

# Oracle® Banking Microservices Architecture

## Routing Hub Configuration User Guide



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# Preface

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## Purpose

This guide enables the user to integrate Oracle Products with External Product Processor through Oracle Banking Routing Hub Platform.

## Before You Begin

Kindly refer to the **Getting Started User Guide** for information on common functionalities like login, navigation, and general settings before proceeding with this guide.

## Module Definitions

**Table 1 Terms & Definitions**

Terms	Definitions
<b>Consumer Application</b>	The product that requires integration with another product for retrieving information or posting transactions does not need to know the following details while coding.

Table 1 (Cont.) Terms &amp; Definitions

Terms	Definitions
<b>Service Consumer</b>	It is an Oracle banking solution that utilizes the Oracle Banking Routing Hub API for integration purposes. Analyze the Oracle Banking Routing Hub and assess the destination product processor.
<b>Import Service Consumer</b>	The user 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.
<b>Environment Variables</b>	A set of variables that will be accessible across the particular configuration of the consumer.
<b>Service Providers</b>	Service Providers are systems designed to handle requests sent by the Oracle Banking Routing Hub for service consumers. They include information about destination integration.
<b>Parameter Group</b>	Parameter mapping is used to establish the relationship between parameters of 2 different systems i.e., consumer and provider.
<b>Import Implementation</b>	The user can create an implementation by importing the JSON file.
<b>Consumer Services</b>	It specifies the service ID that is transmitted by the service consumer. It also handles transitions and route definitions, including the details for source integration.
<b>Transformation</b>	It involves gathering and changing data from one source to another and back again. This process occurs within consumer services. It changes the data from the service consumer into a format suitable for the service provider.
<b>Routing</b>	It determines which service provider receives the actual request by considering maintenance and assessment factors.
<b>Chaining</b>	The sequence of transformations for each routing in which the request needs to be processed.
<b>Template Extensibility</b>	It is achieved by specifying the extended templates for request and response kernel transformation templates. And as part of extensibility, Routing Hub merges the output of kernel template and custom template in terms of JSON / XML merging.
<b>SPI</b>	It is used to make Routing Hub more extensible. SPI provides an option to extend interfaces without modifying the core application.
<b>Monitoring dashboard</b>	It provides to System integrators and IT administrators to review the health of the integrations. It displays data using different type of widgets to help users to assess the performance of integrations and identify the areas that requires attention.

## Module Pre-requisite

Specify **User Id** and **Password**, and login to the **Home** screen.

## Audience

This guide is intended for the customers and partners.

## 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>.

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## Related Resources

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

- *Oracle Banking Common Core User Guide*
- *Oracle Banking Getting Started User Guide*

## Conventions

The following text conventions are used in this document:

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

## Screenshot Disclaimer

Personal information used in the interface or documents is dummy and does not exist in the real world. It is only for reference purposes.



## Acronyms and Abbreviations

The list of the acronyms and abbreviations used in this guide are as follows:

**Table 2 Acronyms and Abbreviations**

Abbreviation	Description
API	Application Programming Interface
JSON	Java Script Object Notation
XML	Extensible Markup Language
WSDL	Web Services Description Language

## Basic Actions

**Table 3 Basic Actions**

Action	Description
<b>Submit</b>	Click to complete the transaction after you specify all the input parameters for a particular transaction.
<b>Cancel</b>	Click to cancel the transaction input midway without saving any data.
<b>Clear</b>	Click to clear the transaction input data. The system displays a pop-up screen with confirmation to clear data. You can click <b>OK</b> to confirm or click <b>x</b> icon to retain the data.
<b>Query</b>	On completion of input of necessary parameters, click this button to fetch and display the details.
<b>OK</b>	Click to confirm the details in the pop-up screen.
<b>Save</b>	Click to save the details specified in the screen.
<b>Exit</b>	Click to close the screen and go to Home screen.

## Symbols and Icons

This guide has the following list of symbols and icons.

**Table 4 Symbols and Icons - Common**

















Symbol/Icon	Function
	Minimize
	Maximize
	Close
	Perform Search

Table 4 (Cont.) Symbols and Icons - Common

Symbol/Icon	Function
	Open a list
	Add a new record
	Navigate to the first record
	Navigate to the last record
	Navigate to the previous record
	Navigate to the next record
	Refresh
	Click this icon to delete a row, which is already added.
	Calendar
	Alerts
	Import a file
	Edit a file

## Module Post-requisite

After finishing all the requirements, log out from the **Home** screen.

# 1

## Introduction

FSGBU Banking Products integrate seamlessly and standardized with Oracle Banking Routing Hub through the use of configurations. The product infrastructure solution includes this component. With Oracle Banking Routing Hub, banking products can be integrated loosely.

**Consumer Application** The product that requires integration with another product for retrieving information or posting transactions does not need to know the following details while coding.

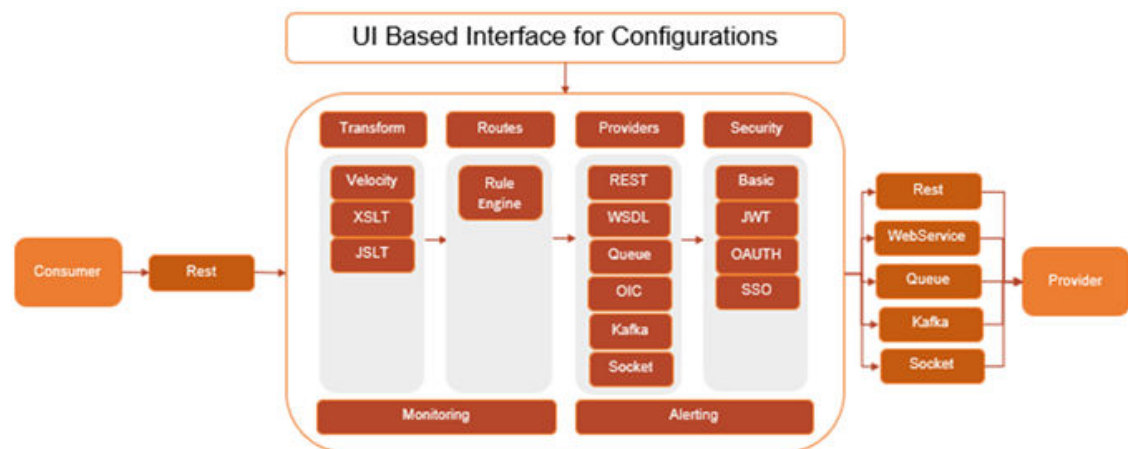
- **Servicing Providers or Product Processors:** The consumer application requests data from the products when required, or a consumer application initiates a transaction for the products to post.
- **Name of the Service:** Logical name of the service example: The service provider's product allows us to fetch details or initiate a transaction for Logical names like Funds Transfer and Letter of Credit.
- **Messaging structure of Service:** Structure of the message example: JSON, XML, multipart request.
- **Communication Protocol:** Web services, Rest API, Queue, OIC, Kafka, and Socket.

Through the 'Oracle Banking Routing Hub', consumers can achieve and modify integration, and they can integrate with different versions of a single product processor if necessary.

This guide shows the maintenance of two product as given below.

- Oracle Service Consumer as Service Consumer
- External Product Processor as Service Provider

**Figure 1-1 UI Based Interface for Configurations**



# 2

## Service Consumers

This topic describes the systematic instructions to configure the service consumers.

Service Consumer is an Oracle banking solution that utilizes the Oracle Banking Routing Hub API for integration purposes. Analyze the Oracle Banking Routing Hub and assess the destination product processor. Convert the data into the necessary format for the destination product processor to handle a specific request type.

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

The **Service Consumers** screen is displayed.

**Figure 2-1 Service Consumers**



### New Service Consumer

The users can create **Service Consumers** manually.

3. Click **New**.

The **New Service Consumer** screen is displayed.

**Figure 2-2 New Service Consumer**

The screenshot shows a web form titled "New Service Consumer". It includes a close button (X) in the top right corner. The form has three input fields: "Consumer Name" (a single-line text box with a "Required" label below it), "Consumer Description" (a multi-line text box), and "Request Audit Type" (a dropdown menu currently showing "Service level configuration"). A "Save" button is located at the bottom right of the form.

4. Specify the fields on the **New Service Consumer** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 2-1 New Service Consumer - Field Description**

Field	Description
<b>Consumer Name</b>	Specify a unique service consumer name. <b>Note:</b> <ul style="list-style-type: none"><li>• Enter 0 to maximum of 255 characters.</li><li>• No numeric value at beginning and no space allowed.</li></ul>
<b>Consumer Description</b>	Specify the description of the consumer name. <b>Note:</b> <ul style="list-style-type: none"><li>• Enter 0 to maximum of 1000 characters.</li><li>• No space allowed at beginning or ending of the characters.</li></ul>

Table 2-1 (Cont.) New Service Consumer - Field Description

Field	Description
<b>Request Audit Type</b>	<p>Select the Audit type from the drop-down list. The available options are:</p> <ul style="list-style-type: none"> <li>• <b>All Requests</b> - All requests are logged in the OBRH and can be viewed later for debugging.</li> <li>• <b>Service level configuration</b> - Option has been provided at consumer services for enabling audit of requests for specific Consumer Services. Audit type should be configured as “Service level configuration” and audit option at “Consumer Services” should be selected for Consumer Services which need to be audited. Monitoring dashboard does not provide the data for requests which are not being audited.</li> <li>• <b>None</b> - Disables the audit completely. Audit logs cannot be reviewed later and monitoring dashboard does not provide the data</li> </ul>

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

### Import Service Consumer

The user 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. The user can also import zip file in order to import all the configuration JSON files together.

6. Click **Import**.

The **Import Service Consumer** screen is displayed.

Figure 2-3 Import Service Consumer - Basic Details

The screenshot shows the 'Import Service Consumer' window with the 'Basic Details (1/2)' tab selected. It features a 'Drag and Drop' section with the instruction 'Select a file or drop one here.' Below this are two text input fields labeled 'File' and 'Name'. Further down are two sets of radio buttons for 'Overwrite extended templates' and 'Overwrite environment variables', both with 'No' selected. A 'Next Step' button is located at the bottom right of the form.

7. Specify the fields on the **Import Service Consumer - Basic Details** screen.

#### **Note**

The fields marked as **Required** are mandatory.

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

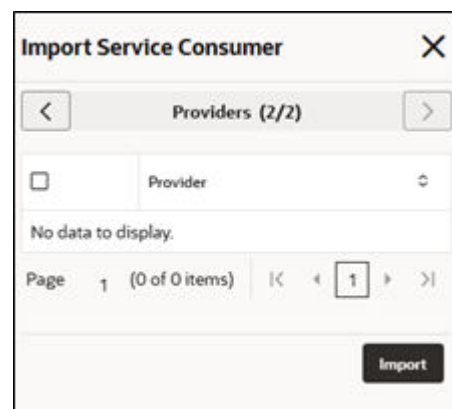
**Table 2-2 Import Service Consumer - Basic Details - Field Description**

Field	Description
<b>File</b>	Click <b>Select</b> to select the file. <b>Note:</b> Only one file can be selected, and it must be in JSON or ZIP format.
<b>Name</b>	Specify the name of the service consumer. <b>Note:</b> <ul style="list-style-type: none"> <li>Name cannot be blank and required only for JSON file.</li> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Overwrite extended templates</b>	Select the respective radio button to overwrite the extended templates. The available options are: <ul style="list-style-type: none"> <li><b>Yes</b> - This option overwrites the extended templates.</li> <li><b>No</b> - This option retains the existing extended templates.</li> </ul>
<b>Overwrite environment variables</b>	Select the respective radio button to indicate whether environment variables (JSON file) should overwrite existing environment variables or not. The available options are: <ul style="list-style-type: none"> <li><b>Yes</b> - This option overwrites the environment variables.</li> <li><b>No</b> - This option retains the existing environment variables.</li> </ul>
<b>Providers</b>	Displays the list of service providers names that are present in JSON file only.

- Click **Next** on the **Basic Details** screen.

The **Import Service Consumer - Providers** screen is displayed.

**Figure 2-4 Import Service Consumer - Providers**



- Specify the fields on the **Import Service Consumer - Providers** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 2-3 Import Service Consumer - Providers - Field Description**

Field	Description
<b>Providers</b>	Displays the list of service providers names that are present in JSON file only.

10. Click **Import** to import the selected service consumer file.

#### **View / Edit Service Consumer**

The user can view or modify consumer details.

11. On the **Service Consumer** tile, click **View More** button and then click **Edit Service Provider**.

The **Edit Service Consumer** screen is displayed.

**Figure 2-5 Edit Service Consumer**The screenshot shows a modal dialog box titled "Edit Service Consumer" with a close button (X) in the top right corner. Inside the dialog, there are three input fields: "Consumer Name" with the text "Oracle\_Consumer", "Consumer Description" with the text "This is for the payment integrations", and "Request Audit Type" with a dropdown menu showing "Service level configuration". At the bottom right of the dialog is a "Save" button.

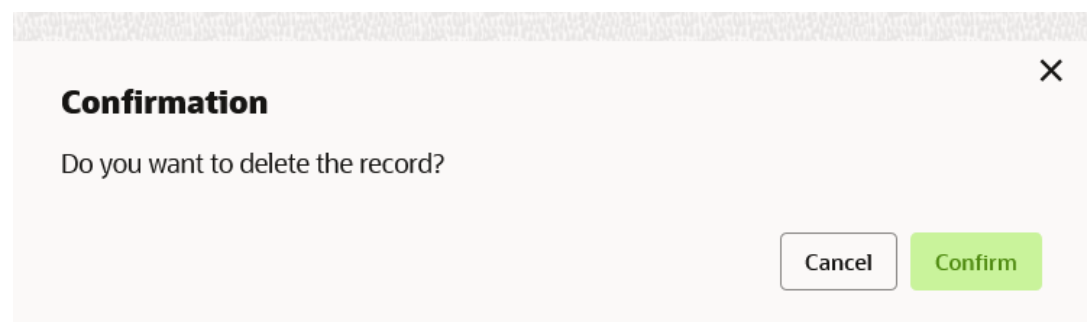
12. Click **Save** to save the modified consumer details.

#### **Delete Service Consumer**

The user can delete the Service Consumer.

13. On the **Service Consumer** tile, click **Delete** icon.

The **Confirmation** screen is displayed.

**Figure 2-6 Confirmation - Delete**The screenshot shows a modal dialog box titled "Confirmation" with a close button (X) in the top right corner. The text inside the dialog asks "Do you want to delete the record?". At the bottom right, there are two buttons: "Cancel" and "Confirm".



14. Click **Confirm** to delete the service consumer.

### Export Service Consumer

User can export the consumer configuration as JSON file. The option for Export is provided to move the configurations from one environment to another.

15. On **Service Consumer** tile, click **Operation Menu** (3 dot icon) and then click **Export**.

The **Export Service Consumer** screen is displayed.

**Figure 2-7 Export Service Consumer**

<input type="checkbox"/>	Provider
<input type="checkbox"/>	Oracle_Provider 14.8.0.0.0
<input type="checkbox"/>	External_Provider 1.0

Page 1 of 1 (1-2 of 2 items) |< < 1 > >|

Export

#### **Note**

- The user has an option to select the service providers from the list which needs to be exported or can click on select all for all service providers.
- The JSON Export feature exports below data:
  - Selected service consumer
  - All consumer services
  - Selected service providers with services
  - All implementations of selected service providers with services (without Host, Port and Authentication Password)
  - All transformations
  - All routes

16. Select the required service providers and click **Export**.

The **Confirmation** screen is displayed.

**Figure 2-8 Confirmation - Export**

17. Click **Confirm** to export the service consumer in JSON file.

#### **Configuration Export**

18. On **Service Consumer** tile, click **Operation Menu** (3 dot icon), and click **Configuration**.  
The **Configuration** screen is displayed.

#### **Note**

Refer to [Configuration](#) topic for the screen and field description.

#### **Request Audit**

19. On **Service Consumer** tile, click **Operation Menu** (3 dot icon), and click **Request Audit**.  
The **Request Audit** screen is displayed.

#### **Note**

Refer to [Request Audit](#) topic for the screen and field description.

# 3

## Common Templates

This topic describes the common templates that can be reused across all integration configurations within that specific consumer.

1. On **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Interconnect**.
2. Under **Interconnect**, click **Routing Hub**, click **Service Consumers**. From **Service Consumers** screen, click the required service consumer.

The **Common Templates** screen is displayed.

**Figure 3-1 Common Templates**



### New Template

Users can create multiple templates.

3. Click **New Template**.

The **New Template** screen is displayed.

**Figure 3-2 New Template**

The 'New template' form is displayed with a close button (X) in the top right corner. It contains four input fields: 'Name' (required), 'Description' (required), 'Template Type' (a dropdown menu currently showing 'Velocity'), and 'Template' (required). At the bottom right, there are 'Save' and 'Cancel' buttons.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 3-1 New Template - Field Description**

Field	Description
<b>Name</b>	Specify the name of the template. <b>Note:</b> <ul style="list-style-type: none"><li>Enter 0 to maximum of 255 characters.</li><li>No numeric value at beginning and no space allowed</li></ul>
<b>Description</b>	Specify the description. <b>Note:</b> <ul style="list-style-type: none"><li>Enter 0 to maximum of 1000 characters.</li><li>No space allowed at beginning or ending of the characters.</li></ul>
<b>Template Type</b>	Select the template type for common template. <b>Note:</b> Currently, velocity is only supported.
<b>Template</b>	Specify the velocity template. <b>Note:</b> Only macro is supported.

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

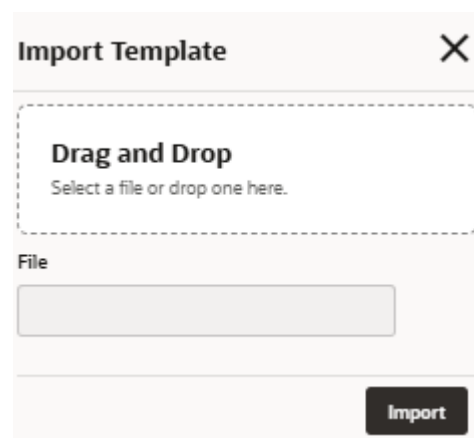
**Import Template**

The user can import common templates.

- Click **Import Template**.

The **Import Template** screen is displayed.

**Figure 3-3 Import Template**



- Specify the fields on **Import Template** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 3-2 Import Template - Field Description**

Field	Description
<b>File</b>	Select the file using Select. <b>Note:</b> This allows you to select only one file, which must be in either JSON or ZIP format.

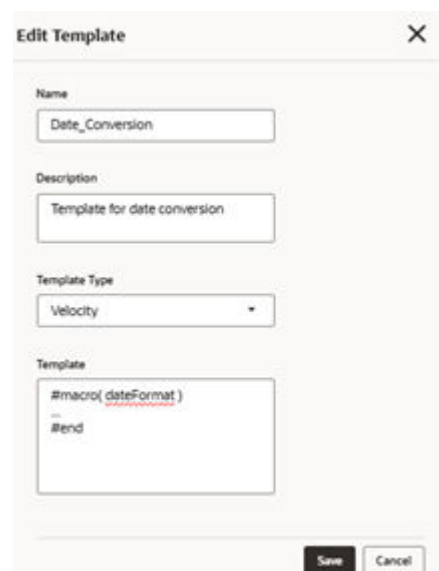
- Click **Import** to import the selected common template file.

#### **View / Edit Template**

- Click **Edit** icon.

The **Edit Template** screen is displayed.

**Figure 3-4 Edit Template**



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

#### **Delete Template**

The user can delete the template.

- Click **Delete** icon.

#### **Export Template**

User can export the template configuration as JSON file. The option for Export is provided to move the configurations from one environment to another.

- On **Common Template** screen, click **Export Template**.

The **Confirmation - Export** screen is displayed.

**Figure 3-5 Confirmation - Export**

12. Click **Confirm** to export the environment variables in JSON file.

# 4

## Environment Variables

This topic describes the systematic instructions to configure the environment variables consumers.

The user needs to define a set of variables that will be accessible across the particular configuration of the consumer. The syntax for accessing environment variables is below: \$env.Environment\_Group\_Name.Environment\_Variable\_Name

**For example,** \$env.COMMON.BRANCH\_CODE

1. From **Service Consumers** screen, click the required service consumer.  
The **Environment Variables** screen is displayed.

**Figure 4-1 Environment Variables**

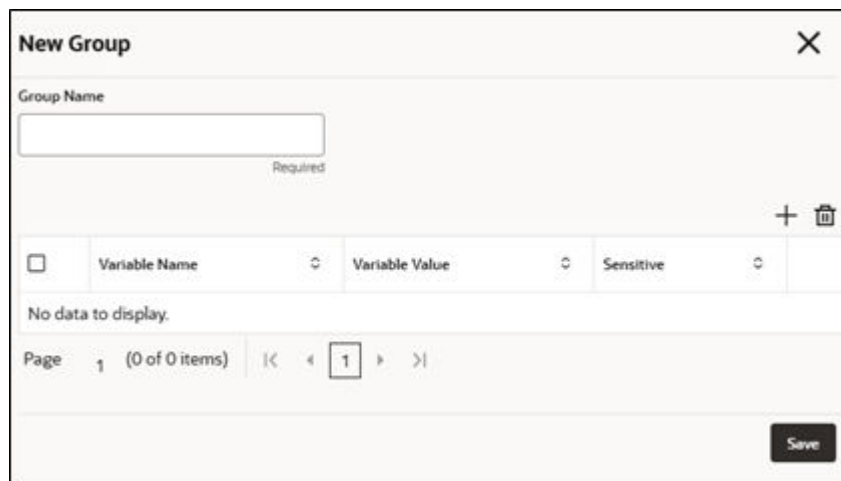


### New Group

Users can create multiple groups and variables.

2. Click **New Group**.  
The **New Group** screen is displayed.

**Figure 4-2 New Group**



3. Specify the fields on the **New Group** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 4-1 New Group - Field Description**

Field	Description
<b>Group Name</b>	Specify the name of the environment group. <b>Note:</b> <ul style="list-style-type: none"><li>• Enter 0 to maximum of 255 characters.</li><li>• No numeric value at beginning and no space allowed.</li></ul>
<b>Variable Name</b>	Specify the name of the environment variable. <b>Note:</b> <ul style="list-style-type: none"><li>• Enter 0 to maximum of 255 characters.</li><li>• No numeric value at beginning and no space allowed.</li></ul>
<b>Variable Value</b>	Specify the value of the environment variable. The value can either be hardcoded or Velocity mapping.
<b>Sensitive</b>	This flag allows users to mark sensitive variables. Their values will not be shown as plain text in the routing hub configuration.

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

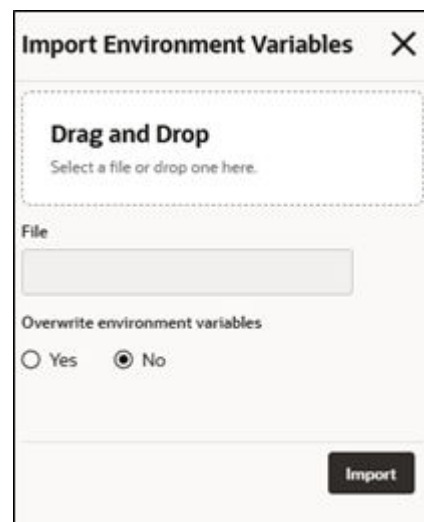
### Import Group

The user can import environment variables.

5. Click **Import Environment Variables**.

The **Import Environment Variables** screen is displayed.

**Figure 4-3 Import Environment Variables**





- Specify the fields on **Import Environment Variables** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 4-2 Import Environment Variables - Field Description**

Field	Description
<b>File</b>	Select the file using <b>Select</b> . <b>Note:</b> This allows you to select only one file, which must be in either JSON or ZIP format.
<b>Overwrite environment variables</b>	Select the respective radio button to specify if the environment variables (from the JSON file) should replace the current environment variables. The options available are: <ul style="list-style-type: none"> <li><b>Yes</b> - This option overwrites the environment variables.</li> <li><b>No</b> - This option retains the existing environment variables.</li> </ul>

- Click **Import** to import the selected environment variable file.

### View / Edit Group

The user can view or modify environment variables.

- On the **Group** tile, click **Edit Group**.

The **Edit Group** screen is displayed.

**Figure 4-4 Edit Group**

**Edit Group**

Group Name

COMMON

+

🗑️

<input type="checkbox"/>	Variable Name	Variable Value	Sensitive	
<input type="checkbox"/>	BRANCH_CODE	000	<input type="checkbox"/>	

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Save

- Click **Save** to save the modified environment variable details.

### Delete Group

The user can delete the environment group.

10. On the **Group** tile, click **Delete** icon.

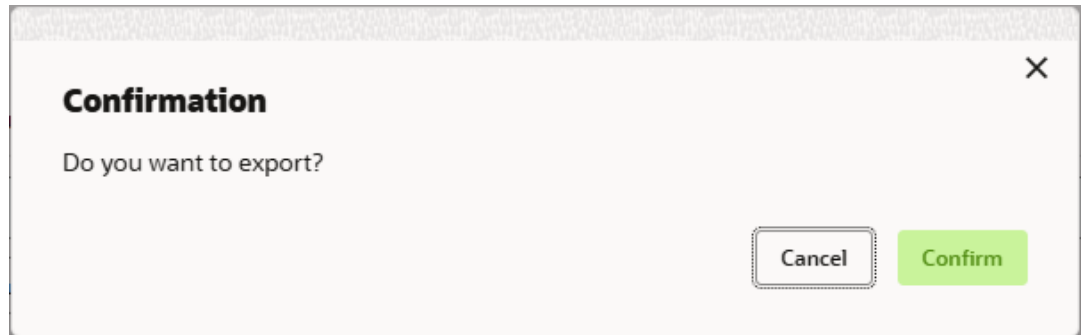
#### **Export Group**

User can export the environment variable configuration as JSON file. The option for Export is provided to move the configurations from one environment to another.

11. On **Environment Variables** screen, click **Export Group**.

The **Confirmation - Export** screen is displayed.

**Figure 4-5 Confirmation - Export**



12. Click **Confirm** to export the environment variables in JSON file.

# 5

## Service Providers

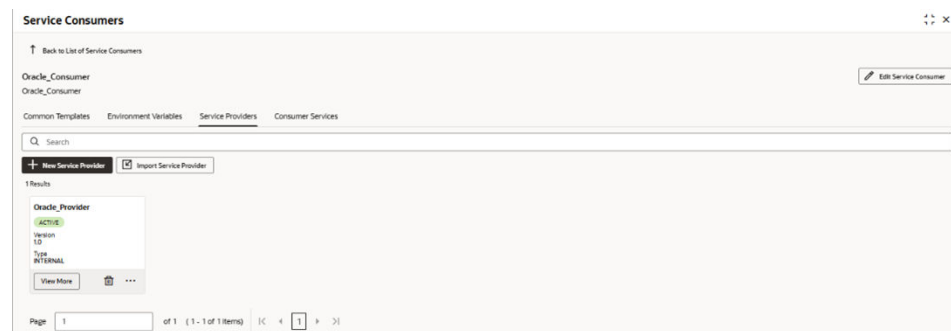
This topic describes the systematic instructions to configure the service providers.

Service Providers are systems designed to handle requests sent by the Oracle Banking Routing Hub for service consumers. They include information about destination integration.

1. From **Service Consumers** screen, click the required service consumer.

The **Service Providers** screen is displayed.

**Figure 5-1 Service Providers**



### New Service Provider

The user can create Service Provider manually.

2. Click **New**.

The **New Service Provider** screen is displayed.

**Figure 5-2 New Service Provider - Service Provider Details**

The screenshot shows the 'New Service Provider' form with the title 'Service Provider Details (1/4)'. It contains several fields: 'Provider Name' (text input, required), 'Provider Version' (text input, required), 'Provider Type' (dropdown menu, required), and 'Active' (toggle switch). At the bottom, there are radio buttons for 'Validation Provider' with 'Yes' and 'No' options. A 'Next Step' button is located at the bottom right.

3. Specify the fields on the **New Service Provider** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 5-1 New Service Provider - Service Provider Details - Field Description**

Field	Description
<b>Provider Name</b>	Specify the name of the service provider. <b>Note:</b> <ul style="list-style-type: none"><li>• Enter 0 to maximum of 255 characters.</li><li>• No numeric value at beginning and no space allowed.</li></ul>
<b>Provider Version</b>	Specify the provider version. <b>Note:</b> <ul style="list-style-type: none"><li>• Enter 0 to maximum of 255 characters.</li><li>• Only numeric or decimal values are allowed.</li></ul>
<b>Provider Type</b>	Select the type of service provider from drop-down list. The available options are: <ul style="list-style-type: none"><li>• <b>INTERNAL</b>: Used for Oracle products.</li><li>• <b>EXTERNAL</b>: Used for non-Oracle products.</li></ul>
<b>Active</b>	Predefined values are <b>Active / Inactive</b> . If provider is marked as inactive, then all related routes will be stopped.
<b>Validation Provider</b>	Predefined values are <b>Yes / No</b> . This property is used to mark the service provider to also act as a validator for validating the requests before sending it for further processing.

### Headers

A product processor might require some standard headers to be passed along with the request. The user can specify the headers which are required by service endpoints for its all implementations but not present in swagger file.

**Note**

Content-type header will be removed from Provider request if header value is NONE.

4. Click **Next Step**.

The **New Service Provider - Headers** is displayed.

**Figure 5-3 New Service Provider - Headers**

The screenshot shows a web interface titled "New Service Provider" with a sub-header "Headers (2/4)". It features a table with two columns: "Name" and "Value". Below the table, a message states "No data to display." and a pagination bar shows "Page 1 (0 of 0 items)". A "Next Step" button is located at the bottom right of the interface.

5. Specify the fields on the **New Service Provider - Headers** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 5-2 New Service Provider - Headers - Field Description**

Field	Description
<b>Name</b>	Specify the name of the header. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Value</b>	Specify the value of the header. Value can be hardcoded or velocity template.

### Services

- **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.  
Both SSL and non-SSL WSDL URL are supported.  
Context path can be modified for existing WSDL operations.

**Note**

If there is a change in wsdl file, then same wsdl file need to be imported again to update the provided service information in Routing Hub.

- **SWAGGER:**  
Swagger is an Interface Description Language for describing RESTful APIs expressed using JSON.  
Currently, Swagger 2.0 & OpenAPI 3.0 both are supported.

Existing REST endpoints can also be modified or deleted.

**Note**

If 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.

- **Others:**

Others option is selected for adding REST API details manually when provider does not have swagger file.

**Note**

If there is a change in existing endpoint, then the same endpoint details can be modified using edit option.

6. Click **Next Step**.

The **New Service Provider - Services** is displayed.

**Figure 5-4 New Service Provider - Services**

**New Service Provider**

Services (3/4)

Type  
WSDL

URL

Context Path

WSDL Access Headers

Import

Search Service

No items to display.

Page 1 (0 of 0 items) |< < 1 > >|

Next Step

7. Specify the fields on the **New Service Provider - Services** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 5-3 New Service Provider - Services - Field Description**

Field	Description
<b>Type</b>	Select the service type from drop-down list. The available options are: <ul style="list-style-type: none"> <li>• <b>WSDL</b></li> <li>• <b>SWAGGER</b></li> <li>• <b>OTHERS</b></li> </ul>
<b>URL</b>	Specify the service URL of the file location. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>WSDL</b> and <b>SWAGGER</b> .
<b>Context Path</b>	Context path of below formatted URL http://host:port/context-path/endpoint
<b>WSDL Access Headers</b>	Specify the headers required for accessing / reading WSDLs.
<b>Import</b>	Click <b>Import</b> to extract the service information from URL. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>WSDL</b> and <b>SWAGGER</b> .

- a. On **New Service Provider** screen, for adding REST endpoint details manually, select the **Type** as **Others** to define the endpoint details.

The **Endpoint Details** screen is displayed.

**Figure 5-5 Endpoint Details**

The screenshot shows the 'New Service Provider' window with a 'Services (3/4)' tab. The 'Type' dropdown is set to 'Others'. Below, the 'Endpoint Details (1/3)' section is active, containing four input fields: 'Name' with the value 'getAccountDetails', 'HTTP Method' with a dropdown set to 'GET', 'Endpoint URL' with the value '/service/v1/account/{id}', and 'Context Path' with the value '/gateway'. At the bottom right are 'Cancel' and 'Next Step' buttons.

- b. Specify the fields on the **Endpoint Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 5-4 Endpoint Details - Field Description**

Field	Description
<b>Name</b>	Specify the name of the operation. <b>Note:</b> <ul style="list-style-type: none"> <li>This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>HTTP Method</b>	Select the HTTP method from the drop-down list. The available options are: <ul style="list-style-type: none"> <li><b>GET</b></li> <li><b>POST</b></li> <li><b>PUT</b></li> <li><b>PATCH</b></li> <li><b>DELETE</b></li> </ul> <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>Others</b> .
<b>Endpoint URL</b>	Specify the endpoint URL for the operation. <b>Note:</b> <ul style="list-style-type: none"> <li>This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>Enter 0 to maximum of 2047 characters</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Context Path</b>	Context path of below formatted URL http://host:port/context-path/endpoint <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>

- c. Click **Next Step**.

The **Endpoint Headers** screen is displayed.

**Figure 5-6 Endpoint Headers**

The screenshot shows the 'New Service Provider' dialog box with the 'Endpoint Headers' tab selected. The 'Type' dropdown is set to 'Others'. The 'Endpoint Headers' table has one row with 'Content-Type' as the Name and 'application/json' as the Value. The 'Next Step' button is highlighted.

- d. Specify the fields on the **Endpoint Headers** screen.



**Note**

The fields marked as **Required** are mandatory.

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

**Table 5-5 Endpoint Headers - Field Description**

Field	Description
<b>Name</b>	Specify the name of the header. <b>Note:</b> <ul style="list-style-type: none"> <li>This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Value</b>	Specify the value of the header. Value can be hardcoded or velocity template. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>Others</b> .

- e. Click **Next Step**.

The **Endpoint Query Parameters** screen is displayed.

**Figure 5-7 Endpoint Query Parameters**

The screenshot shows the 'New Service Provider' window with the 'Services (3/4)' tab selected. Below it, the 'Endpoint Query Parameters (3/3)' tab is active. The 'Type' dropdown menu is set to 'Others'. The main area contains a table with columns 'Name' and 'Value'. The table is empty, and a message 'No data to display.' is shown below it. At the bottom of the table area, there are navigation controls: 'Page 1 (0 of 0 items)' and buttons for '<', '>', and '1'. At the bottom right of the window, there are 'Cancel' and 'Add' buttons.

- f. Specify the fields on the **Endpoint Query Parameters** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 5-6 Endpoint Query Parameters - Field Description**

Field	Description
<b>Name</b>	Specify the name of the header. <b>Note:</b> <ul style="list-style-type: none"> <li>This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Value</b>	Specify the value of the header. Value can be hardcoded or velocity template. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>Others</b> .

- g. Click **Add** for adding it in service list.

### Parameter Group

Parameter mapping is used to establish the relationship between parameters of 2 different systems i.e., consumer and provider.

So, you can use consumer's parameter to find the corresponding parameter of provider and vice versa.

8. Click **Next**.

The **New Service Provider - Parameter Group** screen is displayed.

**Figure 5-8 New Service Provider - Parameter Group**

For fetching provider parameter using consumer parameter,  
Syntax: `$custom.getParameterValueByConsumerKey (groupName, consumerParameter)`

For fetching consumer parameter using provider parameter,  
Syntax: `$custom.getParameterValueByProviderKey (groupName, providerParameter)`

### Import Service Provider

9. Click **Import**.

The **Import Service Provider** screen is displayed.

Figure 5-9 Import Service Provider

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

Table 5-7 Import Service Provider - Field Description

Field	Description
<b>File</b>	Select the file using <b>Select</b> button. <b>Note:</b> This allows you to select only one file, which must be in either JSON or ZIP format.
<b>Overwrite extended templates</b>	Select the respective radio button to overwrite extended templates. The options are: <ul style="list-style-type: none"> <li><b>Yes</b> - This option overwrites the extended templates in configuration.</li> <li><b>No</b> - This option retains the existing extended templates in configuration.</li> </ul> <b>Note:</b> This field appears only if the ZIP File is selected.

- Click **Import** to import the selected file.

#### **Note**

The following data needs to be changed after importing provider configuration file:

- Implementation Host and Port
- Implementation Authentication Password

#### **View / Edit Service Provider**

- On **Service Provider** tile, click **View More** , and click **Edit Service Provider**.

The **Edit Service Provider - Service Provider Details** screen is displayed.

**Figure 5-10 Edit Service Provider - Service Provider Details**

**Edit Service Provider** [Close]

**Service Provider Details (1/4)** [Previous] [Next]

Provider Name:

Provider Version:

Provider Type:

Active: ☒

Validation Provider: ☐ Yes ☒ No

**Next Step**

12. Click **Next Step**.

The **Edit Service Provider - Headers** screen is displayed.

**Figure 5-11 Edit Service Provider - Headers**

**Edit Service Provider** [Close]

**Headers (2/4)** [Previous] [Next]

[Add] [Delete]

	Name	Value
<input type="checkbox"/>		

No data to display.

Page 1 (0 of 0 items) |< < 1 > >|

**Next Step**

13. Click **Next Step**.

The **Edit Service Provider - Services** screen is displayed.

**Figure 5-12 Edit Service Provider - Services**

14. Click **Next Step**.

The **Edit Service Provider - Parameter Group** screen is displayed.

**Figure 5-13 Edit Service Provider - Parameter Group**

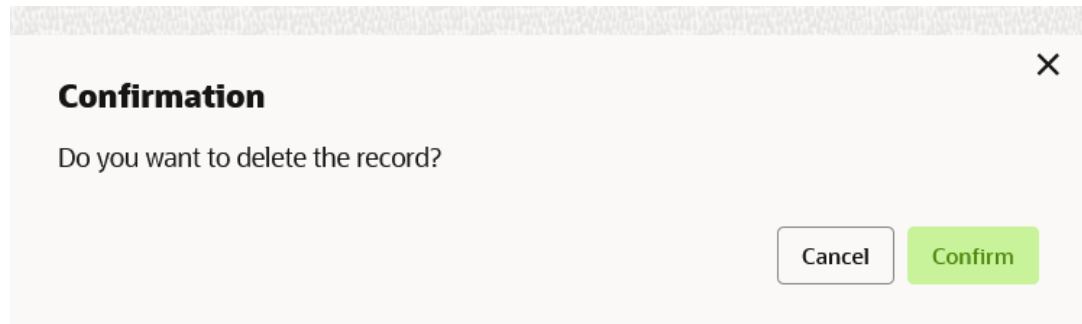
15. Click **Save** to save the modified provider details.

#### Delete Service Provider

The user can delete the provider.

16. On **Service Provider** tile, click **Delete** icon.

The **Confirmation** screen is displayed.

**Figure 5-14 Confirmation - Delete**

17. Click **Confirm** to delete the selected Service Provider.

**Export Service Provider**

The user can export the provider configuration as JSON file.

18. On **Service Provider** tile, click **Operation menu** (3 dots button), and click **Export**.

The **Confirmation** screen is displayed.

**Figure 5-15 Confirmation - Export****Note**

The below data cannot 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.

19. Click **Confirm** to export the selected Service Provider.

**Configuration**

End-user can configure the properties for failing the routing hub requests.

20. On **Service Provider** tile, click **Operation menu** (3 dots button), and click **Configuration**.

The **Configuration** screen is displayed.

Figure 5-16 Configuration

**Configuration** [X]

▼ Timeout

Provider level timeout ?

☐

Connection Timeout

Read Timeout

> Exception

> Connection Pool

Clear Reset Save

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

Table 5-8 Configuration Service Provider - Field Description

Field	Description
<b>Provider level timeout</b>	This property is used to override the global timeout values. <b>Note:</b> Default value is false.
<b>Connection Timeout</b>	This property is used to set the timeout in making the initial connection that is connection handshake. <b>Note:</b> The value should be in milliseconds.
<b>Read Timeout</b>	This property is used to set the timeout on waiting to read data. <b>Note:</b> The value should be in milliseconds.
<b>Propagate failed response</b>	This property is used to propagate the original HTTP status code and also allows the use of a response transformation template to control the failure response body. <b>Note:</b> Default value is false.
<b>Handle exception</b>	This property is used to fail the routing hub request for failed provider requests. <b>Note:</b> Default value is false.

**Table 5-8 (Cont.) Configuration Service Provider - Field Description**

Field	Description
<b>Status Codes</b>	This property is used to fail routing hub request for specific status codes of failed provider requests. If not specified, then routing hub request will fail for all 4xx and 5xx status codes of failed provider requests.
<b>Inactivity Period</b>	This property is used to specify connection inactivity time for re-validating connections in connection pool. The value should be in milliseconds.
<b>Keep-Alive duration</b>	This property is used to keep connection alive for that specific time in connection pool before closing it. The value should be in milliseconds.

**Request Audit**

21. On **Service Provider** tile, click **Operation menu** (3 dots button), and click **Request Audit**.

The **Request Audit** screen is displayed.

**Note**

Refer to [Request Audit](#) topic for the screen and field description.

**Clear Cache**

The user can clear the SOAP client cache for the service providers.

22. On **Service Provider** tile, click **Operation menu** (3 dots button), and click **Clear Cache**.



# 6

## Implementation

This topic provides the systematic instructions to configure the implementation.

The implementation includes an instance of the Eureka client, along with the host, port, authentication, and specific service details. The Oracle Banking Routing Hub is compatible with web services and REST APIs.

### Note

Default implementation is created whenever a new service provider is added.

1. From **Service Provider** screen, click on the required service provider tile.  
The **Implementation** screen is displayed.

**Figure 6-1 Implementation**



### Implementation Details

The user can create the implementation manually.

2. Click **New**.  
The **New Implementation - Implementation Details** screen is displayed.

Figure 6-2 New Implementation - Implementation Details

- Specify the fields on the **New Implementation - Implementation Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

Table 6-1 New Implementation - Implementation Details - Field Description

Field	Description
<b>Implementation Name</b>	Specify the name of the implementation. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Implementation Description</b>	Specify the description of the implementation. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to 1000 characters.</li> <li>No space allowed at beginning or ending of the characters.</li> </ul>

Table 6-1 (Cont.) New Implementation - Implementation Details - Field Description

Field	Description
<b>Implementation Type</b>	<p>Select the type of implementation from drop-down list. The available options are:</p> <ul style="list-style-type: none"> <li>• <b>DEFAULT</b></li> <li>• <b>QUEUE</b></li> <li>• <b>OIC</b></li> <li>• <b>SOCKET</b></li> <li>• <b>KAFKA</b></li> </ul> <p><b>DEFAULT</b> type is for REST and SOAP API calls. <b>Note:</b> The type as <b>OIC</b> is only applicable for cloud services.</p>
<b>Default</b>	<p>Toggle the button if user wants to default. Each type can have one default implementation.</p>
<b>Single Tenant</b>	<p>Select the toggle to append tenant details with eureka VIP for services which are registered on eureka as single tenant services. <b>Note:</b> This field is available only for internal providers and applicable only for Cloud.</p>
<b>Eureka Instance</b>	<p><b>Eureka Instance</b> is available only for internal providers and default type. By default, <b>Eureka Instance</b> will be toggled ON for internal providers and OFF for external providers. <b>Note:</b> If the Eureka Instance is toggled ON, the Api-gateway will be removed (if present) from the request URL sent to the provider. If the Eureka Instance is toggled OFF and the authentication type is selected as JWT Token or OAUTH Token, the provider request URL will include apigateway if it's missing. If the Eureka Instance is activated, it propagates the userId, branchCode, piienabled, languageCode, regionCode, and locale headers from the routing hub request to the service provider request.</p>
<b>Scheme</b>	<p>Select the scheme from drop-down list The available options are:</p> <ul style="list-style-type: none"> <li>• <b>http</b></li> <li>• <b>https</b></li> </ul> <p><b>Scheme</b> option is available only for default type.</p>
<b>Service Name</b>	<p>If <b>Eureka Instance</b> is toggled ON and type is default, then only service name is required. <b>Note:</b> Enter 0 to 100 characters.</p>
<b>Host</b>	<p>Specify the host. <b>Note:</b></p> <ul style="list-style-type: none"> <li>• Host cannot be blank.</li> <li>• Enter 0 to 255 characters.</li> <li>• Space is not allowed.</li> </ul> <p>If <b>Eureka Instance</b> is toggled OFF and type is default, then only host and port is required.</p>
<b>Port</b>	<p>Specify the port number. <b>Note:</b></p> <ul style="list-style-type: none"> <li>• Enter 0 to 6 characters.</li> <li>• Enter only numeric value.</li> </ul> <p>If <b>Eureka Instance</b> is toggled OFF and type is default, then only host and port is required.</p>

**Table 6-1 (Cont.) New Implementation - Implementation Details - Field Description**

Field	Description
<b>URL Prefix To Strip</b>	This property is used to remove the specified part from the beginning of a URL before routing the request to provider. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to 255 characters.</li> <li>No numeric value allowed at beginning. No space allowed.</li> </ul>
<b>Use WSDL details (scheme, host and port) for SOAP service</b>	This property is for using WSDL's scheme, host and port details for SOAP service invocation. Instead of using SOAP address's scheme, host and port details appearing in WSDL.
<b>Use Proxy</b>	This property is for using the configured proxy in cloud environment for the external calls outside the environment.

- a. On **New Implementation** screen, for adding queue details manually, select the **Implementation Type** as **Queue** to define the queue details.

The **Queue Details** screen is displayed.

**Figure 6-3 Queue Details**

- b. Specify the fields on the **Queue Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 6-2 Queue Details - Field Description**

Field	Description
<b>Queue Broker</b>	Select the queue broker from drop-down list. The available options are: <b>WEBLOGIC_JMS</b>

Table 6-2 (Cont.) Queue Details - Field Description

Field	Description
<b>Request Reply Pattern</b>	Select the queue broker from drop-down list. The available options are: <ul style="list-style-type: none"> <li>• <b>JMS_MESSAGEID</b></li> <li>• <b>JMS_CORRELATIONID</b></li> </ul> <b>JMS_MESSAGEID</b> is default request-reply pattern.
<b>Request Connection Factory</b>	Specify the connection factory. Connection Factory is JNDI based connection factory name which is used to create connection for JMS client. <b>Note:</b> <ul style="list-style-type: none"> <li>• Enter 0 to 100 characters.</li> <li>• No numeric value allowed at beginning. No space allowed.</li> </ul>
<b>Request Queue</b>	Specify the queue. Queue Name is JNDI based destination name. <b>Note:</b> <ul style="list-style-type: none"> <li>• Enter 0 to 100 characters.</li> <li>• No numeric value allowed at beginning. No space allowed.</li> </ul>
<b>Response Connection Factory</b>	Specify the connection factory. Response Connection Factory is needed when destination is going to respond back after processing the request. <b>Note:</b> <ul style="list-style-type: none"> <li>• Enter 0 to 100 characters.</li> <li>• No numeric value allowed at beginning. No space allowed.</li> </ul>
<b>Response Queue</b>	Specify the queue. Response Queue Name is needed when destination is going to respond back after processing the request. <b>Note:</b> <ul style="list-style-type: none"> <li>• Enter 0 to 100 characters.</li> <li>• No numeric value allowed at beginning. No space allowed.</li> </ul>

- c. On the **New Implementation** screen, for adding queue details manually, select the **Implementation Type** as **Kafka** to define the queue details.

The **Kafka Details** screen is displayed.

Figure 6-4 Kafka Details

The screenshot shows a web interface titled "New Implementation" with a close button (X) in the top right. Below the title bar, there is a navigation bar with a back arrow, the text "Kafka Details (2/2)", and a forward arrow. The main content area has a label "Topic Name" above a text input field. Below the input field, the word "Required" is displayed. At the bottom right of the form, there is a "Save" button.

- d. Specify the fields on the **Kafka Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 6-3 Kafka Details - Field Description**

Field	Description
<b>Topic Name</b>	Specify the topic name for publishing the message. <b>Note:</b> <ul style="list-style-type: none"><li>• Enter 0 to 30 characters</li><li>• Only alphanumeric characters, periods, underscores and hyphens are allowed.</li></ul>

- e. On the **New Implementation** screen, for adding queue details manually, select the **Implementation Type** as **OIC** to define the queue details.

The **OIC** screen is displayed.

**Figure 6-5 OIC**

The screenshot shows a web interface titled "New Implementation" with a close button (X) in the top right. Below the title is a navigation bar with a back arrow, "Implementation Details (1/3)", and a forward arrow. The main content area contains two columns of form fields. The left column has "Implementation Name" (a text box with "Required" below it) and "Implementation Type" (a dropdown menu showing "OIC"). The right column has "Implementation Description" (a text box) and "Default" (a toggle switch). At the bottom right, there is a "Next Step" button.

- f. On the **New Implementation** screen, for adding queue details manually, select the **Implementation Type** as **Socket** to define the queue details.

The **Socket** screen is displayed.

**Figure 6-6 Socket**

**New Implementation** [X]

< **Implementation Details (1/1)** >

Implementation Name  Required

Implementation Description

Implementation Type

Scheme

Host  Required

URL Prefix To Strip

Service Name

Port

Use WSDL details (scheme, host and port) for SOAP service invocation ☐

Use Proxy ☐

Save

**Authentication Details**

If external product processor require authentication to connect to it, Oracle Banking Routing Hub provides standard authentication mechanism schemes like Basic, JWT Token, OAuth Token, SSO, Custom, NTLM, Inter-Cluster IDCS.

**Note**

If there is no authentication, set the Authentication Type to NONE. For identity propagation, set the Authentication Type to SSO. The token is cached for JWT Token, OAUTH\_Token, Custom, NTLM, Inter-Cluster IDCS authentication type, and OIC Implementation Type.

4. Click **Next Step**.

The **New Implementation - Authentication Details** screen is displayed.

Figure 6-7 New Implementation - Authentication Details

5. On the **New Implementation - Authentication Details** screen, specify the fields.

**Note**

The fields marked as **Required** are mandatory.

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

Table 6-4 New Implementation - Implementation Details - Field Description

Field	Description
<b>Type</b>	Select the type of authentication from drop-down list. The available options are: <ul style="list-style-type: none"> <li>• <b>Basic</b></li> <li>• <b>JWT Token</b></li> <li>• <b>OAUTH Token</b></li> <li>• <b>SSO</b></li> <li>• <b>Custom</b></li> <li>• <b>NTLM</b></li> <li>• <b>Inter-Cluster IDCS</b></li> </ul>
<b>Encryption</b>	Select the toggle to encrypt user credentials. <b>Note:</b> This field is applicable only for <b>JWT Token</b> and <b>OAAUTH Token</b> types. <b>Note:</b> This field depends on the value of api-gateway's property "EncryptionFlag" at provider end. For more information on property value, please refer to the <b>Oracle Banking Microservices Architecture Deployments</b> section in <b>Oracle Banking Microservices Platform Foundation Installation Guide</b> .
<b>Username</b>	Specify the name of the user. <b>Note:</b> <ul style="list-style-type: none"> <li>• Enter 0 to maximum of 320 characters.</li> <li>• No numeric value at beginning and no space allowed.</li> </ul>
<b>Password</b>	Specify the password.



**Table 6-4 (Cont.) New Implementation - Implementation Details - Field Description**

Field	Description
<b>Consumer Service</b>	Select the service which will be treated as custom authentication service. <b>Note:</b> <b>Custom Authentication</b> flag enabled consumer services are displayed.

**Headers**

A provider implementation might require some standard headers to be passed along with the request. The user can specify the headers which are required by service endpoints but not present in swagger file.

Header step appears only if the Implementation **Type** is selected as **Default** or **OIC**.

**Note**

Content-type header will be removed from Provider request if header value is NONE.

**6. Click Next Step.**

The **New Implementation - Headers** screen is displayed.

**Figure 6-8 New Implementation - Headers**
**7. Specify the fields on the New Implementation - Headers screen.****Note**

The fields marked as **Required** are mandatory.

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

**Table 6-5 New Implementation - Headers - Field Description**

Field	Description
<b>Name</b>	Specify the name of the header. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Value</b>	Specify the value of the header. Value can be hardcoded or velocity template.

**Services**

- **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.  
Both SSL and non-SSL WSDL URL are supported.  
Context path can be modified for existing WSDL operations.

**Note**

If there is a change in wsdl file, then same wsdl file need to be imported again to update the provided service information in Routing Hub.

- **SWAGGER:**  
Swagger is an Interface Description Language for describing RESTful APIs expressed using JSON.  
Currently, Swagger 2.0 and OpenAPI 3.0 both are supported.  
Existing REST endpoints can also be modified or deleted.

**Note**

If 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.

- **OTHERS:**  
OTHERS option is selected for adding REST API details manually when provider does not have swagger file.

**Note**

If there is a change in existing endpoint, then the same endpoint details can be modified using edit option.

8. Click **Next Step**.

The **New Implementation - Services** screen is displayed.

Figure 6-9 New Implementation - Services

9. Specify the fields on the **New Implementation - Services** screen.

**Note**

The fields marked as **Required** are mandatory.

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

Table 6-6 New Implementation - Services - Field Description

Field	Description
<b>Service</b>	The below fields appear only if the Implementation <b>Type</b> is selected as <b>Default</b> or <b>OIC</b> .
<b>Type</b>	Select the type of service from drop-down list. The available options are: <ul style="list-style-type: none"> <li>• <b>WSDL</b></li> <li>• <b>SWAGGER</b></li> <li>• <b>OTHERS</b></li> </ul>
<b>URL</b>	Specify the service URL of the file location. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>WSDL</b> and <b>SWAGGER</b> .
<b>Context Path</b>	Context path of below formatted URL . http://host:port/context-path/endpoint <b>Note:</b> <ul style="list-style-type: none"> <li>• Enter 0 to maximum of 255 characters.</li> <li>• No numeric value at beginning and no space allowed.</li> </ul>
<b>WSDL Access Headers</b>	Specify the headers required for accessing / reading WSDL's.

**Table 6-6 (Cont.) New Implementation - Services - Field Description**

Field	Description
<b>Import</b>	Click <b>Import</b> to extract the service information from URL and displays it in the Service list. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>WSDL</b> and <b>SWAGGER</b> .

- a. On the **New Implementation** screen, for adding REST endpoint details manually, select the **Type** as **Others** to define the endpoint details.

The **Endpoint Details** screen is displayed.

**Figure 6-10 Endpoint Details**

The screenshot shows a web interface titled "New Implementation". It has a breadcrumb "Services (4/4)". Below it, a "Type" dropdown is set to "Others". The next section is "Endpoint Details (1/3)". It contains four input fields: "Name" with the value "getAccountDetails", "HTTP Method" with a dropdown set to "GET", "Endpoint" with the value "/service/v1/account/{id}", and "Context Path" with the value "/gateway". At the bottom right, there are "Cancel" and "Next Step" buttons.

- b. Specify the fields on the **Endpoint Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 6-7 Endpoint Details - Field Description**

Field	Description
<b>Name</b>	Specify the name of the operation. <b>Note:</b> <ul style="list-style-type: none"> <li>This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>

Table 6-7 (Cont.) Endpoint Details - Field Description

Field	Description
<b>HTTP Method</b>	<p>Select the HTTP method from the drop-down list. The available options are:</p> <ul style="list-style-type: none"> <li>• <b>GET</b></li> <li>• <b>POST</b></li> <li>• <b>PUT</b></li> <li>• <b>PATCH</b></li> <li>• <b>DELETE</b></li> </ul> <p><b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>Others</b>.</p>
<b>Endpoint URL</b>	<p>Specify the endpoint URL for the operation.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>• Enter 0 to maximum of 2047 characters.</li> <li>• No numeric value at beginning and no space allowed.</li> </ul>
<b>Context Path</b>	<p>Context path of below formatted URL http://host:port/context-path/endpoint</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• Enter 0 to maximum of 255 characters.</li> <li>• No numeric value at beginning and no space allowed.</li> </ul>

- c. Click **Next Step**.

The **Endpoint Headers** screen is displayed.

Figure 6-11 Endpoint Headers

The screenshot shows the 'New Implementation' dialog box with the 'Endpoint Headers (2/3)' tab selected. The 'Type' dropdown is set to 'Others'. The 'Endpoint Headers' table has one row with 'Content-Type' as the Name and 'application/json' as the Value. The 'Page' indicator shows '1 of 1 (1 of 1 items)'. The 'Next Step' button is visible at the bottom right.

- d. Specify the fields on the **Endpoint Headers** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 6-8 Endpoint Headers - Field Description**

Field	Description
<b>Name</b>	Specify the name of the header. <b>Note:</b> <ul style="list-style-type: none"> <li>This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Value</b>	Specify the value of the header. Value can be hardcoded or velocity template. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>Others</b> .

- e. Click **Next Step**.

The **Endpoint Query Parameters** screen is displayed.

**Figure 6-12 Endpoint Query Parameters**

The screenshot shows a 'New Implementation' dialog box. At the top, there's a 'Services (4/4)' section with a left arrow and a right arrow. Below that, the 'Type' dropdown is set to 'Others'. The next section is 'Endpoint Query Parameters (3/3)', which contains a table with columns 'Name' and 'Value'. The table is empty, and a message 'No data to display.' is shown. At the bottom right of the dialog, there are 'Cancel' and 'Add' buttons.

- f. Specify the fields on the **Endpoint Query Parameters** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 6-9 Endpoint Query Parameters - Field Description**

Field	Description
<b>Name</b>	Specify the name of the header. <b>Note:</b> <ul style="list-style-type: none"> <li>This field appears only if the <b>Type</b> is selected as <b>Others</b>.</li> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Value</b>	Specify the value of the header. Value can be hardcoded or velocity template. <b>Note:</b> This field appears only if the <b>Type</b> is selected as <b>Others</b> .

- g. Click **Add** for adding it in service list.

### Import Implementation

The user can create an implementation by importing the JSON file. The user can also import zip file in order to import all the configuration JSON files together (except parent level configuration JSON files).

10. On the **Implementation** screen, click **Import**.

The **Import Implementation** screen is displayed.

**Figure 6-13 Import Implementation**

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

**Table 6-10 Import Implementation - Field Description**

Field	Description
<b>File</b>	Click <b>Select</b> to select the file. <b>Note:</b> This allows you to select only one file, which must be in either JSON or ZIP format.

11. Click **Import** to import the selected file.

The below data needs to be changed after importing implementation configuration file:

- Implementation Host and Port
- Implementation Authentication Password

### View / Edit Implementation

The user can view or modify implementation details.

12. On the **Implementation** screen, click **Edit** icon .

The **Edit Implementation** screen is displayed.

**Figure 6-14 Edit Implementation - Implementation Details**

The screenshot displays the 'Edit Implementation' window with a title bar and a close button. The main content area is titled 'Implementation Details (1/4)' and contains the following fields and controls:

- Implementation Name:** Text input field containing 'Oracle\_Provider\_Default'.
- Implementation Description:** Text input field containing 'Default Implementation'.
- Implementation Type:** Dropdown menu with 'Default' selected.
- Default:** Toggle switch, currently turned on.
- Eureka Instance:** Toggle switch, currently turned off.
- Single Tenant:** Toggle switch, currently turned off.
- Scheme:** Dropdown menu with 'http' selected.
- Service Name:** Text input field containing 'XXXX'.
- Host:** Text input field, marked as 'Required'.
- Port:** Text input field.
- URL Prefix To Strip:** Text input field.
- Use WSDL details (scheme, host and port) for SOAP service invocation:** Toggle switch, currently turned off.
- Use Proxy:** Toggle switch, currently turned off.

A 'Next Step' button is located at the bottom right of the form.

13. Click **Next Step**.

The **Edit Implementation - Authentication Details** screen is displayed.



**Figure 6-15 Edit Implementation - Authentication Details**

**Edit Implementation** [X]

< **Authentication Details (2/4)** >

Type:

Encryption: ☐

Username:

Password:

Consumer Service:

**Next Step**

14. Click **Next Step**.

The **Edit Implementation - Headers** screen is displayed.

**Figure 6-16 Edit Implementation - Headers**

**Edit Implementation** [X]

< **Headers (3/4)** >

+ -

	Name	Value
<input type="checkbox"/>		

No data to display.

Page 1 (0 of 0 items) |< < 1 > >|

**Next Step**

15. Click **Next Step**.

The **Edit Implementation - Services** screen is displayed.

**Figure 6-17 Edit Implementation - Services**

16. 7. Click **Save** to save the modified implementation details.

#### Delete Implementation

The user can delete the implementation details.

17. On the **Implementation** screen, click **Delete**.

The **Confirmation** screen is displayed.

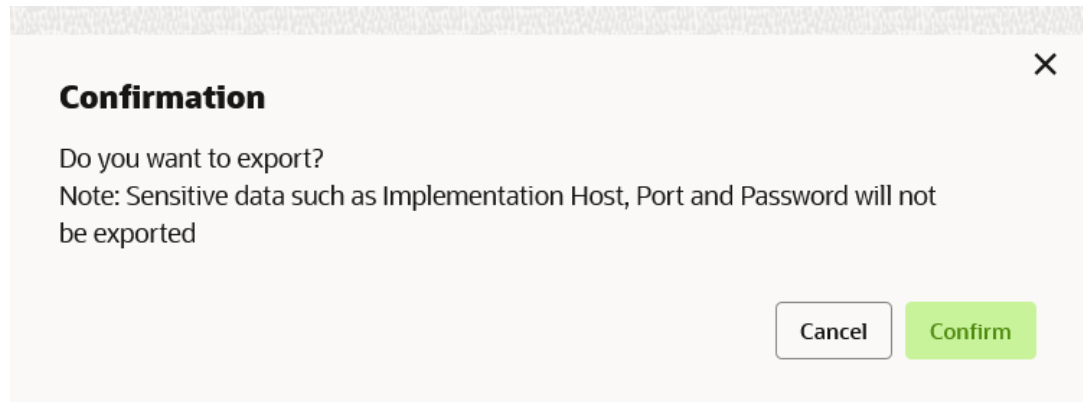
**Figure 6-18 Confirmation - Delete**

#### Export Implementation

The user can export the implementation configuration as JSON file.

18. On **Implementation** screen, click **Operation menu** (3 dots button) and click **Export**.

The **Confirmation** screen is displayed.

**Figure 6-19 Confirmation - Export Implementation**

Below data cannot be exported:

- Implementation Host
- Implementation Port
- Implementation Authentication Password

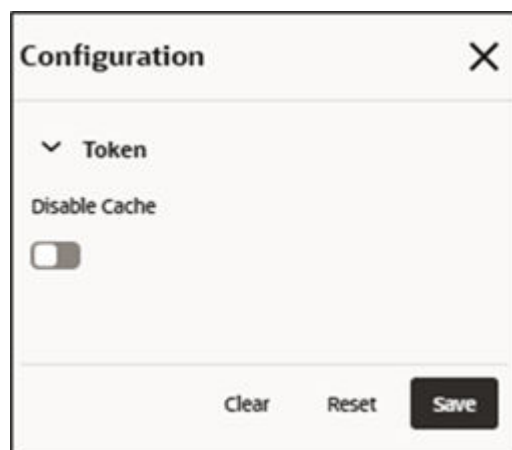
The above data needs to be configured manually after importing the configuration file. Same has been mentioned in Import section.

### Configuration

End-user can configure the properties for failing the routing hub requests.

19. On the **Implementation** tile, click **Operation menu** (3 dots button), and click **Configuration**.

The **Configuration** screen is displayed.

**Figure 6-20 Configuration**

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

**Table 6-11 Configuration - Field Description**

Field	Description
<b>Disable cache</b>	This property is used to disable the token caching. <b>Note:</b> Default value is false.

**Request Audit**

20. On the **Implementation** screen, click **Operation menu** (3 dots button) and click **Request Audit**.

The **Request Audit** screen is displayed.

**Note**

Refer to [Request Audit](#) topic for screen and field description.

**Clear Cache**

The user can clear the SOAP client cache.

21. On the **Implementation** screen, click **Operation menu** (3 dots button) and click **Clear Cache**.

# 7

## Consumer Services

This topic describes the systematic instructions to configure the consumer services.

Consumer Services specifies the service ID that is transmitted by the service consumer. It also handles transitions and route definitions, including the details for source integration.

1. From **Service Consumers** screen, click **Consumer Services**.

The **Consumer Services** screen is displayed.

**Figure 7-1 Consumer Services**



### New Consumer Service

The user can create Consumer Service manually.

2. On the **Consumer Services** screen, click **New**.

The **New Consumer Service - Consumer Service Details** screen is displayed.

Figure 7-2 New Consumer Service - Consumer Service Details

**New Consumer Service**

**Consumer Service Details (1/3)**

Consumer Service ID  Required

Active ☒

Custom Authentication ☐

Request Audit ☒ Yes ☐ No

⚠ Applicable if the Audit type at 'Service Consumer' is 'Service level configuration'

Consumer Service Description  Required

**Next Step**

- Specify the fields on the **New Consumer Service - Consumer Service Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

Table 7-1 New Consumer Service - Consumer Service Details - Field Description

Field	Description
<b>Consumer Service ID</b>	Specify the ID of the consumer service. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Active</b>	Click this toggle to enable or disable all related routes. If this flag is toggled OFF, then all related routes will be stopped.
<b>Custom Authentication</b>	Click this toggle to mark the consumer service which can be used as custom authentication service in implementation.

**Table 7-1 (Cont.) New Consumer Service - Consumer Service Details - Field Description**

Field	Description
<b>Request Audit</b>	<p>Select the Audit option for the consumer service.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li><b>Yes</b>-This option is for enabling the audit for consumer service.</li> <li><b>No</b>-This option is for disabling the audit for consumer service.</li> </ul> <p><b>Note:</b> This option is only applicable if <b>Audit type</b> at <b>Service Consumer</b> is <b>Service level configuration</b>.</p>
<b>Consumer Service Description</b>	<p>Specify the description of the consumer service.</p> <p><b>Note :</b></p> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 1000 characters.</li> <li>No space allowed at beginning or ending of the characters.</li> </ul>

4. To add **Attributes**, follow the below steps.

- a. Click **Add** icon.

The **Attributes** screen is displayed.

**Figure 7-3 Attributes**

- b. Specify the fields on **Add Attribute** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 7-2 Add Header - Field Description**

Field	Description
<b>Name</b>	<p>Specify the name of the attribute.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>

Table 7-2 (Cont.) Add Header - Field Description

Field	Description
Type	Select the type in which value will be specified. The available options are: <ul style="list-style-type: none"> <li>• <b>JSON Path</b></li> <li>• <b>Velocity</b></li> </ul>
Value	Specify the value.

**Note**

- Using \$.body, the user can access the request body.  
Syntax: \$.body.fieldName  
Example: \$.body.branchCode
- Using \$.headers, the user can access the request headers.  
Syntax: \$.headers["fieldname"][0]  
Example: \$.headers["branchCode"][0]
- Using \$.env, the user can access the environment variables.  
Syntax: \$.env.group.variable

- c. Click **Next Step**.

The **Custom Endpoint** screen is displayed.

Figure 7-4 Custom Endpoint

**New Consumer Service** [Close]

Custom Endpoint (3/3)

Swagger URL:  [Import] [Add] [Delete]

<input type="checkbox"/>	Endpoint	HTTP Method
No data to display.		

Page 1 (0 of 0 items) [Navigation icons]

[Save]

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

### Import Consumer Service

The user can create a consumer service by importing the JSON file.

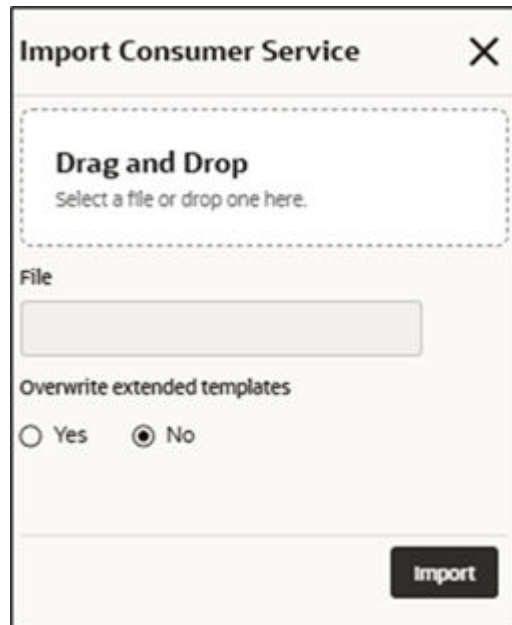
The user can also import zip file in order to import all the configuration JSON files together (except parent level configuration JSON files).

6. On **Consumer Services** screen, click **Import**.

The **Import Service** screen is displayed.



Figure 7-5 Import Service



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

Table 7-3 Import Service - Field Description

Field	Description
File	Select the file using <b>Select</b> button. <b>Note:</b> Allows only to select one file and accepts only JSON file.
Overwrite extended templates	Select the respective radio button to overwrite the extended templates. The available options are: <ul style="list-style-type: none"><li>• <b>Yes</b> - This option overwrites the extended templates.</li><li>• <b>No</b> - This option retains the existing extended templates.</li></ul>

7. Click **Import** to import the selected file.

#### View / Edit Consumer Service

The user can view or modify consumer service details.

8. On **Consumer Service** tile, click **View More** , and click **Edit Consumer Service**.

The **Edit Consumer Service** screen is displayed.

Figure 7-6 Edit Consumer Service

The screenshot shows the 'Edit Consumer Service' dialog box with a close button (X) in the top right. The title bar indicates 'Consumer Service Details (1/3)' with left and right navigation arrows. The form contains the following fields and controls:

- Consumer Service ID:** A text input field containing 'GET\_ACCOUNT\_DETAILS'.
- Active:** A toggle switch currently turned on.
- Custom Authentication:** A toggle switch currently turned off.
- Request Audit:** Radio buttons for 'Yes' (selected) and 'No'. Below them is a warning icon and text: 'Applicable if the Audit type at 'Service Consumer' is 'Service level configuration''.
- Consumer Service Description:** A text area containing 'Fetches account details'.
- Next Step:** A button in the bottom right corner.

9. Click **Next Step**

The **Edit Consumer Service - Attributes** screen is displayed.

Figure 7-7 Edit Consumer Service - Attributes

The screenshot shows the 'Edit Consumer Service' dialog box with a close button (X) in the top right. The title bar indicates 'Attributes (2/3)' with left and right navigation arrows. The form contains the following elements:

- Table:** A table with columns: Name, Type, and Value. The table is currently empty, displaying 'No data to display.'.
- Page:** A pagination bar showing 'Page 1 (0 of 0 items)' and navigation arrows.
- Next Step:** A button in the bottom right corner.

10. Click **Next Step**

The **Edit Consumer Service - Custom Endpoint** screen is displayed.

**Figure 7-8 Edit Consumer Service - Custom Endpoint**

**Edit Consumer Service** [X]

< Custom Endpoint (3/3) >

Swagger URL  **Import**

+ -

<input type="checkbox"/>	Endpoint	HTTP Method
No data to display.		

Page 1 (0 of 0 items) |< < 1 > >|

**Save**

11. Click **Save** save the modified consumer service details.

#### Delete Consumer Service

The user can delete the consumer service.

12. On **Consumer Service** tile, click **Delete**.

The **Confirmation** screen is displayed.

**Figure 7-9 Confirmation**

**Confirmation** [X]

Do you want to delete the record?

**Cancel** **Confirm**

#### Export Consumer Service

The user can export the consumer service configuration as JSON file.

13. On **Consumer Service** tile, click **Operation menu** (3 dots button), and click **Export**.

The **Confirmation** screen is displayed.

Figure 7-10 Confirmation - Export



### Consumer Service - Configuration

14. On **Consumer Service** tile, click **Operation menu** (3 dots button), and click **Configuration**.

The **Configuration** screen is displayed.

Figure 7-11 Consumer Service - Configuration

15. Specify the fields on the **Consumer Service - Configuration** screen.

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

Table 7-4 Consumer Service - Configuration - Field Description

Field	Description
<b>Allow data masking</b>	Toggle to enable the hiding of sensitive information in request audit messages.
<b>Regex Patterns</b>	Specify the regex patterns for identification of sensitive fields. <b>Note:</b> You can group values by using a sub-pattern that is placed inside parentheses ().

Table 7-4 (Cont.) Consumer Service - Configuration - Field Description

Field	Description
<b>Service level timeout</b>	This property is used to override the global and provider timeout values. <b>Note:</b> Default value is false.
<b>Connection Timeout</b>	This property is used to set the timeout in making the initial connection that is connection handshake. <b>Note:</b> The value should be in milliseconds.
<b>Read Timeout</b>	This property is used to set the timeout on waiting to read data. <b>Note:</b> The value should be in milliseconds.
<b>Handle Timeout Error Code</b>	This property is used to enable/disable the handling of timeout error codes
<b>Connection Timeout Error Code</b>	This property is used to override the default error code of connection timeout.
<b>Read Timeout Error Code</b>	This property is used to override the default error code of read timeout.

**Note**

Refer to [Configuration](#) topic for the screen and field description of Route Shutdown properties.

**Consumer Service - Request Audit**

16. On **Consumer Service** tile, click **Operation menu** (3 dots button), and click **Request Audit**.

The **Request Audit** screen is displayed.

**Note**

Refer to [Request Audit](#) topic for the screen and field description.

# 8

## Transformation

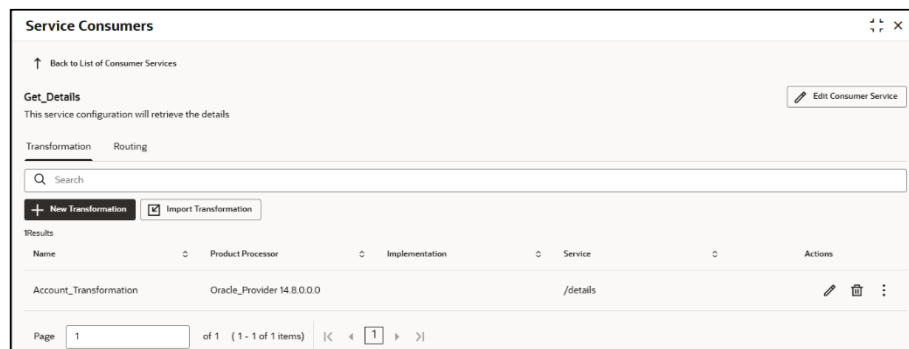
This topic describes the systematic instructions to configure the transformation.

Transformation involves gathering and changing data from one source to another and back again. This process occurs within consumer services. It changes the data from the service consumer into a format suitable for the service provider.

1. From **Consumer Services** screen, click the required consumer service tile.

The **Transformation** screen is displayed.

**Figure 8-1 Transformation**



### New Transformation

The user can create transformation manually.

2. On the **Transformation** screen, click **New**.

The **New Transformation - Basic Details** screen is displayed.

Figure 8-2 New Transformation - Basic Details

- Specify the fields on the **New Transformation - Basic Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

Table 8-1 New Transformation - Basic Details - Field Description

Field	Description
<b>Transformation Name</b>	Specify the name for the transformation. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> <li>If transformation is turned OFF, the user will be unable to choose transformation in routing.</li> </ul>
<b>Product Processor</b>	Select the product processor from the drop-down list.
<b>Implementation</b>	Select the implementation from the drop-down list.
<b>Service</b>	Select the service from the drop-down list.
<b>Service</b>	Displays the service details of the selected service.
<b>Operation</b>	Displays the operation details of the selected service.

- Click **Next Step**.

The **New Transformation - Request Validation** screen is displayed.

Figure 8-3 New Transformation - Request Validation

**New Transformation** [Close]

**Request Validation (2/8)** [Back] [Forward]

Validation Required  
☐

Product Processor

Implementation

Service

Template

[Next Step]

- Specify the fields on the **New Transformation - Request Validation** screen.

**Note**

The fields marked as **Required** are mandatory.

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

Table 8-2 New Transformation - Request Validation - Field Description

Field	Description
<b>Validation Required?</b>	Select the toggle to enable the validation required for request. <b>Note:</b> Validation Model of Oracle Banking Pricing & Decision Service is only supported.
<b>Product Processor</b>	Select the product processor from the drop-down list.
<b>Implementation</b>	Select the implementation from the drop-down list.
<b>Service</b>	Select the service from the drop-down list.
<b>Template</b>	Specify the template in which validation provider accepts.

- Click **Next Step**.

The **New Transformation - Request Headers** screen is displayed.



**Figure 8-4 New Transformation - Request Headers**

The screenshot shows a web interface titled "New Transformation" with a sub-header "Request Headers (3/8)". It contains a table with two columns: "Name" and "Value". The first row has "Content-Type" in the "Name" column and "application/json" in the "Value" column. Below the table, there is a pagination bar showing "Page 1 of 1 (1 of 1 items)" and a "Next Step" button.

7. Specify the fields on the **New Transformation - Request Headers** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 8-3 New Transformation - Request Headers - Field Description**

Field	Description
<b>Name</b>	A list of headers related to the chosen provider, implementation, and service is displayed. The user can only modify the header value.
<b>Value</b>	Displays the value of the headers. Value can be hardcoded value or velocity mapping.

8. Click **Next Step**.

The **New Transformation - Path Parameters** screen is displayed.

**Figure 8-5 New Transformation - Path Parameters**

The screenshot shows a web interface titled "New Transformation" with a sub-header "Path Parameters (4/8)". It contains a table with two columns: "Name" and "Value". The first row has "id" in the "Name" column and an empty "Value" field. Below the table, there is a pagination bar showing "Page 1 of 1 (1 of 1 items)" and a "Next Step" button.

9. Specify the fields on the **New Transformation - Path Parameters** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 8-4 New Transformation - Path Parameters - Field Description**

Field	Description
<b>Name</b>	A list of path parameters related to the chosen service is displayed. User can only change the path parameter value.
<b>Value</b>	Displays the value of the headers. Value can be hardcoded value or velocity mapping.

10. Click **Next Step**.

The **New Transformation - Query Parameters** screen is displayed.

**Figure 8-6 New Transformation - Query Parameters**

The screenshot shows a web interface titled "New Transformation" with a close button (X) in the top right. Below the title bar is a navigation bar with a back arrow, the text "Query Parameters (5/8)", and a forward arrow. The main content area contains a table with two columns: "Name" and "Value". Below the table, it says "No data to display." and "Page 1 (0 of 0 items)". There are navigation buttons for "<", "<<", "1", ">>", and ">". A "Next Step" button is located at the bottom right of the screen.

11. Specify the fields on the **New Transformation - Query Parameters** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 8-5 New Transformation - Query Parameters - Field Description**

Field	Description
<b>Name</b>	Query parameter list relevant to the selected service is displayed. User can only change the query parameter value.

**Table 8-5 (Cont.) New Transformation - Query Parameters - Field Description**

Field	Description
Value	Displays the value of the headers. Value can be hardcoded value or velocity mapping.

12. Click **Next Step**.

The **New Transformation - Request Transformation** screen is displayed.

**Figure 8-7 New Transformation - Request Transformation**

**New Transformation** [Close]

< Request Transformation (6/8) >

Body Type

Raw

Template Type

Velocity

Template

Extended Template

Next Step

13. Specify the fields on the **New Transformation - Request Transformation** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 8-6 New Transformation - Request Transformation - Field Description**

Field	Description
<b>Body Type</b>	<p>Select the body type for the Request Transformation from the drop-down list.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>RAW</b></li> <li>• <b>FORM DATA</b></li> <li>• <b>BINARY</b></li> </ul> <p><b>Note:</b> This field appears only if the selected service is REST service and <b>RAW</b> option is used for URL-encoded content type.</p>
<b>Template Type</b>	<p>Select the template type for the Request Transformation from the drop-down list.</p> <p>The available options are:</p> <ul style="list-style-type: none"> <li>• <b>VELOCITY</b></li> <li>• <b>JSLT</b></li> <li>• <b>XSLT</b></li> </ul>
<b>Template</b>	<p>Specify the template for the Request Transformation in which provider accepts.</p> <p>Refer to <a href="#">Transformation Type</a> for syntax.</p>
<b>Extended Template</b>	<p>Specify the custom template in order to extend the kernel template.</p> <p>Refer to Extensibility and Transformation Type for syntax.</p> <p><b>Note:</b> This field appears only if the <b>Body Type</b> is selected as <b>RAW</b>.</p>

14. Click **Next Step**.

The **New Transformation - Response Headers** screen is displayed.

**Figure 8-8 New Transformation - Response Headers**

The screenshot shows the 'New Transformation' window with the 'Response Headers (7/8)' tab selected. It features a table with 'Name' and 'Value' columns. Below the table, it indicates 'No data to display.' and shows 'Page 1 (0 of 0 items)'. A 'Next Step' button is located at the bottom right.

15. Specify the fields on the **New Transformation - Response Headers** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 8-7 New Transformation - Response Headers - Field Description**

Field	Description
<b>Name</b>	User can specify the additional headers that are required to be part of Routing Hub response headers. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Value</b>	Displays the value of the headers. Value can be hardcoded value or velocity mapping.

16. Click **Next Step**.

The **New Transformation - Response Transformation** screen is displayed.

**Figure 8-9 New Transformation - Response Transformation**

The screenshot shows the 'New Transformation - Response Transformation' configuration screen. It features a title bar, a breadcrumb trail, and several configuration options including toggle switches for 'Stop route for failed request?' and 'Mocking Required?', dropdown menus for 'Template Type' and 'Mock Type', and three large text areas for 'Mock Template', 'Template', and 'Extended Template'. A 'Save' button is located at the bottom right.

17. Specify the fields on the **New Transformation - Response Transformation** screen.

**Note**

The fields marked as **Required** are mandatory.

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

**Table 8-8 New Transformation - Response Transformation - Field Description**

Field	Description
<b>Stop route for failed request</b>	This property is used to handle response for failed request. <b>Note:</b> Only applicable for API chaining scenario.
<b>Template Type</b>	Select the template type for the Response Transformation from drop-down list. The available options are: <ul style="list-style-type: none"> <li>• <b>VELOCITY</b></li> <li>• <b>JSLT</b></li> <li>• <b>XSLT</b></li> </ul>
<b>Mocking required?</b>	Click this toggle to enable mocking for the Response Transformation. If the toggle is <b>ON</b> , the Routing Hub will return the mocked template output (with extended template output if mentioned) to consumer without invoking provider API.
<b>Mock Type</b>	This property is used to mock the provider response or routing hub response based on the selected type. The available options are: <ul style="list-style-type: none"> <li>• <b>Template</b></li> <li>• <b>Response</b></li> </ul> <b>Note:</b> Default value is Template
<b>Mock Template</b>	Specify the kernel template for the Response Transformation in which the consumer accepts. Refer <a href="#">Transformation Type</a> for syntax.
<b>Mock Response</b>	Specify the mocked response of provider.
<b>Template</b>	Specify the kernel template in which consumer accepts. Refer to Transformation Type for syntax.
<b>Extended Template</b>	Specify the custom template in order to extend the kernel template. Refer to Extensibility and <a href="#">Transformation Type</a> for syntax.

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

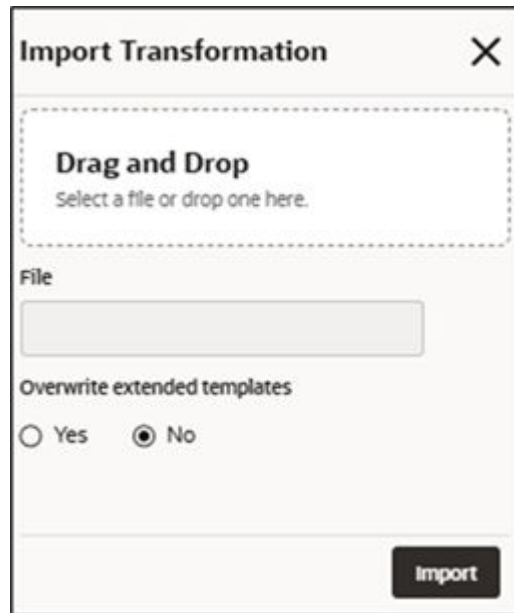
### Import Transformation

The user can create a transformation by importing the JSON file. The user can also import zip file in order to import all the configuration JSON files together (except parent level configuration JSON files).

19. On the **Transformation** screen, click **Import**.

The **Import Transformation** screen is displayed.

Figure 8-10 Import Transformation



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

Table 8-9 Import Transformation - Field Description

Field	Description
File	Select the file using <b>Select</b> button. <b>Note</b> :Allows only to select one file and accepts JSON and ZIP file.
Overwrite extended templates	Select the respective radio button to overwrite the extended templates. The available options are: <ul style="list-style-type: none"><li>• <b>Yes</b> - This option overwrites the extended templates.</li><li>• <b>No</b> - This option retains the existing extended templates.</li></ul>

20. Click **Import** to import the selected file.

#### View / Edit Transformation

The user can view or more transformation details.

21. On **Transformation** list, click **Edit**.

The **Edit Transformation - Basic Details** screen is displayed.

**Figure 8-11 Edit Transformation - Basic Details**

**Edit Transformation** [X]

< **Basic Details (1/8)** >

Transformation Name  
Account\_Transformation

Product Processor  
Oracle\_Provider 14.8.0.0.0

Implementation

Service  
getDetails - /details

Service  
GET /details  
Operation  
getDetails

**Next Step**

22. Click **Next Step**.

The **Edit Transformation - Request Validation** screen is displayed.



**Figure 8-12 Edit Transformation - Request Validation**

**Edit Transformation** [Close]

**Request Validation (2/8)** [Previous] [Next]

Validation Required  
☐

Product Processor  
[Dropdown]

Implementation  
[Dropdown]

Service  
[Dropdown]

Template  
[Text Area]

**Next Step**

23. Click **Next Step**.

The **Edit Transformation - Request Headers** screen is displayed.

**Figure 8-13 Edit Transformation - Request Headers**

**Edit Transformation** [Close]

**Request Headers (3/8)** [Previous] [Next]

Name	Value	
Content-Type	application/json	[Edit]

Page 1 of 1 (1 of 1 items) [Previous] [1] [Next]

**Next Step**

24. Click **Next Step**.

The **Edit Transformation - Path Parameters** screen is displayed.

**Figure 8-14 Edit Transformation - Path Parameters**

Name	Value
id	<input type="text"/>

Page 1 of 1 (1 of 1 items) |< < 1 > >|

Next Step

25. Click **Next Step**.

The **Edit Transformation - Query Parameters** screen is displayed.

**Figure 8-15 Edit Transformation - Query Parameters**

Name	Value
------	-------

No data to display.

Page 1 (0 of 0 items) |< < 1 > >|

Next Step

26. Click **Next Step**.

The **Edit Transformation - Request Transformation** screen is displayed.

**Figure 8-16 Edit Transformation - Request Transformation**

**Edit Transformation**

< Request Transformation (6/8) >

Body Type  
Raw

Template Type  
Velocity

Template

Extended Template

Next Step

27. Click **Next Step**.

The **Edit Transformation - Response Headers** screen is displayed.

**Figure 8-17 Edit Transformation - Response Headers**

**Edit Transformation**

< Response Headers (7/8) >

+ -

	Name	Value
No data to display.		

Page 1 (0 of 0 items) |< < 1 > >|

Next Step

28. Click **Next Step**.

The **Edit Transformation - Response Transformation** screen is displayed.

**Figure 8-18 Edit Transformation - Response Transformation**

The screenshot shows the 'Edit Transformation' dialog box with the following fields and controls:

- Stop route for failed request?**: A toggle switch currently turned off.
- Template Type**: A dropdown menu with 'Velocity' selected.
- Mocking Required?**: A toggle switch currently turned off.
- Mock Type**: A dropdown menu with 'Template' selected.
- Mock Template**: A large text area for input.
- Template**: A large text area for input.
- Extended Template**: A large text area for input.
- Save**: A button at the bottom right.

29. Click **Save** to save the modified transformation details.

#### Delete Transformation

The user can delete the transformation.

30. On **Transformation** list, click **Delete**.

The **Confirmation - Delete** screen is displayed.

**Figure 8-19 Confirmation - Delete**

The screenshot shows the 'Confirmation - Delete' dialog box with the following elements:

- Confirmation**: The title of the dialog.
- Do you want to delete the record?**: The confirmation message.
- Cancel**: A button to cancel the action.
- Confirm**: A green button to confirm the deletion.

#### Export Transformation

The user can export the transformation configuration as JSON file.

31. On **Transformation** list, click **Operation menu** (3 dots button), and click **Export**.  
The **Confirmation** screen is displayed.

**Figure 8-20 Confirmation - Export**



#### **Request Audit**

32. On **Transformation** list, click **Operation menu** (3 dots button), and click **Request Audit**.  
The **Request Audit** screen is displayed.

#### **Note**

Refer to [Request Audit](#) topic for screen and field description.

# 9

## Routing

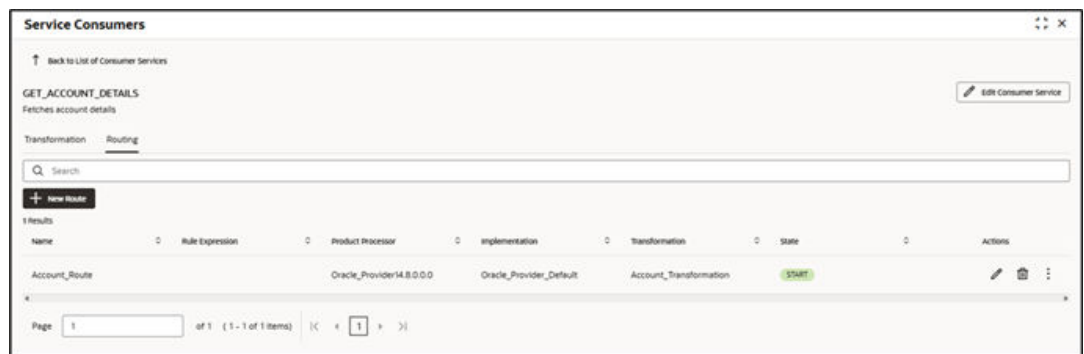
This topic describes the systematic instructions to configure the routing.

Routing does not establish any specific rules or configurations based on rules. Instead, it determines which service provider receives the actual request by considering maintenance and assessment factors.

1. From **Consumer Services** screen, click **Routing**.

The **Routing** screen is displayed.

**Figure 9-1 Routing**



### New Route

The user can create routing manually.

2. On the **Routing** screen, click **New**.

The **New Route - Routing Details** screen is displayed.

Figure 9-2 New Route - Routing Details

**New Route** ✕

Routing Details (1/2) ➤

Name Required

State

Start Stop

Auto Shutdown

☐

Rule

☐ Default ☒ Custom

Expression

	Attribute	Operator	Value	Condition Type
No data to display.				

Page 1 (0 of 0 items) |< < 1 > >|

**Next Step**

- Specify the fields on the **New Route - Routing Details** screen.

**Note**

The fields marked as **Required** are mandatory.

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

Table 9-1 New Route - Routing Details - Field Description

Field	Description
<b>Name</b>	Specify the name for the route. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>State</b>	Click this toggle to mark routing as Start. If routing is marked as STOP, then consumer request fails at routing hub level only.
<b>Auto Shutdown</b>	Click this toggle to enable or disable the AutoShutdown flag. When the flag is ON, the route will automatically switch to a STOP state if the route failure exceeds the allowed threshold limit set by the monitoring and alert configuration.

Table 9-1 (Cont.) New Route - Routing Details - Field Description

Field	Description
<b>Rule Type</b>	Select the rule type. The available options are: <ul style="list-style-type: none"> <li>• <b>Default Rule</b></li> <li>• <b>Custom Rule</b></li> </ul>
<b>Expression Editor</b>	Displays the expression that is formed through expression editor.

### Add Custom Rule using Expression Attributes

4. To add rule, follow the below steps.
  - a. On the **New Route** screen, click **Custom** button.  
The **Expression Editor** screen is displayed.

Figure 9-3 Expression Editor

**New Route** [Close]

Routing Details (1/2)

Name: a

State: [Start] [Stop]

Auto Shutdown: [On]

Rule: ☐ Default ☒ Custom

Expression: [Empty text area]

	Attribute	Operator	Value	Condition Type
No data to display.				

Page 1 (0 of 0 items) [Navigation buttons]

[Next Step]

- b. Specify the fields on the **Expression Editor** screen.

#### **Note**

The fields marked as **Required** are mandatory.

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



**Table 9-2 Expression Editor - Field Description**

Field	Description
<b>Attribute</b>	Select consumer service attribute from drop-down list.
<b>Operator</b>	Select the logical operators to form an expression from drop-down list.
<b>Value</b>	Specify the value. <b>Note</b> : Enter 0 to 255 characters.
<b>Condition Type</b>	Select the condition type from drop-down list.

**Note**

String values must be enclosed in single quotes ( ' ). For example: 'abc'. List values should be separated by commas and also enclosed in single quotes ( ' ). For example: 'abc,xyz,1.23,true'. Environment variables can also be accessed using \$env.

**Transformations**

Users can set a series of transformations for each routing to determine how a request is handled. The order of transformations in the list can be modified using a drag-and-drop feature.

5. To add **Transformations**, follow the below steps.
  - a. On the **New Route** screen, click **Add** icon.  
The **Transformations** screen is displayed.

Figure 9-4 Transformations

**New Route**

**Transformations (2/2)**

	Product Processor	Implementation	Transformation
<input type="checkbox"/>			

Page 1 of 1 (1 of 1 items) |< < 1 > >|

**Product Processor**  
 Required

**Implementation**  
 Required

**Transformation**  
 Required

Header Name	Header Value
No data to display.	

Page 1 (0 of 0 items) |< < 1 > >|

**Save**

- b. Specify the fields on the **Transformations** screen.

**Note**

The fields marked as **Required** are mandatory.

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

Table 9-3 Transformations - Field Description

Field	Description
<b>Product Processor</b>	Select the product processor from the drop-down list.
<b>Implementation</b>	Select the implementation from the drop-down list.
<b>Transformation</b>	Select the transformation from the drop-down list.

- c. Specify the header values if required.
6. Click **Save** to save the details.

**Edit Route**

The user can modify the routing details.

7. On the **Routing** screen, click **Edit** icon.

The **Edit Route** screen is displayed.

**Figure 9-5 Edit Route**

**Edit Route** [X]

< **Routing Details (1/2)** >

Name  
Account\_Route

State  
Start Stop

Auto Shutdown  
☒

Rule  
☒ Default ☐ Custom

Next Step

8. Click **Next Step**.

The **Edit Route - Transformations** screen is displayed.

**Figure 9-6 Edit Route - Transformations**

**Edit Route** [X]

Transformations (2/2) [Previous] [Next]

[+][Trash]

<input type="checkbox"/>	Product Processor	Implementation	Transformation
<input type="checkbox"/>	Oracle_Provider 14.8.0.0.0	Oracle_Provider_Default	Account_Transformation

Page 1 of 1 (1 of 1 items) [First] [Previous] [1] [Next] [Last]

Product Processor  
Oracle\_Provider 14.8.0.0.0 [v]

Implementation  
Oracle\_Provider\_Default [v]

Transformation  
Account\_Transformation [v]

Header Name	Header Value	
Content-Type	application/json	[Edit]

Page 1 of 1 (1 of 1 items) [First] [Previous] [1] [Next] [Last]

[Save]

9. Click **Save** to save the modified transformation details.

### Delete Route

The user can delete the routing details.

10. On the **Routing** screen, click **Delete**.  
The **Confirmation** screen is displayed.

**Figure 9-7 Confirmation - Delete**

**Confirmation** [X]

Do you want to delete the record?

[Cancel] [Confirm]

11. Click **Confirm** to delete the selected routing.

### Configuration

12. On the **Routing** screen, click **Operation menu** (3 dots button), and click **Configuration**.  
The **Configuration** screen is displayed.

**Note**

Refer to [Configuration](#) topic for screen and field description.

**Routing - Request Audit**

13. On the **Routing** screen, click **Operation menu** (3 dots button), and click **Request Audit**.  
The **Request Audit** screen is displayed.

**Note**

Refer to [Request Audit](#) topic for screen and field description.

# 10

## Chaining

This topic provides the information about chaining of the transformation.

The end-user can define the sequence of transformations for each routing in which the request needs to be processed.

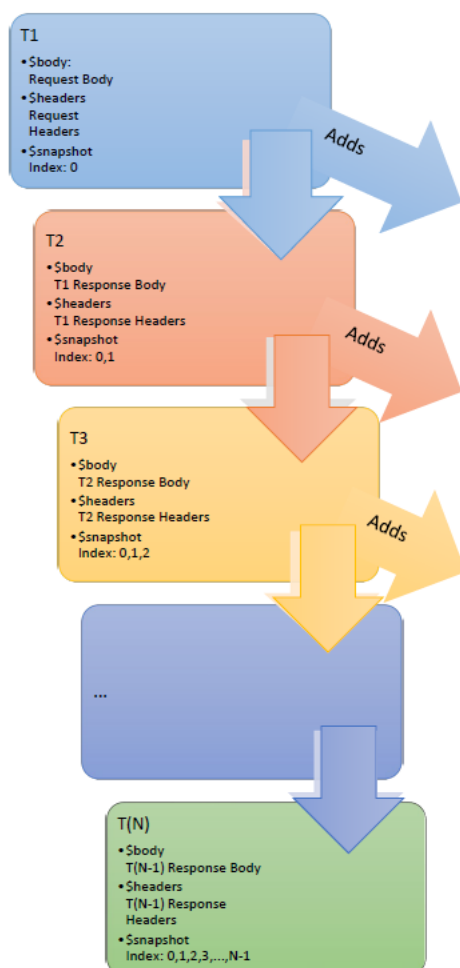
Chaining can be achieved by using the snapshot list. The snapshot list stores the response body and response headers whenever the transformation is processed. Therefore, the end-user can access the response body or headers of all processed transformations at any stage.

**Syntax:** `$snapshot.get(index).body` or `$snapshot.get(index).headers`

### Note

`$body` and `$headers` refers to the response body and headers of previous step.

**Figure 10-1 Chaining**



**Table 10-1 Snapshot List**

Index	Body	Headers
0	Request Body	Request Headers
1	T1 Response Body	T1 Response Headers
2	T2 Response Body	T2 Response Headers
3	T3 Response Body	T3 Response Headers
...	...	...
N-1	T(N-1) Response Body	T(N-1) Response Headers

# 11

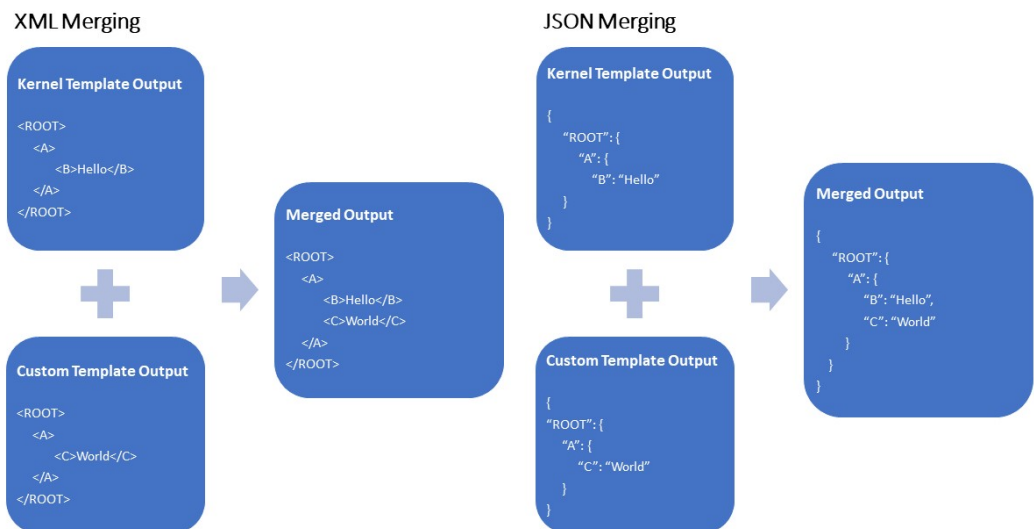
## Template Extensibility

Template Extensibility in Routing Hub refers to template extensibility and is achieved by specifying the extended templates for request and response kernel transformation templates. And as part of extensibility, Routing Hub merges the output of kernel template and custom template in terms of JSON / XML merging.

In case of request, Routing Hub will send the merged output as request payload to provider.

In case of response, Routing Hub will return the merged output as response back to consumer

**Figure 11-1 Extensibility - Example**



### Note

Order of existing elements in custom template should be same as kernel template.

- [XML merging attributes](#)

## 11.1 XML merging attributes

This topic contains the following subtopics:

- [Identity Matcher](#)
- [Skip Matcher](#)



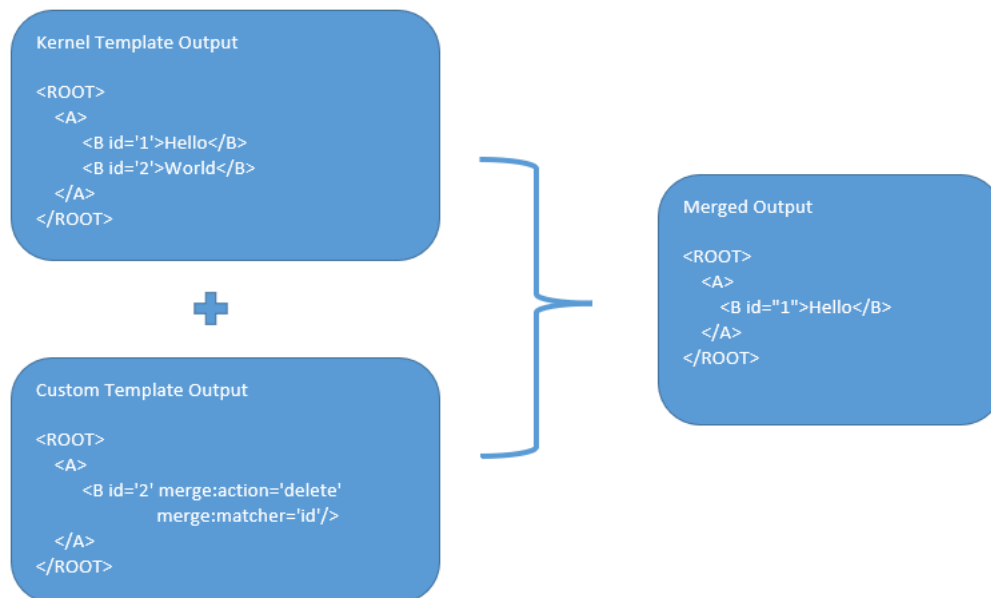
- [Override Action](#)
- [Complete Action](#)
- [Replace Action](#)
- [Preserve Action](#)
- [Delete Action](#)

### 11.1.1 Identity Matcher

Matcher attribute must be used when merge action has to be performed for specific element.

Syntax: `merge:matcher='<ATTRIBUTE_NAME>'`

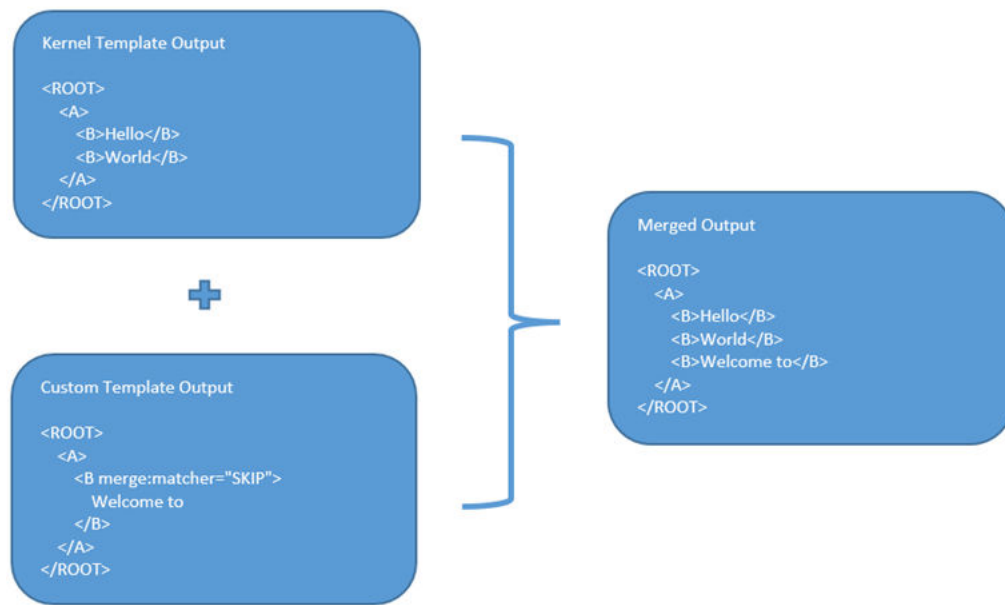
**Figure 11-2 Identity Matcher**



### 11.1.2 Skip Matcher

Skip matcher strategy is used to insert the elements forcefully without matching the original element and patch element.

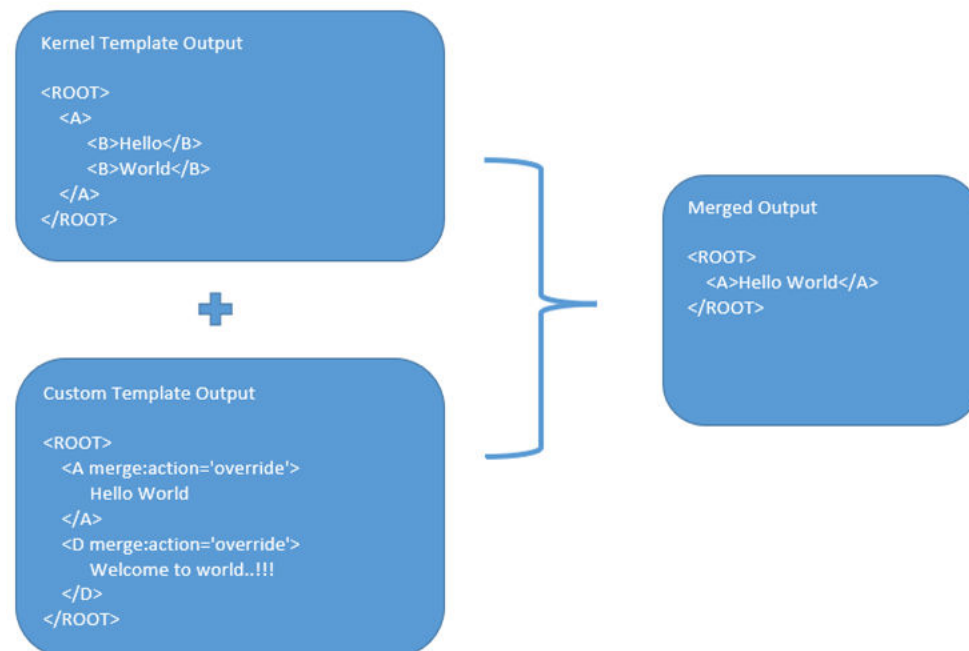
Syntax: `merge:action='SKIP'`

**Figure 11-3 Skip Matcher**

### 11.1.3 Override Action

Replaces the original element with the patch element only if it exists in kernel/mock template.

Syntax: `merge:action='override'`

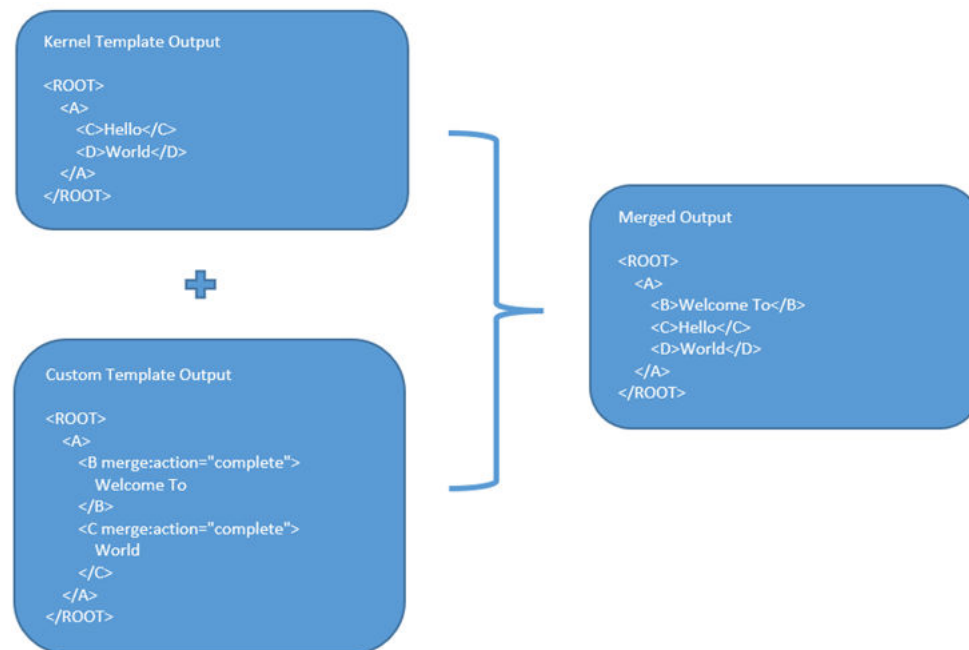
**Figure 11-4 Override Action**

## 11.1.4 Complete Action

Copies the patch element only if it does not exist in kernel/mock template.

Syntax: `merge:action='complete'`

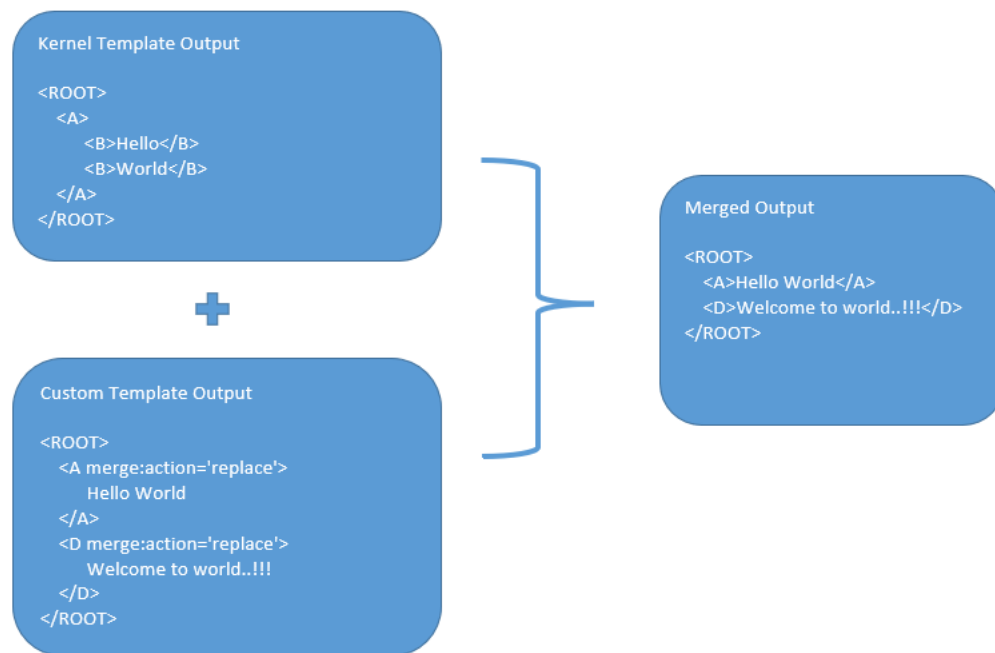
**Figure 11-5 Complete Action**



## 11.1.5 Replace Action

Replaces the original element with the patch element or creates the element if it does not exist in kernel/mock template.

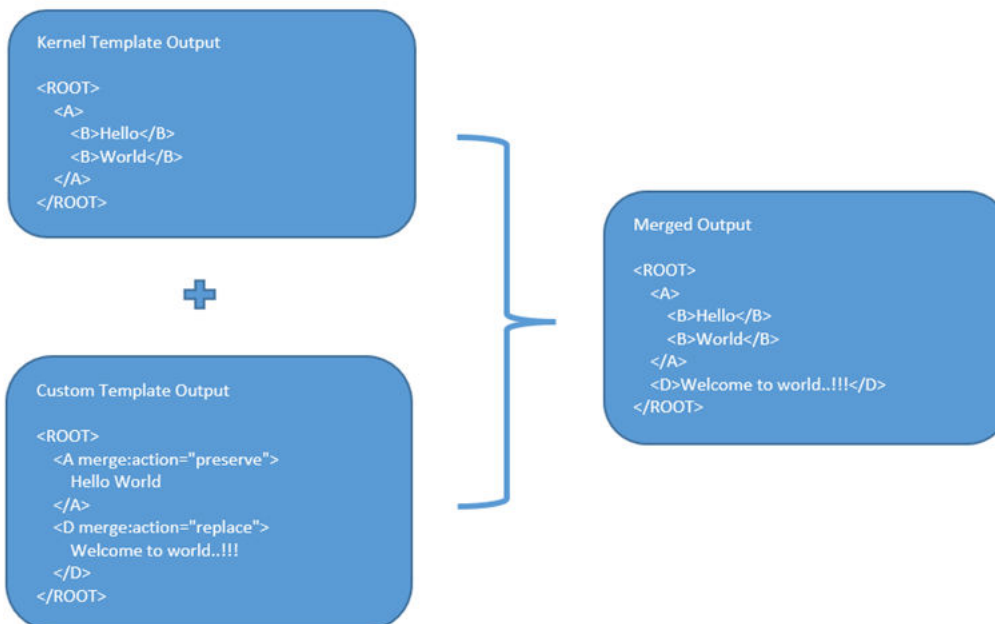
Syntax: `merge:action='replace'`

**Figure 11-6 Replace Action**

### 11.1.6 Preserve Action

No replace action is performed on the original element.

Syntax: `merge:action='preserve'`

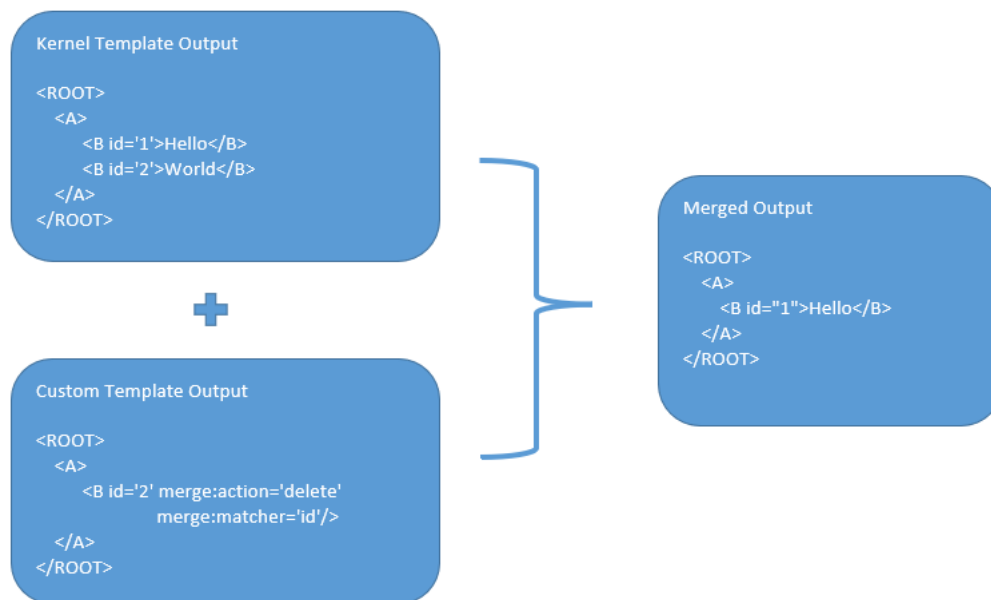
**Figure 11-7 Preserver Action**

## 11.1.7 Delete Action

Deletes the original element.

Syntax: `merge:action='delete'`

**Figure 11-8 Delete Action**



## Audit Purging / Archiving

Purging/Archiving of audit data is done on the basis of retention policy.

This process uses plato-batch-server for Job execution.

The following steps are required to schedule purging/archiving job (routingHubAuditRetentionJob) once cmc-obrh-services and plato-batch-server is UP and RUNNING:

1. From **Home** screen, click **Task Management**. Under **Task Management** menu, click **Configure Tasks**.
2. Select **Schedule** option.
3. Select **Task Name** as routingHubAuditRetentionJob and **Task Trigger Name** will be generated automatically.
4. Specify the CRON expression to daily EOD.

In order to resolve table space issue of Audit table (CMC\_RH\_AUDIT\_EVENT\_LOG), Database Management Team has to configure database job which should be triggered after routingHubAuditRetentionJob. This database job can be redefining the table (DBMS\_REDEFINITION) after purging/archiving is done or other approach. So, the unused LOB segment space can be released. And in order to resolve table space issue of Audit history table (CMC\_RH\_AUDIT\_EVENT\_LOG\_HISTORY), Database Management Team has to configure database job to truncate table periodically basis.

# 13

## Multipart Request

This topic provides the sample template for the multipart request

### **Example 13-1 Multipart Request**

```
[
  {
    "key": "file",
    "type": "FILE",
    "value": "$body.files.get(0).file"
  },
  {
    "key": "name",
    "type": "TEXT",
    "value": "$body.name.get(0).content"
  }
]
```

# 14

## URL Encoded Request

This topic provides the sample template for url encoded request.

### Example 14-1 URL Encoded Request

```
{  
  "client_id": "am9obg",  
  "client_secret": "am9obmRvZQ"  
}
```

#### Note

Body type should be RAW.



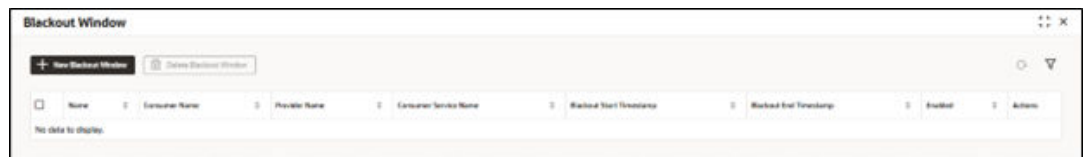
# Blackout Window

This topic describes the systematic instructions to perform the configuration.

End-user can configure the blackout windows of providers or consumer services to block the routing hub requests for the specific period.

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Interconnect**.
2. Under **Interconnect**, click **Routing Hub**. Under **Routing Hub**, click **Blackout Window**.  
The **Blackout Window** screen is displayed.

**Figure 15-1 Blackout Window**



## New Blackout Window

Users can create blackout windows.

3. Click **New Blackout Window**.  
The **New Blackout Window** screen is displayed.

**Figure 15-2 New Blackout Window**

4. Specify the fields on the **New Template** screen.

### **Note**

The fields marked as **Required** are mandatory.

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

**Table 15-1 New Blackout Window - Field Description**

Field	Description
<b>Name</b>	Specify the name of the blackout. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 255 characters.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>
<b>Description</b>	Specify the description. <b>Note:</b> <ul style="list-style-type: none"> <li>Enter 0 to maximum of 1000 characters.</li> <li>No space allowed at beginning or ending of the characters.</li> </ul>
<b>Consumer Name</b>	Select the consumer name for which blackout is applicable.
<b>Provider Name</b>	Select the provider name for which blackout is applicable.
<b>Consumer Service Name</b>	Select the consumer service name for which window is applicable.
<b>Blackout Start Timestamp</b>	Effective start date and time for the scheduled blackout.
<b>Blackout End Timestamp</b>	Effective end date and time for the scheduled blackout.
<b>Enabled</b>	Toggle to enable or disable the blackout window.
<b>Recurring</b>	Toggle to enable or disable the recurrence of blackout window.
<b>Recurrence Frequency</b>	Specify the frequency for the blackout to repeat. <b>Note:</b> Frequency has to be mentioned in terms of days.
<b>Recurrence End Timestamp</b>	Effective end date and time for the recurrence

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

#### View / Edit Blackout Window

The user can view or modify blackout window.

- Click **Edit** icon.

The **Edit Blackout Window** is displayed.

**Figure 15-3 Edit Blackout Window**

The screenshot shows the 'Edit Blackout Window' dialog box with the following details:

- Name:** Scheduled\_Maintenance
- Description:** Scheduled maintenance of oracle\_provider
- Consumer Name:** Oracle\_Consumer
- Provider Name:** Oracle\_Provider
- Consumer Service Name:** (empty)
- Blackout Start Timestamp:** 9/16/2025, 12:00 AM
- Blackout End Timestamp:** 9/18/2025, 12:00 AM
- Enabled:** ☒
- Recurring:** ☒
- Recurrence Frequency:** 7
- Recurrence End Timestamp:** (empty)

Buttons: Save, Cancel

7. Click **Save** to save the modified blackout window details.

**Delete Blackout Window**

The user can delete the blackout window.

8. Click **Delete Blackout Window** button.

The **Blackout Window** gets deleted.

# 16

## Configuration

This topic describes the systematic instructions to perform the configuration.

End-user can configure the properties w.r.t. monitoring, alert and export.

End-user can configure the same at System level and granular levels such as Consumer, Consumer Service and Routing.

The **Configuration** screen contains the following sections.

- **Monitoring** - It has the features required by the breaker to store and aggregate the result of calls.
- **Alert** - It has the features required for transitioning circuit breaker.
- **Email Alert** - It has the feature required for mail notification.
- **Export** - It has the properties that are required for exporting the configuration JSON and will be visible at system level only.

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Interconnect**.
2. Under **Interconnect**, click **Routing Hub**. Under **Routing Hub**, click **Configuration**.

The **Configuration** screen is displayed.

**Figure 16-1 Configuration**

The screenshot shows a web-based configuration interface titled "Configuration". It has a sidebar on the left with a dropdown menu labeled "Route shutdown properties" and two radio buttons: "Count" (selected) and "Type". The main content area contains several input fields: "Window Size" with a value of "100", "Minimum number of calls" with a value of "100", and "Failure Rate Threshold" with a dropdown menu showing "50%". There is also an "Email Addresses" input field. At the bottom, there are expandable sections for "Export" and "Data Masking". In the bottom right corner, there are "Clear", "Reset", and "Save" buttons.

3. On **Configuration** screen, specify the fields.

### **Note**

The fields marked as **Required** are mandatory.

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

Table 16-1 Configuration - Field Description

Field	Description
<b>Window Type</b>	Select the type of the window. The available options are: <ul style="list-style-type: none"> <li><b>Count</b>: The count-based sliding window aggregates the outcome of the last N calls (<b>Window Size</b>).</li> <li><b>Time</b>: The time-based sliding window aggregates the outcome of the calls of the last N seconds (<b>Window Size</b>).</li> </ul>
<b>Window Size</b>	Specify the window size to record the outcome of the calls when the circuit breaker is closed. <ul style="list-style-type: none"> <li>For <b>Count</b> window type, The window size is N calls.</li> <li>For <b>Time</b> window type, The window size has N seconds.</li> </ul>
<b>Minimum number of calls</b>	Specify the minimum number of calls. For example, if the minimum required number of calls is 10, you need to record at least 10 calls before you can determine the failure rate. If only nine calls are logged, the circuit breaker will not switch to open, even if all nine calls are unsuccessful.
<b>Failure rate threshold</b>	Specify the failure rate threshold in percentage. If the failure rate meets or exceeds the threshold, the breaker opens and begins to short-circuit calls.
<b>Email Addresses</b>	Specify the E-mail address. The user can use semi-colon to add more email addresses. Once the failure rate crosses the <b>Failure rate threshold</b> , a mail is sent to the end-user about the event.
<b>Mark data as factory shipped</b>	Select the toggle to mark the exported configuration JSON as factory shipped JSON. The end-user will not be able to modify or delete the certain data once imported. By default, the toggle is OFF.
<b>Allow data masking</b>	Turn on the toggle to hide sensitive information in request audit messages.
<b>Regex patterns</b>	Specify the regex patterns for identification of sensitive fields. <b>Note</b> : You can group values by using a sub-pattern that is placed inside parentheses ().

Example:

Table 16-2 Configuration - Field Entry Values

Field	Entry Values
<b>Window Type</b>	Count
<b>Window Size</b>	20
<b>Minimum number of calls</b>	10
<b>Failure rate Threshold</b>	50%

Configured properties will result as below:

After 10 (minimum number of calls) calls, routing would get shutdown if 50% (failure rate) of almost last 20 (window size) calls have failed. If the email address property is configured, then the end-user is notified as well.

4. Perform one of the following action:

- Click **Clear** to clear all the specified details.
- Click **Reset** to reset the details.
- Click **Save** to save all the details.

# Request Audit - Log

This topic describes the systematic instructions to check the audit log in Oracle Banking Routing Hub.

1. From **Home** screen, click **Core Maintenance**. Under **Core Maintenance**, click **Interconnect**.
2. Under **Interconnect**, click **Routing Hub**. Under **Routing Hub**, click **Request Audit**.  
The **Request Audit - Log** screen is displayed.

**Figure 17-1 Request Audit - log**

3. Specify the fields on the **Request Audit - log** screen.

## Note

The fields marked as **Required** are mandatory.

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

**Table 17-1 Request Audit - log - Field Description**

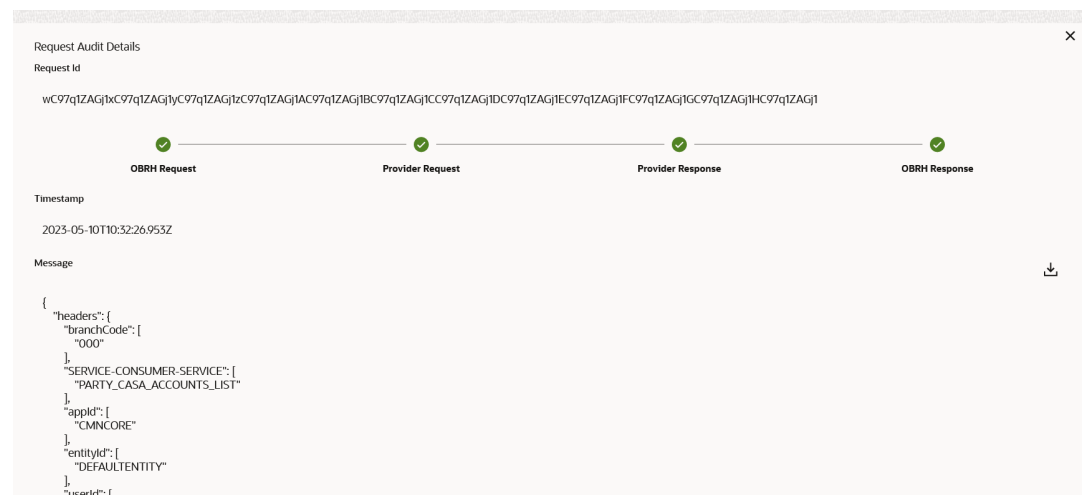
Field	Description
<b>Request ID</b>	Specify the request ID.
<b>Consumer</b>	Specify the consumer.
<b>Consumer Service</b>	Specify the consumer service.
<b>Provider</b>	Specify the provider.
<b>Provider Implementation</b>	Specify the provider implementation.
<b>Provider Service</b>	Specify the provider service.
<b>Transformation</b>	Specify the transformation name.
<b>Route</b>	Specify the route.
<b>User ID</b>	Specify the user ID.
<b>Reference Number</b>	Specify the reference number to track the requests audit. <b>Note:</b> To track by reference number, one has to pass rh-reference-no header in routing hub request

**Table 17-1 (Cont.) Request Audit - log - Field Description**

Field	Description
<b>Status</b>	Status field indicates the outcome of the routing hub request with values indicating <b>SUCCESS</b> , <b>FAILURE</b> , or <b>PENDING</b> . <b>Note:</b> <ul style="list-style-type: none"> <li><b>SUCCESS</b> signifies that the request was completed successfully.</li> <li><b>FAILURE</b> signifies that the request was unsuccessful.</li> <li><b>PENDING</b> signifies that the request is being processed.</li> </ul>

- Click the **Search** button to fetch the request audit details.
- Click on the **Request ID** to view the step-by-step execution of request audit details.

The **Request Audit Details** screen is displayed.

**Figure 17-2 Request Audit Details**

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

**Table 17-2 Request Audit Details - Field Description**

Field	Description
<b>Request ID</b>	Displays the selected request ID.
<b>OBRH Request</b>	Displays the status of Routing Hub request.
<b>Provider Request</b>	Displays the status of provider request.
<b>Provider Response</b>	Displays the status of provider response.
<b>OBRH Response</b>	Displays the status of Routing Hub response.
<b>Timestamp</b>	Displays the date and time.
<b>Message</b>	Displays the message.



# 18

## Monitoring Dashboard

Monitoring dashboard has been provided to System integrators and IT administrators to review the health of the integrations. It displays data using different type of widgets to help users to assess the performance of integrations and identify the areas that requires attention.

This dashboard requires 'routingHubAuditSummaryJob' job to be executed periodically using plato-batch-server.

Below are steps to schedule the job once cmc-obrh-services and plato-batch-server is UP and RUNNING:

1. From **Home** screen, click **Task Management**. Under **Task Management** menu, click **Configure Tasks**.
2. Select **Schedule** option.
3. Select **Task Name** as routingHubAuditSummaryJob and **Task Trigger Name** will be generated automatically.
4. Specify the CRON expression to daily EOD.

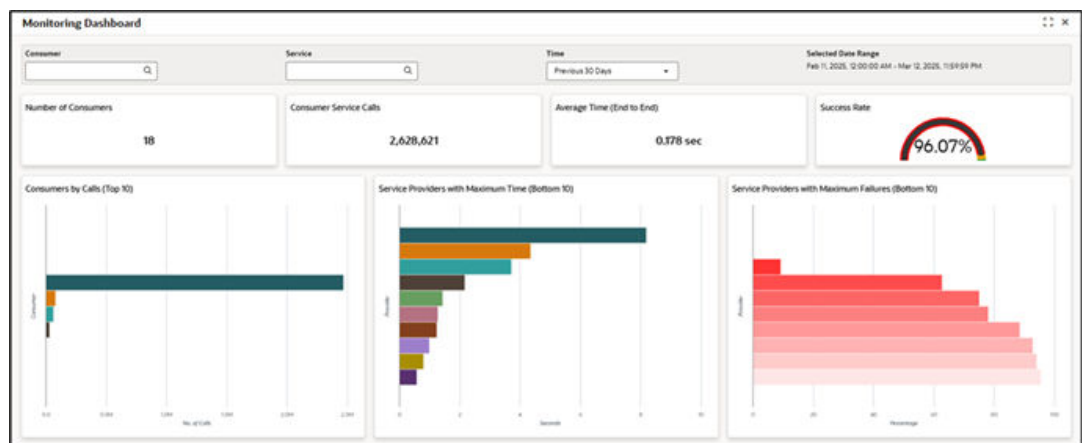
To resolve table space issue of Audit summary table, (CMC\_RH\_AUDIT\_SUMMARY), Database Management Team has to configure database job to truncate table periodically basis.

### Note

**Monitoring Dashboard** will not be available if audit logs are turned off.

1. On **Home** screen, click **Core Maintenance**. Under **Core Maintenance** menu, click **Interconnect**.
2. Under **Interconnect**, then click **Routing Hub**. Under **Routing Hub**, click **Monitoring Dashboard**

**Figure 18-1 Monitoring Dashboard**

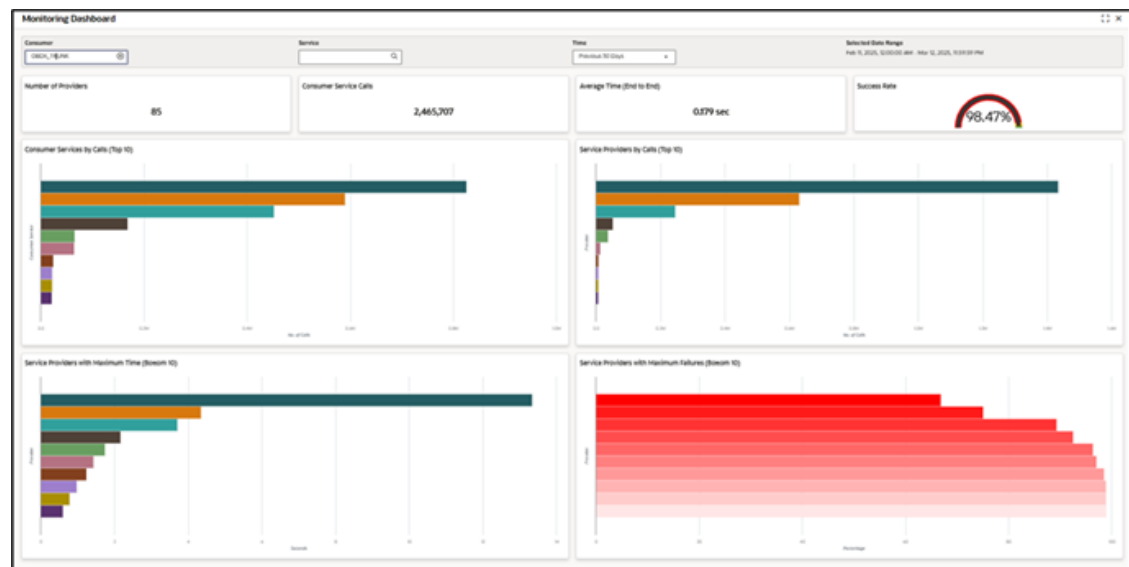


- **Number of Consumers:** This widget displays total number of consumers configured in the Oracle Banking Routing Hub.
- **Consumer Service Calls:** This widget displays total number of consumer services requested during chosen period.
- **Average Time (End to End):** This widget displays the average time (in seconds) taken to process successful requests, during chosen period.
- **Success Rate:** This widget provides an indicator of how many successful requests were made during chosen period.
- **Consumers by Calls (Top 10):** This widget provides a graphical display of the top 10 consumers based on requests they have made during chosen period. A link on the bar graph is provided to view further details of the Consumer.
- **Service Providers with Maximum Time (Bottom 10):** This widget provides a graphical display of bottom 10 providers based on the time taken to process requests, during s chosen period.
- **Service Providers with Maximum Failures (Bottom 10):** This widget provides a graphical display of bottom 10 providers based on failed requests, during s chosen period.

### Consumer Page

The End-user can navigate to this page by either using the filter option provided on the landing page or by clicking on specific consumer service in “**Consumer Service by Calls (Top 10)**” chart.

**Figure 18-2 Consumer Page**



This page displays following information:

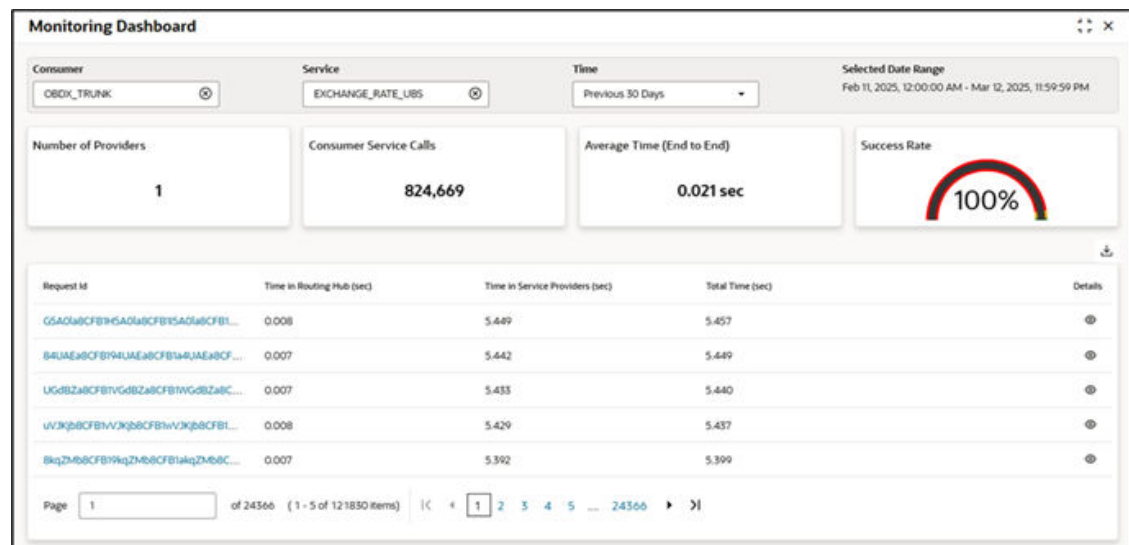
- **Number of Providers:** This widget displays the total number of service providers configured in Oracle Banking Routing Hub for the selected consumer.
- **Consumer Service Calls:** This widget displays total number of consumer services requested by the selected consumer during chosen period.

- **Average Time (End to End):** This widget displays the average time (in seconds) taken to process successful requests made by the selected consumer, during chosen period.
- **Success Rate:** This widget provides an indicator of how many successful requests were made by the selected consumer during chosen period.
- **Consumer Services by Calls (Top 10):** This widget provides a graphical display of the top 10 consumers Services during chosen period. A link on the bar graph is provided to view further details of the Consumer Service.
- **Service Providers by Calls (Top 10):** Shows top 10 service providers based on the maximum requests which are requested chosen period.
- **Service Providers with Maximum Time (Bottom 10):** Shows bottom 10 providers based on the maximum time taken to process successful requests which are requested during chosen period.
- **Service Providers with Maximum Failures (Bottom 10):** Shows bottom 10 providers based on the maximum number of failed requests which are requested during chosen period.

### Consumer Service Page

The End-user can navigate to this page by either using the filter option provided on the landing page or by clicking on specific consumer service in “**Consumer Service by Calls (Top 10)**” chart.

**Figure 18-3 Consumer Service Page**



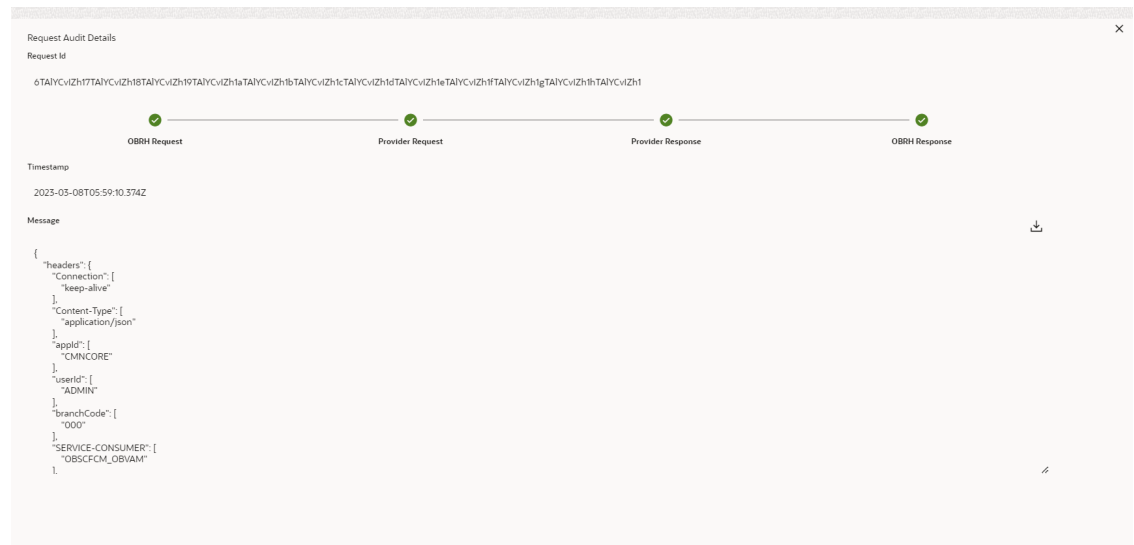
- **Number of Providers:** This widget displays total number of service providers to which this request is routed to complete the integration.
- **Consumer Service Calls:** This widget displays total number of consumer services made during chosen period.
- **Average Time (End to End):** This widget displays the average time taken to process successful requests made during chosen period.
- **Success Rate:** Shows the percentage of successful requests which are made during chosen period.

- **Request Details:** The table displays the list of requests which are requested during chosen period. Following are the details which are provided for each request.

Component Name	Component Type
<b>Request Id</b>	This is system generated reference number for each request. Click on the Request Id displays audit log information of the request.
<b>Time in Routing Hub (Sec)</b>	Displays the time taken by Routing Hub (in seconds) to route the request between Consumer Service and Providers.
<b>Time in Service Providers (Sec)</b>	Displays the total time taken by Service provides (in seconds) to process the request.
<b>Total Time (Sec)</b>	Displays the total time to process the request
<b>Provider Service</b>	Text box
<b>Details</b>	Displays the tabular view of the time taken by individual providers (in case of chaining of the request)

End-user can view request details by clicking on **Request Id**.

**Figure 18-4 Request Audit Details**



Component Name	Comments
<b>Number of Providers</b>	Displays total number of service providers.
<b>Consumer Service Calls</b>	Displays total number of consumer services requested during selected time.
<b>Average Time (End to End)</b>	Displays the average time taken to process successful requests which are requested during selected time.
<b>Success Rate</b>	Displays the percentage of successful requests which are requested during selected time.
<b>Request Audit</b>	Displays list of requests which are requested during selected time.

# Transformation Type

This topic provides the information about the transformation types.

## Velocity

Velocity is a Java-based template engine. It is used to generate XML files, SQL, PostScript, and most other text-based formats.

### Note

In Routing Hub, velocity is used to generate JSON and XML files.

- Using **\$body**, user can access request/response body.  
**Syntax:** \$body.fieldName  
**Example:** \$body.branchCode
- Using **\$headers**, user can access request/response headers.  
**Syntax:** \$headers["fieldName"][0]  
**Example:** \$headers["branchCode"][0]
- Using **\$bodyAsString**, user can access response body as string.  
**Syntax:** \$bodyAsString
- Below are some available extension methods:
  - Date Conversion  
**Syntax:** \$dateUtil.convert(inputDate, fromPattern, toPattern)  
**Parameters:**
    - \* inputDate - String
    - \* fromPattern - String
    - \* toPattern - String**Returns:** String  
 Refer to <https://docs.oracle.com/javase/8/docs/api/java/text/SimpleDateFormat.html> for different patterns
  - Default Value  
**Syntax:** \$custom.defaultValue(inputValue, defaultValue)  
**Parameters:**
    - \* inputValue - Object
    - \* defaultValue - String**Returns:** Object
  - Null Check  
**Syntax:** \$custom.isNull(inputValue)

**Parameters:**

- \* inputValue - Object

**Returns:** Boolean

- Random Number

**Syntax:** \$mathUtil.getRandom()

**Returns:** Object of Random class (java.util.Random)

- Xml Tool

**Syntax:** \$xml.methodName()

Refer to <https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/XmlTool.html>

- Date Tool

**Syntax:** \$date.methodName()

Refer to <https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/DateTool.html>

- Json Tool

**Syntax:** \$json.methodName()

Refer to <https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/JsonTool.html>

- Math Tool

**Syntax:** \$math.methodName()

Refer to <https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/MathTool.html>

- Number Tool

**Syntax:** \$number.methodName()

Refer to <https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/NumberTool.html>

- Escape Tool

**Syntax:** \$esc.methodName()

Refer to <https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/EscapeTool.html>

- Serialization of object into its equivalent Json representation

**Syntax:** \$custom.toJson(src)

**Parameters:**

- \* src - Object

**Returns:** String

- Get additional field's value based on fieldname

**Syntax:** \$custom.getFieldValueById(jsonString, fieldname)

**Parameters:**

- \* jsonString – String

- \* fieldname - String

**Returns:** String

- Get list of additional fields based on fieldname prefix

**Syntax:** \$custom.getAdditionalFieldSetByType(jsonString,prefixval)

**Parameters:**

- \* jsonString - String
- \* prefixval - String

**Returns:** String

- This method is for parsing XML string  
**Syntax:** \$custom.parseXml(xmlString)

**Parameters:**

- \* xmlString - String

**Returns:** Object

- This method is for parsing JSON string  
**Syntax:** \$custom.parseJson(jsonString)

**Parameters:**

- \* jsonString - String

**Returns:** Object

- If issue occurred with hyphen in velocity template of Request or Response Transformation, then use get method.

**Example:**

```
<FCUBS_BODY>
  <Customer-IO>
    <CUSTNO>003942</CUSTNO>
  </Customer-IO>
</FCUBS_BODY>
```

If \$in.FCUBS\_BODY.Customer-IO.CUSTNO does not work ,  
use \$in.FCUBS\_BODY.get( "Customer-IO" ).CUSTNO to get customer number.

**XSLT**

XSLT is a language for transforming XML documents into other XML documents, or other formats such as HTML for web pages, plain text or XSL formatting objects, which may subsequently be converted to other formats, such as PDF, PostScript and PNG.

**Note**

In Routing Hub, XSLT is used to transform arbitrary XML to JSON.

**JSLT**

JSLT is a complete query and transformation language for JSON.

# Oracle Banking Routing Hub VM Arguments

This topic provides information about Oracle Banking Routing Hub VM arguments.

## Common Core Managed Server

**Table 20-1 CMC-OB RH-SERVICE**

Parameters	Default	Values
cmc-obrh-services.server.port	-	<SERVER_PORT>
cmc-obrh-services.server.port	-	<SERVER_PORT>
obrh.db.jndi	-	<CMNCORE_JNDI>
cmc-obrh-services.oic.secretStore.url	-	<OIC_SECRET_STORE_URL>
cmc-obrh-services.audit.retention.days	-	<AUDIT_RETENTION_POLICY_DAYS>
cmc-obrh-services.audit.retention.archival	-	Y / N (Y for archiving and N for purging)

**Table 20-2 Enable and configure connection pooling for REST calls**

Parameters	Default	Values
obrh.rest.connectionpool.enabled	false	true / false
obrh.rest.connectionpool.totalConnectionCount	20	<POOL_TOTAL_CONN_COUNT>
obrh.rest.connectionpool.maxConnectionCountPerRoute	2	<POOL_MAX_CONN_PER_ROUTE>
obrh.rest.connectionpool.timeToLive.ms	-1	<POOL_TTL>

**Table 20-3 Receive routing failure mail notification via plato-alerts-management-service**

Parameter	Default	Values
obrh.alerts.enabled	false	true / false

**Table 20-4 Change approach for auditing**

Parameters	Default	Values
obrh.audit.type	KAFKA	DEFAULT / KAFKA / JMS / LOG / OFF For KAFKA option, cmc-obrh-kafka-consumer service needs to be deployed. For JMS option, cmc-obrh-jms-consumer service needs to be deployed.



**Table 20-4 (Cont.) Change approach for auditing**

Parameters	Default	Values
obrh.audit.type.log.event	NONE	DISPATCH_REQUEST / DISPATCH_RESPONSE / ROUTE_INVOKE_START / ROUTE_INVOKE_FAILURE / TRANSFORMATION_TEMPLATE_EVAL UATION_START / TRANSFORMATION_TEMPLATE_EVAL UATION_END / TRANSFORMATION_EXTENDED_TEM PLATE_EVALUATION_START / TRANSFORMATION_EXTENDED_TEM PLATE_EVALUATION_END / PROVIDED_SERVICE_REQUEST / PROVIDED_SERVICE_RESPONSE  This property is used to specify the events (comma-separated values) for which CLOB data needs to be logged and only considered if obrh.audit.type is LOG

**Table 20-5 Overwrite the customization that is not part of configuration json**

Parameters	Default	Values
obrh.import.overwrite	false	true / false

**Table 20-6 Use Custom Keystore and Truststore for HTTPS scheme**

Parameters	Default	Values
obrh.keystore.password.encoded	-	true / false (true, if password is base 64 encoded)
obrh.truststore.path	-	<TRUSTSTORE_PATH>
obrh.truststore.password	-	<TRUSTSTORE_PASSWORD>
obrh.usekeystore	-	true / false (true, if keystore is required along with truststore)
obrh.keystore.path	-	<KEYSTORE_PATH>
obrh.keystore.password	-	<KEYSTORE_PASSWORD>
obrh.keystore.alias	-	<KEYSTORE_ALIAS_LIST>
obrh.keystore.aliaspassword	-	<KEYSTORE_ALIAS_PASSWORD_LIS T>
obrh.ssl.protocol	TLS	TLS / TLSv1 / TLSv1.1 / TLSv1.2

**Table 20-7 For tomcat deployment**

Parameters	Default	Values
obrh.server.isJavaEE	true	true / false (false for tomcat)

**Table 20-7 (Cont.) For tomcat deployment**

Parameters	Default	Values
obrh.taskexecutor.corepoolsize	50	<CORE_POOLSIZE>
obrh.taskexecutor.maxpoolsize	50	<MAX_POOLSIZE>
obrh.taskexecutor.queuecapacity	100	<QUEUE_CAPACITY>

**Set Proxy settings for HTTPS:** As per the Java Networking documentation, HTTPS protocol handler will use the same as the http handler (i.e. http.nonProxyHosts). But in case of Weblogic, http.nonProxyHosts will not work for some reason. So, use https non proxy host argument (i.e. https.nonProxyHosts).

**Table 20-8 Set Proxy settings for HTTPS**

Parameters	Default	Values
https.proxyHost	-	<PROXY_HOST_NAME>
https.proxyPort	-	<PROXY_PORT>
https.nonProxyHosts	-	<NON_PROXY_HOST_LIST>
http.nonProxyHosts	-	<NON_PROXY_HOST_LIST>

This property will enforce WebLogic Server to use SUN SSL implementation (javax package) rather than the WebLogic one.

**Table 20-9 Support SSL based SOAP provider calls in weblogic environment**

Parameters	Default	Values
UseSunHttpHandler	-	true

**Table 20-10 CMC-OBHR-KAFKA-CONSUMER**

Parameters	Default	Values
cmc-obrh-kafka-consumer.server.port	-	<SERVER_PORT>
obrh.audit.id-generator	UUID	UUID / SNOWFLAKE

**Table 20-11 CMC-OBHR-JMS-CONSUMER**

Parameters	Default	Values
cmc-obrh-jms-consumer.server.port	-	<SERVER_PORT>
cmc-obrh-jms-consumer.connectionFactory	-	<JMS_CONN_FACTORY_JNDI>
cmc-obrh-jms-consumer.queue	-	<JMS_CONN_QUEUE_JNDI>

**Table 20-12 Change ID generator**

Parameters	Default	Values
obrh.audit.id-generator	UUID	UUID / SNOWFLAKE

### Plato Core Managed Server

Oracle Banking Routing Hub is using Multipart for Import feature. By default, spring supports max 1MB file size and 10MB request size for Multipart.

To import bigger files,

`plato-api-gateway.multipart.max-file-size=<MAX_FILE_SIZE>` (default is 200MB)

`plato-api-gateway.multipart.max-request-size=<MAX_REQUEST_SIZE>` (default is 200MB)

#### Note

-1 for no size constraint

#### **Example,**

`plato-api-gateway.multipart.max-file-size=-1`

`plato-api-gateway.multipart.max-request-size=-1`

## A

# Functional Activity Codes

**Table A-1 List of Functional Activity Codes**

Screen Name	Functional Activity Codes	Action	Description
Routing Hub	CMC_FA_RH_APPLICATION	VIEW	Service Consumers UI in Routing Hub
Routing Hub	CMC_FA_RH_AUDIT_LOG	CREATE	Log audit information in Routing Hub
Routing Hub	CMC_FA_RH_AUDIT_SUMMARY	GET	Audit Summary
Routing Hub	CMC_FA_RH_AUDIT_SUMMARY_DATA	GET	Audit Summary Data
Routing Hub	CMC_FA_RH_CLEAR_SOAP_CLIENT_CACHE	CLEAR	Clears Soap Client Cache in Routing Hub
Routing Hub	CMC_FA_RH_CONFIG	VIEW	Configuration UI in Routing Hub
Routing Hub	CMC_FA_RH_CONFIG_CREATE	CREATE	Creates configuration
Routing Hub	CMC_FA_RH_CONFIG_DELETE	DELETE	Deletes configuration
Routing Hub	CMC_FA_RH_CONFIG_GET	GET	Fetches configuration
Routing Hub	CMC_FA_RH_CONFIG_MODIFY	MODIFY	Updates configuration
Routing Hub	CMC_FA_RH_CONSUMER_QUEUE_CREATE	CREATE	Saves new Consumer Queue Mapping
Routing Hub	CMC_FA_RH_CONSUMER_QUEUE_DELETE	DELETE	Deletes specific Consumer Queue Mapping
Routing Hub	CMC_FA_RH_CONSUMER_QUEUE_GETALL	GET	Fetches all Consumer Queue Mappings
Routing Hub	CMC_FA_RH_CONSUMER_QUEUE_GETBYID	GET	Fetches specific Consumer Queue Mapping
Routing Hub	CMC_FA_RH_CONSUMER_QUEUE_MODIFY	MODIFY	Updates specific Consumer Queue Mapping
Routing Hub	CMC_FA_RH_DASHBOARD	VIEW	Monitoring Dashboard UI
Routing Hub	CMC_FA_RH_DISPATCH_AUDIT_GETALL	GET	Fetches routing hub requests from audit log
Routing Hub	CMC_FA_RH_DISPATCH_AUDIT_LOG	VIEW	Request Audit UI in Routing Hub
Routing Hub	CMC_FA_RH_ROUTE_DISPATCH	INTEGRATION CALL	Synchronous/Asynchronous integration call
Routing Hub	CMC_FA_RH_ROUTE_DISPATCH_RESPONSE	GET	Fetches provider response of asynchronous routing hub request

**Table A-1 (Cont.) List of Functional Activity Codes**

Screen Name	Functional Activity Codes	Action	Description
Routing Hub	CMC_FA_RH_SERVICECONSUMER_CREATE	CREATE	Creates consumer
Routing Hub	CMC_FA_RH_SERVICECONSUMER_DELETE	DELETE	Deletes consumer
Routing Hub	CMC_FA_RH_SERVICECONSUMER_ENV_VARIABLE_EXPORT	EXPORT	Exports environment variables from Routing Hub Maintenance
Routing Hub	CMC_FA_RH_SERVICECONSUMER_ENV_VARIABLE_IMPORT	IMPORT	Imports environment variables
Routing Hub	CMC_FA_RH_SERVICECONSUMER_EXPORT	EXPORT	Exports consumer
Routing Hub	CMC_FA_RH_SERVICECONSUMER_GETALL	GET	Fetches all consumers
Routing Hub	CMC_FA_RH_SERVICECONSUMER_GETBYID	GET	Fetches specific consumer
Routing Hub	CMC_FA_RH_SERVICECONSUMER_IMPORT	IMPORT	Imports consumer
Routing Hub	CMC_FA_RH_SERVICECONSUMER_MODIFY	MODIFY	Updates consumer
Routing Hub	CMC_FA_RH_SERVICECONSUMER_PROCESSJSON	GET	Extracts configuration from configuration file
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICEROUTING_CREATE	CREATE	Creates route
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICEROUTING_DELETE	DELETE	Deletes route
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICEROUTING_GETALL	GET	Fetches all routes
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICEROUTING_GETBYID	GET	Fetches specific route
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICEROUTING_MODIFY	MODIFY	Updates route
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICETRANSFORMATION_CREATE	CREATE	Creates transformation
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICETRANSFORMATION_DELETE	DELETE	Deletes transformation
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICETRANSFORMATION_EXPORT	EXPORT	Exports transformation
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICETRANSFORMATION_GETALL	GET	Fetches all transformations
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICETRANSFORMATION_GETBYID	GET	Fetches transformation
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICETRANSFORMATION_IMPORT	IMPORT	Imports transformation
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICETRANSFORMATION_MODIFY	MODIFY	Updates transformation
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICE_CREATE	CREATE	Creates service
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICE_DELETE	DELETE	Deletes service

**Table A-1 (Cont.) List of Functional Activity Codes**

Screen Name	Functional Activity Codes	Action	Description
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICE_EXPORT	EXPORT	Exports service
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICE_GETALL	GET	Fetches all services
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICE_GETBYID	GET	Fetches specific service
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICE_IMPORT	IMPORT	Imports service
Routing Hub	CMC_FA_RH_SERVICECONSUMER_SERVICE_MODIFY	MODIFY	Updates service
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_CREATE	CREATE	Creates provider
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_DELETE	DELETE	Deletes provider
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_EXPORT	EXPORT	Exports provider
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_GENERATEREQUEST	GET	Extracts provider service's request definition
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_GETALL	GET	Fetches all providers
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_GETBYID	GET	Fetches provider
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_CREATE	CREATE	Creates implementation
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_DELETE	DELETE	Deletes implementation
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_EXPORT	EXPORT	Exports implementation
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_GENERATEREQUEST	GET	Extracts implementation service's request definition
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_GETALL	GET	Fetches all implementations of specific provider
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_GETBYID	GET	Fetches specific implementation of specific provider
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_IMPORT	IMPORT	Imports implementation
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPL_MODIFY	MODIFY	Updates implementation
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_IMPORT	IMPORT	Imports provider
Routing Hub	CMC_FA_RH_SERVICEPROVIDER_MODIFY	MODIFY	Updates provider
Routing Hub	CMC_FA_RH_BLACKOUT_WINDOW_CREATE	CREATE	Creates blackout window
Routing Hub	CMC_FA_RH_BLACKOUT_WINDOW_GET	GET	Fetches all blackout windows
Routing Hub	CMC_FA_RH_BLACKOUT_WINDOW_GET_BY_ID	GET	Fetches specific blackout window

**Table A-1 (Cont.) List of Functional Activity Codes**

Screen Name	Functional Activity Codes	Action	Description
Routing Hub	CMC_FA_RH_BLACKOUT_WINDOW_DELETE_BY_ID	DELETE	Deletes specific blackout window
Routing Hub	CMC_FA_RH_BLACKOUT_WINDOW_UPDATE_BY_ID	MODIFY	Updates blackout window
Routing Hub	CMC_FA_RH_BLACKOUT_WINDOW_DELETE	DELETE	Deletes multiple blackout windows
Routing Hub	CMC_FA_RH_BLACKOUT_WINDOW_UI	VIEW	Blackout Window UI
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_CREATE	CREATE	Creates common template
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_GET	GET	Fetches all common templates
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_GET_BY_ID	GET	Fetches specific common template
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_DELETE_BY_ID	DELETE	Deletes specific common template
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_UPDATE_BY_ID	MODIFY	Updates common template
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_IMPORT	IMPORT	Imports common templates
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_EXPORT	EXPORT	Exports common templates
Routing Hub	CMC_FA_RH_COMMON_TEMPLATE_UI	VIEW	Common Template UI
Routing Hub	CMC_FA_RH_TEMPLATE_EVALUATION	EVALUATE	Evaluates the transformation template
Routing Hub	CMC_FA_RH_PROVIDEDSERVICE_IMPORT	GET	Extracts the endpoint/operation details from Swagger/WSDL file
Routing Hub	CMC_FA_RH_DASHBOARD_HEALTH_INDICATOR	View	Routing Hub Health Indicator UI
Routing Hub	CMC_FA_RH_METRICS_GET	GET	Retrieves the metrics for the consumer/consumer service integration calls

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