling rules

**Figure 164 : Create Logical Model – Logical Model Tab**

The screenshot shows the 'Create Logical Model' window with the 'Logical Model' tab selected. The 'Basic Details' section contains the following fields:


- Logical Model Code \***: A text input field with the value '001'.
- Logical Model Description \***: A text input field with the value '001'.
- Effective Date \***: A date input field with the value '01/01/2021'.
- Expiry Date \***: A date input field with the value '01/01/2021'.
- Product Processor \***: A dropdown menu with the value '001'.
- Priority \***: A text input field with the value '1'.

Below the 'Basic Details' section is the 'Logical Modeling' section, which contains a table with the following columns: Rule ID, Expression, Reason, and Comments. The table is currently empty, and a message 'No data to display' is shown below the table.

For more information on fields, refer to the field description table below.

**Table 132 : Create Logical Model – Logical Model Tab - Field Description**

| Field   | Description  |
|---|--|
| The following fields appear if you click the <b>Logical Model</b> Tab |  |
| <b>+ button</b>   | Click to add a new row.  |
| <b>- button</b>   | Click to delete an existing row.   |
| <b>Rule ID</b>  | <p>Select the rule ID from the drop down list.</p> <p>All rules configured in the rule engine for the selected product processor are obtained.</p> |

| Field   | Description                                  |
|---|--|
|  | Click to get the information about the rule. |
| <b>Sequence</b>   | Specify the sequence of execution of rules.  |
| <b>Reason</b>   | Select the reason from the drop down list.   |
| <b>Comments</b>   | Specify the comments.                        |

- Click **Save** to save the details.

The logical model is successfully created and can be viewed using the **View Logical Model** screen.

## 2.46.2 View Logical Model

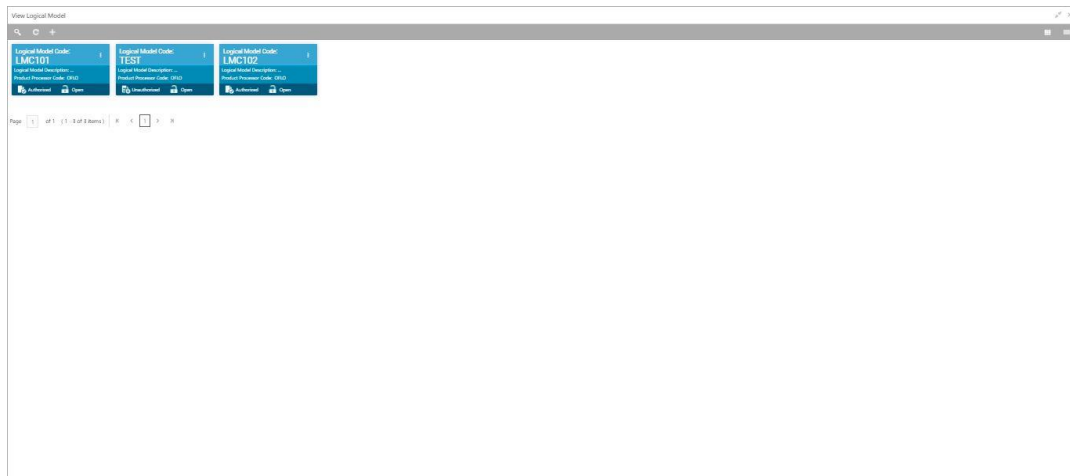
The **View Logical Model** screen allows the user to view the logical model created using the **Create Logical Model** screen. The status of the created logical model is displayed as **Unauthorized** and **Open**. Once the checker authorizes the model, the status is updated to **Authorized** and **Open**.

**To View Logical Model:**

1. From **Home screen**, click **Core Maintenance**, Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Logical Model**.
3. Under **Logical Model**, click **View Logical Model**.

→ The **View Logical Model** screen is displayed.

**Figure 165 : View Logical Model**



For more information on fields, refer to the field description table below.

**Table 133: View Logical Model – Field Description.**

| Field                            | Description                             |
|----------------------------------|---|
| <b>Logical Model Code</b>        | Displays the logical model code.        |
| <b>Logical Model Description</b> | Displays the logical model description. |
| <b>Product Processor Code</b>    | Displays the product processor code.    |
| <b>Status</b>                    | Displays the status of the record.      |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required logical model.

**Figure 166 : Logical Model- Search Option**



6. Click **Search**.

For more information on fields, refer to the field description table below.



**Table 134 : View Logical Model -Search Option- Field Description**

| Field                            | Description   |
|----------------------------------|---|
| <b>Logical Model Code</b>        | Specify the logical model code.   |
| <b>Logical Model Description</b> | Specify the description of the logical model.   |
| <b>Authorization Status</b>      | <p>Select the authorization status of the logical model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>             | <p>Select the record status of the logical model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

6. Click **three-dots** icon to unlock, delete, authorize or view the created logical model.

7. Click **Unlock** icon to modify the following fields.

The fields are displayed in the **Logical Model Maintenance** screen. The following fields are editable during unlock.

- Logical Model Description
- Effective date before authorization
- Expiry date
- Add new fact or rule to the selection criteria
- Modify the rule in logical model tab
- Modify the sequence, reason or comments in logical model tab

**Figure 167 : Logical Model Maintenance - Modify**

Logical Model Maintenance

**Basic Details**

Logical Model Code \*  
LMC102

Logical Model Description \*  
Logical Model LMC102

Effective Date \*  
Sep 30, 2020

Expiry Date \*  
Oct 31, 2021

Product Processor \*  
ORLO

Priority \*  
5

**Selection Criteria** | Logical Model

☒ Use Existing Rule ☐ Create New Rule

**Rules**

Rule Code \*  
RLS10

Rule Name  
Rule Product code HMLN34

New

**Rules**



| Code * | Description              | Select Existing rule | Rule Version |
|--------|--------------------------|----------------------|--------------|
| RLS10  | Rule Product code HMLN34 |                      |              |

Expression Builder

For more information on fields, refer to the field description table below.

**Table 135: Logical Model Maintenance – Modify – Field Description.**

| Field                            | Description  |
|----------------------------------|--|
| <b>Basic Details</b>             |  |
| <b>Logical Model Code</b>        | Displays the created logical model code.   |
| <b>Logical Model Description</b> | Displays the description for the created logical model.<br>User can modify the same.   |
| <b>Effective Date</b>            | Displays the effective date for the created borrowing capacity.<br>User can modify the same, if the date is future dated.                  |
| <b>Expiry Date</b>               | Displays the expiry date for the created logical model.<br>User can modify the same.   |
| <b>Product Processor</b>         | Displays the product processor of the created logical scoring model.   |
| <b>Priority</b>                  | Displays the priority of the logical model.<br>User can modify the same.   |
| <b>Stop On Failure</b>           | Indicates whether system should stop execution of rules if any rules fails or continue ahead with the remaining rules as per the sequence. |
| <b>Selection Criteria</b>        |  |
| <b>Use Existing Rule</b>         | By default, this option is enabled. Indicates if the existing rule is linked.  |
| <b>Rules</b>                     |  |
| <b>Rule Code</b>                 | Displays the rule code.  |

| Field   | Description   |
|---|---|
|    | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Create New Rule</b>  | Indicates if the new rule is created.   |
| <b>Rules</b>  |   |
| <b>Code</b>   | Displays the rule code.   |
| <b>Description</b>  | Displays the rule description   |
| <b>Select Existing Rule</b>   | Displays the existing rule.   |
| <b>Rule Version</b>   | Displays the rule version.  |
| <b>Expression Builder</b>   |   |
| <b>Fact / Rules</b>   | Displays the fact/rules of the created logical model.                                   |
| <b>Operator</b>   | Displays the comparison operator of the created logical model.                          |
| <b>Data Type</b>  | Displays the data type for the fact or rule of the created logical model.               |
| <b>Output</b>   | Displays the output of the created logical model.                                       |
| <b>Expression</b>   | Displays the expression updated in the expression builder of the created logical model. |
| <b>Logical Model</b>  |   |
| <b>Rule ID</b>  | Displays the rule ID of the created logical model.<br>You can modify the same.          |
|  | Click to get the information about the rule.  |
| <b>Sequence</b>   | Displays the sequence of the created logical model.<br>User can modify the same.        |
| <b>Reason</b>   | Displays the reason of the created logical model.<br>User can modify the same.          |
| <b>Comments</b>   | Displays the comments of the created logical model.<br>User can modify the same.        |

8. Click **Save** to update the modified fields.
9. Click **View** icon to view the created logical model.

The fields are displayed in **Logical Model Maintenance** screen.

**Figure 168 : Logical Model Maintenance - View**

Logical Model Maintenance

**Basic Details**

Logical Model Code \*  
LMC101

Logical Model Description \*  
LMC101

Effective Date \*  
Sep 15, 2020

Expiry Date \*  
Aug 10, 2022

Product Processor \*  
CPUD

Priority \*  
1

**Selection Criteria**   Logical Model

☒ Use Existing Rule   ☐ Create New Rule

**Rules**

| Rule Code * | Rule Name |
|-------------|-----------|
| Select      |           |

**Audit**

For more information on fields, refer to the field description table below.

**Table 136 : Logical Model Maintenance- View – Field Description.**

| Field                            | Description  |
|----------------------------------|--|
| <b>Basic Details</b>             |  |
| <b>Logical Model Code</b>        | Displays the created logical model code.                     |
| <b>Logical Model Description</b> | Displays the created logical model description.              |
| <b>Effective Date</b>            | Displays the effective date.                                 |
| <b>Expiry Date</b>               | Displays the expiry date.                                    |
| <b>Product Processor</b>         | Displays the product processor of the created logical model. |
| <b>Priority</b>                  | Displays the priority of the logical model.                  |
| <b>Selection Criteria</b>        |  |
| <b>Rules</b>                     |  |
| <b>Use Existing Rule</b>         | Displays if the existing rule is linked to logical model.    |
| <b>Rule Code</b>                 | Displays the rule code of the created logical model.         |
| <b>Rule Name</b>                 | Displays the rule name of the created logical model.         |
| <b>Create New Rule</b>           | Displays if new rule is linked to the logical model.         |
| <b>Rules</b>                     |  |
| <b>Code</b>                      | Displays the rule code of the created logical model.         |
| <b>Description</b>               | Displays the rule description of the created logical model.  |

| Field                       | Description   |
|-----------------------------|---|
| <b>Select Existing Rule</b> | Displays the existing rule.   |
| <b>Rule Version</b>         | Displays the rule version.  |
| <b>Expression Builder</b>   |   |
| <b>Fact / Rules</b>         | Displays the fact/rules of the created logical model.                                   |
| <b>Operator</b>             | Displays the comparison operator of the created logical model.                          |
| <b>Data Type</b>            | Displays the data type for the fact or rule of the created logical model.               |
| <b>Output</b>               | Displays the output of the created logical model.                                       |
| <b>Expression</b>           | Displays the expression updated in the expression builder of the created logical model. |
| <b>Logical Model</b>        |   |
| <b>Rule ID</b>              | Displays the rule ID of the created logical model.                                      |
| <b>Sequence</b>             | Displays the sequence of the created logical model.                                     |
| <b>Reason</b>               | Displays the reason of the created logical model.                                       |
| <b>Comments</b>             | Displays the comments of the created logical model.                                     |

## 2.47 Borrowing Capacity

Borrowing capacity describes the total amount the applicant is eligible to borrow. Maximum loan amount are used for loans, credit cards, and line of credit accounts. The maximum credit amount depends on a number of factors including the borrower's credit worthiness i.e. financial profile and debt to income, loan term, loan purpose, whether the loan is supported by a collateral etc.

Using this screen, we can link a rule for calculating borrowing capacity. We can calculate the maximum lendable amount based on the various criteria of the lender such as debt to income ratio, credit score, credit history etc.

A sample rule to calculate borrowing capacity is given below:

Scenario: Based on Income and FICO score

### Rule 1:

```
IF MIN(FICO_SCORE) >= 500 AND MIN(EMPLOYMENT_PERIOD) < 1 YEAR
THEN MULTIPLIER = 5
ELSEIF MIN(FICO_SCORE) < 500 AND MIN(EMPLOYMENT_PERIOD) > 1 YEAR
THEN MULTIPLIER = 4
```

### Rule2: Max Lendable Amount

MIN(Income) \* Rule1

This section contains the following subsections:

- [2.47.1 Create Borrowing Capacity](#)
- [2.47.2 View Borrowing Capacity](#)

## 2.47.1 Create Borrowing Capacity

The Create Borrowing Capacity screen allows the user to define the borrowing capacity based on the various input.

### To Create a Borrowing Capacity:

1. From **Home screen**, click **Core Maintenance**, Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Borrowing Capacity**.
3. Under **Borrowing Capacity**, click **Create Borrowing Capacity**.

→ The **Create Borrowing Capacity** screen is displayed.

**Figure 169 : Create Borrowing Capacity**

4. Specify the fields on **Create Borrowing Capacity** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 137 : Create Borrowing Capacity - Field Description**

| Field                          | Description                                      |
|--------------------------------|--|
| <b>Basic Details</b>           |  |
| <b>Eligibility Code</b>        | Specify the unique eligibility code.             |
| <b>Eligibility Description</b> | Specify a short description for the eligibility. |
| <b>Effective Date</b>          | Specify the effective date.                      |

| Field                    | Description  |
|--------------------------|--|
| <b>Expiry Date</b>       | Specify the expiry date.   |
| <b>Product Processor</b> | Specify the product processor for which the borrowing capacity is being defined.   |
| <b>Execution Stage</b>   | <p>Select the required option for execution stage.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Before Decision: If this option is selected, amount is calculated before scoring model resolution. Loan amount is replaced with the minimum of requested loan amount and maximum lendable amount for scoring and pricing.</li> <li>After Decision: If this option is selected, Amount is calculated after decision and before pricing. Loan amount is replaced with the minimum of requested loan amount and maximum lendable amount for pricing.</li> </ul> |

5. Click the **Selection Criteria** tab to define selection criteria rules.

**Figure 170 : Create Borrowing Capacity - Selection Criteria**


The screenshot shows the 'Create Borrowing Capacity' application. The 'Selection Criteria' tab is selected. It displays a form with the following fields:





- Eligibility Code**: A text field with the value '100'.
- Effective Date**: A date picker showing 'Sep 30, 2020'.
- Product Processor**: A dropdown menu showing 'DFLO'.
- Eligibility Description**: A text field with the value '100'.
- Expiry Date**: A date picker showing 'Feb 21, 2022'.
- Execution Stage**: A dropdown menu showing 'Before Decision'.

Below the form, there are two tabs: 'Selection Criteria' and 'Eligibility'. The 'Selection Criteria' tab is active, showing a 'Create Rule' section. This section includes a 'Rules' table with columns for Code, Description, Select Existing rule, and Rule Version. Below the table is an 'Expression Builder' with a '+ Add Expression' button and a list of facts.

For more information on fields, refer to the field description table below.

**Table 138 : Create Borrowing Capacity – Selection Criteria - Field Description**

| Field   | Description   |
|---|---|
| The following fields appear if you click the <b>Selection Criteria</b> Tab          |   |
| <b>Use Existing Rule</b>  | By default, this option is enabled. Indicates if the existing rule is linked. |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Select the rule code from the drop down list.                                 |
|  | Click this icon to get the information about the rule.                        |

| Field   | Description  |
|---|--|
| <b>Rule Name</b>  | View the rule name.  |
| <b>Create New Rule</b>  | Select this option to create new rule.   |
| <b>Rules</b>  |  |
| <b>Code</b>   | Specify the rule code.   |
| <b>Description</b>  | Specify the rule description.  |
| <b>Select Existing Rule</b>   | Select existing rule from the drop-down list.  |
|    | Click to view the existing rule.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.  |
| Below fields appears once you click  icon.   |  |
| <b>Rule ID</b>  | Displays the rule ID.  |
| <b>Rule Name</b>  | Displays the rule name.  |
| <b>Description</b>  | Displays the rule description.   |
| <b>Rule Version</b>   | Displays the rule version.   |
|    | Click to view the rule version.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.   |
| Below fields appears once you click  icon. |  |
| <b>Version</b>  | Displays the rule version.   |
| <b>Description</b>  | Displays the rule description.   |
| <b>Creation Date</b>  | Displays the rule creation date.   |
| <b>Expression Builder</b>   |  |
| <b>+ button</b>   | Click to add new expression.   |
| <b>Fact / Rules</b>   | Select the fact or rule from the drop-down list.<br><br>Once you select the fact/rules one more field opens adjacent to the output, update the same based on the selected output option. |




| Field             | Description   |
|-------------------|---|
| <b>Operator</b>   | <p>Select the comparison operator from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• &lt;</li> <li>• &gt;</li> <li>• +</li> <li>• =</li> <li>• %</li> <li>• !=</li> <li>• -</li> <li>• &gt;=</li> <li>• &lt;=</li> <li>• *</li> <li>• /</li> <li>• Contains</li> <li>• In</li> <li>• Matches</li> <li>• Notmatches</li> <li>• Notcontains</li> <li>• Notin</li> </ul>  |
| <b>Data Type</b>  | <p>Select the data type for the fact or rule. Once you select the data type one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul>    |
| <b>Expression</b> | View the expression updated in the expression builder.  |

6. Click the **Eligibility** tab to define eligibility.

**Figure 171 : Create Borrowing Capacity – Eligibility Tab**

For more information on fields, refer to the field description table below.

**Table 139 : Create Borrowing Capacity – Eligibility Tab - Field Description**

| Field   | Description  |
|---|--|
| The following fields appear if you click the <b>Eligibility</b> Tab                 |  |
| <b>+ button</b>   | Click to add a new row.                                      |
| <b>- button</b>   | Click to delete an existing row.                             |
| <b>Actions</b>  | Select this checkbox corresponding to the row to be deleted. |
| <b>Fact ID</b>  | Select the fact ID from the drop down list.                  |
| <b>Rule ID</b>  | Select the rule ID from the drop down list.                  |
|  | Click to get the information about the rule.                 |

7. Click **Save** to save the details.

The **Borrowing Capacity** is successfully created and can be viewed using the **View Borrowing Capacity** screen.

## 2.47.2 View Borrowing Capacity

The **View Borrowing Capacity** screen allows user to view the borrowing capacity created using the **Create Borrowing Capacity** screen. The status of the created capacity is displayed as **Unauthorized** and **Open**. Once the checker authorizes the capacity, the status is updated to **Authorized** and **Open**.

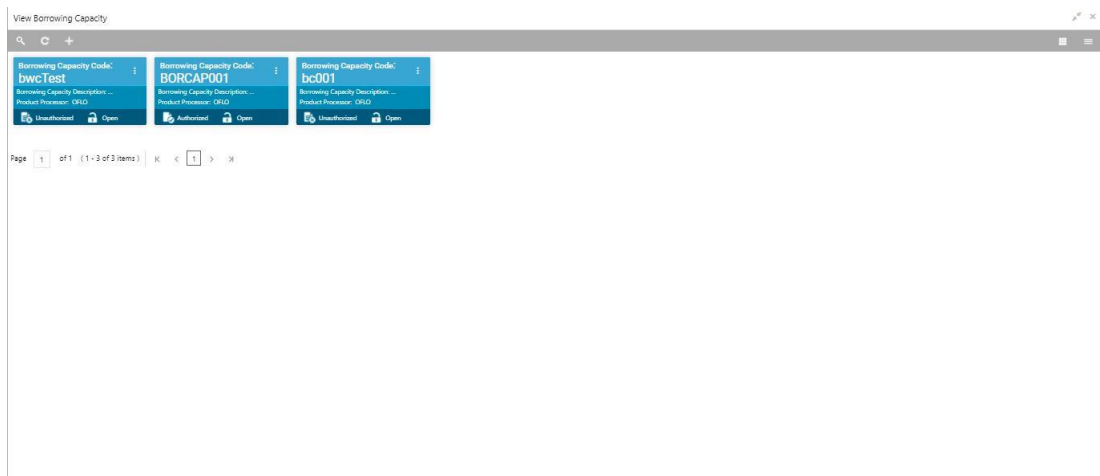
**To view the created Borrowing Capacity:**

- From **Home screen**, click **Core Maintenance**, Under **Core Maintenance**, click **Credit Decision**.
- Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Borrowing Capacity**.

- Under **Borrowing Capacity**, click **View Borrowing Capacity**.

→ The **View Borrowing Capacity** screen is displayed.

**Figure 172 : View Borrowing Capacity**



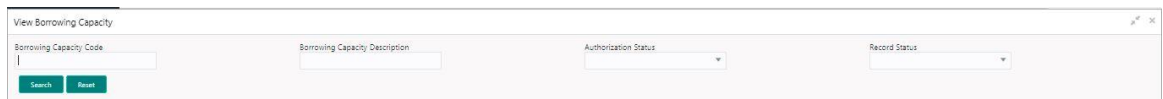
For more information on fields, refer to the field description table below.

**Table 140: View Borrowing Capacity – Field Description.**

| Field                                       | Description                                  |
|---|--|
| <b>Borrowing Capacity Code</b>              | Displays the borrowing capacity code.        |
| <b>Borrowing Capacity Model Description</b> | Displays the borrowing capacity description. |
| <b>Product Processor</b>                    | Displays the product processor.              |
| <b>Status</b>                               | Displays the status of the record.           |

- Click **Search** icon.
- Specify the search criteria to fetch the required borrowing capacity.

**Figure 173 : View Borrowing Capacity- Search Option**



- Click **Search**.

For more information on fields, refer to the field description table below.

**Table 141 : View Borrowing Capacity -Search Option- Field Description**

| Field                                 | Description   |
|---------------------------------------|---|
| <b>Borrowing Capacity Code</b>        | Specify the borrowing capacity code.  |
| <b>Borrowing Capacity Description</b> | Specify the description of the borrowing capacity.  |
| <b>Authorization Status</b>           | <p>Select the authorization status of the logical model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>                  | <p>Select the record status of the logical model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created borrowing capacity.

8. Click **Unlock** icon to modify the following fields.


The fields are displayed in the **Borrowing Capacity Maintenance** screen. The following fields are editable during unlock.


- Eligibility Description
- Effective date before authorization
- Expiry date
- Add new fact or rule to the selection criteria
- Fact or Rule in eligibility tab

**Figure 174 : Borrowing Capacity Maintenance - Modify**

For more information on fields, refer to the field description table below.

**Table 142: Borrowing Capacity Maintenance – Modify – Field Description.**

| Field   | Description   |
|---|---|
| <b>Basic Details</b>  |   |
| <b>Eligibility Code</b>   | Displays the eligibility code for the created borrowing capacity.   |
| <b>Eligibility Description</b>  | Displays the description for the created borrowing capacity.<br>User can modify the same.                                 |
| <b>Effective Date</b>   | Displays the effective date for the created borrowing capacity.<br>User can modify the same, if the date is future dated. |
| <b>Expiry Date</b>  | Displays the expiry date for the created borrowing capacity.<br>User can modify the same.                                 |
| <b>Product Processor</b>  | Displays the product processor of the created borrowing capacity.   |
| <b>Execution Stage</b>  | Displays the execution stage for the created borrowing capacity.  |
| <b>Selection Criteria</b>   |   |
| <b>Use Existing Rule</b>  | By default, this option is enabled. Indicates if the existing rule is linked.   |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code.   |
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Create New Rule</b>  | Indicates if the new rule is created.   |

| Field   | Description  |
|---|--|
| <b>Rules</b>  |  |
| <b>Code</b>   | Displays the rule code.  |
| <b>Description</b>  | Displays the rule description  |
| <b>Select Existing Rule</b>   | Displays the existing rule.<br>User can modify the same.                                     |
| <b>Version</b>  | Displays the rule version.   |
| <b>Expression Builder</b>   |  |
| <b>Fact / Rules</b>   | Displays the fact/rules of the created borrowing capacity.                                   |
| <b>Operator</b>   | Displays the comparison operator of the created borrowing capacity.                          |
| <b>Data Type</b>  | Displays the data type for the fact or rule of the created borrowing capacity.               |
| <b>Output</b>   | Displays the output of the created borrowing capacity.                                       |
| <b>Expression</b>   | Displays the expression updated in the expression builder of the created borrowing capacity. |
| <b>Eligibility</b>  |  |
| <b>Fact ID</b>  | Displays the fact ID of the created borrowing capacity.<br>User can modify the same.         |
| <b>Rule ID</b>  | Displays the rule ID of the created borrowing capacity.<br>User can modify the same.         |
|  | Click to get the information about the rule.   |

9. Click **Save** to update the modified fields.

10. Click **View** icon to view the created borrowing capacity.

The fields are displayed in **Borrowing Capacity Maintenance** screen.

**Figure 175 : Borrowing Capacity Maintenance - View**

**Borrowing Capacity Maintenance**

**Basic Details**

Eligibility Code \*  
bwcTest

Eligibility Description \*  
bwcTest

Effective Date \*  
Jul 29, 2021

Expiry Date \*  
Aug 7, 2021

Product Processor \*  
OFLO

Execution Stage \*  
Before Decision

**Selection Criteria** | **Eligibility**

☒ Use Existing Rule ☐ Create New Rule

**Rules**

Rule Code \*  
BORCAP001


Rule Name  
BORCAP001

Rules

For more information on fields, refer to the field description table below.

**Table 143 : Borrowing Capacity Maintenance- View – Field Description.**

| Field                          | Description  |
|--------------------------------|--|
| <b>Basic Details</b>           |  |
| <b>Eligibility Code</b>        | Displays the eligibility code for the created borrowing capacity.  |
| <b>Eligibility Description</b> | Displays the description for the created borrowing capacity.       |
| <b>Effective Date</b>          | Displays the effective date for the created borrowing capacity.    |
| <b>Expiry Date</b>             | Displays the expiry date for the created borrowing capacity.       |
| <b>Product Processor</b>       | Displays the product processor for the created borrowing capacity. |
| <b>Execution Stage</b>         | Displays the execution stage for the created borrowing capacity.   |
| <b>Selection Criteria</b>      |  |
| <b>Rules</b>                   |  |
| <b>Use Existing Rule</b>       | Displays if the existing rule is linked to borrowing capacity.     |
| <b>Rule Code</b>               | Displays the rule code of the created borrowing capacity.          |
| <b>Rule Name</b>               | Displays the rule name of the created borrowing capacity.          |
| <b>Create New Rule</b>         | Displays if new rule is linked to the created borrowing capacity.  |

| Field   | Description  |
|---|--|
| <b>Rules</b>  |  |
| <b>Rule Code</b>  | Displays the rule code of the created borrowing capacity.                                    |
| <b>Description</b>  | Displays the rule description of the created borrowing capacity.                             |
| <b>Select Existing Rule</b>   | Displays the existing rule.  |
| <b>Rule Version</b>   | Displays the rule version.   |
| <b>Expression Builder</b>   |  |
| <b>Fact / Rules</b>   | Displays the fact/rules of the created borrowing capacity.                                   |
| <b>Operator</b>   | Displays the comparison operator of the created borrowing capacity.                          |
| <b>Data Type</b>  | Displays the data type for the fact or rule of the created borrowing capacity.               |
| <b>Output</b>   | Displays the output of the created borrowing capacity.                                       |
| <b>Expression</b>   | Displays the expression updated in the expression builder of the created borrowing capacity. |
| <b>Eligibility</b>  |  |
| <b>Fact ID</b>  | Displays the fact ID of the created borrowing capacity.                                      |
| <b>Rule ID</b>  | Displays the rule ID of the created borrowing capacity.                                      |
|  | Click to get the information about the rule.   |

## 2.48 Questionnaire

Credit analysis includes analysis of more information and data. Considering that, some of them have quantitative character and others qualitative, credit analysis are viewed from two aspects such as:

Quantitative analysis involves, an assessment of the financial position based on the customer's income and monthly expenses. It may also include a cash flow analysis of the customer's accounts and credit history.

While qualitative assessment, among others takes into account marital status, education or employment form.

Banks usually grant loan based on a credit scoring model that combines quantitative and qualitative analysis.

This section contains the following subsections:



- [2.48.1 Create Questionnaire](#)
- [2.48.2 View Questionnaire](#)

## 2.48.1 Create Questionnaire

The **Create Questionnaire** screen allows the user to define qualitative questionnaire based on the various parameters. This questionnaire can be further linked to define qualitative scoring model.

### To Create Questionnaire:

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Questionnaire**.
3. Under **Questionnaire**, click **Create Questionnaire**.

→ The **Create Questionnaire** screen is displayed.

**Figure 176 : Create Questionnaire**






4. Specify the field's on **Create Questionnaire screen**.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 144 : Create Questionnaire - Field Description**

| Field                            | Description   |
|----------------------------------|---|
| <b>Basic Details</b>             |   |
| <b>Questionnaire Code</b>        | Specify the unique questionnaire code.                                      |
| <b>Questionnaire Description</b> | Specify a short description for the questionnaire.                          |
| <b>Product Processor</b>         | Specify the product processor for which the questionnaire is being created. |
| <b>Category</b>                  | Specify the category for the questionnaire.                                 |

| Field   | Description  |
|---|--|
| <b>Create</b>   | Click <b>Create</b> to configure the questions.  |
| <b>Question Code</b>  | Specify the unique question code.  |
| <b>Question Description</b>   | Specify the description for the question.  |
| <b>Select-Type</b>  | <p>Select the type of response option from the drop-down list.</p> <p>The option are:</p> <ul style="list-style-type: none"> <li>Select-Single-Choice</li> </ul> |
| <b>Short Name</b>   | Specify the short name of the question. This will be displayed in the execution summary.   |
| <b>Answer Code</b>  | Displays the answer code.  |
| <b>Answer Option</b>  | Specify all the expected response for the question configured.   |
| <b>Add</b>  | Click to add the expected response to the question.  |
| <b>Update</b>   | Click Update to edit the response.   |
| <b>Remove</b>   | Click to remove the response.  |
| <b>Required</b>   | By default, this option is enabled. Indicates whether the question is mandatory or optional.   |
| <b>Done</b>   | Click to save the data.  |
| <b>Preview</b>  | Click <b>Preview</b> to view the questions configured for the questionnaire along with the response choice.  |
|                  | Click to view the responses configured for the questionnaire.  |
|                  | Click to move the position of the questions.   |
|                  | Click to expand, copy or remove question.  |
|  Copy            | Click to copy the question.  |
|  Remove Question | Click to remove the question.  |
| <b>Add Question</b>   | Click to add another question.   |

- Click **Save** to save the details.

The Questionnaire is successfully created and can be viewed using **View Questionnaire** screen.

## 2.48.2 View Questionnaire

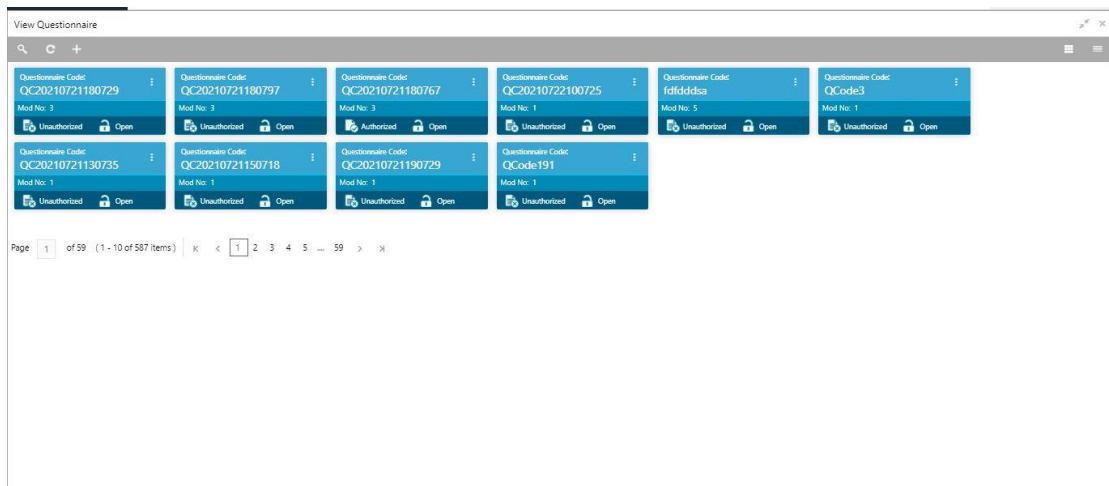
The **View Questionnaire** screen allows user to view the questionnaire created using the **Create Questionnaire** screen. The status of the created questionnaire is displayed as **Unauthorized** and **Open**. Once the checker authorizes the questionnaire, the status is updated to **Authorized** and **Open**.

To view created questionnaire:

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Questionnaire**.
3. Under **Questionnaire**, click **View Questionnaire**.

→ The **View Questionnaire** screen is displayed.

**Figure 177 : View Questionnaire**



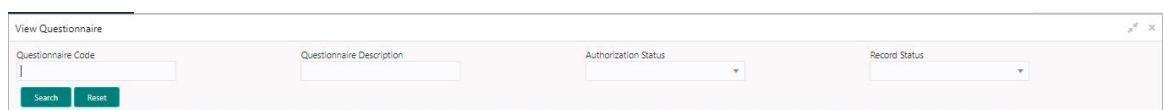
For more information on fields, refer to the field description table below.

**Table 145: View Borrowing Capacity – Field Description.**

| Field                            | Description   |
|----------------------------------|---|
| <b>Questionnaire Code</b>        | Displays the questionnaire code.  |
| <b>Questionnaire Description</b> | Displays the questionnaire description.                                     |
| <b>Product Processor Code</b>    | Displays the product processor code for which the questionnaire is created. |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required questionnaire.

**Figure 178 : View Questionnaire - Search Option**



6. Click **Search**.

For more information on fields, refer to the field description table below.

**Table 146 : View Questionnaire -Search Option- Field Description**

| Field                            | Description  |
|----------------------------------|--|
| <b>Questionnaire Code</b>        | Specify the questionnaire code.  |
| <b>Questionnaire Description</b> | Specify the questionnaire description.   |
| <b>Authorization Status</b>      | Select the authorization status of the logical model.<br><br>The options are: <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>             | Select the record status of the logical model.<br><br>The options are: <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created questionnaire.
8. To authorise the questionnaire, see the **Authorization Process**.
9. Click **Unlock** icon to modify the following fields.

The fields are displayed in the **Questionnaire Maintenance** screen. The following fields are editable during unlock.

- Questionnaire Description
- Category
- Add Question
- Remove Question
- Required (Enable/Disable)
- User can add new, update existing, or remove existing response
- Copy the existing question

**Figure 179 : Questionnaire Maintenance - Modify**

The screenshot shows the 'Questionnaire Maintenance' interface. The 'Basic Details' section includes:
 

- Questionnaire Code**: A text field with 'QuestLoan3D'.
- Questionnaire Description**: A text field with 'QuestLoan3D desc'.
- Product Processor**: A dropdown menu with 'ORLO' selected.
- Category**: A dropdown menu with 'QuestLoan3D category'.





 Below the details is a 'Preview' section showing a list of questions:
 

- TestS1 TestS1 desc
- TestS2 TestS2 desc

 Each question has icons for expand, copy, remove, move, and details. At the bottom are buttons for 'Add Question', 'Save', and 'Cancel'.

For more information on fields, refer to the field description table below.

**Table 147: Questionnaire Maintenance – Modify – Field Description.**

| Field  | Description  |
|--|--|
| <b>Basic Details</b>   |  |
| <b>Questionnaire Code</b>  | Displays the questionnaire code.   |
| <b>Questionnaire Description</b>   | Displays the questionnaire description.<br>User can modify the description.                  |
| <b>Product Processor</b>   | Displays the product processor for the created questionnaire.                                |
| <b>Category</b>  | Displays the category of the created questionnaire.<br>User can modify the category.         |
| <b>Preview</b>   | Click to view the questions configured for the questionnaire along with the response choice. |
|   | Click to expand, copy or remove question.  |
|   | Click to move the position of the questions.   |
|   | Click to see the question details.   |
| The following fields are displayed once you click this  icon. |  |
| <b>Question Code</b>   | Displays the question code for the created questionnaire.                                    |
| <b>Question Description</b>  | Displays the question code for the created questionnaire.<br>User can modify the same.       |
| <b>Select-Type</b>   | Displays the type of questionnaire.  |

| Field                | Description  |
|----------------------|--|
| <b>Short Name</b>    | Displays the short name of the created questionnaire.<br>User can modify the same                      |
| <b>Answer Code</b>   | Displays the answer code.  |
| <b>Answer Option</b> | Displays all the expected response for the question configured.<br>User can modify or delete the same. |
| <b>Required</b>      | Displays if the question is mandatory or optional.<br>User can modify the same.                        |

10. Click **Save** to update the modified fields.

11. Click **View** icon to view the created questionnaire.


The fields are displayed in **Questionnaire Maintenance** screen.

**Figure 180 : Questionnaire Maintenance - View**

For more information on fields, refer to the field description table below.

**Table 148 : Questionnaire Maintenance- View – Field Description.**

| Field                          | Description  |
|--------------------------------|--|
| <b>Basic Details</b>           |  |
| <b>Eligibility Code</b>        | Displays the eligibility code for the created questionnaire. |
| <b>Eligibility Description</b> | Displays the description for the created questionnaire.      |
| <b>Effective Date</b>          | Displays the effective date for the created questionnaire.   |
| <b>Expiry Date</b>             | Displays expiry date for the created questionnaire.          |
| <b>Product Processor</b>       | Displays product processor for the created questionnaire.    |
| <b>Execution Stage</b>         | Displays the execution stage for the created questionnaire.  |

| Field   | Description  |
|---|--|
| <b>Selection Criteria</b>   |  |
| <b>Rules</b>  |  |
| <b>Use Existing Rule</b>  | Displays if the existing rule is linked to questionnaire.                              |
| <b>Rule Code</b>  | Displays the rule code of the created questionnaire.                                   |
| <b>Rule Name</b>  | Displays the rule name of the created questionnaire.                                   |
| <b>Create New Rule</b>  | Displays if new rule is linked to the questionnaire.                                   |
| <b>Rules</b>  |  |
| <b>Rule Code</b>  | Displays the rule code of the created questionnaire.                                   |
| <b>Description</b>  | Displays rule description of the created questionnaire.                                |
| <b>Expression Builder</b>   |  |
| <b>Fact / Rules</b>   | Displays the fact/rules of the created questionnaire.                                  |
| <b>Operator</b>   | Displays the comparison operator of the created Questionnaire.                         |
| <b>Data Type</b>  | Displays the data type for the fact or rule of the created Questionnaire.              |
| <b>Output</b>   | Displays the output of the created questionnaire.                                      |
| <b>Expression</b>   | Displays the expression updated in the expression builder of the crated questionnaire. |
| <b>Eligibility</b>  |  |
| <b>Fact ID</b>  | Displays the fact ID of the created questionnaire.                                     |
| <b>Rule ID</b>  | Displays the rule ID of the created questionnaire.                                     |
|  | Click this to get the information about the rule.                                      |

## 2.49 Qualitative Scoring Model

Financial institution use different models for different product or use case. The qualitative scoring model used for home loan would be different then the personal loan. Banks usually grant loan based on a credit scoring model that combines quantitative and qualitative analysis.

This section contains the following subsections:

- [2.49.1 Create Qualitative Scoring Model](#)
- [2.49.2 View Qualitative Scoring Model](#)

## 2.49.1 Create Qualitative Scoring Model

The **Create Qualitative Scoring Model** screen allows user to define qualitative scoring model based on the various scoring parameters.

**To create a qualitative scoring Model:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Qualitative Scoring Model**.
3. Under **Qualitative Scoring model**, click **Create Qualitative Scoring Model**  
→ The **Create Qualitative Scoring Model** screen is displayed.

**Figure 181 : Create Qualitative Scoring Model**

4. Specify fields on **Create Qualitative Scoring Model** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 149 : Create Qualitative Scoring Model - Field Description**

| Field                            | Description  |
|----------------------------------|--|
| <b>Basic Details</b>             |  |
| <b>Scoring Model</b>             | Select the scoring model from the drop-sown list.<br><br>The options are: <ul style="list-style-type: none"> <li>• Application Scoring Model</li> <li>• Applicant Scoring Model</li> </ul> |
| <b>Scoring Model code</b>        | Specify the unique scoring model code.   |
| <b>Scoring Model Description</b> | Specify a short description for the scoring model.   |




| Field                    | Description   |
|--------------------------|---|
| <b>Effective Date</b>    | Specify the effective date.   |
| <b>Expiry Date</b>       | Specify the expiry date.  |
| <b>Product Processor</b> | Specify the product processor for which the model is being created. |
| <b>Priority</b>          | Specify the priority of the model.                                  |





5. Click the **Selection Criteria** tab to define qualitative scoring model.

**Figure 182 : Create Qualitative Scoring Model – Selection Criteria Tab**

For more information on fields refer field description table.

**Table 150 : Create Qualitative Scoring Model – Selection Criteria Tab Field Description**

| Field   | Description   |
|---|---|
| <b>Use Existing Rule</b>  | By default, this option is enabled. Indicates if the existing rule is linked. |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Select the rule code from the drop down list.                                 |
|  | Click to get the information about the rule.                                  |
| <b>Rule Name</b>  | Displays the rule name of the rule code.                                      |
| <b>Create New Rule</b>  | Select this option to create new rule.  |
| <b>Rules</b>  |   |
| <b>Code</b>   | Specify the rule code.  |
| <b>Description</b>  | Specify the rule description.   |

| Field   | Description   |
|---|---|
| <b>Select Existing Rule</b>   | Select the existing rule from the drop-down list.   |
|    | Click to view the existing rule.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                             |
| Below fields appears once you click  icon.   |   |
| <b>Rule ID</b>  | Displays the rule ID.   |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Description</b>  | Displays the rule description.  |
| <b>Rule Version</b>   | Displays the rule version.  |
|    | Click to view the existing rule version.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                     |
| Below fields appears once you click  icon. |   |
| <b>Version</b>  | Displays the rule version.  |
| <b>Description</b>  | Displays the rule description.  |
| <b>Creation Date</b>  | Displays the rule creation date.  |
| <b>Expression Builder</b>   |   |
| <b>+ button</b>   | Click to add new expression.  |
| <b>Fact / Rules</b>   | Select the fact or rule from the drop-down list.<br><br>Once you select the fact/rules one more field opens adjacent to it, update the same based on the selected option. |

| Field            | Description   |
|------------------|---|
| <b>Operator</b>  | <p>Select the comparison operator from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• &lt;</li> <li>• &gt;</li> <li>• +</li> <li>• =</li> <li>• %</li> <li>• !=</li> <li>• -</li> <li>• &gt;=</li> <li>• &lt;=</li> <li>• *</li> <li>• /</li> <li>• Contains</li> <li>• In</li> <li>• Matches</li> <li>• Notmatches</li> <li>• Notcontains</li> <li>• Notin</li> </ul>  |
| <b>Data Type</b> | <p>Select the data type for the fact or rule. Once you select the data type one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |

| Field             | Description  |
|-------------------|--|
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Text</li> <li>Number</li> <li>Boolean</li> <li>Date</li> <li>Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>True</li> <li>False</li> </ul> |
| <b>Expression</b> | Displays the expression updated in the expression builder.   |


7. Click the **Scoring Rule** tab to define the rules. This tab is enabled if **Application Scoring Model** is selected.

**Figure 183 : Create Qualitative Scoring Model- Scoring Rule Tab**

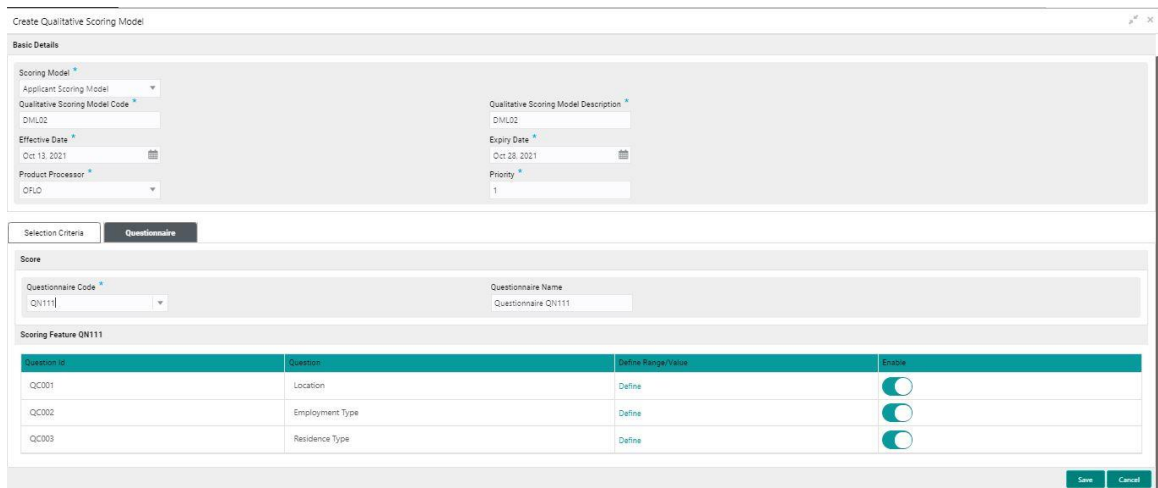
The screenshot displays the 'Create Qualitative Scoring Model' interface. The 'Scoring Rule' tab is active. Under 'Basic Details', the 'Scoring Model' is set to 'Application Scoring Model'. The 'Qualitative Scoring Model Code' is 'DMU02'. The 'Effective Date' is 'Oct 13, 2021' and the 'Product Processor' is 'ORLO'. The 'Qualitative Scoring Model Description' is 'DMU02', the 'Expiry Date' is 'Oct 28, 2021', and the 'Priority' is '1'. In the 'Score' section, the 'Rule Code' is 'BRCAPI0' and the 'Rule Name' is 'Borrowing Capacity'. At the bottom right, there are 'Save' and 'Cancel' buttons.

For more information on fields, refer to the field description table below.

**Table 151 : Create Qualitative Scoring Model- Scoring Rule Tab Field Description**

| Field   | Description                                   |
|---|---|
| <b>Score</b>  |   |
| <b>Rule Code</b>  | Select the rule code from the drop down list. |
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name of the rule code.      |

8. Click the **Questionnaire** tab to define the scoring model based on the various questionnaires. This tab is enabled if **Applicant Scoring Model** is selected.

**Figure 184 : Create Qualitative Scoring Model- Questionnaire Tab**


Create Qualitative Scoring Model

Basic Details

Scoring Model \*  
Applicant Scoring Model

Qualitative Scoring Model Code \*  
DML02

Effective Date \*  
Oct 13, 2021

Product Processor \*  
ORLO

Qualitative Scoring Model Description \*  
DML02

Expiry Date \*  
Oct 28, 2021

Priority \*  
1

Selection Criteria **Questionnaire**

Score

Questionnaire Code \*  
QN111

Questionnaire Name  
Questionnaire QN111

Scoring Feature QN111

| Question ID | Question        | Define Range/Value | Enable                              |
|-------------|-----------------|--------------------|-------------------------------------|
| QC001       | Location        | Define             | <input checked="" type="checkbox"/> |
| QC002       | Employment Type | Define             | <input checked="" type="checkbox"/> |
| QC003       | Residence Type  | Define             | <input checked="" type="checkbox"/> |

Save Cancel

For more information on fields, refer to the field description table below.

**Table 152 : Create Qualitative Scoring Model – Questionnaire Tab - Field Description**

| Field                     | Description   |
|---------------------------|---|
| <b>Score</b>              |   |
| <b>Questionnaire Code</b> | Select the questionnaire code from the drop-down list. It will list down all the questionnaire created as a part of create questionnaire. |
| <b>Questionnaire Name</b> | Displays the questionnaire name of the selected questionnaire code.   |
| <b>Question ID</b>        | Displays the question ID in the questionnaire.  |
| <b>Question</b>           | Displays the question description linked to the question ID.  |
| <b>Define Range/Value</b> | Click to define the score for the expected response.  |
| <b>Enable</b>             | By default, this option is enabled. Indicates if the question ID is enabled or not.   |

9. Click the **Define** link to define a range or absolute values for questions.

**Figure 185 : Create Qualitative Scoring Model - Define Link**

For more information on fields, refer to the field description table below.

**Table 153: Create Qualitative Scoring Model- Define Link – Numeric Feature- Field Description**

| Field                         | Description  |
|-------------------------------|--|
| <b>Range/Value Definition</b> |  |
| <b>Value</b>                  | Displays the options available for a questionnaire.  |
| <b>Score</b>                  | Specify the score to be assigned to each value.  |
| <b>Category</b>               | <p>Specify the category for each range or value from the drop-down list. The values are configurable based on the lookup values maintained.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Strong</li> <li>Medium</li> <li>Weak</li> </ul> |

10. Click **Done**, to save the data and close the range panel.

11. Click **Save** to save the details.

The qualitative scoring model is successfully created and can be viewed using the **View Qualitative Scoring Model** screen.

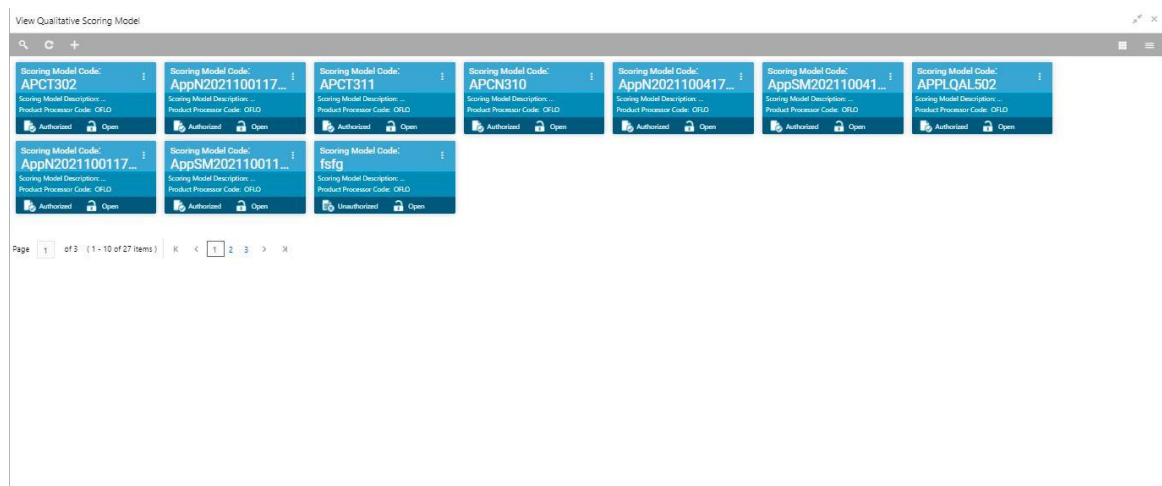
## 2.49.2 View Qualitative Scoring Model

The **View Qualitative Scoring Model** screen allows user to view the qualitative scoring model created using the **Create Qualitative Scoring Model** screen. The status of the created model is displayed as **Unauthorized** and **Open**. Once the checker authorizes the model, the status is updated to **Authorized** and **Open**.

**To view created qualitative scoring Model:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Qualitative Scoring Model**.
3. Under **Qualitative Scoring Model**, click **View Qualitative Scoring Model**

→ The **View Qualitative Scoring Model** screen is displayed.

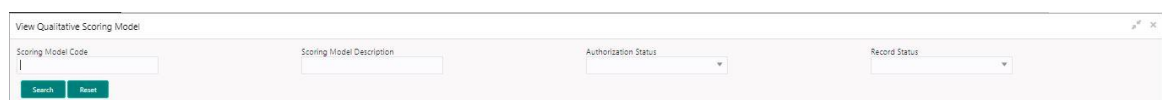
**Figure 186 : View Qualitative Scoring Model**

For more information on fields, refer to the field description table below.

**Table 154: View Qualitative Scoring Model – Field Description.**

| Field                            | Description                             |
|----------------------------------|---|
| <b>Scoring Model Code</b>        | Displays the scoring model code.        |
| <b>Scoring Model Description</b> | Displays the scoring model description. |
| <b>Product Processor Code</b>    | Displays the product processor code.    |
| <b>Status</b>                    | Displays the status of the record.      |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required qualitative scoring model.

**Figure 187 : View Qualitative Scoring Model - Search Option**

6. Click **Search**.

For more information on fields, refer to the field description table below.

**Table 155 : View Qualitative Scoring Model -Search Option- Field Description**

| Field                            | Description   |
|----------------------------------|---|
| <b>Scoring Model Code</b>        | Specify the scoring model code.   |
| <b>Scoring Model Description</b> | Specify the scoring model description.  |
| <b>Authorization Status</b>      | <p>Select the authorization status of the logical model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>             | <p>Select the record status of the logical model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created qualitative scoring model.
8. To authorize the qualitative scoring model, see the Authorization process.
9. Click **Unlock** icon to modify the following fields.

The fields are displayed in the **Qualitative Scoring Model Maintenance** screen. The following fields are editable during unlock.

- Qualitative Scoring Model Description
- Effective Date before Authorization
- Expiry Date
- Priority
- Add new fact or rule to the selection criteria
- Enable, if you want to disable any question ID from the model
- Modify the score for existing response
- Define score or update score a range when new questions are added or modified in a questionnaire
- Scoring model before authorization




**Figure 188 : Qualitative Scoring Model Maintenance - Modify**

The screenshot shows the 'Qualitative Scoring Model Maintenance - Modify' form. It has a title bar with the text 'Qualitative Scoring Model Maintenance'. The form is divided into three main sections: 'Basic Details', 'Selection Criteria', and 'Rules'. The 'Basic Details' section contains fields for 'Scoring Model', 'Qualitative Scoring Model Code', 'Qualitative Scoring Model Description', 'Effective Date', 'Expiry Date', 'Product Processor', and 'Priority'. The 'Selection Criteria' section has a 'Questionnaire' tab and a 'Use Existing Rule' section with a 'Rule Code' dropdown and a 'Rule Name' dropdown. The 'Rules' section has a 'New' button and a table with columns 'Code' and 'Description'.

For more information on fields, refer to the field description table below.

**Table 156: Qualitative Scoring Model Maintenance – Modify – Field Description.**

| Field  | Description  |
|--|--|
| <b>Basic Details</b>                         |  |
| <b>Scoring Model</b>                         | Displays the scoring model for the created qualitative scoring model.  |
| <b>Qualitative Scoring Model Code</b>        | Displays the qualitative scoring model code for the created qualitative scoring model.                                     |
| <b>Qualitative Scoring Model Description</b> | Displays the qualitative scoring model description for the created qualitative scoring model.<br>User can modify the same. |
| <b>Effective Date</b>                        | Displays the effective date of the created qualitative scoring model.<br>User can modify the same before authorization.    |
| <b>Expiry Date</b>                           | Displays the expiry date of the created qualitative scoring model.<br>User can modify the same.                            |
| <b>Product Processor</b>                     | Displays the product processor for the created qualitative scoring model.  |
| <b>Priority</b>                              | Displays the priority of the created qualitative scoring model.<br>User can modify the same.                               |
| <b>Selection Criteria</b>                    |  |
| <b>Use Existing Rule</b>                     | Indicates if the existing rule is linked.<br>User can modify the same.   |
| <b>Rules</b>                                 |  |

| Field   | Description  |
|---|--|
| <b>Rule Code</b>  | Displays the rule code for the created qualitative scoring model.<br>User can modify the same. |
|  | Click to get the information about the rule.   |
| <b>Rule Name</b>  | Displays the rule name of the rule code for the created qualitative scoring model.             |
| <b>Rules</b>  |  |
| <b>Code</b>   | Displays the rule code.  |
| <b>Description</b>  | Displays the rule description.   |
| <b>Select Existing Rule</b>   | Displays the existing rule.  |
| <b>Rule Version</b>   | Displays the rule version.   |
| <b>Expression Builder</b>   |  |
| <b>+ button</b>   | Click to add new expression.   |
| <b>Fact / Rules</b>   | Displays the fact or rule for the created qualitative scoring model.                           |
| <b>Operator</b>   | Displays the comparison operator for the created qualitative scoring model.                    |
| <b>Data Type</b>  | Displays the data type for the fact or rule for the created qualitative scoring model.         |
| <b>Output</b>   | Displays the output for the created qualitative scoring model.                                 |
| <b>Expression</b>   | Displays the expression updated in the expression builder.                                     |
| <b>Scoring Rule</b>   |  |
| Applicable for the <b>Application scoring Model</b> .                             |  |
| <b>Score</b>  |  |
| <b>Rule Code</b>  | Displays the rule code for the created qualitative scoring model.<br>User can modify the same. |
| <b>Rule Name</b>  | Displays the rule name for the created qualitative scoring model.                              |
| <b>Questionnaire</b>  |  |
| Applicable for <b>Applicant Scoring Model</b> .                                   |  |
| <b>Score</b>  |  |

| Field                     | Description   |
|---------------------------|---|
| <b>Questionnaire Code</b> | Displays the questionnaire code for the created qualitative scoring model.<br><br>User can modify the same. |
| <b>Questionnaire Name</b> | Displays the questionnaire name for the created qualitative scoring model.                                  |
| <b>Question ID</b>        | Displays the question ID for the created qualitative scoring model.   |
| <b>Question</b>           | Displays the question for the created qualitative scoring model.  |
| <b>Define Range/Value</b> | Displays the defined range or value.<br><br>User can modify the same.                                       |
| <b>Value</b>              | Displays the defined value for the created qualitative scoring model.                                       |
| <b>Score</b>              | Displays the score for the created qualitative scoring model.<br><br>User can modify the same.              |
| <b>Category</b>           | Displays the category for the created qualitative scoring model.<br><br>User can modify the same.           |
| <b>Enable</b>             | Displays if the question ID is enabled or not.  |

10. Click **Save** to update the modified fields.

11. Click **View** icon to view the created qualitative scoring model.

The fields are displayed in **Qualitative Scoring Model Maintenance** screen.

**Figure 189 : Qualitative Scoring Model Maintenance - View**

Qualitative Scoring Model Maintenance

**Basic Details**

Scoring Model \*  
Applicant Scoring Model  
Qualitative Scoring Model Code \*  
APCT302  
Effective Date \*  
Sep 30, 2020  
Product Processor \*  
OFLO

Qualitative Scoring Model Description \*  
Qualitative scoring model APCT302  
Expiry Date \*  
Sep 30, 2021  
Priority \*  
22

**Selection Criteria**   **Questionnaire**

☒ Use Existing Rule   ☐ Create New Rule

**Rules**


Rule Code \*  
RL302

Rule Name  
Rule Product code HMLN31 EmpCat B

New

For more information on fields, refer to the field description table below.

**Table 157 : Qualitative Scoring Model Maintenance- View – Field Description.**

| Field   | Description   |
|---|---|
| <b>Basic Details</b>  |   |
| <b>Scoring Model</b>  | Displays the scoring model for the created qualitative scoring model.                         |
| <b>Qualitative Scoring Model Code</b>   | Displays the qualitative scoring model code for the created qualitative scoring model.        |
| <b>Qualitative Scoring Model Description</b>  | Displays the qualitative scoring model description for the created qualitative scoring model. |
| <b>Effective Date</b>   | Displays the effective date of the created qualitative scoring model.                         |
| <b>Expiry Date</b>  | Displays the expiry date of the created qualitative scoring model.                            |
| <b>Product Processor</b>  | Displays the product processor for the created qualitative scoring model.                     |
| <b>Priority</b>   | Displays the priority of the created qualitative scoring model.                               |
| <b>Selection Criteria</b>   |   |
| <b>Rules</b>  |   |
| <b>Use Existing Rule</b>  | Indicates if the existing rule is linked.   |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code for the created qualitative scoring model.                             |
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name of the rule code for the created qualitative scoring model.            |
| <b>Create New Rule</b>  | Indicates if the new rule is created.   |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code of the created qualitative scoring model.                              |
| <b>Description</b>  | Displays the rule description of the created qualitative scoring model.                       |
| <b>Select Existing Rule</b>   | Displays the existing rule.   |
| <b>Rule Version</b>   | Displays the rule version.  |
| <b>Expression Builder</b>   |   |
| <b>+ button</b>   | Click this icon to add new expression.  |
| <b>Fact / Rules</b>   | Displays the fact/rules of the created qualitative scoring model.                             |
| <b>Operator</b>   | Displays the comparison operator of the created qualitative scoring model.                    |

| Field  | Description   |
|--|---|
| <b>Data Type</b>   | Displays the data type for the fact or rule of the created qualitative scoring model.               |
| <b>Output</b>  | Displays the output of the created qualitative scoring model.                                       |
| <b>Expression</b>  | Displays the expression updated in the expression builder of the created qualitative scoring model. |
| <b>Scoring Rule</b><br>Applicable for the <b>Application scoring Model</b> . |   |
| <b>Score</b>   |   |
| <b>Rule Code</b>   | Displays the rule code for the created qualitative scoring model.                                   |
| <b>Rule Name</b>   | Displays the rule name for the created qualitative scoring model.                                   |
| <b>Questionnaire</b><br>Applicable for <b>Applicant Scoring Model</b> .      |   |
| <b>Score</b>   |   |
| <b>Questionnaire Code</b>  | Displays the questionnaire code for the created qualitative scoring model.                          |
| <b>Questionnaire Name</b>  | Displays the questionnaire name for the created qualitative scoring model.                          |
| <b>Question ID</b>   | Displays the question ID for the created qualitative scoring model.                                 |
| <b>Question</b>  | Displays the question for the created qualitative scoring model.                                    |
| <b>Define Range/Value</b>  | Displays the defined range or value.  |
| <b>Value</b>   | Displays the defined value for the created qualitative scoring model.                               |
| <b>Score</b>   | Displays the score for the created qualitative scoring model.                                       |
| <b>Category</b>  | Displays the category for the created qualitative scoring model.                                    |
| <b>Enable</b>  | Displays if the question ID is enabled or not.  |

## 2.50 Scoring Feature

Lending institution have complex credit scoring models. The model uses the information contained in an application such as salary, credit commitments, and past loan performances to determine a credit score of an application or an existing customer. The model generates a score and based on that score, system takes the decision like approve, referred or to reject the application. To achieve these, in the decision service, you need to define maintenances of scoring feature. A feature can be either fact based or rule based. The features created in this maintenance can be linked in quantitative score model and decision grade matrix screen.

This section contains the following subsections:

- [2.50.1 Create Scoring Feature](#)
- [2.50.2 View Scoring Feature](#)

### 2.50.1 Create Scoring Feature

The **Create Scoring Feature** screen allows user to define scoring feature for determining the credit score. This score applies to applications during origination and based on the information received from the product processor.

**To create a Scoring Feature:**

1. From **Home screen**, click **Core Maintenance**, Under **Core Maintenance**, click **SCredit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance** click, **Scoring Feature**.
3. Under **Scoring Feature**, click **Create Scoring Feature**.

→ The **Create Scoring Feature** screen is displayed.


**Figure 190 : Create Scoring Feature**

4. Specify the fields on **Create Scoring Feature** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

Table 158 : Create Scoring Feature - Field Description

| Field   | Description  |
|---|--|
| <b>Basic Details</b>  |  |
| <b>Feature Code</b>   | Specify the unique feature code.   |
| <b>Feature Description</b>  | Specify a short description for the feature.   |
| <b>Product Processor</b>  | Specify the product processor for which the feature is being created.  |
| <b>Rule</b>   | <p>Select the rule, if it is required to define the feature.</p> <p>This option is used to decide whether the feature is rule based or fact based.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Yes</li> <li>• No</li> </ul> |
| <b>Fact Code</b>  | <p>Select the fact code to be mapped to the feature from the drop-down list.</p> <p>This field is enabled if the <b>Rule</b> is selected as <b>No</b>.</p>   |
| <b>Fact Name</b>  | <p>Displays the fact name for the selected fact.</p> <p>This field is enabled if the <b>Rule</b> is selected as <b>No</b>.</p>   |
| <b>Rule Code</b>  | <p>Select the rule code to be mapped to the feature from the drop-down list.</p> <p>This field is enabled, if the <b>Rule</b> is selected as <b>Yes</b>.</p>   |
|  | Click this icon to get the information about the rule.   |
| <b>Rule Name</b>  | <p>Displays the rule name for the selected rule.</p> <p>This field is enabled if the <b>Rule</b> is selected as <b>Yes</b>.</p>  |

- Click **Save** to save the details.
- The scoring feature is successfully created and can be viewed using the **View Scoring Feature** screen.

## 2.50.2 View Scoring Feature

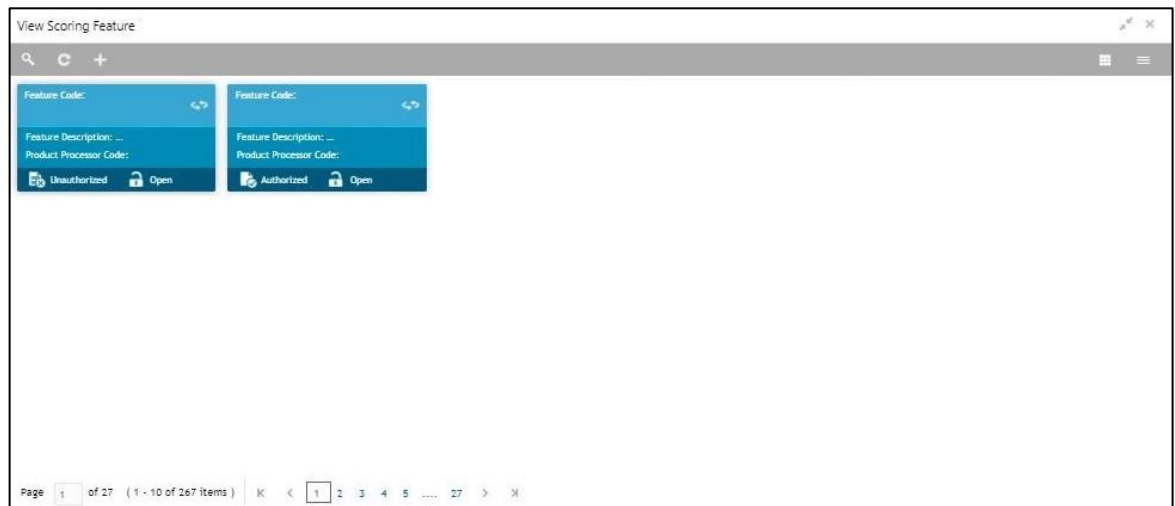
The **View Scoring Feature** screen allows user to view the scoring feature created using the **Create Scoring Feature** screen. The status of the uploaded feature is displayed as **Unauthorized** and **Open**. Once the checker authorizes the model, the status is updated to **Authorized** and **Open**.

**To view an uploaded scoring feature:**

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance** click, **Scoring Feature**.
3. Under **Scoring Feature**, click **View Scoring Feature**.

→ The **View Scoring Feature** screen is displayed.

**Figure 191 : View Scoring Feature**



For more information in fields, refer to the field description table below.

**Table 159 : View Scoring Feature - Field Description**

| Field                      | Description                        |
|----------------------------|------------------------------------|
| <b>Feature Code</b>        | Displays the feature code.         |
| <b>Feature Description</b> | Displays the feature description.  |
| <b>Product Processor</b>   | Displays the product processor.    |
| <b>Status</b>              | Displays the status of the record. |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required scoring feature.

**Figure 192 : View Scoring Feature - Search Option**





6. Click **Search**.

For more information on fields, refer to the field description table below.

**Table 160 : View Scoring Feature- Search Option- Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Feature Code</b>         | Displays the feature code.   |
| <b>Feature Description</b>  | Displays the feature description.  |
| <b>Authorization Status</b> | Select the authorization status of the feature.<br><br>The options are: <ul style="list-style-type: none"> <li>Authorized</li> <li>Unauthorized</li> </ul> |
| <b>Record Status</b>        | Select the record status of the feature.<br><br>The options are: <ul style="list-style-type: none"> <li>Open</li> <li>Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created scoring feature.

## 8. To authorise the feature, see the Error! Reference source not found..

9. Click **Unlock** icon to modify the following fields.

The fields are displayed in the **Scoring Feature Maintenance** screen. The following fields are editable.

- Feature Description
- Modification of rule linkage
- Modification of fact mapped to the feature in case no rule is linked to the feature.

**Figure 193 : Scoring Feature Maintenance - Modify**

Scoring Feature Maintenance

Basic Details

Feature Code \*  
763720211004171092

Feature Description \*  
Scoring Feature Rule for Testing

Product Processor \*  
ORF

Rule  
☒ Yes
☐ No


Rule Code \*  
Select

Rule Name  
NetIncome

Apply Save Cancel

For more information on fields, refer to the field description table below.

**Table 161 : Scoring Feature Maintenance – Modify - Field Description**

| Field   | Description  |
|---|--|
| <b>Basic Details</b>  |  |
| <b>Feature Code</b>   | Displays the feature code.   |
| <b>Feature Description</b>  | Displays the feature description.<br>User can modify the same.   |
| <b>Product Processor</b>  | Displays the product processor for the created scoring feature.  |
| <b>Rule</b>   | Displays the rule defined to the feature.<br>User can modify the same.   |
| <b>Rule Code</b>  | Displays the rule code of the feature.<br>User can modify the same.<br>This field is displayed, if the <b>Rule</b> is selected as <b>Yes</b> . |
|  | Click to get the information about the rule.   |
| <b>Rule Name</b>  | Displays the rule name of the feature.<br>This field is displayed, if the <b>Rule</b> is selected as <b>Yes</b> .                              |
| <b>Fact Code</b>  | Displays the fact code of the feature.<br>User can modify the same.<br>This field is displayed, if the <b>Rule</b> is selected as <b>No</b> .  |
| <b>Fact Name</b>  | Displays the fact name of the feature.<br>This field is displayed if the <b>Rule</b> is selected as <b>No</b> .                                |

## 2.51 Quantitative Scoring Model

Quantitative analysis involves, an assessment of the financial position based on the customer's income and monthly expenses. It may also include a cash flow analysis of the customer's accounts and credit history.

Banks usually grant loan based on a credit scoring model that combines quantitative and qualitative analysis.

This section contains the following subsections:

- [2.51.1 Create Quantitative Scoring Model](#)
- [2.51.2 View Quantitative Scoring Model](#)

## 2.51.1 Create Quantitative Scoring Model

The **Create Quantitative Scoring Model** screen allows user to define quantitative scoring model based on the various scoring parameters. The parameters driving the scoring models are configurable. You can create quantitative scoring model by updating various details.

**To create a Quantitative Scoring Model:**

1. From **Home screen**, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Quantitative Scoring Model**.
3. Under **Quantitative Scoring Model**, click **Create Quantitative Scoring Model**.

→ The **Create Quantitative Scoring Model** screen is displayed.

**Figure 194 : Create Quantitative Scoring Model**

4. Specify the fields on **Create Quantitative Scoring Model** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 162 : Create Quantitative Scoring Model - Field Description**

| Field                | Description  |
|----------------------|--|
| <b>Basic Details</b> |  |
| <b>Scoring Model</b> | <p>Select the scoring model from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Application Scoring Model</li> <li>• Applicant Scoring Model</li> <li>• Multi-Applicant Scoring Model</li> </ul> |

| Field                            | Description   |
|----------------------------------|---|
| <b>Scoring Model code</b>        | Specify the unique scoring model code.                              |
| <b>Scoring Model Description</b> | Specify a short description for the scoring model.                  |
| <b>Effective Date</b>            | Specify the effective date.   |
| <b>Expiry Date</b>               | Specify the expiry date.  |
| <b>Product Processor</b>         | Specify the product processor for which the model is being created. |
| <b>Priority</b>                  | Specify the priority of the model.                                  |

5. Click the **Selection Criteria** tab to define scoring model.


**Figure 195 : Create Quantitative Scoring Model – Selection Criteria Tab**





The screenshot displays the 'Create Quantitative Scoring Model' interface. The 'Basic Details' section contains the following fields:

- Scoring Model Code:** DVAL02
- Scoring Model Description:** aaaa
- Effective Date:** Sep 30, 2020
- Expiry Date:** Jan 22, 2022
- Product Processor:** CPUD
- Priority:** 1

The 'Selection Criteria' tab is selected, showing the 'Create Rule' section. It includes a 'Rules' table with columns for Code, Description, Select Existing rule, and Rule Version. Below the table is an 'Expression Builder' with a '+ Add Expression' button and a list of facts (ProductCode, ExchangeCategory) with associated operators and values.

For more information on fields, refer to the field description table below. Table 163 : Create Quantitative Scoring Model – Selection Criteria Tab - Field Description

| Field   | Description   |
|---|---|
| <b>Use Existing Rule</b>  | By default, this option is enabled. Indicates if the existing rule is linked. |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Select the rule code from the drop down list.                                 |
|  | Click to get the information about the rule.                                  |
| <b>Rule Name</b>  | Displays the rule name of the rule code.                                      |
| <b>Create New Rule</b>  | Select this option to create new rule.  |
| <b>Rules</b>  |   |
| <b>Code</b>   | Specify the new rule code.  |

| Field   | Description   |
|---|---|
| <b>Description</b>  | Specify the rule description.   |
| <b>Select Existing Rule</b>   | Select the existing rule from the drop down list.   |
|    | Click to view the existing rule.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                             |
| Below field appears once you click  icon.    |   |
| <b>Rule ID</b>  | Displays the rule ID.   |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Description</b>  | Displays the rule description.  |
| <b>Rule Version</b>   | Displays the rule version   |
|    | Click to view the existing rule version.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                     |
| Below fields appears once you click  icon. |   |
| <b>Version</b>  | Displays the rule version.  |
| <b>Description</b>  | Displays the rule description.  |
| <b>Creation Date</b>  | Displays the rule creation date.  |
| <b>Expression Builder</b>   |   |
| <b>+ button</b>   | Click to add new expression.  |
| <b>Fact / Rules</b>   | Select the fact or rule from the drop-down list.<br><br>Once you select the fact/rules one more field opens adjacent to it, update the same based on the selected option. |

| Field            | Description   |
|------------------|---|
| <b>Operator</b>  | <p>Select the comparison operator from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• &lt;</li> <li>• &gt;</li> <li>• +</li> <li>• =</li> <li>• %</li> <li>• !=</li> <li>• -</li> <li>• &gt;=</li> <li>• &lt;=</li> <li>• *</li> <li>• /</li> <li>• Contains</li> <li>• In</li> <li>• Matches</li> <li>• Notmatches</li> <li>• Notcontains</li> <li>• Notin</li> </ul>  |
| <b>Data Type</b> | <p>Select the data type for the fact or rule. Once you select the data type one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |

| Field             | Description  |
|-------------------|--|
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |
| <b>Expression</b> | Displays the expression updated in the expression builder.   |


6. Click the **Scoring Rule** tab to define the rule. This tab is enabled if **Application Scoring Model** is selected.

**Figure 196 : Create Quantitative Scoring Model – Scoring Rule Tab**

For more information on fields, refer to the field description table below.

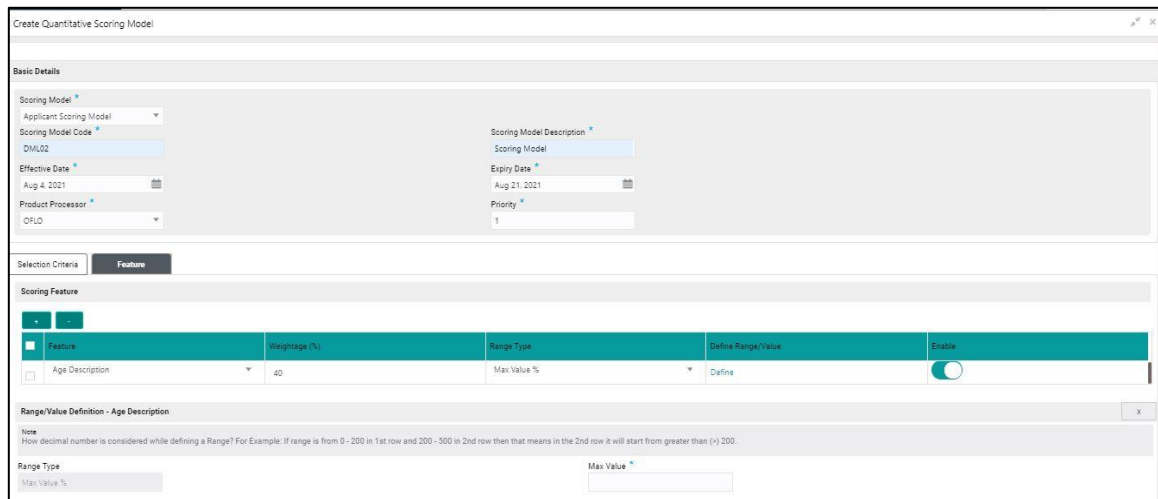
**Table 164 : Create Quantitative Scoring Model – Scoring Rule Tab - Field Description**

| Field            | Description                                   |
|------------------|---|
| <b>Score</b>     |   |
| <b>Rule Code</b> | Select the rule code from the drop down list. |

| Field   | Description                                  |
|---|--|
|  | Click to get the information about the rule. |
| Rule Name   | Displays the rule name of the rule code.     |

7. Click the **Feature** tab to define the feature. This tab is enabled if **Applicant Scoring Model** and **Multiple Applicant Scoring Model** is selected.

**Figure 197 : Create Quantitative Scoring Model – Feature Tab**



For more information on fields, refer to the field description table below.

**Table 165 : Create Quantitative Scoring Model – Feature Tab - Field Description**

| Field                     | Description  |
|---------------------------|--|
| <b>Scoring Feature</b>    |  |
| <b>+ button</b>           | Click to add a new row.  |
| <b>- button</b>           | Click to delete an existing row.   |
| <b>Feature</b>            | Select the feature from the drop-down list.  |
| <b>Weightage (%)</b>      | Specify the weightage to be assigned to each feature code.   |
| <b>Range Type</b>         | <p>Select the range type from the drop down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Max Value</li> <li>Param Percent%</li> <li>Value</li> </ul> <p>For <b>Applicant Scoring Model</b> this field is editable.</p> |
| <b>Define Range/Value</b> | Click to define the feature.   |



| Field         | Description   |
|---------------|---|
| <b>Enable</b> | By default, this option is enabled. Indicates if the scoring parameter is enabled or not. |

8. Click the **Define** link to define a range or absolute values for each scoring feature to be considered for scoring model and score for that range or value. In case the data type of feature is numeric such as Bureau score the below screen appears.

**Figure 198 : Create Quantitative Scoring Model – Define Link – Numeric Feature**

For more information on fields, refer to the field description table below.

**Table 166: Create Quantitative Scoring Model – Define Link – Numeric Feature- Field Description**

| Field                         | Description  |
|-------------------------------|--|
| <b>Range/Value Definition</b> |  |
| <b>Range Type</b>             | Displays the range type selected.  |
| <b>Max Value</b>              | Specify the maximum value on which scoring has to be done, if range type ID is Max Value % or Param %.   |
| <b>+ button</b>               | Click to add a new row.  |
| <b>- button</b>               | Click to delete an existing row.   |
| <b>Range From</b>             | Specify the minimum range of value based on which scoring is to be done.   |
| <b>Range To</b>               | Specify the maximum range of value based on which scoring is to be done.   |
| <b>Score/Percentage</b>       | Specify the percentage to be assigned for each range or value, if range type is Max value % or Param %.<br><br>Specify the score to be assigned for each range or value, if range type is Value. |

| Field           | Description  |
|-----------------|--|
| <b>Category</b> | <p>Specify the category for each range or value from the drop-down list. The values are configurable based on the lookup values maintained.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Strong</li> <li>• Medium</li> <li>• Weak</li> </ul> |

9. In case the data type of feature is alphanumeric such as Employment Category the below screen appears.

**Figure 199: Create Quantitative Scoring Model- Define Link –Alphanumeric Feature**

The screenshot displays the 'Create Quantitative Scoring Model' window. The top section contains metadata fields: Scoring Model Code (DML02), Effective Date (Aug 18, 2021), Product Processor (OFLO), Scoring Model Description (Scoring Model), Expiry Date (Aug 28, 2021), and Priority (1). Below this, the 'Selection Criteria' tab is active, showing a 'Scoring Feature' table. The table has columns: Feature, Weightage (%), Range Type, Define Range/Value, and Enable. A single row is visible for 'Employer Category Desc' with a weightage of 50, range type 'Max Value %', and 'Define' as the range value. An 'Enable' toggle is present. Below the table, a 'Range/Value Definition - Employer Category Desc' dialog is open, showing a 'Range Type' of 'Max Value %' and a 'Max Value' of 50. At the bottom of this dialog, a table lists 'Value' (50), 'Score' (50), and 'Category' (Strong). 'Done', 'Save', and 'Cancel' buttons are at the bottom right.

For more information on fields, refer to the field description table below.

**Table 167: Create Quantitative Scoring Model – Define Link – Alphanumeric Feature - Field Description**

| Field                         | Description   |
|-------------------------------|---|
| <b>Range/Value Definition</b> |   |
| <b>Range Type</b>             | Displays the range type selected. The default value for the same is <b>Value</b> .  |
| <b>Max Value</b>              | Specify the maximum value for the range type.   |
| <b>+ button</b>               | Click to add a new row.   |
| <b>- button</b>               | Click to delete an existing row.  |
| <b>Value</b>                  | Specify the value of the feature.   |
| <b>Score</b>                  | Specify the score assigned for each range value.  |
| <b>Category</b>               | <p>Specify the category for each range or value from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Strong</li> <li>• Medium</li> <li>• Weak</li> </ul> |

10. Click **Done**, to save the data and close the range panel.

11. Click **Save** to save the details.

The quantitative scoring model is successfully created and can be viewed using the **View Quantitative Scoring Model** screen.

## 2.51.2 View Quantitative Scoring Model

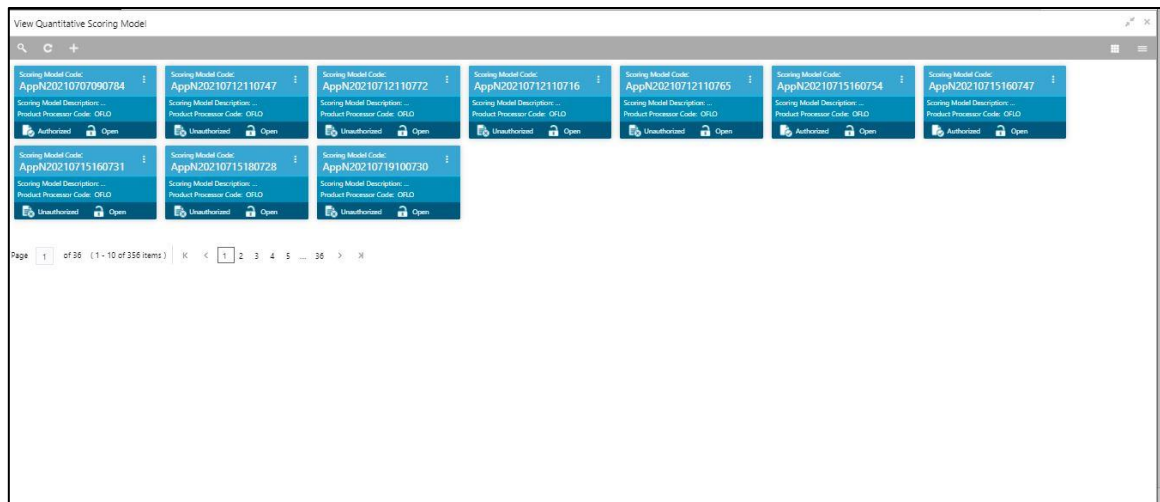
The View Quantitative Scoring Model screen allows the user to view the quantitative scoring Model created using the **Create Quantitative Scoring Model** screen. The status of the uploaded model is displayed as **Unauthorized** and **Open**. Once the checker authorizes the model, the status is updated to **Authorized** and **Open**.

**To view created quantitative scoring model:**

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance** click, **Quantitative Scoring Model**.
3. Under **Quantitative Scoring Model**, click **View Quantitative Scoring Model**.

→ The **View Quantitative Scoring Model** screen is displayed.

**Figure 200 : View Quantitative Scoring Model**



For more information on fields, refer to the field description table below.

**Table 168 : View Quantitative Scoring Model- Field Description**

| Field                            | Description                             |
|----------------------------------|---|
| <b>Scoring Model Code</b>        | Displays the scoring model code.        |
| <b>Scoring Model Description</b> | Displays the scoring model description. |
| <b>Product Processor Code</b>    | Displays the product processor code.    |
| <b>Status</b>                    | Displays the status of the record.      |

4. Click **Search** icon.
5. Specify the search criteria to fetch the required quantitative scoring model.

**Figure 201 : View Quantitative Scoring Model- Search Option**

6. Click **Search**.

For more information on fields, refer to the field description table below.

**Table 169 : View Quantitative Scoring Model- Search Option- Field Description**

| Field                            | Description   |
|----------------------------------|---|
| <b>Scoring Model Code</b>        | Specify the scoring model code.   |
| <b>Scoring Model Description</b> | Specify the scoring model description.  |
| <b>Authorization Status</b>      | <p>Select the authorization status of the model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Authorized</li> <li>• Unauthorized</li> </ul> |
| <b>Record Status</b>             | <p>Select the record status of the model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul>                     |

7. Click **three-dots** icon to unlock, delete, authorize or view the created quantitative scoring model.

8. To authorize the quantitative scoring model, see the Error! Reference source not found..

9. Click **Unlock** icon to modify the following fields. The fields are displayed in the **Quantitative Scoring Model Maintenance** screen. The following fields are editable.

- Scoring Model Description
- Effective date, before authorization
- Expiry Date
- Priority
- Add/Delete new scoring feature to the quantitative scoring model
- Change the weightage of the scoring feature code
- Range Type
- Facts and Rules in Selection Criteria
- Range/Value
- Score
- Category
- Enable if you want to remove any scoring feature from the model instead of removing, you can disable the feature. Thus, the weightage assigned to that particular feature is auto removed and is shown as blank.


**Figure 202 : Quantitative Scoring Model Maintenance - Modify**

The screenshot shows the 'Quantitative Scoring Model Maintenance - Modify' interface. It includes a 'Basic Details' section with fields for Scoring Model, Scoring Model Code, Scoring Model Description, Effective Date, Expiry Date, Product Processor, and Priority. Below this is the 'Selection Criteria' section with a 'Feature' tab and a 'Use Existing Rule' option. The 'Rules' section displays a table with columns for Rule Code and Rule Name, showing a single entry with 'REJECT' in both fields.

For more information on fields, refer to the field description table below.


**Table 170 : Quantitative Scoring Model Maintenance – Modify - Field Description**

| Field                            | Description   |
|----------------------------------|---|
| <b>Basic Details</b>             |   |
| <b>Application Scoring Model</b> | Displays the application scoring model.   |
| <b>Scoring Model Code</b>        | Displays the scoring model code for the created quantitative scoring model.   |
| <b>Scoring Model Description</b> | Displays the scoring model description for the created quantitative scoring model.<br><br>User can modify the same            |
| <b>Effective Date</b>            | Displays the effective date for the created quantitative scoring model.<br><br>User can modify the same before authorization. |
| <b>Expiry Date</b>               | Displays the expiry date of the created quantitative scoring model.<br><br>User can modify the same.                          |
| <b>Product Processor</b>         | Displays the product processor for the created quantitative scoring model.  |
| <b>Priority</b>                  | Displays the priority of the created quantitative scoring model.<br><br>User can modify the same.                             |
| <b>Selection Criteria</b>        |   |
| <b>Use Existing Rule</b>         | Indicates if the existing rule is linked.<br><br>User can modify the same   |

| Field   | Description   |
|---|---|
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code for the created quantitative scoring model.<br>User can modify the same.       |
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name of the rule code for the created quantitative scoring model.                   |
| <b>Create New Rule</b>  | Displays the rule code for the created quantitative scoring model.<br>User can modify the same.       |
| <b>Rules</b>  |   |
| <b>Code</b>   | Specify the new rule code for quantitative scoring model.   |
| <b>Description</b>  | Specify the rule description for the quantitative scoring model.                                      |
| <b>Select existing Rule</b>   | Displays the existing rule.   |
| <b>Rule Version</b>   | Displays the rule version.  |
| <b>Expression Builder</b>   |   |
| <b>+ button</b>   | Click to add new expression.  |
| <b>Fact / Rules</b>   | Displays the fact or rule for the created quantitative scoring model.                                 |
| <b>Operator</b>   | Displays the comparison operator for the created quantitative scoring model.                          |
| <b>Data Type</b>  | Displays the data type for the fact or rule for the created quantitative scoring model.               |
| <b>Output</b>   | Displays the output for the created quantitative scoring model.                                       |
| <b>Expression</b>   | Displays the expression updated in the expression builder for the created quantitative scoring model. |
| <b>Feature</b>  |   |
| This tab is enabled for the <b>Applicant Scoring Model</b> .                      |   |
| <b>Scoring Feature</b>  |   |
| <b>+ button</b>   | Click to add new row.   |
| <b>- icon</b>   | Click to delete an existing row.  |
| <b>Feature</b>  | Displays the feature for the created quantitative scoring model.                                      |

| Field  | Description  |
|--|--|
| <b>Weightage (%)</b>   | Displays the weightage assigned to each feature for the created quantitative scoring model.<br><br>User can modify the same.   |
| <b>Range Type</b>  | Displays the range type for the created quantitative scoring model.<br><br>The options are: <ul style="list-style-type: none"> <li>• Max Value</li> <li>• Param Percent%</li> <li>• Value</li> </ul>                                     |
| <b>Define Range/Value</b>                                      | Displays the range/value defined for the created quantitative scoring model.   |
| <b>Range From</b>  | Displays the minimum range of value based on which scoring is done.<br><br>User can modify the same.   |
| <b>Range To</b>  | Displays the maximum range of value based on which scoring is done.<br><br>User can modify the same.   |
| <b>Score</b>   | Displays the score assigned for each range or value.<br><br>User can modify the same.  |
| <b>Category</b>  | Displays the category for each range or value for the created quantitative scoring model.<br><br>The options are: <ul style="list-style-type: none"> <li>• Strong</li> <li>• Medium</li> <li>• Weak</li> </ul> User can modify the same. |
| <b>Enable</b>  | Displays the parameter for the created quantitative scoring model.<br><br>User can modify the same.  |
| <b>Scoring Rule</b>  |  |
| This tab is enabled for the <b>Application Scoring Model</b> . |  |
| <b>Score</b>   |  |
| <b>Rule Code</b>   | Displays the rule code for the created quantitative scoring model.   |



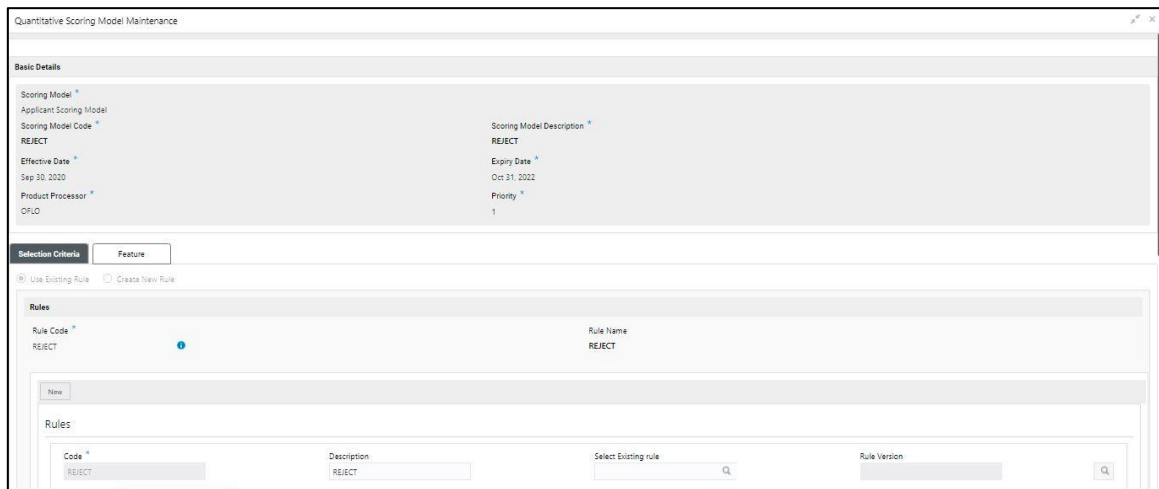
| Field   | Description   |
|---|---|
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name of the rule code for the created quantitative scoring model. |

10. Click **Save**, to update the modified fields.

11. Click **View** icon to view the created quantitative scoring model.

The fields are displayed in Quantitative Scoring Model Maintenance screen


**Figure 203 : Quantitative Scoring Model Maintenance – View**




For more information on fields, refer to the field description table below.

**Table 171 : Quantitative Scoring Model Maintenance – View - Field Description**

| Field                            | Description  |
|----------------------------------|--|
| <b>Basic Details</b>             |  |
| <b>Scoring Model</b>             | Displays the scoring Model for the created quantitative scoring model.             |
| <b>Scoring Model Code</b>        | Displays the scoring model code for the created quantitative scoring model.        |
| <b>Scoring Model Description</b> | Displays the scoring model description for the created quantitative scoring model. |
| <b>Effective Date</b>            | Displays the effective date for the created quantitative scoring model.            |
| <b>Expiry Date</b>               | Displays the expiry date of the created quantitative scoring model.                |
| <b>Product Processor</b>         | Displays the product processor for the created quantitative scoring model.         |
| <b>Priority</b>                  | Displays the priority of the created quantitative scoring model.                   |

| Field   | Description   |
|---|---|
| <b>Selection Criteria</b>   |   |
| <b>Use Existing Rule</b>  | Indicates if the existing rule is linked.   |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code for the created quantitative scoring model.                                    |
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name of the rule code for the created quantitative scoring model.                   |
| <b>Create New Rule</b>  | Displays the rule code for the created quantitative scoring model.                                    |
| <b>Rules</b>  |   |
| <b>Code</b>   | Specify the new rule code for quantitative scoring model.   |
| <b>Description</b>  | Specify the rule description for the quantitative scoring model.                                      |
| <b>Select Existing Rule</b>   | Displays the existing rule.   |
| <b>Rule Version</b>   | Displays the rule version.  |
| <b>Expression Builder</b>   |   |
| <b>+ button</b>   | Click to add new expression.  |
| <b>Fact / Rules</b>   | Displays the fact or rule for the created quantitative scoring model.                                 |
| <b>Operator</b>   | Displays the comparison operator for the created quantitative scoring model.                          |
| <b>Data Type</b>  | Displays the data type for the fact or rule for the created quantitative scoring model.               |
| <b>Output</b>   | Displays the output for the created quantitative scoring model.                                       |
| <b>Expression</b>   | Displays the expression updated in the expression builder for the created quantitative scoring model. |
| <b>Feature</b>  |   |
| This tab is enabled for the <b>Applicant Scoring Model</b> .                      |   |
| <b>Scoring Feature</b>  |   |
| <b>+ button</b>   | Click to add new row.   |
| <b>- button</b>   | Click to delete an existing row.  |
| <b>Feature</b>  | Displays the feature for the created quantitative scoring model.                                      |

| Field   | Description   |
|---|---|
| <b>Weightage (%)</b>  | Displays the weightage assigned to each feature for the created quantitative scoring model.   |
| <b>Range Type</b>   | <p>Displays the range type for the created quantitative scoring model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Max Value</li> <li>• Param Percent%</li> <li>• Value</li> </ul>           |
| <b>Define Range/Value</b>   | Displays the range/value defined for the created quantitative scoring model.  |
| <b>Range From</b>   | Displays the minimum range of value based on which scoring is done.   |
| <b>Range To</b>   | Displays the maximum range of value based on which scoring is done.   |
| <b>Score</b>  | Displays the score assigned for each range or value.  |
| <b>Category</b>   | <p>Displays the category for each range or value for the created quantitative scoring model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Strong</li> <li>• Medium</li> <li>• Weak</li> </ul> |
| <b>Enable</b>   | Displays the parameter for the created quantitative scoring model.  |
| <b>Scoring Rule</b><br>This tab is enabled for the <b>Application Scoring Model</b> . |   |
| <b>Score</b>  |   |
| <b>Rule Code</b>  | Displays the rule code for the created quantitative scoring model.  |
|    | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name of the rule code for the created quantitative scoring model.   |

## 2.52 Decision Grade Matrix

The **Decision Grade Matrix** screen allows the user to define the decision and grade based on the score calculated by the scoring model.

This section contains following subsections:

- [2.52.1 Create Decision Grade Matrix](#)
- [2.52.2 View Decision Grade Matrix](#)

### 2.52.1 Create Decision Grade Matrix

The **Create Decision Grade Matrix** screen allows user to create decision and grade matrix by updating various details.

**To create decision and grade matrix:**

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click, **Maintenance**. Under **Maintenance**, click **Decision Grade Matrix**.
3. Under **Decision Grade Matrix**, click **Create Decision Grade Matrix**.

→ The **Create Decision Grade Matrix** screen is displayed.

**Figure 204 : Create Decision Grade Matrix**

4. Specify the fields on **Create Decision Grade Matrix** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 172: Create Decision and Grade Matrix - Field Description**

| Field                | Description                    |
|----------------------|--------------------------------|
| <b>Basic Details</b> |                                |
| <b>Model code</b>    | Specify the unique model code. |


| Field                    | Description   |
|--------------------------|---|
| <b>Model Description</b> | Specify a short description for the model.  |
| <b>Effective Date</b>    | Select the effective date.  |
| <b>Expiry Date</b>       | Select the expiry date.   |
| <b>Product Processor</b> | Specify the product processor for which the decision and grade matrix is being created. |
| <b>Priority</b>          | Specify the priority of the model.  |





5. Click the **Selection Criteria** tab to configure the parameters based on which decision model is to be resolved.

**Figure 205 : Create Decision Grade Matrix – Selection Criteria Tab**

For more information on fields, refer to the field description table below.

**Table 173 : Decision and Grade Matrix - Selection Criteria Field Description**

| Field   | Description   |
|---|---|
| <b>Use Existing Rule</b>  | By default, this option is enabled. Indicates if the existing rule is linked. |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Select the rule code from the drop-down list.                                 |
|  | Click to get the information about the rule.                                  |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Create New Rule</b>  | Select this option to create new rule.  |
| <b>Rules</b>  |   |
| <b>Code</b>   | Specify the new rule code.  |

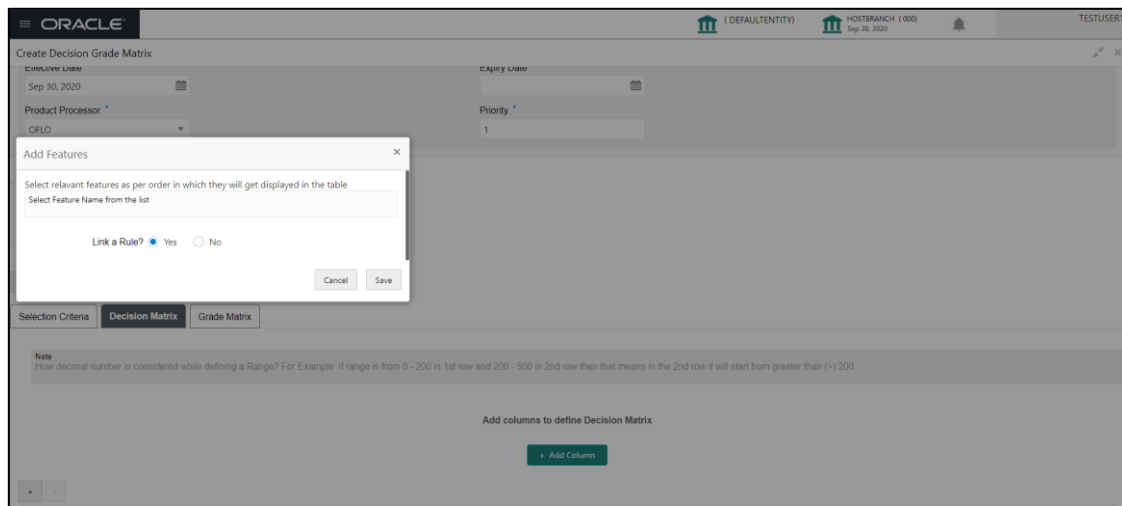
| Field  | Description   |
|--|---|
| <b>Description</b>   | Specify the rule description.   |
| <b>Select Existing Rule</b>  | Select the existing rule from the drop-down list.   |
|   | Click to view the existing rule.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                             |
| Below field appears once you click  icon.   |   |
| <b>Rule ID</b>   | Displays the rule ID.   |
| <b>Rule Name</b>   | Displays the rule name.   |
| <b>Description</b>   | Displays the rule description.  |
| <b>Rule Version</b>  | Displays the rule version.  |
|   | Click icon to view the list of rule versions.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                |
| Below field appears once you click  icon. |   |
| <b>Version</b>   | Displays the rule version.  |
| <b>Description</b>   | Displays the rule description.  |
| <b>Creation Date</b>   | Displays the rule creation date.  |
| <b>Expression Builder</b>  |   |
| <b>+ button</b>  | Click to add new expression.  |
| <b>Fact / Rules</b>  | Select the fact or rule from the drop-down list.<br><br>Once you select the fact/rules one more field opens adjacent to it, update the same based on the selected option. |

| Field            | Description   |
|------------------|---|
| <b>Operator</b>  | <p>Select the comparison operator from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• &lt;</li> <li>• &gt;</li> <li>• +</li> <li>• =</li> <li>• %</li> <li>• !=</li> <li>• -</li> <li>• &gt;=</li> <li>• &lt;=</li> <li>• *</li> <li>• /</li> <li>• Contains</li> <li>• In</li> <li>• Matches</li> <li>• Notmatches</li> <li>• Notcontains</li> <li>• Notin</li> </ul>  |
| <b>Data Type</b> | <p>Select the data type for the fact or rule. Once you select the data type one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |

| Field             | Description  |
|-------------------|--|
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |
| <b>Expression</b> | Displays the expression updated in the expression builder.   |

6. Click the **Decision Matrix** tab to define decision on the application. You can select the feature for which the decision needs to be maintained like Quantitative/Qualitative.


**Figure 206 : Create Decision Grade Matrix- Decision Matrix Tab**



For more information on fields, refer to the field description table below.



**Table 174 : Create Decision Grade Matrix – Decision Matrix Tab - Field Description**


| Field   | Description   |
|---|---|
| The following fields appear if you click <b>Decision Matrix</b> Tab.                |   |
| <b>Add Column</b>   | <p>Click for addition of features for which decision has to be maintained.</p> <p>On click of <b>Add Column</b>, all the features are shown in the drop down list. Select the feature to be added. Click save to add the feature.</p> <p>If the feature is numeric type, two columns gets added in the table From and To. If the feature is character/alphanumeric type one column Value gets added.</p> <p>System should not save, if no feature have been added. User can click Cancel to close the window.</p> |
| <b>Link a Rule?</b>   | <p>User can link a rule to the features.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>Yes:</b> If this option is selected, system displays the list of rules and based on rule mapped the decision is provided.</li> <li>• <b>No:</b> If this option is selected, system displays the list of decision lookup values.</li> </ul>   |
|  | Click to delete a column.   |
| <b>+ button</b>   | Click to add a new row.   |
| <b>- button</b>   | Click to delete an existing row.  |
| <b>Score From</b>   | Specify the minimum range of score for the decision.  |
| <b>Score To</b>   | Specify the maximum range of score for the decision.  |
| <b>Decision</b>   | <p>Specify the decision of an application from the drop-down list. The values are configurable based on the look up values maintained</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Approved</li> <li>• Manual</li> <li>• Rejected</li> </ul>  |
| <b>Rule</b>   | <p>Displays the rules based on which decision is to be made.</p> <p>This field is enabled if <b>Link a Rule?</b> Option is update as <b>Yes</b>.</p>  |

- Click the **Grade Matrix** tab to assign the grade to the application that is used during the pricing of the application. You can select the feature for which the grade needs to be maintained like Quantitative/Qualitative.

**Figure 207 : Create Decision Grade Matrix – Grade Matrix Tab**

For more information on fields, refer to the field description table below.

**Table 175 : Create Decision Grade Matrix – Grade Matrix Tab - Field Description**

| Field   | Description   |
|---|---|
| The following fields appear if you click <b>Grade Matrix</b> tab.                   |   |
| <b>Add Column</b>   | <p>Click for addition of features for which decision has to be maintained.</p> <p>On click of <b>Add Column</b>, all the features are shown in the drop down list. Select the feature to be added. Click save to add the feature.</p> <p>If the feature is numeric type, two columns gets added in the table From and To. If the feature is character/alphanumeric type one column Value gets added.</p> <p>System should not save, if no feature have been added. User can click Cancel to close the window.</p> |
| <b>Link a Rule?</b>   | <p>User can link a rule to the features.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li><b>Yes:</b> If this option is selected, system displays the list of rules and based on rule mapped the decision is provided.</li> <li><b>No:</b> If this option is selected, system displays the list of decision lookup values.</li> </ul>   |
|  | Click to delete a column.   |
| <b>+ button</b>   | Click to add a new row.   |
| <b>- button</b>   | Click to delete an existing row.  |
| <b>Score From</b>   | Specify the minimum range of the score for the grade.   |

| Field    | Description  |
|----------|--|
| Score To | Specify the maximum range of the score for the grade.  |
| Grade    | <p>Specify the grade of the application based on the score scored. The values are configurable based on the look up values maintained.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• A</li> <li>• B</li> <li>• C</li> </ul> |
| Value    | In case the data type of feature is numeric such as Age, FICO score the below field appears. , specify the value for which the grade has to be maintained.   |
| Rule     | <p>Displays the rules based on which decision is to be made.</p> <p>This field is enabled if <b>Link a Rule?</b> Option is updated as <b>Yes</b>.</p>  |

8. Click **Save** to save the details.

The decision grade matrix is successfully created and can be viewed using the **View Decision and Grade Matrix** screen.

## 2.52.2 View Decision Grade Matrix

The **View Decision Grade Matrix** screen allows the user to view the decision grade matrix created using the **Create Decision Grade Matrix** screen. The status of the uploaded model is displayed as **Unauthorized** and **Open**. Once the checker authorizes the matrix, the status is updated to **Authorized** and **Open**.

**To view an uploaded decision grade matrix:**

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Decision Grade Matrix**.
3. Under **Decision Grade Matrix**, click **View Decision Grade Matrix**.  
→ The **View Decision Grade Matrix** screen is displayed.

**Figure 208 : View Decision Grade Matrix**

For more information on fields, refer to the field description table below.

**Table 176 : View Decision Grade Matrix - Field Description**

| Field                    | Description  |
|--------------------------|--|
| <b>Model Code</b>        | Displays the model code.                                       |
| <b>Model Description</b> | Displays the description of the model.                         |
| <b>Product Processor</b> | Displays the product processor for which the model is created. |
| <b>Status</b>            | Displays the status of the record.                             |

- Click **Search** icon.
- Specify the search criteria to fetch the required decision grade matrix.

**Figure 209 : View Decision Grade Matrix- Search Option**

- Click **Search**.

For more information on fields, refer to the field description table below.

**Table 177 : View Decision Grade Matrix Field Description**

| Field                       | Description   |
|-----------------------------|---|
| <b>Model Code</b>           | Displays the model code.  |
| <b>Model Description</b>    | Displays the model description.   |
| <b>Authorization Status</b> | <p>Select the authorization status of the model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Authorized</li> <li>Unauthorized</li> </ul> |

| Field                | Description   |
|----------------------|---|
| <b>Record Status</b> | <p>Select the record status of the model.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul> |

7. Click **three-dots** icon to unlock, delete, authorize or view the created decision grade matrix.

8. Click **Unlock** icon to modify the following fields.


The fields are displayed in the **Decision Grade Maintenance screen**. The following fields are editable.


- Model Description
- Effective Date, before authorization
- Expiry Date
- Priority
- Rule Code
- Add New fact or rule to the selection criteria
- Score from
- Score to
- Decision
- Grade


**Figure 210 : Decision Grade Maintenance - Modify**

For more information on fields, refer to the field description table below.

Table 178 : View Decision Grade Matrix- Modify- Field Description

| Field   | Description   |
|---|---|
| <b>Basic Details</b>  |   |
| <b>Model Code</b>   | Displays the model code for created decision grade matrix.  |
| <b>Model Description</b>  | Displays the description of the model for the created decision grade matrix.<br><br>User can modify the same. |
| <b>Effective Date</b>   | Displays the effective date of the model for the created decision grade matrix.                               |
| <b>Expiry Date</b>  | Displays the expiry date of the model for the created decision grade matrix.<br><br>User can modify the same. |
| <b>Product Processor</b>  | Displays the product processor for the created decision grade matrix.   |
| <b>Priority</b>   | Displays the priority of the model for the created decision grade matrix.<br><br>User can modify the same.    |
| <b>Selection Criteria</b>   |   |
| <b>Use Existing Rule</b>  | Indicates if the existing rule is linked.   |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code of the created decision grade matrix.<br><br>User can modify the same.                 |
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Create New Rule</b>  | Displays the rule code for the created decision grade matrix.<br><br>User can modify the same.                |
| <b>Rules</b>  |   |
| <b>Code</b>   | Specify the new rule code for decision grade matrix.  |
| <b>Description</b>  | Specify the rule description for the decision grade matrix.   |
| <b>Select Existing Rule</b>   | Displays the existing rule.<br><br>User can modify the same.  |
| <b>Rule Version</b>   | Displays the rule version.  |

| Field   | Description   |
|---|---|
| <b>Expression Builder</b>   |   |
| <b>+ button</b>   | Click to add new expression.  |
| <b>Fact / Rules</b>   | Displays the fact or rule for the created decision grade matrix.  |
| <b>Operator</b>   | Displays the comparison operator for the created decision grade matrix.   |
| <b>Data Type</b>  | Displays the data type for the fact or rule for the created decision grade matrix.  |
| <b>Output</b>   | Displays the output for the created decision grade matrix.  |
| <b>Expression</b>   | Displays the expression updated in the expression builder for the created quantitative scoring model.   |
| <b>Decision Matrix</b>  |   |
| <b>Add Column</b>   | Click to add addition of features for which decision has to be maintained.  |
| <b>Link a Rule?</b>   | <p>User can link a rule to the features.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• <b>Yes:</b> This option displays the list of rules and based on rule mapped the decision is provided.</li> <li>• <b>No:</b> This option displays the list of decision lookup values.</li> </ul> |
|  | Click to delete a column.   |
| <b>+ button</b>   | Click to add new row.   |
| <b>- button</b>   | Click to delete row.  |
| <b>Score From</b>   | <p>Displays the minimum range of score for the decision.</p> <p>User can modify the same.</p>   |
| <b>Score To</b>   | <p>Displays the maximum range of score for the decision.</p> <p>User can modify the same.</p>   |
| <b>Decision</b>   | <p>Displays the decision of an application. The values are configurable based on the look up values maintained</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Approved</li> <li>• Manual</li> <li>• Rejected</li> </ul> <p>User can modify the same.</p>                                |

| Field   | Description  |
|---|--|
| <b>Rule</b>   | Displays the rule based on which decision is to be made.<br><br>This field is enabled if <b>Link a Rule?</b> Option is updated as <b>Yes</b> .   |
| <b>Grade Matrix</b>   |  |
| <b>Add Column</b>   | Click to add addition of features for which decision has to be maintained.   |
| <b>Link a Rule?</b>   | User can link a rule to the features.<br><br>The option are: <ul style="list-style-type: none"> <li>• <b>Yes:</b> This option displays the list of rules and based on the rules mapped decision is provided.</li> <li>• <b>No:</b> this option displays the list of decision lookup values.</li> </ul> |
|  | Click to delete a column.  |
| <b>+ button</b>   | Click to add new row.  |
| <b>- button</b>   | Click to delete row.   |
| <b>Score From</b>   | Displays the minimum range of score for the grade.<br><br>User can modify the same.  |
| <b>Score To</b>   | Displays the maximum range of score for the grade.<br><br>User can modify the same.  |
| <b>Grade</b>  | Displays the grade of the application based on the score scored.<br>The values are configurable based on the look up values maintained.<br><br>The options are: <ul style="list-style-type: none"> <li>• A</li> <li>• B</li> <li>• C</li> </ul> User can modify the same.                              |
| <b>Rule</b>   | Displays the rule based on which decision is to be made.<br><br>This field is enabled if <b>Link a Rule?</b> Option is updated as <b>Yes</b> .   |

9. Click **Save**, to update the modified field.


10. Click **View** icon to view the created decision grade matrix. The fields are displayed in **Decision Grade Maintenance** screen.





**Figure 211 : Decision Grade Maintenance – View**

For more information on fields, refer to the field description table below.

**Table 179 : Decision Grade Maintenance- View- Field Description**

| Field   | Description   |
|---|---|
| <b>Basic Details</b>  |   |
| <b>Model Code</b>   | Displays the model code for the created decision grade matrix.        |
| <b>Model Description</b>  | Displays the description for the created decision grade matrix.       |
| <b>Effective Date</b>   | Displays the effective date for the created decision grade matrix.    |
| <b>Expiry Date</b>  | Displays the expiry date for the created decision grade matrix.       |
| <b>Product Processor</b>  | Displays the product processor for the created decision grade matrix. |
| <b>Priority</b>   | Displays the priority for the created decision grade matrix.          |
| <b>Selection Criteria</b>   |   |
| <b>Use Existing Rule</b>  | Indicates if the existing rule is linked.                             |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code of the created decision grade matrix.          |
|  | Click to get the information about the rule.                          |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Create New Rule</b>  | Displays if new rule is linked to the created decision grade matrix.  |
| <b>Rules</b>  |   |
| <b>Code</b>   | Specify the new rule code for decision grade matrix.                  |
| <b>Description</b>  | Specify the rule description for the decision grade matrix.           |

| Field   | Description   |
|---|---|
| <b>Select Existing Rule</b>   | Displays the existing rule.   |
| <b>Rule Version</b>   | Displays the rule version.  |
| <b>Expression Builder</b>   |   |
| <b>+ button</b>   | Click to add new expression.  |
| <b>Fact / Rules</b>   | Displays the fact or rule for the created decision grade matrix.  |
| <b>Operator</b>   | Displays the comparison operator for the created decision grade matrix.   |
| <b>Data Type</b>  | Displays the data type for the fact or rule for the created decision grade matrix.  |
| <b>Output</b>   | Displays the output for the created decision grade matrix.  |
| <b>Expression</b>   | Displays the expression updated in the expression builder for the created quantitative scoring model.   |
| <b>Decision Matrix</b>  |   |
| <b>Add Column</b>   | Click to add addition of features for which decision has to be maintained.  |
| <b>Link a Rule?</b>   | Displays if the rule is linked to the feature or not.   |
|  | Click to delete a column.   |
| <b>+ button</b>   | Click to add a new row.   |
| <b>- button</b>   | Click to delete a row.  |
| <b>Score From</b>   | Displays the minimum range of score for the decision.   |
| <b>Score To</b>   | Displays the maximum range of score for the decision.   |
| <b>Decision</b>   | <p>Displays the decision of an application. The values are configurable based on the look up values maintained</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Approved</li> <li>• Manual</li> <li>• Rejected</li> </ul> |
| <b>Rule</b>   | <p>Displays the rule based on which decision is made.</p> <p>This field is enabled if <b>Link a Rule?</b> Option is updated as <b>Yes</b>.</p>  |
| <b>Grade Matrix</b>   |   |

| Field   | Description   |
|---|---|
| <b>Add Column</b>   | Click to add addition of features for which decision has to be maintained.  |
|  | Click to delete a column.   |
| <b>+ button</b>   | Click to add a new row.   |
| <b>- button</b>   | Click to delete a row.  |
| <b>Score From</b>   | Displays the minimum range of score for the grade.  |
| <b>Score To</b>   | Displays the maximum range of score for the grade.  |
| <b>Grade</b>  | <p>Displays the grade of the application based on the score scored. The values are configurable based on the look up values maintained.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• A</li> <li>• B</li> <li>• C</li> </ul> |
| <b>Rule</b>   | <p>Displays the rule based on which decision is made.</p> <p>This field is enabled if <b>Link a Rule?</b> Option is updated as <b>Yes</b>.</p>  |

## 2.53 Pricing

Risk-based pricing refers to the offering of different interest rates to different customers depending on their credit worthiness. Thus, not all borrowers for the same product receives the same interest rate and credit terms. This means that high-risk borrowers who are less likely to repay their loans in full and on time will be charged higher rate of interest. While the low risk borrowers, having greater capacity to make payments will be charged lower rate of interest.

This section contains the following subsections:

- [2.53.1 Create Pricing Model](#)
- [2.53.2 View Pricing Model](#)

### 2.53.1 Create Pricing Model

The **Create Pricing Model** screen allows user to create pricing model based on various pricing parameter by updating various details.

**To create a pricing set up:**

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision** click **Maintenance**. Under **Maintenance**, click **Pricing**.
3. Under **Pricing**, click **Create Pricing Model**.

→ The **Create Pricing Model** screen is displayed.

**Figure 212 : Create Pricing Model**

4. Specify the fields on **Create Pricing Model** screen.

The fields, which are marked with asterisk, are mandatory.

For more information on fields, refer to the field description table below.

**Table 180 : Create Pricing Model – Field Description**

| Field                      | Description   |
|----------------------------|---|
| <b>Basic Details</b>       |   |
| <b>Pricing Code</b>        | Specify the unique pricing code.                                      |
| <b>Pricing Description</b> | Specify a short description for the pricing.                          |
| <b>Effective Date</b>      | Select the effective date.  |
| <b>Expiry Date</b>         | Select the expiry date.   |
| <b>Product Processor</b>   | Specify the product processor for which the pricing is being defined. |
| <b>Priority</b>            | Specify the priority of the pricing.                                  |


5. Click the **Selection Criteria** tab to define pricing.





**Figure 213 : Create Pricing Model - Selection Criteria Tab**

The screenshot displays the 'Create Pricing Model' application. The 'Basic Details' section contains the following fields: Pricing Code (CH452), Pricing Description (xxxx), Effective Date (Sep 30, 2020), Expiry Date (Jan 21, 2022), Product Processor (CPLO), and Priority (1). The 'Selection Criteria' tab is selected, showing the 'Create Rule' section. This section includes a 'Rules' table with columns for Code, Description, Select Existing rule, and Rule Version. Below the table is an 'Expression Builder' section with a '+ Add Expression' button. The 'Output' section shows 'No items to display'.

For more information on fields, refer to the field description table below.

**Table 181 : Create Pricing Model – Selection Criteria - Field Description**

| Field   | Description   |
|---|---|
| <b>Use Existing Rule</b>  | By default, this option is enabled. Indicates if the existing rule is linked. |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Select the rule code from the drop down list.                                 |
|  | Click to get the information about the rule.                                  |
| <b>Rule Name</b>  | Displays the rule name.   |
| <b>Create New Rule</b>  | Select this option to create new rule.  |
| <b>Rules</b>  |   |

| Field  | Description   |
|--|---|
| <b>Code</b>  | Displays the rule code.   |
| <b>Description</b>   | Displays the rule description.  |
| <b>Select existing Rule</b>  | Select the existing rule from the drop-down list.   |
| <b>Rule Version</b>  | Displays the rule version.  |
|   | Click to view the existing rule.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                             |
| Below field appears once you click  icon.   |   |
| <b>Rule ID</b>   | Displays the rule ID.   |
| <b>Rule Name</b>   | Displays the rule name.   |
| <b>Description</b>   | Displays the rule description.  |
| <b>Rule version</b>  | Displays the rule version.  |
|   | Click to view the existing rule version.<br><br>Note: This is used when existing rule is to be used for some modification like copy of existing rule.                     |
| Below field appears once you click  icon. |   |
| <b>Version</b>   | Displays the rule version.  |
| <b>Description</b>   | Displays the rule description.  |
| <b>Creation Date</b>   | Displays the rule creation date.  |
| <b>Expression Builder</b>  |   |
| <b>+ button</b>  | Click icon to add new expression.   |
| <b>Fact / Rules</b>  | Select the fact or rule from the drop-down list.<br><br>Once you select the fact/rules one more field opens adjacent to it, update the same based on the selected option. |

| Field            | Description   |
|------------------|---|
| <b>Operator</b>  | <p>Select the comparison operator from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• &lt;</li> <li>• &gt;</li> <li>• +</li> <li>• =</li> <li>• %</li> <li>• !=</li> <li>• -</li> <li>• &gt;=</li> <li>• &lt;=</li> <li>• *</li> <li>• /</li> <li>• Contains</li> <li>• In</li> <li>• Matches</li> <li>• Notmatches</li> <li>• Notcontains</li> <li>• Notin</li> </ul>  |
| <b>Data Type</b> | <p>Select the data type for the fact or rule. Once you select the data type one more field opens adjacent to it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |

| Field             | Description   |
|-------------------|---|
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output one more field opens adjacent it, update the same based on the selected option.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Text</li> <li>• Number</li> <li>• Boolean</li> <li>• Date</li> <li>• Fact</li> </ul> <p>The below option appears if the <b>Data Type</b> is selected as <b>Boolean</b>.</p> <ul style="list-style-type: none"> <li>• True</li> <li>• False</li> </ul> |
| <b>Expression</b> | Displays the expression updated in the expression builder.  |

6. Click the **Price Definition** tab to define pricing.

**Figure 214 : Create Pricing Model – Price Definition Tab**

The screenshot shows the 'Create Pricing Model' interface. At the top, there's a 'New' button. Below it, the 'Basic Details' section contains fields for 'Pricing Code', 'Effective Date', 'Product Processor', 'Pricing Description', 'Expiry Date', and 'Priority'. The 'Price Definition' tab is selected, and the 'Price Definition' section is expanded, showing fields for 'Minimum Rate', 'Maximum Rate', 'Rate Type', and 'Rate %'. At the bottom right, there are 'Save' and 'Cancel' buttons.

For more information on fields, refer to the field description table below.

**Table 182 : Create Pricing Model – Price Definition – Field Description**

| Field               | Description   |
|---------------------|---|
| <b>Minimum Rate</b> | Specify the minimum rate applicable for the defined pricing code. |
| <b>Maximum Rate</b> | Specify the maximum rate applicable for the defined pricing code. |



| Field   | Description   |
|---|---|
| <b>Rate Type</b>  | Specify the rate type from the drop-down list.<br><br>The options are: <ul style="list-style-type: none"> <li>• Flat</li> <li>• Tiered</li> </ul>     |
| <b>Rate %</b>   | Specify the interest rate application for the defined pricing.<br><br>This field appears once you select the <b>Rate Type</b> option as <b>Flat</b> . |
| The below field appears if you select the <b>Rate Type</b> option as <b>Tiered</b> . The below columns are available as Facts in a drop down and you need to select the same. |   |
| <b>Loan Amount From</b>   | Specify the minimum range of loan amount to which the interest rate is applicable.  |
| <b>Loan Amount To</b>   | Specify the maximum range of loan amount to which the interest rate is applicable.  |
| <b>Term From</b>  | Specify the minimum term from which the interest rate is applicable.  |
| <b>Term To</b>  | Specify the maximum term up to which the interest rate is applicable.   |
| <b>Rate %</b>   | Specify the interest rate applicable for the defined tier.  |

7. Click **Save** to save the details.

The Pricing model is successfully created and can be viewed using **View Pricing Model** Screen.

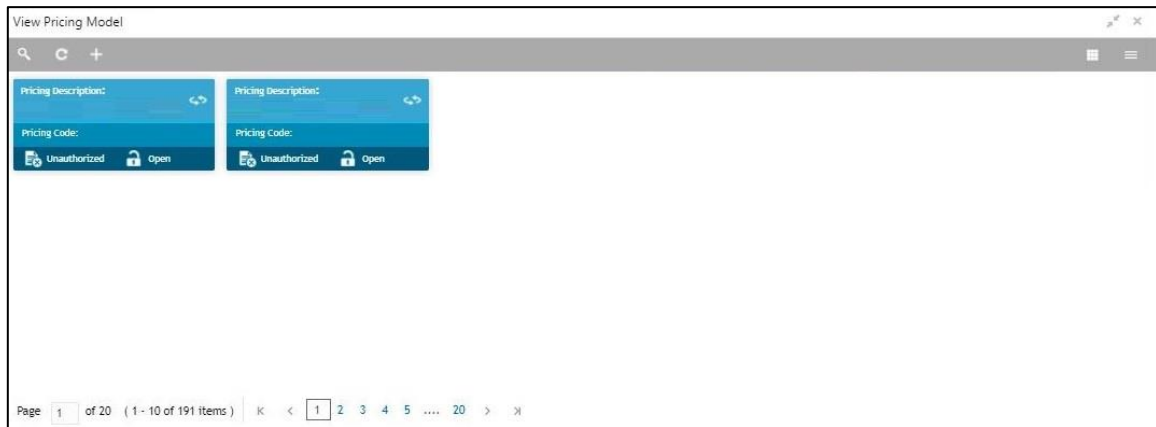
## 2.53.2 View Pricing Model

The **View Pricing Model** screen allows the user to view the pricing model created using the **Create Pricing Model** screen. The status of the uploaded model is displayed as **Unauthorized** and **Open**. Once the checker authorizes the model, the status is updated to **Authorized** and **Open**.

**To view created Pricing Model:**

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance** click, **Credit Decision**.
2. Under **Credit Decision**, click **Maintenance**. Under **Maintenance**, click **Pricing**.
3. Under **Pricing**, click **View Pricing Model**.  
→ The **View Pricing Model** screen appears.

**Figure 215 : View Pricing Model**



For more information on fields, refer to the field description table below.

**Table 183 : View Pricing Model - Field Description**

| Field                      | Description  |
|----------------------------|--|
| <b>Pricing Code</b>        | Displays the pricing code.   |
| <b>Pricing Description</b> | Displays the description of the pricing model.                         |
| <b>Product Processor</b>   | Displays the product processor for which the pricing model is created. |
| <b>Status</b>              | Displays the status of the record.                                     |

- Click **Search** icon.
- Specify the search criteria to fetch the required pricing model.

**Figure 216 : View Pricing Model- Search Option**



- Click **Search**.

For more information on fields, refer to the field description table below.

**Table 184 : View Pricing Model -Search Option- Field Description**

| Field                       | Description  |
|-----------------------------|--|
| <b>Pricing Code</b>         | Displays the pricing code.   |
| <b>Pricing Description</b>  | Displays the description of the pricing model.   |
| <b>Authorization Status</b> | <p>Select the authorization status of the model. The options are:</p> <ul style="list-style-type: none"> <li>Authorized</li> <li>Unauthorized</li> </ul> |

| Field                | Description   |
|----------------------|---|
| <b>Record Status</b> | Select the record status of the model. The options are: <ul style="list-style-type: none"> <li>• Open</li> <li>• Close</li> </ul> |

7. Click **three-dots** icon to unlock, delete, authorize or view the created pricing model.

8. Click **Unlock** to modify the following fields.

The fields are displayed in the **Pricing Model Maintenance** screen. The following fields are editable.


- Pricing Description
- Effective Date, before authorization
- Expiry Date
- Priority
- Rule Code
- Add new fact o rule to the selection criteria
- Loan Amount From
- Loan Amount To
- Term From
- Term To
- Rate Type
- Rate %

**Figure 217 : Pricing Model Maintenance – Modify**

For more information on fields, refer to the field description table below.

**Table 185 : Pricing Model Maintenance - Modify- Field Description**

| Field                      | Description   |
|----------------------------|---|
| <b>Basic Details</b>       |   |
| <b>Pricing Code</b>        | Displays the pricing code for created pricing model.  |
| <b>Pricing Description</b> | Displays the description of the pricing for the created pricing model.<br>User can modify the same. |

| Field  | Description   |
|--|---|
| <b>Effective Date</b>  | Displays the effective date of the pricing for the created pricing model.                           |
| <b>Expiry Date</b>   | Displays the expiry date of the pricing for the created pricing model.<br>User can modify the same. |
| <b>Product Processor</b>   | Displays the product processor for the created pricing model.                                       |
| <b>Priority</b>  | Displays the priority of the pricing for the created pricing model.<br>User can modify the same.    |
| <b>Selection Criteria</b>  |   |
| <b>Use Existing Rule</b>   | Indicates if the existing rule is linked.   |
| <b>Rules</b>   |   |
| <b>Rule Code</b>   | Displays the rule code of the created pricing model.<br>User can modify the same.                   |
|  | Click to get the information about the rule.  |
| <b>Rule Name</b>   | Displays the rule name.   |
| <b>Create New Rule</b>   | Displays if new rule is linked to the pricing model.<br>User can modify the same.                   |
| <b>Rules</b>   |   |
| <b>Code</b>  | Specify the new rule code for the created pricing model.  |
| <b>Description</b>   | Specify the rule description for the created pricing model.   |
| <b>Select Existing Rule</b>  | Displays the existing rule.<br>User can modify the same.  |
| <b>Rule Version</b>  | Displays the rule version.  |
| <b>Expression Builder</b>  |   |
| <b>+ button</b>  | Click to add new expression.  |
| <b>Fact / Rules</b>  | Displays the fact/rules of the created pricing model.   |
| <b>Operator</b>  | Displays the comparison operator of the created pricing model.                                      |
| <b>Data Type</b>   | Displays the data type for the fact or rule of the created pricing model.                           |
| <b>Output</b>  | Displays the output of the created pricing model.   |

| Field  | Description   |
|--|---|
| <b>Expression</b>  | Displays the expression updated in the expression builder of the created pricing model.   |
| <b>Pricing Definition</b>  |   |
| <b>Minimum Rate</b>  | Displays the minimum rate applicable for the defined pricing model.<br>User can modify the same.  |
| <b>Maximum Rate</b>  | Displays the maximum rate applicable for the defined pricing model.<br>User can modify the same.  |
| <b>Rate Type</b>   | Displays the rate type from the drop-down list.<br><br>The options are: <ul style="list-style-type: none"> <li>• Flat</li> <li>• Tiered</li> </ul> User can modify the same.            |
| <b>Rate %</b>  | Displays the interest rate application for the defined pricing.<br><br>This field appears once you select the <b>Rate Type</b> option as <b>Flat</b> .<br><br>User can modify the same. |
| Below field appears if the rate type is updated as <b>Tiered</b> . The below columns are available as "Facts" in a drop down.<br><br>User can modify the same. |   |
| <b>Loan Amount From</b>  | Displays the minimum range of loan amount to which the interest rate is applicable.<br><br>User can modify the same.  |
| <b>Loan Amount To</b>  | Displays the maximum range of loan amount to which the interest rate is applicable.<br><br>User can modify the same.  |
| <b>Term From</b>   | Displays the minimum term from which the interest rate is applicable.<br><br>User can modify the same.  |
| <b>Term To</b>   | Displays the maximum term up to which the interest rate is applicable.<br><br>User can modify the same.   |
| <b>Rate %</b>  | Displays the interest rate applicable for the defined tier.   |

9. Click **Save**, to update the modified fields.

10. Click **View** icon to view the created pricing model.


The fields are displayed in **Pricing Model Maintenance** screen.

**Figure 218 : Pricing Model Maintenance – View**

The screenshot shows the 'Pricing Model Maintenance' application window. It features a 'Basic Details' section at the top with fields for Pricing Code, Pricing Description, Effective Date, Expiry Date, Product Processor, and Priority. Below this is a 'Selection Criteria' section with tabs for 'Selection Criteria' and 'Price Definition'. The 'Rules' section is prominent, showing a table with columns for Rule Code, Rule Name, and Rule Version. Below the table is an 'Expression Builder' section with a search bar and a list of facts and rules.

For more information on fields, refer to the field description table below.

**Table 186 : Pricing Model Maintenance - View- Field Description**

| Field   | Description   |
|---|---|
| <b>Basic Details</b>  |   |
| <b>Pricing Code</b>   | Displays the pricing code for created pricing model.                      |
| <b>Pricing Description</b>  | Displays the description of the pricing for the created pricing model.    |
| <b>Effective Date</b>   | Displays the effective date of the pricing for the created pricing model. |
| <b>Expiry Date</b>  | Displays the expiry date of the pricing for the created pricing model.    |
| <b>Product Processor</b>  | Displays the product processor for the created pricing model.             |
| <b>Priority</b>   | Displays the priority of the pricing for the created pricing model.       |
| <b>Selection Criteria</b>   |   |
| <b>Use Existing Rule</b>  | Indicates if the existing rule is linked.                                 |
| <b>Rules</b>  |   |
| <b>Rule Code</b>  | Displays the rule code of the created pricing model.                      |
|  | Click to get the information about the rule.                              |
| <b>Rule Name</b>  | Displays the rule name for the created pricing model.                     |
| <b>Create New Rule</b>  | Displays if new rule is linked to the pricing model.                      |
| <b>Rules</b>  |   |
| <b>Code</b>   | Displays the new rule code for created pricing model.                     |
| <b>Description</b>  | Displays the rule description for the created pricing model.              |

| Field   | Description  |
|---|--|
| <b>Select Existing Rule</b>   | Displays the existing rule.  |
| <b>Rule Version</b>   | Displays the rule version.   |
| <b>Expression Builder</b>   |  |
| <b>+ button</b>   | Click to add a new expression.   |
| <b>Fact / Rules</b>   | Displays the fact/rules of the created pricing model.  |
| <b>Operator</b>   | Displays the comparison operator of the created pricing model.   |
| <b>Data Type</b>  | Displays the data type for the fact or rule of the created pricing model.  |
| <b>Output</b>   | Displays the output of the created pricing model.  |
| <b>Expression</b>   | Displays the expression updated in the expression builder of the created pricing model.  |
| <b>Pricing Definition</b>   |  |
| <b>Minimum Rate</b>   | Displays the minimum rate applicable for the defined pricing model.  |
| <b>Maximum Rate</b>   | Displays the maximum rate applicable for the defined pricing model.  |
| <b>Rate Type</b>  | <p>Displays the rate type from the drop-down list.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Flat</li> <li>• Tiered</li> </ul>    |
| <b>Rate %</b>   | <p>Displays the interest rate application for the defined pricing.</p> <p>This field appears once you select the <b>Rate Type</b> option as <b>Flat</b>.</p> |
| The below field appears if the rate type is updated as <b>Tiered</b> . The below columns are available as “Facts” in a drop down. |  |
| <b>Loan Amount From</b>   | Displays the minimum range of loan amount to which the interest rate is applicable.  |
| <b>Loan Amount To</b>   | Displays the maximum range of loan amount to which the interest rate is applicable.  |
| <b>Term From</b>  | Displays the minimum term from which the interest rate is applicable.  |
| <b>Term To</b>  | Displays the maximum term up to which the interest rate is applicable.   |
| <b>Rate %</b>   | Displays the interest rate applicable for the defined tier.  |

## 2.54 View Execution Summary

**Execution Summary** screen enables the user to view the details of the processed application. Based on the request mode it displays details related to logical model, borrowing capacity, quantitative score, qualitative score, decision and grade details and pricing details. It also provides different type of filters to perform search for a specific record.

This section contains following subsection:

- 2.54.1 View Execution Summary

### 2.54.1 View Execution Summary

The **View Execution Summary** screen allows user to view the execution summary based on the various filter options provided.

**To view execution summary:**

1. From **Home** screen, click **Core Maintenance**. Under Core Maintenance click, **Credit Decision**.
2. Under **Credit Decision** click, **Operations**. Under **Operations**, click **Execution Summary**.  
→ The **Execution Summary** screen appears.

### Figure 219 : View Execution Summary

| View Execution Summary   |                           |             |   |                           |                |        |         |
|--|---------------------------|-------------|---|---------------------------|----------------|--------|---------|
| Search Criteria  |                           |             |   |                           |                |        |         |
| <div> <div> <div>+</div> <div>-</div> </div> <div>Filter</div> <div> <div>Select</div> <div></div> </div> </div> <div> <div>Reset</div> <div>Search</div> </div> |                           |             |   |                           |                |        |         |
| Scoring Decision Summary   |                           |             |   |                           |                |        |         |
| Product Processor  | Request Type              | Contract ID | Request Reference Number                            | Internal Reference Number | Execution Date | Mode   | Status  |
| ▶ OFLO   | Score, Decision & Pricing | 123         | O9yN6ghMD41P9yN6ghMD41Q9yN6ghMD41R9yN6ghMD41S...    | CD520211025152426597      | Oct 25, 2021   | ONLINE | FAILURE |
| ▶ OFLO   |                           |             | WhoXmqcMD41XhoXmqcMD41YhoXmqcMD41ZhoXmqcMD4...      | CD520211025152321123      | Oct 25, 2021   | ONLINE | ERROR   |
| ▶ OFLO   | Decision & Grade          | 123         | OfNbcgWFD41PfnbcgWFD41QfnbcgWFD41RfnbcgWFD41Sf...   | CD520211025135544519      | Oct 25, 2021   | ONLINE | SUCCESS |
| ▶ OFLO   | Decision & Grade          | 123         | ISivHyDD41JSivHyDD41KSivHyDD41LSivHyDD41MSivHyDD... | CD520211025132220815      | Oct 25, 2021   | ONLINE | FAILURE |
| ▶ OFLO   | Decision & Grade          | 123         | oOXQ8uRzD41pOXQ8uRzD41qOXQ8uRzD41rOXQ8uRzD41sO...   | CD520211025123042142      | Oct 25, 2021   | ONLINE | FAILURE |

For more information on fields, refer to the field description table below.

### Table 187 : Execution Summary Field Description

| Field           | Description                      |
|-----------------|----------------------------------|
| Search Criteria |                                  |
| + button        | Click to add a new row.          |
| - button        | Click to delete an existing row. |



| Field            | Description  |
|------------------|--|
| <b>Filter</b>    | <p>Select the required option based on which you can search for the execution summary.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>• Request Reference Number</li> <li>• Internal Reference Number</li> <li>• Decision</li> <li>• Batch/Online</li> <li>• Product Processor</li> <li>• Status</li> <li>• Request Type</li> <li>• Execution Date</li> <li>• Contract ID</li> </ul> |
| <b>Value</b>     | <p>Specify the required details or select an appropriate option for the selected filter option.</p> <p>This field appears once you select an option from the <b>Filter</b> list.</p>   |
| <b>From Date</b> | <p>Select the start date of the period during which the execution summary is generated.</p> <p>This field appears if you select the filter option as <b>Execution Date</b> and value as <b>Date Range</b>.</p>   |
| <b>To Date</b>   | <p>Select the end date of the period during which the execution summary is generated.</p> <p>This field appears if you select the filter option as <b>Execution Date</b> and value as <b>Date Range</b>.</p>   |

- In the **Search Criteria** section, specify the details and click **Search**.  
The search results appear showing a list of records based on the specified search criteria.
- Click **Reset**, to reset the search criteria.

**Figure 220 : Execution Summary Search Option**

| Product Processor | Request Type              | Contract ID | Request Reference Number                                 | Internal Reference Number | Execution Date | Mode   | Status  |
|-------------------|---------------------------|-------------|--|---------------------------|----------------|--------|---------|
| OFLO              | Score, Decision & Pricing | 123         | 09yN6ghMD41P9yN6ghMD41Q9yN6ghMD41R9yN6ghMD41S...         | CD520211025152426597      | Oct 25, 2021   | ONLINE | FAILURE |
| OFLO              | Score, Decision & Pricing | 123         | WhoXmqcMD41XhoXmqcMD41YhoXmqcMD41ZhoXmqcMD4...           | CD520211025152321123      | Oct 25, 2021   | ONLINE | ERROR   |
| OFLO              | Decision & Grade          | 123         | OfNbcgWFD41PfnbcgWFD41QfnbcgWFD41RfnbcgWFD41Sf...        | CD520211025135544519      | Oct 25, 2021   | ONLINE | SUCCESS |
| OFLO              | Decision & Grade          | 123         | ISivHijDD41JSivHijDD41KSivHijDD41LSivHijDD41MSivHijDD... | CD520211025132220815      | Oct 25, 2021   | ONLINE | FAILURE |
| OFLO              | Decision & Grade          | 123         | oOXQ8uRzD41pOXQ8uRzD41qOXQ8uRzD41rOXQ8uRzD41sO...        | CD520211025123042142      | Oct 25, 2021   | ONLINE | FAILURE |

For more information on fields, refer to the field description table below.

**Table 188 : Execution Summary- Search option- Field Description**

| Field                            | Description   |
|----------------------------------|---|
| <b>Scoring Decision Summary</b>  |   |
| <b>Product Processor</b>         | Displays the name of the product processor that sent the request. |
| <b>Request Type</b>              | Displays the request type sent by product processor.              |
| <b>Contract ID</b>               | Displays the contract ID sent by the product processor.           |
| <b>Request Reference Number</b>  | Displays the request reference number sent by product processor.  |
| <b>Internal Reference Number</b> | Displays the internal reference number of the application.        |
| <b>Execution Date</b>            | Displays the execution date of the processing application.        |
| <b>Mode</b>                      | Displays the mode of execution of the application.                |
| <b>Status</b>                    | Displays the status of the processed application.                 |

- Click the icon corresponding to the required record to view the decision related details on each widget. Only one record is viewed at a time. If you need to view another record, you have to click on to close the already open record and then the next record can be viewed. The widgets are arranged in the flow in which the execution is done and is indicated by showing the sequence 1, 2, 3 numbers in the top right corner. The widgets are clickable on hover the color of the widget changes to indicate the widget is clickable.

6. When the status of processed application is **Failure**, on click of the failure message is displayed in the step that is failed. For example, in case of **Qualitative Score Model** is not resolved, then the error message is displayed in the **Qualitative Score Model** widget and the previous widget will show the data which was processed. Where in if the logical processing fails, then the status **Fail** is shown in the **Logical Model** widget and reason for failure is displayed on click of the widget.

**Figure 221 View Execution Summary**

The screenshot displays the 'View Execution Summary' interface. At the top, there is a 'Search Criteria' section with a filter dropdown set to 'Decision' and a value dropdown set to 'Approved'. Below this is a 'Scoring Decision Summary' table with columns: Product Processor, Request Type, Contract ID, Request Reference Number, Internal Reference Number, Execution Date, Mode, and Status. The table shows one entry for 'OFLO' with a status of 'SUCCESS'. Below the table are six widgets arranged in a 2x3 grid:

- Logical Model (1)**: Logical Model Code: LMC101, Description: LMC101, Status: PASS.
- Borrowing Capacity (2)**: Eligibility Code: BORCAP001, Description: BORCAP001, Requested Amount: \$35000, Borrowing Capacity: \$150000.0.
- Qualitative Score (3)**: Scoring Model Code: APPQAL502, Description: APPQAL502, Score: 67.5.
- Quantitative Score (4)**: Scoring Model Code: REJECT, Description: REJECT, Score: 450.
- Decision and Grade (5)**: Model Code: REJECT, Description: REJECT, Decision: REJECT, Grade: REJECT.
- Pricing (6)**: Pricing Model Code: REJECT, Description: REJECT, Rate Type: Flat, Rate (%): 5.

For more information on fields, refer to the field description table below.

**Table 189 : View Execution Summary Field Description**

| Field  | Description  |
|--|--|
| <b>Logical Model Widget</b>  | Displays the status of the logical model processed.  |
| The following fields appear in <b>Logical Model</b> widget.                |  |
| <b>Logical Model Code</b>  |  |
| Displays the logical model code, resolved for credit decision.             |  |
| <b>Description</b>   | Displays the logical model description, resolved for the credit decision.  |
| <b>Status</b>  | Displays the status of the logical model processed. <ul style="list-style-type: none"> <li>For status <b>Pass</b>, the color is shown as <b>Green</b>.</li> <li>For status, <b>Fail</b> the color is shown as <b>Red</b>.</li> </ul> |
| <b>Borrowing Capacity Widget</b>   |  |
| Displays the maximum lendable amount that can be given for an application. |  |
| The following fields appear in <b>Borrowing Capacity</b> widget.           |  |
| <b>Eligibility Code</b>  | Displays the eligibility model code, resolved for calculating the borrowing capacity.  |

| Field   | Description   |
|---|---|
| <b>Description</b>  | Displays the eligibility model description, resolved for calculating the borrowing capacity.  |
| <b>Requested Amount</b>   | Displays the requested amount for the lending application.  |
| <b>Borrowing Capacity</b>   | Displays the maximum lendable amount that can be given for the application.   |
| <b>Qualitative Score Widget</b>   |   |
| Displays the qualitative credit score, post credit decision of the application. |   |
| The following fields appear in <b>Qualitative Score</b> widget.                 |   |
| <b>Scoring Model Code</b>   | <p>Displays the scoring model code, resolved for credit decision.</p> <ul style="list-style-type: none"> <li>• When <b>Is Application Decision Required</b> is <b>Yes</b>, the application level decision scoring code is displayed.</li> <li>• When <b>Is Application Decision Required</b> is <b>No</b>, the applicant level decision scoring code is displayed.</li> <li>• When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, the application level decision scoring code is displayed.</li> </ul>   |
| <b>Description</b>  | Displays the scoring model description, resolved for credit decision.   |
| <b>Score</b>  | <p>Displays the qualitative credit score post credit decision of the application.</p> <ul style="list-style-type: none"> <li>• When <b>Is Application Decision Required</b> is <b>Yes</b>, the system performs the aggregation, which can be minimum, maximum or average of all applicant's score. The aggregation performed is defined as rules and linked at the application level scoring model and this aggregated score is displayed.</li> <li>• When <b>Is Application Decision Required</b> is <b>No</b>, the score is displayed by resolving the applicant level scoring model.</li> <li>• When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, the system performs the aggregation, which can be minimum, maximum or average of all applicant's score. The aggregation performed is defined as rule and linked at the application level scoring model and this aggregated score is displayed.</li> </ul> |
| <b>Quantitative Score Widget</b>  |   |
| Displays the quantitative credit score post credit decision of the application. |   |
| The following fields appear in <b>Quantitative Score</b> widget.                |   |

| Field  | Description   |
|--|---|
| <b>Scoring Model Code</b>  | <p>Displays scoring model code, resolved for credit decision.</p> <ul style="list-style-type: none"> <li>When <b>Is Application Decision Required</b> is <b>Yes</b>, the application level decision scoring code is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, the applicant level decision scoring code is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, the multi applicant level scoring code is displayed.</li> </ul>  |
| <b>Description</b>   | Displays the scoring model description, resolved for credit decision.   |
| <b>Score</b>   | <p>Displays the quantitative credit score, post credit decision of the application.</p> <ul style="list-style-type: none"> <li>When <b>Is Application Decision Required</b> is <b>Yes</b>, the system performs the aggregation, which can be minimum, maximum or average of all applicant's score. The aggregation performed is defined as rules and linked at the application level scoring model and this aggregated score is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, the score is displayed by resolving the applicant level scoring model.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, score is displayed by resolving the multi applicant level scoring model.</li> </ul> |
| <b>Decision and Grade Widget</b><br>Displays the credit decision and scoring grade, taken for the application. |   |
| The following fields appear in <b>Quantitative Score</b> widget.   |   |
| <b>Model Code</b>  | Displays the model code, resolved for credit decision and grade.  |
| <b>Description</b>   | Displays the model description, resolved for credit decision and grade.   |
| <b>Decision</b>  | Displays the credit decision, taken for the application.  |
| <b>Grade</b>   | Displays the scoring grade, post credit decision of the application.  |
| <b>Pricing Widget</b><br>Displays the rate applicable post credit decision.                                    |   |
| The following fields appear in <b>Quantitative Score</b> widget.   |   |
| <b>Pricing Model Code</b>  | Displays the pricing model code, resolved for credit decision.  |

| Field              | Description   |
|--------------------|---|
| <b>Description</b> | Displays the pricing model description, resolved for credit decision. |
| <b>Rate Type</b>   | Displays the rate type applicable post credit decision.               |
| <b>Rate %</b>      | Displays the rate applicable post credit decision.                    |

The following fields are displayed once you click the **Logical Model** widget. The details for the request which was clicked on the landing page is displayed.

**Figure 222 : Logical Model Widget**

The screenshot shows the 'View Execution' window for a Logical Model widget. It displays a table with request details and a summary of the logical model execution.

| Product Processor | Request Type              | Request Reference Number                            | Internal Reference Number | Execution Date           | Mode   | Status  |
|-------------------|---------------------------|---|---------------------------|--------------------------|--------|---------|
| OFLO              | Score, Decision & Pricing | yXIM57jD41xXIM57jD41AXIM57jD41BXIM57jD41CXIM57jD... | CD520211025105859136      | 2021-10-25T05:28:59.594Z | ONLINE | SUCCESS |

|               |                    |                   |                    |                            |         |
|---------------|--------------------|-------------------|--------------------|----------------------------|---------|
| Logical Model | Borrowing Capacity | Qualitative Score | Quantitative Score | Decision & Grade           | Pricing |
| PASS          | 5135.03            | 70                | 384.3              | Manual - Queue A Grade : B | 6 %     |



Logical Model Code : LMC101      Description : LMC101      Status : PASS

| Rule ID | Sequence | Status |
|---------|----------|--------|
| Logic3  | 1        | PASS   |
| Logic2  | 2        | PASS   |

For more information on fields, refer to the field description table below.

**Table 190 : Logical Model Widget - Field Description**

| Field                            | Description  |
|----------------------------------|--|
| <b>Internal Reference Number</b> | Specify the internal reference number.   |
| <b>Product Processor</b>         | Displays the name of the product processor that sent the request.<br><br>This field will be shown on click of each widget. |
| <b>Request Type</b>              | Displays the request type sent by the product processor.<br><br>This field will be shown on click of each widget.          |
| <b>Contract ID</b>               | Displays the contract ID sent by the product processor.<br><br>This field will be shown on click of each widget.           |
| <b>Request Reference Number</b>  | Displays the request reference number sent by product processor.<br><br>This field will be shown on click of each widget.  |

| Field   | Description   |
|---|---|
| <b>Internal Reference Number</b>  | Specify the internal reference number.  |
| <b>Internal Reference Number</b>  | Displays the internal reference number of the application.<br>This field will be shown on click of each widget.                                   |
| <b>Execution Date</b>   | Displays the execution date of the processing application.<br>This field will be shown on click of each widget.                                   |
| <b>Mode</b>   | Displays the mode of execution of the application.<br>This field will be shown on click of each widget.   |
| <b>Status</b>   | Displays the status of the application.<br>This field is shown on click of each widget.   |
| The following fields appear once you click the <b>Logical Model</b> widget.         |   |
| <b>&lt;Logical Model Code&gt;</b>   | Displays the logical model code that is resolved for credit decision.<br><br>Click the hyper link to view the rule executed to resolve the model. |
| <b>Show Rule Log</b>  | Click to see the rule log.  |
|  | Click to expand the rule.   |
| <b>Expression</b>   | Displays the expression of the rule.  |
| <b>Input</b>  | Displays the input of the rule.   |
| <b>Value</b>  | Displays the value of the rule.   |
| <b>Description</b>  | Displays the description of the logical model.  |
| <b>Status</b>   | Displays the status of logical model.   |
| <b>Rule ID</b>  | Displays the rule ID executed for logical model processing.<br>Click the hyperlink to view the rule executed.                                     |
| <b>Show Rule Log</b>  | Click to see the rule log.  |
|  | Click to expand the rule.   |
| <b>Expression</b>   | Displays the expression of the rule.  |
| <b>Input</b>  | Displays the input of the rule.   |
| <b>Value</b>  | Displays the value of the rule.   |
| <b>Sequence</b>   | Displays the sequence in which the rules are executed for logical model processing.   |


| Field                            | Description   |
|----------------------------------|---|
| <b>Internal Reference Number</b> | Specify the internal reference number.  |
| <b>Status</b>                    | <p>Displays the status of the rule execution. In case the status is failed, the reason for failure is displayed as <b>Reason</b> &lt;&gt;.</p> <p>The options are:</p> <ul style="list-style-type: none"> <li>Pass</li> <li>Not Executed: This status is displayed against a rule if the <b>Stop on Failure</b> is set as <b>ON</b> and previous rule the sequence has failed.</li> </ul> |

The following fields are displayed once you click the **Borrowing Capacity** widget.


**Figure 223 : Borrowing Capacity Widget**

For more information on fields, refer to the field description table below.

**Table 191 : Borrowing Capacity Widget - Field Description**

| Field   | Description   |
|---|---|
| The following fields appears in <b>Borrowing Capacity</b> widget.                   |   |
| <b>&lt;Eligibility Code&gt;</b>   | <p>Displays the eligibility code resolved for calculating the borrowing capacity.</p> <p>Click the hyperlink to view the rule executed to resolve the borrowing capacity.</p> |
| <b>Show Rule Log</b>  | Click to see the rule log.  |
|  | Click to expand the rule.   |
| <b>Expression</b>   | Displays the expression of the rule.  |
| <b>Input</b>  | Displays the input of the rule.   |
| <b>Value</b>  | Displays the value of the rule.   |



| Field   | Description   |
|---|---|
| <b>Eligibility Description</b>  | Displays the eligibility description resolved for calculating the borrowing capacity.   |
| <b>Requested Amount</b>   | Displays the requested amount for the lending application.  |
| <b>Borrowing Capacity</b>   | Displays the maximum lendable amount that can be given for an application.  |
| <b>Fact</b>   | Displays the fact using which the maximum lendable amount was calculated.   |
| <b>Rule ID</b>  | Displays the rule ID executed for calculating the maximum lendable amount.<br><br>Click the hyper link to view the rule executed. |
| <b>Show Rule Log</b>  | Click to see the rule log.  |
|  | Click to expand the rule.   |
| <b>Expression</b>   | Displays the expression of the rule.  |
| <b>Input</b>  | Displays the input of the rule.   |
| <b>Value</b>  | Displays the value of the rule.   |

The following fields are displayed once you click the **Qualitative Score** widget.

**Figure 224 : Qualitative Score Widget – Bar Graph View**

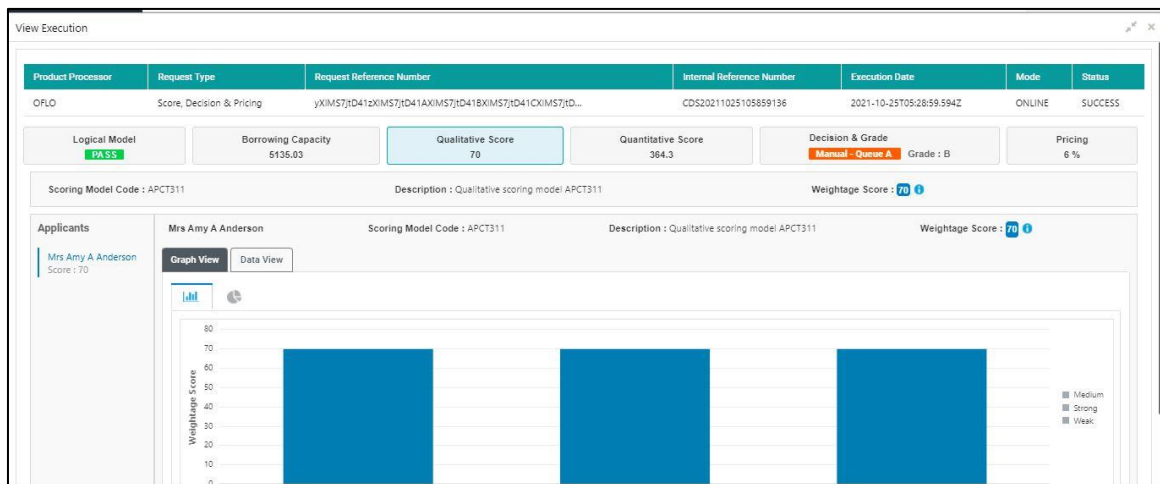


Figure 225 : Qualitative Score Widget – Pie Graph View

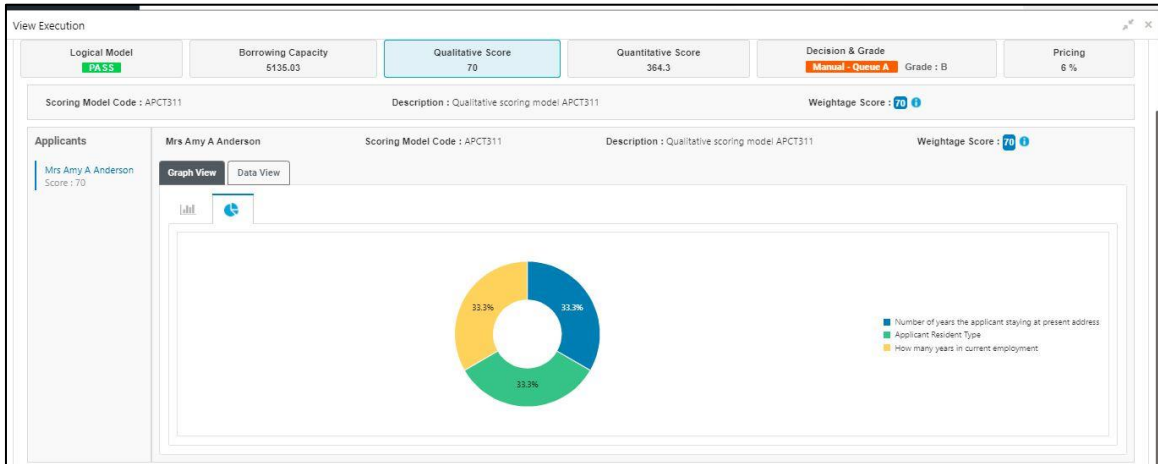


Figure 226 : Qualitative Score Widget – Data View



View Execution

| Product Processor            | Request Type                               | Request Reference Number                                 | Internal Reference Number    | Execution Date                                | Mode  | Status  |                      |
|------------------------------|--|--|------------------------------|---|---|---------|----------------------|
| OFLO                         | Score, Decision & Pricing                  | yXIM57jD412XIM57jD414XIM57jD418XIM57jD41CXIM57jD...      | CD520211025105859136         | 2021-10-25T05:28:59.594Z                      | ONLINE  | SUCCESS |                      |
| Logical Model<br>PASS        | Borrowing Capacity<br>5135.03              | Qualitative Score<br>70                                  | Quantitative Score<br>364.3  | Decision & Grade<br>Manual - Queue A Grade: B | Pricing<br>6 %                                  |         |                      |
| Scoring Model Code : APCT311 |  | Description : Qualitative scoring model APCT311          |                              | Weightage Score : 70                          |   |         |                      |
| Applicants                   | Mrs Amy A Anderson                         |  | Scoring Model Code : APCT311 |   | Description : Qualitative scoring model APCT311 |         | Weightage Score : 70 |
|                              | <div>Graph View</div> <div>Data View</div> |  |                              |   |   |         |                      |
|                              | Scoring Details                            |  |                              |   |   |         |                      |
|                              | Question Code                              | Question   | Value                        | Score   |   |         |                      |
|                              | AgeOResidence                              | Number of years the applicant staying at present address | Less than 2 year             | 70  |   |         |                      |
| TypeOResident                | Applicant Resident Type                    | Rented   | 70                           |   |   |         |                      |
| EmploymentDuration           | How many years in current employment       | Less than 2 year   | 70                           |   |   |         |                      |

For more information on fields, refer to the field description table below.

Table 192 : Qualitative Score Widget - Field Description

| Field  | Description   |
|--|---|
| The following fields appears in <b>Qualitative Score</b> widget. |   |
| <Scoring Model Code>   | <p>Displays the scoring model code resolved for credit decision.</p> <ul style="list-style-type: none"> <li>When <b>Is Application Decision Required</b> is <b>Yes</b>, the application level decision scoring code is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, the applicant level decision scoring code is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, the application level scoring code is displayed.</li> </ul> |
| Description  | Displays the scoring model description resolved for credit decision.  |

| Field   | Description   |
|---|---|
| <b>Weightage Score/Application Score</b>  | <p>Displays the qualitative credit score post credit decision of the application.</p> <ul style="list-style-type: none"> <li>When <b>Is Application Decision Required</b> is <b>Yes</b>, the field name is displayed as <b>Application Score</b>. The system performs the aggregation, which can be minimum, maximum or average of all applicant's score. The aggregation performed is defined as rules and linked at the application level scoring model and this aggregated score is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, the field name is displayed as <b>Weightage Score</b>. The score is displayed by resolving the applicant level scoring model.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, the field name is displayed as <b>Application Score</b>. The system performs the aggregation, which can be minimum, maximum or average of all applicant's score. The aggregation performed is defined as rules and linked at the application level scoring model and this aggregated score is displayed.</li> </ul> |
|  | Click to get the information about the formula for calculation of score.  |
| Applicant details are shown at the left panel.                                      |   |
| <b>&lt;Applicant Name&gt;</b>   | Displays the applicant names present in the application.  |
| <b>&lt;Score&gt;</b>  | <p>Displays the weighted credit score post credit decision of the application.</p> <p>The score is calculated for each applicant by resolving the applicant level scoring model.</p>  |
| Below details are shown at the right panel.   |   |
| <b>&lt;Applicant Name&gt;</b>   | Displays the applicant names present in the application.  |
| <b>Scoring Model Code</b>   | Displays the applicant level scoring model code resolved for credit decision.   |
| <b>Description</b>  | Displays the applicant scoring model description.   |
| <b>Weightage Score</b>  | Displays the weighted credit score post credit decision of the application.   |
|  | Click to get the information about the formula for calculation of score.  |

| Field                  | Description  |
|------------------------|--|
| <b>Graph View</b>      | <p>Two graphical views are available.</p> <ul style="list-style-type: none"> <li>• <b>Bar Graphs</b></li> </ul> <p>The details are shown as a graphical representation as bar charts.</p> <ul style="list-style-type: none"> <li>○ List of question ID on the <b>X</b>-axis</li> <li>○ Score on the <b>Y</b>-axis.</li> </ul> <p>Based on the evaluation of the category, the questions are shown in a particular color based on the maintenance done in the lookups screen.</p> <ul style="list-style-type: none"> <li>• <b>Pie Charts</b></li> </ul> <p>The details are shown as a graphical representation as pie charts.</p> <p>The calculation logic for the question is <math>(\text{Score of the question} / \text{Weightage score of the applicant}) * 100</math>. The pie is shown from a pool of colors available/defined in the code.</p> |
| <b>Data View</b>       | The scoring details are shown as mentioned below in data view.   |
| <b>Scoring Details</b> |  |
| <b>Question Code</b>   | Displays the question code resolved for the applicant in the scoring model.  |
| <b>Question</b>        | Displays the question description resolved for the applicant in the scoring model.   |
| <b>Value</b>           | Displays the response received for the question in the payload.  |
| <b>Score</b>           | <p>Displays the score calculated for the question based on the range and the response.</p> <p>In case any question was optional for which the response was not received, <b>NA</b> will be displayed.</p>  |

The following fields are displayed once you click the **Quantitative Score** widget.

Figure 227 : Quantitative Score Widget – Bar Graph View

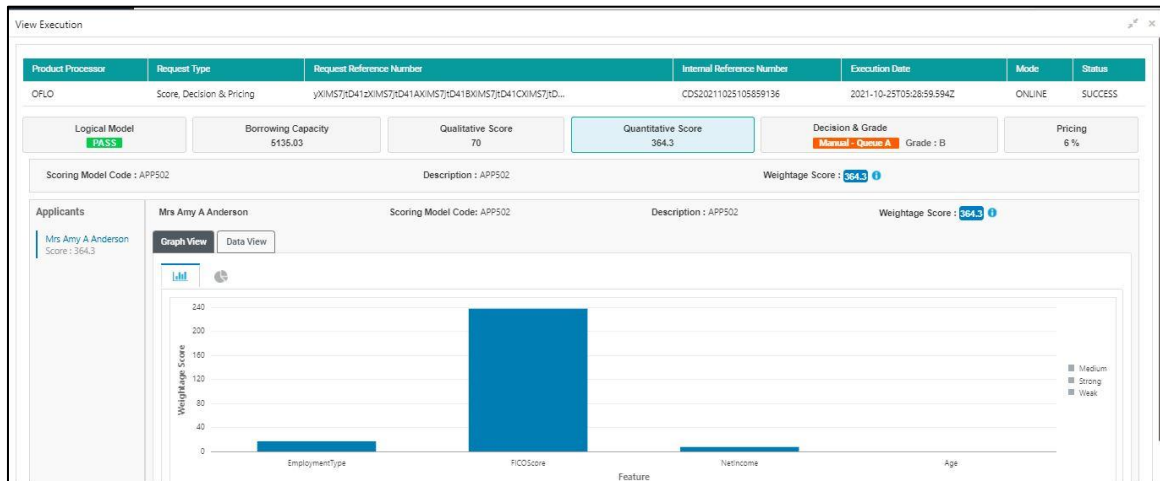


Figure 228 : Quantitative Score Widget – Pie Graph View

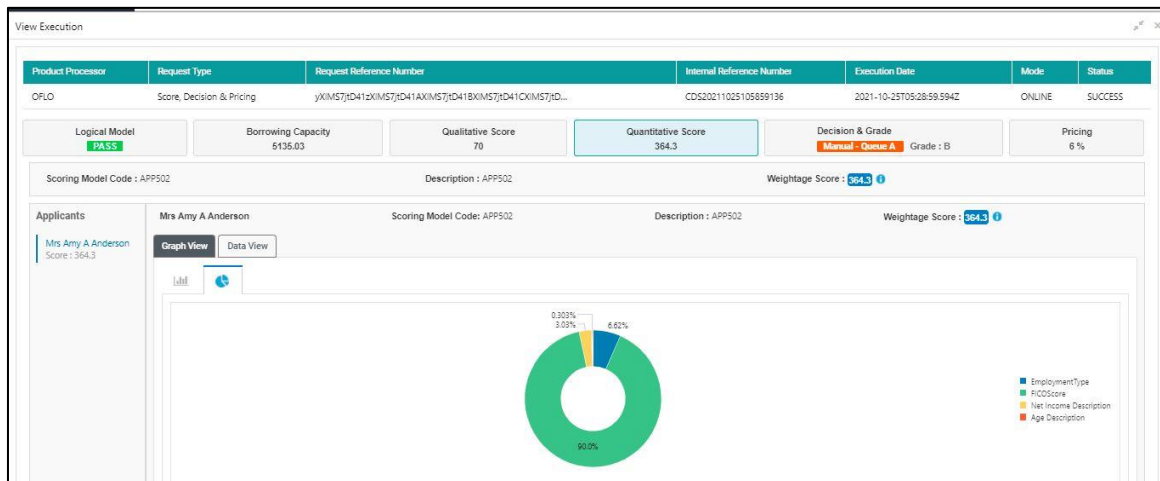
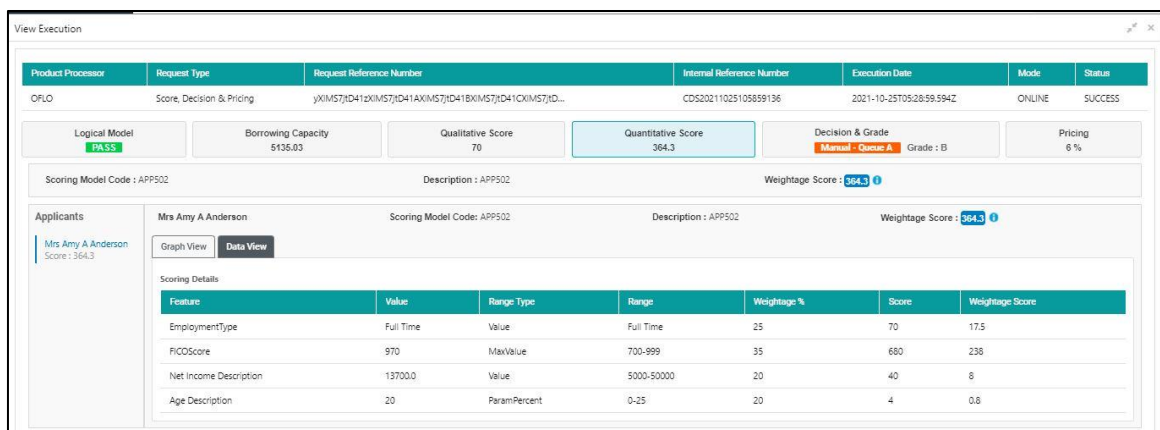





Figure 229 : Quantitative Score Widget – Data View




For more information on fields, refer to the field description table below.

Table 193 : Quantitative Score Widget - Field Description

| Field   | Description  |
|---|--|
| The following fields appears in <b>Quantitative Score</b> widget.                 |  |
| <b>&lt;Scoring Model Code&gt;</b>   | <p>Displays the scoring model code resolved for credit decision.</p> <ul style="list-style-type: none"> <li>When <b>Is Application Decision Required</b> is <b>Yes</b>, the application level decision scoring code is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, the applicant level decision scoring code is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, the multi applicant level scoring code is displayed.</li> </ul> <p>Click the hyperlink to view the rule executed to resolve the quantitative score.</p>  |
| <b>Show Rule Log</b>  | Click to see the rule log.   |
|  | Click to expand the rule.  |
| <b>Expression</b>   | Displays the expression of the rule.   |
| <b>Input</b>  | Displays the input of the rule.  |
| <b>Value</b>  | Displays the value of the rule.  |
| <b>Description</b>  | Displays the scoring model description resolved for credit decision.   |
| <b>Weightage Score</b>  | <p>Displays the weightage score post credit decision of the application.</p> <ul style="list-style-type: none"> <li>When <b>Is Application Decision Required</b> is <b>Yes</b>, the system performs the aggregation, which can be minimum, maximum or average of all applicant's score. The aggregation performed is defined as rules and linked at the application level scoring model and this aggregated score is displayed.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, the score is displayed by resolving the applicant level scoring model.</li> <li>When <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b>, the score is displayed by resolving multi applicant level scoring model.</li> </ul> <p>In case of <b>Is Application Decision Required</b> is <b>Yes</b>, system displays the hyperlink on the weightage score value. It shows the aggregate rule details.</p> |
| Applicant details are shown at the left panel.                                    |  |
| <b>&lt;Applicant Name&gt;</b>   | Displays the applicant names present in the application.   |

| Field   | Description  |
|---|--|
| <Score>   | <p>Displays the weighted credit score post credit decision of the application.</p> <p>The score is calculated for each applicant by resolving the applicant level scoring model.</p> <p>In case of multi applicant scenario, weightage score per applicant is not shown.</p>   |
| Below details are shown at the right panel.   |  |
| <Applicant Name>  | Displays the applicant names present in the application.   |
| Scoring Model Code  | <p>Displays the applicant level scoring model code resolved for credit decision.</p> <p>Applicant level scoring model is applicable for below case.</p> <ul style="list-style-type: none"> <li>• If <b>Is Application Decision required</b> is <b>Yes</b></li> <li>• If <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>Yes</b></li> </ul> <p>Multi applicant level scoring model is applicable in the below case.</p> <ul style="list-style-type: none"> <li>• If <b>Is Application Decision Required</b> is <b>No</b>, and <b>Is Primary Applicant</b> is <b>No</b></li> </ul> <p>Click the hyperlink to view the rule executed to resolve the quantitative score.</p> |
| Show Rule Log   | Click to see the rule log.   |
|  | Click to expand the rule.  |
| Expression  | Displays the expression of the rule.   |
| Input   | Displays the input of the rule.  |
| Value   | Displays the value of the rule.  |
| Description   | Displays the applicant scoring model description.  |
| Weightage Score   | <p>Displays the weighted credit score post credit decision of the application.</p> <p>The weightage score is calculated for each applicant by resolving the applicant scoring model.</p> <p>In case of multi applicant scoring model, for both the applicant the same score is shown since the score is not calculated per applicant.</p>  |
|  | Click to get the information about the formula for calculation of score.   |

| Field   | Description  |
|---|--|
| <b>Graph View</b>   | <p>Two graphical views are available.</p> <ul style="list-style-type: none"> <li>• <b>Bar Graphs</b></li> </ul> <p>The details are shown as a graphical representation as bar charts.</p> <ul style="list-style-type: none"> <li>○ List of features on the <b>X</b>-axis</li> <li>○ Weightage Score on the <b>Y</b>-axis.</li> </ul> <p>Based on the evaluation of the category, the feature are shown in a particular color based on the maintenance done in the lookups screen.</p> <p>Note: For Multi Applicant scoring model all graphs is shown in the same color, as category evaluation is not applicable.</p> <ul style="list-style-type: none"> <li>• <b>Pie Charts</b></li> </ul> <p>The details are shown as a graphical representation as pie charts.</p> <p>The calculation logic for the feature is (Weighted score of the feature/ Weightage score of the applicant)*100. The pie is shown from a pool of colors available/defined in the code.</p> |
| <b>Data View</b>  | The scoring details are shown as mentioned below in data view.   |
| <b>Scoring Details</b>  |  |
| <b>Feature</b>  | <p>Displays the features resolved for the applicant in the scoring model.</p> <p>Click the hyperlink to view the rule executed to resolve the quantitative score.</p>  |
| <b>Show Rule Log</b>  | Click to see the rule log.   |
|  | Click to expand the rule.  |
| <b>Expression</b>   | Displays the expression of the rule.   |
| <b>Input</b>  | Displays the input of the rule.  |
| <b>Value</b>  | Displays the value of the rule.  |
| <b>Value</b>  | Displays the value of the feature.   |
| <b>Range Type</b>   | Displays the range type for the feature.   |
| <b>Range</b>  | Displays the range resolved for the feature value for score resolution.  |



| Field                  | Description   |
|------------------------|---|
| <b>Weightage %</b>     | Displays the weightage defined for the feature in the scoring model.                |
| <b>Score</b>           | Displays the score calculated for the feature based on the range and feature value. |
| <b>Weightage Score</b> | Displays the weighed credit score post credit decision of the application.          |

The following fields are displayed once you click the **Decision and Grade** widget.

**Figure 230 : Decision and Grade Widget**

The screenshot shows the 'View Execution' window with the following details:

- Product Processor:** OFLO
- Request Type:** Score, Decision & Pricing
- Request Reference Number:** yXIM57jD412XIM57jD41AXIM57jD41BXIM57jD41CKIM57jD...
- Internal Reference Number:** CDS20211025105859136
- Execution Date:** 2021-10-25T05:28:59.594Z
- Mode:** ONLINE
- Status:** SUCCESS

Below the header, there are several widgets:

- Logical Model:** PASS
- Borrowing Capacity:** 5135.03
- Qualitative Score:** 70
- Quantitative Score:** 364.3
- Decision & Grade:** Manual - Queue A, Grade : B
- Pricing:** 6 %

The **Model Code** is DGM503 and the **Model Description** is DGM503. The **Decision** is Manual - Queue A and the **Grade** is B.

The **Decision** table shows:


| QuantitativeScore | QuantitativeScore Range | QualitativeScore | QualitativeScore Range | Decision         |
|-------------------|-------------------------|------------------|------------------------|------------------|
| 364.30            | 0-5000                  | 70.00            | 0-500                  | Manual - Queue A |




The **Grade** table shows:

| QuantitativeScore | QuantitativeScore Range | QualitativeScore | QualitativeScore Range | Grade |
|-------------------|-------------------------|------------------|------------------------|-------|
| 70.00             | 0-500                   | 364.30           | 0-5000                 | B     |

For more information on fields, refer to the field description table below.

**Table 194 : Decision and Grade Widget - Field Description**

| Field   | Description  |
|---|--|
| The following fields appears in <b>Decision and Grade</b> widget.                   |  |
| <b>&lt;Model Code&gt;</b>   | Displays the model code resolved for credit decision and grade.<br><br>Click the hyper link to view the rule executed to resolve the decision and grade. |
| <b>Show Rule Log</b>  | Click to see the rule log.   |
|  | Click to expand the rule.  |
| <b>Expression</b>   | Displays the expression of the rule.   |
| <b>Input</b>  | Displays the input of the rule.  |
| <b>Value</b>  | Displays the value of the rule.  |
| <b>Model Description</b>  | Displays the model description resolved for credit decision and grade.   |
| <b>Decision</b>   | Displays the credit decision taken for the application.  |

| Field   | Description   |
|---|---|
| Grade   | Displays the scoring grade post credit decision of the application.   |
| <b>Decision</b>   |   |
| <Feature Name> Score  | Displays the score calculated for the application based on the feature selected.<br><br>If the feature is rule based, system displays the hyper link. |
| Show Rule Log   | Click to see the rule log.  |
|    | Click to expand the rule.   |
| Expression  | Displays the expression of the rule.  |
| Input   | Displays the input of the rule.   |
| Value   | Displays the value of the rule.   |
| <Feature Name> Range  | Displays the score resolved for the application based on the feature selected.  |
| Color Feature   | Displays the color feature.   |
| Color Feature Range   | Displays the color feature range.   |
| Decision  | Displays the decision taken for the application.  |
| Rule ID   | Displays the rule ID of the feature.<br><br>Click the hyperlink to view the rule executed.  |
| Show Rule Log   | Click to see the rule log.  |
|  | Click to expand the rule.   |
| Expression  | Displays the expression of the rule.  |
| Input   | Displays the input of the rule.   |
| Value   | Displays the value of the rule.   |
| <b>Grade</b>  |   |
| <Feature Name> Score  | Displays the score calculated for the application based on the feature selected.<br><br>If the feature is rule based, system displays the hyperlink.  |
| Show Rule Log   | Click to see the rule log.  |
|  | Click to expand the rule.   |
| Expression  | Displays the expression of the rule.  |
| Input   | Displays the input of the rule.   |

| Field                | Description  |
|----------------------|--|
| Value                | Displays the value of the rule.  |
| <Feature Name> Range | Displays the score resolved for the application based on the feature selected. |
| Grade                | Displays the scoring grade taken for the application.                          |

The following fields are displayed once you click the **Pricing** widget.

**Figure 231 : Pricing Widget**

View Execution

| Product Processor | Request Type              | Request Reference Number                            | Internal Reference Number | Execution Date           | Mode   | Status  |
|-------------------|---------------------------|---|---------------------------|--------------------------|--------|---------|
| OFLO              | Score, Decision & Pricing | yXIM57jD412XIM57jD41AXIM57jD41BXIM57jD41CXIM57jD... | CDS20211025105859136      | 2021-10-25T05:28:59.594Z | ONLINE | SUCCESS |

Logical Model  
PASS

Borrowing Capacity  
5135.03

Qualitative Score  
70

Quantitative Score  
364.3

Decision & Grade  
Manual - Queue A Grade : B


Pricing  
6 %

Pricing Model Code : PR502      Model Description : PR502      Rate Type : Tiered      Rate Percentage : 6 %

| Loan Amount | Loan Tenure | Loan Amount Range | Loan Tenure Range | Rate % |
|-------------|-------------|-------------------|-------------------|--------|
| 5135.03     | 45          | 0-10000           | 0-64              | 6      |

For more information on fields, refer to the field description table below.

**Table 195 : Pricing Widget - Field Description**

| Field   | Description  |
|---|--|
| The following fields appears in <b>Pricing</b> widget.                              |  |
| <Pricing Model Code>  | Displays the pricing model code resolved for credit decision.<br><br>Click the hyperlink to view the rule executed to resolve the pricing model. |
| Show Rule Log   | Click to see the rule log.   |
|  | Click to expand the rule.  |
| Expression  | Displays the expression of the rule.   |
| Input   | Displays the input of the rule.  |
| Value   | Displays the value of the rule.  |
| Model Description   | Displays the pricing model description resolved for credit decision.   |
| Rate Type   | Displays the rate type applicable post credit decision.  |
| Rate Percentage   | Displays the rate applicable post credit decision.   |

| Field             | Description  |
|-------------------|--|
| Loan Amount       | Displays the eligible loan amount for the application. |
| Loan Tenure       | Displays the loan tenure for the application.          |
| Loan Amount Range | Displays the range resolved for the loan amount value. |
| Loan Tenure Range | Displays the range resolved for the loan tenure value. |
| Rate %            | Displays the rate applicable post credit decision.     |

## 3 NLP Framework

This section of the user guide is designed to help you quickly get acquainted with the Machine Learning, Natural Language Processing (NLP) framework.

### Pre-requisites

Specify **User Id** and **Password**, and login to **Home screen**.

This section contains the following topics:

- [4.1 Toolkit](#)
- [4.2 Operation](#)
- [4.3 3P Service Integration](#)

### 3.1 Toolkit

The Toolkit is used to design and train NLP/Named Entity Recognition (NER) Model(s).

This section contains following subsections:

- [4.1.1 Use Case Definition](#)
  - [4.1.1.1 Use Case Definition Summary](#)
  - [4.1.1.2 Use Case Definition Maintenance](#)
- [4.1.2 Annotator](#)
- [4.1.3 Model Training](#)
- [4.1.4 Model Management](#)
  - [4.1.4.1 Model Management Summary](#)
  - [4.1.4.2 Model Management Maintenance](#)

#### 3.1.1 Use Case Definition

Use cases are defined by the business domain. The information that is required to be extracted from documents are driven by business consideration against the context of the use case being defined.

Tags/entities are required for annotating or tagging of information in the source document in order to create training files for a use case model training. These tags or entities will always be driven by business considerations for a particular use case.

The use case definition maintenance screen allows the user to define use case(s) and maintain specific list of tags for the use case.

### 3.1.1.1 Use Case Definition Summary

The summary screen displays the list of defined use cases. To process this screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **NLP Toolkit**.
2. Under **NLP Toolkit**, click **Use Case Definition**.

→ The **Use Case Definition** screen is displayed.

**Figure 232: Use Case Definition**

For more information on fields, refer to the field description table below.

**Table 196: Use Case Definition – Field Description**

| Field                    | Description                                    |
|--------------------------|--|
| <b>Usecase Name</b>      | Displays the name of the use case              |
| <b>Mod No</b>            | Displays the modification number               |
| <b>Authorized Status</b> | Displays the Authorized or Unauthorized status |
| <b>Record Status</b>     | Displays the status of the record.             |

### 3.1.1.2 Use Case Definition Maintenance

The maintenance screen allows you to define use cases and maintain entities/tags for the use case.

**Figure 233: Use Case Definition Maintenance**

| Tag Display Sequence | Tag Screen Display   | Tag Name          | Annotation Tag | Default Value |
|----------------------|----------------------|-------------------|----------------|---------------|
| 3                    | Invoice Due Date     | invoiceDueDate    | Y              |               |
| 15                   | *Buyer Division Code | buyerDivisionCode | *              | Y             |
| 8                    | Currency             | currency          | Y              |               |
| 20                   | *External Branch BIC | externalBranchBIC | *              | Y             |
| 10                   | Tax Amount           | taxAmount         | Y              |               |

On **Tag Maintenance** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

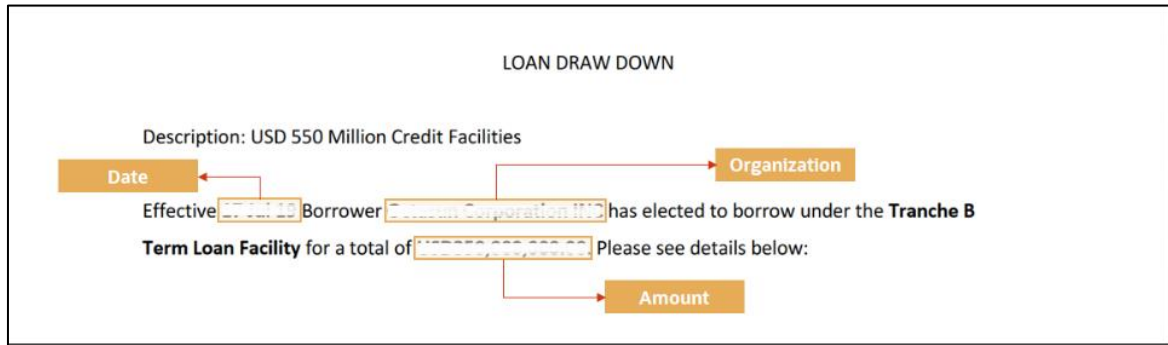
**Table 197: Tag Maintenance – Field Description**

| Field                              | Description  |
|------------------------------------|--|
| <b>Use Case Name</b>               | Unique use case name. It gets populated on Save, from the last folder name from the "Training Corpus Path (DOC)" |
| <b>Description</b>                 | Use Case Description   |
| <b>Mod No</b>                      | Automatic Modification Number  |
| <b>Straight Through Processing</b> | yes = Unattended / No = Attended   |
| <b>Use Case Tags/Entities</b>      | Specifies the use case tags entities.  |
| <b>Tag Display Sequence</b>        | The sequence in which the tags get displayed.  |
| <b>Tag Screen Display</b>          | Business Name of the Tag   |
| <b>Tag Name</b>                    | Technical Name of the Tag  |
| <b>Annotation Tag</b>              | To identify tags to be used in Training  |
| <b>Default Value</b>               | Default value for tags not used for training   |

### 3.1.2 Annotator

Annotation is the process of identifying information within a document content and tagging them as a specific type of information. Of course, each use case defined, will have their own relevant maintained list of tags/entities, which will be used to annotate source documents for a use case.

### Figure 234: Annotator



Annotator helps you to perform the annotations on a source document for a use case. To process this screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **NLP Toolkit**.
2. Under **NLP Toolkit**, click **Annotator**.

→ The **Annotator** screen is displayed.

### Figure 235: Annotator

**Annotator**

**Action Type**

- ☒ Create New Annotated File
- ☐ Edit Created Annotated File
- ☐ Error Correction

**Source File Definition**

Source File: s.txt Select File

Annotated File: *Annotated file name* Select File

Retrieved Doc Id: *Retrieved Doc Id* Get File

**Document Type**

New Cheque Book Request ▾

Get Labels

Create Training File

Loan DrawDown  
Corporate Invoice  
**New Cheque Book Request**

| Original File   | Text Form   |
|---|---|
| Hi,<br>I have a saving account in your bank and the a/c no is 123456789.<br>Kind regards,<br>John Doe | Hi,<br>I have a saving account in your bank and the a/c no is 123456789. please issue 4 Cheque books containing 25 pages each.<br>Kind regards,<br>John Doe |

Tag Name

ACCOUNT NUMBER

CHEQUE BOOKS

CHEQUE LEAVES

SENDER EMAIL

Tag Value



3. On **Annotator** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 198: Annotator – Field Description**

| Field                         | Description  |
|-------------------------------|--|
| <b>Action Type</b>            | Select the action type. Available options are as following: <ul style="list-style-type: none"> <li>Create New Annotated File</li> <li>Edit Created Annotated File</li> </ul>   |
| <b>Source File Definition</b> | Select the source document from local windows explorer based on the <b>Action Type</b> .   |
| <b>Document Type</b>          | Displays the list of all the use cases defined under use case definition.  |
| <b>Get Labels</b>             | For the selected Document Type the maintained Tags/entities are displayed in the below Annotations section.  |
| <b>Create Annotated File</b>  | Once annotations of all the Tags are completed, this will perform two outcomes, <ul style="list-style-type: none"> <li>Create annotated text file in the defined NER train path as maintained under use case definition</li> <li>Create text file in the defined DOC train path as maintained under use case definition</li> </ul> |

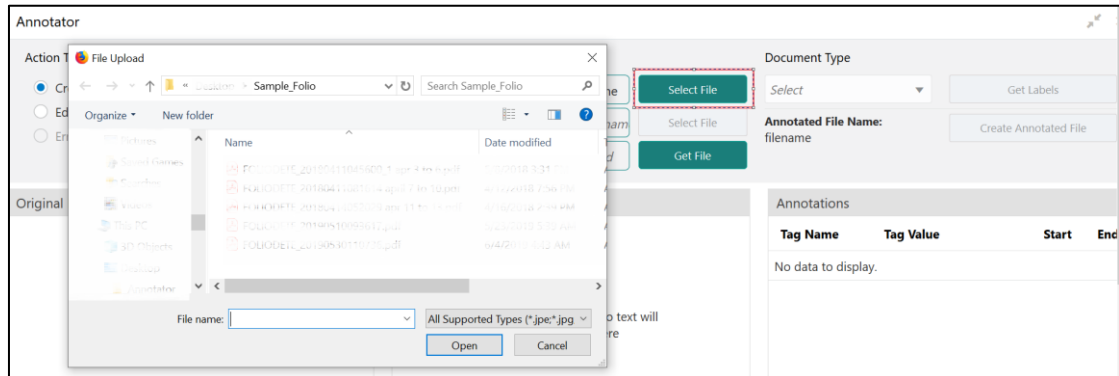
Follow the below mentioned steps to annotate the source files:

4. Select action type as “Create New Annotated File”.

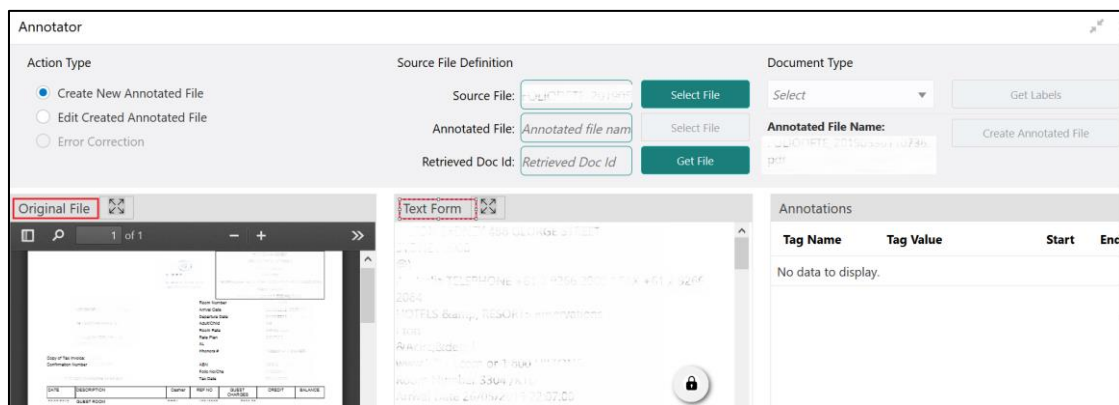
**Figure 236: Action Type**

The screenshot displays the 'Annotator' application window. The 'Action Type' section on the left has three radio buttons: 'Create New Annotated File' (selected and highlighted with a red box), 'Edit Created Annotated File', and 'Error Correction'. The 'Source File Definition' section in the middle contains three input fields: 'Source File' (with 'Source File Name' entered), 'Annotated File' (with 'Annotated file nam' entered), and 'Retrieved Doc Id' (with 'Retrieved Doc Id' entered). Each input field has a corresponding 'Select File' button. The 'Document Type' section on the right has a dropdown menu set to 'Select' and a 'Get Labels' button. Below these sections are three main panels: 'Original File' (containing the text 'Document will appear here'), 'Text Form' (containing the text 'Document converted to text will be displayed here'), and 'Annotations' (containing a table header with 'Tag Name', 'Tag Value', 'Start', and 'End', and the message 'No data to display.').

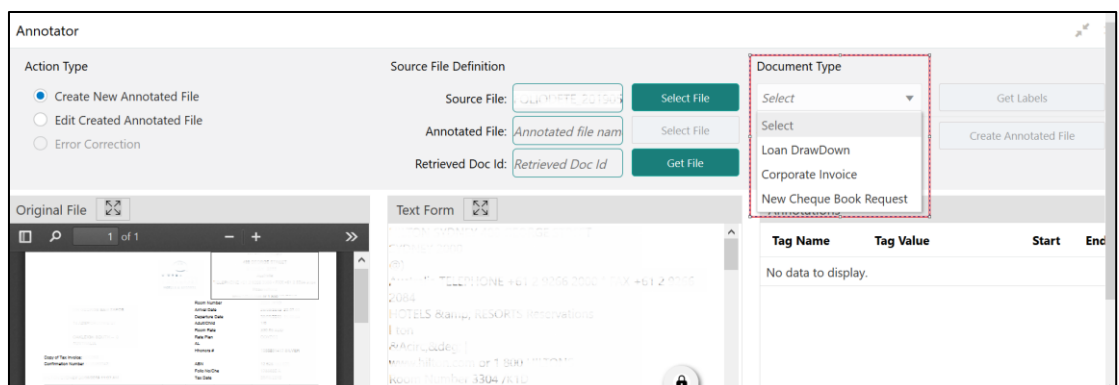
- Click **Select File**. It will open the windows explorer. Navigate and select the source document to be annotated.

**Figure 237: File Upload**

- The source document will be displayed in the “Original File” section and the text version of the document will be displayed in the “Text Form” section below:

**Figure 238: Text Form**

- Chose the “Document Type”.

**Figure 239: Document Type**

8. Click **Get Labels**. It will load all the maintained Tags for the Document Type.

**Figure 240: Tags**

The screenshot shows the Annotator interface with the 'Get Labels' button highlighted. The 'Annotations' table on the right lists the following tags:

| Tag Name       | Tag Value | Start | End |
|----------------|-----------|-------|-----|
| Buyer Code     |           |       |     |
| Invoice Date   |           |       |     |
| Tax Percentage |           |       |     |
| Amount         |           |       |     |

9. Identify and select information within the “Text Form” section of the document and RIGHT-CLICK to display the list of tags and select the relevant tag.

**Figure 241: List of Tags**

The screenshot shows the Annotator interface with the 'List of Tags' dropdown menu open. The menu lists the following tags:

- Buyer Code
- Invoice Date
- Tax Percentage
- Amount
- Currency

**Figure 242: Select Annotation Label**

The screenshot shows the Annotator interface with the 'Select Annotation Label' dropdown menu open. The menu lists the following tags:

- Buyer Code
- Invoice Date
- Tax Percentage
- Amount
- Currency
- Invoice No.
- Tax Amount
- Supplier Name
- Discount Percentage
- Net Invoice Amount
- Discounted Amount

- The selected Tag and the information will get displayed in section “Annotations” under Tag Name and Tag Value.

**Figure 243: Annotations**

The screenshot shows the 'Annotator' interface. At the top, there are three main sections: 'Action Type' with radio buttons for 'Create New Annotated File' (selected), 'Edit Created Annotated File', and 'Error Correction'; 'Source File Definition' with fields for 'Source File', 'Annotated File', and 'Retrieved Doc Id', each with a 'Select File' button; and 'Document Type' with a dropdown menu set to 'Corporate Invoice' and a 'Get Labels' button. Below these are buttons for 'Create Annotated File' and 'Get File'. The main area is divided into three panes: 'Original File' (showing a document preview), 'Text Form' (showing the document content), and 'Annotations' (showing a table of extracted data).

| Tag Name            | Tag Value | Start | End |
|---------------------|-----------|-------|-----|
| Discount Percentage |           |       |     |
| Net Invoice Amount  | 1,322.60  | 628   | 636 |
| Discounted Amount   |           |       |     |

- Repeat steps (6) and (7) for all the displayed tags as per availability of information in the source document.
- Select a Tag Name from the “Annotations” section and RIGHT- CLICK to delete the Tag Value.

**Figure 244: Tag Value**

This screenshot is similar to Figure 243, but it shows a right-click context menu open over the 'Discount Percentage' tag in the 'Annotations' table. The menu options include 'Copy', 'Paste', 'Delete', and 'Insert'. The 'Discount Percentage' tag value is currently empty, and the 'Net Invoice Amount' tag value is '1,322.60'.

| Tag Name            | Tag Value | Start | End |
|---------------------|-----------|-------|-----|
| Discount Percentage |           |       |     |
| Net Invoice Amount  | 1,322.60  | 628   | 636 |
| Discounted Amount   |           |       |     |

- After all the tags are assigned relevant information click **Create Annotated File** to create the annotated file and end the process.

### 3.1.3 Model Training

Model training is done on the annotated training corpus. The annotated training corpus is a collection of annotated training files created using the annotator.

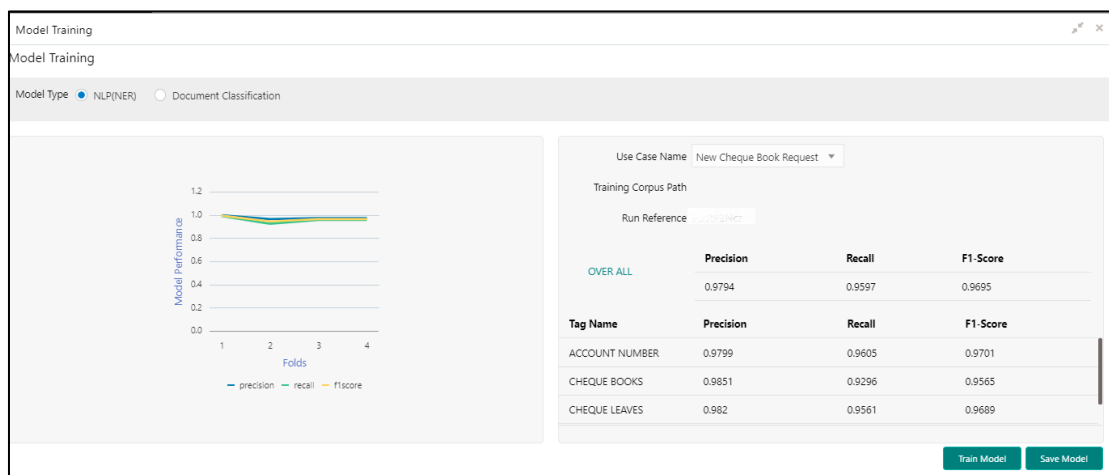
Model training is iterative and is carried out over increasing corpus size depending on the model parameters.

Each defined use case will have its own training corpus available in the path set up in the use case definition. To process this screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **NLP Toolkit**.
2. Under **NLP Toolkit**, click **Model Training**.

→ The **Model Training** screen is displayed.

**Figure 245: Model Training**



#### Training NER Models:

3. Select the Model Type as NLP(NER).
4. Choose the use case name.
5. Click **Train Model**.

Each model for a use case is identified by a unique run reference.

#### Training Document Classifier Model:

6. Select the Model Type as Document Classification.
7. Click **Train Model**.

If you find the model parameters acceptable, you may want to save the model by clicking **Model Save**.

The alternative is to add more annotated training files for the use case and repeat model training, till satisfactory parameters are achieved.

### 3.1.4 Model Management

All the run reference of models saved from model training for a use case can be seen here. For each model run reference, you can view the parameters for the model as well as individual tag/entities

You may choose the active model run reference to be used as part of business processing.

This section contains following subsections:

- [3.1.4.1 Model Management Summary](#)
- [3.1.4.2 Model Management Maintenance](#)

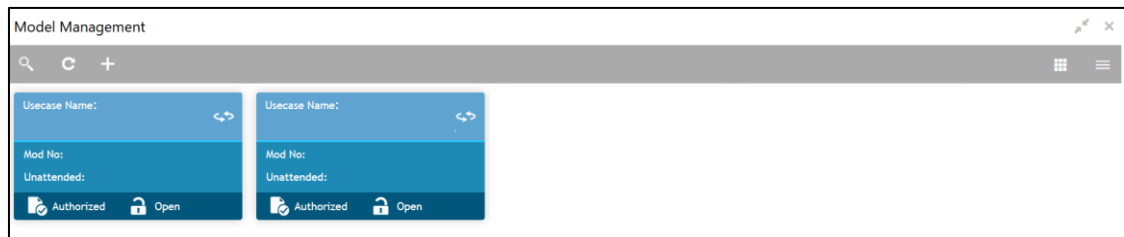
#### 3.1.4.1 Model Management Summary

The summary screen displays the list of use case models. To process this screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **NLP Toolkit**.
2. Under **NLP Toolkit**, click **Model Management**.

→ The **Model Management** screen is displayed.

**Figure 246: Model Management Summary**



For more information on fields, refer to the field description table below.

**Table 199: Model Management Summary – Field Description**

| Field                    | Description  |
|--------------------------|--|
| <b>Use Case Name</b>     | Displays the name of the Use Case.                 |
| <b>Mod No</b>            | Displays the number of modifications.              |
| <b>Authorized Status</b> | Displays the status as Authorized or Unauthorized. |
| <b>Record Status</b>     | Displays the record status as Open or Closed.      |

### 3.1.4.2 Model Management Maintenance

This is where you may unlock and choose the active model run reference to be used as part of business processing. To process this screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **NLP Toolkit**.
2. Under **NLP Toolkit**, click **Model Management**.

→ The **Model Management** screen is displayed.

**Figure 247: Model Management Maintenance**

| Run Reference | Precision | Recall | F1 score | Active                              |                |
|---------------|-----------|--------|----------|-------------------------------------|----------------|
| UNLOCKED      | 0.979     | 0.733  | 0.841    | <input checked="" type="checkbox"/> | Tag Parameters |
| UNLOCKED      | 0.951     | 0.677  | 0.807    | <input type="checkbox"/>            | Tag Parameters |
| UNLOCKED      | 0.911     | 0.619  | 0.767    | <input type="checkbox"/>            | Tag Parameters |
| UNLOCKED      | 0.814     | 0.677  | 0.737    | <input type="checkbox"/>            | Tag Parameters |
| UNLOCKED      | 0.91      | 0.789  | 0.847    | <input type="checkbox"/>            | Tag Parameters |

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3. On **Model Management** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 200: Model Management Maintenance – Field Description**

| Field                | Description                                       |
|----------------------|---|
| <b>Use Case Name</b> | Displays the name of the Use Case.                |
| <b>Model Type</b>    | Displays the NER or Classification type of Model. |
| <b>Run Reference</b> | Unique Model Version Identifier.                  |
| <b>Precision</b>     | Value between 0 to 1. Closer to 1 is better.      |
| <b>Recall</b>        | Value between 0 to 1. Closer to 1 is better.      |
| <b>F1 Score</b>      | Value between 0 to 1. Closer to 1 is better.      |
| <b>Active</b>        | The model run reference that is currently active. |

For each model run reference you could view the individual tag parameters.





## 3.2 Operation

This is where the trained models are consumed for business processing.

This section contains following subsections:

- [4.2.1 Document Upload](#)
- [4.2.2 Transaction Log](#)

### 3.2.1 Document Upload

This is the screen where you upload the source document which is consumed by the NLP model and defined tags/entities are recognized.

The information that is extracted by the model is seamlessly used in further business processing. To process this screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **Operation**.
2. Under **Operation**, click **Document Upload**.

→ The **Document Upload** screen is displayed.

**Figure 249: Document Upload**

The screenshot displays the 'Document Upload' interface. At the top, there's a header 'Document Upload'. Below it, a section titled 'Scan and Upload Document' contains a 'Select File' button and a 'Document Type' dropdown menu currently set to 'Corporate Invoice'. An 'Upload' button is also present. Below this section, there's a preview area titled 'Original Document' showing a sample invoice. The invoice includes a logo, company name 'Ankit Sample Pvt. Ltd.', address, phone, and email. It also lists 'BILL TO' and 'SHIP TO' details, along with invoice metadata like 'Invoice No.', 'Invoice Date', 'PO No.', 'PO Date', and 'Due Date'.

3. Click **Select File** to select the source document.
4. Chose the Document Type from the pick list.
5. Click **Upload** to initiate business process.

### 3.2.2 Transaction Log

This is the screen where you can see all the uploaded transactions that has been interpreted by the NLP models.

You can filter the displayed transactions based on the following:

- Document Type
- Status

To process this screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **Operation**.
2. Under **Operation**, click **Transaction Log**.

→ The **Transaction Log** screen is displayed.

**Figure 250: Transaction Log**

| Document Id | Document Type                | Model Ref | Processing Date | Status    | Failure Reason                       | Train. Req'd | Tag Value(s) |
|-------------|------------------------------|-----------|-----------------|-----------|--------------------------------------|--------------|--------------|
| 92          | chqr-New Cheque Book Request | chqqr-New | 2021/02/02      | PROCESSED |                                      | N            | ...          |
| 91          | chqr-New Cheque Book Request | chqqr-New | 2021/02/02      | ERROR     | Unable to complete Intent Processing | Y            | ...          |
| 90          | chqr-New Cheque Book Request | chqqr-New | 2021/02/02      | PROCESSED |                                      | N            | ...          |
| 89          | chqr-New Cheque Book Request | chqqr-New | 2021/02/02      | PROCESSED |                                      | N            | ...          |
| 88          | chqr-New Cheque Book Request | chqqr-New | 2021/02/02      | PROCESSED |                                      | N            | ...          |
| 87          | chqr-New Cheque Book Request | chqqr-New | 2021/02/02      | PROCESSED |                                      | N            | ...          |

3. On **Transaction Log** screen, specify the fields. For more information on fields, refer to the field description table below.

**Table 201: Transaction Log – Field Description**

| Field                  | Description  |
|------------------------|--|
| <b>Document Type</b>   | Select the document type.                                  |
| <b>Status</b>          | Select the status.   |
| <b>Document Id</b>     | Displays the Document Management System Unique Identifier. |
| <b>Document Type</b>   | Displays the document type - Use Case Definition.          |
| <b>Model Ref</b>       | Displays the Unique Model Version Identifier.              |
| <b>Processing Date</b> | Displays the document processed date.                      |

| Field          | Description   |
|----------------|---|
| Status         | Displays the status of the transaction.   |
| Failure Reason | Displays the reason for failed status.  |
| Train. Req'd   | Displays train required status.   |
| Tag Values     | Displays the tag values for the processed transactions and allow the correction for transactions with errors. |

## Execution Flow

Click on document reference ID to view details and execution flow.

**Figure 251: Execution Flow**

| Document Id | Document |
|-------------|----------|
| 92          | chqr-New |
| 91          |          |
| 90          | chqr-New |
| 89          | chqr-New |
| 88          | chqr-New |
| 87          | chqr-New |

| Process                | Status  | Start Time              | End Time                |
|------------------------|---------|-------------------------|-------------------------|
| File Processing        | SUCCESS | Oct 23, 2020 3:42:14 PM | Oct 23, 2020 3:42:14 PM |
| Data Extraction        | SUCCESS | Oct 23, 2020 3:42:16 PM | Oct 23, 2020 3:42:17 PM |
| Request Classification | SUCCESS | Oct 23, 2020 3:42:14 PM | Oct 23, 2020 3:42:16 PM |

## Processed Status

For any Document Type, you can filter on the 'Processed' status and view the model tag values used to process the transactions. The displayed information reflects both the original retrieved values by the model from the document and also the values which have been corrected by human intervention.

**Figure 252: Processed Status**

| Document Id | File Name |
|-------------|-----------|
|             |           |
|             |           |
|             |           |
|             |           |
|             |           |
|             |           |

| Tag Name         | Value      |
|------------------|------------|
| discountAmount   | 1.0        |
| invoiceDate      | 10/04/2018 |
| invoiceDueDate   | 10/10/2018 |
| invoiceNumber    | 100000     |
| netInvoiceAmount | 100000     |

## Error Status

For any Document Type, you can filter on the 'Error' status and view all the failed transactions.

### Figure 253: Error Status

Transaction Log

Document Type

Invoice To Other Global Domain

Status

Completed

Processing Dashboard

| Document Id | File Name                 | Document Type                  | Model Ref | Processing Date      | Status  | Failure Reason                       | Buss. Ref | Tag Value(s) |
|-------------|---------------------------|--------------------------------|-----------|----------------------|---------|--------------------------------------|-----------|--------------|
| DocId1      | file_1234567890123456.pdf | Invoice To Other Global Domain | 123456789 | 2023-10-27T10:00:00Z | Success | Error in processing business process |           | --           |
| DocId2      | file_1234567890123456.pdf | Invoice To Other Global Domain | 123456789 | 2023-10-27T10:00:00Z | Failed  | Error in submitting business process |           | --           |

Page 1 of 1 (1-2 of 2 items) < 1 >

For the failed transactions, you can click on the Tag Value(s) to invoke the toolkit annotator in the error correction mode to create a new annotated training file for future model training.

**Figure 254: Annotator**

**Annotator**
⌵ ⌵

---

**Action Type**

- ☐ Create New Annotated File
- ☐ Edit Created Annotated File
- ☒ Error Correction

**Source File Definition**

Source File:  Select File

Annotated File:  Select File

Retrieved Doc Id:  Get File


**Document Type**

Corporate Invoice ▾ Get Labels

**Annotated File Name:**  Create Annotated File

---

**Original File** 📄



**Text Form** 📄

```

Invoice Ltd
Invoice No # = 806P2619
Invoice Date 11/02/2014
6 Thimble Street, PO Box 310057001
Alameda, CA 95001 PO Date 2/26/2014
Phone (949) 3313680 User Code: 167102014
Email hotselling@verizon.net
Bill To Buyer: [redacted]
Address: 2114 Ames Street Ct
City: 95055 Telon Co
San Jose, CA 95128
          
```

**Annotations**

| Tag Name       | Tag Value | Start | End |
|----------------|-----------|-------|-----|
| Buyer Code     | 1830      | 230   | 274 |
| Invoice Date   |           |       |     |
| Tax Percentage |           |       |     |
| Amount         |           |       |     |

### 3.3 3P Service Integration

Any model execution or training service(s) built using any 3P NLP library can be integrated in the NLP framework.

The only requirement being the REST services must confirm to the payload definition detailed in the following section.

Building model training and execution services using other 3P NLP libraries would involve consulting effort.

This section contains following subsections:

- [4.3.1 Classification Training Service](#)
- [4.3.2 NER Training Service](#)
- [4.3.3 Classification Processing Service](#)
- [4.3.4 NER Processing Service](#)
- [4.3.5 Service Mapping](#)
- [4.3.6 Business Service Mapping](#)

#### 3.3.1 Classification Training Service

This section elaborates the payload details for document classification model training service.

##### Input Payload

**Table 202: Input Payload**

| name            | in       | type   | required | Remarks                         |
|-----------------|----------|--------|----------|---------------------------------|
| trainCorpusPath | formData | string | true     | Training Corpus path            |
| modelType       | formData | File   | true     | Type of model being trained     |
| runRef          | formData | string | true     | Unique running reference number |

- name: " **trainCorpusPath**"  
in: "formData"  
type: string  
required: true
- name: " **modelType**"  
in: "formData"  
type: string  
value for document classification training: "docClassification"  
required: true
- name: " **runRef** "  
in: "formData"  
type: string  
required: true

**Output Payload:**

```

{
  "data": {
    "timeTaken": 0,
    "corpusSize": 0,
    "precision": 0,
    "recall": 0,
    "f1score": 0,
    "model_fold_performances": null,
    "tag_performances": null
  }
}

```

**Output payload data model definition:**

```

ModelTrainParamsDTO:
type: object
properties:
  data:
    type: object
    properties:
      timeTaken:
        type: number
      corpusSize:
        type: number
      precision:
        type: number
      recall:
        type: number
      f1score:
        type: number
      model_fold_performances:
        type: array
        items:
          $ref: "#/definitions/ModelFoldPerfromancesDTO"
      tag_performances:
        type: array
        items:
          $ref: "#/definitions/MltbTagPerfomancesDTO"

```

### 3.3.2 NER Training Service

This section elaborates the payload details for NER model training service.

#### Input Payload

**Table 203: Input Payload**

| name            | in       | type   | required | Remarks                         |
|-----------------|----------|--------|----------|---------------------------------|
| trainCorpusPath | formData | string | true     | Training Corpus path            |
| modelType       | formData | File   | true     | Type of model being trained     |
| runRef          | formData | string | true     | Unique running reference number |

- name: " **trainCorpusPath** "  
in: "formData"  
type: string  
required: true
- name: " **modelType** "  
in: "formData"  
type: string  
value for NER model training: "nlpNer "  
required: true
- name: " **runRef** "  
in: "formData"  
type: string  
required: true

#### Output Payload

```
{
  "data": {
    "timeTaken": 0,
    "corpusSize": 0,
    "precision": 0,
    "recall": 0,
    "f1score": 0,
    "model_fold_performances": [
      {
        "fold_no": 0,
        "eval_metric": "string",
        "value": 0
      }
    ],
    "tag_performances": [
      {
        "name": "string",
        "precision": 0,
        "recall": 0,
        "f1score": 0
      }
    ]
  }
}
```

**Output Payload data model definition**

ModelTrainParamsDTO:

```

type: object
properties:
  data:
    type: object
    properties:
      timeTaken:
        type: number
      corpusSize:
        type: number
      precision:
        type: number
      recall:
        type: number
      f1score:
        type: number
      model_fold_performances:
        type: array
        items:
          $ref: "#/definitions/ModelFoldPerfromancesDTO"
      tag_performances:
        type: array
        items:
          $ref: "#/definitions/MltbTagPerfromancesDTO"

```

ModelFoldPerfromancesDTO:

```

type: object
properties:
  fold_no:
    type: number
  eval_metric:
    type: string
  value:
    type: number

```

MltbTagPerfromancesDTO:

```

type: object
properties:
  name:
    type: string
  precision:
    type: number
  recall:
    type: number
  f1score:
    type: number

```



### 3.3.3 Classification Processing Service

This section elaborates the payload details for document classification model processing service.

#### Input Payload:

**Table 204: Input Payload**

| name      | in       | type   | required | Remarks                                |
|-----------|----------|--------|----------|--|
| modelPath | formData | string | true     | The path to the classification model   |
| file      | formData | File   | true     | The text file which must be classified |

```
- name: "modelPath"
  in: "formData"
  type: string
  required: true
- name: "file"
  in: "formData"
  type: file
  required: true
```

#### Output Payload

```
{
  "data": {
    "docType": "string"
  }
}
```

#### Output Payload data model definition

```
MltbNlpDTO:
  type: object
  properties:
    data:
      properties:
        docType:
          type: string
```

### 3.3.4 NER Processing Service

This section elaborates the payload details for NER model processing service

#### Input Payload:

**Table 205: Input Payload**

| name      | in       | type   | required | Remarks                                |
|-----------|----------|--------|----------|--|
| modelPath | formData | string | true     | The path to the NER model              |
| file      | formData | File   | true     | The text file which must be classified |

- name: "modelPath"  
in: "formData"  
type: string  
required: true
- name: "file"  
in: "formData"  
type: file  
required: true

#### Output Payload

```
{
  "data": {
    "keyvals": [
      {
        "tagName": "string",
        "value": "string",
        "start_index": 0,
        "end_index": 0
      }
    ]
  }
}
```

#### Output Payload data model definition:

```
MltbNerKeyValsDTO:
  type: object
  properties:
    data:
      properties:
        keyvals:
          type: array
          items:
            $ref: '#/definitions/MltbNerKeyValExtractedObjDTO'
```

MltbNerKeyValExtractedObjDTO:

```

type: object
properties:
  tagName:
    type: string
  value:
    type: string
  start_index:
    type: number
  end_index:
    type: number

```

### 3.3.5 Service Mapping

After creation of the model services, entries must be made into the table

CMC\_TM\_ML\_SERVICE\_DEFN to enable the NLP framework to use these services.

#### Existing use case:

Update the highlighted column in table CMC\_TM\_ML\_SERVICE\_DEFN with the new service API.

**Table 206: Existing Use Case**

| Column name     | Remarks               | Model Training      | Model Processing    |
|-----------------|-----------------------|---------------------|---------------------|
| ID              | Unique ID             |                     |                     |
| USECASE_NAME    | Use Case Name         | <existing use case> | <existing use case> |
| DESCRIPTION     | Use Case Description  |                     |                     |
| SERVICE_TYPE    | Service Type          | Training            | Processing          |
| SERVICE_DEFN    | Mapped Service API    | <New Service API>   | <New Service API>   |
| METHOD_TYPE     | Method Type           | POST                | POST                |
| APP_ID          | Sub Domain ID         |                     |                     |
| RECORD_STAT     | Record Status         | O                   | O                   |
| AUTH_STAT       | Authorized Status     | A                   | A                   |
| MOD_NO          | Modification Number   | 1                   | 1                   |
| ONCE_AUTH       | Once Authorized       | Y                   | Y                   |
| MAKER_ID        | Maker Name            | SYSTEM              | SYSTEM              |
| MAKER_DT_STAMP  | Maker Date stamp      | <Application Date>  | <Application Date>  |
| CHECKER_ID      | Authorizer Name       | SYSTEM              | SYSTEM              |
| CHECKER_DT_STAM | Authorizer Date stamp | <Application Date>  | <Application Date>  |

**New use case**

Insert a new record into the table CMC\_TM\_ML\_SERVICE\_DEFN.

**Table 207: New Use Case**

| Column name      | Description           | Remarks for Data   |  |
|------------------|-----------------------|--|--|
| ID               | Unique ID             | Ensure a Unique ID   |  |
| USECASE_NAME     | Use Case Name         | Must be one of the usecase_name from the table CMC_TM_ML_NER_TAG_MAS |  |
| DESCRIPTION      | Use Case Description  |  |  |
| SERVICE_TYPE     | Service Type          | 'Training'   | Use this value for model Training Service  |
|                  |                       | 'Processing'   | Use this value for model execution Service |
|                  |                       | 'Business'   | Use this value for business Service        |
| SERVICE_DEFN     | Mapped Service API    | <The newly created 3P NLP service API>                               |  |
| METHOD_TYPE      | Method Type           | POST   |  |
| APP_ID           | Sub Domain ID         | NULL   |  |
| RECORD_STAT      | Record Status         | O  |  |
| AUTH_STAT        | Authorized Status     | A  |  |
| MOD_NO           | Modification Number   | 1  |  |
| ONCE_AUTH        | Once Authorized       | Y  |  |
| MAKER_ID         | Maker Name            | SYSTEM   |  |
| MAKER_DT_STAMP   | Maker Date stamp      | <Application Date>   |  |
| CHECKER_ID       | Authorizer Name       | SYSTEM   |  |
| CHECKER_DT_STAMP | Authorizer Date stamp | <Application Date>   |  |

### 3.3.6 Business Service Mapping

If straight through processing is enabled in use case definition, then entries must be made into the table CMC\_TM\_ML\_BUS\_SERVICE\_DEFN to enable the NLP framework to call the Business Service.

Insert a new record into the table CMC\_TM\_ML\_BUS\_SERVICE\_DEFN for each use-case with straight through processing enabled.

**Table 208: For Each Use Case**

| Column name   | Description  | Remarks for Data   |                                     |
|---------------|--|--|-------------------------------------|
| ID            | Unique ID  | Ensure a Unique ID   |                                     |
| USECASE_NAME  | Use Case Name  | Must be one of the usecase_name from the table CMC_TM_ML_NER_TAG_MAS   |                                     |
| DESCRIPTION   | Use Case Description                                       |  |                                     |
| SERVICE_TYPE  | Service Type   | 'Business'   | Use this value for business Service |
| ADAPTER_CLASS | Fully qualified name of the adapter class                  | Use oracle.fsgbu.cmc.nlp.pipeline.services.adaptor.GenericAdaptor for all the business service calls<br><br>Use oracle.fsgbu.cmc.nlp.pipeline.services.adaptor.OBRHAdaptor if you want to call business service via Oracle Banking Routing Hub |                                     |
| SERVICE_DEFN  | Mapped Service API   | API, which will be called for Business service execution   |                                     |
| HEADERS       | Comma separated headers key value separated by colon (:) ) | Eg : docId:123 , branchCode : 000  |                                     |
| METHOD_TYPE   | Method Type  | POST   |                                     |
| APP_ID        | Sub Domain ID  | NULL   |                                     |
| RECORD_STAT   | Record Status  | O  |                                     |

| Column name      | Description           | Remarks for Data   |
|------------------|-----------------------|--------------------|
| AUTH_STAT        | Authorized Status     | A                  |
| MOD_NO           | Modification Number   | 1                  |
| ONCE_AUTH        | Once Authorized       | Y                  |
| MAKER_ID         | Maker Name            | SYSTEM             |
| MAKER_DT_STAMP   | Maker Date stamp      | <Application Date> |
| CHECKER_ID       | Authorizer Name       | SYSTEM             |
| CHECKER_DT_STAMP | Authorizer Date stamp | <Application Date> |

If you are Integrating Business Service via Oracle Banking Routing Hub then in service definition column, you need to provide URL of Oracle Banking Routing Hub dispatch API and the additional headers in headers column.

Since there are some common headers, which are required for calling Oracle Banking Routing Hub as well (like applId, branchCode, uderId) and to avoid the conflict for these headers, the ML\_ prefix is appended in header keys by Oracle Banking Routing Hub adaptor. You need to configure transformation logic of these headers in Oracle Banking Routing Hub.

## 4 Machine Learning Framework

This section is designed to help you quickly get acquainted with how to on-board business cases on the Machine Learning framework in Oracle Banking.

The assets used to build the Machine Learning framework is available by default with Oracle database.

Oracle Database 19c and above.

### Prerequisites

Specify **User Id** and **Password**, and login to **Home screen**.

Make sure that Machine Learning framework is already deployed and available as part of the application menu. Refer to **Common Core Services Installation Guide** for more details.

### 4.1 Use Case On-Boarding

On-boarding a new business case onto the Machine Learning framework involves two broad stages as highlighted below.

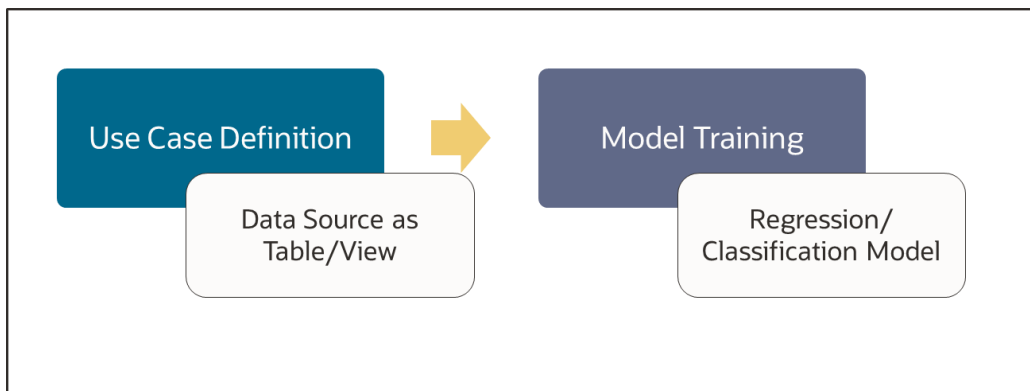
#### Model Definition

One-time setup of use case definition captures the data source, target columns and type of use case.

#### Model Training

Model training is use case specific and has the intelligence to evaluate multiple algorithms and discover the best fit algorithm to the data pattern.

The onset of these two stages assumes that you have already decided on the business use case that you would want to on-board.



## 4.2 Frameworks Supported

### 4.2.1 Timeseries

Timeseries are the use cases involving the date sequence data to forecast for future dates.

Example:

| CASE ID | CCY | BALANCE |
|---------|-----|---------|
| 17-Aug  | USD | 6723.00 |
| 18-Aug  | USD | 250.00  |
| 19-Aug  | USD | 2654.00 |
| 20-Aug  | USD | 20.00   |
| 21-Aug  | USD | ?       |

**NOTE:** CASE ID can either be a DATE or a Sequence

### 4.2.2 Timeseries Algorithms Supported

By default, the framework uses Exponential Smoothing to forecast from timeseries data. It evaluates 14 different algorithmic combinations to best fit the patterns of

- Error type (additive or multiplicative),
- Trend (additive, multiplicative, or none), including damped trends
- and Seasonality (additive, multiplicative, or none)

**NOTE:** User is not required to select any algorithmic combinations. The framework evaluates and selects the best fit combination for you.



### 4.2.3 Regression

Regression is a statistical technique to discover relationships using independent variables to estimate/predict a target variable of NUMBER or INTEGER type.

Example: User needs to predict the value of LUXURY SPEND for a new CASE ID, given the data of branch, marital status, income and savings

| CASE ID | BRANCH | MARITAL STATUS | INCOME | SAVING | LUXURY SPEND |
|---------|--------|----------------|--------|--------|--------------|
| 12345   | BRT    | Y              | 15000  | 6723   | 1000         |
| 12346   | BRT    | N              | 17500  | 250    | 750          |
| 12347   | CSR    | D              | 25000  | 2654   | 1900         |
| 12348   | CSR    | N              | 16567  | 20     | 2500         |

**NOTE:** CASE ID MUST uniquely identify a row

### 4.2.4 Regression Algorithms Supported

The following algorithm are available as part of the framework.

| S No | ALGORITHM                    | REMARKS   |
|------|------------------------------|---|
| 1    | GENRALIZED LINEAR REGRESSION | Also handles RIDGE regression depending on the underlying pattern of data |
| 2    | SUPPORT VECTOR MACHINES      | Supports both linear and gaussian kernels                                 |
| 3    | NEURAL NETWORK               | Uses default 1 layer with number of nodes <= 50                           |

**NOTE:** Users have the flexibility to select a specific algorithm or keep it as NULL for the framework to evaluate and best fit the algorithm to the underlying data.

## 4.2.5 Classification

Classification is a statistical technique to discover relationships using independent variables to classify a target variable into a number of GROUPS or CLASSES. Mostly used for decision making.

Example: User needs to predict if a new CASE ID will churn(1) or not (0), given the data of branch, marital status, income and savings

| CASE ID | BRANCH | MARITAL STATUS | INCOME | SAVING | CHURN |
|---------|--------|----------------|--------|--------|-------|
| 12345   | BRT    | Y              | 15000  | 6723   | 0     |
| 12346   | BRT    | N              | 17500  | 250    | 1     |
| 12347   | CSR    | D              | 25000  | 2654   | 1     |
| 12348   | CSR    | N              | 16567  | 20     | 0     |

**NOTE:** CASE ID MUST uniquely identify a row

## 4.2.6 Classification Algorithms Supported

The following algorithms are available as part of the framework.

| S No | ALGORITHM                    | REMARKS   |
|------|------------------------------|---|
| 1    | DECISION TREE                |   |
| 2    | NAÏVE BAYES                  |   |
| 3    | RANDOM FOREST                |   |
| 4    | GENRALIZED LINEAR REGRESSION | Also handles RIDGE regression depending on the underlying pattern of data |
| 5    | SUPPORT VECTOR MACHINES      | Supports both linear and gaussian kernels                                 |
| 6    | NEURAL NETWORK               | Uses default 1 layer with number of nodes <= 50                           |

**NOTE:** Users have the flexibility to select a specific algorithm or keep it as NULL for the framework to evaluate and best fit the algorithm to the underlying data.

## 4.3 Partitioned Model

Oracle in-Database machine learning allows the user to design partitioned models.

Partitioned model organizes and represents multiple models as partitions in a single model entity, enabling you to easily build and manage models tailored to independent slices of data.

Example:

| CUSTOMER ID | BRANCH | MARITAL STATUS | INCOME | SAVING | LUXURY SPEND |
|-------------|--------|----------------|--------|--------|--------------|
| 12345       | BRT    | Y              | 15000  | 6723   | 1000         |
| 12346       | BRT    | N              | 17500  | 250    | 750          |
| 12347       | CSR    | D              | 25000  | 2654   | 1900         |
| 12348       | GRF    | N              | 16567  | 20     | 2500         |

In this above example of data, user could build a single partitioned model on independent slices of data based on branch code.

The user has the advantage of having a single partitioned model instead of having multiple models for each individual branch.

## 4.4 On-Boarding Use Case

### 4.4.1 Model Definition

Use cases are defined by the business domain of the product processor to which it is mapped. They are unique and machine learning models are named after the use case.

The model definition screen allows you to define the use case and configure the data source to be used for model training.

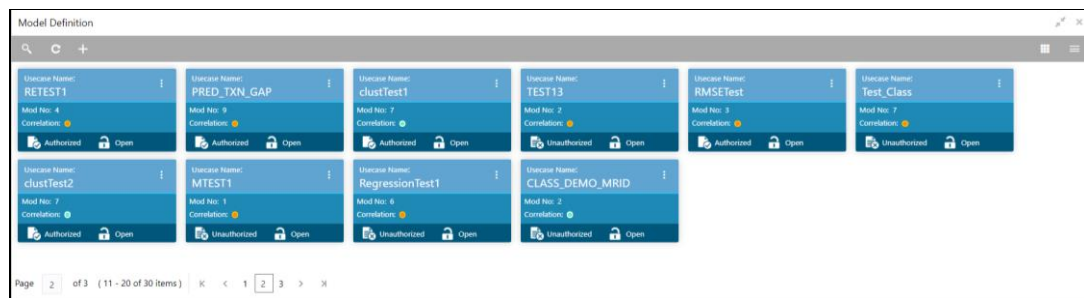
#### 4.4.1.1 Model Definition Summary

The summary screen displays the list of defined use cases. To access the screen, perform the following steps:

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **Model Definition**.

→ The **Model Definition Summary** screen is displayed.

**Figure 255: Model Definition Summary**





For more information on fields, refer to the field description table below.

**Table 209: Model Definition Summary – Field Description**

| Field                    | Description   |
|--------------------------|---|
| <b>Usecase Name</b>      | Displays the name of the use case   |
| <b>Mod No</b>            | Displays the modification number  |
| <b>Correlation</b>       | Displays the default orange colour for New records. On correlation validation in Model definition screen, it will change to green colour. |
| <b>Authorized Status</b> | Displays the Authorized or Unauthorized status  |
| <b>Record Status</b>     | Displays the status of the record.  |

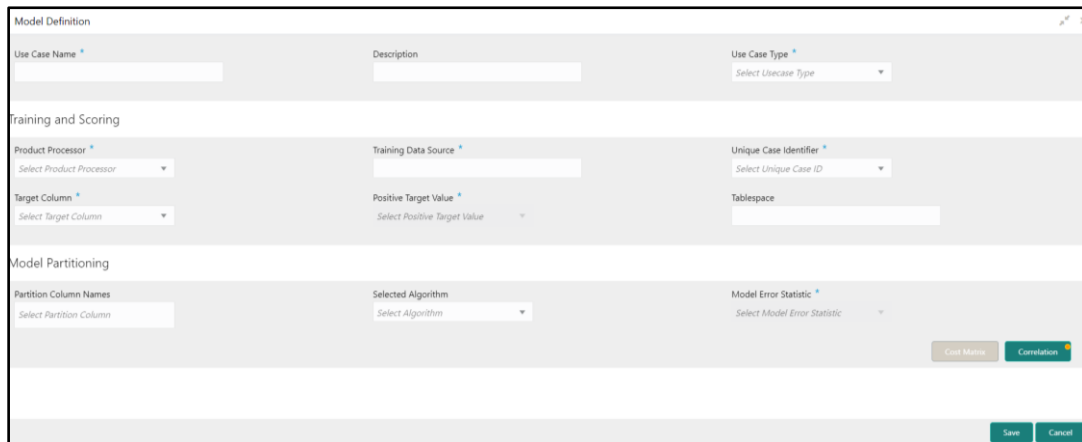
#### 4.4.1.2 Model Definition Maintenance

**Model Definition Maintenance** screen enables the user to maintain the use case details and define the use case type and data source details.

- From **Model Definition Summary** screen, click  button on the Use case tile to **Unlock** or click  to create the new model definition.

→ The **Model Definition Maintenance** screen is displayed.

**Figure 256: Model Definition Maintenance**



- On **Model Definition Maintenance** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 210: Model Definition Maintenance – Field Description**

| Field                         | Description  |
|-------------------------------|--|
| <b>Use Case Name</b>          | Specify the name of the Use Case.  |
| <b>Description</b>            | Specify the description of the Use Case.   |
| <b>Use Case Type</b>          | Select the type of Use Case – Regression or classification from the drop down.   |
| <b>Product Processor</b>      | Select the product to which the use case belongs.  |
| <b>Training Data Source</b>   | Specify the Table or View name used as data source to train the model.   |
| <b>Unique Case Identifier</b> | Select the column name to uniquely identify a record.<br><b>NOTE:</b> Column name is a function of table/view design and has to have unique constraint defined |

| Field                         | Description  |
|-------------------------------|--|
| <b>Target Column</b>          | Select the value of the column which is to be predicted by training the model. It has to have unique constraint defined<br><b>NOTE:</b> Column name is a function of table/view design |
| <b>Positive Target Value</b>  | If Use Case Type selected is CLASSIFICATION, then this field is enabled else disabled for REGRESSION. It will display distinct values from the target column                           |
| <b>Tablespace</b>             | Specify the valid tablespace and all model related data will be persisted in this table space  |
| <b>Partition Column Names</b> | Specify the column names to slice data. Refer Partitioned Model for details  |
| <b>Selected Algorithm</b>     | Select the algorithm from the list and build the model.<br>This field should be null to allow the framework to select the best fit algorithm to build the model.                       |
| <b>Model Error Statistics</b> | Select the model error statistics.<br>By Default, the value is selected as 'RMSE' for REGRESSION.<br>The user can also select 'MAE'.<br>It will be disabled for CLASSIFICATION         |

**Cost Matrix:**

This button is enabled ONLY for CLASSIFICATION type of use cases.

Any classification model can make two kinds of error

| Actual Value | Predicted Value | Error Type     |
|--------------|-----------------|----------------|
| 1            | 0               | False Negative |
| 0            | 1               | False Positive |

This screen is used to bias the model into minimizing one of the error types, by adding a penalty cost.

All penalty cost has to be positive.

| Actual Value | Predicted Value | Penalty Cost |
|--------------|-----------------|--------------|
| 1            | 0               | 6            |
| 0            | 1               | 2            |

The default is zero cost for all combinations.

Biasing the model is a trade-off with accuracy of prediction. Business determines if a classification model is required to be biased or not.

- Click **Cost Matrix** button to launch the screen.

→ The **Cost Matrix** screen is displayed.

**Figure 257: Cost Matrix**

| Actual Value | Predicted Value | Cost |
|--------------|-----------------|------|
| 0            | 0               | 0    |
| 0            | 1               | 0    |
| 1            | 0               | 0    |
| 1            | 1               | 0    |

- On **Cost Value** screen, specify the relevant penalty cost.
- Click **Save** to save and close the **Cost Matrix** screen and back to the **Model Definition Maintenance** screen.

### Correlation:

Multicollinearity occurs when two or more independent variables are highly correlated with one another in a model.

| CUST ID | BRANCH | MARITAL STATUS | INCOME | SAVING | CHURN |
|---------|--------|----------------|--------|--------|-------|
| 12345   | BRT    | Single         | 1500   | 6723   | 1     |
| 12346   | BRT    | Married        | 17500  | 250    | 0     |
| 12347   | CSR    | Married        | 25000  | 2654   | 0     |
| 12348   | GRF    | Divorced       | 16567  | 20     | 1     |

Multicollinearity may not affect the accuracy of the model as much, but we might lose reliability in model interpretation

Irrespective of CLASSIFICATION or REGRESSION, all use cases must be evaluated for Correlation.

This button will display Orange mark if evaluation is pending.

6. Click **Correlation** button to launch the screen.

→ The **Correlation Analysis** screen is displayed.


**Figure 258: Correlation Analysis**

7. On **Correlation Analysis** screen, select the required fields. For more information on fields, refer to the field description table below.

**Table 211: Correlation Analysis – Field Description**

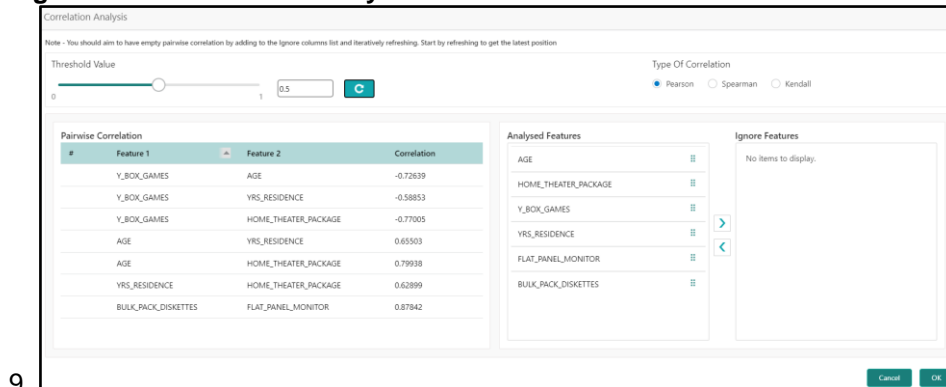
| Field                       | Description   |
|-----------------------------|---|
| <b>Threshold Value</b>      | Select the threshold value.<br>By default, the value is set as 0.5.<br>The Value can be set between 0.1 to 0.9.                               |
| <b>Type of Correlation</b>  | Select the type of correlation.<br>By default, the option is selected as Pearson. The formula used for calculation is different for each type |
| <b>Pairwise Correlation</b> | Displays the output of the Correlation Validation.  |
| <b>Analyzed Features</b>    | Displays the distinct analysed Features from Pairwise Correlation.  |
| <b>Ignore Features</b>      | User defined list created from Analysed Features.   |






8. Click  to initiate the evaluation process.

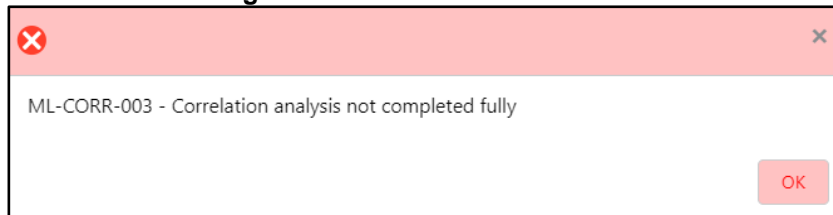
→ The **Correlation Analysis - Pairwise Correlation** screen is populated.



**Figure 259: Correlation Analysis - Pairwise Correlation**



9.  
10. Move ONE of the Analyzed Features to Ignore Features List
11. Click  and re-evaluate Correlation as mentioned in Step 8.
12. Rinse & repeat Step 9 & 10 for each feature addition to the **Ignore feature** list, until **Pairwise Correlation** displays zero correlated pair.
13. Attempting to exit the screen midway without achieving zero Pairwise Correlation, will display the following error message.

**Figure 260: Error Message**



14.  
15. After successful **Correlation Evaluation**, the orange highlight on the **Correlation** button is removed.
16. After **Correlation Evaluation** and **Cost Matrix** definition (for CLASSIFICATION), click **Save** to create the new Model Definition. The user can view the configured details in the **Model Definition Summary**.

## Model Metrics

Once the user has successfully trained Machine Learning model, the user can score/predict the model outcomes as required by the use case. The user can view the **Model Metrics** tab only after training the model successfully. Refer to **Model Training and Scoring** section for training the model.

17. Click **Model Metrics** tab to view the Model Metrics details.

→ The **Model Metrics** screen is displayed.

**Figure 261: Model Metrics**

| Model Definition  |       |         |       |            |  |           |  |               |  |     |  |
|---|-------|---------|-------|------------|--|-----------|--|---------------|--|-----|--|
| Use Case Setup    Model Metrics   |       |         |       |            |  |           |  |               |  |     |  |
| Model Metrics   |       |         |       |            |  |           |  |               |  |     |  |
| Model Partitions *  |       |         |       |            |  |           |  |               |  |     |  |
| <table border="1"> <thead> <tr> <th>Metrics</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>Model Name</td> <td></td> </tr> <tr> <td>Algorithm</td> <td></td> </tr> <tr> <td>YRS_RESIDENCE</td> <td></td> </tr> <tr> <td>AUC</td> <td></td> </tr> </tbody> </table> |       | Metrics | Value | Model Name |  | Algorithm |  | YRS_RESIDENCE |  | AUC |  |
| Metrics   | Value |         |       |            |  |           |  |               |  |     |  |
| Model Name  |       |         |       |            |  |           |  |               |  |     |  |
| Algorithm   |       |         |       |            |  |           |  |               |  |     |  |
| YRS_RESIDENCE   |       |         |       |            |  |           |  |               |  |     |  |
| AUC   |       |         |       |            |  |           |  |               |  |     |  |

18. For more information on fields, refer to the field description table below.

**Table 212: Model Metrics – Field Description**

| Field                   | Description   |
|-------------------------|---|
| <b>Model Partitions</b> | <p>Select the model partitions from the dropdown.</p> <p>If the model has been designed to have partitions, it will display the partitioned values based on underlying data of the defined partition column else display FULL MODEL.</p>  |
| <b>Metrics</b>          | <p>Displays the various model attributes, as per the best model identified and trained. The number of model attributes is a function of algorithm and underlying pattern of data</p> <p>Some attributes are common for all models,</p> <p>Model Name</p> <p>Algorithm</p> <p>INF_TIME (Inference Time)</p> <p>&lt;Model metric&gt;(Train)</p> <p>&lt;Model metric&gt;(Test)</p> |
| <b>Value</b>            | Displays the value of the attribute.  |

## 4.4.2 Model Training and Scoring

Model Training and Scoring screen enables the user to train the model for the selected use case and use the trained model to predict and score multiple records at a time. The predicted values persist in the database and are available in the prediction column maintained for the user case.

1. From **Home** screen, click **Machine Learning**. Under **Machine Learning**, click **Model Training and Scoring**.

→ The **Model Training and Scoring** screen is displayed.

**Figure 262: Model Training and Scoring**

The screenshot shows the 'Model Training and Scoring' interface. It has a header bar with the title 'Model Training And Scoring'. Below the header, there are three main sections. The first section, 'Model Training and Scoring', contains a 'Use Case Name' dropdown menu, a 'Description' text field, and a 'Use Case Type' dropdown menu. The second section, 'Model Training', contains a 'Training Data Source' text field, a 'Unique Case Identifier' text field, a 'Target Column' text field, and a 'Partition Column(s)' text field. There is a 'Train Model' button at the bottom right of this section. The third section, 'Model Batch Scoring', contains a 'Model Name' text field and a 'Batch Scoring' button at the bottom right.

For more information on fields, refer to the field description table below.

**Table 213: Model Training and Scoring – Field Description**

| Field                         | Description                                 |
|-------------------------------|---|
| <b>Use Case Name</b>          | Select the Use Case name from the dropdown. |
| <b>Description</b>            | Displays the description of the use case.   |
| <b>Use Case Type</b>          | Displays the type of use case.              |
| <b>Model Training</b>         |   |
| <b>Training Data Source</b>   | Displays the training data source.          |
| <b>Unique Case Identifier</b> | Displays the unique case identifier.        |
| <b>Target Column</b>          | Displays the target column of the model.    |
| <b>Partition Column(s)</b>    | Displays the partition column of the model. |

| Field                      | Description                     |
|----------------------------|---------------------------------|
| <b>Model Batch Scoring</b> |                                 |
| <b>Model Name</b>          | Displays the name of the model. |

2. Select the use case name from the dropdown.
3. Click **Train Model** to train the model for the selected use case.
4. Click **Batch Scoring** to predict the score for the data source records.  
The predictions of batch scoring are now available for business consumption.

## 4.5 Online Single Record Prediction

This is made available as a REST API and allow you to predict for a single record. The predictions do not persist in the database.

These can be invoked directly from application user interface, to retrieve and display the results.

The explainability of the model outcome is also made available.

## 4.6 Use Case Modifications

Use case definition may undergo the following modification and would require model re-training. After each re-training run, you should review the model details discussed under Model Explainability.

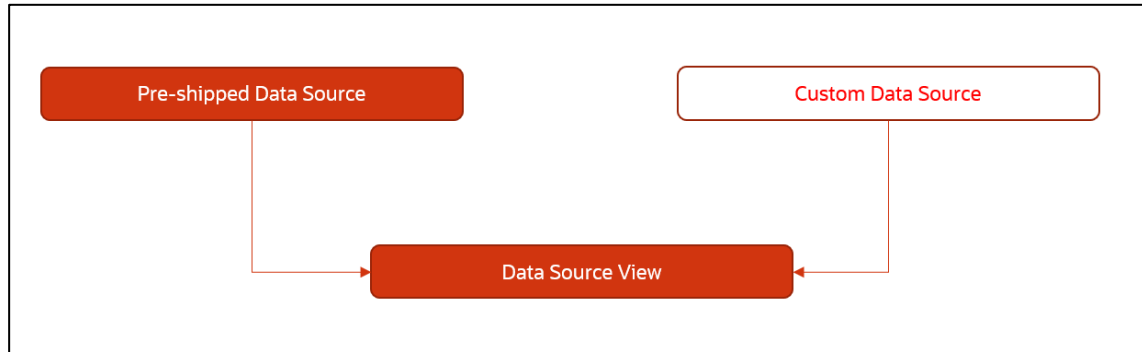
**Table 214: Use Case Modifications**

| Use Case Modification                                | Model Re-training Required | Correlation Analysis Required |
|--|----------------------------|-------------------------------|
| Data Source replaced by another data source          | Yes                        | Yes                           |
| New column Added to existing data source             | Yes                        | Yes                           |
| New columns Added to custom data source              | Yes                        | Yes                           |
| Existing column removed from existing data source    | Yes                        | Yes                           |
| Selected Algorithm Changed                           | Yes                        | No                            |
| Model Error statistic Changed                        | Yes                        | No                            |
| Partition Column Name list altered (added / removed) | Yes                        | Yes                           |

## 4.7 Data Extensibility

To address the requirement of banks to add new data points to the factory shipped data source, we have provided the facility of data extensibility.

**Figure 263: Data Extensibility**



Banks can add any number of new data columns to the customer data source

The defined data source view is mapped to a use case in the Model definition.

Machine Learning will automatically consider all the available data points in the data source View.

## 4.8 Model Explainability

The details of the Regression models built using the framework is made available under the 'Model Metrics' tab in Use Case Definition for better understanding and transparency.

The available details are

- Model Name
- Algorithm Name
- Inference Time
- Training Error Metric
- Testing Error Metric
- List of data attributes that make up the model depending on the framework and algorithm used

## 4.9 Time Series Forecast

Timeseries forecast is unique as it consumes sequential data to forecast.

This uniqueness necessitates model training and forecast to be executed in a single processing routine. This is very unlike regression model approach where model training and model prediction are separate distinct actions.

### 4.9.1 Forecast REST Service

Timeseries framework is made available as an independent REST service to be consumed by products and use cases as required.

The following information is required to be provided.

**Table 215: Forecast REST Service – Field Description**

| Field              | Description  |
|--------------------|--|
| Use Case Name      | Specify the Unique Use Case Name.  |
| Data Source        | Specify the Table or View name used as data source to train the model.   |
| Target Column      | Specify the model will train and forecast future values of this column.<br><b>NOTE:</b> Column name is a function of table/view design             |
| Unique Identifier  | Specify the column name to uniquely identify a sequence<br><b>NOTE:</b> Column name is a function of table/view design. Must be Date or a sequence |
| Model Partitioning | Specify the column names to slice data. Refer Partitioned Model for details<br><b>NOTE:</b> Column name is a function of table/view design         |
| Partitioned Value  | Specify the actual Value of the Model Partition  |
| Forecast Window    | Specify the number of forecasts required as an outcome   |
| Tablespace         | Specify the valid tablespace and all model related data will be persisted in this table space  |

## 5 Rules Framework

This Rules framework is used for creation and evaluation of business rules, creation of facts, which are the building blocks in business rules.

This section contains the following topics:

- [5.1 Facts](#)
- [5.2 Rule](#)

### 5.1 Facts

Fact is the information-carrying block, used for creating the rules.

Fact can be of the following type:

- NUMBER
- TEXT
- BOOLEAN
- DATE
- ARRAY
- ENUM

This section contains the following topics:

- [5.1.1 Create Fact](#)
- [5.1.3 View Fact](#)

#### 5.1.1 Create Fact

The **Create Fact** screen allows the user to create fact through single creation.

##### Prerequisite

Specify **User Id** and **Password**, and login to **Home** screen.

1. From **Home** screen, Under **Fact**, click **Create Fact**.
  5. Click **New** to create a single fact.
- The Create Fact screen is displayed.

**Figure 264: Create Fact**

The screenshot shows a web application window titled "Create Fact". At the top, there are two buttons: "New" and "Bulk Upload". Below these is a section labeled "Fact". Inside this section, there are four input fields: "Code" (marked with an asterisk), "Description", "Product Processor" (marked with an asterisk and containing the text "OFLO"), and "Type" (marked with an asterisk and containing a dropdown menu with "ARRAY" selected). A green "Save" button is located at the bottom left of the form area.

6. Specify the details in the relevant data fields.

The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below

**Table 216: Create Fact – Field Description**

| Field                    | Description   |
|--------------------------|---|
| <b>Code</b>              | Specify the alphanumeric code without space for the fact.   |
| <b>Description</b>       | Specify the description of the fact.  |
| <b>Product Processor</b> | Select the product processor.   |
| <b>Type</b>              | <p>Select the type of the fact from the dropdown list.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>Number</b></li> <li>• <b>Text</b></li> <li>• <b>Boolean</b></li> <li>• <b>Date</b></li> <li>• <b>Array</b></li> <li>• <b>ENUM</b></li> </ul> |

7. Click **Save** to save the details of fact.
8. Click **Bulk Upload** to create a multiple fact.
- The **Create Fact- Bulk Upload** screen is displayed.

**Figure 265: Create Fact – Bulk Upload**

Create Fact

New Bulk Upload

Download Template

Drag and Drop  
Select or drop files here.

Selected files:

Upload

9. Click on **Download Template** to get the sample file.



10. Fill all the Facts details to be created in the template file and save the file.
11. Click **Drag and Drop** and select the file from the browser.
12. Click **Upload**.

### 5.1.2 Create ENUM type Fact

The **Create Fact** screen allows the user to create ENUM type of fact.

#### Prerequisite

Specify **User Id** and **Password**, and login to **Home** screen.

1. From **Home** screen, Under **Fact**, click **Create Fact**.
2. Click **New** to create a ENUM type fact.  
→ The **Create Fact – ENUM Type Fact** screen is displayed.



**Figure 266: Create Fact – ENUM Type Fact**

The screenshot shows the 'Create Fact' window. At the top, it says 'Fact'. Below are four input fields: 'Code' with value 'USSTATE', 'Description' with value 'US State Enum', 'Product Processor' with value 'OFLO', and an empty 'Tag' field. Below these is a 'Type' dropdown menu set to 'ENUM'. Underneath the form is a list of values: 'California', 'NewYork', and 'Texas'. Each value has a blue checkmark icon to its left and a trash can icon to its right. At the bottom left of the window is a green 'Save' button.

3. Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 217: Create Fact - ENUM Type Fact – Field Description**

| Field                    | Description   |
|--------------------------|---|
| <b>Code</b>              | Specify the alphanumeric code without space for the fact.   |
| <b>Description</b>       | Specify the description of the fact.                        |
| <b>Product Processor</b> | Select the product processor.                               |
| <b>Type</b>              | Select the type of the fact as ENUM from the dropdown list. |

4. Click on the  icon to add the list of ENUM fact values.
5. Click on the  icon to delete any of the list of ENUM fact values.

- Click **Save** to save the details.

### 5.1.3 View Fact

The **View Fact** screen allows the user to view and edit the facts.

#### Prerequisite

Specify **User Id** and **Password**, and login to **Home screen**.

- From **Home** screen, click **Fact**.
  - Under **Fact**, click **View Fact**.
- The **View Fact** screen is displayed.

**Figure 267: View Fact**

| Fact Id | Fact Name       | Description              | Product Processor |
|---------|-----------------|--------------------------|-------------------|
| 327     | AGE             | CUSTOMER AGE             | OFLO              |
| 329     | NETINCOME       | CUSTOMER NET INCOME      | OFLO              |
| 331     | EMPLOYMENTTYPE  | EMPLOYMENT TYPE          | OFLO              |
| 333     | PRODUCTCODE     | BUSINESS PRODUCT CODE    | OFLO              |
| 335     | INSTALMENT      | PROPOSED LOAN INSTALMENT | OFLO              |
| 363     | TEST_FACT01     | TEST FACT 01             | OFLO              |
| 397     | fact001         | test                     | OFLO              |
| 399     | fact002         | test                     | OFLO              |
| 401     | FactTest1       | FactTest1                | OFLO              |
| 403     | RISK_GRADE      | RISK GRADE FOR PRICING   | OFLO              |
| 421     | applicant_score | applicant_score          | OFLO              |
| 501     | FACT            | FACT DESCRIPTION         | OFLO              |
| 345     | ASSETS          | OFLO ASSETS              | OFLO              |
| 347     | LIABILITY       | OFLO LIABILITY           | OFLO              |

- Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 218: View Fact – Field Description**

| Field                    | Description                           |
|--------------------------|---------------------------------------|
| <b>Product Processor</b> | Displays the product processor.       |
| <b>Fact ID</b>           | Displays the Fact ID.                 |
| <b>Fact Name</b>         | Displays the name of the fact.        |
| <b>Description</b>       | Displays the description of the fact. |
| <b>Product Processor</b> | Displays the product processor.       |

- Specify the Fact details in **Filter** textbox to filter the data.
- Click **Refresh** to refresh the screen.

6. Right-click on the fact from the list and Click **View Details**.

→ The **Fact Creation** screen is displayed.

**Figure 268: Fact Creation**

7. Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 219: Fact Creation – Field Description**

| Field                    | Description   |
|--------------------------|---|
| <b>Code</b>              | Specify the alphanumeric code without space for the fact.   |
| <b>Description</b>       | Specify the description of the fact.  |
| <b>Product Processor</b> | Select the product processor.   |
| <b>Type</b>              | <p>Select the type of the fact from the dropdown list.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>Number</b></li> <li>• <b>Text</b></li> <li>• <b>Boolean</b></li> <li>• <b>Date</b></li> <li>• <b>Array</b></li> <li>• <b>ENUM</b></li> </ul> |

## 5.2 Rule

Rule enables the user to build the expression to perform the calculation with the facts created.

The type of rules supported are:

- **Logical:** *Example:* ( ACCOUNT\_BAL > 124432 ) && ( VALID\_TILL < VALID\_DATE )
- **Arithmetic:** - *Example:* ( CREDIT\_BALANCE + TAX\_CREDIT – INTEREST\_AMOUNT)
- **Relational:** - *Example:* ( FACT5 == ACCOUNT && TAX >= 10)
- **Nested:** - *Example:*
  - ( RULE\_ACCOUNT = TRUE ) && (ACCOUNT\_BAL > 21234)
- **Multiple-If else:** - *Example:* IF ( ACCOUNT\_BAL > 124432 ) then OUTPUT1  
ELSE IF ( ACCOUNT\_BAL < 124432 ) then OUTPUT2
- **Multiple Nesting:** - *Example-* **INNERCHILDRULE** : ( ACC\_BAL > 30000 ) then OUTPUT = true
- **CHILDRULE** : ( ( INNERCHILDRULE == true) && (CBLSCORE > 5 ) ) then OUTPUT = true  
**PARENTRULE**: ( ( ACCTYPE == HOMELOAN ) && ( CHILDRULE == true ) )

**Steps to build a Nested Rule expression is explained with the below example.**

The Rule Expression for Loan to Value (LTV) is

Loan to Value (LTV) = (LOANAMOUNT /COLLATERAL\_VALUE) \*100

For now, the above expression is not supported directly, and LTV calculation is achieved by the below steps.

Step 1: Create a Rule1 - LOAN\_TO\_COLLATERAL

Expression - LOANAMOUNT/COLLATERAL\_VALUE

Step 2: Create a rule2 - Loan to Value (LTV)

Expression - LOAN\_TO\_COLLATERAL \*100

This section contains the following topics:

- [5.2.1 Create Rule](#)
- [5.2.2 View Rule](#)
- [5.2.3 Evaluate Rule](#)
- [5.2.4 Rule Group](#)
- [5.2.5 Audit Rule](#)

## 5.2.1 Create Rule

The **Create Rule** screen allows the user to create the rule.

### Prerequisite

Specify **User Id** and **Password**, and login to **Home screen**.

1. From **Home** screen, Under **Rule**, click **Create Rule**.

→ The **Create Rule** screen is displayed.

**Figure 269: Create Rule**

2. Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 220: Create Rule – Field Description**

| Field                     | Description   |
|---------------------------|---|
| <b>Code</b>               | Specify the alphanumeric code without space for the rule.   |
| <b>Description</b>        | Specify the description of the rule.                        |
| <b>Product Processor</b>  | Displays the product processor.                             |
| <b>Expression Builder</b> | Select the expressions to build the rule.                   |
| <b>Add Expression</b>     | Click Add Expression to create the expression for the rule. |
| <b>+ icon</b>             | Click this icon to add new expression.                      |
| <b>Fact / Rules</b>       | Select the fact or rule from the drop-down list.            |
| <b>Operator</b>           | Select the comparison operator from the drop-down list.     |

| Field             | Description  |
|-------------------|--|
| <b>Data Type</b>  | <p>Select the data type for the fact or rule. Once you select the data type, the new field appears adjacent to the data type.</p> <p>Update the same based on the selected data type.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>Text</b></li> <li>• <b>Number</b></li> <li>• <b>Boolean</b></li> <li>• <b>Date</b></li> <li>• <b>Fact</b></li> </ul> |
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output, the new field appears adjacent to the output.</p> <p>Update the same based on the selected output option.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>Text</b></li> <li>• <b>Number</b></li> <li>• <b>Boolean</b></li> <li>• <b>Date</b></li> <li>• <b>Fact</b></li> </ul>   |
| <b>Expression</b> | Displays the expression and output updated in the expression builder.  |

3. Click **Save**, to save the details.

### 5.2.1.1 Create Rule with multiple Output

Steps to build a Rule with multiple output is explained with the below example.

The Rule Expression for Multiple output rule is:

IF ( TotalIncome > 20000 ) && ( TotalExpense < 8000 )

then Eligible for loan, 10000, 2022-07-06

**Figure 270: Create Rule with Multiple Output**

### 5.2.2 View Rule

The View Rule screen allows the user to view and modify the existing rules.

#### Prerequisite

Specify **User Id** and **Password**, and login to **Home screen**.

1. From **Home screen**, Under **Rule**, click **Rule**.
2. Under **Rule**, click **View Rule**.

→ The **View Rule** screen is displayed.

**Figure 271: View Rule**

View Rule

(DEFAULT) (100%) Bank Future - Branch 100 (100%) 100%

Product Processor  
OFLO

Filter:  
Type to filter x

(Right Click on Row to open Details...) Refresh

| Rule Id | Rule Name           | Description  | Product Processor |
|---------|---------------------|--|-------------------|
| 725     | RULE003             | DESC003  | OFLO              |
| 787     | OFLORULE201         | DESCRIPTION  | OFLO              |
| 829     | testRule            |  | OFLO              |
| 848     | rule123             |  | OFLO              |
| 850     | testRule1           | test   | OFLO              |
| 852     | RuleTest01          |  | OFLO              |
| 860     | PricingCreateTest01 | PricingCreateTest01                                  | OFLO              |
| 862     | RULEOBSTHR          | OBS THRESHOLD RULE                                   | OFLO              |
| 892     | DMSC101             | DECISION MATRIX SELECTION CRITERIA FOR HOME LOAN 101 | OFLO              |
| 894     | LTVDUMMTEST1        | test   | OFLO              |
| 896     | HomeLoanSelection   | Home loan selection criteria                         | OFLO              |
| 902     | TESTONVIDETEST      | test   | OFLO              |
| 925     | Min                 | Min of Applicant Score                               | OFLO              |
| 927     | GradematicTest      | GradematicTest                                       | OFLO              |

- Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 221: View Rule – Field Description**

| Field                    | Description                           |
|--------------------------|---------------------------------------|
| <b>Product Processor</b> | Displays the product processor.       |
| <b>Rule ID</b>           | Displays the Rule ID.                 |
| <b>Rule Name</b>         | Displays the name of the rule.        |
| <b>Description</b>       | Displays the description of the rule. |
| <b>Product Processor</b> | Displays the product processor.       |

- Specify the Rule details in **Filter** textbox to filter the data.
- Click **Refresh** to refresh the screen.
- Right-click on rules from the list and Click **View Details**.
- Click **Edit** to edit the rule.

→ The **Rule Creation** screen is displayed.

**Figure 272: Rule Creation**



The screenshot shows the 'Rule Creation' window. At the top, there's a 'New' button. Below it, the 'Rules' section contains three fields: 'Code \*' (with value 'ORORULE001'), 'Description', and 'Product Processor \*' (with value 'ORFO'). The 'Expression Builder' section has an 'Add Expression' button and a visual builder showing 'Facts' as 'AGE' and 'NUMBER' as '55'. The 'Output' section shows 'NA'. The 'Expression' section shows 'When (AGE < 55)'. A 'Save' button is at the bottom.

8. Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 222: Rule Creation – Field Description**

| Field                     | Description  |
|---------------------------|--|
| <b>Code</b>               | Specify the alphanumeric code without space for the rule.          |
| <b>Description</b>        | Specify the description of the rule.                               |
| <b>Product Processor</b>  | Displays the product processor.                                    |
| <b>Expression Builder</b> | Select the expressions to build the rule.                          |
| <b>Add Expression</b>     | Click <b>Add Expression</b> to create the expression for the rule. |
| <b>+ icon</b>             | Click this icon to add new expression.                             |
| <b>Fact / Rules</b>       | Select the fact or rule from the drop-down list.                   |
| <b>Operator</b>           | Select the comparison operator from the drop-down list.            |

| Field             | Description  |
|-------------------|--|
| <b>Data Type</b>  | <p>Select the data type for the fact or rule. Once you select the data type, the new field appears adjacent to the data type.</p> <p>Update the same based on the selected data type.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>Text</b></li> <li>• <b>Number</b></li> <li>• <b>Boolean</b></li> <li>• <b>Date</b></li> <li>• <b>Fact</b></li> </ul> |
| <b>Output</b>     | <p>Select the output from the drop-down list. Once you select the output, the new field appears adjacent to the output.</p> <p>Update the same based on the selected output option.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>Text</b></li> <li>• <b>Number</b></li> <li>• <b>Boolean</b></li> <li>• <b>Date</b></li> <li>• <b>Fact</b></li> </ul>   |
| <b>Expression</b> | Displays the expression and output updated in the expression builder.  |

9. Click **Save** to save the details.

### 5.2.3 Evaluate Rule

Once the rule has been created the **evaluate API** has to be invoked to evaluate the rule.

To evaluate a rule, **rule name & namespace** are the **mandatory** parameters passed to the API and **version** of the rule is an **optional** parameter. If the version of the rule is not passed to the API then by **default** the **latest version of the rule** is evaluated.

The evaluate API url to be invoked is:

**/rule-service/rules/evaluate/{namespace}/{ruleName}**

**Method**→ POST

**Headers Required**→

appld: PLATORULE

userId: ASHISH

Content-Type: application/json

**Request Body**→

```
{
  "LOAN_AMOUNT": "15001",
  "LOAN_TYPE": "Auto_loan",
}
```

**Response** →

```
{
  "ruleEvaluated": true,
  "result": "true",
  "ruleId": 8161,
  "ruleName": "DIVYARULE1",
  "outputDescription": "null",
  "responseType": null,
  "error": null,
  "req_id": "reqId_1652082090755"
}
```

## 5.2.4 Rule Group

Grouping individual rules by name and priority into a RuleGroup.

For the evaluating a RuleGroup, user will pass all the required Fact data to evaluate API & if the evaluate Group flag is set to false, the API will evaluate rule one by one based on priority and return for the rule which evaluates to true. If the evaluate Group flag is set to true then the API will evaluate rule one by one based on priority for all rules in the RuleGroup and return the response of all the rules.

Please find below an example for a Rule Group:

### RULEGROUP1:

RULE1: (ACC\_BAL > 400)

RULE2: (ACC\_BAL < 10000)

RULE3: MIN (FICOSCORE

### 5.2.4.1 Create Rule Group

The **Create Rule Group** screen allows the user to combine the rule.

#### Prerequisite

Specify **User Id** and **Password**, and login to **Home screen**.


1. From **Home screen**, Under **Rule**, click **Create Rule Group**.  
→ The **Create Rule Group** screen is displayed.

**Figure 273: Create Rule Group**

2. Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 223: Create Rule Group – Field Description**

| Field                    | Description   |
|--------------------------|---|
| <b>Group Name</b>        | Specify the unique group name for the selected rules. |
| <b>Product Processor</b> | Click search and select the product processor.        |
| <b>Tag</b>               | Specify the tag for rule group.                       |

| Field  | Description  |
|--|--|
| <b>Evaluate Group</b>  | Select the toggle to evaluate the expression in sequence.<br><br><b>NOTE:</b> If the toggle is disabled, the evaluation of the expression stops when the condition of expression is evaluated to <b>True</b> . |
|  icon | Click this icon to add expression.   |

- Click **Save** to save the details.

### 5.2.4.2 View Rule Group

The View Rule Group screen allows the user to view and modify the existing rules group.

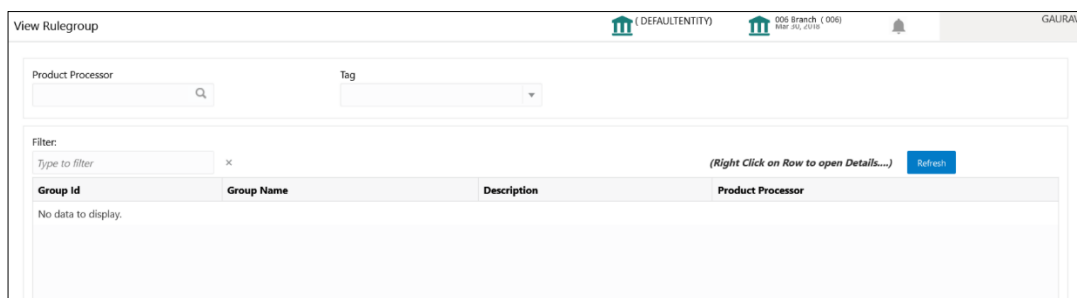
#### Prerequisite

Specify **User Id** and **Password**, and login to **Home** screen.

- From **Home** screen, Under **Rule**, click **View Rule Group**.

→ The **View Rule Group** screen is displayed.

**Figure 274: View Rule Group**



- Specify the details in the relevant data fields. The fields marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

**Table 224: View Rule Group – Field Description**

| Field                    | Description                            |
|--------------------------|--|
| <b>Product Processor</b> | Displays the product processor.        |
| <b>Tag</b>               | Displays the tag for rule group.       |
| <b>Group ID</b>          | Displays the Group ID.                 |
| <b>Group Name</b>        | Displays the name of the group.        |
| <b>Description</b>       | Displays the description of the group. |

| Field             | Description                     |
|-------------------|---------------------------------|
| Product Processor | Displays the product processor. |

## 5.2.5 Audit Rule

The View Audit Rule screen allows the user to **View Rule log** after the evaluation of the expression through evaluate API.

### Prerequisite

Specify **User Id** and **Password**, and login to **Home** screen.

- From **Home** screen, Under **Rule**, click **View Audit Rule**.  
→ The **View Audit Rule** screen is displayed.

**Figure 275: View Audit Rule**

- Specify the details in the relevant data fields. For more information on fields, refer to the field description table below.

**Table 225: View Audit Rule – Field Description**

| Field      | Description   |
|------------|---|
| Request ID | Specify the request ID available from the output of evaluate API. |

- Click **Submit**, to view to details.
- Click **Show Rule log**, to view the log rule for selected request ID.

## 6 Document Verification Framework

This section is designed to help the user quickly get acquainted with the Document verification framework.

### Introduction:

In this digital age, there is still a strong reliance on physical document verification, especially in large organizations such as government, enterprise companies, banks, and universities/colleges.

Manual Verification of documents for Identification is laborious. Not only do we have to organize and categorize the files, extracting meaningful information manually takes a lot of time and effort.

These business organizations employ data entry teams whose sole purpose is to take these physical documents, manually re-type the information, and then save it into the system which is cumbersome. This can annoy customers as well as employees ultimately resulting in decreased productivity.

So, there is a strong need to digitize the information on the documents and extract the required data. This document verification framework has a set of APIs that allows you to extract required fields from the Identification documents automatically, thus saving a lot of time and effort.

### Prerequisites:

Document Verification framework is designed to extract the detailed information from the uploaded documents like Passport, National ID card, driving license, etc.

This section contains the following topics:

- [6.1 Text Extraction](#)
- [6.2 Image Processing](#)
- [6.3 Document Verification API Details](#)

## 6.1 Text Extraction

Optical character recognition or optical character reader (OCR) is the process of digitizing documents and extracting text from them. Widely used as a form of data entry from scanned documents – Here the text is first scanned, analyzed, and is finally translated into character codes. This machine-encoded text can be easily searched and edited electronically.

OCR has greatly improved the process of data entry. The need for the documents to be scanned is on a constant rise as it enables these documents to be viewed conveniently when required. The most popular application of OCR is Data entry for business documents, e.g. ID card, driving license, passport, cheque, invoice and salary slip.

### Benefits of OCR:

1. **100% Text-searchable Documents** - One of the huge advantages of OCR data processing is that it makes the digitized documents completely text searchable. This helps professionals to quickly lookup numbers, addresses, names, and various other parameters that differentiate the document being searched.
2. **Reduced Cost** - Besides helping an organization in cutting down the cost of hiring manpower for data extraction, it also helps in reducing several other costs like printing, copying, shipping charge, etc.
3. **Reduced Errors** - It resolves the problem of data loss and inaccuracy and helps in reducing errors.
4. **More Storage Space** -The lesser the documents, the larger space. Organizations have always wanted to take the 'Paperless' approach and OCR just makes it possible. Also, the expenses of file cabinets are saved with this approach.
5. **Ready Availability** - By scanning the information of documents through OCR, the data can be made available in several different places. One can carry it in a USB drive and retrieve the wanted information with just a few clicks.
6. **Superior Data Security** - Data security is of utmost importance for any organization. Paper documents are easily prone to loss or destruction. However, this is not the case with data that is scanned, analyzed, and stored in digital formats. Furthermore, access to these digital documents can also be minimized to prevent mishandling of the digitized data.
7. **Massively Improves Customer Service** - Several inbound contact centers often provide information that their customers seek. While some call centers provide customers with the information they need, others will have to quickly access certain personal or order-related information of the customers to process their requests. Quick data accessibility becomes extremely important in such cases. This helps in systematically storing and retrieving the documents digitally at blazing speeds. With this, the waiting time is drastically reduced for the customers, thereby improving their experience.



## 6.2 Image Processing

Text Recognition depends on a variety of factors to produce good quality output. The text output highly depends on the quality of the input image. These guidelines help document extraction engine to produce accurate results.

Image Preprocessing comes into play to improve the quality of input image so that the engine gives an accurate output. The main objective of the Preprocessing phase is to make it easy for the system to distinguish a character from the background.

The preprocessing can be controlled using the configuration files and are explained at the bottom. The configuration varies between documents and country.

The following image processing operations are used to improve the quality of input image:

- **Image Scaling** – OCR gives accurate output for images with 300 DPI which describes the resolution. Keeping DPI lower than 200 will give unclear and incomprehensible results while keeping the DPI above 600 will unnecessarily increase the size of the output file without improving the quality of the file. Thus, a DPI of 300 works best for this purpose.
- **Image Skew Correction** – A Skewed image is defined as a document image that is not straight. Skewed images directly impact the line segmentation of the OCR engine which reduces its accuracy. These kinds of images are to be processed to correct text skew.
- **Background Cropping** – Background is cropped from scanned images if it contains any. This is really important as we want to remove unwanted areas from the image that does not contain text at all.
- **Noise Removal** – Noise is removed from images as it decreases the readability of text. The main objective of the Noise removal stage is to smoothen the image by removing small dots/patches which have high intensity than the rest of the image. Noise removal can be performed for both Colored and Binary images.
- **Binarization** – This involves converting a colored image into black and white pixels which can be achieved by fixing a threshold value.

## 6.3 Document Verification API Details

Document Verification APIs are a function of image quality, image size, and Resolution. Each API has different requirements. The Framework is designed to extract details from documents like Passport, Driving License, National ID card, Salary slips etc.

This section contains the following topics:

- [6.3.1 Passport Extraction](#)
- [6.3.2 Driving License Extraction](#)
- [6.3.3 National Identification Extraction](#)

### 6.3.1 Passport Extraction

This section describes the payload details for Passport Details extraction service.

Passport Extraction module extracts details in the passport like Country, Document Type, Name, First Name, Last Name, Gender, Date of Birth, Date of Issue and Date of expiry of the passport, Passport No and Issuing Authority if present in the passport along with Image metadata information like Image DPI, Resolution and Image Size. This module provides support for passports of various countries listed below:

- USA passport and passport-card
- UAE
- INDIA
- CANADA
- AUSTRALIA
- BANGLADESH

All the details in the passport/ passport-card (Incase of USA) are extracted using "/extractInformation" API.

#### **Brief of Working:**

It takes "country", "document type" and "Base64 encoded image" of the passport as input. It internally generates processed text from the passport and extracts details like Name, First Name, Last Name, Gender, DOB, DOI and DOE, PP No. and Issuing Authority if present in the document. Along with the document details, it also gives image metadata information like Image DPI, Resolution and Size, etc. The output is represented in JSON format.

**Table 226: Passport Extraction API Format**

| S No | Description                        | Comments            |
|------|------------------------------------|---------------------|
| 1    | Format of input images it supports | jpg, jpeg, png, pdf |
| 2    | Output Format                      | JSON                |
| 3    | Simple multiple input files        | Yes                 |

**Input Request:**

"/extractInformation" API -

For a single image: Base64 encoded image, Country, Document Type ("passport" in this case).

For multiple images: Array of the Base64 encoded images, Country, Document Type ("passport" in this case).

**Sample Input Request:**

```
{
  "country": "UAE",
  "docType": "passport",
  "docBase64s": [
    "-----base64 encoded image string-----"
  ]
}
```

**Note:** In case of USA, there are 2 types of document: passport and passport-card. If the input document is of type passport-card, the docType should be mentioned as passport-card.

**Output Response:**

The output of "/extractInformation" API is the extracted details in the JSON format given below:

Sample Output Response:

```
{
  "documentDetails": [
    {
      "ImageInfo": {
        "file_size": "647.22 KB",
        "image_dpi": "150",
        "image_resolution": "704x541",
        "information": "Minimum 300 DPI is required. File size is proper."
      },
      "dateOfBirth": "7/11/2001",
      "dateOfExpiry": "11/6/2022",
      "dateOfIssue": "12/6/2017",
      "docType": "Passport",
      "firstName": "SHAMA",
      "gender": "F",
      "identificationNumber": "F0Z615883",
      "issuedCountry": "UNITED ARAB EMIRATES",
      "issuingAuthority": "",
      "lastName": "RASHED ABDULIALIL MOHAMED ALFAHIM",
      "name": "SHAMA RASHED ABDULIALIL MOHAMED ALFAHIM"
    }
  ]
}
```

**Note:** Even if Country and DocType not provided in the input request, the service tries to extract the Country Name and Document Type automatically. In case, if it is not able to extract it returns an exception/ error. This means either the quality of the document is not enough to extract all the details or resolution is poor.

**Recommendations for Better Performance:**

- The better the quality of the source image, the higher the accuracy of extraction will be.
- Keeping DPI lower than 200 will give unclear and incomprehensible results while keeping the DPI above 600 will unnecessarily increase the size of the output file without improving the quality of the file. Thus, a DPI of 300 works best for this purpose.

But what means “image quality” in this case?

- Min text-size 10 pts (below 8pts are removed by noise)
- Min resolution (dpi) of 300 works best for Text Extraction.
- Sharp and visible characters
- Min image size of 200 kb
- Less image or background noise

**Documents Supported:**

It supports passports of the following countries:

- USA Passport and Passport-card both
- UAE
- INDIA
- CANADA
- AUSTRALIA
- BANGLADESH

**Things to be taken care of:**

- Make sure the base64 encoded image string of the input image is correct.
- Document Type provided in the input should be "passport" only
- Specify the country name correctly for accurate extraction of details

## 6.3.2 Driving License Extraction

This section describes the payload details for Driving License Details extraction service.

Driving License Details Extraction module extracts information present in the Driving License such as Name, First Name, Last Name, Gender, Address, License No, Date of Birth, Date of Issue and Date of expiry of the license along with the image metadata information like Image DPI, Resolution and Size. Currently, we provide support for licenses of various countries listed below:

- UNITED STATES OF AMERICA
- UNITED KINGDOM
- CANADA
- AUSTRALIA
- BANGLADESH

All the details in the license are extracted using "/extractInformation" API.

### Brief of Working:

The API accepts the "country", "document type" and "Base64 encoded image" of the license as input. It internally generates processed text from the license document and extracts details like Name, First Name, Last Name, Gender, DOB, DOI and DOE, License No. and Address, etc. Along with the document details, it also gives image metadata information like Image DPI, Resolution and Size. The output is represented in JSON format.

### Input Request:

"/extractInformation" API -

- For a single image: Base64 encoded image, Country, Document Type ("License" in this case).
- For multiple images: Array of the Base64 encoded images, Country, Document Type ("License" in this case).

### Sample Input Request:

```
{
  "country": "US",
  "docType": "license",
  "docBase64s": [
    "-----base64 encoded image-----"
  ]
}
```

**Output Response:**

The output for "/extractInformation" API is the extracted details in the JSON format given below:

**Sample Output Response:**

```
{
  "documentDetails":
    [
      {
        "ImageInfo": {
          "file_size": "579.26 KB",
          "image_dpi": "",
          "image_resolution": "736x419",
          "information": "dpi info not available. Average Image Resolution. File size is proper."
        },
        "address": "918 N ROXBURY BEVERLY HILS CA 90210",
        "dateOfBirth": "6/8/1911",
        "dateOfExpiry": "6/8/2012",
        "dateOfIssue": "2/7/2010",
        "docType": "license",
        "firstName": "LUCILLE",
        "gender": "F",
        "identificationNumber": "B2201793",
        "issuedCountry": "UNITED STATES OF AMERICA",
        "issuingAuthority": "CALIFORNIA",
        "lastName": "BALL",
        "name": "LUCILLE BALL"
      }
    ]
}
```

**Note:** Even if Country and DocType not provided in the input request, the service tries to extract the Country Name and Document Type automatically. In case, if it is not able to extract it returns an exception/ error. This means either the quality of the document is not enough to extract all the details or resolution is poor.

**Recommendations for Better Performance:**

- The better the quality of the source image, the higher the accuracy of extraction will be.
- Keeping DPI lower than 200 will give unclear and incomprehensible results while keeping the DPI above 600 will unnecessarily increase the size of the output file without improving the quality of the file. Thus, a DPI of 300 works best for this purpose.

But what means “image quality” in this case?

- Min text-size 10 pts (below 8pts are removed by noise)
- Min resolution (dpi) of 300 works best for Text Extraction.
- Sharp and visible characters
- Min image size of 200 kb
- Less image or background noise

**Documents Support:**

It supports Licenses of the following countries:

- USA
- UK
- CANADA
- AUSTRALIA
- BANGLADESH

**Things to be taken care of:**

- Make sure the base64 encoded image string of the input image is correct.
- Document Type provided in the input should be "license" only
- Specify the country name correctly for accurate extraction of details



### 6.3.3 National Identification Extraction

This section elaborates the payload details for National ID Card Details extraction service.

National ID card Details Extraction module extracts details in the National Identity Card like Name, First Name, Last Name, Gender, Address (if present), Date of Birth, Date of Issue and Date of expiry of the NID, ID No , etc along with the image metadata information like Image DPI, Resolution and Size. This module provides support for NID's of various countries listed below:

- USA
- South Africa
- Brazil
- Bangladesh
- Canada
- India
- Kenya
- Portugal

All the details in the ID are extracted using "/extractInformation" API.

#### Brief of working:

It takes "country", "document type" and "Base64 encoded image" of the NID as input. It internally generates processed text from the Identity document and extracts details like Name, First Name, Last Name, Gender, Address, DOB, DOI, DOE, and ID No. Along with the document details, it also gives image metadata information like Image DPI, Resolution and Size. The output is represented in JSON format.

#### Input Request:

"/extractInformation" API -

- For a single image: Base64 encoded image, Country, Document Type ("nid" in this case).
- For multiple images: Array of the Base64 encoded images, Country, Document Type ("nid" in this case).

#### Sample Input Request:

```
{
  "country": "BR",
  "docType": "nid",
  "docBase64s": [
    "-----base64 encoded image-----"
  ]
}
```

**Output Request:**

The output for "/extractInformation" API is the extracted details in the JSON format given below:

Sample output response:

```
{
  "documentDetails": [
    {
      "ImageInfo": {
        "file_size": "566.32 KB",
        "image_dpi": "72",
        "image_resolution": "680x453",
        "information": "Minimum 300 DPI is required. Poor Image Resolution. File size is proper."
      },
      "dateOfBirth": "12/7/1960",
      "dateOfExpiry": "20/8/2030",
      "dateOfIssue": "",
      "docType": "NID",
      "firstName": "FERNANDA",
      "gender": "F",
      "identificationNumber": "000000005-9",
      "issuedCountry": "BRAZIL",
      "issuingAuthority": "",
      "lastName": "DE CARVALHO DA SILVA",
      "name": "FERNANDA DE CARVALHO DA SILVA"
    }
  ]
}
```

**Note:** Even if Country and DocType not provided in the input request, the service tries to extract the Country Name and Document Type automatically. In case, if it is not able to extract it returns an exception/ error. This means either the quality of the document is not enough to extract all the details or resolution is poor.

**Recommendations for Better Performance:**

- The better the quality of the source image, the higher the accuracy of extraction will be.
- Keeping DPI lower than 200 will give unclear and incomprehensible results while keeping the DPI above 600 will unnecessarily increase the size of the output file without improving the quality of the file. Thus, a DPI of 300 works best for this purpose.

But what means “image quality” in this case?

- Min text-size 10 pts (below 8pts are removed by noise)
- Min resolution (dpi) of 300 works best for Text Extraction.
- Sharp and visible characters
- Min image size of 200 kb
- Less image or background noise

**Documents Support:**

It supports National IDs of the following countries:

- USA
- South Africa
- Brazil
- Bangladesh
- Canada
- India
- Kenya
- Portugal

**Things to be taken care of:**

- Make sure the base64 encoded image string of the input image is correct.
- Document Type provided in the input should be "nid" only
- Specify the country name correctly for accurate extraction of details

## 7 File Upload

The following File Upload features are available in the respective common core maintenances

- Country Code File Upload
- Bank Core Parameters File Upload
- Branch Core Parameters File Upload
- Currency Definition File Upload
- BIC Directory File Upload
- Local Holiday File Upload
- Currency Holiday File Upload
- External Customer File Upload
- External Customer Account File Upload
- Exchange Rate File Upload

### 7.1 Country Code File Upload

Country Code File Upload is used to perform country code maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcCountryMaint\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 227: Country Code File Upload – Records**

| Sequence             | Attribute Name   | Type   | Size | Description  |
|----------------------|------------------|--------|------|--|
| <b>Master record</b> |                  |        |      |  |
| 1                    | Action           | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 2                    | Country Code     | String | 3    | Country Code   |
| 3                    | Description      | String | 105  | Name of the country  |
| 4                    | Alt Country Code | String | 10   | Alternate Country Code                                     |
| 5                    | Region Code      | String | 3    | Region Code  |

| Sequence | Attribute Name       | Type   | Size | Description  |
|----------|----------------------|--------|------|--|
| 6        | Blacklisted          | String | 1    | Indicates the country is blacklisted   |
| 7        | IBAN Check Req'd     | String | 1    | Indicates check required for an IBAN is mandatory                                      |
| 8        | Intra European       | String | 1    | Denotes the country is an intra European country.                                      |
| 9        | Clr Code Bic         | String | 1    | BIC Clearing Code Indicates the National ID in the BIC plus file is the clearing code. |
| 10       | Clearing Network     | String | 6    | Indicates the Clearing Network   |
| 11       | ISO Num Country Code | String | 3    | Denotes the ISO Country Code   |
| 12       | Gen Mt205            | String | 1    | Indicates the cover message 205COV or 205  |
| 13       | ISD Code             | Number | 10   | Denotes the ISD Code   |
| 14       | EU Country           | String | 1    | Indicates the country is recognized by Swift as a part of the Intra European countries |

Mandatory Fields are

- Action
- Country Code
- Description
- Alt Country Code
- Region Code
- Blacklisted
- IBAN Check Req'd
- Intra European
- Clr Code Bic
- ISO Num Country Code
- Gen Mt205
- ISD Code
- EU Country

## 7.2 Bank Core Parameters File Upload

Bank Core Parameters File Upload is used to perform bank core maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcBankMaint\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 228: Bank Core Parameters File Upload – Records**

| Sequence             | Attribute Name          | Type   | Size | Description  |
|----------------------|-------------------------|--------|------|--|
| <b>Master record</b> |                         |        |      |  |
| 1                    | Action                  | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 2                    | Days To Forget Customer | Number | 4    | Denotes Number of Days to inactive/Forget Customer         |
| 3                    | HO Branch               | String | 3    | Head Office Branch   |
| 4                    | Bank Name               | String | 35   | Name of the bank   |
| 5                    | Bank Code               | String | 4    | Denotes code for the bank                                  |

Mandatory Fields are

- Action
- Days To Forget Customer
- HO Branch
- Bank Name
- Bank Code

## 7.3 Branch Core Parameters File Upload

Branch Code Parameters File Upload is used to perform branch code maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcBranchMaint\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 229: Branch Core Parameters File Upload – Records**

| Sequence             | Attribute Name     | Type   | Size | Description  |
|----------------------|--------------------|--------|------|--|
| <b>Master record</b> |                    |        |      |  |
| 1                    | Discriminator      | String | 1    | Denotes master record type. Default value is always "P"    |
| 2                    | Action             | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 3                    | Source Branch Code | String | 20   | Code of the Source Branch                                  |
| 4                    | Source System      | String | 35   | Source System  |
| 5                    | Week Hol2          | String | 1    | Denotes the weekly holiday 2                               |
| 6                    | Week Hol1          | String | 1    | Denotes the weekly holiday 1                               |
| 7                    | Auto Auth          | String | 1    | Auto Authorization   |
| 8                    | Walkin Customer    | String | 20   | Denotes Walk-in customer                                   |
| 9                    | Branch Lcy         | String | 3    | Branch Local Currency                                      |
| 10                   | Branch Addr3       | String | 105  | Denotes the branch address details - Address Line 1        |
| 11                   | Branch Addr2       | String | 105  | Denotes the branch address details - Address Line 2        |
| 12                   | Branch Addr1       | String | 105  | Denotes the branch address details - Address Line 3        |
| 13                   | Branch Name        | String | 105  | Name of the branch   |
| 14                   | Country Code       | String | 3    | Country Code   |

| Sequence              | Attribute Name | Type   | Size | Description   |
|-----------------------|----------------|--------|------|---|
| 15                    | Host Code      | String | 8    | Host Code   |
| 16                    | Branch Code    | String | 3    | Denotes the Code of Branch  |
| <b>Child record 1</b> |                |        |      |   |
| 1                     | Discriminator  | String | 10   | Denotes the first child record type.<br>Default value is always "BranchPref"    |
| 2                     | Report DSN     | String | 35   | Denotes the details of the report DSN   |
| 3                     | DSN Name       | String | 35   | Name of the DSN   |
| 4                     | Host Name      | String | 35   | Host Name   |
| 5                     | Branch Code    | String | 3    | Denotes the Branch Code   |
| <b>Child record 2</b> |                |        |      |   |
| 1                     | Discriminator  | String | 12   | Denotes the second child record type.<br>Default value is always "SwiftAddress" |
| 2                     | Default BIC    | String | 1    | Denotes the Default BIC   |
| 3                     | Swift Address  | String | 12   | Denotes the swift address details   |
| 4                     | Branch Code    | String | 3    | Branch Code   |

Mandatory Fields are

- Discriminator
- Action
- Source Branch Code
- Source System
- Auto Auth
- Branch Lcy
- Branch Addr3
- Branch Addr2
- Branch Addr1
- Branch Name
- Country Code
- Host Code
- Branch Code



- Discriminator (Child record 1)
- Branch Code (Child record 1)
- Discriminator (Child record 2)
- Default BIC (Child record 2)
- Swift Address (Child record 2)
- Branch Code (Child record 2)

## 7.4 Currency Definition File Upload

Currency Definition Upload is used to perform currency definition maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcCurrencyMaint\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 230: Currency Definition File Upload – Records**

| Sequence             | Attribute Name       | Type   | Size | Description  |
|----------------------|----------------------|--------|------|--|
| <b>Master record</b> |                      |        |      |  |
| 1                    | Discriminator        | String | 1    | Denotes master record type. Default value is always "P"    |
| 2                    | Action               | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 3                    | Currency Code        | String | 3    | Denotes Currency Code                                      |
| 4                    | Currency Name        | String | 105  | Name of the currency                                       |
| 5                    | Country              | String | 3    | Currency Country   |
| 6                    | Currency Decimals    | Number | 1    | Currency Decimals  |
| 7                    | Currency Round Rule  | String | 1    | Denotes Currency Round Rule                                |
| 8                    | Currency Round Unit  | Number | 7    | Denotes Currency Round Unit                                |
| 9                    | Currency Format Mask | String | 1    | Denotes Currency Format Mask                               |

| Sequence | Attribute Name      | Type   | Size | Description   |
|----------|---------------------|--------|------|---|
| 10       | Currency Spot Days  | Number | 3    | Number of spot working days applicable for the currency         |
| 11       | Currency Int Method | Number | 1    | Currency Interest Method  |
| 12       | Position GI         | String | 9    | Position GL   |
| 13       | Position Eqvgl      | String | 9    | Position Equivalent GL  |
| 14       | Currency Eur Type   | String | 1    | Currency Euro Type  |
| 15       | Currency Tol Limit  | Number | 7    | Currency Tolerance Limit  |
| 16       | Settlement Msg Days | Number | 3    | Settlement Message Days   |
| 17       | Index Flag          | String | 1    | Derives index rate of the currency                              |
| 18       | Index Base Currency | String | 3    | Index Base Currency   |
| 19       | Cut Off Hr          | Number | 2    | Hour of the day for the cut off                                 |
| 20       | Cut Off Min         | Number | 2    | Minute of the hour for the cut of                               |
| 21       | Alt Currency Code   | String | 10   | Code of the alternate currency                                  |
| 22       | Eur Conversion Reqd | String | 1    | Euro Conversion Required  |
| 23       | Cut Off Days        | Number | 2    | Cut Off Days for the payment transaction involving the currency |
| 24       | Cr Auto Ex Rate Lmt | Number | 22   | Credit Auto Exchange Rate Limit                                 |
| 25       | Dr Auto Ex Rate Lmt | Number | 22   | Debit Auto Exchange Rate Limit                                  |
| 26       | Currency Type       | String | 3    | Denotes Currency Type   |

| Sequence            | Attribute Name        | Type   | Size | Description  |
|---------------------|-----------------------|--------|------|--|
| 27                  | Gen 103p              | String | 1    | Generate outgoing MT 103 messages in the MT 103 + format           |
| 28                  | Cls Currency          | String | 1    | CLS Currency   |
| 29                  | Fx Netting Days       | Number | 3    | Foreign Exchange Netting Days                                      |
| 30                  | Iso Num Currency Code | String | 3    | International Standardization Organization numerical currency code |
| 31                  | Gen Cust Cov          | String | 1    | New Cover Message Format Required                                  |
| 32                  | Validate 50f          | String | 1    | Validate Tag-50F   |
| 33                  | Maintenance Country   | String | 3    | Maintenance Country  |
| 34                  | Commodity Code        | String | 1    | Denotes Commodity Code   |
| <b>Child record</b> |                       |        |      |  |
| 1                   | Discriminator         | String | 1    | Denotes child record type. Default value is always "C"             |
| 2                   | Maintenance Country   | String | 3    | Maintenance Country  |
| 3                   | Country Code          | String | 3    | Denotes Country Code   |
| 4                   | Country Desc          | String | 105  | Name of the Country  |
| 5                   | Currency Code         | String | 3    | Denotes Currency Code  |

Mandatory Fields are

- Discriminator
- Action
- Currency Code
- Currency Name
- Country
- Currency Decimals
- Currency Round Rule
- Currency Round Unit
- Currency Spot Days

- Currency Int Method
- Currency Eur Type
- Settlement Msg Days
- Index Flag
- Cut Off Hr
- Cut Off Min
- Alt Currency Code
- Eur Conversion Reqd
- Cut Off Days
- Gen 103p
- Cls Currency
- Fx Netting Days
- Gen Cust Cov
- Validate 50f
- Maintenance Country
- Commodity Code
- Discriminator (Child Record)
- Maintenance Country (Child Record)
- Country Code (Child Record)
- Country Desc (Child Record)
- Currency Code (Child Record)

## 7.5 BIC Directory File Upload

BIC Directory File Upload is used to perform BIC directory maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcBICDirectory\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 231: BIC Directory File Upload – Records**

| Sequence             | Attribute Name | Type   | Size | Description   |
|----------------------|----------------|--------|------|---|
| <b>Master record</b> |                |        |      |   |
| 1                    | Action         | String | 10   | Denotes file operation type. Allowed values are new/modify              |
| 2                    | BIC Code       | String | 11   | Indicates the unique BIC Code by which the bank is identified by SWIFT. |
| 3                    | Bank Name      | String | 35   | Name of the bank  |

| Sequence | Attribute Name      | Type   | Size | Description  |
|----------|---------------------|--------|------|--|
| 4        | Customer No         | String | 20   | Customer Number  |
| 5        | Sk Arrangement      | String | 1    | Denotes the SWIFT key arrangement  |
| 6        | Bank Address1       | String | 35   | Indicates the bank address details of the customer - Address Line 1  |
| 7        | Bank Address2       | String | 35   | Indicates the bank address details of the customer - Address Line 2  |
| 8        | Bank Address3       | String | 90   | Indicates the bank address details of the customer - Address Line 3  |
| 9        | Relationship        | String | 1    | Relationship   |
| 10       | Swift Key           | String | 50   | Denotes the swift key details  |
| 11       | Telex Key           | String | 50   | Indicates the unique telex key for the BIC directory   |
| 12       | Upload Flag         | String | 1    | Upload Flag for the BIC directory  |
| 13       | Upload Update       | String | 1    | Updated the BIC directory during an upload   |
| 14       | Gen Mt103           | String | 1    | Indicates the counter party whose BIC code details you are capturing capacitate to receive payment messages in the MT 103 format |
| 15       | Blacklisted         | String | 1    | Indicates the BIC entity is blacklisted  |
| 16       | CUG Member          | String | 1    | Indicates the BIC entity is a closed user group member   |
| 17       | Gen Mt103p          | String | 1    | Indicates the counter party whose BIC code details you are capturing capacitate to receive payment messages in the MT 103 format |
| 18       | Multi Cust Transfer | String | 1    | Denotes the Multi-Customer Credit Transfer details   |

| Sequence | Attribute Name      | Type   | Size | Description  |
|----------|---------------------|--------|------|--|
| 19       | Max Size            | Number | 38   | Indicates the maximum size   |
| 20       | Remit Member        | String | 1    | Indicates the customer is registered with MT 103 extended remittance information multiple user group |
| 21       | Sub Type Code       | String | 4    | Denotes the Sub-Type Code  |
| 22       | Gen Mt102p          | String | 1    | Generates 102+ message   |
| 23       | Gen Mt101           | String | 1    | Indicates MT101 can be sent/received from this BIC   |
| 24       | Transaction Per Msg | Number | 40   | Number of Transactions Per Page  |
| 25       | ADB Member          | String | 1    | Denotes the ADB member   |
| 26       | BE Indicator        | String | 1    | Denotes the BEI Indicator  |

Mandatory Fields are

- Action
- BIC Code
- Bank Name
- Sk Arrangement
- Bank Address1
- Bank Address2
- Bank Address3
- Relationship
- Swift Key
- Telex Key
- Upload Flag
- Upload Update
- Gen Mt103
- Blacklisted
- CUG Member
- Gen Mt103p
- Multi Cust Transfer
- Max Size
- Remit Member
- Gen Mt102p

- Gen Mt101
- Transaction Per Msg
- ADB Member
- BE Indicator

## 7.6 Local Holiday File Upload

Local Holiday File Upload is used to perform local holiday maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcBranchLocalHoliday\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 232: Local Holiday File Upload – Records**

| Sequence             | Attribute Name  | Type   | Size | Description  |
|----------------------|-----------------|--------|------|--|
| <b>Master record</b> |                 |        |      |  |
| 1                    | Discriminator   | String | 1    | Denotes master record type. Default value is always "P"    |
| 2                    | Action          | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 3                    | Branch Code     | String | 3    | Branch Code  |
| 4                    | Year            | Number | 4    | Indicates the year details                                 |
| 5                    | Weekly Holidays | String | 7    | Defines weekly holidays                                    |
| 6                    | Unexp Hol       | String | 1    | Define unexpected holidays                                 |
| <b>Child record</b>  |                 |        |      |  |
| 1                    | Discriminator   | String | 1    | Denotes child record type. Default value is always "C"     |
| 2                    | Branch Code     | String | 3    | Branch Code  |
| 3                    | Year            | Number | 4    | Indicates the year details                                 |
| 4                    | Month           | Number | 2    | Indicates the month details                                |
| 5                    | Holiday List    | String | 31   | Denotes the Holiday List                                   |

Mandatory Fields are

- Discriminator
- Action
- Branch Code
- Year
- Weekly Holidays
- Unexp Hol
- Discriminator (Child record)
- Branch Code (Child record)
- Year (Child record)
- Month (Child record)
- Holiday List (Child record)

## 7.7 Currency Holiday File Upload

Country Code File Upload is used to perform country code maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcCurrencyHoliday\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 233: Country Code File Upload – Records**

| Sequence             | Attribute Name  | Type   | Size | Description  |
|----------------------|-----------------|--------|------|--|
| <b>Master record</b> |                 |        |      |  |
| 1                    | Discriminator   | String | 1    | Denotes master record type. Default value is always "P"    |
| 2                    | Action          | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 3                    | Currency        | String | 3    | Currency   |
| 4                    | Year            | Number | 4    | Indicates the year details                                 |
| 5                    | Weekly Holidays | String | 7    | Defines weekly holidays                                    |
| <b>Child record</b>  |                 |        |      |  |
| 1                    | Discriminator   | String | 1    | Denotes child record type. Default value is always "C"     |
| 2                    | Currency        | String | 3    | Currency   |



| Sequence | Attribute Name | Type   | Size | Description                 |
|----------|----------------|--------|------|-----------------------------|
| 3        | Year           | String | 4    | Indicates the year details  |
| 4        | Month          | Number | 2    | Indicates the month details |
| 5        | Holiday List   | String | 31   | Denotes the Holiday List    |

Mandatory Fields are

- Discriminator
- Action
- Currency
- Year
- Weekly Holidays
- Discriminator (Child record)
- Currency (Child record)
- Year (Child record)
- Month (Child record)
- Holiday List (Child record)

## 7.8 External Customer File Upload

External Customer File Upload is used to perform external customer maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcCustomerMaint\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 234: External Customer File Upload – Records**

| Sequence             | Attribute Name | Type   | Size | Description  |
|----------------------|----------------|--------|------|--|
| <b>Master record</b> |                |        |      |  |
| 1                    | Action         | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 2                    | Country        | String | 3    | Country of the customer                                    |
| 3                    | Language       | String | 3    | Denotes the Language of the customer                       |
| 4                    | Nationality    | String | 3    | Denotes the Nationality of the customer                    |

| Sequence | Attribute Name            | Type   | Size | Description   |
|----------|---------------------------|--------|------|---|
| 5        | Locale                    | String | 10   | Indicates the Locale of the customer                    |
| 6        | Deceased                  | String | 1    | Indicates the customer is deceased                      |
| 7        | Frozen                    | String | 1    | Denotes the customer account is frozen                  |
| 8        | Whereabouts Unknown       | String | 1    | Indicates the customer's whereabouts are unknown        |
| 9        | RmId                      | String | 12   | Relationship Manager ID                                 |
| 10       | Sanctions Checks Required | String | 1    | Indicates the sanction check is required                |
| 11       | Staff                     | String | 1    | Indicates a staff customer                              |
| 12       | Walkin Customer           | String | 1    | Indicates a walk-in customer                            |
| 13       | Source System             | String | 35   | Source System   |
| 14       | Source System Cust No     | String | 35   | Denotes the Source System Customer Number               |
| 15       | Customer No               | String | 20   | Number for the customer                                 |
| 16       | Host Code                 | String | 8    | Denotes the Host Code                                   |
| 17       | Customer Type             | String | 1    | Type of Customer  |
| 18       | Customer Category         | String | 10   | Denotes the Customer Category                           |
| 19       | Customer Name1            | String | 105  | Name of the customer                                    |
| 20       | Short Name                | String | 20   | Short name of the customer                              |
| 21       | Address Line1             | String | 105  | Indicates the customer address details - Address Line 1 |
| 22       | Address Line2             | String | 105  | Indicates the customer address details - Address Line 2 |

| Sequence | Attribute Name | Type   | Size | Description  |
|----------|----------------|--------|------|--|
| 23       | Address Line3  | String | 105  | Indicates the customer address details<br>- Address Line 3 |
| 24       | Address Line4  | String | 105  | Indicates the customer address details<br>- Address Line 4 |
| 25       | Pincode        | String | 15   | Denotes the postal code details of the<br>customer         |

Mandatory Fields are

- Action
- Country
- Language
- Nationality
- Deceased
- Frozen
- Whereabouts Unknown
- Sanctions Checks Required
- Staff
- Walkin Customer
- Source System
- Source System Cust No
- Customer No
- Customer Type
- Customer Name1
- Short Name
- Address Line1
- Address Line2
- Address Line3
- Address Line4
- Pincode

## 7.9 External Customer Account File Upload

External Customer Account File Upload is used to perform external customer account maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcAccountMaint\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 235: External Customer Account File Upload – Records**

| Sequence             | Attribute Name  | Type   | Size | Description   |
|----------------------|-----------------|--------|------|---|
| <b>Master record</b> |                 |        |      |   |
| 1                    | Action          | String | 10   | Denotes file operation type. Allowed values are new/modify                                      |
| 2                    | Country Code    | String | 10   | Country Code  |
| 3                    | Address4        | String | 105  | Denotes the address details - Address Line 4  |
| 4                    | Address3        | String | 105  | Denotes the address details - Address Line 3  |
| 5                    | Address2        | String | 105  | Denotes the address details - Address Line 2  |
| 6                    | Address1        | String | 105  | Denotes the address details - Address Line 1  |
| 7                    | Eca Check Req   | String | 1    | Indicates External Credit Approval Required check is required for the external customer account |
| 8                    | Account Class   | String | 6    | Denotes the Account Class   |
| 9                    | Ac Stat Dormant | String | 1    | Indicates the account status is dormant   |
| 10                   | Ac Stat Frozen  | String | 1    | Indicates the account status is frozen  |
| 11                   | GI Stat Blocked | String | 1    | Indicates the account status is blocked   |

| Sequence | Attribute Name           | Type   | Size | Description   |
|----------|--------------------------|--------|------|---|
| 12       | Ac Stat No Dr            | String | 1    | Indicates the account does not have any debit facility                            |
| 13       | Ac Stat No Cr            | String | 1    | Indicates the account does not have any credit facility                           |
| 14       | Ac Open Date             | String | 35   | Denotes the Account Open Date (Date format should be yyyy-MM-dd, i.e. 2018-03-30) |
| 15       | Cust Ac Name             | String | 105  | Account Name of the customer  |
| 16       | Cust Ac Ccy              | String | 3    | Account Currency of the customer  |
| 17       | Customer No              | String | 20   | Indicates the Customer Number   |
| 18       | Source System<br>Acc Brn | String | 20   | Denotes the Source Account Branch   |
| 19       | Source System<br>Acc No  | String | 35   | Denotes the Source Customer Account Number  |
| 20       | Source System            | String | 35   | Source System   |
| 21       | Cust Ac IBAN             | String | 35   | Indicates the account IBAN details  |
| 22       | Host Code                | String | 8    | Denotes the host code details   |
| 23       | Cust Account No          | String | 20   | Indicates the Customer Account Number   |

Mandatory Fields are

- Action
- Country Code
- Address4
- Address3
- Address2
- Address1
- Eca Check Req
- Account Class
- Ac Stat Dormant
- Ac Stat Frozen

- GI Stat Blocked
- Ac Stat No Dr
- Ac Stat No Cr
- Ac Open Date
- Cust Ac Name
- Cust Ac Ccy
- Customer No
- Source System Acc Brn
- Source System Acc No
- Source System
- Host Code
- Cust Account No

## 7.10 Exchange Rate File Upload

Exchange Rate File Upload is used to perform exchange rate maintenance in common core.

**File Type Supported** - CSV

**File Naming Convention** - CmcCurrencyExchangeRate\_<UniqueName>.csv

**NOTE:** Replace the <UniqueName> for each file upload.

**Table 236: Exchange Rate File Upload – Records**

| Sequence             | Attribute Name | Type   | Size | Description  |
|----------------------|----------------|--------|------|--|
| <b>Master record</b> |                |        |      |  |
| 1                    | Discriminator  | String | 1    | Denotes master record type. Default value is always "P"    |
| 2                    | Action         | String | 10   | Denotes file operation type. Allowed values are new/modify |
| 3                    | Branch Code    | String | 3    | Branch for which exchange rate is applicable               |
| 4                    | Currency1      | String | 3    | From currency pair   |
| 5                    | Currency2      | String | 3    | To currency pair   |
| <b>Child record</b>  |                |        |      |  |
| 1                    | Discriminator  | String | 1    | Denotes child record type. Default value is always "C"     |

| Sequence | Attribute Name | Type   | Size | Description                                  |
|----------|----------------|--------|------|--|
| 2        | Branch Code    | String | 3    | Branch for which exchange rate is applicable |
| 3        | Currency1      | String | 3    | From currency pair                           |
| 4        | Currency2      | String | 3    | To currency pair                             |
| 5        | Rate Type      | Number | 8    | Denotes rate type defined in the system      |
| 6        | Mid Rate       | Number | 25   | Mid rate applicable for the current pair     |
| 7        | Buy Spread     | Number | 40   | Buy spread applicable for the currency       |
| 8        | Sale Spread    | Number | 40   | Sell spread applicable for the currency      |
| 9        | Buy Rate       | Number | 25   | Buy rate applicable for the currency         |
| 10       | Sale Rate      | Number | 25   | Sell rate applicable for the currency        |
| 11       | Rate Date      | String | 35   | Effective date applicable for the rate       |

Mandatory Fields are

- Discriminator
- Action
- Branch Code
- Currency1
- Currency2
- Discriminator
- Branch Code
- Currency1
- Currency2
- Rate Type
- Mid Rate
- Buy Spread
- Sale Spread
- Buy Rate
- Sale Rate
- Rate Date

## 8 Error Codes and Messages

This topic contains the error codes and messages:

**Table 237: Error Codes and Messages**

| Error Codes | Messages   |
|-------------|--|
| CC-01015    | Default BIC Is Checked For More Than One BIC                             |
| CC-01016    | Swift Address is Mandatory   |
| CC-01017    | Default BIC Is Not Checked For any BIC                                   |
| CC-01018    | Same Swift Address is present more than once                             |
| CC-01019    | Mismatch in bank code  |
| CC-ACC-002  | Currency should be null for Multi-Currency Account                       |
| CC-ACC-102  | Record already exist for Source Branch and Source Account No combination |
| CC-ACC-169  | Reopen not allowed for a closed Customer No                              |
| CC-BIC-010  | Bic code is being used in branch maintenance. Close not allowed.         |
| CC-BIC02    | The BIC code does not conform to SWIFT standards                         |
| CC-BIC05    | Record already maintained for the customer no                            |
| CC-BNK-001  | Branch code is in Open status. Close not allowed.                        |
| CC-BNK-002  | Reopen not allowed for a closed Branch Code                              |
| CC-BNK-003  | Only one Bank Code is allowed.   |
| CC-BRN-101  | Active account / accounts exist for the branch code. Close not allowed.  |
| CC-BRN-102  | This is HO branch. Close not allowed.                                    |
| CC-BRN-103  | Record for Source Branch Code already exists                             |
| CC-C00100   | Relationship cannot be No for a Customer Linked BIC Code                 |



| Error Codes     | Messages  |
|-----------------|---|
| CC-CUS-167      | Record already exist for customer no and source_system_cust_no combination      |
| CC-CUS-169      | Active account/accounts exist for the customer no                               |
| CC-CUS-17       | Kindly Enter a Valid Walkin Customer  |
| CC-EC-002       | Record already exist for Account IBAN   |
| CC-ECA-001      | Active \$1 exist for the Source System  |
| CC-HST-001      | Active \$1 exist for the Host Code  |
| CC-MOD-001      | \$1 cannot be modified  |
| CC-MOD-INV      | \$1 is invalid  |
| CC-NUL-001      | \$1 cannot be null  |
| CC-TXN-001      | \$1 is closed. Reopen not allowed.  |
| CMC-ACC-FOR01   | Cannot reopen forgotten account   |
| CMC-ACC-PII01   | User doesnt have access to PII data, cannot perform create or modify operations |
| CMC-ACC-SUBAC01 | No SubAccounts available for Multi-Currency Account                             |
| CMC-ACC-SUBAC02 | Exactly one account should be primary account                                   |
| CMC-ACC-SUBAC03 | Sub Accounts should have unique currency code                                   |
| CMC-BRN-018     | Exception occurred in ICFlipDate  |
| CMC-BRN-019     | Unable to get branch date   |
| CMC-BRN-020     | Branch code is null   |
| CMC-BRN-100     | Branch Status retrieved Successfully  |
| CMC-BRN-101     | Branch doesnot exist  |
| CMC-BRN-CD01    | Date changed successfully   |
| CMC-BRN-CD02    | Failed to change date, holiday list not maintained properly                     |

| Error Codes   | Messages   |
|---------------|--|
| CMC-BRN-EOD01 | Branch Status not in TI, cannot initiate EOD                   |
| CMC-BRN-EOD02 | EOD invoked for the branch                                     |
| CMC-BRN-EOD03 | Invalid Branch Code  |
| CMC-BRN-EOD04 | Eod Requested on Date is not Branch's Today                    |
| CMC-BRN-EOD05 | EOD cannot be invoked on a holiday                             |
| CMC-BRN-EOD06 | Date changed successfully                                      |
| CMC-BRN-EOD07 | EOD not invoked, cannot initiate change date                   |
| CMC-BRN-EOD08 | EOF1 job not completed, cannot initiate change date            |
| CMC-BRN-EOD09 | EOD not invoked, cannot initiate mark TI                       |
| CMC-BRN-EOD10 | Date Change job not completed, cannot initiate TI for next day |
| CMC-BRN-EOD11 | Mark TI successful   |
| CMC-BRN-EOD12 | Branch status not in TI, cannot initiate Mark EOF1             |
| CMC-BRN-EOD13 | Branch status not in EOF1, cannot change Date                  |
| CMC-BRN-EOD14 | Branch status for next working date update to BOD              |
| CMC-BRN-EOD15 | Branch status not in BOD, cannot mark TI                       |
| CMC-BRN-EOD16 | Branch status for next working date update to TI               |
| CMC-BRN-EOD17 | Branch Status Changed to EOF1                                  |
| CMC-BRN-EOD18 | Invoke Mark TI failed  |
| CMC-BRN-EOD19 | Date change completed cannot retrigger                         |
| CMC-BRN-EOD20 | Mark TI completed cannot retrigger                             |
| CMC-BRN-EOD21 | Date changed failed  |
| CMC-BRN-EOD30 | Invalid requested date, failed to parse                        |
| CMC-BRN-EOD31 | Mark Eoti retry initiated                                      |

| Error Codes   | Messages  |
|---------------|---|
| CMC-BRN-EOD32 | Cannot retry Mark EOFI which has not failed                   |
| CMC-BRN-EOD33 | Date Changed successfully. \$1                                |
| CMC-BRN-EOD34 | BOD Batches completed successfully.                           |
| CMC-BRN-EOD35 | BOD Batches retriggered successfully. \$1                     |
| CMC-BRN-EOD36 | \$1. Hence EOFI Failed.                                       |
| CMC-BRN-EOD37 | Failed in getting current date                                |
| CMC-CCY-001   | Duplicate records exists in Amount word currency Mapping      |
| CMC-CCY-002   | Duplicate records exists in Amount Text Mapping               |
| CMC-CCY-003   | Cannot change Currency Decimal for once authorized currencies |
| CMC-CCY-004   | Cannot Change round unit if the round rule is Truncate (T)    |
| CMC-CCY-005   | Mandatory field Interest Method is not entered                |
| CMC-CCY-006   | Mandatory field Spot Days is not entered                      |
| CMC-CCY-007   | Mandatory field Settlement Days is not entered                |
| CMC-CCY-008   | Mandatory field Country is not entered                        |
| CMC-CCY-009   | Mandatory field Rule is not entered                           |
| CMC-CCY-010   | Value should be in range of 0 and 999 for Settlement Days     |
| CMC-CCY-011   | Mandatory field Unit is not entered                           |
| CMC-CCY-012   | Decimals/ Rounding Unit Mismatch                              |
| CMC-CCY-013   | Numerator of Interest Method is not Actual                    |
| CMC-CCY-014   | Duplicate Alternate Currency Code                             |
| CMC-CCY-015   | Duplicate ISO Numeric Currency Code                           |
| CMC-CCY-016   | Duplicate Euro currency                                       |

| Error Codes | Messages  |
|-------------|---|
| CMC-CCY-017 | Euro Conversion required cannot be changed for the currency types out, Euro and Euro closed |
| CMC-CCY-018 | Spot days is less than fx netting days  |
| CMC-CCY-019 | Currency Cut Off days cannot be greater than spot days for currency                         |
| CMC-CCY-020 | Spot Days for currency cannot be lesser than cut off days for currency                      |
| CMC-CCY-021 | Value should be in range of 1 and 99 for Cut Off Days                                       |
| CMC-CCY-022 | Value should be in range of 1 and 23 for Cut Off Hour                                       |
| CMC-CCY-023 | Value should be in range of 1 and 59 for Cut Off Min  |
| CMC-CCY-024 | Value cannot be less than .00000 for Currency Total limit                                   |
| CMC-CCY-025 | Value should be in range of 0 and 3 for Currency Decimal                                    |
| CMC-CCY-026 | Country Code is Mandatory   |
| CMC-CCY-027 | Duplicate records exists in Currency Country Mapping  |
| CMC-CCY-028 | Mandatory field Country is not entered in Currency Country Mapping                          |
| CMC-CCY-029 | Currency Code is NULL   |
| CMC-CCY-030 | Date is NULL  |
| CMC-CCY-031 | Date is Invalid (should be in yyyy-mm-dd format)  |
| CMC-CCY-032 | No record found   |
| CMC-CCY-033 | Next/Previous indicator is NULL (should be either N or P)                                   |
| CMC-CCY-034 | Next/Previous indicator is Invalid (should be either N or P)                                |
| CMC-CCY-035 | Lower Limit Date is Invalid (should be in yyyy-mm-dd format)                                |
| CMC-CCY-036 | Upper Limit Date is Invalid (should be in yyyy-mm-dd format)                                |
| CMC-CCY-037 | Offset is NULL  |
| CMC-CCY-038 | Offset is Invalid (should be > 0)   |

| Error Codes | Messages  |
|-------------|---|
| CMC-CCY-039 | Input date should be between Upper limit date and Lower limit date    |
| CMC-CCY-040 | Duplicate records exists in CurrencyHolidays                          |
| CMC-CCY-041 | Mandatory Through Currency Code is not entered                        |
| CMC-CCY-042 | Cannot change spread definition option for through currency pair      |
| CMC-CCY-043 | Through currency should be blank if the through currency is unchecked |
| CMC-CCY-044 | Through currency has to be of type Euro                               |
| CMC-CCY-045 | Through Currency is not allowed for Euro In Currency Pair             |
| CMC-CCY-046 | Points multiplier should be in the range 0 - 1                        |
| CMC-CCY-047 | MidRate is invalid  |
| CMC-CCY-048 | BuySpread is invalid  |
| CMC-CCY-049 | SaleSpread is invalid   |
| CMC-CCY-050 | Atleast one Currency Rate Should be Maintained                        |
| CMC-CCY-051 | Duplicate records exists in Rate                                      |
| CMC-CCY-052 | Currency Code is NULL   |
| CMC-CCY-053 | Currency Code is Empty  |
| CMC-CCY-054 | Amount is NULL  |
| CMC-CCY-055 | Option is NULL  |
| CMC-CCY-056 | Option is Empty   |
| CMC-CCY-057 | Method is NULL  |
| CMC-CCY-058 | Method is Empty   |
| CMC-CCY-059 | Decimal is NULL   |
| CMC-CCY-060 | Units is NULL   |

| Error Codes | Messages   |
|-------------|--|
| CMC-CCY-061 | Maintenance Country is NULL  |
| CMC-CCY-062 | Maintenance Country is Empty   |
| CMC-CCY-063 | Currency1/Currency2/branch Code is NULL  |
| CMC-CCY-065 | Error in conversion  |
| CMC-CCY-066 | Rate is not handled for currency1 and currency2                                  |
| CMC-CCY-067 | Rate is not handled for currency2 and currency1                                  |
| CMC-CCY-068 | Error in Amount rounding   |
| CMC-CCY-069 | Currency definition is not maintained for given currency and maintenance country |
| CMC-CCY-070 | Error in getting branch currency and country                                     |
| CMC-CCY-071 | Error in getting currency pair for currency1 and currency2                       |
| CMC-CCY-072 | Error in getting Premium points for currency1 and currency2                      |
| CMC-CCY-073 | Error in getting rate with through currency                                      |
| CMC-CCY-074 | Error in getting Rate  |
| CMC-CCY-075 | Rate History is not handled for currency1 and currency2                          |
| CMC-CCY-076 | Rate History is not handled for currency2 and currency1                          |
| CMC-CCY-077 | Currency Pair is not maintained  |
| CMC-CCY-078 | Error in purging   |
| CMC-CCY-079 | Data inadequate in currency Pair Definition                                      |
| CMC-CCY-080 | Currency Pair already exists for the given Maintenance Country                   |
| CMC-CCY-081 | MidRate is mandatory   |
| CMC-CCY-082 | Either buySpread/buyRate are mandatory   |
| CMC-CCY-083 | Either saleSpread/saleRate are mandatory   |

| Error Codes   | Messages  |
|---------------|---|
| CMC-CUS-FOR01 | Record successfully deleted   |
| CMC-CUS-PII01 | User doesnt have access to PII data, cannot perform create or modify operations |
| CMC-EOD-001   | Invoked EOD successfully  |
| CMC-EOD-002   | Failed while resolving current date   |
| CMC-EOD-003   | EOD flow is not maintained for \$1 branch                                       |
| CMC-EOD-004   | EOD already invoked for today   |
| CMC-EOD-005   | Unable to invoke EOD  |
| CMC-EOD-006   | Retried EOD successfully  |
| CMC-EOD-007   | Failed to retry EOD   |
| CMC-EOD-008   | Pending maintenances exist. Failed to start EOD                                 |
| CMC-EOD-009   | Failed during pending maintenance check   |
| CMC-EOD-010   | Pending transactions exist. Failed to start EOD                                 |
| CMC-EOD-011   | Failed during pending transaction check   |
| CMC-EOD-012   | Marked cutoff for the branch successfully                                       |
| CMC-EOD-013   | Branch not in Transaction Input. Cannot mark cutoff                             |
| CMC-EOD-014   | Branch not in BOD stage. Cannot release cutoff                                  |
| CMC-EOD-015   | Released cutoff for the branch successfully                                     |
| CMC-EOD-016   | Branch cutoff not released. Cannot mark Transaction Input                       |
| CMC-EOD-017   | Branch cutoff not marked. Cannot mark End of Transaction Input                  |
| CMC-FORC-001  | Request is null, not valid.   |
| CMC-FORC-002  | Forget customers request created successfully.                                  |
| CMC-FORC-003  | Failed to create forget entities request.                                       |

| Error Codes    | Messages  |
|----------------|---|
| CMC-FORC-004   | Invalid id sent, id null  |
| CMC-FORC-005   | Already authorized  |
| CMC-FORC-006   | Authorized successfully   |
| CMC-FORC-007   | Record not found, invalid id.   |
| CMC-FORC-008   | Cannot delete authorized record   |
| CMC-FORC-009   | Record successfully deleted   |
| CMC-FORC-010   | Invalid Customer \$1 added, customer should be valid and in closed and authorized state without pending maintenance |
| CMC-FORC-011   | Invalid request. Duplicate requests for customer number \$1   |
| CMC-INDBML-001 | Usecase already exists with a same name   |
| CMC-INDBML-002 | Target Column cannot be null  |
| CMC-INDBML-003 | Unique Case Identifier Column cannot be null  |
| CMC-INDBML-004 | Invalid Partition column value  |
| CMC-INDBML-005 | Duplicate Column Values   |
| CMC-INDBML-006 | Partition Columns cannot be same as either of target, usecase identifier or prediction column.                      |
| CMC-LOV-001    | Invalid Source Code   |
| CMC-LOV-002    | Invalid Currency  |
| CMC-LOV-003    | Cannot Close the record for which rates are maintained  |
| CMC-LOV-004    | Invalid Language Code   |
| CMC-LOV-005    | Invalid Country   |
| CMC-LOV-006    | Invalid GLCode  |
| CMC-LOV-007    | Invalid Limit Currency  |
| CMC-LOV-008    | Invalid Year  |



| Error Codes   | Messages   |
|---------------|--|
| CMC-LOV-009   | Invalid Month  |
| CMC-LOV-010   | Amount Limit Exceeds   |
| CMC-LOV-011   | Invalid Version  |
| CMC-LOV-012   | Rate Type \$1 is invalid   |
| CMC-NLP-000   | System is unable to process the request  |
| CMC-NLP-001   | Training File created successfully   |
| CMC-NLP-002   | Training File creation failed  |
| CMC-NLP-003   | Service definition not found for \$1 for use case \$2                                  |
| CMC-NLP-004   | Unsupported file type uploaded please upload supported file type                       |
| CMC-NLP-005   | You don't have sufficient number of training files for use case \$1 to train the model |
| CMC-NLP-006   | Invalid training files are present in the training corpus                              |
| CMC-NLP-007   | Error in processing step \$1   |
| CMC-NLP-008   | Successfully completed the processing of process \$1                                   |
| CMC-OB RH-001 | Record already exists.   |
| CMC-OB RH-002 | Record saved successfully.   |
| CMC-OB RH-003 | Record does not exist.   |
| CMC-OB RH-004 | Invalid Payload  |
| CMC-OB RH-005 | Record deleted successfully.   |
| CMC-OB RH-006 | Record modified successfully.  |
| CMC-OB RH-007 | Data fetched successfully.   |
| CMC-OB RH-008 | Data exported successfully.  |
| CMC-OB RH-009 | Failed to get data.  |

| Error Codes   | Messages   |
|---------------|--|
| CMC-OB RH-010 | Cannot start disabled route.   |
| CMC-OB RH-011 | Data imported successfully.  |
| CMC-OB RH-012 | Failed to import.  |
| CMC-OB RH-013 | Failed to parse [\$1]  |
| CMC-OB RH-014 | Data extracted successfully.   |
| CMC-OB RH-015 | Route state cannot be changed to Start as Consumer Service / Provider is inactive. |
| CMC-OB RH-016 | Modified/Deleted attribute is already in use by route.                             |
| CMC-OB RH-017 | Something went wrong!  |
| CMC-OB RH-018 | Imported WSDL successfully   |
| CMC-OB RH-019 | Imported Swagger successfully  |
| CMC-OB RH-020 | Failed to import [\$1]   |
| CMC-OB RH-021 | Failed to export [\$1]   |
| CMC-OB RH-022 | Request failed [\$1]   |
| CMC-OB RH-023 | Request is being processed   |
| CMC-OR CH-001 | Failed to initiate.  |
| CMC-OR CH-002 | Transaction is successfully initiated.   |
| CMC-OR CH-003 | Invalid action, failed to initiate.  |
| CMC-OR CH-004 | \$1 is not submitted, transaction remains the same.                                |
| CMC-OR CH-005 | Cannot proceed with submit as the action is not initiated.                         |
| CMC-OR CH-006 | Cannot proceed with submit as the information is incomplete.                       |
| CMC-OR CH-007 | Failed to submit.  |
| CMC-OR CH-008 | Record successfully submitted.   |

| Error Codes  | Messages  |
|--------------|---|
| CMC-ORCH-009 | \$1 is in-progress, failed to initiate.                                       |
| CMC-ORCH-010 | Aw, snap! An unexpected exception occurred, try again.                        |
| CMC-ORCH-011 | Invalid request.  |
| CMC-ORCH-012 | Cannot proceed with submit as the action is not initiated.                    |
| CMC-ORCH-013 | Cannot find the provided information.   |
| CMC-ORCH-014 | Record is not yet submitted by \$1, cannot initiate the action.               |
| CMC-ORCH-015 | Record already unlocked by \$1.   |
| CMC-ORCH-016 | One record can be authorized at a time. Please close the screen and try again |
| CMC-ORCH-017 | Current operation terminated  |
| CMC-ORCH-018 | Current operation could not be terminated                                     |
| CMC-OV-001   | Override Codes must not be empty  |
| CMC-OV-002   | Business Overrides Saved Successfully   |
| CMC-OV-003   | Business Overrides Updated Successfully                                       |
| CMC-OV-004   | Business Overrides Authorized Successfully                                    |
| CMC-OV-005   | Business Overrides Approval Pending   |
| CMC-OV-006   | Maker Cannot Authorize  |
| CMC-OV-007   | Multiple Authorizations not allowed for checker                               |
| CMC-OV-008   | No Records found for approval   |
| CMC-OV-009   | Maker should approve the records  |
| CMC-OV-010   | Reference number is not valid   |
| CMC-OV-011   | Exception Occurred while converting string to number                          |
| CMC-OV-012   | Server Error Occurred during API call   |

| Error Codes  | Messages  |
|--------------|---|
| CMC-OV-013   | Client Error Occurred during API call                                   |
| CMC-OV-014   | Illegal State Exception Occurred  |
| CMC-OV-015   | JTA Transaction unexpectedly rolled back                                |
| CMC-OV-016   | Exception Occurred while creating Bean                                  |
| CMC-OV-017   | Unexpected Exception Occurred   |
| CMC-OV-018   | Exception Occurred while Executing Query                                |
| CMC-STR-001  | mandatory fields are missing...   |
| CMC-STR-002  | invalid real account number   |
| CMC-STR-003  | Real Account No cannot be modified                                      |
| CMC-STR-004  | Structured Address is already created for this Real Account             |
| CMC-STR-005  | Structured Address is already created for this External Virtual Account |
| CMC-STR-006  | invalid virtual account number  |
| CMC-STR-007  | Virtual Account No cannot be modified                                   |
| CMC-VAM-001  | Rolled Back Due to Exception  |
| ERR_DEF_CODE | System is unable to process the request                                 |
| GCS-AUTH-01  | Record Successfully Authorized  |
| GCS-AUTH-02  | Valid modifications for approval were not sent. Failed to match         |
| GCS-AUTH-03  | Maker cannot authorize  |
| GCS-AUTH-04  | No Valid unauthroized modifications found for approval.                 |
| GCS-CLOS-002 | Record Successfully Closed  |
| GCS-CLOS-01  | Record Already Closed   |
| GCS-CLOS-02  | Record Successfully Closed  |

| Error Codes | Messages  |
|-------------|---|
| GCS-CLOS-03 | Unauthorized record cannot be closed, it can be deleted before first authorization                    |
| GCS-COM-001 | Record does not exist   |
| GCS-COM-002 | Invalid version sent, operation can be performed only on latest version                               |
| GCS-COM-003 | Please Send Proper ModNo  |
| GCS-COM-004 | Please send makerId in the request  |
| GCS-COM-005 | Request is Null. Please Resend with Proper SELECT   |
| GCS-COM-006 | Unable to parse JSON  |
| GCS-COM-007 | Request Successfully Processed  |
| GCS-COM-008 | Modifications should be consecutive.  |
| GCS-COM-009 | Resource ID cannot be blank or "null".  |
| GCS-COM-010 | Successfully cancelled \$1.   |
| GCS-COM-011 | \$1 failed to update.   |
| GCS-DEL-001 | Record deleted successfully   |
| GCS-DEL-002 | Record(s) deleted successfully  |
| GCS-DEL-003 | Modifications didnt match valid unauthorized modifications that can be deleted for this record        |
| GCS-DEL-004 | Send all unauthorized modifications to be deleted for record that is not authorized even once.        |
| GCS-DEL-005 | Only Maker of first version of record can delete modifications of record that is not once authorized. |
| GCS-DEL-006 | No valid unauthroized modifications found for deleting  |
| GCS-DEL-007 | Failed to delete. Only maker of the modification(s) can delete.                                       |
| GCS-MOD-001 | Closed Record cannot be modified  |

| Error Codes  | Messages   |
|--------------|--|
| GCS-MOD-002  | Record Successfully Modified   |
| GCS-MOD-003  | Record marked for close, cannot modify.  |
| GCS-MOD-004  | Only maker of the record can modify before once auth                           |
| GCS-MOD-005  | Not amendable field, cannot modify   |
| GCS-MOD-006  | Natural Key cannot be modified   |
| GCS-MOD-007  | Only the maker can modify the pending records.                                 |
| GCS-REOP-003 | Successfully Reopened  |
| GCS-REOP-01  | Unauthorized Record cannot be Reopened   |
| GCS-REOP-02  | Failed to Reopen the Record, cannot reopen Open records                        |
| GCS-REOP-03  | Successfully Reopened  |
| GCS-REOP-04  | Unauthorized record cannot be reopened, record should be closed and authorized |
| GCS-SAV-001  | Record already exists  |
| GCS-SAV-002  | Record Saved Successfully.   |
| GCS-SAV-003  | The record is saved and validated successfully.                                |
| GCS-VAL-001  | The record is successfully validated.  |
| ML-RG-001    | Regression Model Build Failed  |
| ML-RG-002    | Regression Model Statistics Calculation Failed                                 |
| ML-RG-003    | Cross Validation Failed  |
| ML-RG-004    | Model Selection Failed   |
| ML-RG-005    | Model Successfully Trained   |
| ML-RG-006    | Invalid Use Case Selected  |
| ML-RG-007    | No Trained Model found   |

| Error Codes      | Messages   |
|------------------|--|
| ML-RG-008        | Batch Scoring Failed   |
| ML-RG-009        | Successfully completed Batch scoring                                       |
| ML-UTIL-003      | Failed in Random Sampling  |
| ML-UTIL-004      | Too less data for model building   |
| ML-UTIL-005      | Failed in Splitting Data   |
| ML-UTIL-006      | Failed in Selecting Feature  |
| ML-UTIL-007      | Failed to Drop Model(s)  |
| ST-CUS-167       | Record already exist for customer no and source_system_cust_no combination |
| ST-SAVE-027      | Request Successfully Processed   |
| CBS-CRITERIA-001 | Criteria Code cannot be blank  |
| CBS-CRITERIA-002 | Criteria Description cannot be blank                                       |
| CBS-CRITERIA-003 | Select valid Product Processor   |
| CBS-CRITERIA-004 | Atleast one Rule should be selected in Criteria Definition                 |
| CBS-CRITERIA-005 | Rule Description cannot be blank   |
| CBS-CRITERIA-006 | Select a Rule ID from the list   |
| CBS-CRITERIA-007 | Enter a valid number for Priority  |
| CBS-CRITERIA-008 | Enter a valid number for Priority  |
| CBS-CRITERIA-009 | Duplicate entries found for Rule ID  |
| CBS-CRITERIA-010 | Duplicate entries found for Priority                                       |
| CBS-CRITERIA-011 | Enter valid Parent Rule ID for   |
| CBS-CRITERIA-012 | Duplicate entries found for Rule ID  |
| CBS-CRITERIA-013 | Cannot add child Rule when Call All Bureau is enabled                      |

| Error Codes           | Messages   |
|-----------------------|--|
| CBS-CRITERIA-014      | Duplicate entries found for Priority   |
| CBS_ERR_004           | Parameter description cannot be modified   |
| CBS_LKUP_01           | Duplicate entries found for Lookup Code  |
| CBS_500               | Error occurred at Bureau Call<br>Response structure from Bureau is different   |
| CBS_SYSPAR_001        | System parameter not maintained for the bureau for history call  |
| CBS_400               | Facts not found for Bureau identification Rule<br>Empty response from criteria for given PPcode<br>Empty response from Oracle Banking Routing Hub from bureau call<br>Bureau identification Rule not found for given facts |
| CBS-CRTR-015          | Criteria Code has exceeded the max length specified  |
| CBS-CRTR-016          | Description has exceeded the max length specified  |
| CBS-CRTR-017          | Rule Id has exceeded the max length specified  |
| CBS-CRTR-018          | Rule Description has exceeded the max length specified   |
| CBS_BR_DTLS_NOT_FOUND | Bureau Details are not provided  |
| CBS_BR_DTLS_NOT_MNT   | Bureau Details are not maintained for +{reqBureauProductType}<br>(variable, value will be replaced at runtime from payload)  |
| CDS-DML-006           | Invalid range definition. Either range or value is allowed   |
| CDS-DML-007           | Duplicate \$1 values are not allowed   |
| CDS-DML-010           | From value should not be greater than To value   |
| CDS-RUL-001           | Error occurred while evaluating the rule   |
| CDS-DML-003           | Effective date should be less than Expiry Date   |
| CDS-PRC-006           | Effective date should be less than the Expiry Date   |



| Error Codes | Messages   |
|-------------|--|
| CDS-DML-002 | Maintain at least one record in \$1  |
| CDS-DML-014 | Effective date cannot be less than the Product Processor Effective date.               |
| CDS-PRC-014 | Effective date cannot be less than the Product Processor Effective Date.               |
| CDS-DML-017 | if dmlAppEnabledInd is selected as N then dmlFeature can not be null                   |
| CDS-DML-018 | if dmlAppEnabledInd is selected as y then dmlScoreRuleId can not be null               |
| CDS-DML-022 | Input parameter is missing or incorrect. Unable to resolve any scoring model           |
| CDS-DML-023 | Input parameter is missing or incorrect. Unable to calculate the score                 |
| CDS-DML-013 | Invalid product processor  |
| CDS-PRC-011 | Incorrect Range Definition. Range definition should be continuous in \$1               |
| CDS-PRC-012 | Duplicate \$1 values are not allowed   |
| CDS-DML-015 | Product Processor is not authorized  |
| CDS-DML-011 | Incorrect Range Definition. Range definition should be continuous                      |
| CDS-DML-012 | Input parameter is missing or incorrect. Unable to resolve any pricing setup           |
| CDS-QFT-001 | if qftRuleApplicableInd is selected as y then qftRuleName and qftRuleId cannot be null |
| CDS-QFT-002 | if qftRuleApplicableInd is selected as N then qftFactName and qftFactId cannot be null |
| CDS-QFT-005 | qftCode cannot be other than alphanumeric  |
| CDS-QFT-004 | Fact or rule not found   |
| CDS-DML-008 | Invalid rule name  |

| Error Codes  | Messages   |
|--------------|--|
| CDS-PRC-0010 | Fact or rule not found   |
| CDS-PRC-007  | Pricing Rate definition should be greater than or equal to minimum rate and less than or equal to maximum rate |
| CDS-PRC-009  | rate percentage of range cannot be equal to zero or less than the previous one                                 |
| CDS-PRC-005  | \$1 should be equal to or greater than the System date   |
| CDS-PRC-010  | Invalid product processor  |
| CDS-PRC-004  | Maintain at least one record \$1   |
| CDS-PRC-001  | Min Rate cannot be less than zero or not be more than max rate   |
| CDS-PRC-003  | Overlapping price range definition not allowed \$1   |
| CDS-PRC-002  | Rate Type cannot any other keyword   |
| CDS-PRC-008  | \$1 cannot be less than or equal to zero   |
| CDS-DML-009  | Unable to resolve any scoring model  |
| CDS-PPR-001  | \$1 should be equal to or greater than the System date   |
| CDS-DML-005  | Overlapping range definition not allowed in \$1  |
| CDS-QFT-003  | Invalid product processor  |
| CDS-DML-001  | \$1 should be equal to or greater than the Posting date  |
| CDS-DML-019  | Unable to resolve the best fit scoring model. Multiple scoring model resolved                                  |
| CDS-DML-016  | Unable to resolve the best fit pricing model. Multiple pricing model resolved                                  |
| CDS-DML-004  | The sum of weightage assigned to the feature code should be 100  |
| CDS-PPR-002  | Effective date should be less than Expiry Date   |
| CDS-PRC-013  | Rate definition should be greater than or equal to minimum rate and less than or equal to maximum rate         |

| Error Codes | Messages  |
|-------------|---|
| CDS-DML-020 | Unable to resolve the best fit application scoring model Multiple application scoring model resolved  |
| CDS-DML-021 | Unable to resolve the best fit decision and grade matrix. Multiple decision and grade matrix resolved |
| CDS-BWC-001 | \$1 should be equal to or greater than the System date  |
| CDS-BWC-002 | Maintain at least one record in \$1   |
| CDS-BWC-003 | Effective date should be less than the Expiry Date  |
| CDS-BWC-014 | Effective date cannot be less than the Product Processor Effective date                               |
| CDS-STG-006 | Effective Date cannot be null or blank  |
| CDS-STG-007 | Expiry Date cannot be null or blank   |
| CDS-STG-008 | Industry cannot be null or blank  |
| CDS-STG-009 | Module cannot be null or blank  |
| CDS-STG-010 | Line of Business cannot be null or blank  |
| CDS-STG-011 | Effective date should be less than the Expiry Date  |
| CDS-STG-012 | Expiry Date should be equal to or greater then the System date  |
| CDS-STG-013 | Invalid Strategy Code   |
| CDS-STG-014 | Invalid Industry  |
| CDS-STG-015 | Invalid Module  |
| CDS-STG-016 | Invalid Line of Business  |
| CDS-STG-017 | Invalid product processor   |
| CDS-STG-018 | Invalid Account Category  |
| CDS-STG-019 | Invalid modes for the selected module   |
| CDS-STG-020 | Invalid combination of steps for selected modes   |
| CDS-STG-021 | Record already exists   |
| CDS-STG-022 | Effective date cannot be less than the Product Processor Effective Date                               |
| CDS-RUL-002 | Fact already exists   |
| CDS-STG-023 | Invalid combination of modes and steps  |
| CDS-DML-043 | Invalid \$1 sent  |
| CDS-DML-040 | FeaturedTO missing. Kindly enter the details  |

| Error Codes | Messages  |
|-------------|---|
| CDS-LML-029 | Logical Model Reason Code is Invalid                            |
| CDS-DML-024 | Negative values not allowed                                     |
| CDS-DML-025 | Category not allowed in case of multi applicant scoring model   |
| CDS-DML-026 | Perceantge cannot be greater than 100                           |
| CDS-DML-027 | For multi-applicant max value not allowed                       |
| CDS-DML-028 | Max value not required for range type Value                     |
| CDS-DML-029 | Range type cannot be null                                       |
| CDS-DML-030 | Max value cannot be null  |
| CDS-DML-031 | Please enter a valid scoring model type                         |
| CDS-DML-032 | Please enter a valid range type                                 |
| CDS-DML-033 | Feature list not required for application model                 |
| CDS-DML-034 | Scoring rule id not required for the scoring model type         |
| CDS-DML-035 | Please enter a valid feature type                               |
| CDS-DML-036 | Only range Type Value is allowed, for fact type feature         |
| CDS-DML-037 | Only range Type ParamPercent is allowed, for rule based feature |
| CDS-DML-038 | Only range Type Value is allowed, for Text type fact            |
| CDS-DML-039 | Category code missing   |
| CDS-LML-015 | Logical Model Code size must be between 1 and 30                |
| CDS-LML-016 | Logical Model Description size must be between 1 and 240        |
| CDS-LML-017 | Logical Model Effective Date cannot be null                     |
| CDS-LML-018 | Logical Model Expiry Date cannot be null                        |
| CDS-LML-019 | Logical Model Rule Id size must be between 1 and 80             |
| CDS-LML-020 | Logical Model Details Rule Id cannot be null                    |
| CDS-LML-021 | Reason Code cannot be null                                      |
| CDS-LML-022 | Logical Model comments size must be between 1 and 80            |
| CDS-LML-023 | Logical Model Sequence must be in the range of 1 to 999         |
| CDS-LML-024 | Logical Model Sequence is Incorrect                             |
| CDS-LML-025 | Logical Model Priority must be in the range of 1 to 100         |
| CDS-LML-026 | Logical Model Details cannot be null or empty                   |
| CDS-LML-027 | Rule Id cannot be duplicate                                     |
| CDS-LML-028 | Invalid Rule Id   |
| CDS-QUR-001 | Invalid Input for QuestionnaireId, can not be null or blank     |

| Error Codes | Messages  |
|-------------|---|
| CDS-QUR-002 | Invalid Input for QuestionnaireId, null or blank required   |
| CDS-QUR-003 | Invalid Input for QuestionId, null or blank required  |
| CDS-QUR-004 | Invalid Input for QuestionId, can not be null or blank  |
| CDS-QUR-005 | Questionnaire Code cannot be null or empty  |
| CDS-QUR-006 | Questionnaire Description cannot be null or empty   |
| CDS-QUR-007 | Product Processor cannot be null or empty   |
| CDS-QUR-008 | Question Code cannot be null or empty   |
| CDS-QUR-009 | Question Short Name cannot be null or empty   |
| CDS-QUR-010 | Question Description cannot be null or empty  |
| CDS-QUR-011 | Question Type cannot be null or empty   |
| CDS-QUR-012 | Answer Description cannot be null or empty  |
| CDS-QUR-013 | Questionnaire Code size must be between 1 and 30  |
| CDS-QUR-014 | Questionnaire Description size must be between 1 and 240  |
| CDS-QUR-015 | Question Code cannot be duplicate for a product processor   |
| CDS-QUR-016 | Question Sequence Number cannot be null, empty or zero, negative  |
| CDS-QUR-017 | Answer Option Sequence Number cannot be null, empty or zero, negative   |
| CDS-QUR-018 | Question Sequence Number cannot be duplicate for a questionnaire  |
| CDS-QUR-019 | Answer Option Sequence Number cannot be duplicate for a Question  |
| CDS-QUR-020 | Answer OptionId cannot be null or empty   |
| CDS-QUR-021 | Answer OptionId cannot be duplicate for a question  |
| CDS-BWC-004 | Incorrect execution stage   |
| CDS-BWC-005 | \$1 fact or rule not found  |
| CDS-QUR-022 | Input for whether Question Mandatory cannot be null or empty  |
| CDS-QUR-023 | System will not allow to add questions where response choice has not been captured,At least 2 record should be available                      |
| CDS-QUR-024 | System will not allow to save the questionnaire without any question configured, Atleast 1 question should be configured in the questionnaire |
| CDS-QUR-025 | Question Code cannot be duplicate for a questionnaire.  |
| CDS-STG-024 | Invalid type and value for additional info  |
| CDS-STG-025 | Selection of atleast 1 mode is mandatory  |
| CDS-STG-026 | Effective date cannot be updated after authorisation  |
| CDS-STG-027 | Multiple values of same type are not allowed under Additional Information   |

| Error Codes    | Messages   |
|----------------|--|
| CDS-LOOKUP-001 | Lookup Type must be alphanumeric   |
| CDS-LOOKUP-002 | Lookup Type must be between 1 and 30   |
| CDS-LOOKUP-003 | Lookup Description must be between 1 and 240                                   |
| CDS-LOOKUP-004 | Duplicate lookup codes not allowed   |
| CDS-STG-001    | Strategy Code cannot be null or blank  |
| CDS-STG-002    | Strategy Code Description cannot be null or blank                              |
| CDS-STG-003    | Product Processor cannot be null or blank.                                     |
| CDS-STG-004    | Product Processor Description cannot be null or blank.                         |
| CDS-STG-005    | Account Category cannot be null or blank.                                      |
| CDS-DML-041    | Multiple Range definitions not allowed in case of MultiApplicant Scoring Model |
| CDS-DML-042    | Incorrect Range Definition. \$1  |

## 9 Glossary

This section provides a glossary of all terms and abbreviations used in the user manual.

### **Accounts**

Continuing financial relationship between a bank and a customer, in which deposits and debts are held and processed within a framework of established rules and procedures.

### **Reports**

A page containing information organized in a narrative, graphic, or tabular format, prepared on ad-hoc, periodic, recurring, regular, or as required basis. Reports may refer to specific periods, events, occurrences, or subjects.

### **Pareto Chart**

It is a type of chart that consists of both bars and a line graph, where individual values are represented in descending order by bars, and the cumulative total is represented by the line.

### **Sunburst Chart**

It is a type of chart that is ideal for displaying hierarchical data. Each level of the hierarchy is represented by one ring or circle with the innermost circle as the top of the hierarchy. A sunburst chart without any hierarchical data (one level of categories), looks similar to a doughnut chart.

### **Virtual Account**

Virtual accounts are provided to a corporate by its banking partner. Each account is a subsidiary or sub-account of the client's own physical account with the bank; they cannot exist outside of the immediate relationship; hence they are virtual.

### **Virtual Identifier**

Virtual identifier serves to segregate any funds from any other funds in the same main account and yet is inextricably linked to the virtual account.

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## 11 Feedback and Support

Oracle welcomes customers' comments and suggestions on the quality and usefulness of the document. Your feedback is important to us. If you have a query that is not covered in this user guide or if you still need assistance, please contact documentation team.