Oracle Banking Common Core User Guide

Oracle Banking Corporate Lending Process Management

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Oracle Banking Common Core User Guide

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Contents

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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 manual 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 manual is organized as follow:

Table 2: List of Topics

Topics	Description
Multi Entity Maintenance	This topic describes about Multi Entity Maintenance module.
Core Maintenance	This topic describes about Core Maintenance module.
NLP Framework	This topic describes about NLP Framework.
Machine Learning Framework	This topic describes about Machine Learning Framework.
Error Codes and Messages	This topic describes list of error codes and messages.

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Topics	Description
Glossary	This topic provides list of glossary and their definitions.
List of Menus	This topic has alphabetical list of Core Maintenance processes with page references for quick navigation.
Reference and Feedback	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 manual:

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 a row, which is already added.

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
🔒	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
New	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. **NOTE:** This button is displayed only for the records that are already created.
Save	Click to save the details entered or selected in the screen.
Unlock	Click to update the details of an existing record. System displays an existing record in editable mode. **NOTE:** This button is displayed only for the records that are already created.
Authorize	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. **NOTE:** This button is displayed only for the already created records. For more information on the process, see Authorization Process.
Approve	Click to approve the initiated record. **NOTE:** This button is displayed, once you click **Authorize.**
Audit	Click to view the maker details, checker details of the particular record. **NOTE:** This button is displayed only for the records that are already created.
Close	Click to close a record. This action is available only when a record is created.
Confirm	Click to confirm the action you performed.
Cancel	Click to cancel the action you performed.

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

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2 Multi Entity Maintenance

This section of the user guide is designed to help multi entity admins to create new entities, users and entity admins.

2.1 Prerequisites

Specify **User ID** and **Password**, and login **Home screen**.

→ The **Home screen** is displayed.

Multi entity admin user creation scripts should be run and multi entity admin user should be created in the LDAP. Please refer *Oracle Banking Microservices Platform Foundation Installation Guide* for more details.

2.2 Entities

Multi entity admins can configure new entities.
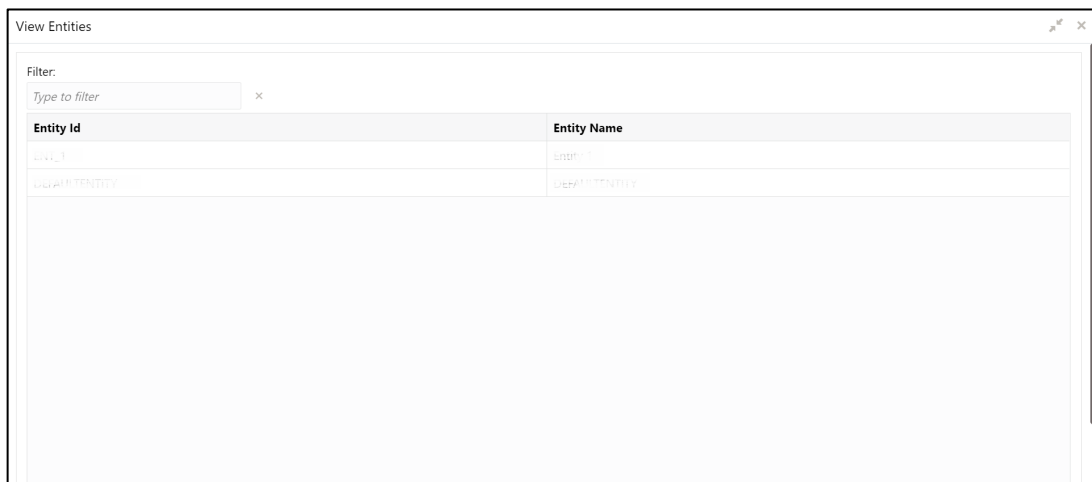
2.2.1 View Entities

The summary screen provides a list of all entities.

1. From **Home** screen, click **Entities**. Under **Entities**, click **View Entities**.

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

Figure 1: View Entities

2. On **View Entities** screen, view the details. For more information on fields, refer to the field
    description table below.

    Table 7: View Entities – Field Description

Field	Description
Entity Id	Displays the entity Id of the entity.
Entity Name	Displays the name of the entity.

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2.2.2   Create Entity

The maintenance screen allows multi entity admins to configure a new entity.

1. From **Home** screen, click **Entities**. Under **Entities**, click **Create Entity**.

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

    Figure 2: Create Entity

2. 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 8: Create Entity – Field Description

Field	Description
Entity Id	Specify the entity Id for the entity.
Entity Name	Specify the name of the entity.
HO Branch Code	Specify the head office branch code of the entity.
HO Branch Name	Specify the head office branch name of the entity.
HO Branch Address	Specify the head office branch address of the entity.
Host Code	Specify the host code.
Country	Select the head office branch country code.
Current HO Branch Posting Date	Select the head office branch current posting date.
Previous HO Branch Posting Date	Select the head office branch previous posting date.
Next HO Branch Posting Date	Select the head office branch next posting date.

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Field	Description
Bank Name	Specify the bank name.
Bank Code	Specify the bank code.
Application JNDI Mapping By default, application Ids that require a JNDI appear. You can click + to add multiple application jndi mappings and click - to remove an application jndi mapping.	
Application Id	Click **Search** and select the required application Ids from the list.
JNDI	Specify the JNDI for the application Id.

3. Click **Save**. You can view the confirmation entity details in the View Entities.

2.3 Users

Multi entity admins can create entity admins and users.

2.3.1 View Users

The summary screen provides a list of configured users.

1. From **Home** screen, click **Users**. Under **Users**, click **View Users**.

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

Figure 3: View Users

2. On **View Users** screen, view the details. For more information on fields, refer to the field description table below.

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Table 9: View Users – Field Description

Field	Description
User Id	Displays the User Id.
User Name	Displays the User Name.

2.3.2 Create User

The maintenance screen allows multi entity admins to configure a new entity.

1. From **Home** screen, click **Users**. Under **Users**, click **Create User**.

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

   Figure 4: Create User

2. On **Create User** 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 User – Field Description

Field	Description
User Id	Specify the user Id.
User Name	Specify the user name.
Locale	Specify the user locale.
Email ID	Specify the user email ID.
Start Date	Select the user start date. The start date of the user should greater than the Current HO Branch Posting Date.
End Date	Select the user end date.
Entity Mapping Click + to add a row and provide the required details.	
Entity Id	Click **Search** and select the entity to which the user belongs.

Field	Description
Home Entity	Select whether the entity is user's home entity. Only one entity can be selected as Home Entity for a user
Entity Admin	Select whether the user is an entity admin of the entity. Marking a user as Entity Admin will give rights to the user to perform the following actions when logged in to that entity. • Modify the details of the users in the entity. • Create branches in the entity • Create roles in the entity. • Assign the roles and branches to the users.

3. Click **Save**. You can view the confirmation entity details in the View Users.

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3 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:

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3.1 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 5: Additional Field Maintenance Summary
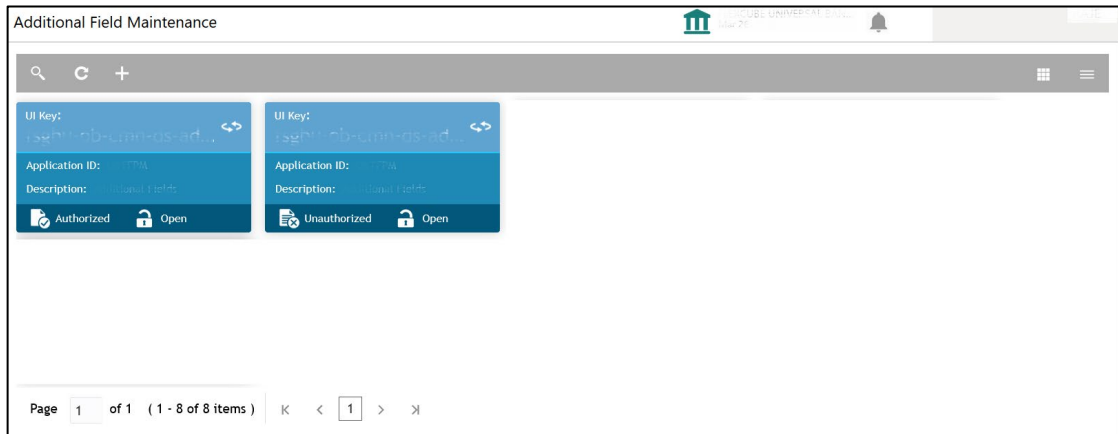
For more information on fields, refer to the field description table below.

Table 11: Additional Field Maintenance Summary – Field Description

Field	Description
UI Key	Displays the UI key of the additional field.
Application ID	Displays the related application ID of the additional field.
Description	Displays the description of the additional field.
Status	Displays the status of the record.

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

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

Figure 6: Additional Fields Maintenance

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

    Table 12: Additional Fields Maintenance – Field Description

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

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Field	Description
Select	Check this box to select/unselect a row.
Validation Name	Specify the validation name.
Validation Template To Use	Select the template to be used for the validation.
Custom Error Message	Specify the error message that needs to be displayed for the
Edit Arguments	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.

3.2 Advice

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

This section contains following subsections:

- 3.2.1 Advice Summary
- 3.2.2 Advice Maintenance

3.2.1 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 7: View Advice

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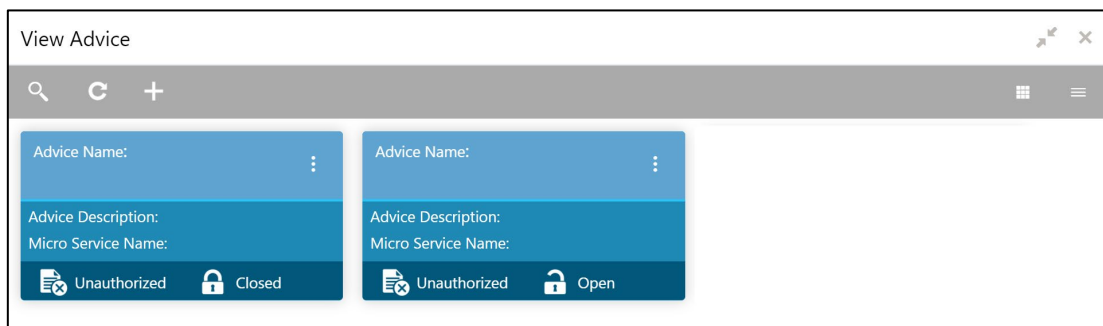
For more information on fields, refer to the field description table below.

Table 13: View Advice – Field Description

Field	Description
Advice Name	Displays the name of the advice.
Advice Description	Displays information about the advice.
Micro Service Name	Displays the name of the micro service.
Status	Displays the status of the record.

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3.2.2 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 8: 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 14: Create Advice – Field Description

Field	Description
Advice Name	Specify the name of the advice.
Advice Description	Specify the information about the advice.
Micro Service Name	Specify the name of the micro service.
Swift Micro Service	Specify the information about the swift micro service.
Micro Service Endpoint	Specify the endpoint micro service.
Application Name	Specify the application name for which advice is generated.
Application Description	Specify the additional information about the application.
Media	Search and select the required media.
Branch	Search and select the required branch.

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Field	Description
Currency	Search and select the required currency.
Report Locale	Specify the locale report details.
Report Absolute Path	Specify the report absolute path.
Format	Select a download file format for an advice from the dropdown list. The formats available are, PDF, PPTX, HTML, XLS, and RTF.
Swift Endpoint	Specify the swift endpoint.

4. Click **Save**. You can view the confirmation advice details in the Advice Summary.

3.3 Amount Text Language

You can configure an amount text language.

This section contains following subsections:

- 3.3.1 Amount Text Language Summary

- 3.3.2 Amount Text Language Maintenance

3.3.1 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 9: View Amount Text Language
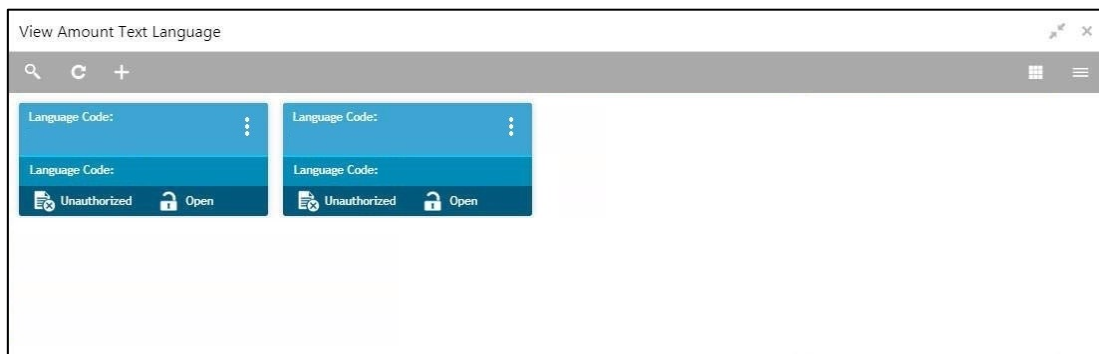
For more information on fields, refer to the field description table below.

Table 15: 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.

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3.3.2 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 10: 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 16: Create Amount Text Language – Field Description

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

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

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3.4 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:

- 3.4.1 BIC Directory Summary
- 3.4.2 BIC Directory Maintenance

3.4.1 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 11: View BIC Directory
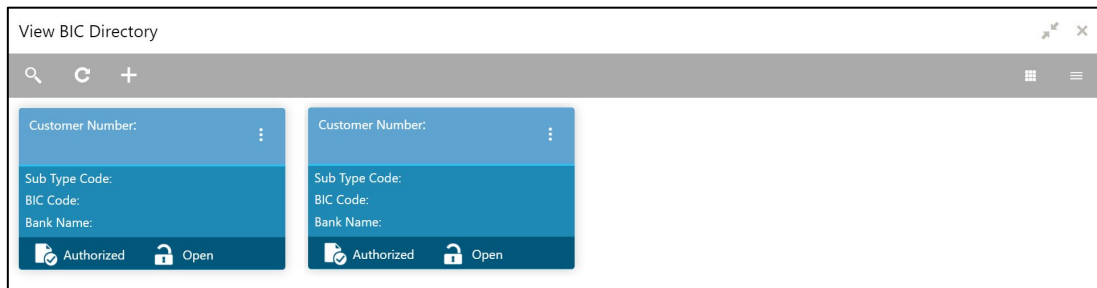
For more information on menus, refer to the field description table below. .

Table 17: View BIC Directory – Field Description

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

3.4.2 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 12: 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 18: Create BIC Directory – Field Description

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

Field	Description
SWIFT Key Arrangement	Select the SWIFT key arrangement from the drop-down list.
Relationship	Select one of the following options: • No: If selected, indicates that the BIC Entity is not a customer of your bank • Mail: 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. • Keys: 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.
Sub-type Code	Search and select the required sub-type code.
BEI Indicator	Based on the **Sub-type Code** selected, the information is auto-populated.
ADB Member	Select the ADB member from the drop-down list.
Payment Message	Specify the payment message details.
MT103+ Preferred	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.
Blacklisted	By default, this is disabled. If selected, indicates the BIC entity is blacklisted.
CUG Member	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.
Update During Upload	By default, this is disabled. If selected, updated the BIC directory during an upload.
Multi-Customer Credit Transfer	Specify the Multi-Customer Credit Transfer details.
Multi-Customer Credit Transfer	By default, this is disabled. If selected, indicates multiple credit transfer feature [MT102 support] exists between the bank and the BIC entity.

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

4. Click **Save**. You can view the configure BIC directory in the BIC Directory Summary.

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3.5 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:

- 3.5.1 Branch EOD Summary

- 3.5.2 Branch EOD Maintenance

- 3.5.3 Branch EOD Invoke

3.5.1 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 13: View EOD
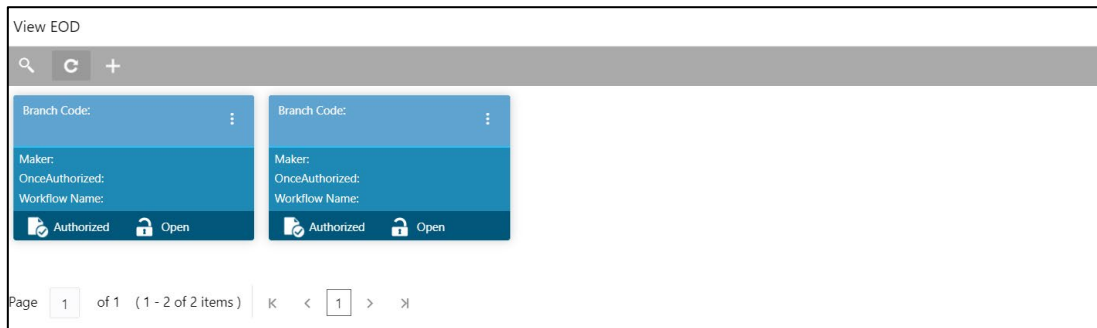
For more information on fields, refer to the field description table below.

Table 19: View EOD – Field Description

Field	Description
Branch Code	Displays the branch code details.
Workflow Name	Displays the name of the workflow.
Status	Displays the status of the record.

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3.5.2 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 14: 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 20: Configure EOD – Field Description

Field	Description
Branch Code	Specify the branch code that is associated with the logged in user.
Description	Displays the description of the branch.
Workflow Name	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.

3.5.3 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
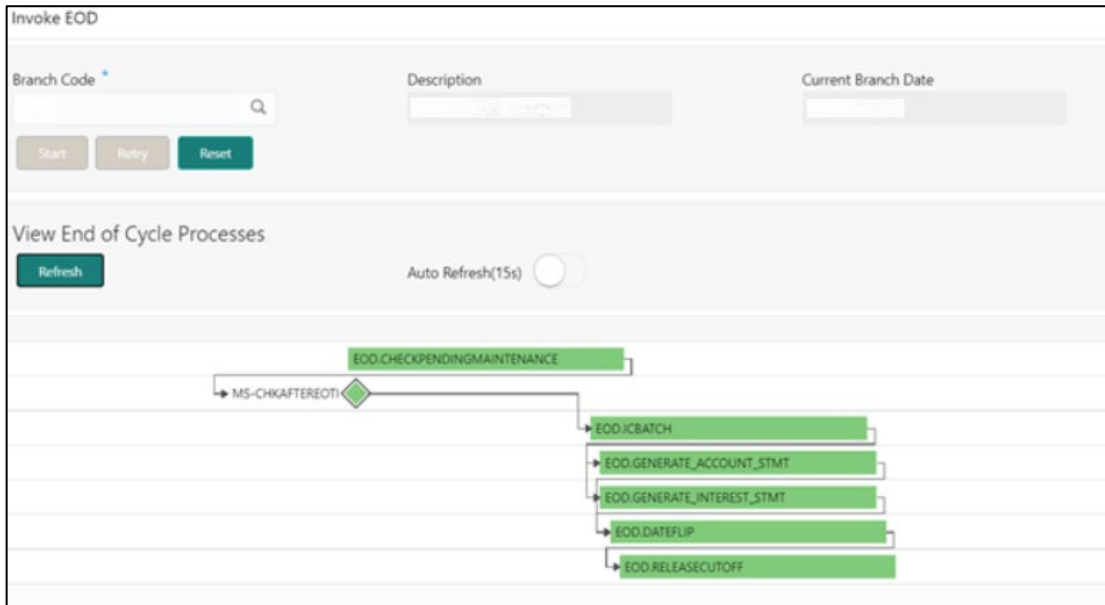
3. On **Invoke EOD** screen, specify the fields. The fields which are marked with asterisk are mandatory. For more information on fields, refer to the field description table below.

Table 21: Invoke EOD – Field Description

Field	Description
Branch Code	Specify the branch code that is associated with the logged in user.
Description	Displays the description of the branch.
Current Branch Date	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.

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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 22: EOD Task – Status Description

Status	Description
Green	Task is completed
Yellow	Task is in progress
Red	Task failed due to some error.
Grey	Task is scheduled but not executed
Diamond Shape	Task has reached a milestone stage where execution will be paused. 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.

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3.6 Country Code

You can configure a country code.

This section contains following subsections:

3.6.1 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 16: View Country Code
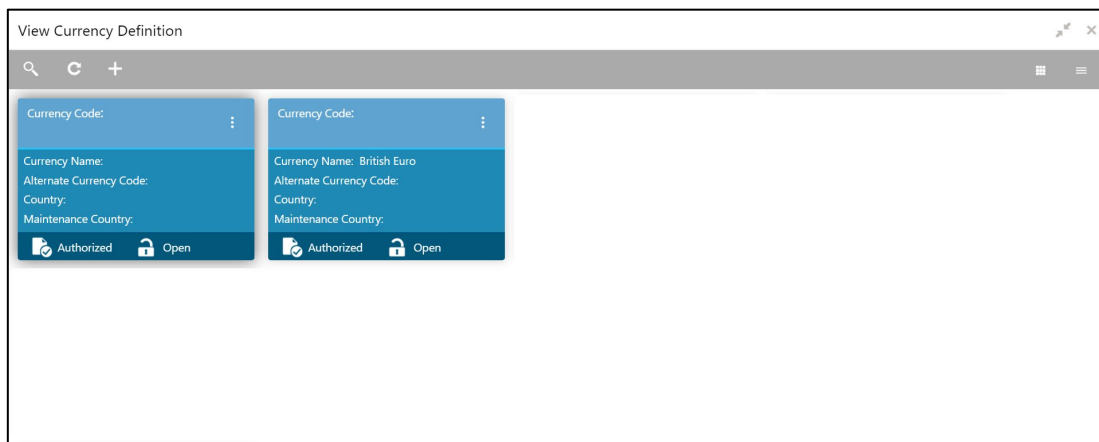
For more information on fields, refer to the field description table below.

Table 23: View Country Code – Field Description

Field	Description
Country Code	Displays the country code details.
Country Name	Displays the name of the country.
ISO Numeric Code	Displays the ISO numeric code details of the country code.
Status	Displays the status of the record.

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3.6.2   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 17: 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 24: Create Country Code – Field Description

Field	Description
Country Code	Specify the country code.
Country Name	Specify the name of the country.
Alternate Country Code	Specify the alternate country code.
Region Code	Specify the region code.
ISO Country Code	Specify the ISO country code.
ISO Code	Specify the ISO code.
Limit Currency	Specify the limit currency.
Overall Limit	Specify the overall limit.

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Field	Description
Blacklist	By default, this is disabled. If selected, indicates the country is blacklisted.
EU Member	By default, this is disabled. If selected, indicates the country is recognized by Swift as a part of the Intra European countries.
Generate 205	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.
IBAN Check Required	By default, this is disabled. If selected, indicates check required for an IBAN is mandatory.
BIC Clearing Code	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.
Intra European	By default, this is disabled. If selected, indicates the country is an intra European country.

4.   Click **Save**. You can view the configured country code details in the Country Code Summary.

3.7 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, 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:

- 3.7.1 Currency Definition Summary
- 3.7.2 Currency Definition Maintenance

3.7.1 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 18: View Currency Definition
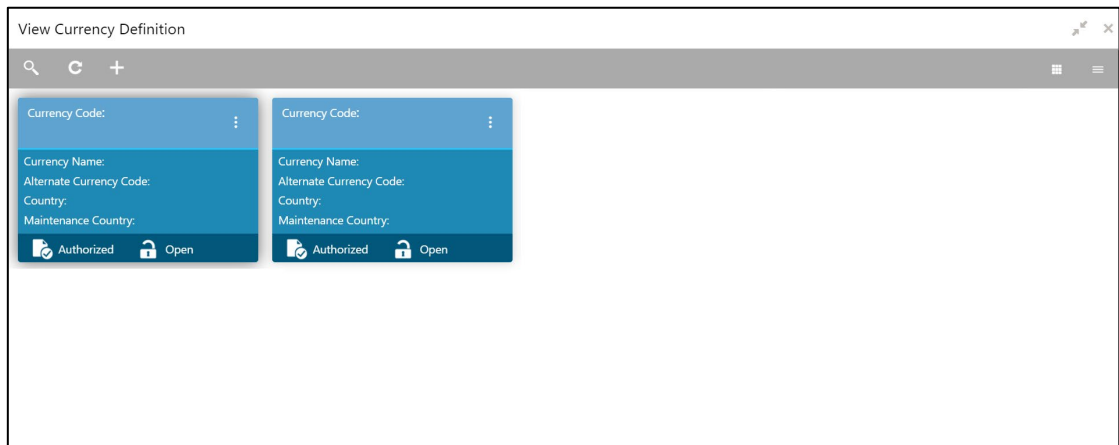
For more information on fields, refer to the field description table below.

Table 25: View Currency Definition – Field Description

Field	Description
Currency Code	Displays the code of the currency.
Currency Name	Displays the name of the currency.
Alternate Currency Code	Displays the code of the alternate currency.

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

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3.7.2 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 19: Create Currency Definition

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 26: Create Currency Definition – Field Description

Field	Description
Currency Code	Specify the currency code.
Maintenance Country	Search and select the required maintenance country.
Currency Name	Specify the name of the currency.

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Field	Description
Alternate Currency Code	Specify the code of the alternate currency.
Currency Type	Specify the currency type.
ISO Numerical Currency Code	Specify the International Standardization Organization numerical currency code.
Currency Country	Search and select the required currency country.
Currency Decimals	Select the currency decimals.
Currency Interest Method	Select the currency interest method from the drop-down list.
Currency Spot Days	Select the number of spot working days applicable for the currency.
Foreign Exchange Netting Days	Select the number of days for the foreign exchange netting.
Settlement Message Days	Select the settlement message days.
Position GL	Search and select the required position GL.
Position Equivalent GL	Search and select the required position equivalent GL.
Currency Tolerance Limit	Specify the currency tolerance limit.
Index Base Currency	Search and select the required index base currency.
Commodity Code	By default, this is disabled. If selected, enables a commodity code.
Cut Off Time	Specify the cut off time details.
Cut Off Days	Select the cut off days for the payment transaction involving the currency.
Cut Off Hour	Select the hour of the day for the cut off.
Cut Off Min	Select the minute of the hour for the cut off.
CLS Currency	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

Field	Description
	be a CLS Currency. FX deals in the CLS currency is only eligible to be routed through the CLS bank.
Generate 103+	By default, this is disabled. If selected, generate outgoing MT 103 messages in the MT 103 + format.
Index Flag	By default, this is disabled. If selected, derives index rate of the currency.
Euro Conversion Required	By default, this is disabled. If selected, indicates the Euro conversion is required.
New Cover Message Format Required	By default, this is disabled. If selected, indicates a new cover message format is required.
Validate Tag-50F	By default, this is disabled. If selected, indicates validations must be performed for the 50F details captured for the ordering customer during contract input.
Rounding	Specify the Rounding details of currency.
Currency Round Rule	Select the currency round rule from the dropdown list.
Currency Round Unit	Select the currency round unit.
Currency Format Mask	Specify the currency format mask details.
Currency Format Mask	Select one of the currency format.
Euro Type	Specify the Euro Type details.
Currency Euro Type	Select one of the currency Euro type.
Auto Exchange Rate	Specify the Auto exchange rate details.
Credit Auto Exchange Rate Limit	Specify the credit automatic exchange rate limit.
Debit Auto Exchange Rate Limit	Specify the debit automatic exchange rate limit.
Currency Country Mapping	Specify the currency country mapping details.
Country Code	Search and select the required country code.

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Field	Description
Country Name	Specify the name of the country.
Currency Code	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.

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3.8 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:

- 3.8.1 Currency Exchange Rate Summary
- 3.8.2 Currency Exchange Rate Maintenance

3.8.1 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 20: View Currency Exchange Rate
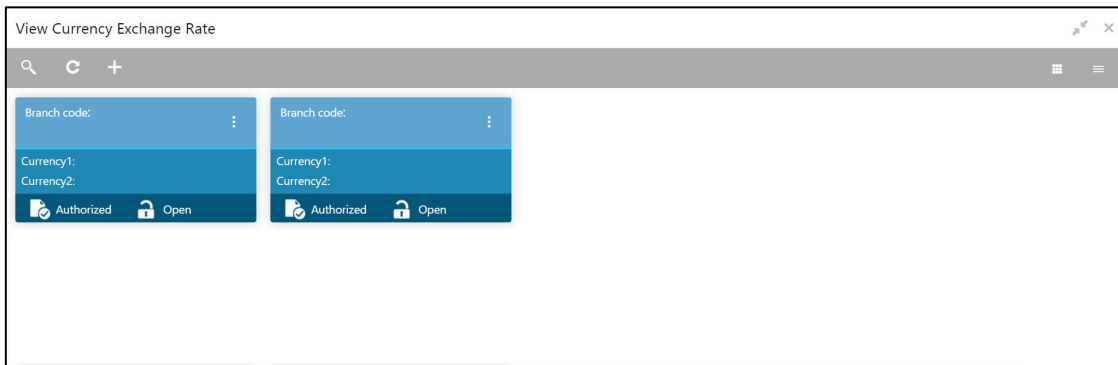
For more information on fields, refer to the field description table below.

Table 27: View Currency Exchange Rate – Field Description

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

3.8.2 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 21: 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 28: Create Currency Exchange Rate – Field Description

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

Field	Description
Sale Spread	Specify the sale spread details.
Sale Rate	Specify the sale rate details.
Rate Date	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.

3.9 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:

- 3.9.1 Currency Holiday Master Summary
- 3.9.2 Currency Holiday Master Maintenance

3.9.1 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 22: View Currency Holiday Master
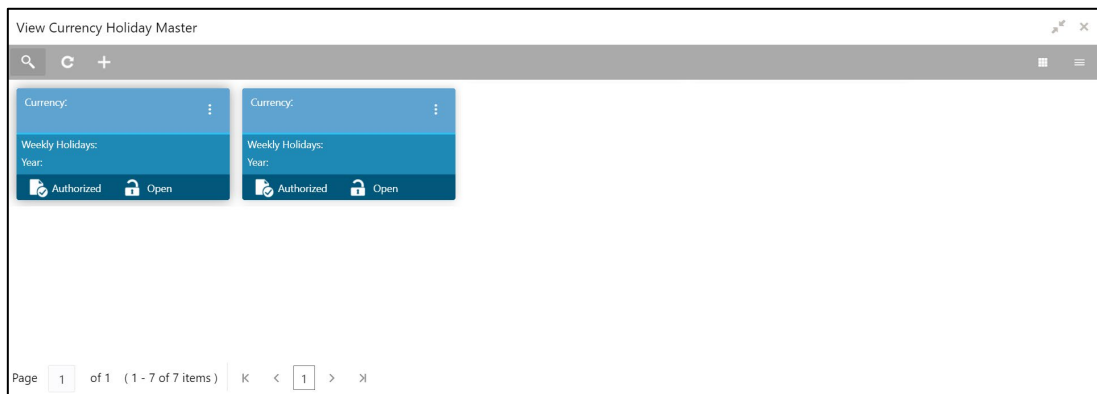
For more information on fields, refer to the field description table below.

Table 29: View Currency Holiday Master – Field Description

Field	Description
Currency	Displays the currency details.
Weekly Holidays	Displays the weekly holidays associated with the currency.
Status	Displays the status of the record.

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3.9.2   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 23: 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 30: Create Currency Holiday Master – Field Description

Field	Description
Currency	Search and select the required currency.
Year	Specify the year details.
Weekly Holidays	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.

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3.10 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:

- 3.10.1 Currency Pair Definition Summary
- 3.10.2 Currency Pair Definition Maintenance

3.10.1 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 24: View Currency Pair Definition
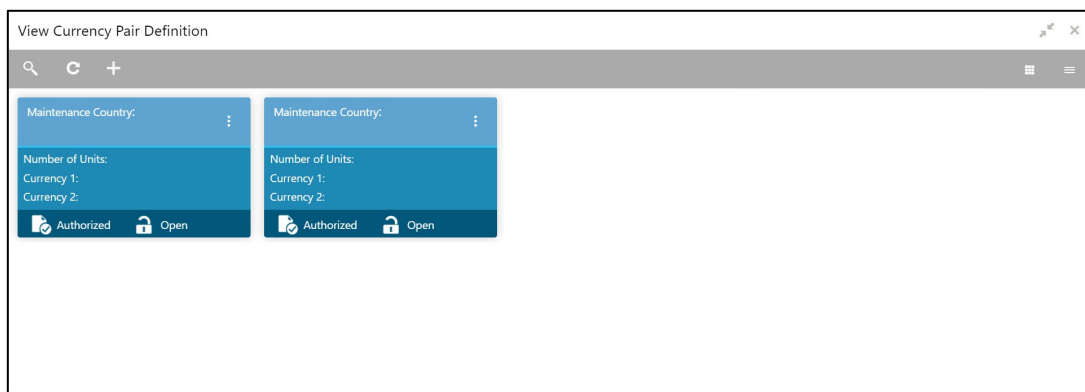
For more information on fields, refer to the field description table below.

Table 31: View Currency Pair Definition – Field Description

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

3.10.2 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 25: 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 32: Create Currency Pair Definition – Field Description

Field	Description
Currency 1-2	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. 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.
Maintenance Country	Search and select the required maintenance country.

Field	Description
Check through Currency	By default, this is disabled. If selected, indicates a check through currency.
Through Currency	Search and select the required through currency for which the exchange rate between the currencies must be calculated.
Number of Units	Select one of the number of units.
Points Multiplier	Select the points multiplier.

Quotation	Select one of the required quotation:
	
	• Direct method the exchange rate for the currency pair is quoted as follows: Buy rate = mid rate - buy spread
	
	  Sell rate = mid rate + sell spread
	
	  Ccy 1 = Rate x Ccy 2
	
	• Indirect method the exchange rate for the currency pair is quoted as follows: Buy rate = mid rate + buy spread
	
	  Sell rate = mid rate - sell spread
	
	  Ccy 2 = Rate x Ccy 1

Spread Definition	Select one spread definition. The effective spread can be calculated using any of the following two methods: • Percentage: Spread/100 x mid rate • Points: Spread x points multiplier The method of spread definition that you specify applies to two instances: • While maintaining exchange rates for the currency pair • While maintaining customer spread for the currency pair

4. Click **Save**. You can view the defined currency pair details in the Currency Pair Definition Summary.

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3.11 Currency Rate Type

You can configure a currency rate type.

This section contains following subsections:

- 3.11.1 Currency Rate Type Summary
- 3.11.2 Currency Rate Type Maintenance

3.11.1 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 26: View Currency Rate Type
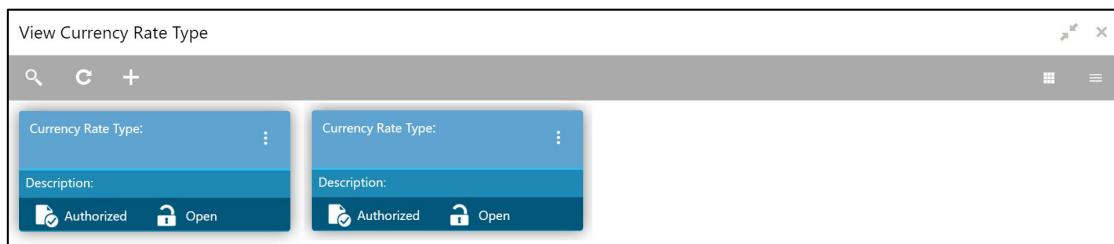
For more information on fields, refer to the field description table below.

Table 33: View Currency Rate Type – Field Description

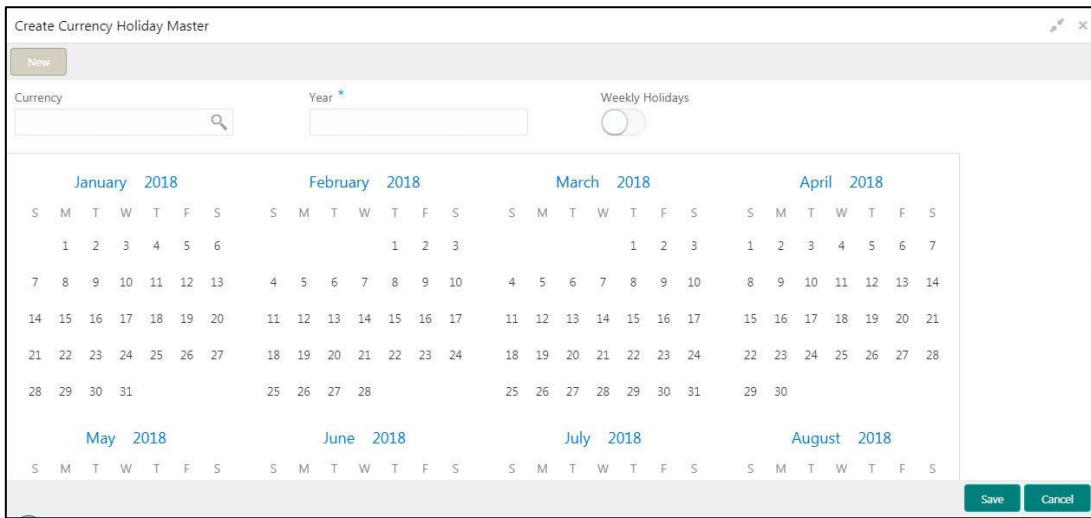| Field	Description
Currency Rate Type	Displays the currency rate type.
Description	Displays additional information about the currency rate type.
Status	Displays the status of the record.

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3.11.2 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 27: 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 34: Create Currency Rate Type – Field Description

Field	Description
Currency Rate Type	Specify the currency rate type.
Currency Rate Type Description	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.

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3.12 Customer Category

You can configure a customer category.

This section contains following subsections:

- 3.12.1 Customer Category Summary
- 3.12.2 Customer Category Maintenance

3.12.1 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 28: View Customer Category
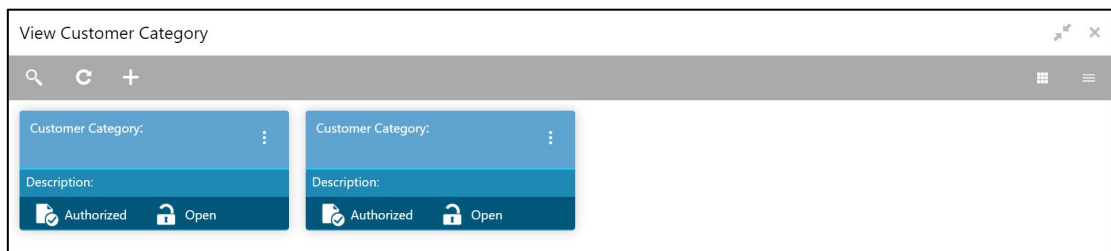
For more information on fields, refer to the field description table below.

Table 35: View Customer Category – Field Description

Field	Description
Customer Category	Displays the customer category.
Description	Displays additional information about the customer category.
Status	Displays the status of the record.

3.12.2 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 29: 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 36: Create Customer Category – Field Description

Field	Description
Customer Category	Specify the customer category.
Customer Category Description	Specify the additional information about the customer category.
Populate Changes	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.

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3.13 ECA System

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

This section contains following subsections:

- 3.13.1 ECA System Summary
- 3.13.2 ECA System Maintenance

3.13.1 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 30: View ECA System
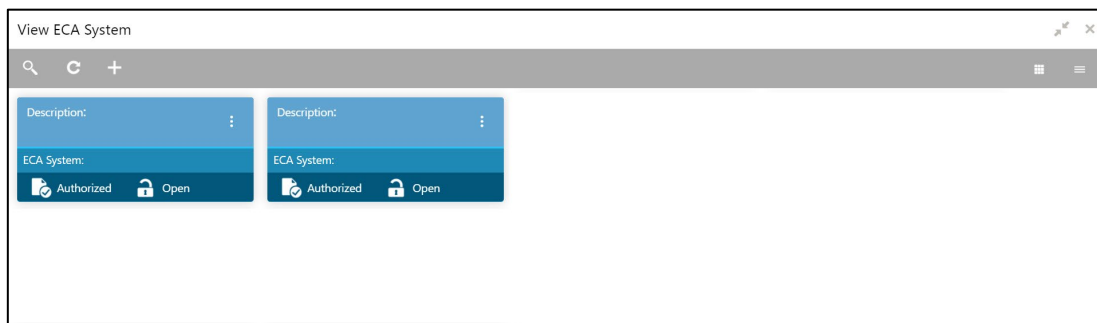
For more information on fields, refer to the field description table below.

Table 37: View ECA System – Field Description

Field	Description
Description	Displays any additional information of the ECA system.
ECA System	Displays the name of the ECA system.
Status	Displays the status of the record.

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3.13.2 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 31: 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 38: Create ECA System – Field Description

Field	Description
Source System	Specify the source system.
Description	Specify the additional information about the ECA system.

4. Click **Save**. You can view the configure ECA system details in the ECA System Summary.

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3.14 External Bank Parameters

You can configure bank level parameters.

This section contains following subsections:

3.14.1 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 32: View External Bank Parameters
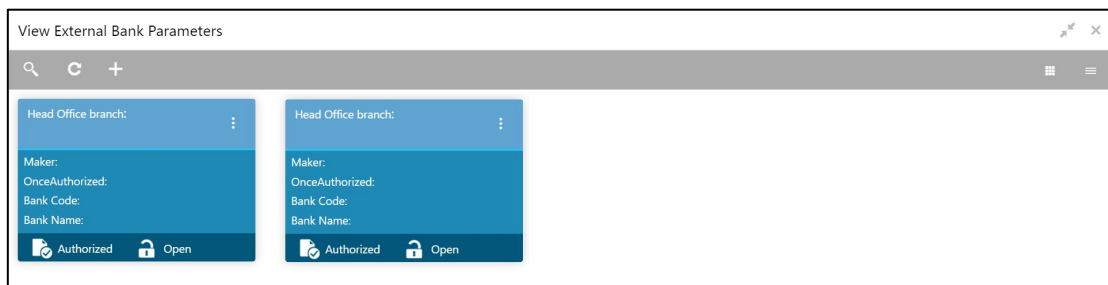
For more information on fields, refer to the field description table below.

Table 39: View External Bank Parameters – Field Description

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

3.14.2 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 33: 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 40: Create External Bank Parameters – Field Description

Field	Description
Bank Code	Specify the code for the bank.
Bank Name	Specify the name of the bank.
Head Office Branch	Search and select the required head office branch.
Branch Description	Based on the Head Office Branch selected, the information is auto-populated.
Number of Days to Forget Customer	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.

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3.15 External Branch Parameters

You can configure branch level parameters.

This section contains following subsections:

3.15.1 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 34: View External Branch Parameters

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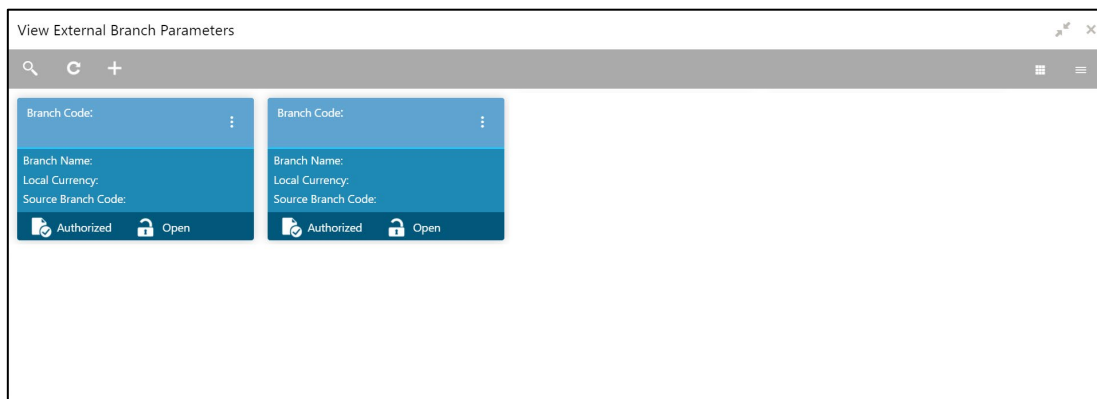
For more information on fields, refer to the field description table below.

Table 41: View External Branch Parameters – Field Description

Field	Description
Branch Code	Displays the code of the branch associated with the bank.
Branch Name	Displays the name of the branch associated with the bank.
Local Currency	Displays the local currency details.
Source Branch Code	Displays the code of the source branch.
Status	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 Parameterrs

3.15.2 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 35: Create External Branch Parameters

3. 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 42: Create External Branch Parameters – Field Description

Field	Description
Branch Details	Specify the branch details.
Branch Code	Specify a branch code.
Branch Name	Specify a name for the branch.
Local Currency	Search and select the required local currency.
Source System	Search and select the required source system.
Source Branch Code	Specify a source branch code.
Branch Address	Specify the branch address details.

Field	Description
Address Line 1-3	Specify the address details.
Other Details	Specify the other details.
Host Code	Search and select the required host code.
Country Code	Based on the Host Code selected, the information is auto-populated.
Host Name	Specify the name for the host.
Walk-in Customer	Search and select the required walk-in customer.
Weekly Holiday 1-2	Select a weekly holiday from the dropdown list. **Note** There are two days of weekly holiday depending on the geographical zone. • Auto Authorization: By default, it is disabled. If selected, the record is automatically authorized. • Report DSN: Specify the details of the report DSN.
Swift Address	Specify the swift address details.
SWIFT Address	Search and select the required SWIFT address.
Default BIC	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.

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3.16 External Chart Account

You can configure an external chart.

This section contains following subsections:

3.16.1 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 36: View External Chart Account
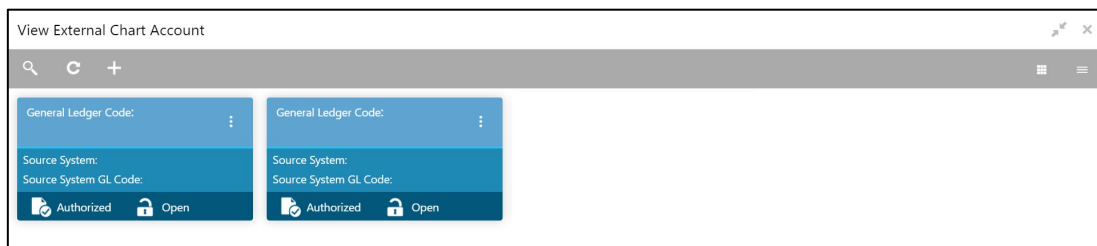
For more information on fields, refer to the field description table below.

Table 43: View External Chart Account – Field Description

Field	Description
General Ledger Code	Displays the code of the general ledger.
Source System	Displays the source system.
Source System GL Code	Displays the GL code of the source system.
Status	Displays the status of the record.

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3.16.2 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 37: 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 44: Create External Chart Account – Field Description

Field	Description
General Ledger Code	Specify the general ledger code.
General Ledger Description	Specify the additional information about the general ledger.
Source System	Search and select the required source system.
Source System GL Code	Specify the source system GL code.
Category	Select the category from the drop-down list.
Blocked	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.

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3.17 External Customer

You can configure the external customer details.

This section contains following subsections:

3.17.1 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 38: View External Customer
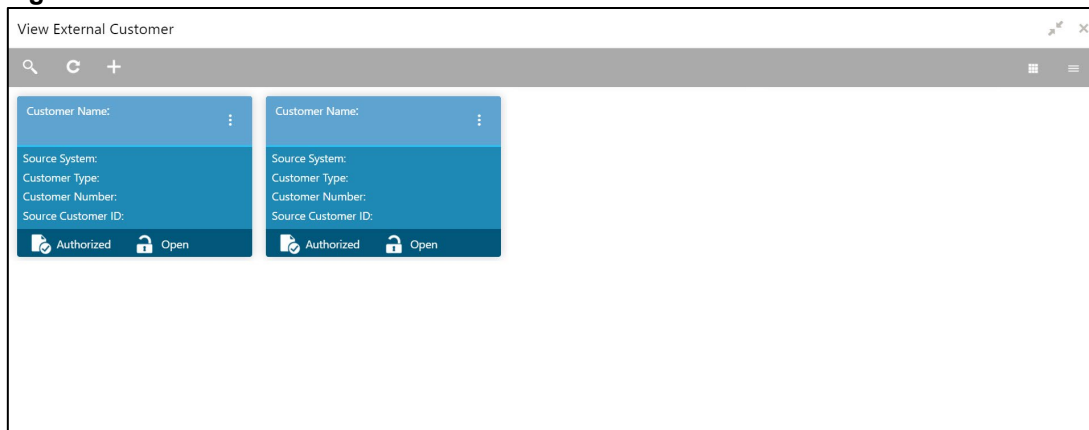
For more information on fields, refer to the field description table below.

Table 45: View External Customer – Field Description

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

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3.17.2 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 39: 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 46: Create External Customer – Field Description

Field	Description
Customer Details	Specify the customer details.
Customer Number	Specify the number for the customer.
Customer Name	Specify the name for the customer.
Short Name	Specify the short name for the customer.

Field	Description
Customer Type	Select one of the options: • Individual: If selected, the customer is an individual customer. • Corporate: If selected, the customer is a corporate customer. • Bank: If selected, the customer is a bank employee.
Source Customer ID	Specify the source customer ID.
Source System	Search and select the required source system.
Customer Category	Search and select the required customer category.
Relationship Manager ID	Specify the relationship manager ID.
Address	Specify the address details.
Address Line 1-4	Specify the customer address details.
Country	Search and select the required country.
Other Details	Specify the other details.
Postal Code	Specify the postal code details.
Deceased	By default, this is disabled. If selected, indicates the customer is deceased.
Frozen	By default, this is disabled. If selected, indicates the customer account is frozen.
Whereabouts Unknown	By default, this is disabled. If selected, indicates the customer's whereabouts are unknown.
Sanction Check Required	By default, this is disabled. If selected, indicates the sanction check is required.
Walk-in Customer	By default, this is disabled. If selected, indicates a walk-in customer.
Staff	By default, this is disabled. If selected, indicates a staff customer.

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

4. 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.

3.18 External Customer Account

You can configure the external customer account details.

This section contains following subsections:

- 3.18.1 External Customer Account Summary

- 3.18.2 External Customer Account Maintenance

3.18.1 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:

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

2. Under **External Customer Account**, click **View External Customer Account**.

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

    Figure 40: View External Customer Account
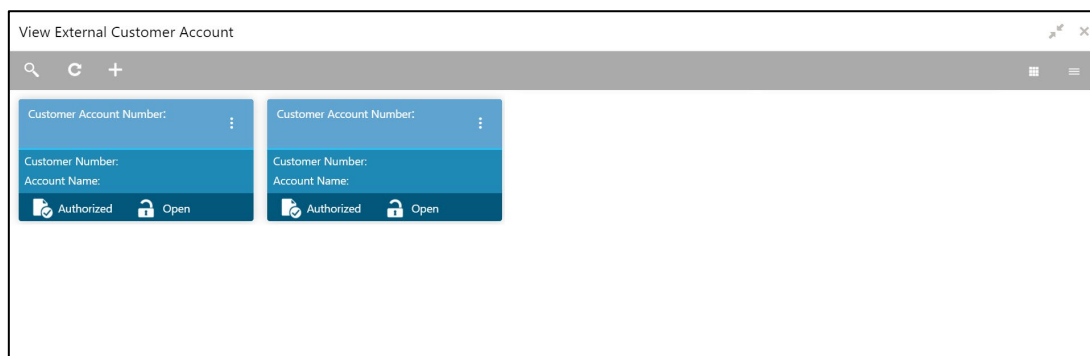
For more information on fields, refer to the field description table below.

Table 47: View External Customer Account – Field Description

Field	Description
Customer Number	Displays the customer number associated with the account name.
Customer Account Number	Displays the customer account number associated with the account name.
Account Name	Displays the name of the account.
Status	Displays the status of the record.

3.18.2 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 41: 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.

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Table 48: Create External Customer Account – Field Description

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

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

4. 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.

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3.19 External Customer Account Structured Address

You can configure the external customer account structured address details.

This section contains following subsections:

3.19.1 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 42: View External Customer Account Structured Address
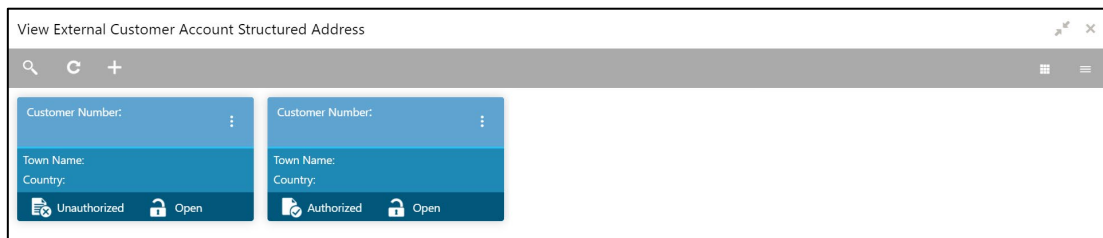
For more information on fields, refer to the field description table below.

Table 49: View External Customer Account Structured Address – Field Description

Field	Description
Customer Number	Displays the customer number.
Town Name	Displays the town name of the customer.
Country	Displays the country of the customer.

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3.19.2 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 43: 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 50: Create External Customer Account Structured Address – Field Description

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

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

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

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3.20 External Virtual Account Structured Address

You can view the external virtual account structured address details.

This section contains following subsections:

- 3.20.1 View External Virtual Account Structured Address

3.20.1 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 44: View External Virtual Account Structured Address
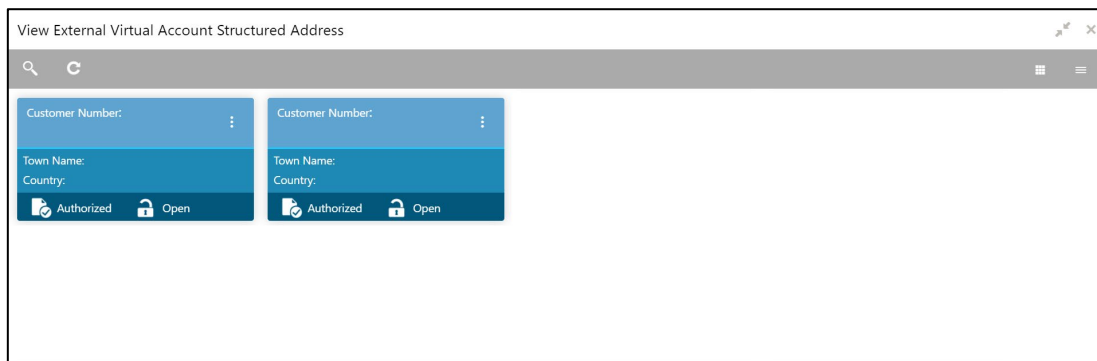
For more information on fields, refer to the field description table below.

Table 51: View External Virtual Account Structured Address – Field Description

Field	Description
Customer Number	Displays the customer number.
Town Name	Displays the town name.
Country	Displays the country name.

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

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3.21 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:

- 3.21.1 Forgotten Customers Summary
- 3.21.2 Forget Customer Maintenance

3.21.1 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 45: View Forgotten Customers
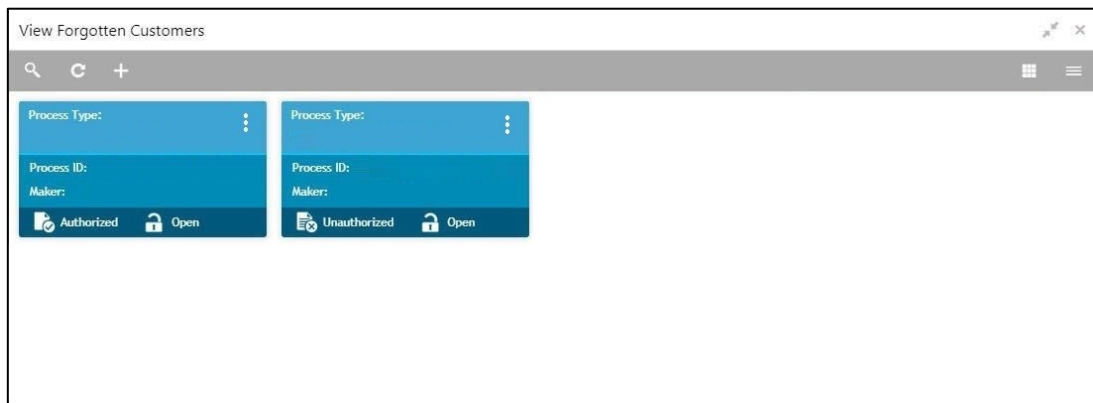
For more information on fields, refer to the field description table below.

Table 52: View Forgotten Customers – Field Description

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

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3.21.2 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 46: 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 53: Forget Customer – Field Description

Field	Description
Forget Customer Process ID	Specify a forget customer process ID.
Forget Customer Process Type	Select one of the options • Customer Initiated: If selected, indicates the customer has initiated the process. • Bank Initiated: If selected, indicates the bank has initiated the process.

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.

3.22 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:

- 3.22.1 Host Code Summary
- 3.22.2 Host Code Maintenance

3.22.1 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 47: View Host Code
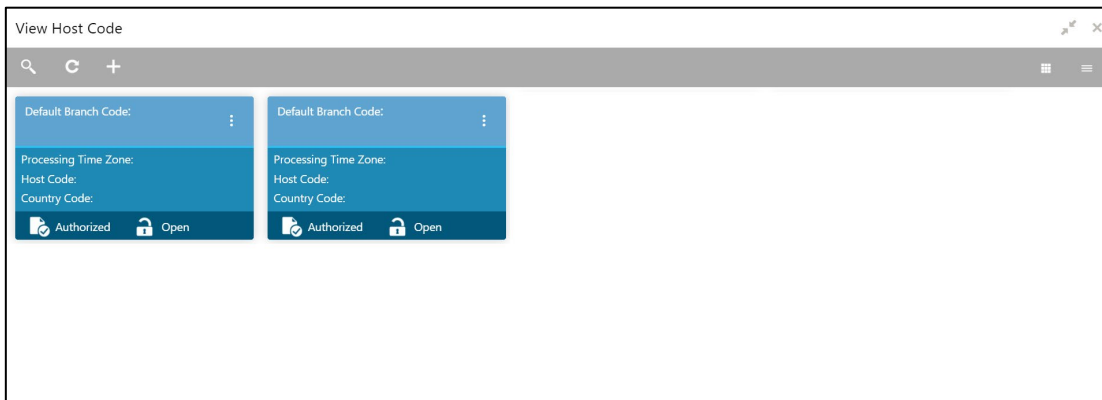
For more information on fields, refer to the field description table below.

Table 54: View Host Code – Field Description

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

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3.22.2 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 48: 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 55: Create Host Code – Field Description

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

4. Click **Save**. You can view the configured host code details in the Host Code Summary.

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3.23 Language Code

You can configure a language code.

This section contains following subsections:

3.23.1 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 49: View Language Code
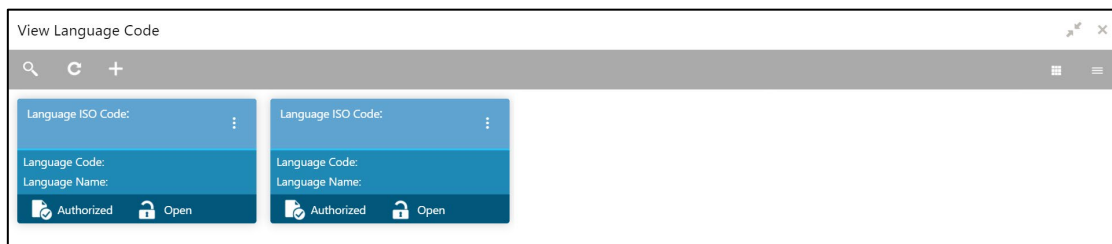
For more information on fields, refer to the field description table below.

Table 56: View Language Code – Field Description

Field	Description
Language ISO Code	Displays the default branch code associated with the host code.
Language Code	Displays the processing time zone.
Language Name	Displays the host code details.
Status	Displays the status of the records.

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3.23.2 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 50: 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 57: Create Language Code – Field Description

Field	Description
Language Code	Specify the code for the language.
Language Name	Specify the name for the language associated with the language code.
Display Direction	Specify the display direction.
Language ISO Code	Specify the language ISO code.

4. Click **Save**. You can view the configured language code details in the Language Code Summary.

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3.24 Local Holiday

You can configure a local holiday.

This section contains following subsections:

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3.24.1 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 51: View Local Holiday
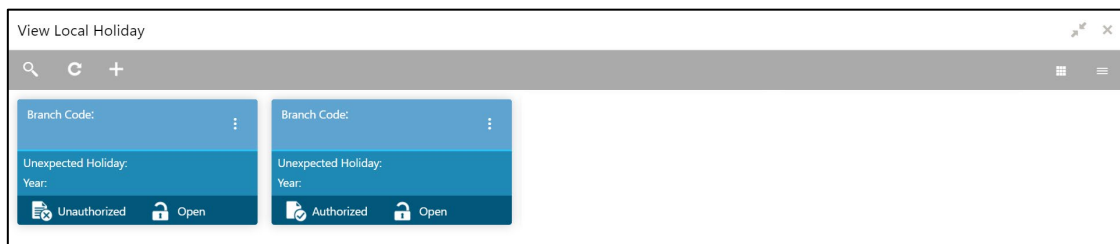
For more information on fields, refer to the field description table below.

Table 58: View Local Holiday – Field Description

Field	Description
Branch Code	Displays the code of the branch.
Unexpected Holiday	Indicates if the record is an unexpected holiday.
Year	Displays the year of the holiday.
Status	Displays the status of the record.

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3.24.2 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 52: 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 59: Create Local Holiday – Field Description

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

3.25 Media

You can configure media information.

This section contains following subsections:

- 3.25.1 Media Summary
- 3.25.2 Media Maintenance

3.25.1 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 53: View Media
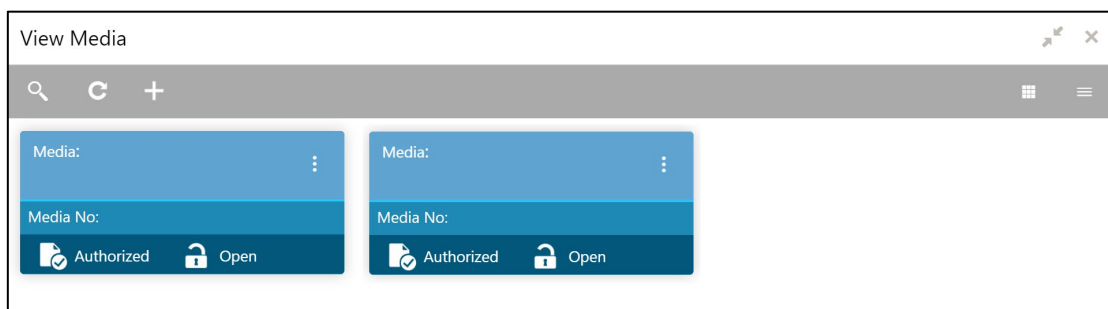
For more information on fields, refer to the field description table below.

Table 60: View Media – Field Description

Field	Description
Media	Displays the name of the media.
Media Number	Displays the number of the media.
Status	Displays the status of the record.

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3.25.2 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 54: 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 61: Create Media – Field Description

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

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Field	Description
Padding Required	By default, this option is disabled. If selected, pads the characters in every outgoing messages.
TW (Test Word) Required Status	By default, this option is disabled. If selected, enables the option for word testing.
Media Priority	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.
Number of Character	Select a number the padding characters should be repeated for the advice from the spin box.
Media Details	Specify the media details.
Media Code	Specify the unique media code to identify while associating with an advice.
Compatible Media	By default, this option is disabled. If selected, indicates the media is compatible.

4. Click **Save**. You can view the configured media details in the Media Summary.

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3.26 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:

- 3.26.1 Create MCA Linkage
- 3.26.2 View MCA Linkage

3.26.1 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 55: 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 62: Create MCA Linkage – Field Description

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

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Field	Description
Primary	Select **Yes**, if the sub account is Primary. If it is not Primary, select **No**.

3. Click **Save**. You can view the configured sub-account details in the View MCA Linkage.

3.26.2 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:

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

2. Under **Multi-Currency Account Linkage**, click **View MCA Linkage**.

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

   Figure 56: View MCA Linkage
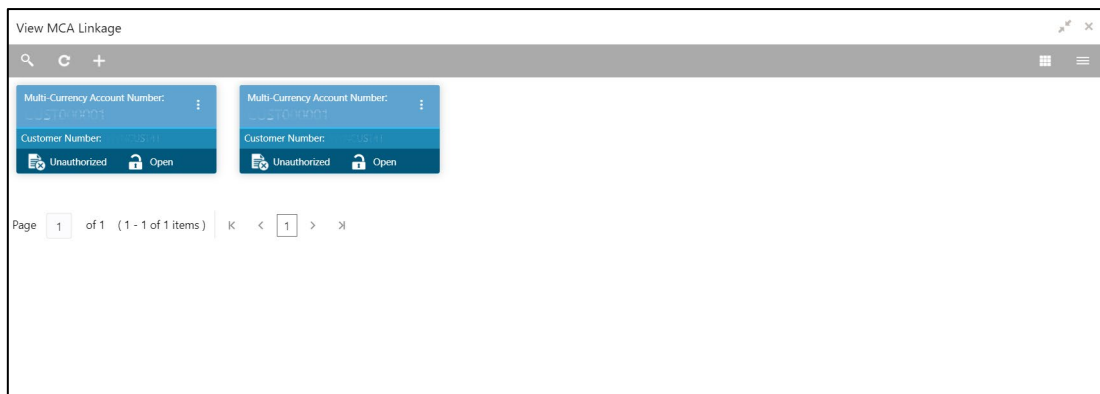
For more information on fields, refer to the field description table below.

Table 63: View MCA Linkage – Field Description

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

3.27 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:

- 3.27.1 View Process Code
- 3.27.2 Process Code Maintenance

3.27.1 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 57: View Process Code

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

Table 64: View Process Code – Field Description

Field	Description
Process Code	Displays the process code.
Description	Displays the description of process code.
Status	Displays the status of the record.

3.27.2 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 58: 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 65: Process Code – Field Description

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

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Field	Description
Add Row	Click **Add Row** to add a row and to capture the stage details that needs to be mapped to the process code.
Delete Row	Click **Delete Row** to delete a row with stage details.
Phase Code	Specify the phase code.
Phase Description	Specify the phase description.
Seq Order	Displays the sequential order of the phase.
Stage ID	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.
Add Row	Click **Add Row** to add a row and to capture the phase details that needs to be mapped to the process code.
Delete Row	Click **Delete Row** to delete a row with phase details.

3. Click **Save**. You can view the configured process codes in the View Process Code.

3.28 System Dates

You can view the system date details.

This section contains following subsections:

- 3.28.1 System Dates Summary

3.28.1 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 59: View System Dates
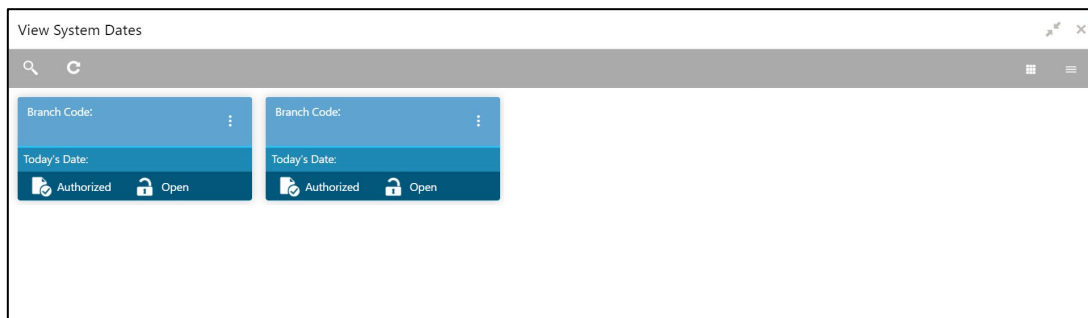
For more information on fields, refer to the field description table below.

Table 66: View System Dates – Field Description

Field	Description
Branch Code	Displays the code of the branch.
Today's Date	Displays system's current date.
Today's Date in Text	Displays the system's current date in words.
Status	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

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3.29 Transaction Code

You can configure the transaction code.

This section contains following subsections:

- 3.29.1 Transaction Code Summary
- 3.29.2 Transaction Code Maintenance

3.29.1 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 60: View Transaction Code
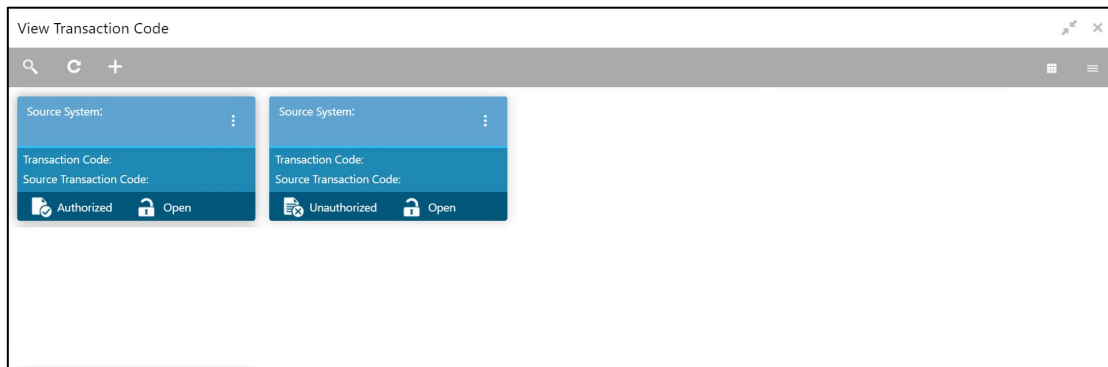
For more information on fields, refer to the field description table below.

Table 67: View Transaction Code – Field Description

Field	Description
Source System	Displays the source system details.
Transaction Code	Displays the transaction code details.
Source Transaction Code	Displays the source transaction code associated with the transaction code.
Status	Displays the status of the record,

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3.29.2 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 61: 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 68: Create Transaction Code – Field Description

Field	Description
Transaction Code	Specify the transaction code details.
Description	Specify additional information about the transaction code.
Source System	Search and select the required source system.
Source Transaction Code	Specify the source transaction code details.

4. Click **Save**. You can view the configured transaction code details in the Transaction Code Summary.

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3.30 Upload Source

You can upload a source code.

This section contains following subsections:

- 3.30.1 Upload Source Summary

- 3.30.2 Upload Source Maintenance

3.30.1 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 62: View Upload Source
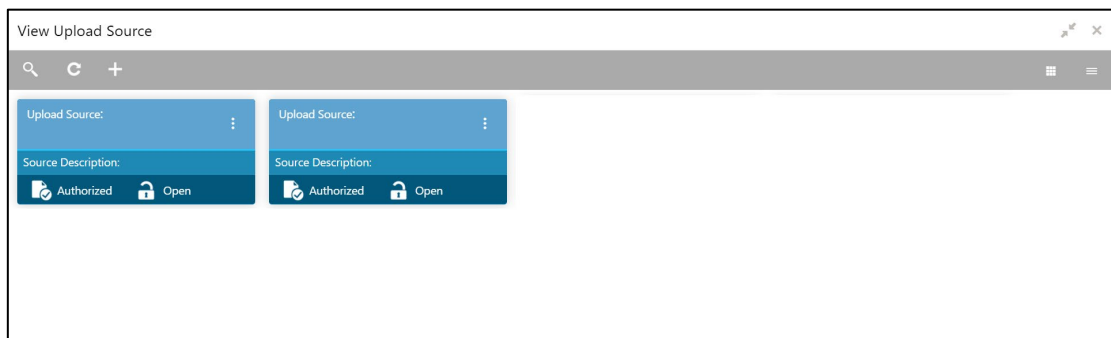
For more information on fields, refer to the field description table below.

Table 69: View Upload Source – Field Description

Field	Description
Upload Source	Displays the upload source details.
Source Description	Displays information about the source code.
Status	Displays the status of the record.

3.30.2 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 63: 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 70: Create Upload Source – Field Description

Field	Description
Source Code	Specify the source code details.
Source Description	Specify additional information of the source code.
Base Data from Flexcube	By default, this is disabled. If selected, indicates the base data is from FLEXCUBE.
System Authorization Required	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.

3.31 Upload Source Preference

You can configure upload source preference.

This section contains following subsections:

- 3.31.1 Upload Source Preference Summary
- 3.31.2 Upload Source Preference Maintenance

3.31.1 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 64: View Upload Source Preference
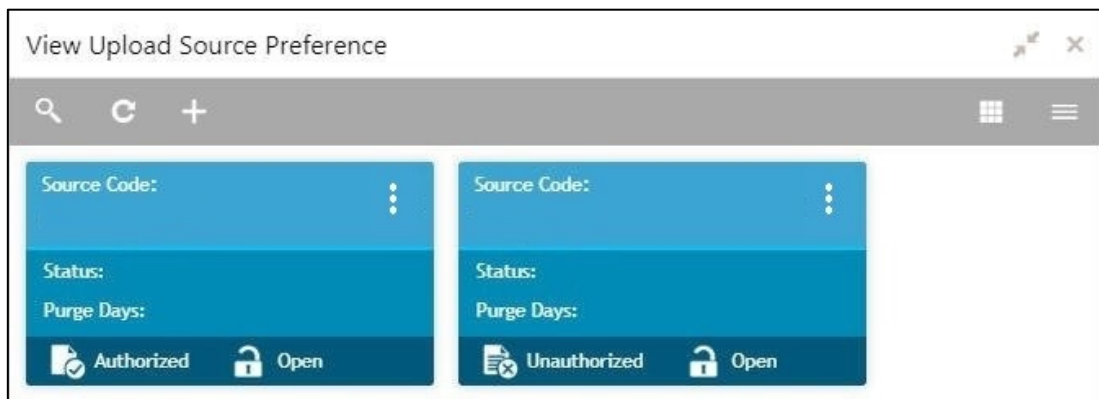
For more information on fields, refer to the field description table below.

Table 71: View Upload Source Preference – Field Description

Field	Description
Source Code	Displays the code of the source.
Status	Displays the status of the post upload.
Purge Days	Displays the number of purge days.
Status	Displays the status of the record.

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3.31.2 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 65: 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 72: Create Upload Source Preference – Field Description

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

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

4. Click **Save**. You can view the configured upload source preference details in the Upload Source Preference Summary.

3.32 Pricing Source System

You can configure the pricing source system.

This section contains following subsections:

3.32.1 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 66: View Pricing Source System

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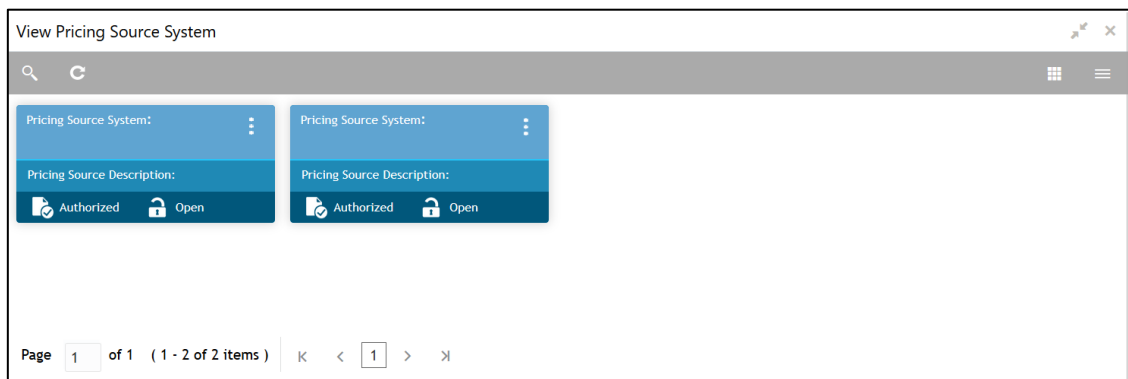
For more information on fields, refer to the field description table below.

Table 73: 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.

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3.32.2 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 67: 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 74: Create Pricing Source System – Field Description

Field	Description
Pricing Source System	Specify the pricing source system.
Pricing Source Description	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.

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3.33 Integrating Bureau Integration Service with Oracle Banking Routing Hub

3.33.1 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.

Navigation: **Core Maintenance -> Routing Hub -> Service Consumers**
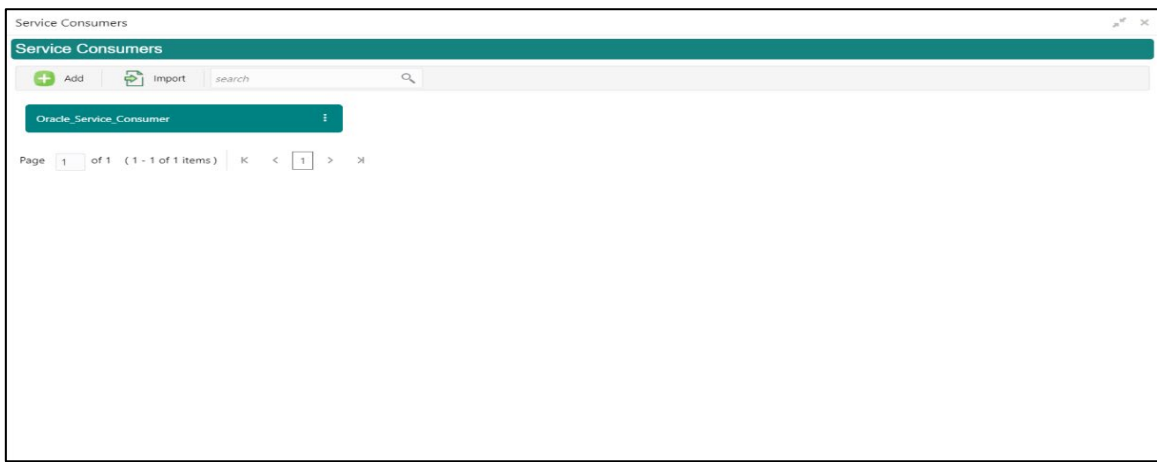
Figure 68: Service Consumers

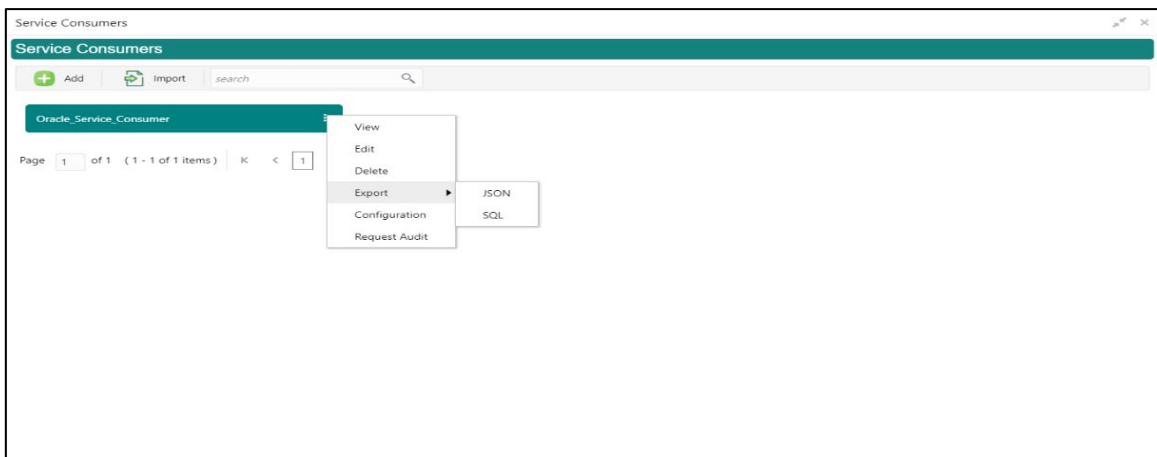**Figure 69: Oracle Banking Routing Hub Configuration**

Table 75: Oracle Banking Routing Hub Configuration

Component Name	Component Type	Condition	Comments
Add	Button		Pops up add dialog
Import	Button		Pops up import dialog

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

3.33.1.1 Add

You can create service consumer manually.
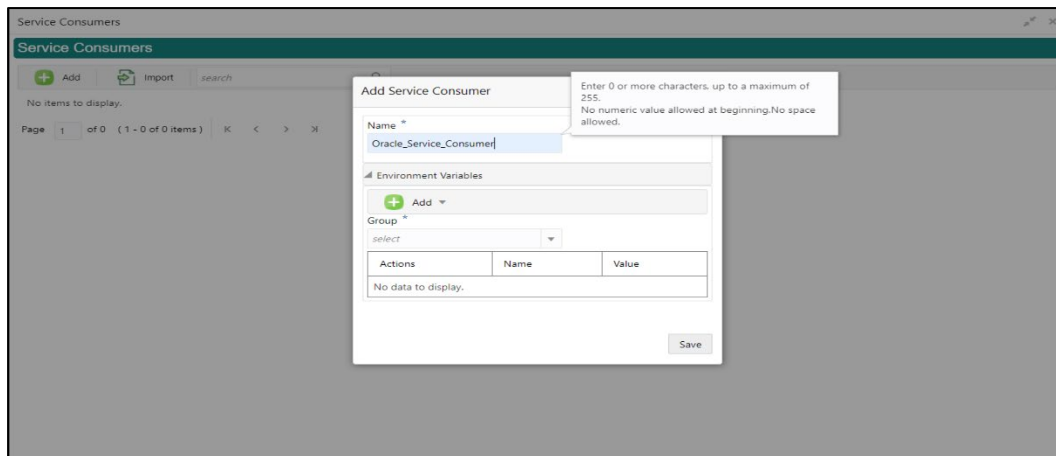
Navigation: **Service Consumers -> Add**

Figure 70: Add

Table 76: Add

Component Name	Component Type	Is Mandatory	Data type	Validation	Comments
Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255 • No numeric value at beginning and no space allowed	Unique Service Consumer name
Environment Variables	Table Content				
Save	Button				Saves the Service Consumer

3.33.1.2 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

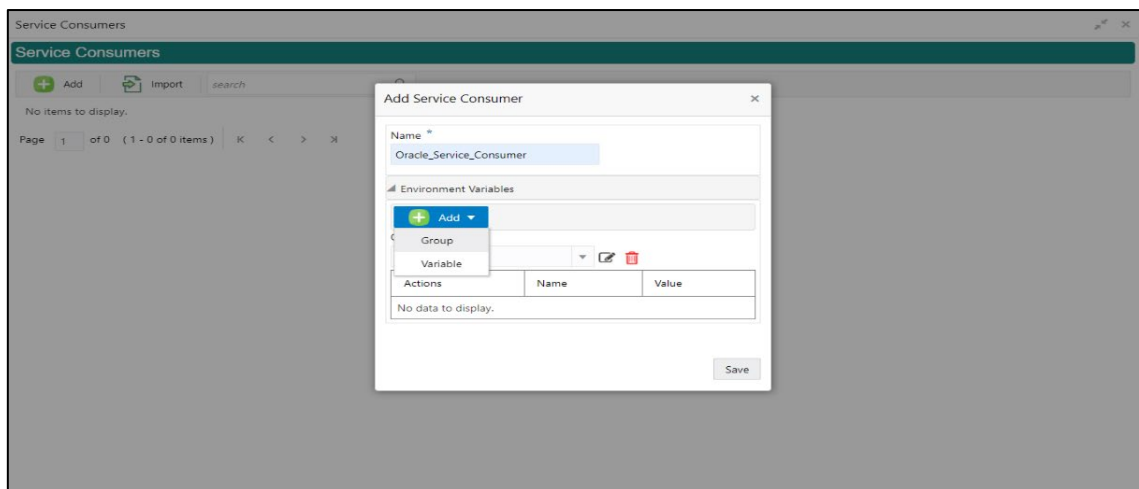**such as: $env.COMMON.BRANCH_CODE**

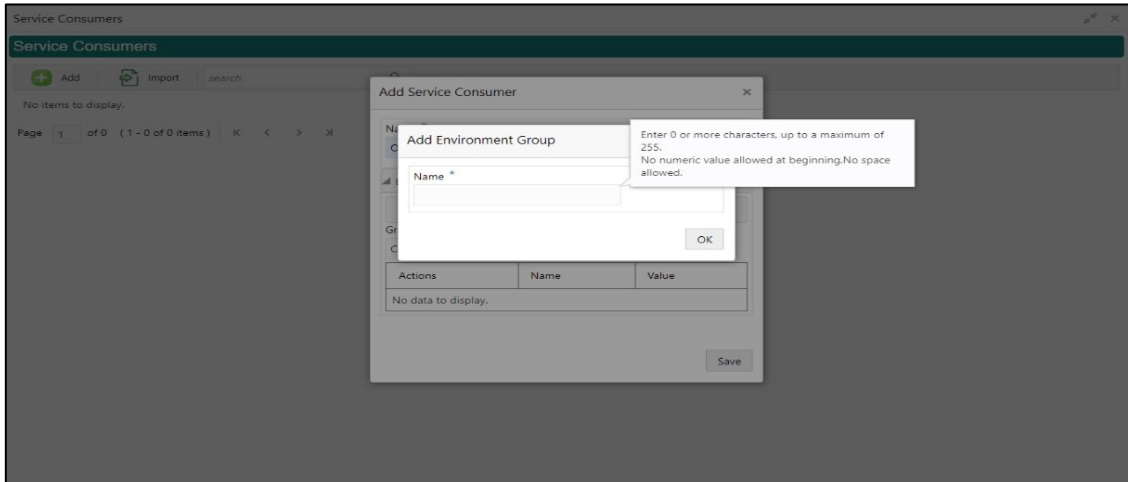**Figure 71: Environment Variables**

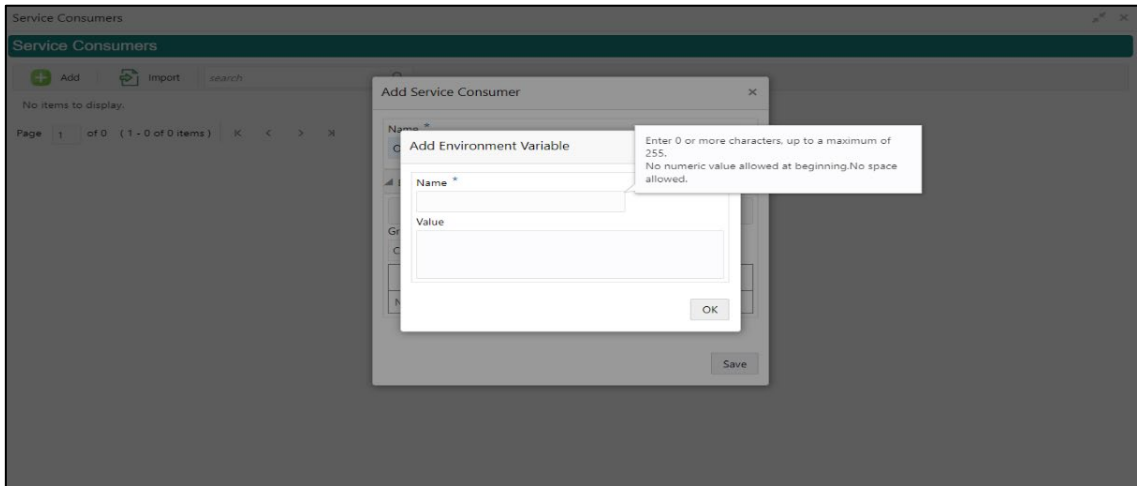**Figure 72: Environment Variables**

Figure 73: Environment Variables

Table 77: Environment Variables

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

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Delete	menu option / icon				Deletes group / variable
Environment Group / Variable					
Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255 • No numeric value at beginning and no space allowed	
Value	Text Area				Value can either be hardcoded or Velocity mapping.
OK	Button				Saves the group / variable and displays it in the list

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3.33.1.3 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.

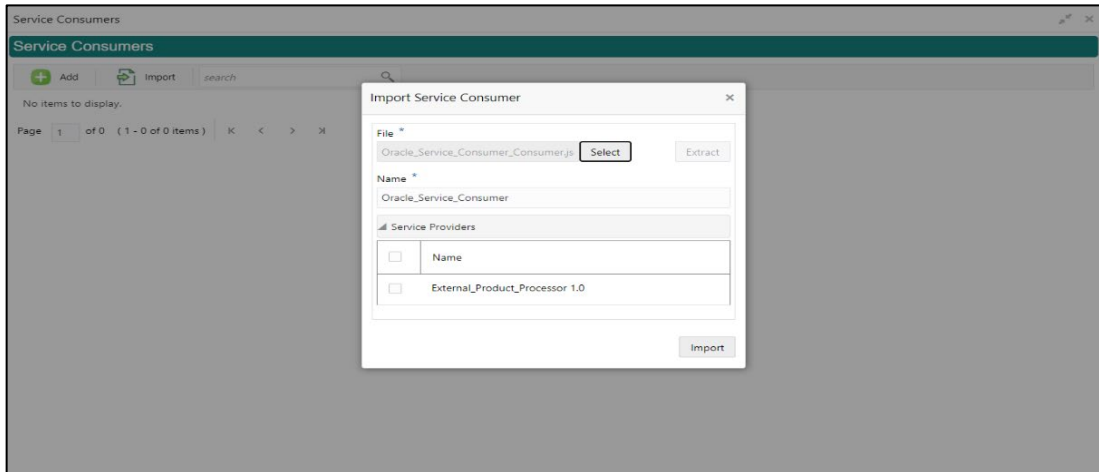Navigation: **Service Consumers -> Import**

Figure 74: Import

Table 78: Import

Compone nt Name	Compone nt Type	Is Mandator y	Data type	Validatio n	Conditio n	Comment s
File	File picker	Yes		Allows only to select one file	Accepts only JSON file	Pops up file selection dialog box
Extract	Button	Yes				Extracts Consumer Name and Service Provider list from JSON file and displays it in the respective elements.
Name	Text Box	Yes	Alphanumer ic with special characters	• Name cannot be blank • Specify 0 or more character s, up to a maximum of 255	Editable	Unique

Compone nt Name	Compone nt Type	Is Mandator y	Data type	Validatio n	Conditio n	Comment s
				• No numeric value at beginning and no space allowed		
Service Provider	Collapsible Header & Content					Displays the list of service providers that are present in JSON file
Import	Button					Imports Service Consumer

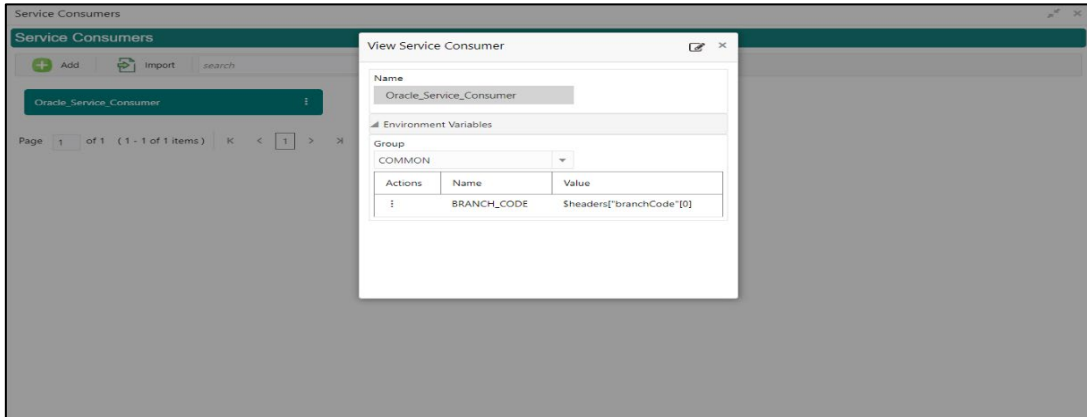**Note:** Below data needs to be changed after importing consumer configuration file:

• Implementation Host and Port

• Implementation Authentication Password

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3.33.1.4 View

You can view consumer details and can also switch to edit form by clicking on edit icon.

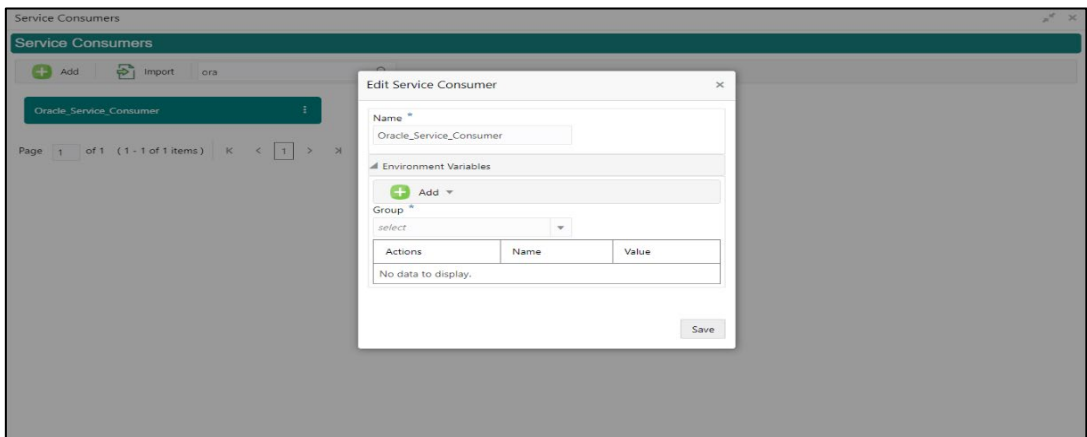Navigation: **Service Consumers -> Operation Menu (3 dot icon) -> View**

Figure 75: View

3.33.1.5 Edit

You can modify the consumer details.

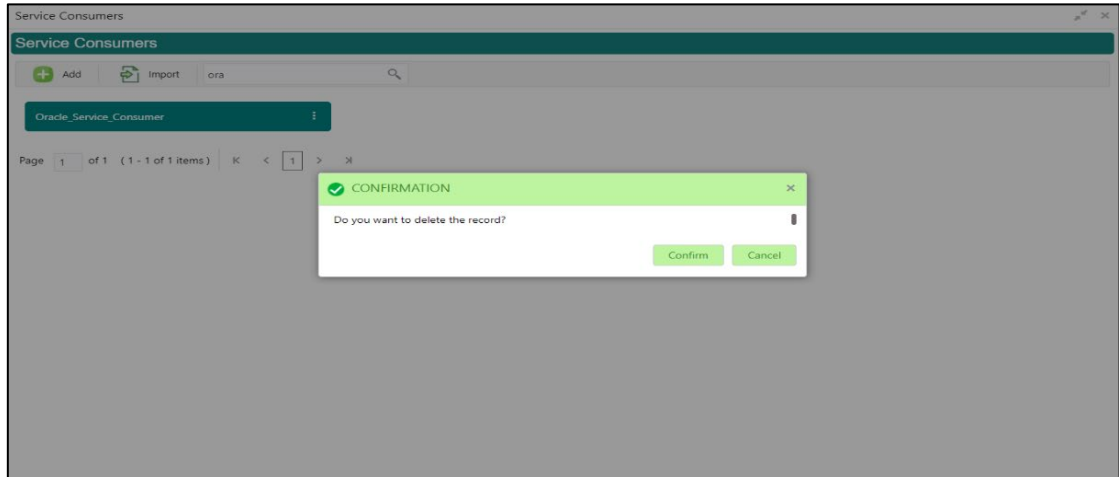Navigation: **Service Consumers -> Operation Menu (3 dot icon) -> Edit**

Figure 76: Edit

3.33.1.6 Delete

You can delete the consumer.

Navigation: **Service Consumers -> Operation Menu (3 dot icon) -> Delete**
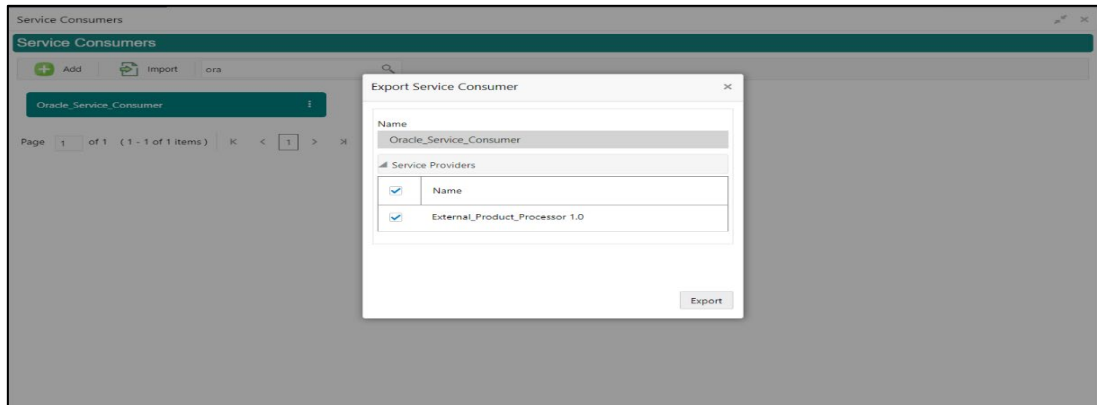
Figure 77: Delete

3.33.1.7 JSON Export

You can export the consumer configuration as JSON file.

Navigation: **Service Consumers -> Operation Menu (3 dot icon) -> Export -> JSON**

Figure 78: 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.

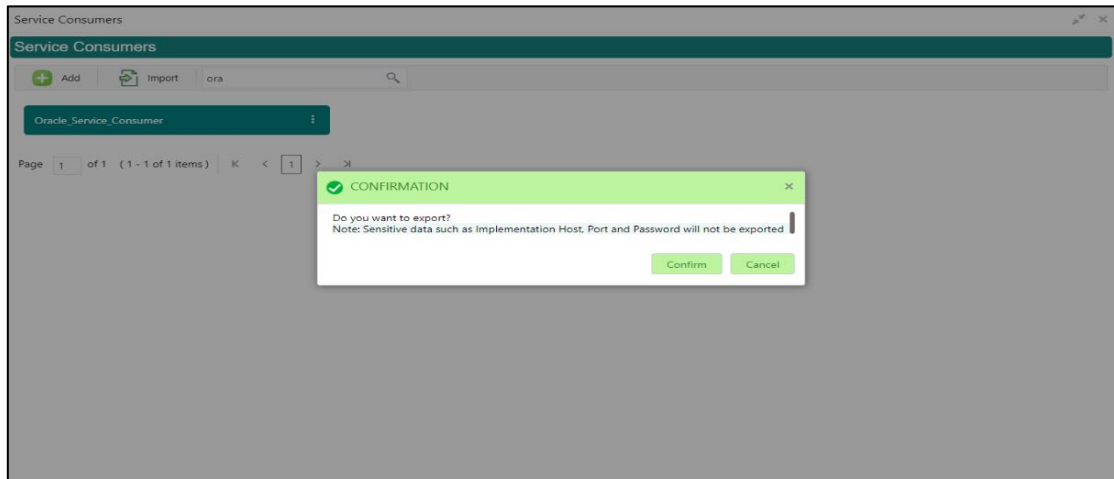JSON Export feature will export below data:

- 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

3.33.1.8 SQL Export

You can export the consumer configuration as SQL file.

Navigation: **Service Consumers -> Operation Menu (3 dot icon) -> Export -> SQL**

Figure 79: SQL Export

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

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3.33.2 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.

Navigation: **Core Maintenance -> Routing Hub -> Service Consumers -> <Specific Service Consumer> -> Service Providers**
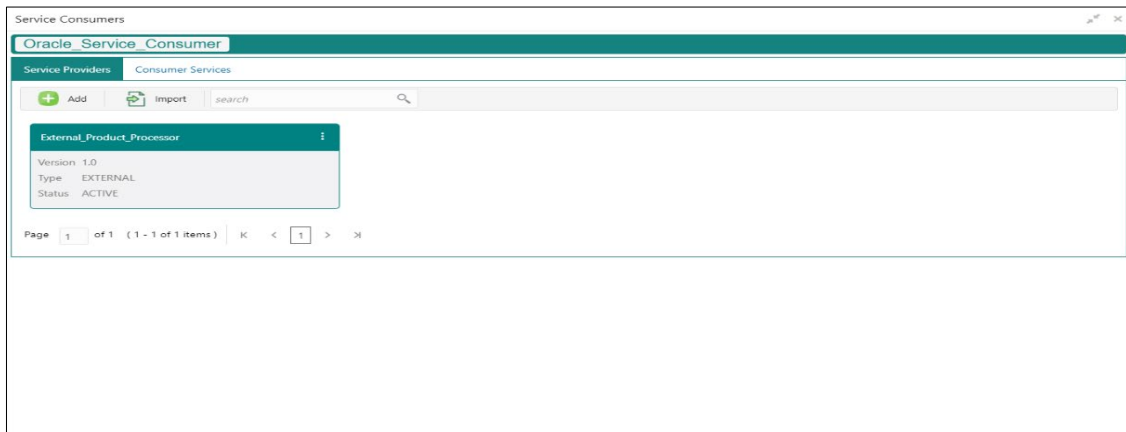
Figure 80: Service Providers

Figure 81: Service Providers
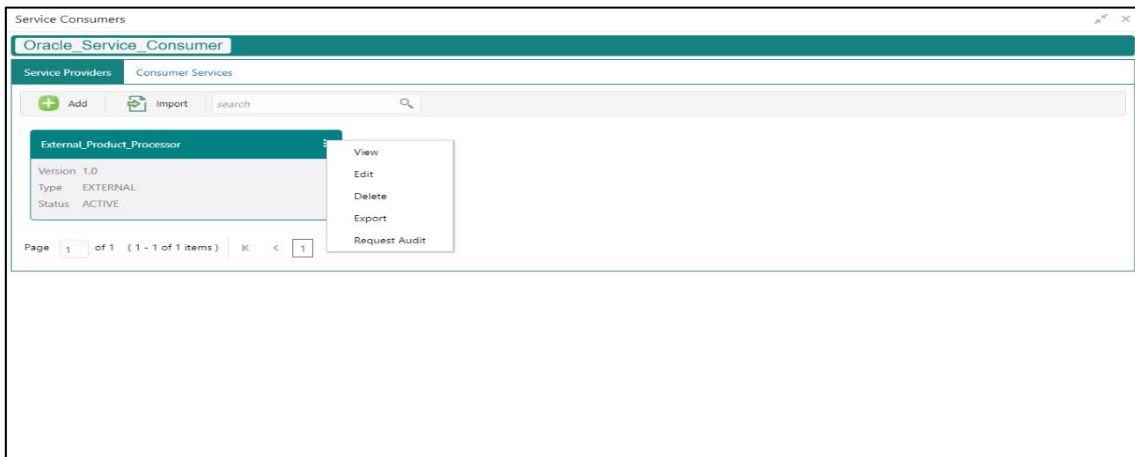
Table 79: Service Providers

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
Import	Button					Pops up import dialog

Search	Combo Box One					Provides search functionality with case insensitive (Service Provider Name)
Navigation: **Service Providers -> 3 dot icon (operation menu)**						
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

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3.33.2.1 Add

You can create service provider manually.

Navigation: **Service Providers-> Add**
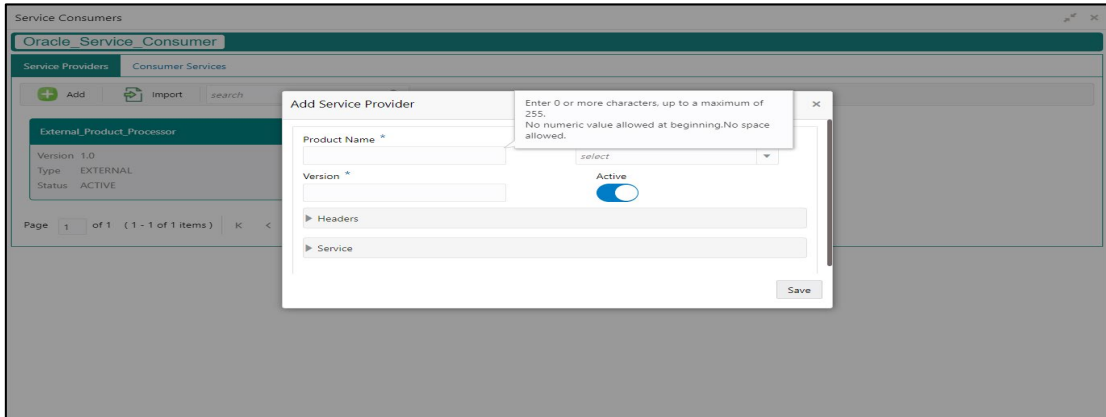
Figure 82: Add

Table 80: Add

Component Name	Component Type	Is Mandatory	Data type	Validation	Comments
Product Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255. • No numeric value at beginning and no space allowed.	Unique provider name
Type	Combo Box One	Yes			Predefined Values: INTERNAL / EXTERNAL

Component Name	Component Type	Is Mandatory	Data type	Validation	Comments
Version	Text Box	Yes	Number	• Version cannot be blank • Specify 0 or more characters, up to a maximum of 255. • Specify only numeric or decimal values.	Unique provider version
Active	Switch				Predefined Values: ACTIVE / INACTIVE If provider is marked as inactive, then all related routes will be stopped.
Headers	Collapsible Header & Content				Provider specific headers
Service	Collapsible Header & Content				Provider specific service details
Save	Button				Saves the Service Provider

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3.33.2.2   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.
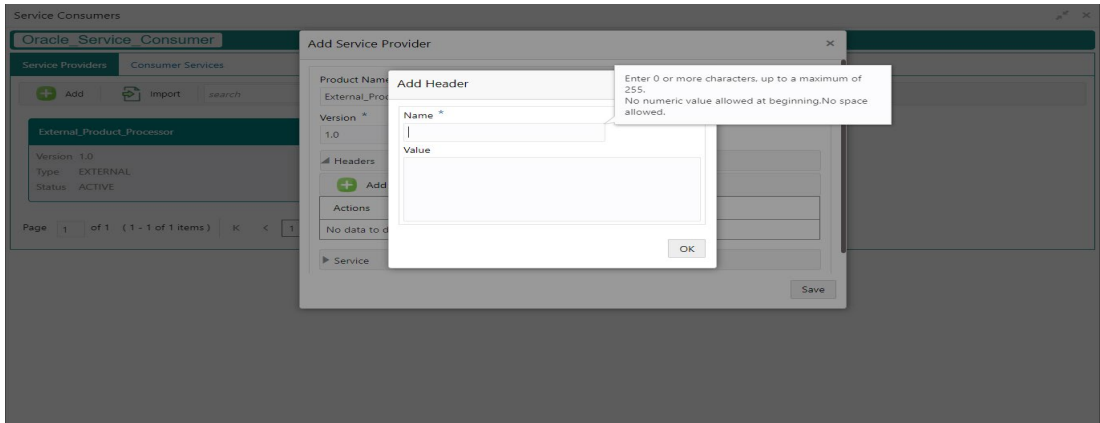
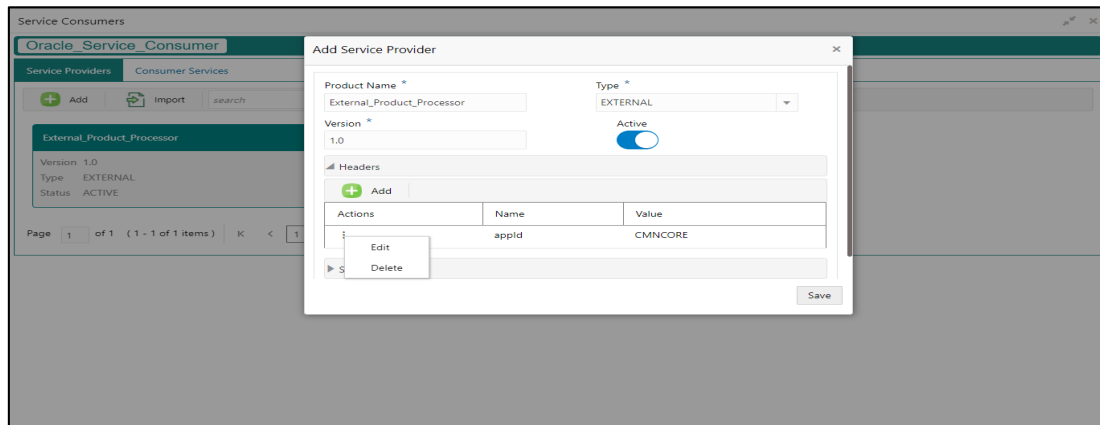**Figure 83: Headers**

Figure 84: Headers

Table 81: Headers

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

Compone nt Name	Compone nt Type	Is Mandator y	Data type	Validatio n	Conditio n	Comment s
Name	Text Box	Yes	Alphanumer ic with special characters	• Name cannot be blank • Specify 0 or more character s, up to a maximum of 255. • No numeric value at beginning and no space allowed.		
Value	Text Area	Yes	Alphanumer ic with special characters	• Value cannot be blank • Specify 0 or more character s, up to a maximum of 255. • No space allowed.		Value can either be hardcoded or can be Velocity mapping.
OK	Button					Saves the header details and displays it in the list

Navigation row: Navigation: **Service Providers -> Headers -> Add**

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3.33.2.3 Service

Figure 85: Service
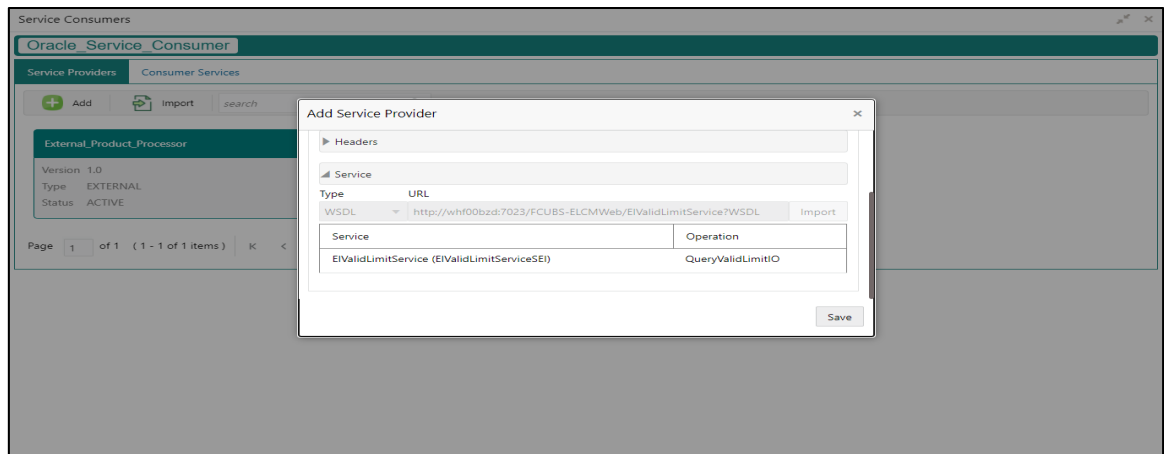
Table 82: Service

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 http://host:port/gateway-prefix/endpoint
Import	Button		Extracts the service information from URL and displays it in the Service list

3.33.2.4 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.

3.33.2.5 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.

3.33.2.6 Import

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

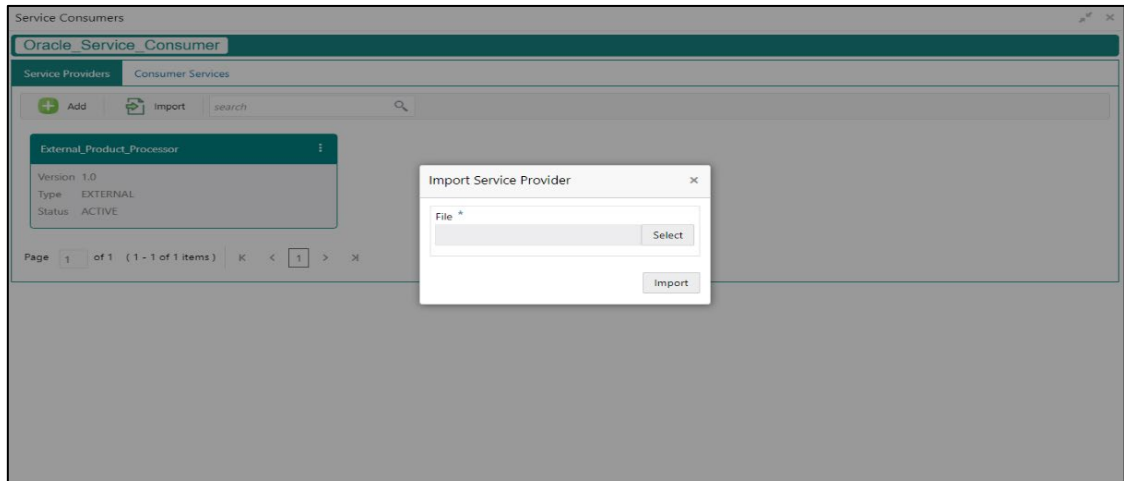Navigation: **Service Providers -> Import**

Figure 86: Import

Table 83: 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

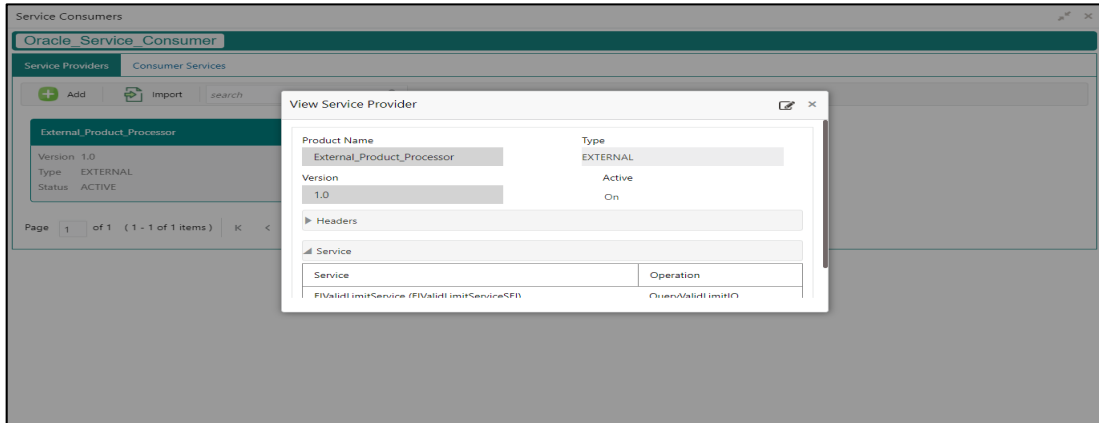**NOTE:** Below data needs to be changed after importing provider configuration file:

- Implementation Host and Port
- Implementation Authentication Password

3.33.2.7 View

You can view provider details and can also switch to edit form by clicking on edit icon.

Navigation: **Service Providers -> Operation Menu (3 dot icon) -> View**

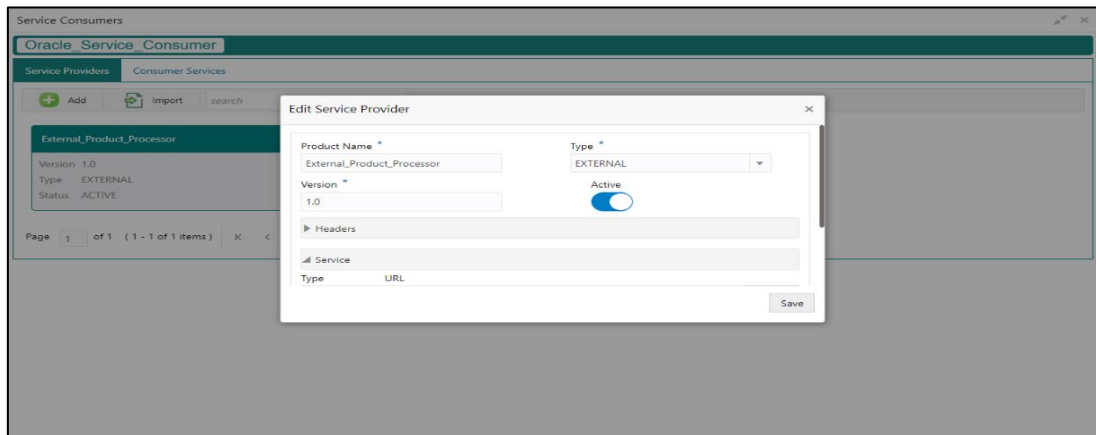**Figure 87: Oracle Banking Routing Hub Configuration**

3.33.2.8 Edit

You can modify the provider details.

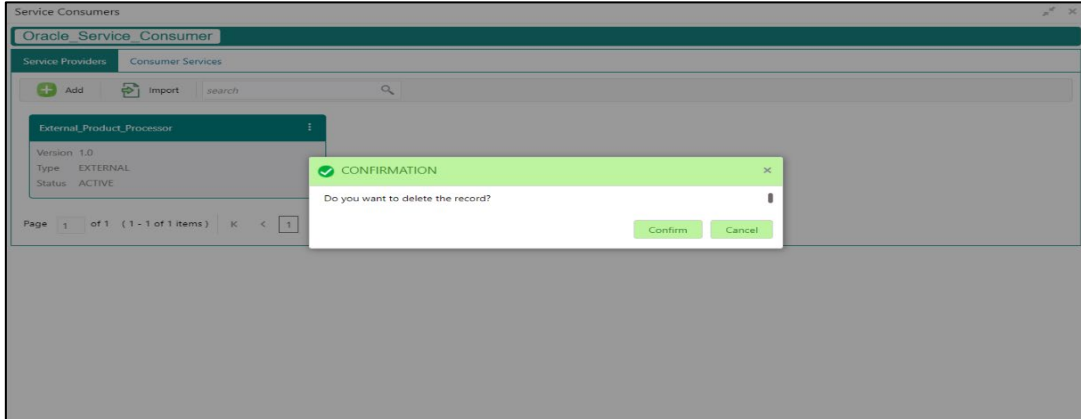Navigation: **Service Providers -> Operation Menu (3 dot icon) -> Edit**

Figure 88: Edit

3.33.2.9 Delete

You can delete the provider.

Navigation: **Service Providers -> Operation Menu (3 dot icon) -> Delete**
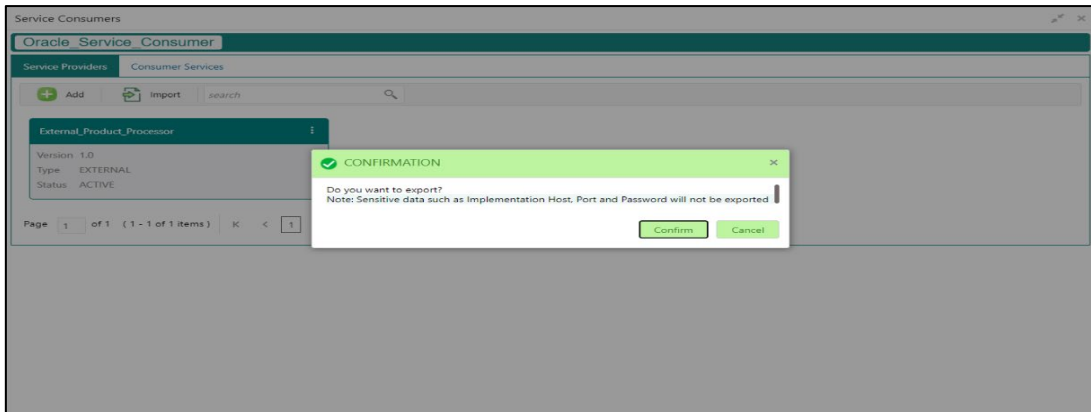
Figure 89: Delete

3.33.2.10 Export

You can export the provider configuration as JSON file.

Navigation: **Service Providers -> Operation Menu (3 dot icon) -> Export**

Figure 90: 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

3.33.3 Experian Configuration

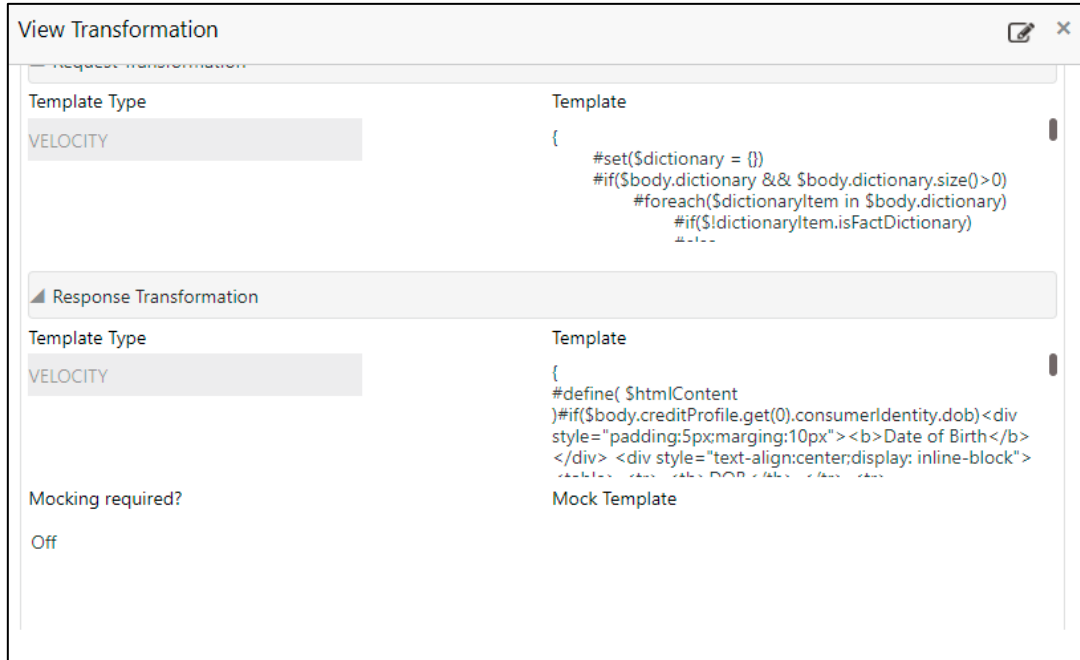#### 3.33.3.1 Experian Fetch Credit Report

Figure 91: Experian Fetch Credit Report

Figure 92: Experian Fetch Credit Report

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3.33.3.2   Experian Sandbox

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

Figure 93: Experian Sandbox

3.33.4 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.

3.33.4.1   Equifax Fetch Credit Report

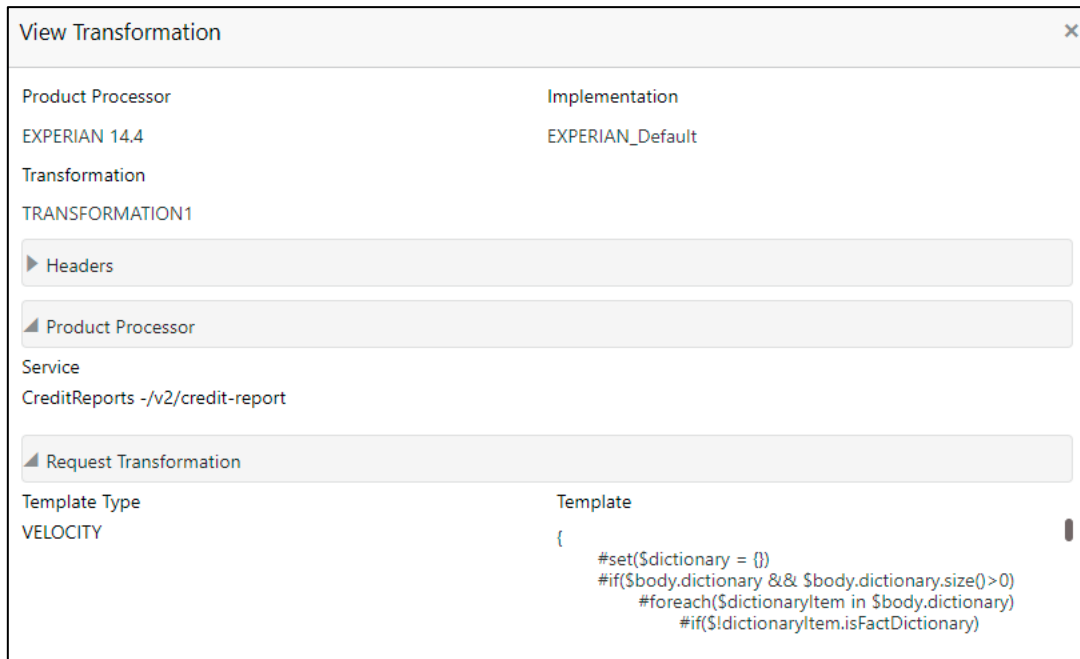**Figure 94: Equifax Fetch Credit Report**

3.33.4.2 Equifax Sandbox

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

Figure 95: Equifax Sandbox
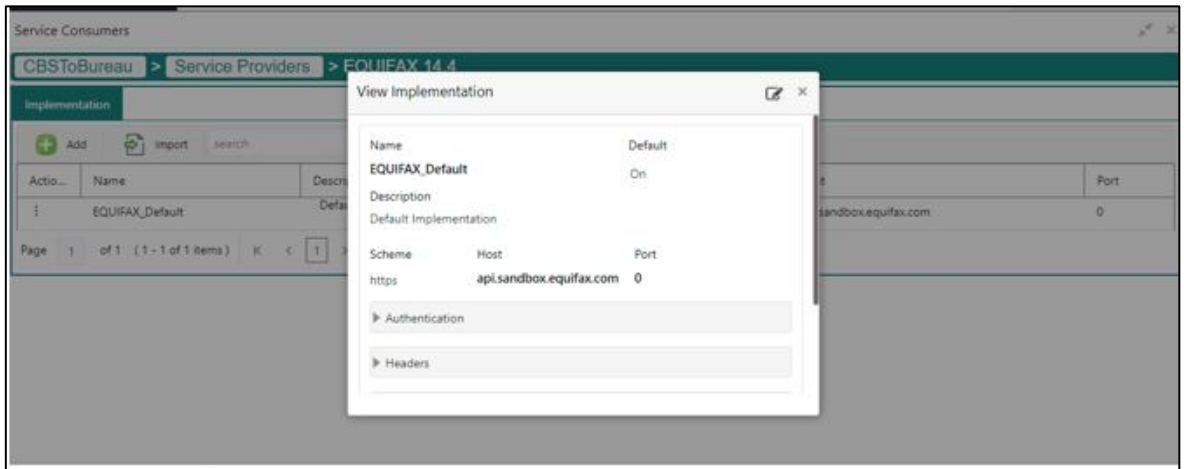
3.33.5 Troubleshooting

3.33.5.1 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.

3.33.5.2 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

3.33.5.3 Oracle Banking Routing Hub environment variable value not found

The environment variable for the CBS product processor is improper. ($.headers["bureauType"][0])

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

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3.34   Bureau Integration Service

3.34.1 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:

1. The product processor requests bureau integration service for credit reports. It provides the required customer information for whom the report is requested.

2. The routing hub transforms the data and forwards the request to the bureau integration service.

3. 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.

4. Bureaus to be called are identified based on evaluation of the rules.

5. The integration service then sends the request to the routing hub, which transforms the data and sends the request to the respective credit bureaus.

6. The bureau processes the request and sends the credit report back.

7. The routing hub receives the report and transforms the report as per the defined template and sends it back to bureau integration service.

8. 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 96: Bureau Integration Service

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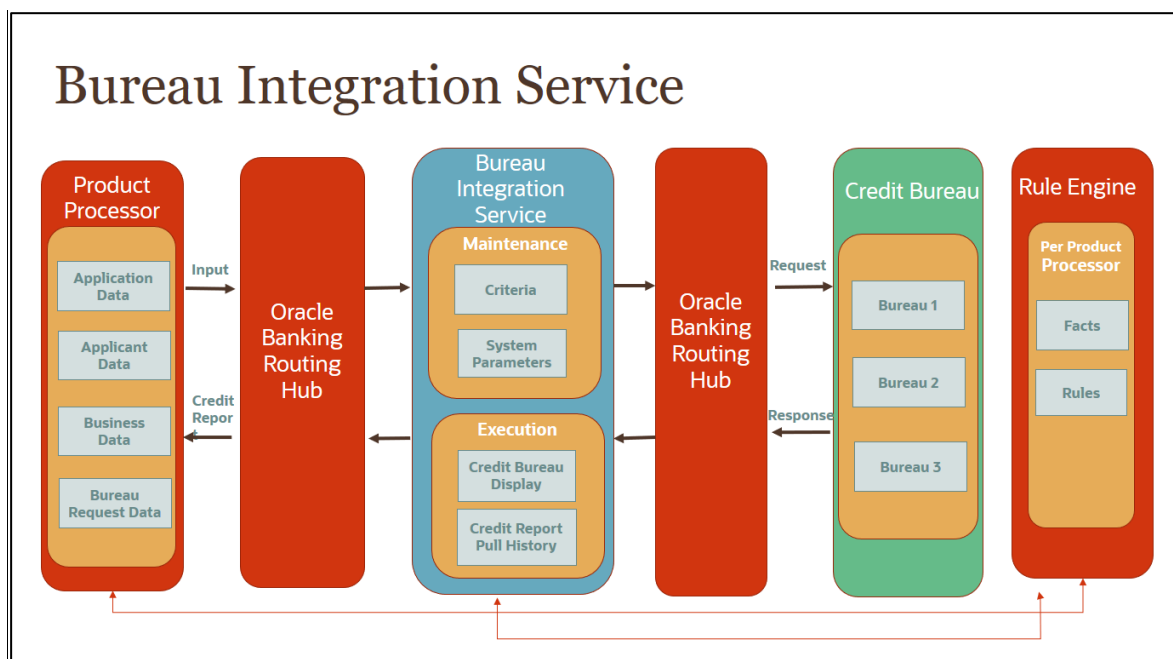
Authorization process

To authorize and approve lookup, criteria 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.

3.35 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.

3.35.1 View Credit Bureau Report

Using this screen, you can 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**.

    $\rightarrow$ The **Credit Bureau Display** screen is displayed.

Figure 97 : Credit Bureau Display

3. On **Credit Bureau Display** 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 84: Credit Bureau Display- Field Description

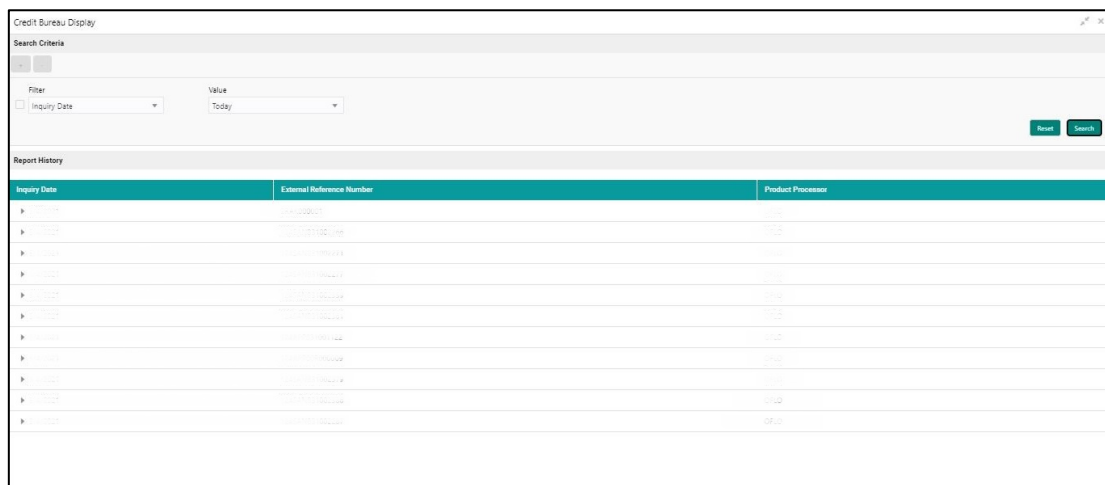| Field	Description
Filter	Select the required option based on which you can search for the credit bureau reports. The options are: • External Reference Number • Inquiry ID • Inquiry Date • Bureau Name • Product Processor

Field	Description
	• Application Number • Bureau Report ID
Value	Specify the required details or select the appropriate option for the selected filter option. This field appears once you select an option from the **Filter** list.
From Date	Select the start of the period during which the report was generated. This field appears once you have selected the filter option as **Inquiry Date** and value as **Date Range.**
To Date	Select the end date of the period during which the report was generated. This field appears if you have selected the filter option as **Inquiry Date** and value as **Date Range.**

4. 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.

Figure 98 : Credit Bureau Display Screen

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

Table 85: Credit Bureau Display – Field Description

Field	Description
Inquiry Date	Displays the inquiry date of the request from product processor to bureau integration service.
External Reference Number	Displays the external reference number provided by the product processor.

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Field	Description
Product Processor	Displays the name of the product processor that sent the request.

5. Click the ▶ icon corresponding to the required record to view the list of reports.

Figure 99 : Credit Bureau Display View List of Report

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

Table 86: 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.
View	Click this link to view the credit bureau report.

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

→ The **Credit Bureau Report** is displayed.

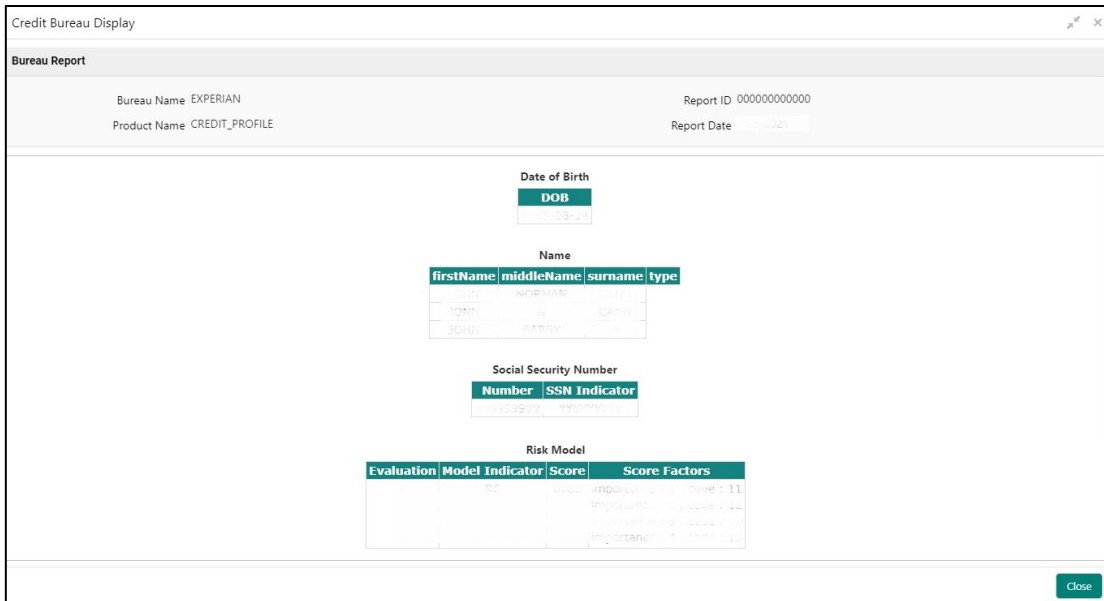**Figure 100 : Credit Bureau Report**

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

Table 87: Create Bureau Report – Field Description

Field	Description
Bureau Name	Displays the name of the credit bureau agency.
Product Name	Displays the product name of the credit bureau agency.
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.

3.36 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

    o Credit Bureau: For example, credit bureau1, credit bureau 2, and credit bureau 3.

    o Comparison Operator: Equals, Greater than.

- Dependent lookups based on another selection

    o Based on Country, State should have different values in the lookup.

    o Based on Country, Currency should have different values in the lookup.

3.36.1 Create Lookup

Using this screen, you can 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 101 : Create Lookup

4. On **Create Lookup** 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 88: Create Lookup – Field Description

Field	Description
Lookup Type	Specify the unique lookup type name.
Description	Specify the short description for lookup.

Figure 102 : Create Lookup

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

Table 89: Create Lookup – Field Description

Field	Description
+ icon	Click this icon to add a new row.
- icon	Click this icon to delete a row, which is already added**.**
Lookup Code	Specify the unique lookup code.
Description	Specify the short description for lookup.
Sort Order	Specify the sort order.
Dependent Identifier	Specify the dependent Identifier.
Enable	Click the toggle status to enable the parameter.

5. Click **Save.**

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

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3.36.2 View Lookup

Using this screen, you can 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.
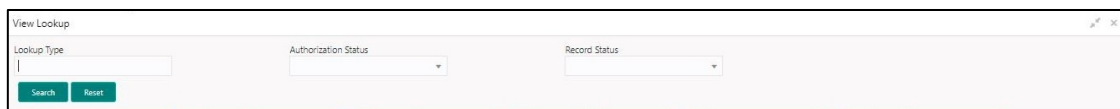
    Figure 103 : View Lookup
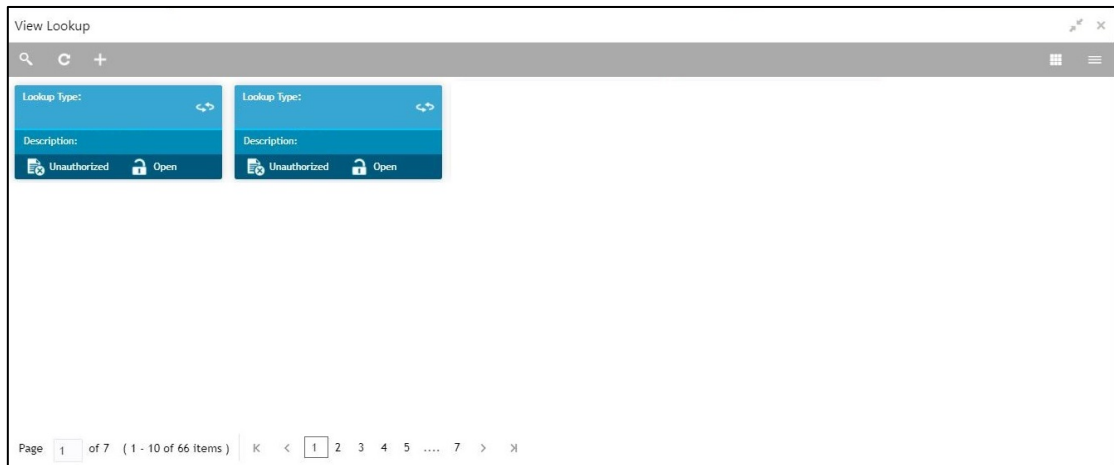
4. Click ⌕ .

5. Specify the search criteria to fetch the required lookup.

6. Click **Search**.

    Figure 104 : View Lookup - Search Option

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

Table 90: View Lookup – Search Option – Field Description

Field	Description
The following fields are displayed, once you click 🔍	
Lookup Type	Displays the lookup type.
Authorization Status	Select the authorization status of the lookup. The options are: • Authorized • Unauthorized
Record Status	Select the record status of the lookup. The options are: • Open • Close: Available only for Authorized lookup.

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

Table 91: View Lookup – Field Description.

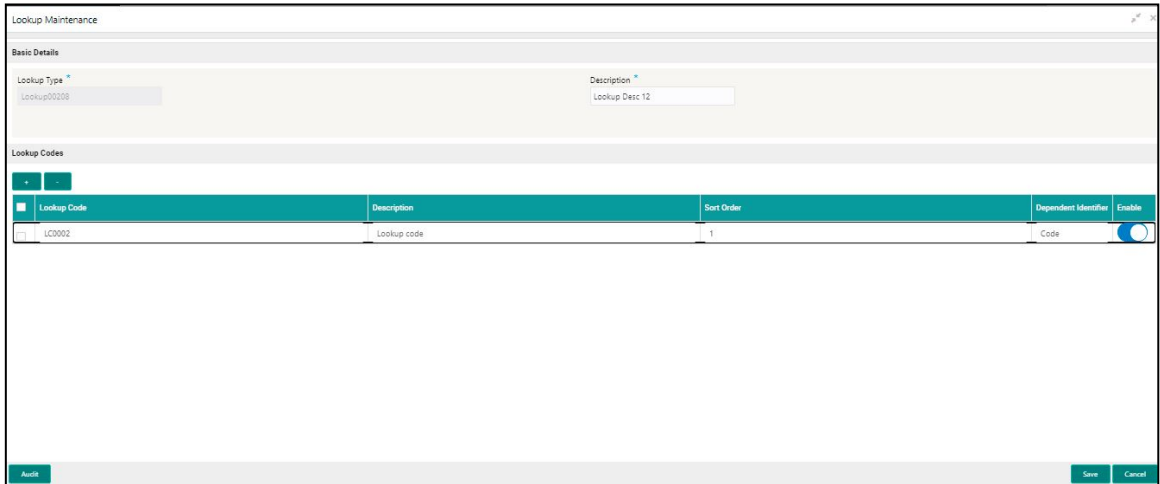| Field	Description
Lookup Type	Displays the lookup type.
Description	Displays the description of the lookup.

7. Click this icon ⋮ to modify, close or view the created criteria code

8. Click 𝟞 to modify the following fields. The fields are displayed in the **Lookup Maintenance** screen.

- Lookup Code

- Description

- Sort Order

- Dependent Identifier

Figure 105 : Lookup Maintenance – Modify

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

Table 92: Lookup Maintenance – Modify- Field Description.

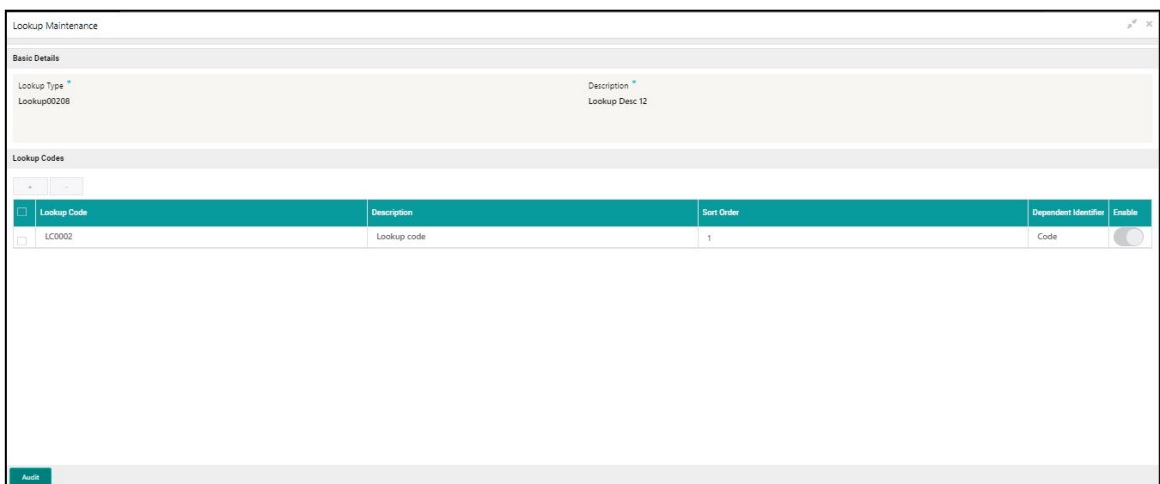| Field	Description
Basic Details	
Lookup Type	Displays the lookup type.
Description	Displays the description of the lookup.

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

10. Click ⬚ to view the created lookup code. The fields are displayed in **Lookup Maintenance** screen.

Figure 106 : Lookup Maintenance – View

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

Table 93: Lookup Maintenance – View- Field Description.

Field	Description
Basic Details	
Lookup Type	Displays the uploaded lookup type.
Description	Displays the description for the uploaded lookup.
Lookup Codes	
Lookup Code	Displays the lookup code for the uploaded lookup.
Description	Displays the description for the uploaded lookup.
Sort Order	Displays the sort order for the uploaded lookup.
Dependent Identifier	Displays the dependent identifier for the uploaded lookup.
Enable	Displays the lookup code if enabled for the uploaded lookup.

3.37　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.

3.37.1　Create Bureau Criteria

Using this screen, you can 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 107 : Create Bureau Criteria

4. On **Create Bureau Criteria** 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 94: Create Bureau Criteria – Field Description.

Field	Description
Basic Details	
Criteria Code	Specify the unique criteria code.
Description	Specify a short description for the criteria code.
Product Processor	Specify the product processor for which the criteria is being created.

Figure 108 : Create Bureau Criteria – Criteria Definition

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

Table 95: Create Bureau Criteria – Field Description.

Field	Description
+ icon	Click this icon to add a new row.
- icon	Click this icon to delete a row, which is already added.
Rule ID	Specify the rule ID.
	Click this icon to get the information about the rule.
Description	Displays the description of the rule ID selected.
Priority	Specify the priority of the criteria.
Call All Bureau	Click the toggle status to call all bureaus.
Enable	Click the toggle status to enable the rule criteria.
Actions	This field is enabled if **Call All Bureau** field is selected as **No**
+ icon	Click this icon to add a new row.
The below fields appear if **Call All Bureau** toggle status is not clicked. To add the child rule to the parent rule.	
Rule ID	Select the rule ID from the drop-down list.
	Click this icon to get the information about the rule.
Description	Displays the description of the rule ID selected it is auto populated.
Priority	Specify the priority of the criteria.
Enable	Click the toggle status to enable the rule criteria.

5. Click **Save**.

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

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3.37.2 View Bureau Criteria

Using this screen, you can 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 lookup, 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 Criteria**.

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

   Figure 109 : View Criteria Screen
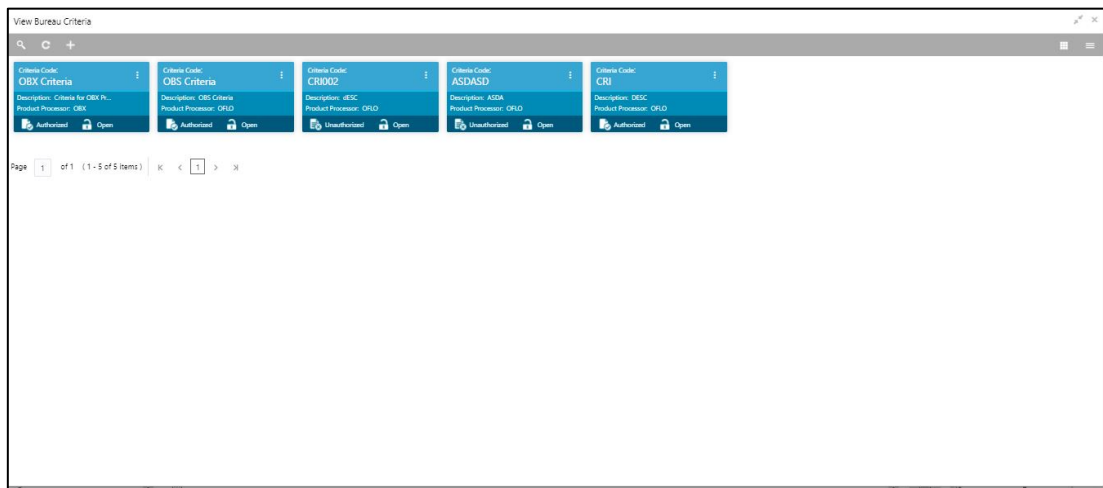
4. Click 🔍.

5. Specify the search criteria to fetch the required criteria.

6. Click **Search**.

   Figure 110 : View Criteria –Search Option

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

Table 96: View Criteria – Field Description.

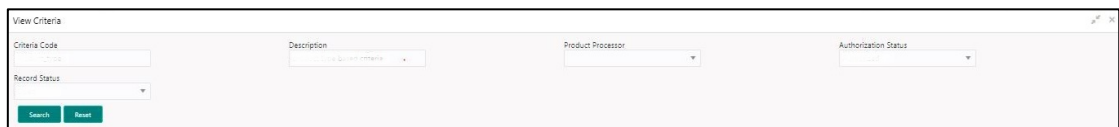| Field	Description
The following fields are displayed, once you click .	
Criteria Code	Displays the criteria code.
Description	Displays the criteria description.
Product Processor	Displays the product processor.
Authorization Status	Select the authorization status of the criteria. The options are: • Authorized • Unauthorized
Record Status	Select the record status of the criteria. The options are: • Open • Close: Available only for Authorized lookup.

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

Table 97: View Bureau Criteria – Field Description.

Field	Description
Criteria Code	Displays the criteria code.
Description	Displays the description of the criteria code.
Product Processor	Displays the product processor of the criteria.

7. Click this icon ⋮ to modify, close or view the created criteria code.

8. Click ⟳ 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 111 : Bureau Criteria Maintenance- Modify

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

Table 98: Bureau Criteria Maintenance – Modify - Field Description.

Field	Description
Basic Details	
Criteria Code	Displays the uploaded criteria code.
Description	Displays the description for the uploaded criteria.
Product Processor	Displays the product processor of the uploaded criteria.

9. Click save to update the modified fields.

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

Figure 112 : Bureau Criteria Maintenance - View

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

Table 99: Bureau Criteria Maintenance- View – Field Description.

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

3.38   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.

3.38.1 Create System Parameter

Using this screen, you can 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**.

3. Under **Maintenance**, click **System Parameter**.

4. Under **System Parameter**, click **Create System Parameter**

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

Figure 113 : Create System Parameter

5. On **Create System Parameter** 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 100: System Parameter – Field Description.

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

6. Click **Save**.

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

3.38.2 View System Parameter

Using this screen, you can view the parameter created using the **Create System Parameter** screen. The status of the created criteria 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**.

3. Under **Maintenance**, click **System Parameter**.

4. Under **System Parameter**, click **View System Parameter**.

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

Figure 114 : Create System Parameter
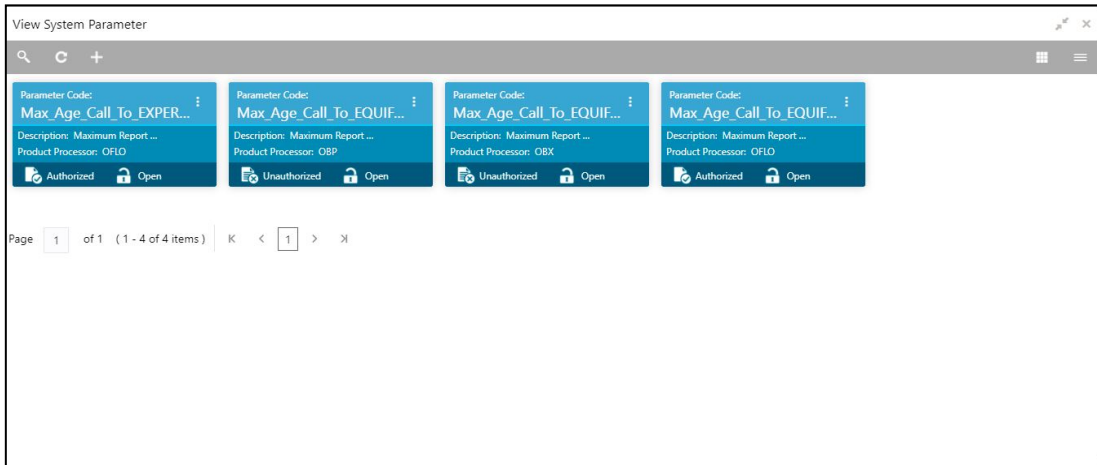
5. Click .

6. Specify the search criteria to fetch the required parameter.

7. Click **Search**.

Figure 115 : View System Parameter –Search Option
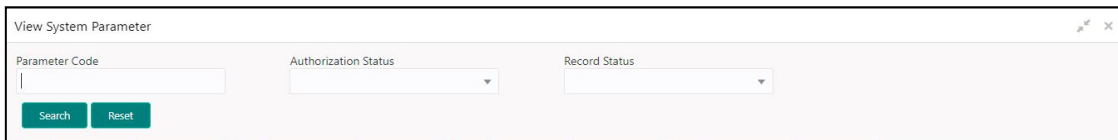
For more information on fields, refer to the field description table below.

Table 101: View System Parameter – Field Description.

Field	Description
The following fields are displayed, once you click .	
Parameter Code	Displays the criteria code.
Authorization Status	Select the authorization status of the criteria. The options are: • Authorized • Unauthorized

Field	Description
Record Status	Select the record status of the criteria.

The options are:

- Open

- Close: Available only for Authorized lookup. |

The following fields are displayed in the widget.

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

Table 102: View System Parameter – Field Description.

Field	Description
Parameter Code	Displays the parameter code.
Description	Displays the description of the parameter code.
Product Processor	Displays the product processor of the parameter.
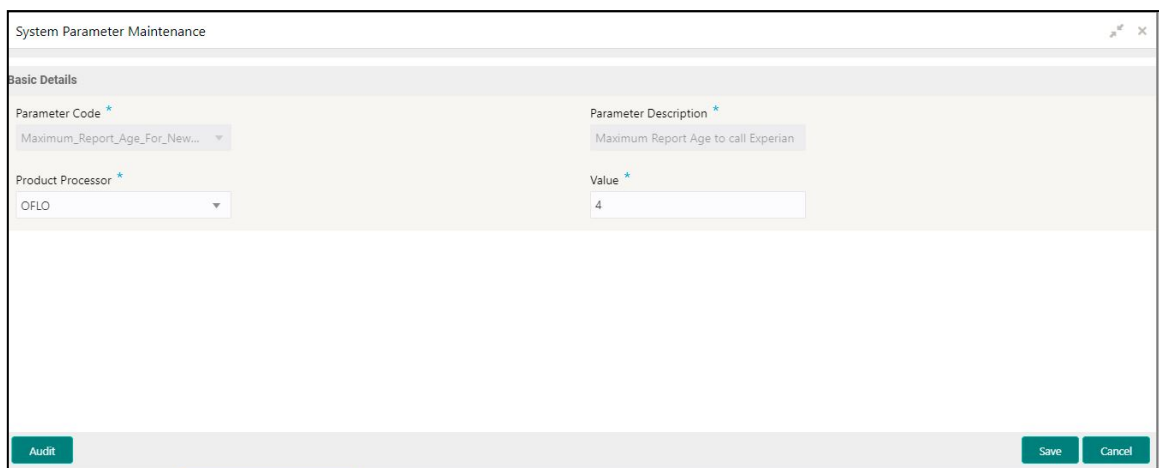
8. Click this icon ⋮ to modify, close or view the created parameter code.

9. Click ♂ to modify the following fields. The fields are displayed in the **System Parameter Maintenance** screen.

- Product Processor

- Value

Figure 116 : System Parameter Maintenance - Modify

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

Table 103: System Parameter Maintenance – Modify – Field Description.

Field	Description
Basic Details	
Parameter Code	Displays the created parameter code.

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Field	Description
Parameter Description	Displays the description for the created parameter.
Product Processor	Displays the product processor of the created parameter.
Value	Displays the value of the parameter.

10. Click save to update the modified fields.

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

Figure 117 : System Parameter Maintenance - View
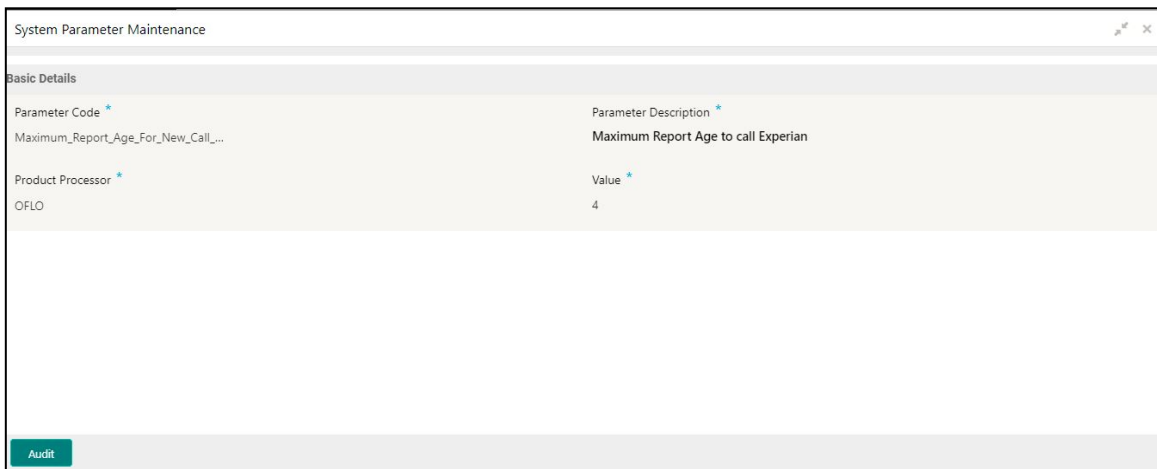
For more information on fields, refer to the field description table below.

Table 104: System Parameter Maintenance- View – Field Description.

Field	Description
Basic Details	
Parameter Code	Displays the created parameter code.
Parameter Description	Displays the created parameter description.
Product Processor	Displays the product processor of the created parameter.
Value	Displays the value for the created parameter.

3.39 Integrating Decision Service with Oracle Banking Routing Hub

3.39.1 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.

Navigation: **Core Maintenance -> Routing Hub -> Service Consumers**

Figure 118: Service Consumers
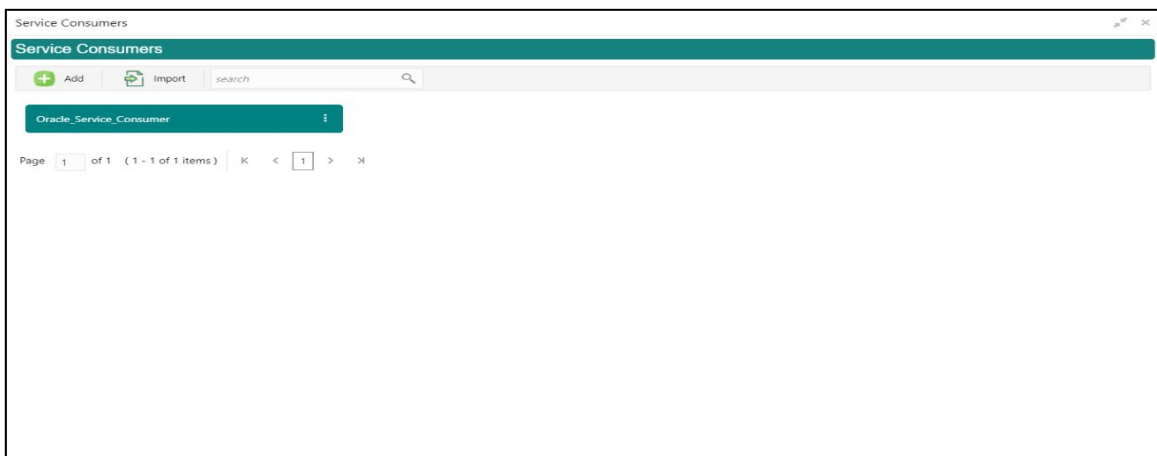
Figure 119: Oracle Banking Routing Hub Configuration
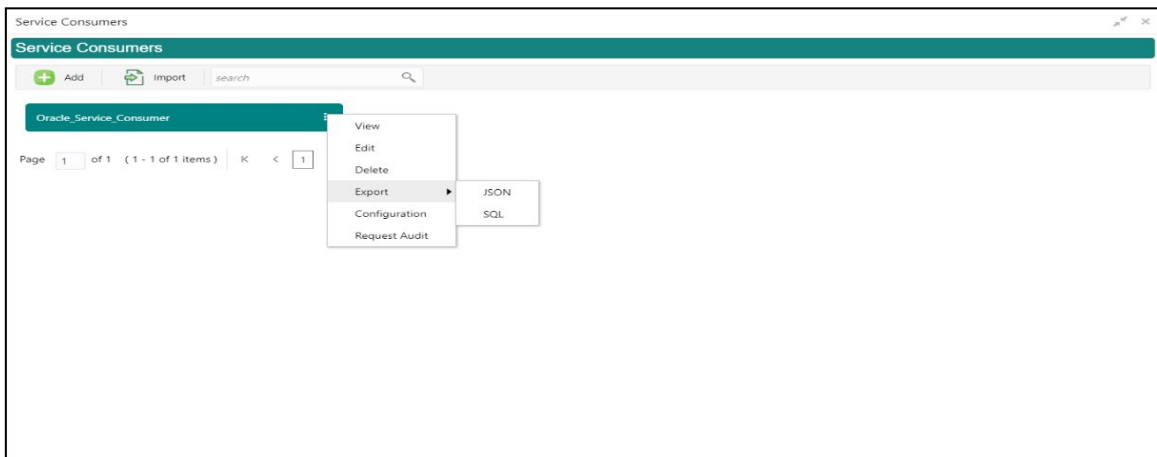
Table 105: Oracle Banking Routing Hub Configuration

Component Name	Component Type	Condition	Comments
Add	Button		Pops up add dialog
Import	Button		Pops up import dialog
Search	Combo Box One		Provides search functionality with case insensitive (Service Consumer Name)
View	menu option	Non-editable	Pops up view dialog

Edit	menu option		Pops up edit dialog
Delete	menu option		
Export	Sub menu item		
JSON	menu option		Exports in JSON
SQL	menu option		Exports in SQL
Configuration	menu option		Pops up configuration dialog
Request Audit	menu option		Pops up request audit log

3.39.1.1 Add

You can create Service Consumer manually.

Navigation: **Service Consumers -> Add**

Figure 120: Add
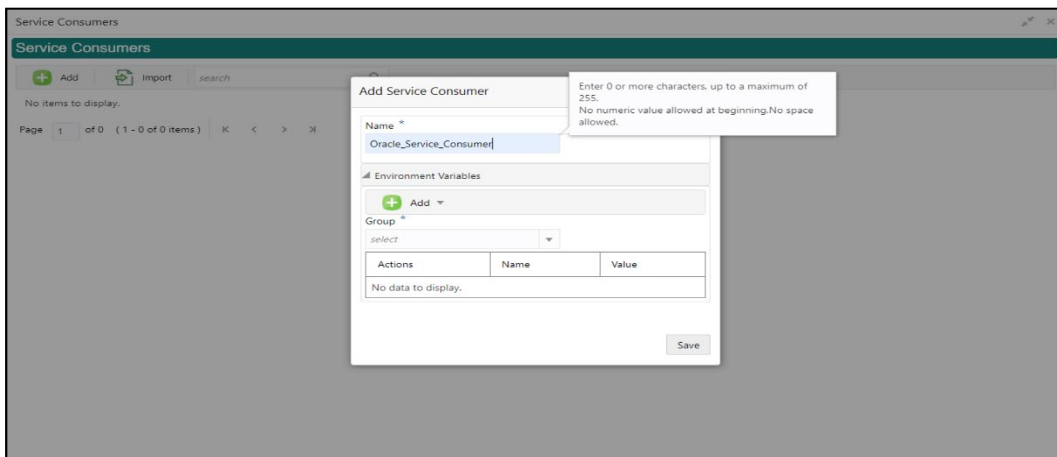
Table 106: Add

Component Name	Component Type	Is Manda tory	Data type	Validation	Comments
Name	Text Box	Yes	Alphanum eric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255 • No numeric value at beginning and no space allowed	Unique Service Consumer name

Environment Variables	Table Content				
Save	Button				Saves the Service Consumer

3.39.1.1 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 121: Environment Variables
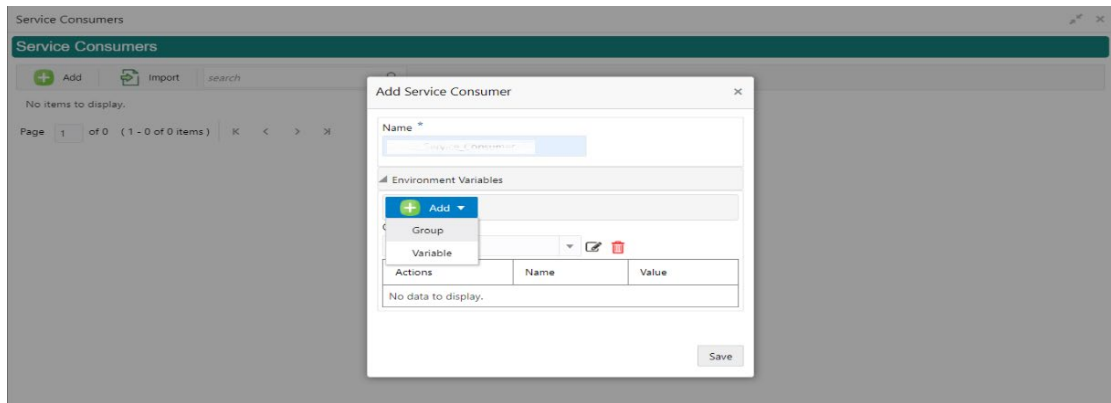
Figure 122: Environment Variables

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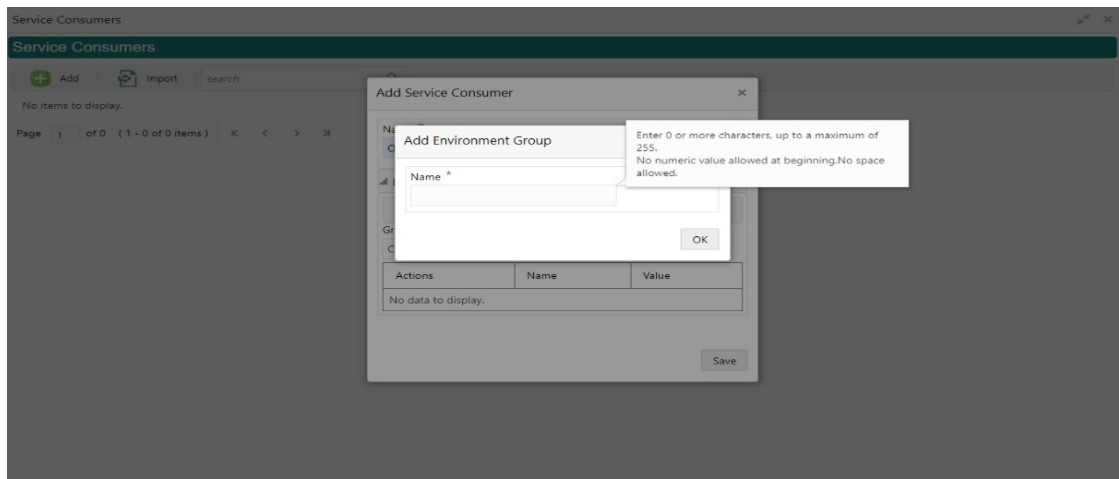
Figure 123: Environment Variables
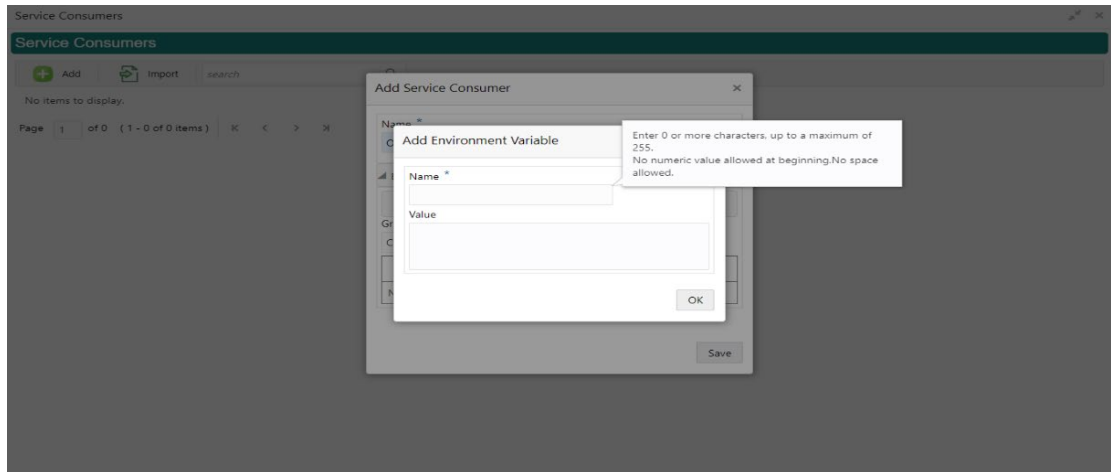
Table 107: Environment Variables

Component Name	Component Type	Is Mandatory	Data type	Validation	Comments
Add	Menu Item				
Group	Menu option				Pops up add group dialog
Variable	Menu option				Pops up add variable dialog
Navigation: Service Consumer -> Environment Variables -> 3 dot icon (operation menu)					
Edit	menu option / icon				Pops up edit dialog
Delete	menu option / icon				Deletes group / variable
Environment Group / Variable					
Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255	

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

3.39.1.2 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.

Navigation: Service Consumers -> Import

Figure 124: Import
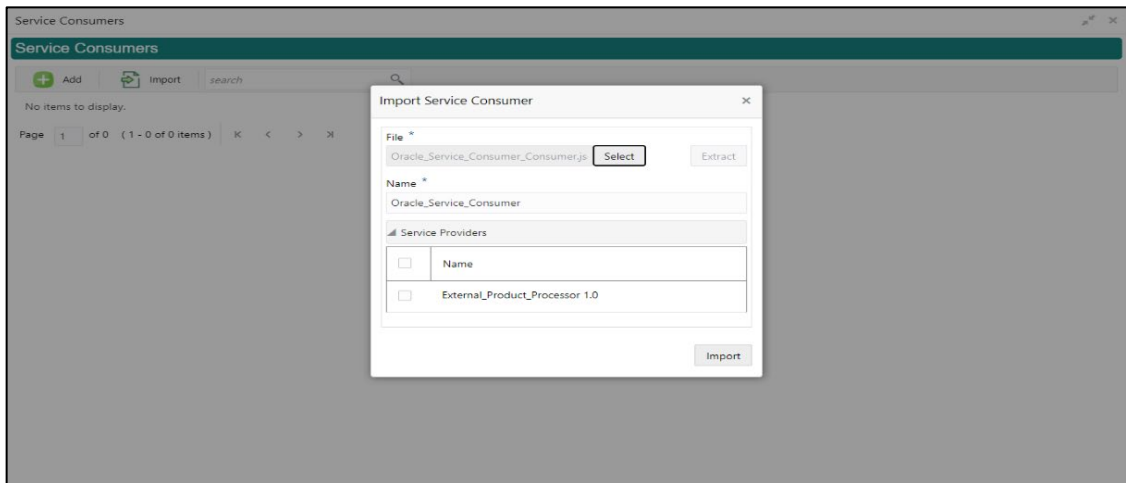
Table 108: Import

Component Name	Component Type	Is Mandatory	Data type	Validation	Condition	Comments
File	File picker	Yes		Allows only to select one file	Accepts only JSON file	Pops up file selection dialog box
Extract	Button	Yes				Extracts Consumer Name and Service Provider list from JSON file and displays it in the respective elements.
Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255 • No numeric value at beginning and no space allowed	Editable	Unique
Service Provider	Collapsible Header & Content					Displays the list of service providers that are present in JSON file
Import	Button					Imports Service Consumer

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

• Implementation Host and Port

• Implementation Authentication Password

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3.39.1.3 View

You can view consumer details and can switch to edit form by clicking on edit icon.

Navigation: **Service Consumers -> Operation Menu (3-dot icon) -> View**

Figure 125: View
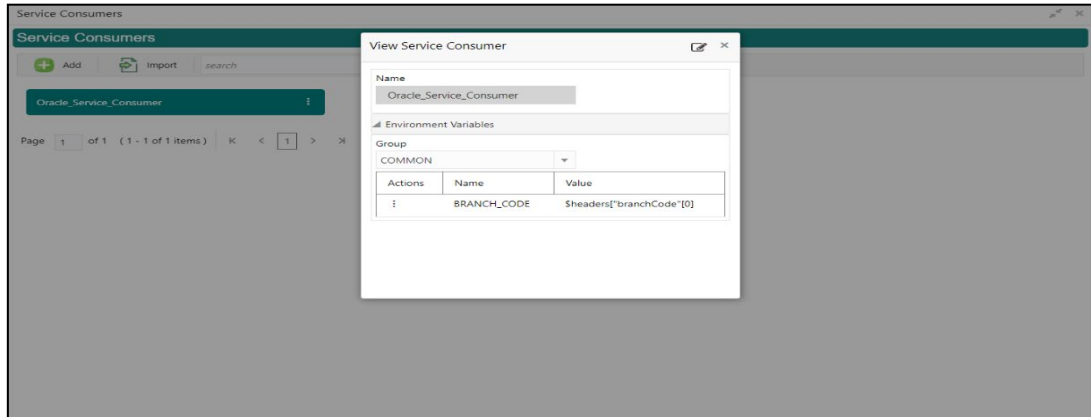
3.39.1.4 Edit

You can modify the consumer details.

Navigation: **Service Consumers -> Operation Menu (3-dot icon) -> Edit**

Figure 126: Edit

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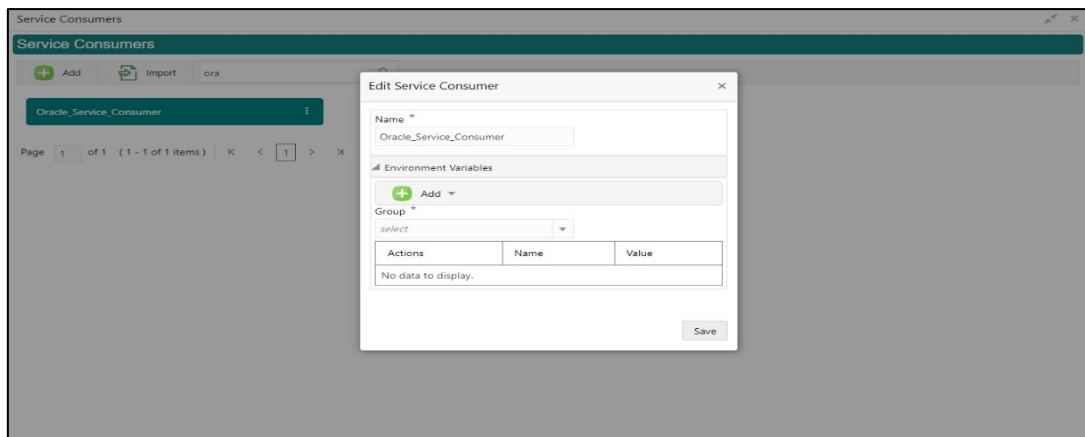
3.39.1.5 Delete

You can delete the consumer.

Navigation: **Service Consumers -> Operation Menu (3-dot icon) -> Delete**

Figure 127: Delete
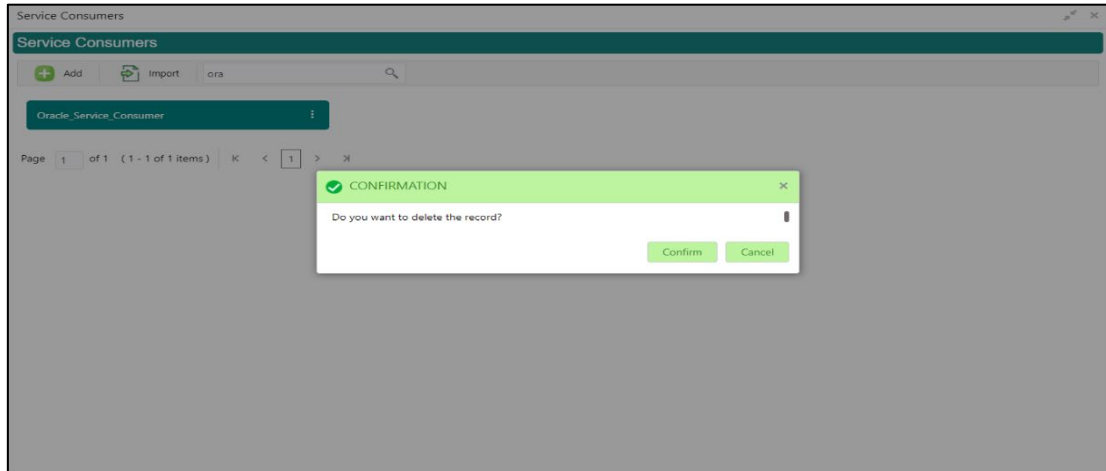
3.39.1.6 JSON Export

You can export the consumer configuration as JSON file.

Navigation: **Service Consumers -> Operation Menu (3-dot icon) -> Export -> JSON**

Figure 128: JSON Export
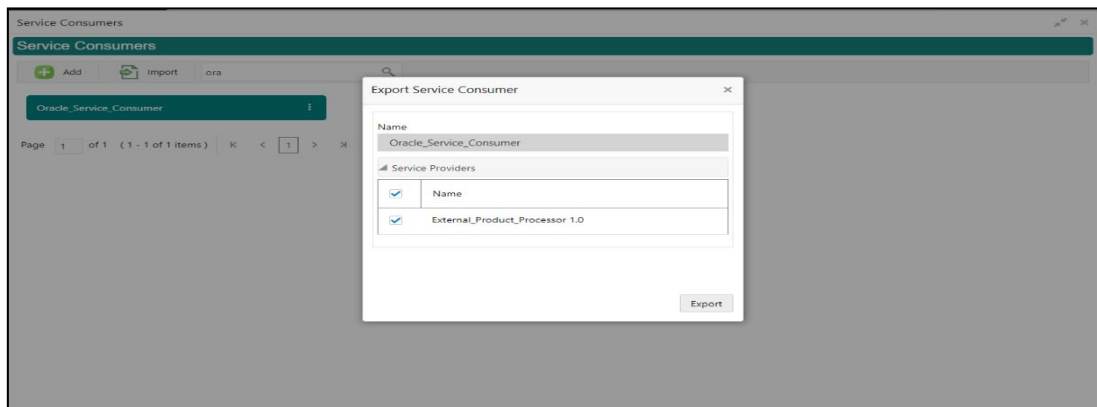
NOTE: You have an option to select service providers from the list that needs to be exported or can click on Select All option for all service providers.

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

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3.39.1.7 SQL Export

You can export the consumer configuration as SQL file.

Navigation: **Service Consumers -> Operation Menu (3-dot icon) -> Export -> SQL**

Figure 129: SQL Export
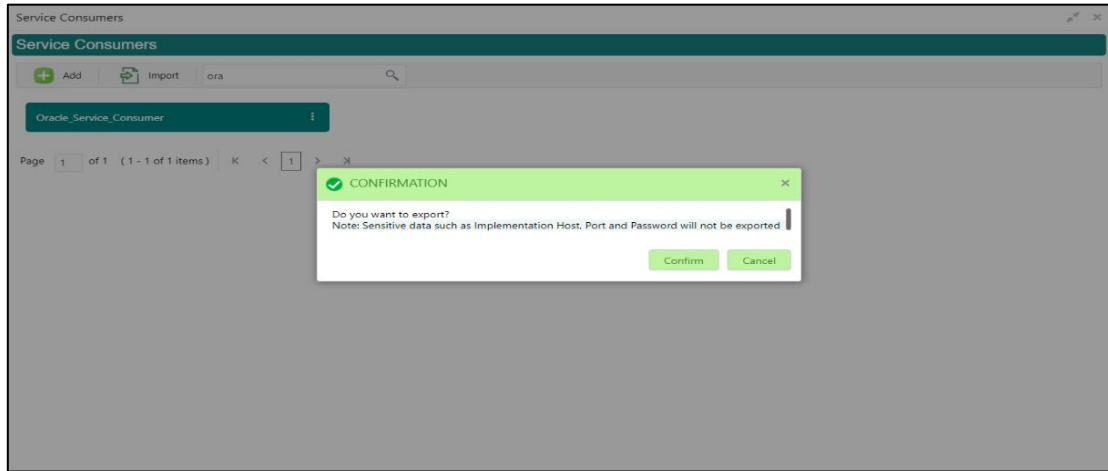
NOTE: SQL Export feature will export entire configuration without Host, Port and Authentication Password details.

3.39.2 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.

Navigation: **Core Maintenance -> Routing Hub -> Service Consumers -> Specific Service Consumer> -> Service Providers**

Figure 130: Service Providers

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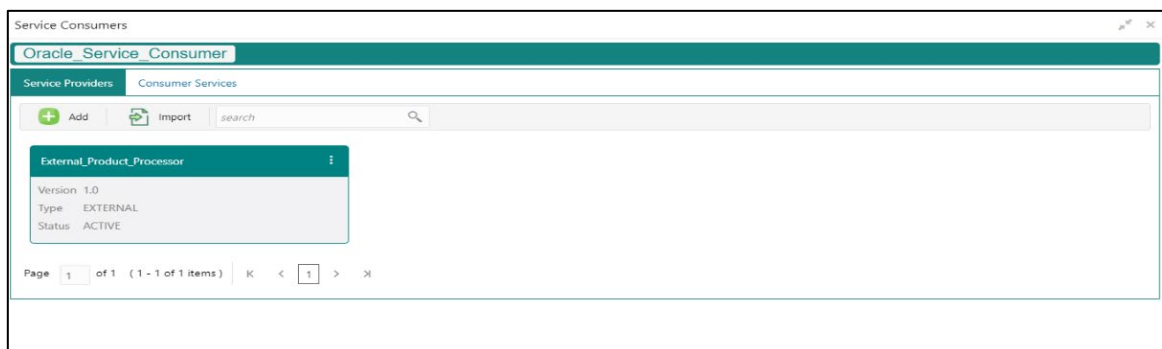
Figure 131: Service Providers
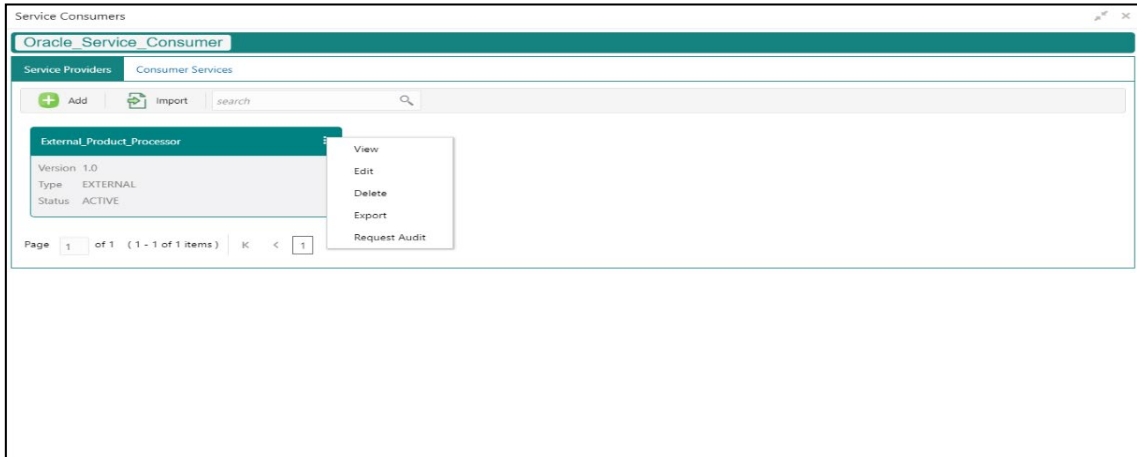
Table 109: Service Providers

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: **Service Providers -> 3 dot icon (operation menu)**			
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

3.39.2.1 Add

You can create service provider manually.

Navigation: **Service Providers-> Add**

Figure 132: Add
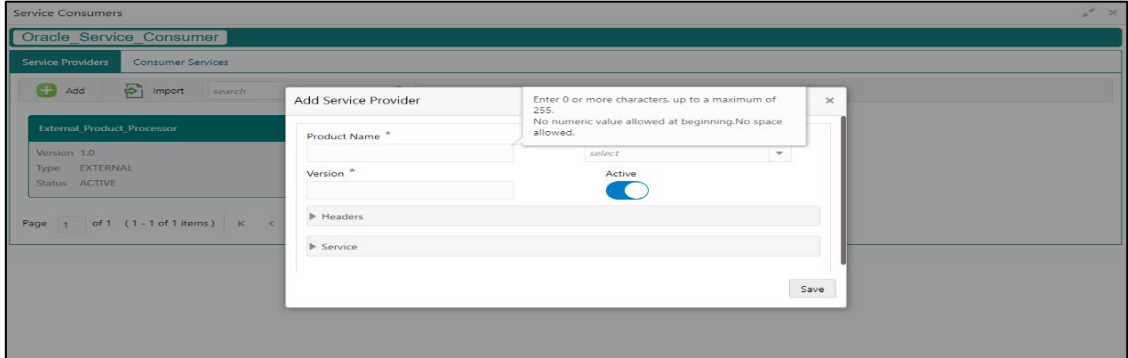
Table 110: Add

Component Name	Component Type	Is Mandatory	Data type	Validation	Comments
Product Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255. • No numeric value at beginning and no space allowed.	Unique provider name
Type	**Combo Box One**	**Yes**			**Predefined Values: INTERNAL / EXTERNAL**

Component Name	Component Type	Is Mandatory	Data type	Validation	Comments
Version	Text Box	Yes	Number	• Version cannot be blank • Specify 0 or more characters, up to a maximum of 255. • Specify only numeric or decimal values.	Unique provider version
Active	Switch				Predefined Values: ACTIVE / INACTIVE If provider is marked as inactive, then all related routes will be stopped.
Headers	Collapsible Header & Content				Provider specific headers
Service	Collapsible Header & Content				Provider specific service details
Save	Button				Saves the Service Provider

3.39.2.2 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 133: Headers
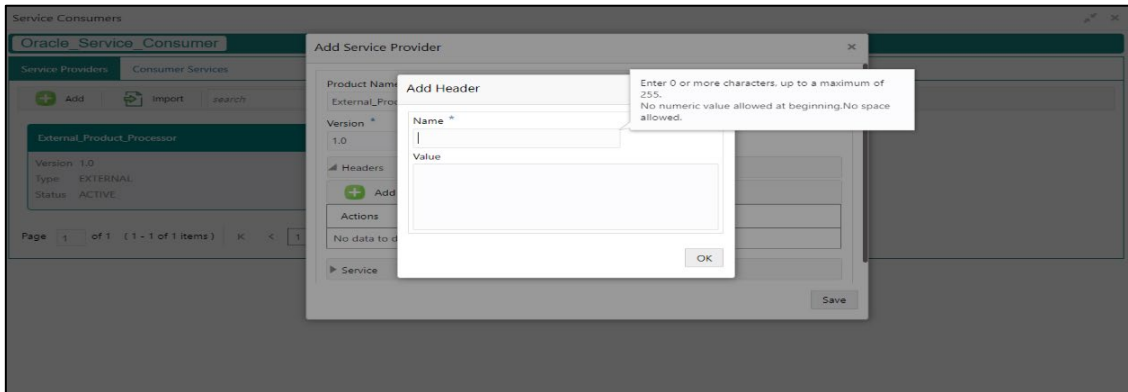
Figure 134: Headers
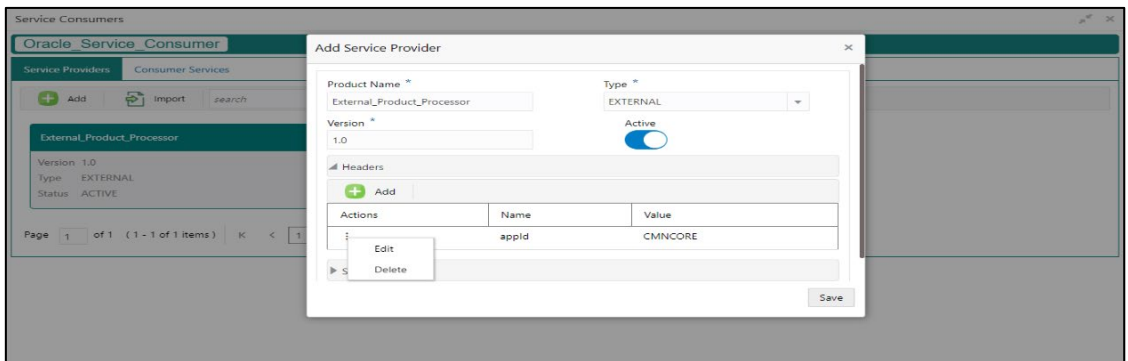
Table 111: Headers

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: **Service Providers -> Headers -> Add**					
Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Specify 0 or more characters, up to a maximum of 255. • No numeric value at beginning and no space allowed.	
Value	Text Area	Yes	Alphanumeric with special characters	• Value cannot be blank • Specify 0 or more characters, up to a maximum of 255. • No space allowed.	Value either can be hardcoded or can be Velocity mapping.
OK	Button				Saves the header details and displays it in the list

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3.39.2.3 Service

Figure 135: Service
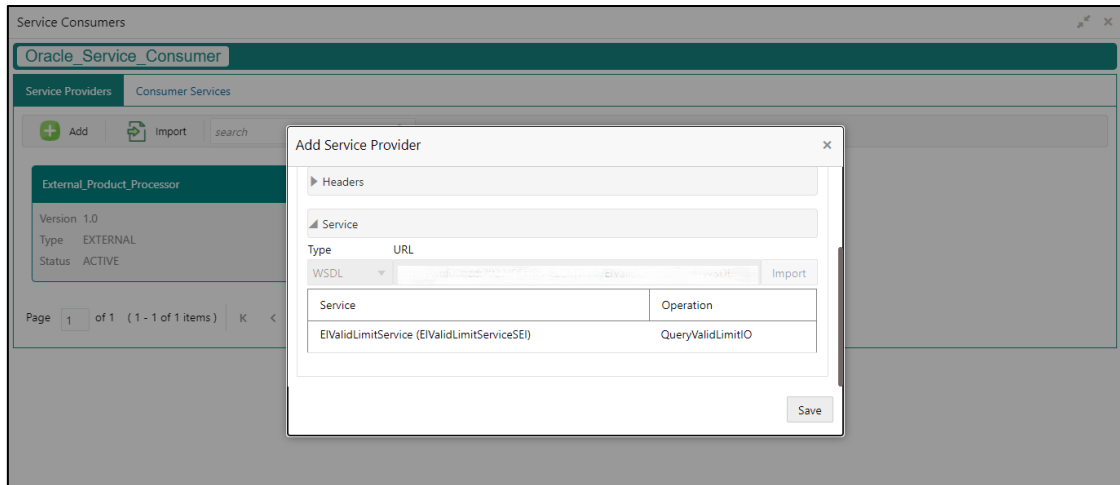
Table 112: Service

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 http://host:port/gateway-prefix/endpoint
Import	Button		Extracts the service information from URL and displays it in the Service list

3.39.2.4 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.

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3.39.2.5 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.

3.39.2.6 Import

You can create a service provider by importing the JSON file.
Navigation: **Service Providers -> Import**

Figure 136: Import
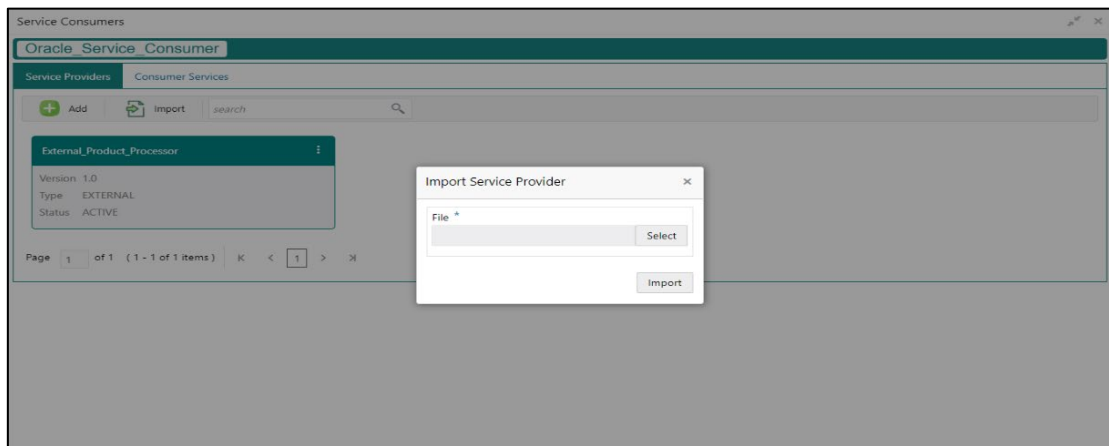
Table 113: Import

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

3.39.2.7 View

You can view provider details and can switch to edit form by clicking on edit icon.

Navigation: **Service Providers -> Operation Menu (3-dot icon) -> View**

Figure 137: Oracle Banking Routing Hub Configuration
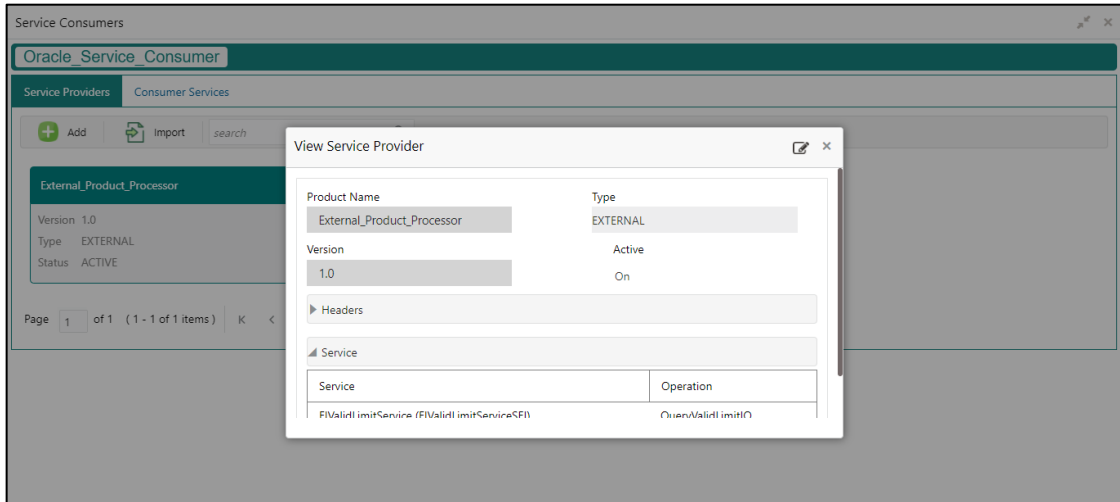
3.39.2.8 Edit

You can modify the provider details.

Navigation: **Service Providers -> Operation Menu (3-dot icon) -> Edit**

Figure 138: Edit
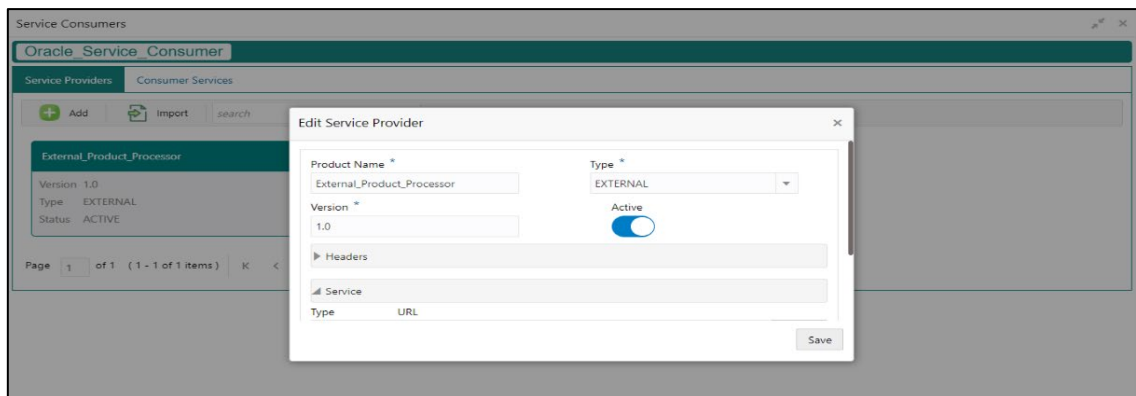
3.39.2.9 Delete

You can delete the provider.

Navigation: **Service Providers -> Operation Menu (3-dot icon) -> Delete**

Figure 139: Delete
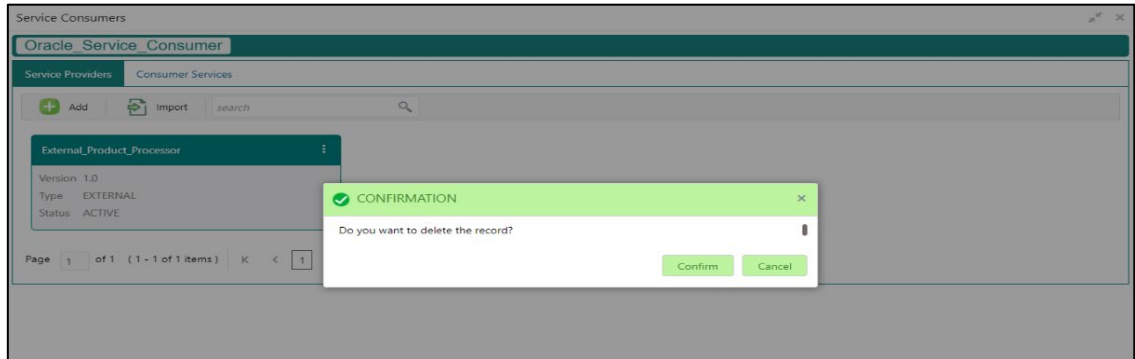
3.39.2.10 Export

You can export the provider configuration as JSON file.

Navigation: **Service Providers -> Operation Menu (3-dot icon) -> Export**

Figure 140: Export
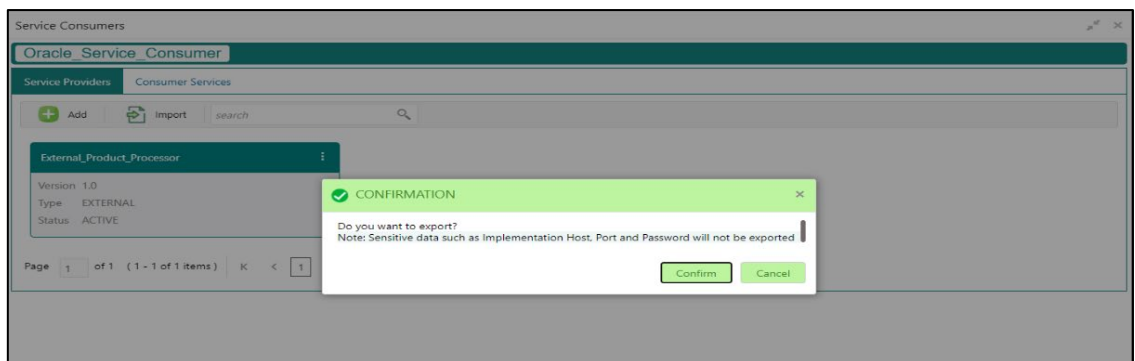
NOTE: Below data is not be exported:

- 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

3.39.3 Oracle FLEXCUBE Onboarding to Decision Service Configuration

3.39.3.1   Fetch Credit Decision

Figure 141: Fetch credit decision – Header
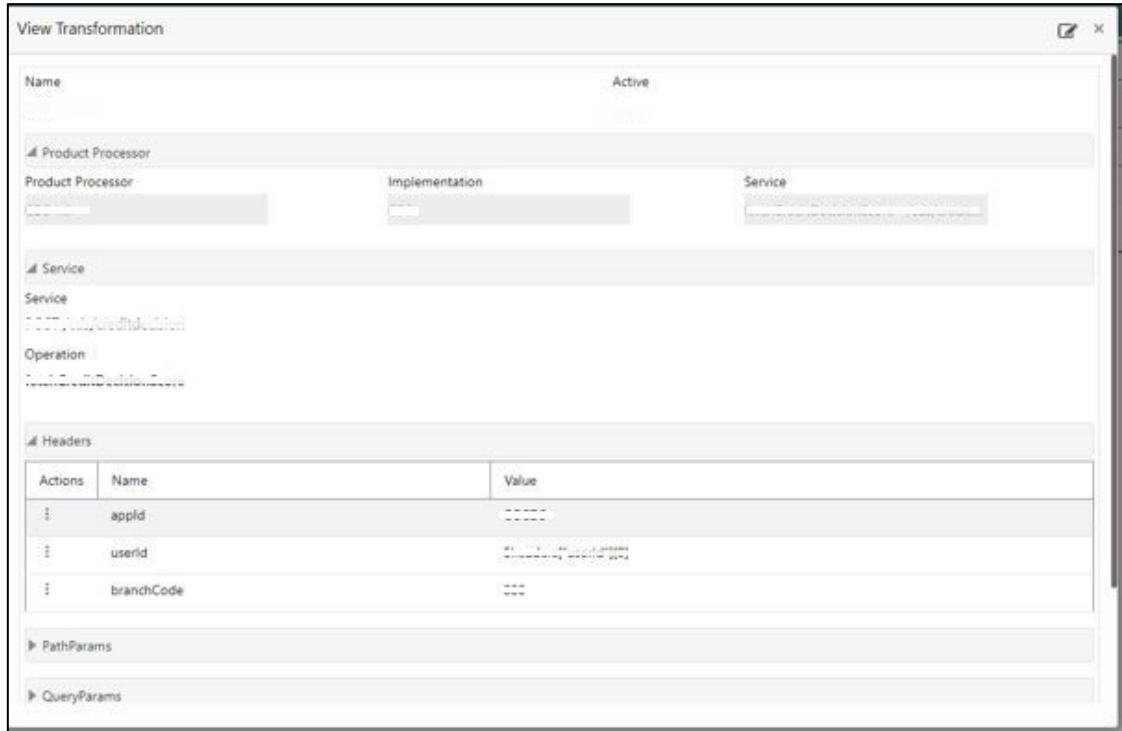
Figure 142: Fetch credit decision - Transformation:

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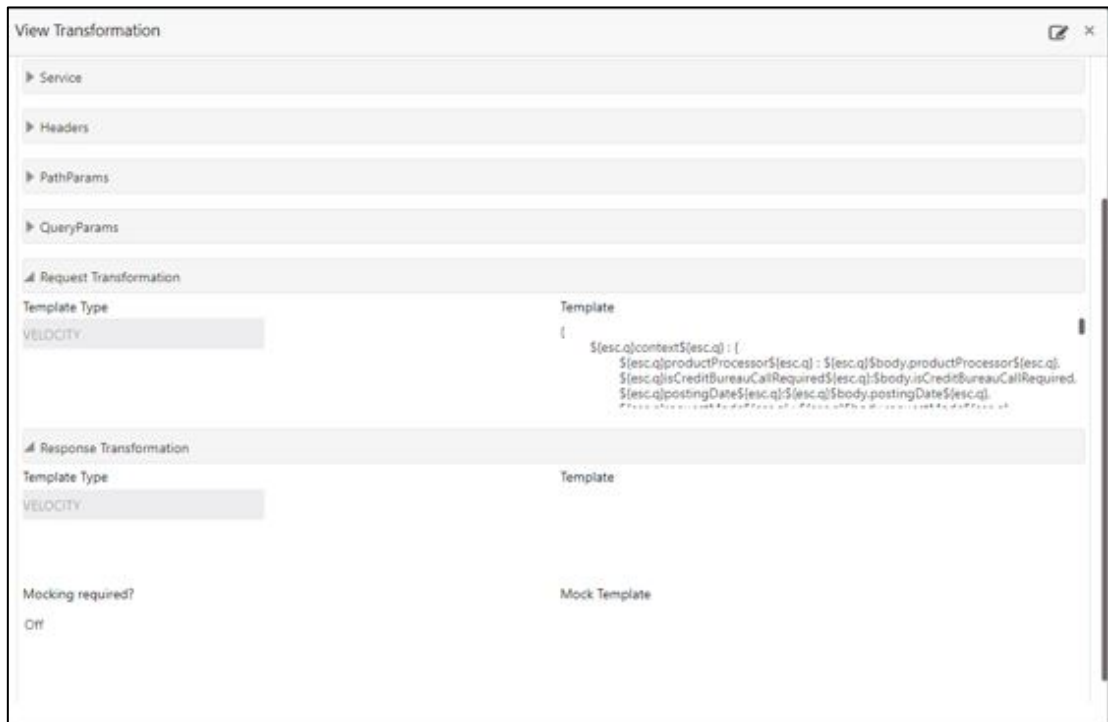
Figure 143: Consumer Services
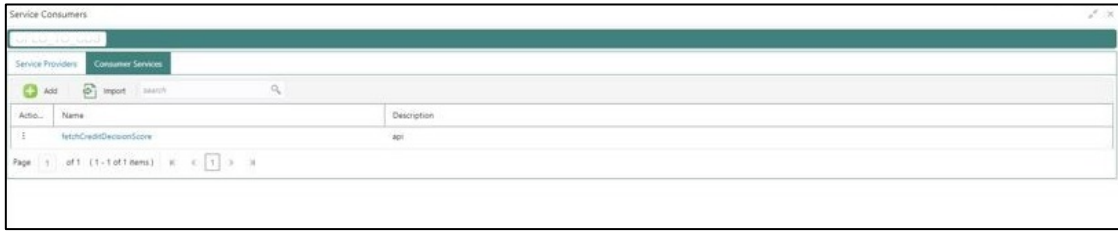
3.40 Decision Service

3.40.1 Overview

The decision service provides automated decisioning that allows lenders to develop smoother and efficient business processes. The most effective automated credit decision systems are those that allow configuration and flexibility to comply with the credit and risk policies of the financial institutions.

3.40.2 Decision Service Requirement Details

Decision Service has the ability to give all or any of the following response:

- Score, decision and pricing

- Score and decision

- Only pricing

The below flow diagram depicts how decision service works with the integrated product processor and interfaces with the routing hub for evaluating the credit decision:

Figure 144 : Decision Service

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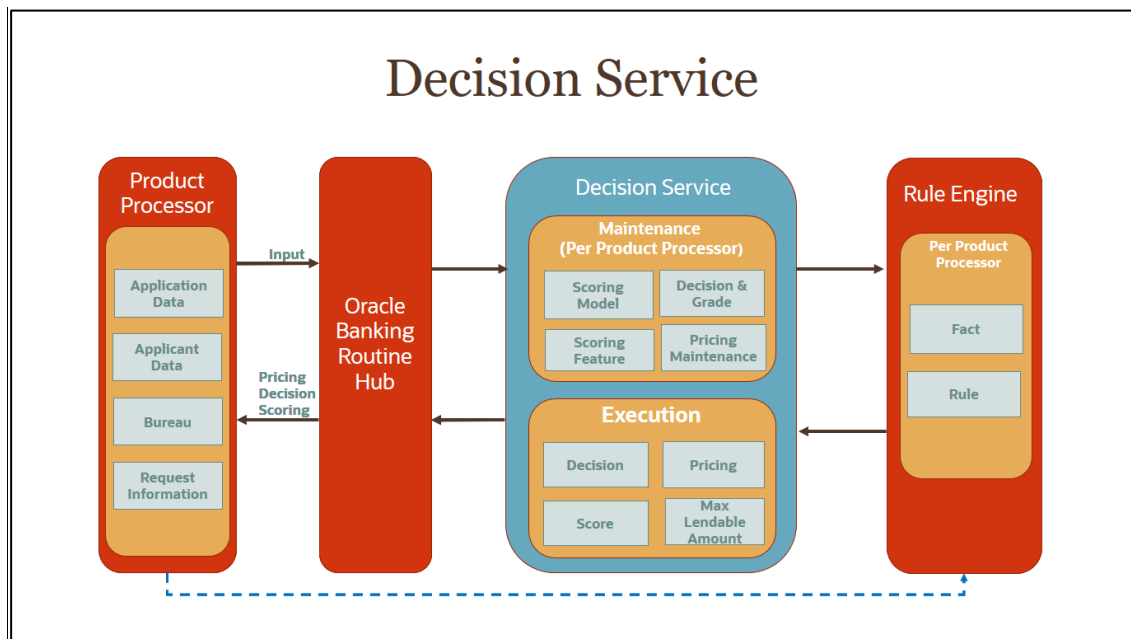
3.40.3 Business process workflow and overall task flow:

In a loan application there can be a single party or multiple parties. The product processor may consider the data attributes only of the primary applicant and take decision on the application or may consider the data attributes of all the parties and then take the credit decision.

Based on the below identifier, system decides whether the decision has to be taken based on all the parties or only the primary applicant.

- Is application decision required

- Is primary applicant decision required

Is application decision required:

When the credit decision is required at an application level and if the value is yes for the **Is Application Decision Required** field, then the system solves the scoring model for all parties and calculates the score. This is the score of the applicant. After calculating the scores of all the parties, the system resolves the application level scorecard according to the defined selection criteria.

At an application level, system performs the aggregation of the applicant's scores, which can be min, max or average. The aggregation to be performed is defined as a rule and linked at the application level scoring model.

If the value of the context **Is Application Decision Required** field is no, system will not resolve the scoring model for each party iteratively but rather will resolve the scoring model based on the primary applicant data attributes only.

Is primary applicant decision Required:

When only the primary applicant data attributes is to be evaluated for decision making process, product processor will pass the value as no for **Is Application Decision Required** field and yes for **Is Primary Applicant Decision Required** field

In this scenario, system resolves the scoring model and decision matrix based on only the primary applicant data attributes irrespective of number of parties in the application. To identify the primary applicant, a fact as **Is Primary applicant** field is maintained and if the value is true, system picks the data of that party for resolution of scoring model and decision making.

3.40.4 Scoring Model Resolution

The product processor is the first filter for resolution of the scoring model. Multiple product processor can use decision service. Each product processor can configure multiple scoring model. Each scoring model has a selection criteria defined and only if all the criteria is satisfied, then the scoring model is resolved. When product processor sends the payload for decision making, the decision service scans through all the scoring models configured for the product processor and tries to resolve the best fit scoring model based on the data input provided by the product processor. If there are more than one scoring models resolved, system looks for the priority sequence defined for the entire resolved scoring model and finally resolves the one with the highest priority. If there is more than one scoring model,

after the filtering process and based on the priority sequence, then system displays the error message as multiple scoring models resolved.

In case of multiple parties, system resolves the scoring model for each party iteratively and calculates the applicant level score post resolution of the scoring model all the parties, system resolves the application level scoring model based on the selection criteria. At this level, system aggregates all the applicants score and calculates the final score for the application.

If more than one application level scoring model is resolved, system looks for the priority sequence defined and resolves the one with the highest priority.

If there are, more than one application scoring models resolved based on the priority sequence, the system displays the error message as multiple scoring models resolved. Before resolution system validates that, the scorecard model is effective and not expired.

3.40.5 Score Calculation

Scoring feature and weightage for the feature is defined while configuring the scoring model. For each scoring feature, a range and category is defined and the score is assigned against each range. Based on the data provided by the product processor, system looks for the value provided for the scoring feature and assigns a score based on the range in which the value provided by the product processor falls. In the same way, scores are assigned for each scoring feature configured as part of scoring model. Weighted score is calculated based on the weightage assigned to the feature and score is obtained. The sum of the weighted score of all the scoring features gives the total score for the application.

3.40.6 Decision and Grade

Decision and grade matrix are resolved based on the selection criteria. If the product processor requests for application level decision, then system considers the data attributes of all the parties to resolve the decision and grade matrix. If the product processor requests for primary applicant data, then system considers only the primary applicants data to resolve the decision and grade matrix.

System refers to the decision matrix and provides the decision based on the total score obtained. If the value is yes for **Is Application Decision Required** field then, system refers the application level score for decision making and not the individual applicant's score. If the value is yes for **Is Primary Applicant Decision Required** field then, system refers the score calculated based on the primary applicant's data attributes. Similarly, system refers the grade matrix and provides a grade to the request based on the total score obtained. If both decision and grade matrix are not maintained properly then, the system sends the response to the product processor stating no decision or grade found.

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3.40.7 Pricing Resolution

The product processor is the first filter for pricing resolution. The decision service is used by multiple product processor and multiple pricing can be configured in each product processor. Each pricing setup has a selection criteria defined and only if all criteria is satisfied, then the pricing setup is resolved. When product processor sends the payload for pricing, the decision service scans through all the pricing setup configured for the product processor and tries to resolve the best fit pricing setup based on the data input provided by the product processor. If more than one pricing setup is resolved, then system checks the priority sequence defined for the resolved pricing setup and then arrives at the one with the highest priority.

Where the request is for decision and pricing, system would not resolve pricing for rejected application. There is a configuration to decide if pricing has to be executed. When the product processor request for decision and pricing, post decision, system will look at the above configuration and accordingly decide if pricing is to be returned. The above logic will not apply where the request is explicitly only for pricing.

Rate type for pricing can be flat or tiered. If the pricing setup resolved has a rate type as flat, then system refers the rate percentage and proposes the rate as captured. In case it is tiered, system refers the tier defined and based on the facts configured for the tier (such as loan amount and term requested) system proposes the rate.

3.40.8 Response

The response to the request is based upon the request type of the product processor. The below example depicts information about the request and execution.

Figure 145 : Request and Execution
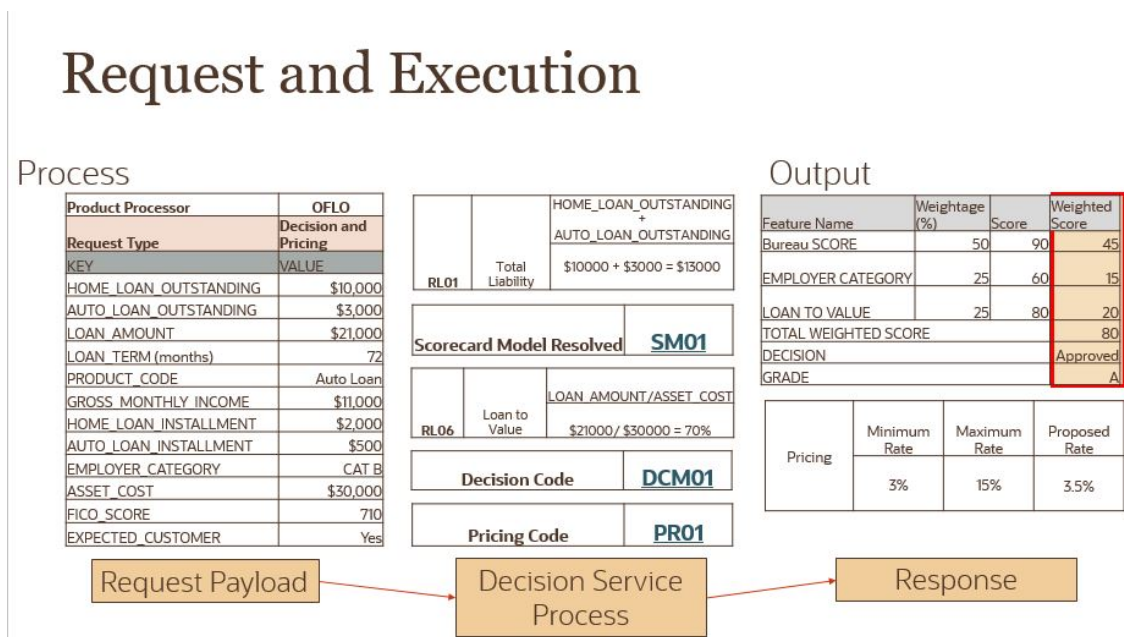
Figure 146 : Response

Response

Decision Service Details	
Credit Score	80
Decision	Approved
Grade	A

Scorecard Model Code	Product Processor	Scorecard Model Description	Scoring Model Priority
SM01	OFLO	Salaried Auto Loan Scoring Model	1

Feature Code	Feature Weightage	Feature Weightage Score	Range Definition Details		Score	Category
			Value From	Value To		
Bureau Score	50	90	700	999	45	Strong
Loan To Value	25	80	0	70	20	Strong
Employment Type	25	60	Category B		15	Medium

Decision Details	Score From	Score To		Grade Details	Score From	Score To
Approved	70	100		A	70	100

Pricing Code	Pricing Description	Pricing Priority	Min Rate	Max Rate	Rate Type	Rate Percent
PR01	Pricing for Salaried Auto Loan	1	3	15	Tiered	3.5

Authorization process

To authorize and approve a model, you need 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 record details are displayed in a widget. If you have modified the model twice, system displays two widgets with respective modification number along with the modified details.

5. Specify remarks for the approving the model in the **Remarks** field.

6. Click **Confirm** and authorize the record.
   The record is authorized successfully.

3.41 Scoring Feature and Scoring Model

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 two maintenances of scoring feature and scoring model.

3.41.1 Create Scoring Feature

Using this screen, you can 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 **Maintenance**, Under **Maintenance**, click **Scoring Feature**.

2. Under **Scoring Feature**, click **Create Scoring Feature**.

   → The **Create Scoring Feature** screen is displayed.

   Figure 147 : Create Scoring Feature

3. On **Create Scoring Feature** 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 114 : Create Scoring Feature - Field Description

Field	Description
Basic Details	
Feature Code	Specify the unique feature code.
Feature Description	Specify a short description for the feature.
Product Processor	Specify the product processor for which the feature is being created.
Rule	Select the rule, if it is required to define the feature.
Fact Code	Select the fact code to be mapped to the feature from the drop-down list. This field is enabled if the **Rule** is selected as **No.**
Fact Name	View the fact name for the selected fact. This field is enabled if the **Rule** is selected as **No**.
Rule Code	Select the rule code to be mapped to the feature from the drop-down list. This field is enabled, if the **Rule** is selected as **Yes**.
Rule Name	View the rule name for the selected rule. This field is enabled if the **Rule** is selected as **Yes**.

4.   Click **Save**.

5.   The scoring feature is successfully created and can be viewed using the **View Scoring Feature** screen.

3.41.2 View Scoring Feature

Using this screen, you can 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 **Maintenance**. Under **Maintenance**, click **Scoring Feature**.

2.   Under **Scoring Feature**, click **View Scoring Feature**.

→   The **View Scoring Feature** screen is displayed.

Figure 148 : View Scoring Feature

3.   Click [magnifying glass icon].
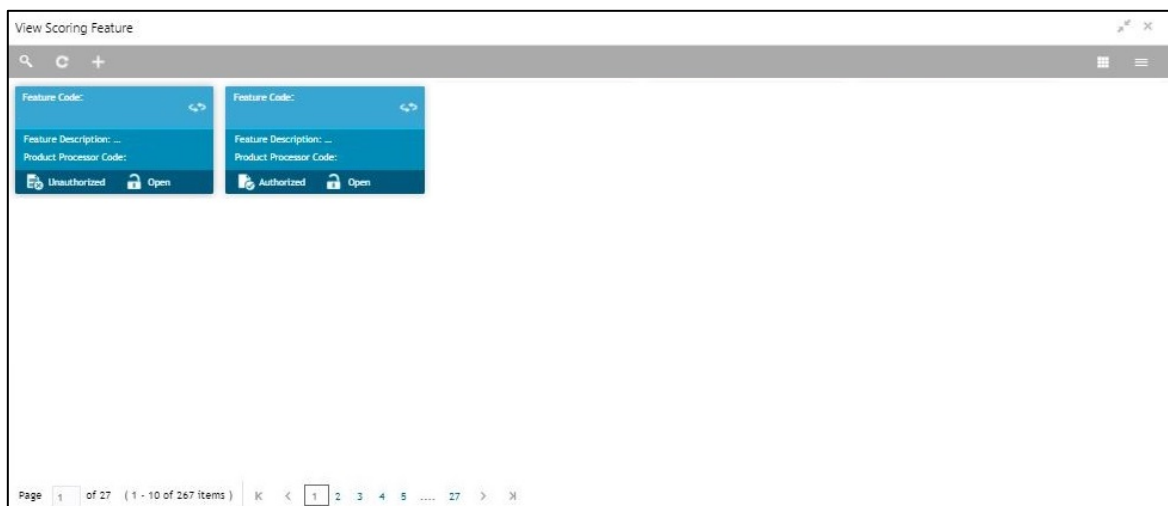
4.   Specify the search criteria to fetch the required scoring model.

Figure 149 : View Scoring Feature - Search Option

5.   Click **Search**.

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

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Table 115 : View Scoring Feature- Search Option- Field Description

Field	Description
The following fields are displayed, once you click 🔍 .	
Feature Code	View the feature code.
Feature Description	View the feature description.
Authorization Status	Select the authorization status of the feature. The options are: • Authorized • Unauthorized
Record Status	Select the record status of the feature. The options are: • Open • Close: Available only for Authorized report.

6. Click the widget to view the uploaded scoring feature details.
The details are displayed in the Scoring Feature Maintenance screen.

7. After viewing the details, you can perform any action on a scoring feature mentioned in the basic actions**Error! Reference source not found.** section.

Modify Fields

Click **Unlock**, to modify the following fields:

• Feature Description

• Modification of rule linkage

• Modification of fact mapped to the feature in case no rule is linked to the feature.

Figure 150 : View Scoring Feature – Unlock Option

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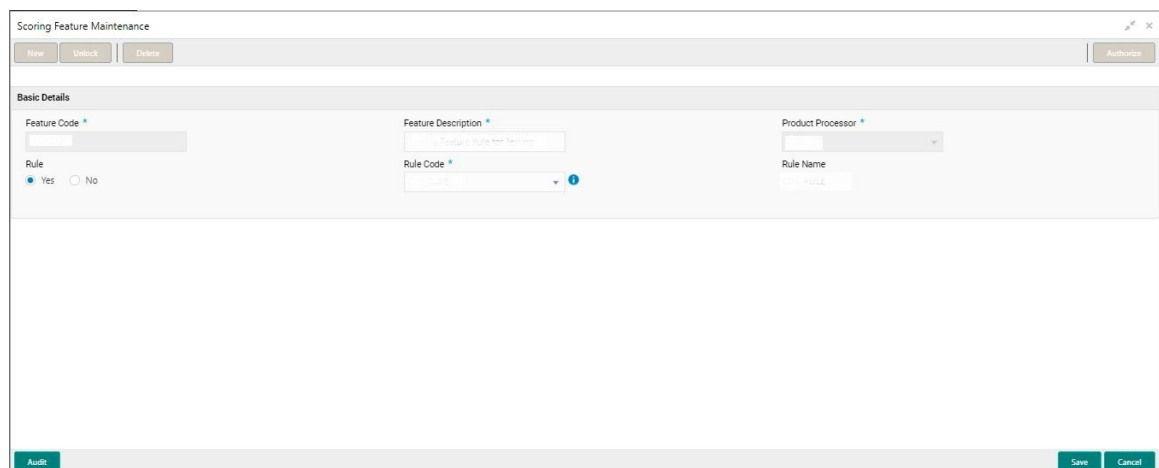
For more information on fields, refer to the field description table below.

Table 116 : View Scoring Feature – Unlock Option- Field Description

Field	Description
The following fields are displayed in a widget.	
Feature Code	View the feature code.
Feature Description	View the feature description.
Product Processor Code	View the product processor code.
Once you click the widget, the following fields are displayed in the Scoring Model Maintenance screen.	
Basic Details	
Feature Code	View the feature code.
Feature Description	View the feature description.
Product Processor	View the product processor for the uploaded scoring model.
Rule	View the rule defined to the feature.
Rule Code	View the rule code of the feature.
	Click this icon to get the information about the rule.
Rule Name	View the rule name of the feature.
Fact Code	View the fact code of the feature. This field is enabled if the **Rule** is selected as **No**.
Fact Name	View the fact name of the feature. This field is enabled if the **Rule** is selected as **No**.

3.41.3 Create Scoring Model

Using this screen, you can define scoring model based on the various scoring parameters. The parameters driving the scoring models are configurable. You can create scoring model by updating various details.

To create a Scoring Model:

1. From **Home screen**, click **Maintenance**. Under **Maintenance**, click **Scoring Model**.

2. Under **Scoring Model**, click **Create Scoring Model**.

   → The **Create Scoring Model** screen is displayed.

   Figure 151 : Create Scoring Model

3. On **Create Scoring Model** 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 117 : Create Scoring Model - Field Description

Field	Description
Basic Details	
Application Scoring Model	By default, this option is disabled. If selected enables the option for application scoring model.
Scoring Model code	Specify the unique scoring model code.
Scoring Model Description	Specify a short description for the scoring model.
Effective Date	Specify the effective date.
Expiry Date	Specify the expiry date.
Product Processor	Specify the product processor for which the model is being created.
Priority	Specify the priority of the model.

4. Click the **Selection Criteria** tab to define scoring model.

Figure 152 : Create Scoring Model – Selection Criteria Tab
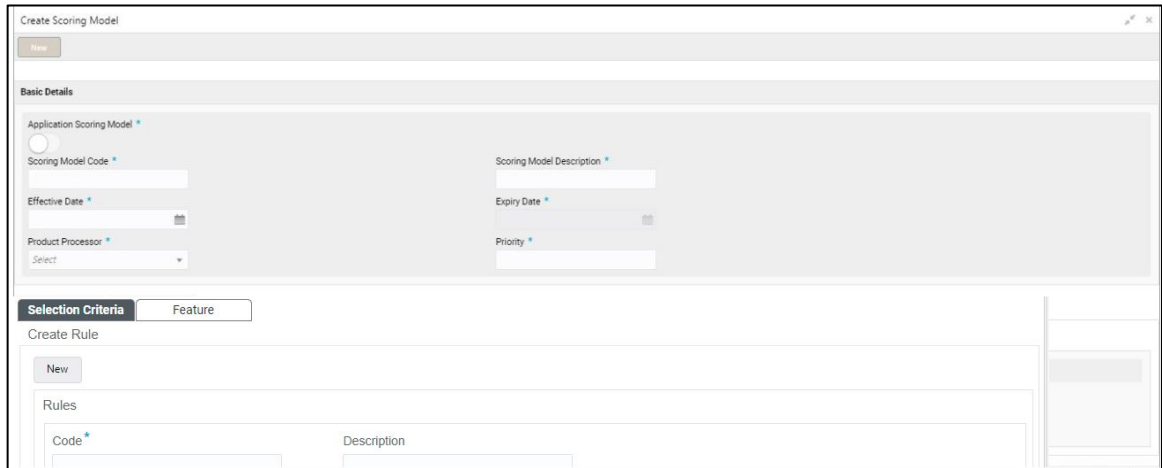
For more information on fields, refer to the field description table below.

Table 118 : Create Scoring Model – Selection Criteria Tab Field Description

Field	Description
The following fields appear if you click Selection Criteria Tab.	
Rules	
Code	Specify the rule code.
Description	Specify the rule description.
Expression Builder	
+ icon	Click this icon to add new expression.
Fact / Rules	Select the fact or rule from the drop-down list.
Operator	Select the comparison operator from the drop-down list. The options are: • < • > • + • =

Field	Description
Data Type	Select the data type for the fact or rule. Once you select the output one more field opens adjacent to the data type, update the same based on the selected data type. The options are: • Text • Number • Boolean • Date • Fact • NA
Output	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. The options are: • Text • Number • Boolean • Date • Fact • NA
Expression	View the expression updated in the expression builder.

5. Click the **Feature** tab to define the feature. This tab is enabled if **Application Scoring Model** is not selected.

Figure 153 : Create Scoring Model Feature Tab

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

Table 119 : Create Scoring Model Feature Tab Field Description

Field	Description
The following fields appear if you click Feature Tab.	
Scoring Feature	
Feature	Select the feature from the drop-down list.
Weightage (%)	Specify the weightage to be assigned to each feature code.
Define Range/Value	Specify the range to be defined for the feature.
Enable	By default, this option is enabled. Indicates if the scoring parameter is enabled or not.

6. 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 154 : Create Scoring Model – Define Link – Numeric Feature

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

Table 120 : Create Scoring Model – Scoring Rule Tab Field Description

Field	Description
The following fields appear if you click **Define** link.	
Range From	Specify the minimum range of the scoring feature.
Range To	Specify the maximum range of the scoring feature.
Score	Specify the score to be assigned for each range or value.
Category	Specify the category for each range or value from the drop-down list. The values are configurable based on the lookup values maintained. The options are: • Strong • Medium • Weak

7. In case the data type of feature is alphanumeric such as Employment Category the below screen appears.

Figure 155 : Create Scoring Model – Define Link – Alphanumeric Feature

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

Table 121: Create Scoring Model – Define Link – Alphanumeric Feature- Field Description

Field	Description
The following fields appear if you click Define link.	
Value	Specify the value of the feature.
Score	Specify the score assigned for each range value.

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Field	Description
Category	Specify the category for each range or value from the drop-down list. The options are: • Strong • Medium • Weak

8. Click **Done** to save the data and close the range panel.

9. Click the Scoring Rule tab to define the rule. This tab is enabled if the Application Scoring Model is selected.
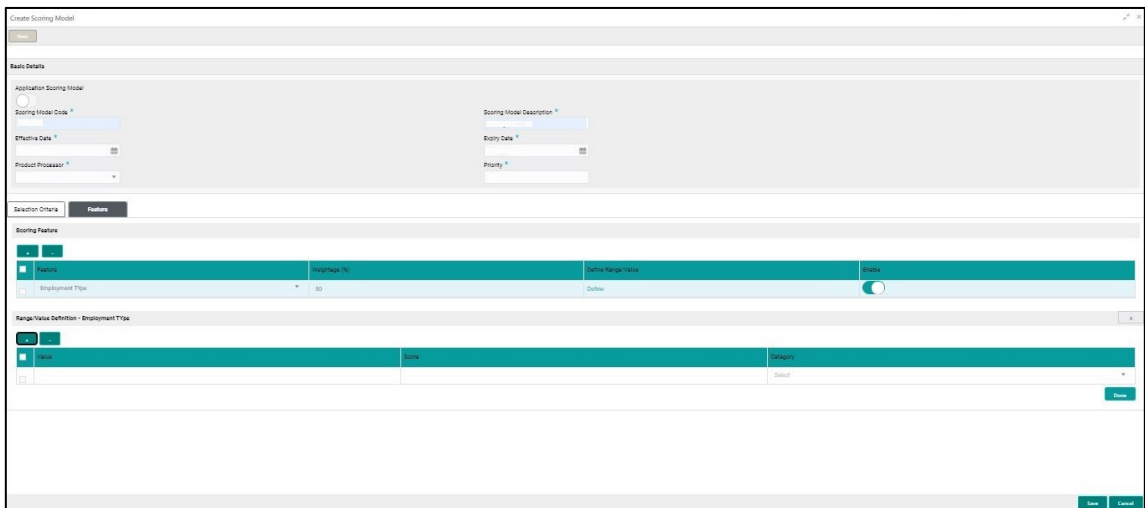
Figure 156: Create Scoring Model- Scoring Rule Tab

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

Table 122: Create Scoring Model – Scoring Rule Tab Field Description

Field	Description
The following fields appear if you click Define link.	
Rule Code	Select the rule code from the drop-down list.
Rule Name	View the rule name of the rule code.
🛈	Click this icon to get the information about the rule.

10. Click **Save**.

The scoring model is successfully created and can be viewed using the **View Scoring Model** screen.

3.41.4 View Scoring Model

Using this screen, you can view the Scoring Model created using the **Create 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 an uploaded scoring model:

1. From **Home screen**, click **Maintenance**. Under **Maintenance**, click **Scoring Model**.

2. Under **Scoring Model**, click **View Scoring Model**.

   → The **View Scoring Model** screen is displayed.

Figure 157 : View Scoring Model

3. Click ![search icon] .

4. Specify the search criteria to fetch the required scoring model.

Figure 158 : View Scoring Model- Search Option

5. Click **Search**.

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

Table 123 : View Scoring Model- Search Option- Field Description

Field	Description
The following fields are displayed, once you click ![search icon] .	
Scoring Model Code	View the scoring model code.
Scoring Model Description	View the scoring model description.

Field	Description
Authorization Status	Select the authorization status of the model. The options are: • Authorized • Unauthorized
Record Status	Select the record status of the model. The options are: • Open • Close: Available only for Authorized report.

6. Click the widget to view the uploaded scoring model details.
   The details are displayed in the Scoring Model Maintenance screen.

7. After viewing the details, you can perform any action on a scoring model mentioned in the basic actions **Error! Reference source not found.** section.

Modify Fields

Click **Unlock**, to modify the following fields:

• Application Scoring Model option, the toggle of changing the application scoring model as yes or no is modifiable only until the request is unauthorized. After Authorized, this option is disabled.

• Scoring Model Description

• Expiry Date

• Priority

• Rule Code

• Add new scoring feature to the scoring model

• Change the weightage of the scoring feature code

• Range/Value

• 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.

• Score

• Category

Figure 159 : View Scoring Model – Unlock option
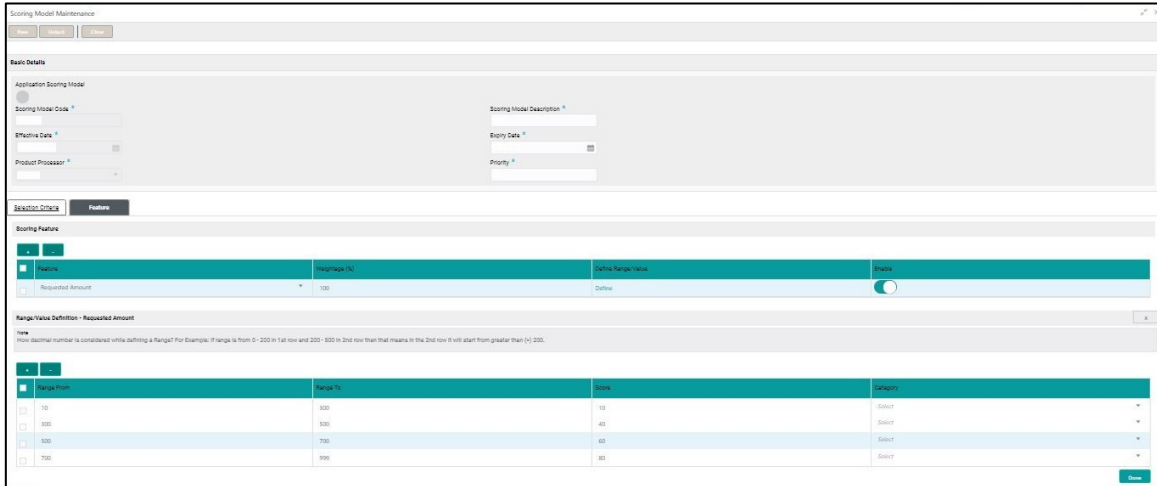
For more information on fields, refer to the field description table below.

Table 124 : View Scoring Model – Unlock option - Field Description

Field	Description
The following fields are displayed in a widget.	
Scoring Model Code	View the scoring model code.
Scoring Model Description	View the scoring model description.
Product Processor Code	View the product processor code.
Once you click the widget, the following fields are displayed in the Scoring Model Maintenance screen.	
Basic Details	
Application Scoring Model	View the application scoring model.
Scoring Model	View the created scoring model code.
Scoring Model Description	View the description for the created scoring model.
Effective Date	View the effective date for the created scoring model.
Expiry Date	View the expiry date for the created scoring model.
Product Processor	View the product processor for the created scoring model.
Priority	View the priority for the created scoring model.
Selection Criteria	

Field	Description
Rules	
Code	View the rule code for the uploaded model.
Description	View the rule description for the uploaded model.
Expression Builder	
Fact / Rules	View the fact/rules for uploaded model.
Operator	View the comparison operator for uploaded model.
Data Type	View the data type for the fact or rule for uploaded model.
Output	View the output of the uploaded model.
Expression	View the expression updated in the expression builder.
Scoring Rule	
Rule Code	View the rule code of the uploaded model.
Rule Name	View the rule name of the uploaded model.
Scoring Feature	
Feature	View the feature for the created scoring model.
Weightage (%)	View the weightage (%) for the created scoring model.
Define Range/Value	View the range/value define for the created scoring model.
Enable	View the parameter for the created scoring model.

3.42 Decision Grade Matrix

Using this screen, you can define the decision and grade based on the score calculated by the scoring model.

3.42.1 Create Decision Grade Matrix

You can create decision and grade matrix by updating various details.

To create decision and grade matrix:

1. From **Home** screen, click **Credit Decision**. Under **Credit Decision**, click **Maintenance,**

2. Under **Maintenance**, click **Decision Grade Matrix**.

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3. Under **Decision Grade Matrix**, click **Create Decision Grade Matrix**.

   → The **Create Decision Grade Matrix** screen is displayed.

Figure 160 : Create Decision Grade Matrix

4. On **Create Decision Grade Matrix** 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 125: Decision and Grade Matrix Field Description

Field	Description
Basic Details	
Model code	Specify the unique model code.
Model Description	Specify a short description for the model.
Effective Date	Select the effective date.
Expiry Date	Select the expiry date.
Product Processor	Specify the product processor for which the decision and grade matrix is being created.
Priority	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.

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Figure 161 : Decision Grade Matrix – Selection Criteria Tab
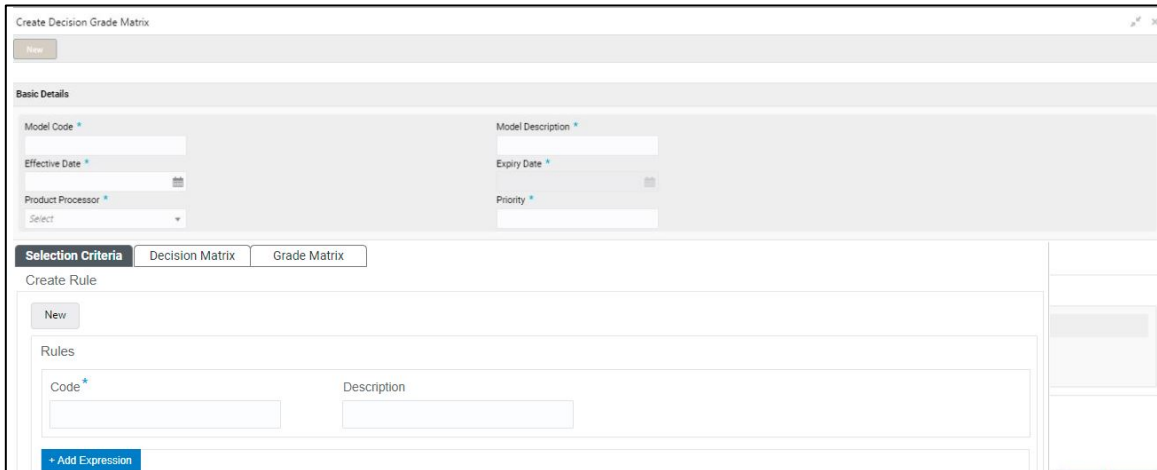
For more information on fields, refer to the field description table below.

Table 126 : Decision and Grade Matrix - Selection Criteria Field Description

Field	Description
The following fields appear if you click Selection Criteria Tab.	
Rules	
Code	Specify the rule code.
Description	Specify the rule description.
Expression Builder	
+ icon	Click this icon to add new expression.
Fact / Rules	Select the fact or rule from the drop-down list.
Operator	Select the comparison operator from the drop-down list. The options are: • < • > • + • =

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Field	Description
Data Type	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 data type option. The options are: • Text • Number • Boolean • Date • Fact
Output	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. The options are: • Text • Number • Boolean • Date • Fact • NA
Expression	View the expression updated in the expression builder.

6. Click the **Decision Matrix** tab to define decision on the application.

Figure 162 : Create Decision Grade Matrix- Decision Matrix Tab

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

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Table 127 : Create Decision Grade Matrix – Decision Matrix Tab Field Description

Field	Description
The following fields appear if you click Decision Matrix Tab.	
Weightage Score From	Specify the minimum range of score for the decision.
Weightage Score To	Specify the maximum range of score for the decision.
Decision	Specify the decision of an application from the drop-down list. The values are configurable based on the look up values maintained The options are: • Approved • Manual • Rejected

7. Click the **Grade Matrix** tab to assign the grade to the application that is used during the pricing of the application.

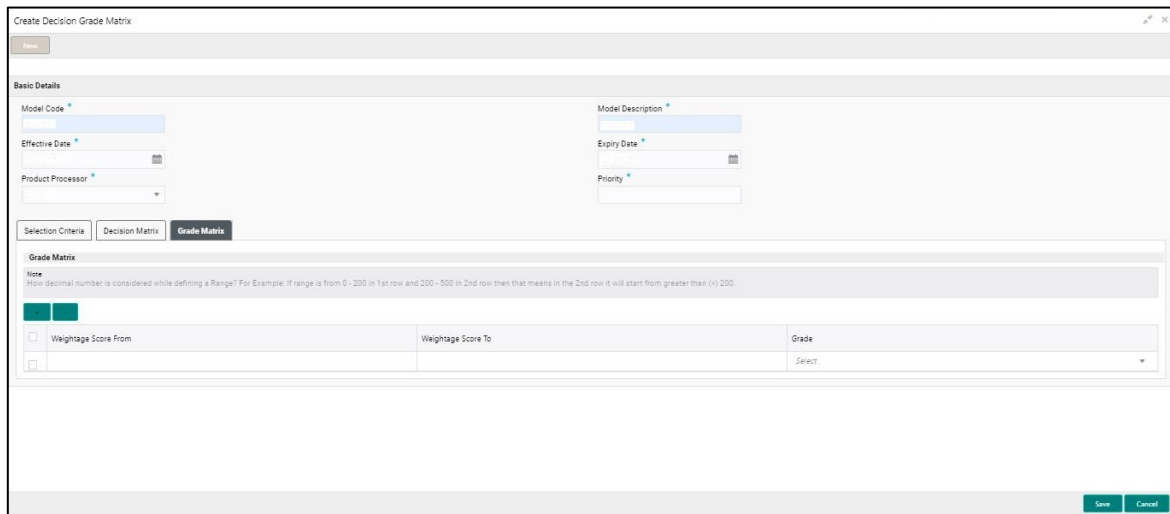**Figure 163 : Create Decision Grade Matrix – Grade Matrix Tab Field Description**

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

Table 128 : Create Decision Grade Matrix – Grade Matrix Tab Field Description

Field	Description
The following fields appear if you click Grade Matrix tab.	
Weightage Score From	Specify the minimum range of the score for the grade.
Weightage Score To	Specify the maximum range of the score for the grade.

Field	Description
Grade	Specify the grade of the application based on the score scored. The values are configurable based on the look up values maintained. The options are: • A • B • C

8. Click **Save**.

The decision grade matrix is successfully created and can be viewed using the **View Decision and Grade Matrix** screen.

3.42.2 View Decision Grade Matrix

Using this screen, you can 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 **Credit Decision**. Under **Credit Decision,** click **Maintenance**.

2. 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 164 : View Decision Grade Matrix
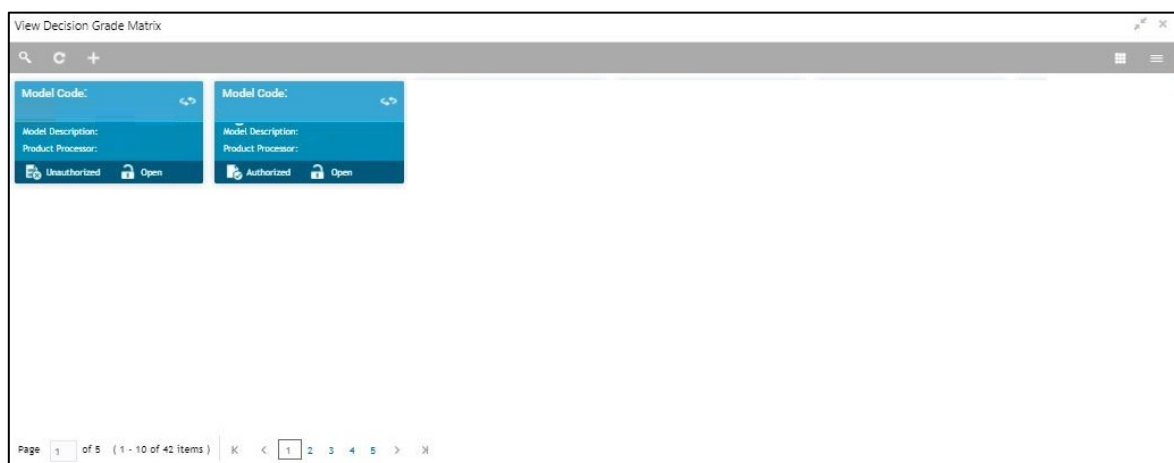
4. Click .

5. Specify the search criteria to fetch the required decision grade matrix.

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Figure 165 : View Decision Grade Matrix- Search Option

6. Click **Search**.

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

Table 129 : View Decision Grade Matrix Field Description

Field	Description
The following fields are displayed, once you click 🔍.	
Model Code	View the model code.
Model Description	View the model description.
Authorization Status	Select the authorization status of the model. The options are: • Authorized • Unauthorized
Record Status	Select the record status of the model. The options are: • Open • Close: Available only for Authorized report.

7. Click the widget to view the uploaded decision and grade matrix. The details are displayed in the Decision Grade Maintenance screen.

8. After viewing the details, you can perform any action on decision grade matrix mentioned in the Basic Actions **Error! Reference source not found.** section.

   Modify Fields

   Click **Unlock**, to modify the following fields:

   • Model Description

   • Expiry Date

   • Priority

   • Rule Description

   • Add New fact or rule to the selection criteria

   • Weightage score from

   • Weightage score to

   • Decision

   • Grade

Figure 166 : View Decision Grade Matrix- Unlock Option

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

Table 130 : View Decision Grade Matrix- Unlock Option- Field Description

Field	Description
The following fields are displayed in a widget.	
Model Code	View the model code.
Model Description	View the model description.
Product Processor Code	View the product processor code.
Once you click the widget, the following fields are displayed in the Decision Grade Maintenance screen.	
Basic Details	
Model Code	View the uploaded model code.
Model Description	View the description for the uploaded model.
Effective Date	View the effective date for the uploaded model.
Expiry Date	View the expiry date for the uploaded model.
Product Processor	View the product processor for the uploaded model.
Priority	View the priority for the uploaded model.
Selection Criteria	
Rules	
Code	View the rule code for the uploaded model.
Description	View the rule description for the uploaded model.
Expression Builder	

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Field	Description
Fact / Rules	View the fact/rules for uploaded model.
Operator	View the comparison operator for uploaded model.
Data Type	View the data type for the fact or rule for uploaded model.
Output	View the output for uploaded model.
Expression	View the expression updated in the expression builder for uploaded model.
Decision Matrix	
Weighted Score From	View the range of minimum weighted score for the uploaded model.
Weighted Score To	View the range of maximum score for the uploaded model.
Decision	View the decision of an application for the uploaded model.
Grade Matrix	
Weighted Score From	View the range of minimum weighted score for the uploaded model.
Weighted Score To	View the range of maximum score for the uploaded model.
Grade	View the grade of an application based on the score scored for the uploaded model.

3.43 Pricing

Risk-based pricing in the credit market refers to the offer of different interest rates and loan terms to different customers depending on their credit worthiness. Thus, not all creditors 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 charged higher rate of interest. While the low risk borrowers, having greater capacity to make payments charged lower rate of interest.
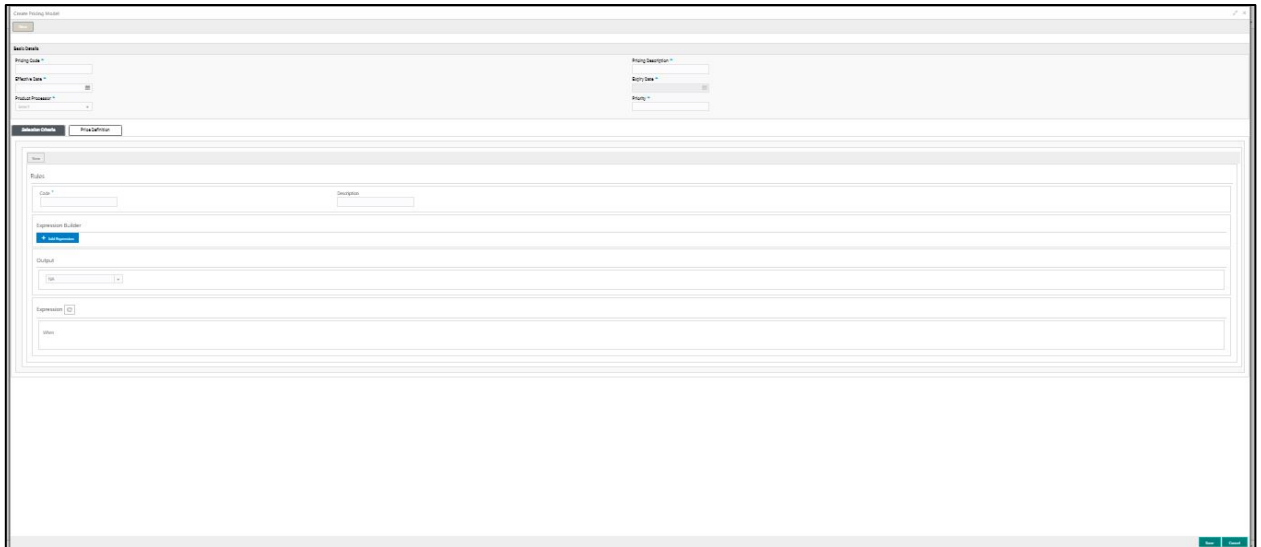
3.43.1 Create Pricing Model

Using this screen, you can create pricing model based on various pricing parameter by updating various details.

To create a pricing set up:

1. From **Home** screen, 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.
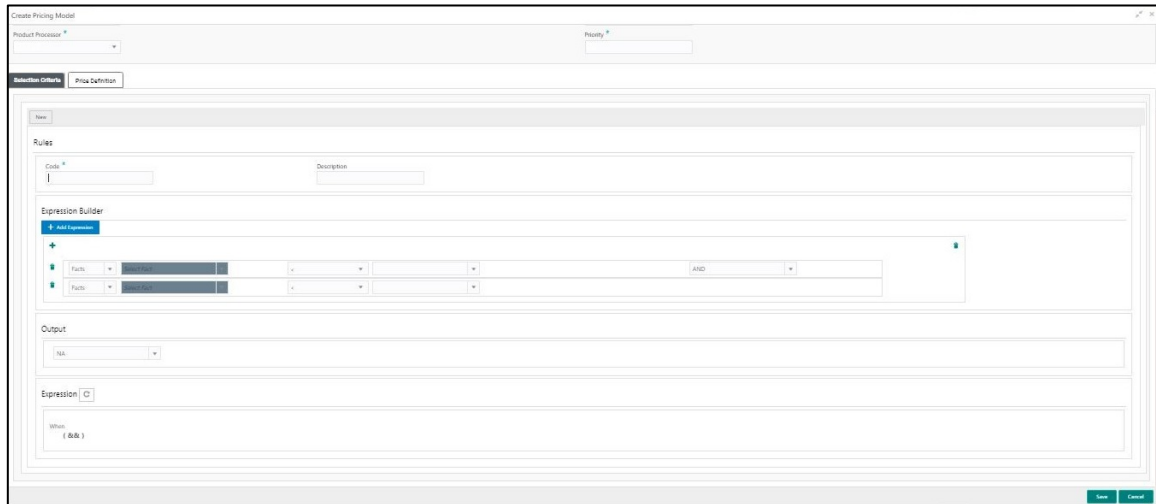
Figure 167 : Create Pricing Model

4. On **Create Pricing Model** 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 131 : Create Pricing Model – Field Description

Field	Description
Basic Details	
Pricing Code	Specify the unique pricing code.
Pricing Description	Specify a short description for the pricing.
Effective Date	Select the effective date.
Expiry Date	Select the expiry date.
Product Processor	Specify the product processor for which the pricing is being defined.
Priority	Specify the priority of the pricing.

5. Click the **Selection Criteria** tab to define pricing.

Figure 168 : Create Pricing Model - Selection Criteria Tab

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

Table 132 : Create Pricing Model – Selection Criteria - Field Description

Field	Description
The following fields appear if you click the Selection Criteria Tab.	
Rules	
Code	Specify the rule code.
Description	Specify the rule description.
Expression Builder	
+ icon	Click this icon to add new expression.
Fact / Rules	Select the fact or rule from the drop-down list.
Operator	Select the comparison operator from the drop-down list. The options are: • < • > • + • =

Field	Description
Data Type	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. The options are: • Text • Number • Boolean • Date • Fact • NA
Output	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. The options are: • Text • Number • Boolean • Date • Fact • NA
+ icon	Click this icon to add a new row.

6.   Click the **Price Definition** tab to define pricing.

Figure 169 : Create Pricing Model – Price Definition Tab

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

Table 133 : Create Pricing Model – Price Definition – Field Description

Field	Description
The following fields appear if you click Price Definition Tab.	
Minimum Rate	Specify the minimum rate applicable for the defined pricing code.
Maximum Rate	Specify the maximum rate applicable for the defined pricing code.
Rate Type	Specify the rate type from the drop-down list. The options are: • Flat • Tiered
Rate %	Specify the interest rate application for the defined pricing. This field appears once you select the **Rate Type** option as **Flat**.
The below field appears if you select the **Rate Type** option as **Tiered**. The below columns are available as Facts in a drop down and you need to select the same.	
Loan Amount From	Specify the minimum range of loan amount to which the interest rate is applicable.
Loan Amount To	Specify the maximum range of loan amount to which the interest rate is applicable.
Term From	Specify the minimum term from which the interest rate is applicable.
Term To	Specify the maximum term up to which the interest rate is applicable.
Rate %	Specify the interest rate applicable for the defined tier.

7. Click **Save**.

The Pricing model is successfully created and can be viewed using **View Pricing Model** Screen.

3.43.2 View Pricing Model

Using this screen, you can 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 an uploaded Pricing Model:

1. From **Home** screen, click **Credit Decision**. Under **Credit Decision,** click **Maintenance**.

2. Under **Maintenance,** click **Pricing**.

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3. Under **Pricing**, click **View Pricing Model**.

→ The **View Pricing Model** screen appears.

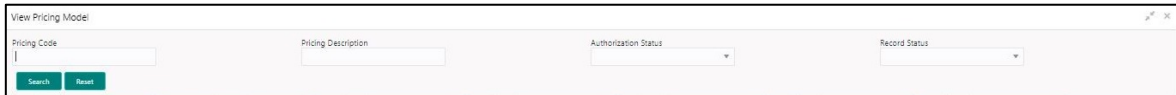**Figure 170 : View Pricing Model**
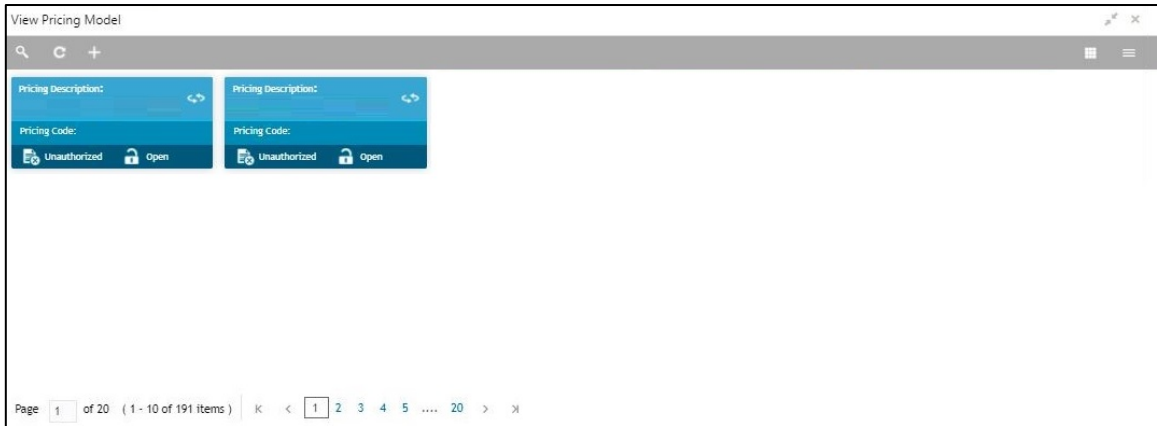
4. Click ![search icon] .

5. Specify the search criteria to fetch the required pricing model.

Figure 171 : View Pricing Model- Search Option

6. Click **Search**.

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

Table 134 : View Pricing Model -Search Option- Field Description

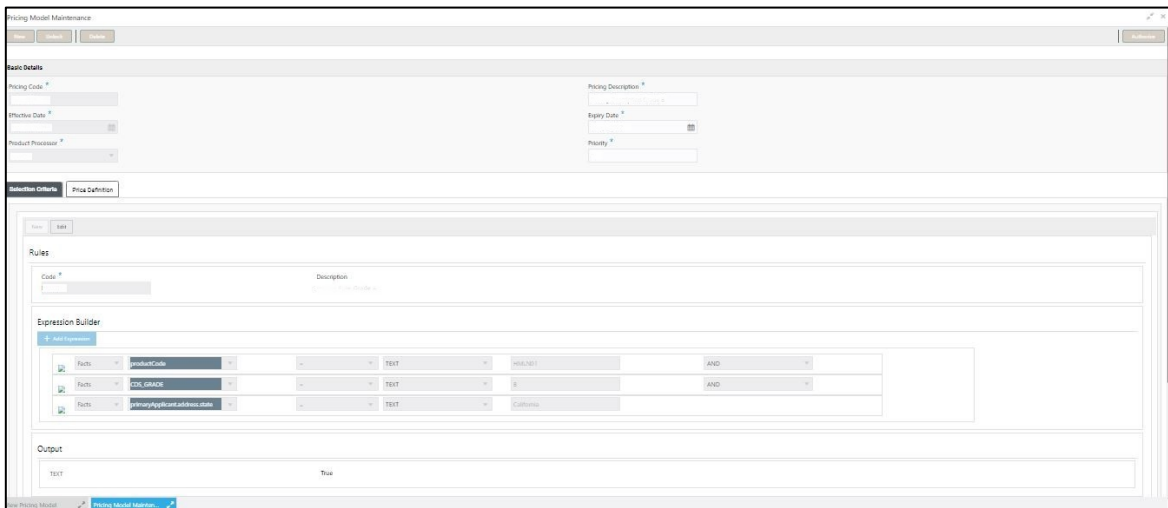| Field	Description
The following fields are displayed, once you click ![search icon] .	
Pricing Code	View the pricing code.
Pricing Description	View the description of the pricing model.
Authorization Status	Select the authorization status of the model. The options are: • Authorized • Unauthorized
Record Status	Select the record status of the model. The options are: • Open • Close: Available only for Authorized pricing model.

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7. Click the widget to view the uploaded Pricing model details. The details are displayed in the Pricing Model Maintenance screen.

8. After viewing the details, you can perform any action on a pricing model mentioned in the Basic Actions **Error! Reference source not found.** section.

Modify Fields

Click **Unlock,** to modify the following fields:

- Pricing Description
- Effective Date
- Expiry Date
- Priority
- Range/Value
- Add/Delete fact or rule to the selection criteria
- Enable

Figure 172 : View Pricing Model – Unlock Option

On **View Pricing Model** 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 135 : View Pricing Model- Unlock Option- Field Description

Field	Description
The following fields are displayed in a widget.	
Pricing Code	View the pricing code.
Pricing Description	View the pricing description.
Product Processor	View the product processor for the uploaded pricing
Once you click the widget, the following fields are displayed in the Pricing Model Maintenance screen.	
Basic Details	
Pricing Code	View the uploaded pricing model code.
Pricing Description	View the description for the uploaded pricing model.

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Field	Description
Effective Date	View the effective date for the uploaded pricing model.
Expiry Date	View the expiry date for the uploaded pricing model.
Product Processor	View the product processor for the uploaded pricing model.
Priority	View the priority for the uploaded pricing model.
Selection Criteria	
Rules	
Code	View the rule code of the uploaded pricing model.
Description	View the rule description of the uploaded pricing model.
Expression Builder	
Fact / Rules	View the fact/rules of the uploaded pricing model.
Operator	View the comparison operator of the uploaded pricing model.
Data Type	View the data type for the fact or rule of the uploaded pricing model.
Output	View the output of the uploaded pricing model.
Expression	View the expression updated in the expression builder of the uploaded pricing model.
Pricing Definition	
Minimum Rate	View the minimum rate of the uploaded pricing model.
Maximum Rate	View the maximum rate of the uploaded pricing model.
Rate Type	View the rate type of the uploaded pricing model.
Below field appears if the rate type is updated as **Tiered**.	
Loan Amount From	View the minimum range of loan amount from which the interest rate is applicable for the uploaded pricing model.
Loan Amount To	View the maximum range of loan amount from which the interest rate is applicable for the uploaded pricing model.
Loan Tenure From	View the range of term from which the interest rate is applicable for the uploaded pricing model.

Field	Description
Loan Tenure To	View the range of term from which the interest rate is applicable for the uploaded pricing model.
Rate %	View the interest rate applicable for the defined slab for the uploaded pricing model.

3.44 Execution Summary

Execution summary enables user to view the decisions, credit score and pricing for the processed application.

3.44.1 Execution Summary

Using this screen, you can view the execution summary based on the various filter options provided.

To view execution summary:

1. From **Home** screen, click **Credit Decision**. Under **Credit Decision,** click **Operations**.

2. Under **Operations**, click **Execution Summary**.

   → The **Execution Summary** screen appears.

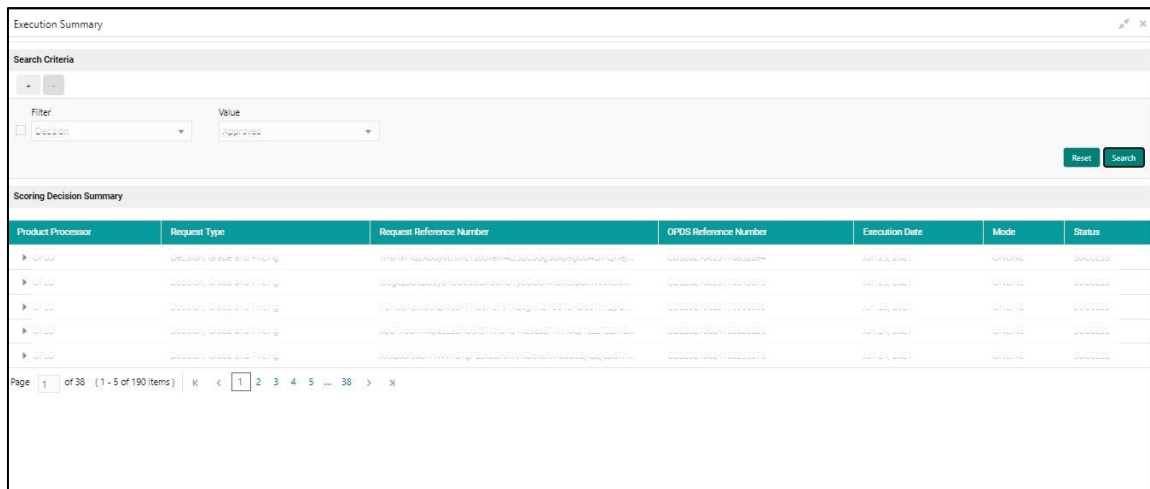**Figure 173 : Execution Summary**

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

Table 136 : Execution Summary Field Description

Field	Description
Search Criteria	
Filter	Select the required option based on which you can search for the execution summary. The options are: • Reference Number • OPDS Reference Number • Decision • Batch/Online • Product Processor • Status • Request Type • Execution Date
Value	Specify the required details or select an appropriate option for the selected filter option. This field appears once you select an option from the **Filter** list.
From Date	Select the start date of the period during which the execution summary was generated. This field appears if you select the filter option as **Execution Date** and value as **Date Range.**
To Date	Select the end date of the period during which the execution summary was generated. This field appears if you select the filter option as **Execution Date** and value as **Date Range.**

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3. 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.

4. Click **Reset**, to reset the search criteria.

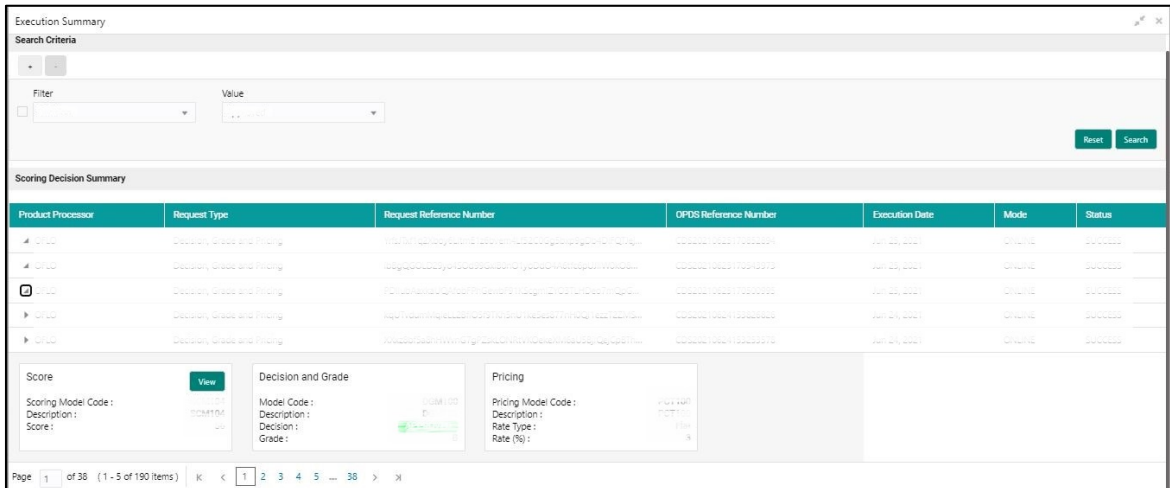**Figure 174 : Execution Summary Search Option**

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

Table 137 : Execution Summary- Search option- Field Description

Field	Description
Scoring Decision Summary	
Product Processor	View the name of the product processor that sent the request.
Request Type	View the request type created by product processor.
Request Reference Number	View the request reference number generated by product processor.
OPDS Reference Number	View the OPDS reference number of the application.
Execution Date	View the execution date of the application.
Mode	View the mode of execution of the application.
Status	View the status of the processed application.

5. Click the ▶ icon corresponding to the required record to view the decision related details. Only one record can be 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.

Figure 175 Scoring Decision Summary

For more information on fields, refer to the field description table below.
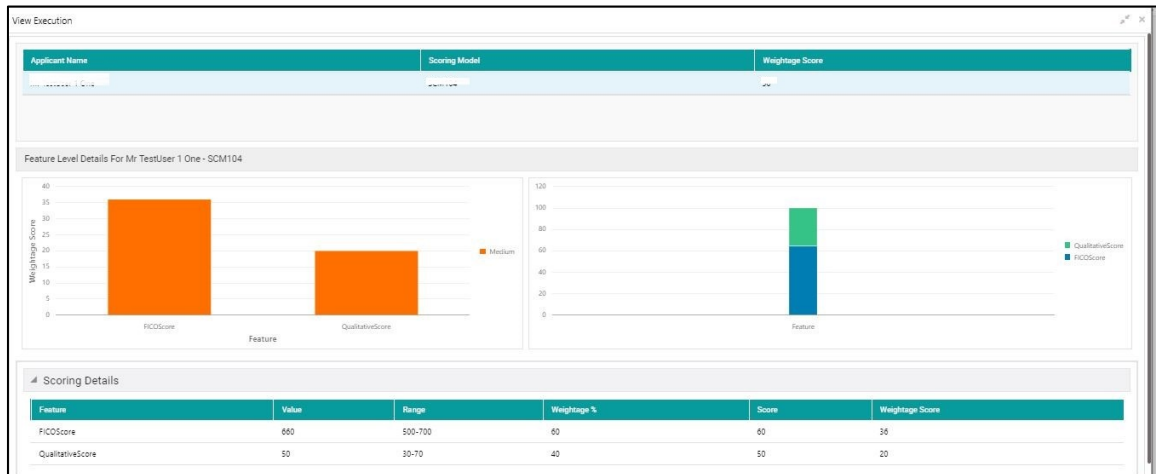
Table 138 : Field Description

Field	Description
The following fields appear if you click ▶ .	
Score	
<Scoring Model Code>	View the scoring model code that is resolved for credit decision.
Description	View the description of the scoring model.
Score	View the credit score post credit decision of the application.
View	On click of this hyperlink, you can view the applicant details along with the score and scoring model resolved. You can also view feature level and scoring details. For more details, check the View Execution Summary.
The following fields are displayed in decision and grade widget. This widget is displayed when the **Request Type** is **Decision and Grade**.	
<Model Code>	View the model code resolved for credit decision and grade.
Description	View the description resolved for credit decision and grade.
Decision	View the credit decision taken for the application.
Grade	View the scoring grade, post credit decision of an application.
The following fields are displayed in Pricing widget. This widget is displayed when the **Request Type** is **Decision and Grade** or **Only Pricing**.	
<Pricing Model Code>	View the pricing model code resolved for credit decision.
Description	View the pricing model description resolved for credit decision.

Field	Description
Rate Type	View the rate type applicable post credit decision.
Rate %	View the rate % applicable post credit decision.

View Execution Summary

Figure 176 : View Execution Summary Diagram

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

Table 139 : Field Description

Field	Description
The following fields appear if you click View link.	
<Applicant Name>	View the applicant name present in the application.
Scoring Model	View the scoring model ID resolved for credit decision.
Weightage Score	View the weightage score post credit decision of the application.

Field	Description
The following fields are displayed for feature level details for <applicant name> and <scoring model>. The details are shown as a graphical representation as bar chart. • **List of features** on the **X**-axis. • **Weightage score** on the **Y**-axis. • Based on the evaluation of the category, feature is shown in a particular color based on the maintenance done in lookup screen. • Another graphical representation is shown in stacked up bars. The calculation logic for the feature is "(weightage score of the feature/weightage score of the applicant)*100". The bar color is shown from the pool of color available/defined in the code.	
Click the ▶ icon corresponding to Scoring details to check the scoring details of the particular application.	
Scoring Details	
Feature	View the feature resolved for the applicant in the scoring model.
Value	View the value of the feature.
Range	View the range resolved for the feature value for score resolution.
Weightage %	View the weightage defined for the feature in the scoring model.
Score	View the score calculated for the feature based on the range and feature value.
Weightage Score	View the weighted credit score post credit decision of the application.

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4   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

4.1   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

4.1.1   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.
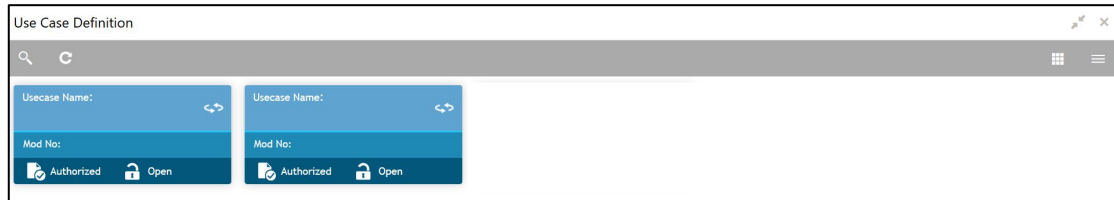
4.1.1.1 Use Case Definition Summary

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 177: Use Case Definition

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

Table 140: Use Case Definition – Field Description

Field	Description
Usecase Name	Displays the name of the use case
Mod No	Displays the modification number
Authorized Status	Displays the Authorized or Unauthorized status
Record Status	Displays the status of the record.

4.1.1.2 Use Case Definition Maintenance

The maintenance screen allows you to define use cases and maintain entities/tags for the use case.

Figure 178: Use Case Definition Maintenance

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 141: Tag Maintenance – Field Description

Field	Description
Use Case Name	Unique use case name. It gets populated on Save, from the last folder name from the "Training Corpus Path (DOC)"
Description	Use Case Description
Mod No	Automatic Modification Number
Straight Through Processing	yes = Unattended / No = Attended
Use Case Tags/Entities	Specifies the use case tags entities.
Tag Display Sequence	The sequence in which the tags get displayed.
Tag Screen Display	Business Name of the Tag
Tag Name	Technical Name of the Tag
Annotation Tag	To identify tags to be used in Training
Default Value	Default value for tags not used for training

4.1.2   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 179: Annotator
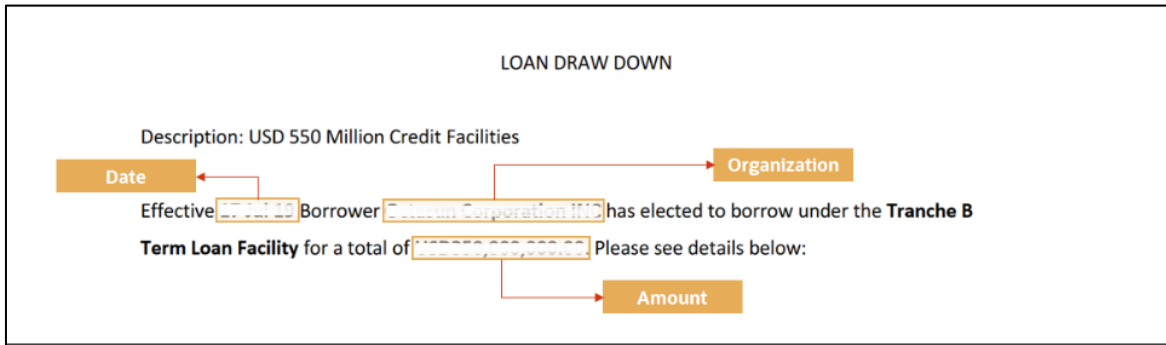
Annotator helps you to perform the annotations on a source document for a use case. To process this screen, perform the following steps:

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 180: Annotator

2. Click **Select File**. It will open the windows explorer. Navigate and select the source document to be annotated.

Figure 182: File Upload
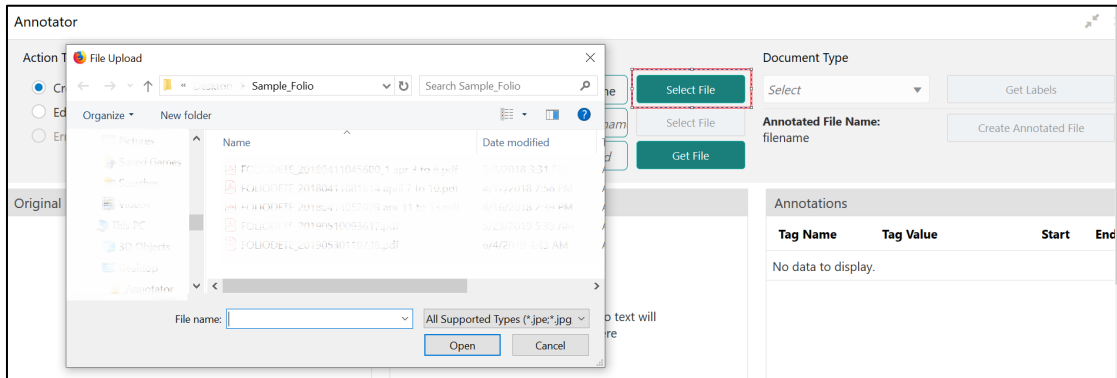
3. The source document will be displayed in the "Original File" section and the text version of the document will be displayed in the "Text Form" section below:

Figure 183: Text Form
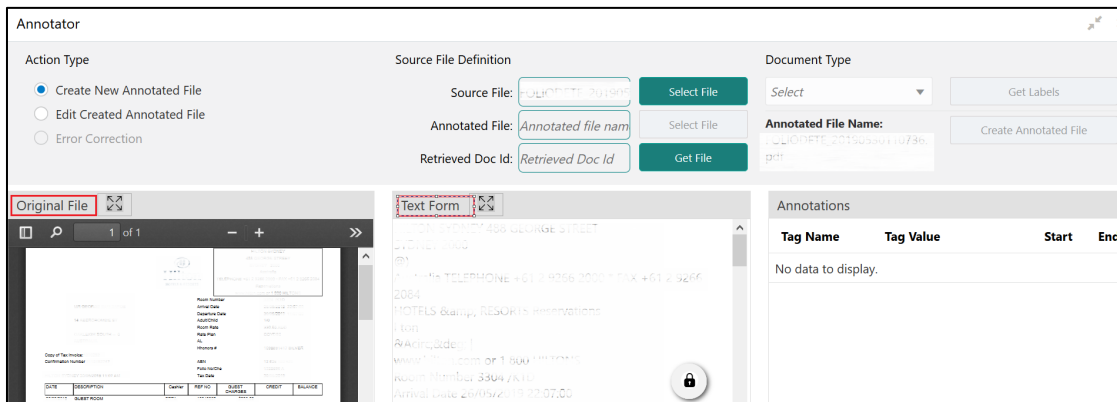
4. Chose the "Document Type".

Figure 184: Document Type
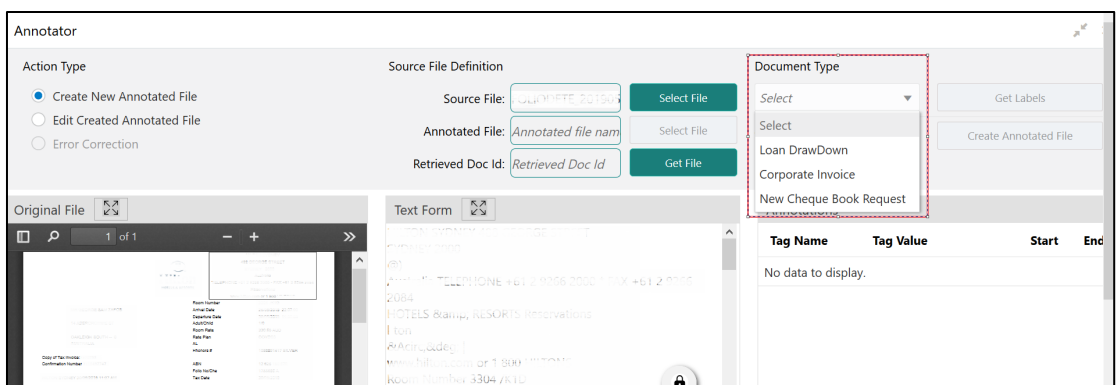
5. Click **Get Labels**. It will load all the maintained Tags for the Document Type.

    Figure 185: Tags
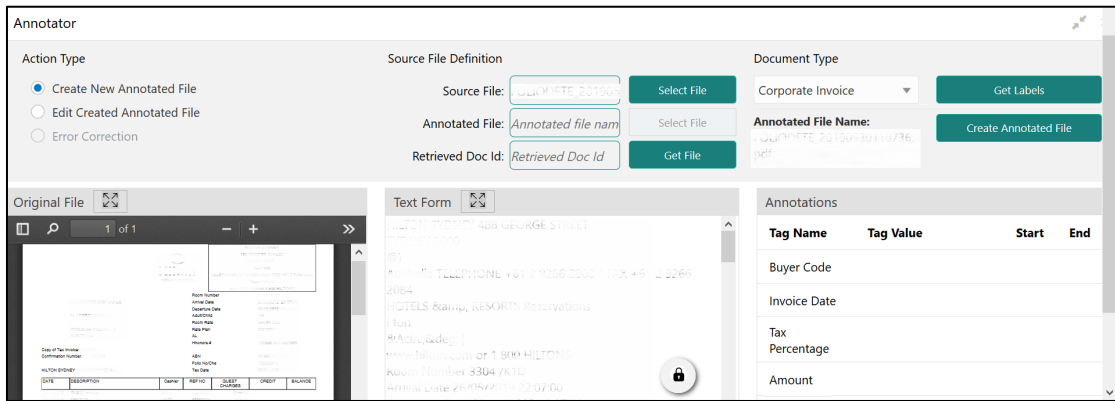
6. Identify and select information within the "Text Form" section of the document and RIGHT-CLICK to display the list of tags and select the relevant tag.

    Figure 186: List of Tags
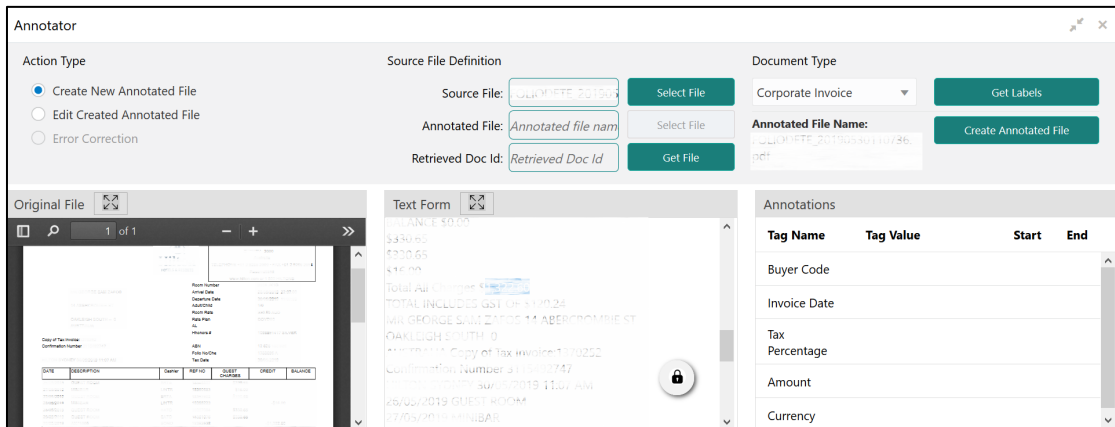
    Figure 187: Select Annotation Label

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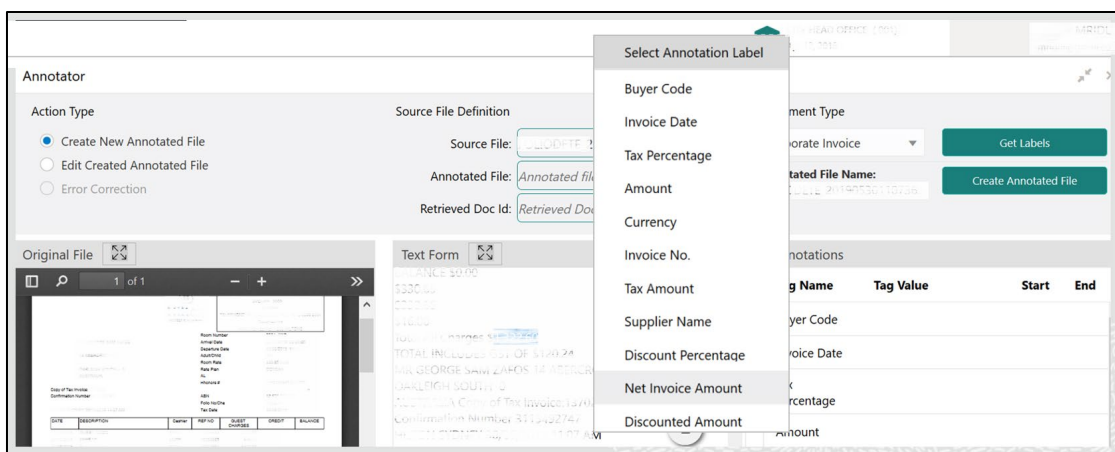
7. The selected Tag and the information will get displayed in section "Annotations" under Tag Name and Tag Value.

Figure 188: Annotations
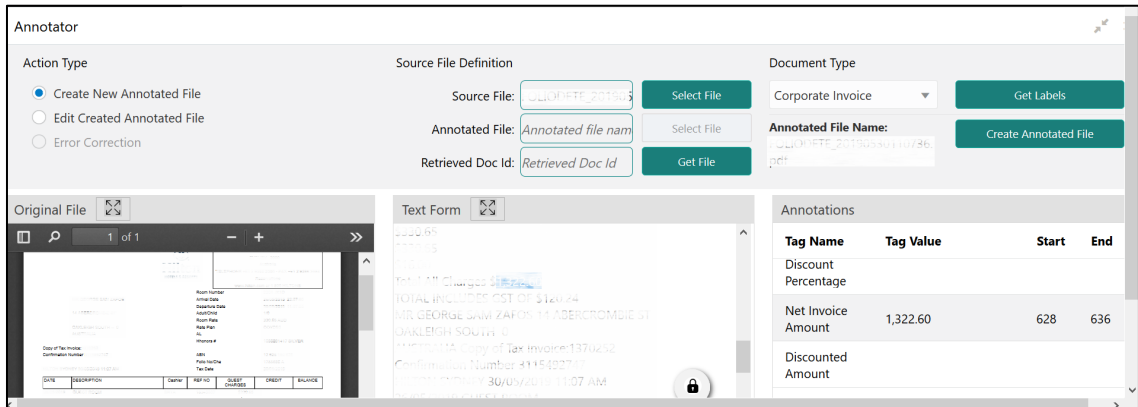
8. Repeat steps (6) and (7) for all the displayed tags as per availability of information in the source document.

9. Select a Tag Name from the "Annotations" section and RIGHT- CLICK to delete the Tag Value.

Figure 189: Tag Value
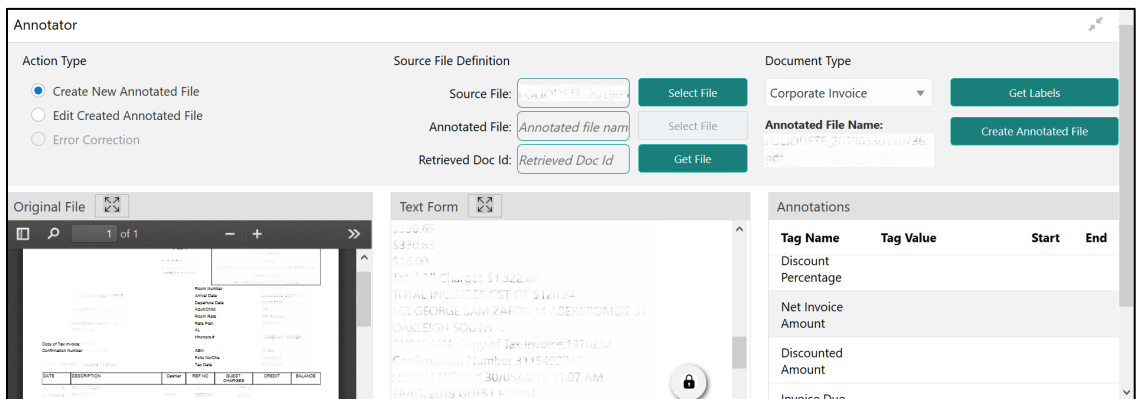
10. After all the tags are assigned relevant information click **Create Annotated** File to create the annotated file and end the process.

4.1.3   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 190: Model Training
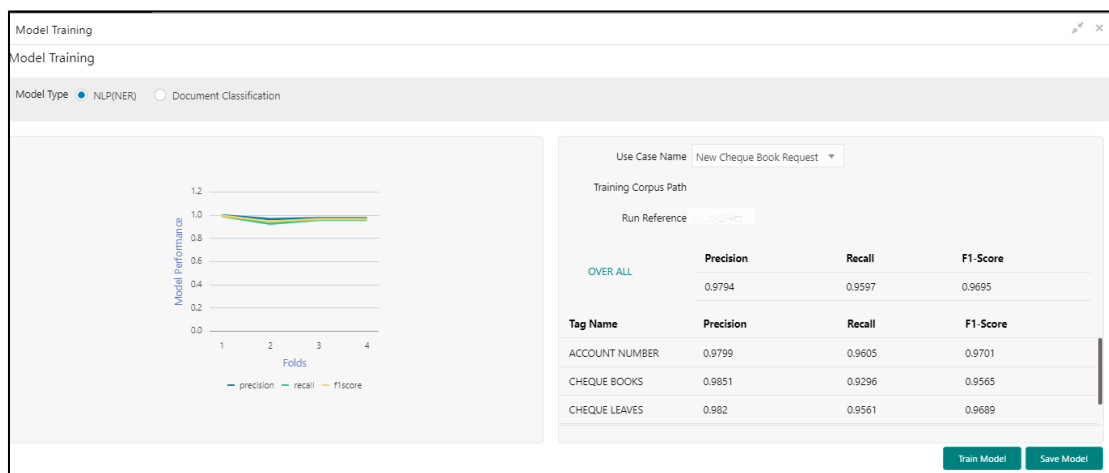
Training NER Models:

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.

4.1.4 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:

4.1.4.1 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 191: Model Management Summary
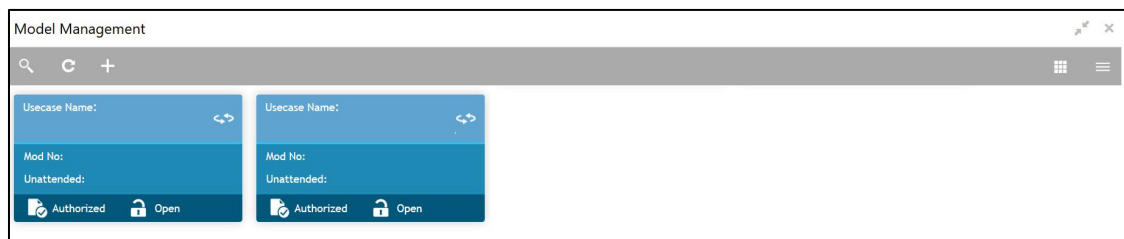
For more information on fields, refer to the field description table below.

Table 143: Model Management Summary – Field Description

Field	Description
Use Case Name	Displays the name of the Use Case.
Mod No	Displays the number of modifications.
Authorized Status	Displays the status as Authorized or Unauthorized.
Record Status	Displays the record status as Open or Closed.
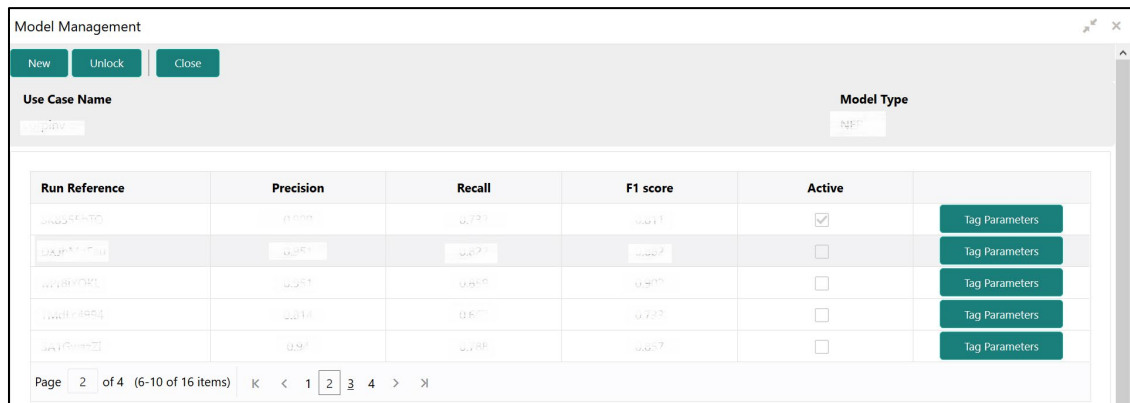
4.1.4.2 Model Management Maintenance

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 192: Model Management Maintenance

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 144: Model Management Maintenance – Field Description

Field	Description
Use Case Name	Displays the name of the Use Case.
Model Type	Displays the NER or Classification type of Model.
Run Reference	Unique Model Version Identifier.
Precision	Value between 0 to 1. Closer to 1 is better.
Recall	Value between 0 to 1. Closer to 1 is better.
F1 Score	Value between 0 to 1. Closer to 1 is better.
Active	The model run reference that is currently active.

For each model run reference you could view the individual tag parameters.

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Figure 193: Tag Parameters

At this stage you have defined a new use case with the tags/entities to be recognized by the model and trained and exported the use case model to be used by business.

4.2 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

4.2.1 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 194: Document Upload
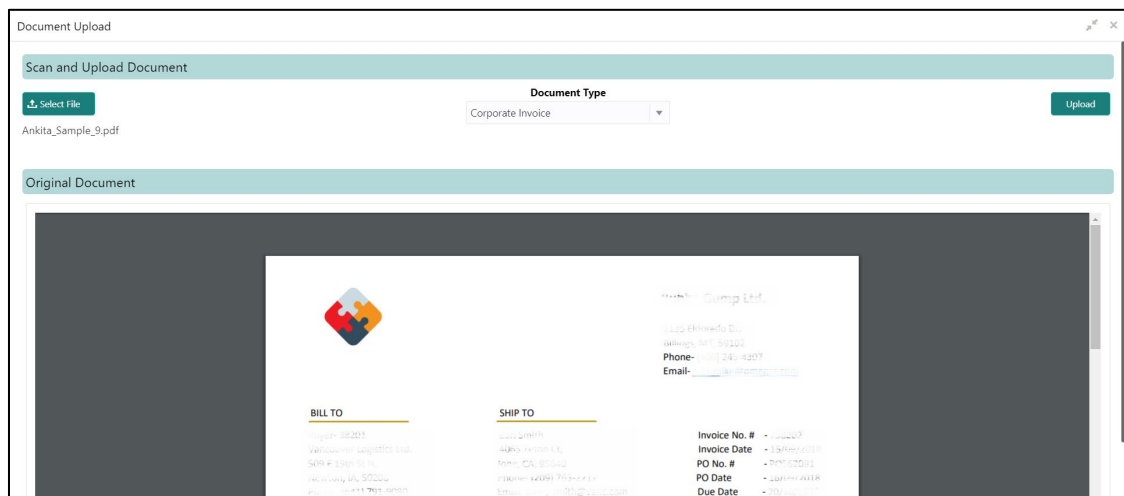
3. Click **Select File** to select the source document.
4. Chose the Document Type from the pick list.
5. Click **Upload** to initiate business process.

4.2.2 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 195: Transaction Log

3. On **Transaction Log** screen, specify the fields. For more information on fields, refer to the field description table below.

   Table 145: Transaction Log – Field Description

Field	Description
Document Type	Select the document type.
Status	Select the status.
Document Id	Displays the Document Management System Unique Identifier.
Document Type	Displays the document type - Use Case Definition.
Model Ref	Displays the Unique Model Version Identifier.
Processing Date	Displays the document processed date.

Field	Description
Status	Displays the status of the transaction.
Failure Reason	Displays the reason for failed status.
Train. Reqd	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 196: Execution Flow
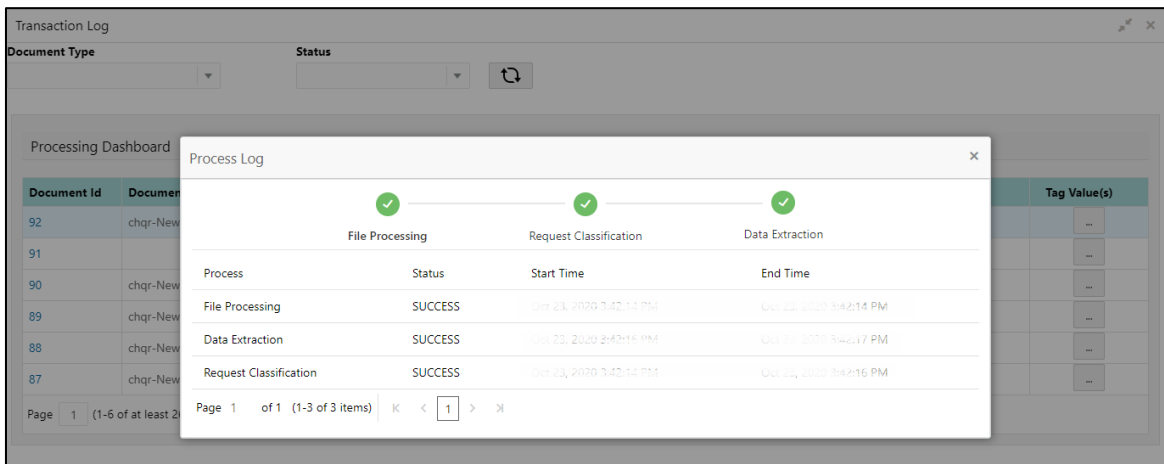
Processed Status

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 197: Processed Status
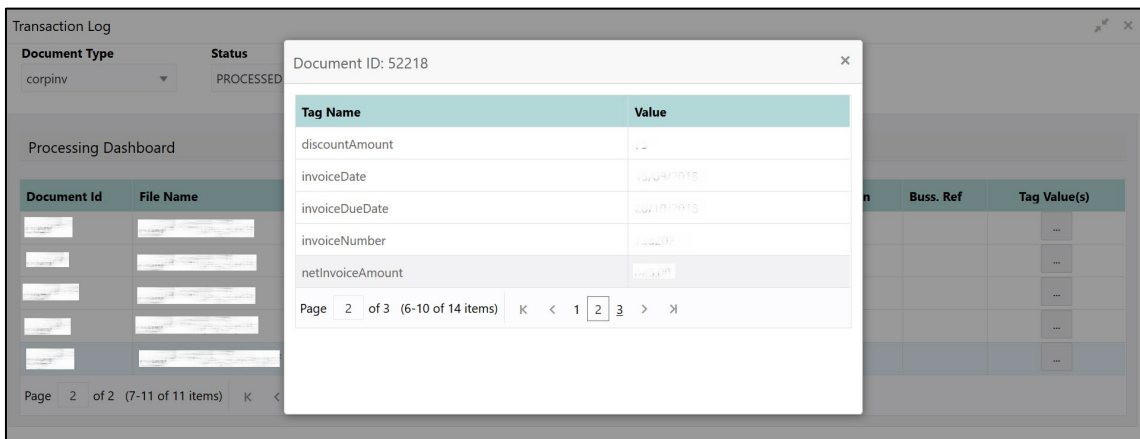
Error Status

For any Document Type, you can filter on the 'Error' status and view all the failed transactions.

Figure 198: Error Status

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 199: Annotator

4.3   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

4.3.1   Classification Training Service

This section elaborates the payload details for document classification model training service.

Input Payload

Table 146: 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
```

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Output Payload:

```
{
 "data": {
  "timeTaken": 0,
  "corpusSize": 0,
  "precision": 0,
  "recall": 0,
  "f1score": 0,
  "model_fold_performances": null,
  "tag_perfomances": 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_perfomances:
     type: array
     items:
      $ref: "#/definitions/MltbTagPerfomancesDTO"
```

4.3.2 NER Training Service

This section elaborates the payload details for NER model training service.

Input Payload

Table 147: 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_perfomances": [
   {
    "name": "string",
    "precision": 0,
    "recall": 0,
    "f1score": 0
   }
  ]
 }
}
```

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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_perfomances:
     type: array
     items:
      $ref: "#/definitions/MltbTagPerfomancesDTO"


ModelFoldPerfromancesDTO:
 type: object
 properties:
  fold_no:
   type: number
  eval_metric:
   type: string
  value:
   type: number

MltbTagPerfomancesDTO:
 type: object
 properties:
  name:
   type: string
  precision:
   type: number
  recall:
   type: number
  f1score:
   type: number
```

4.3.3   Classification Processing Service

This section elaborates the payload details for document classification model processing service.

Input Payload:

Table 148: 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
```

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4.3.4   NER Processing Service

This section elaborates the payload details for NER model processing service

Input Payload:

Table 149: 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'
```

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```
MltbNerKeyValExtractedObjDTO:
  type: object
 properties:
  tagName:
   type: string
  value:
   type: string
  start_index:
   type: number
  end_index:
   type: number
```

4.3.5 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 150: 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.

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Table 151: 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>	

4.3.6   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 152: 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 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	

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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 appId, 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.

5 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.

5.1 Regression 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.

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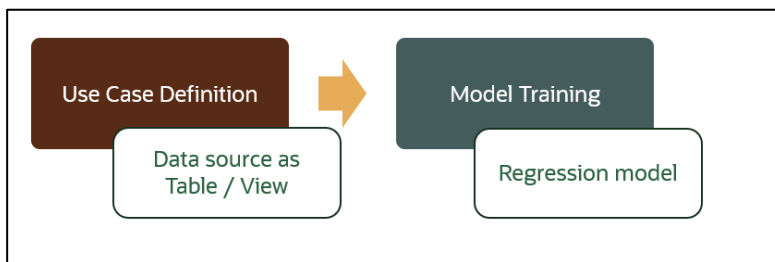
5.2   Frameworks Supported

5.2.1   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

5.2.2   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.

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5.2.3 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

5.2.4 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 MACHINE	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.

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5.3 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.

5.4 On-Boarding Regression Use Case

5.4.1 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.

5.4.1.1 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 200: Model Definition Summary
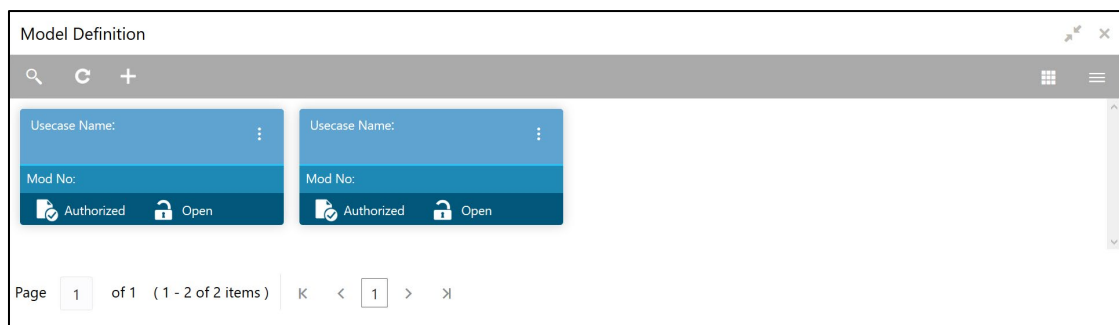
For more information on fields, refer to the field description table below.

Table 153: Model Definition Summary – Field Description

Field	Description
Usecase Name	Displays the name of the use case
Mod No	Displays the modification number
Authorized Status	Displays the Authorized or Unauthorized status
Record Status	Displays the status of the record.

5.4.1.2 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.

1. From **Model Definition Summary** screen, click ⋮ button on the Use case tile, and click **Unlock**.

   → The **Model Definition Maintenance** screen is displayed.

   Figure 201: Model Definition Maintenance

2. 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 154: Model Definition Maintenance – Field Description

Field	Description
Use Case Name	Specify the name of the Use Case.
Description	Specify the description of the Use Case.
Use Case Type	Select the type of Use Case. Refer Frameworks Supported for details.
Product Processor	Select the product to which the use case belongs.
Training Data Source	Specify the Table or View name used as data source to train the model.
Prediction Column	Specify the Batch prediction outcome. **NOTE:** Column name is a function of table/view design

Field	Description
Target Column	Select the value of the column which is predicted by training the model. **NOTE:** Column name is a function of table/view design
Unique Identifier	Select the column name to uniquely identify a record. **NOTE:** Column name is a function of table/view design
Tablespace	Specify the valid tablespace and all model related data will be persisted in this table space
Partition Column Names	Specify the column names to slice data. Refer Partitioned Model for details
Selected Algorithm	Select the algorithm from the list and build the model. For REGRESSION, this field should be null and allow the framework to select the best fit algorithm to build the model.
Model Error Statistics	Select the model error statistics. By Default, the value is selected as 'RMSE' for REGRESSION. The user can also select 'MAE'.

3. Click **Save**. You can view the configured details in the Model Definition Summary.

Model Metrices

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 Metrices** tab only after training the model successfully. Refer to **Model Training and Scoring** section for training the model.

4. Click **Model Metrices** tab to view the Model Metrices details.

    → The **Model Metrices** screen is displayed.

    Figure 202: Model Metrices

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

    Table 155: Model Metrices – Field Description

Field	Description
Model Partitions	Select the model partitions from the dropdown.
	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.
Metrices	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
	Some attributes are common for all models,
	Model Name
	Algorithm
	INF_TIME (Inference Time)
	<Model metric>(Train)
	<Model metric>(Test)
Value	Displays the value of the attribute.

5.4.2 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 203: Model Training and Scoring

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

Table 156: Model Training and Scoring – Field Description

Field	Description
Use Case Name	Select the Use Case name from the dropdown.
Description	Displays the description of the use case.
Use Case Type	Displays the type of use case.
Model Training	Displays the model training details.
Training Data Source	Displays the training data source.
Unique Case Identifier	Displays the unique case identifier.
Target Column	Displays the target column of the model.
Partition Column(s)	Displays the partition column of the model.

Field	Description
Model Batch Scoring	Displays the model batch scoring details.
Model Name	Displays the name of the model.
Scoring Destination	Displays the scoring destination.

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.

5.5 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.

5.6 Regression 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 Regression Model Explainability.

Table 157: Regression Use Case Modifications

Use Case Modification	Model Re-training Required
Data Source replaced by another data source	Yes
New column Added to existing data source	Yes
New columns Added to custom data source	Yes
Existing column removed from existing data source	Yes
Selected Algorithm Changed	Yes
Model Error statistic Changed	Yes
Partition Column Name list altered (added / removed)	Yes

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5.7 Regression 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 204: Regression Data Extensibility
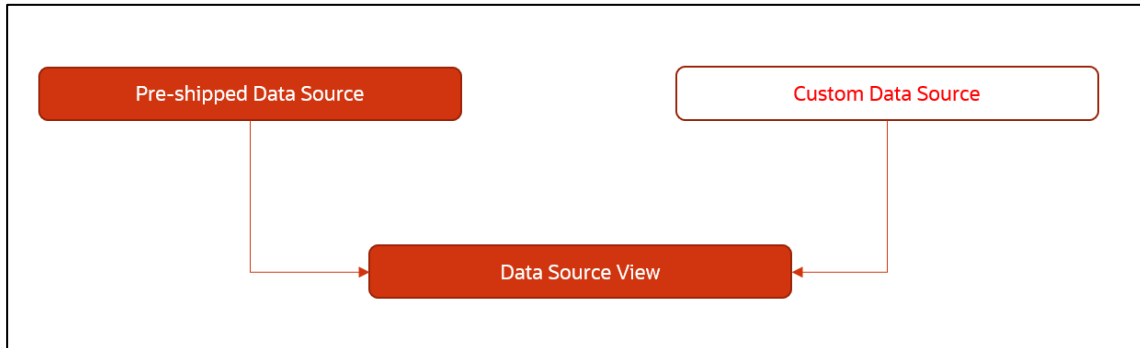
Banks can add any number of new data columns to the customer data source

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.

5.8 Regression Model Explainability

The details of the Regression models built using the framework is made available under the 'Model Metrices' 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

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5.9 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.

5.9.1 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 158: 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. **NOTE:** Column name is a function of table/view design
Unique Identifier	Specify the column name to uniquely identify a sequence **NOTE:** 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 **NOTE:** 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

6 Error Codes and Messages

This topic contains the error codes and messages:

Table 159: 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

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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	EOFI 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 EOFI
CMC-BRN-EOD13	Branch status not in EOFI, 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 EOFI
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 intiated

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

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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)

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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 maintaned 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

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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

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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-OBRH-001	Record already exists.
CMC-OBRH-002	Record saved successfully.
CMC-OBRH-003	Record does not exist.
CMC-OBRH-004	Invalid Payload
CMC-OBRH-005	Record deleted successfully.
CMC-OBRH-006	Record modified successfully.
CMC-OBRH-007	Data fetched successfully.
CMC-OBRH-008	Data exported successfully.
CMC-OBRH-009	Failed to get data.

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Error Codes	Messages
CMC-OBRH-010	Cannot start disabled route.
CMC-OBRH-011	Data imported successfully.
CMC-OBRH-012	Failed to import.
CMC-OBRH-013	Failed to parse [$1]
CMC-OBRH-014	Data extracted successfully.
CMC-OBRH-015	Route state cannot be changed to Start as Consumer Service / Provider is inactive.
CMC-OBRH-016	Modified/Deleted attribute is already in use by route.
CMC-OBRH-017	Something went wrong!
CMC-OBRH-018	Imported WSDL successfully
CMC-OBRH-019	Imported Swagger successfully
CMC-OBRH-020	Failed to import [$1]
CMC-OBRH-021	Failed to export [$1]
CMC-OBRH-022	Request failed [$1]
CMC-OBRH-023	Request is being processed
CMC-ORCH-001	Failed to initiate.
CMC-ORCH-002	Transaction is successfully initiated.
CMC-ORCH-003	Invalid action, failed to initiate.
CMC-ORCH-004	$1 is not submitted, transaction remains the same.
CMC-ORCH-005	Cannot proceed with submit as the action is not initiated.
CMC-ORCH-006	Cannot proceed with submit as the information is incomplete.
CMC-ORCH-007	Failed to submit.
CMC-ORCH-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

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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 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 Empty response from criteria for given PPcode Empty response from Oracle Banking Routing Hub from bureau call 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} (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

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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

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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

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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

7 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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8 List of Menus

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9 Reference and Feedback

This section contains following subsections:

9.1 References

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

9.2 Documentation Accessibility

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

9.3 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.

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