Routing Hub Configuration User Guide
Oracle Banking Electronic Data Exchange for Corporates
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Routing Hub Configuration User Guide
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Oracle Financial Services Software Limited
Oracle Park
Off Western Express Highway
Goregaon (East)
Mumbai, Maharashtra 400 063
India
Worldwide Inquiries:
Phone: +91 22 6718 3000
Fax:+91 22 6718 3001

www.oracle.com/financialservices/

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1. Preface

1.1 Purpose

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

1.2 Intended Audience

This document is intended for the following audience:

- Customers
- Partners

1.3 Document Accessibility

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

1.4 Access to Oracle Support

Oracle customers have access to electronic support through My Oracle Support. For information, visit

http://www.oracle.com/pls/topic/lookup?ctx=acc&id=info or visit

http://www.oracle.com/pls/topic/lookup?ctx=acc&id=trs if you are hearing impaired.

1.5 Structure

This manual is organized into the following categories:

Preface gives information on the intended audience. It also describes the overall structure of the User Manual.

The subsequent chapters describe following details:

- Introduction
- Preferences & Database
- Configuration / Installation

2. Introduction

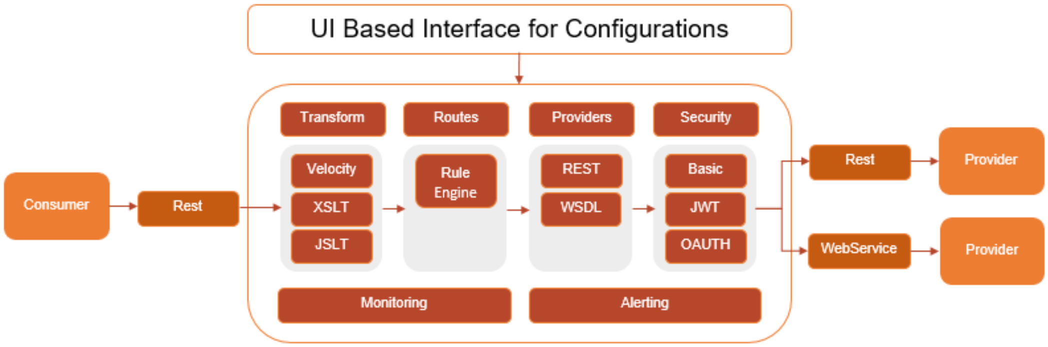
Oracle Banking Routing Hub is routing hub which enables seamless & standardized integrations between FSGBU

Banking Product using configurations provided as part of the product Infrastructure.

Consumer Application does not need to know

- Servicing Providers or Product Processors - Product processor to which the integration is required.
- Name of the Service - Logical name of the service e.g. Funds Transfer, Letter of Credit Initiation
- Messaging structure of Service - Structure of the message e.g Json, XML.
- Communication Protocol – Web services, Rest API.
- Can be integrated with different versions of a Product processors

In this document we have shown the maintenance of two product i.e.” Oracle Service Consumer” as Service Consumer and “External Product Processor” as Service Provider


UI Based Interface for Configurations
Transform
Routes
Providers
Security
Velocity
XSLT
JSLT
Rule Engine
REST
WSDL
Basic
JWT
OAUTH
Consumer
Rest
Rest
Provider
WebService
Provider
Monitoring
Alerting

1. Acronyms & Definitions

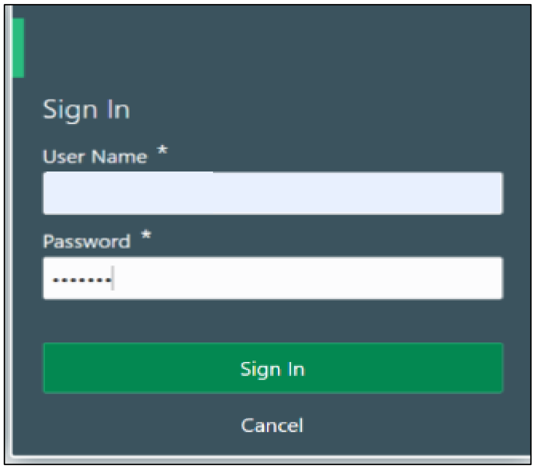
Following are some of the acronyms and abbreviations you are likely to find in this user manual:

Abbreviation & Definitions	**Description**
Service Consumers	Are Applications need to integrate with multiple product processors with loosely couple integration layer available as Oracle Banking Routing Hub. Service Consumer integrates with Oracle Banking Routing Hub

Service Providers	This are product processors available to serve the request send by Oracle Banking Routing Hub on behalf of Service Consumer
Service	Are Soap Web Services imported through WSDL or Rest Web Services imported through Swagger
Headers	Are headers require by product processor while sending request

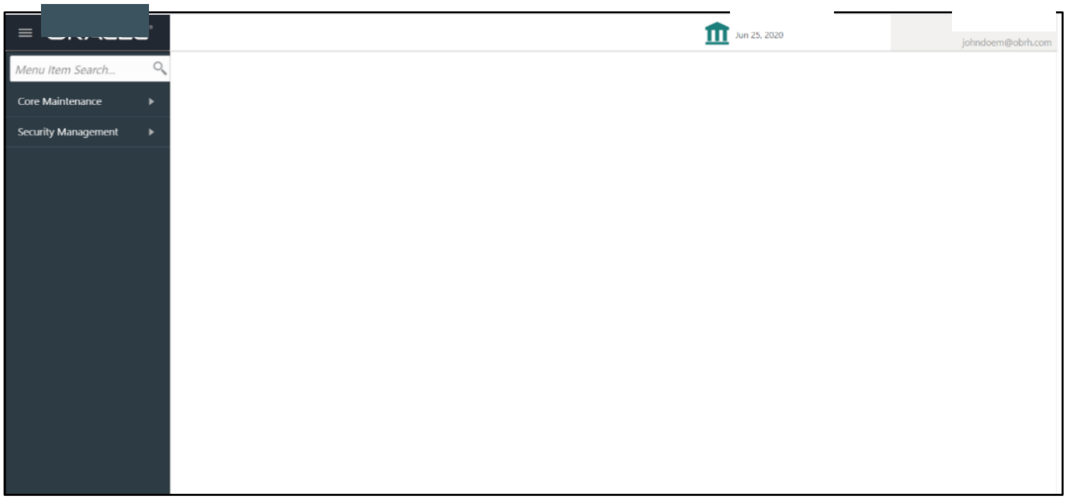
3. Start Maintenance - Login Screen

Open Browser, Hit URL and Launch **Oracle Banking Routing Hub**.



Component briefing				
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Comments**
User Name	Text Box	Yes	Alphanumeric	
Password	Text Box	Yes	Alphanumeric with special characters	
Sign In	Button			Navigates to Dashboard / menu screen
Cancel	Button			

4. Main Menu Screen


Jun 25, 2020
johndoem@obrh.com
Menu Item Search...
Core Maintenance
Security Management

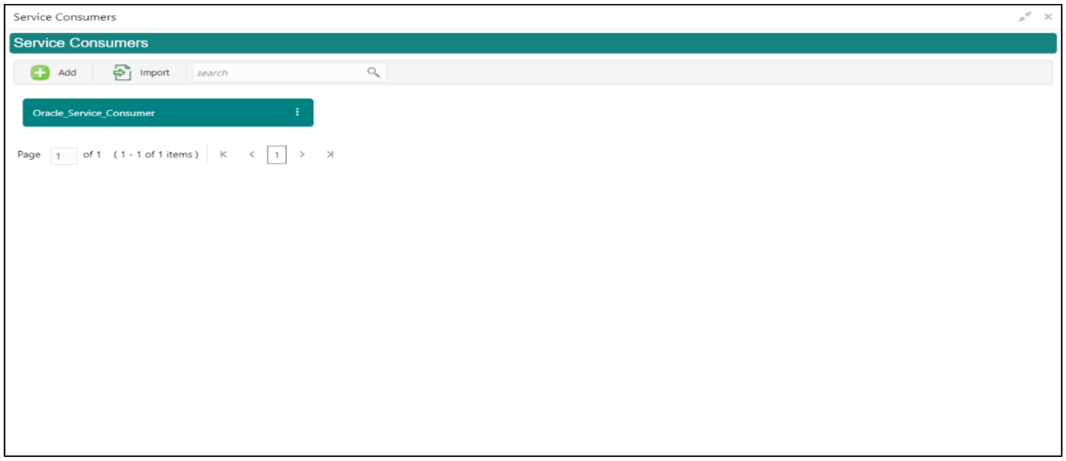
Component briefing		
Component Name	**Component Type**	**Comments**
Core Maintenance	Main menu item	
Routing Hub	Sub menu item	
Configuration	Sub menu option	Navigates to Configuration screen
Service Consumer	Sub menu option	Navigates to Service Consumer screen
Request Audit	Sub menu option	Navigates to Request Audit screen

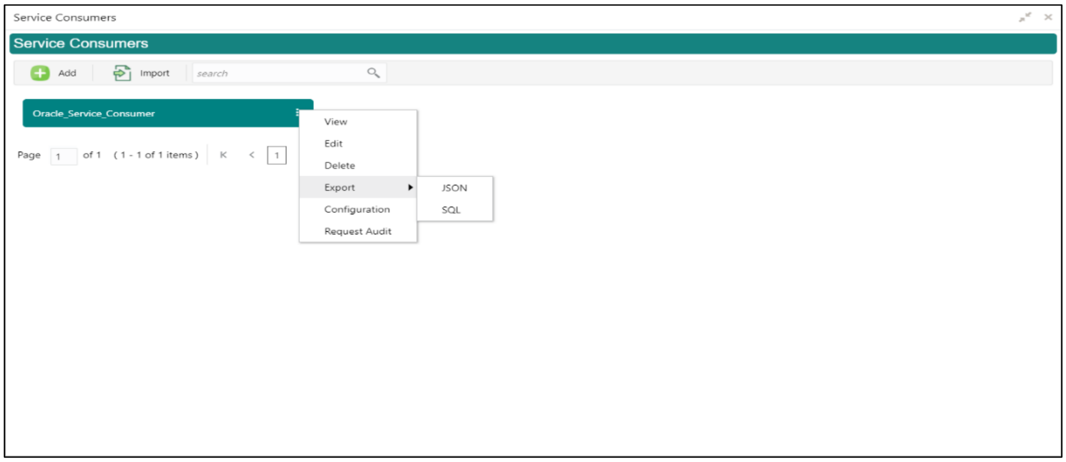
5. Service Consumer

Service Consumer is Oracle product which will invoke Oracle Banking Routing Hub API, Oracle Banking Routing Hub will analyse, evaluate destination product processor and transform data into format of the same.

Service Consumer comprises of the source and destination integration details.

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


Service Consumers
Service Consumers
Add
Import
search
Oracle_Service_Consumer
Page 1 of 1 (1 - 1 of 1 items)
1


Service Consumers
Service Consumers
Add
Import
search
Oracle_Service_Consumer
Page 1 of 1 (1 - 1 of 1 items)
1
View
Edit
Delete
Export
Configuration
Request Audit
JSON
SQL

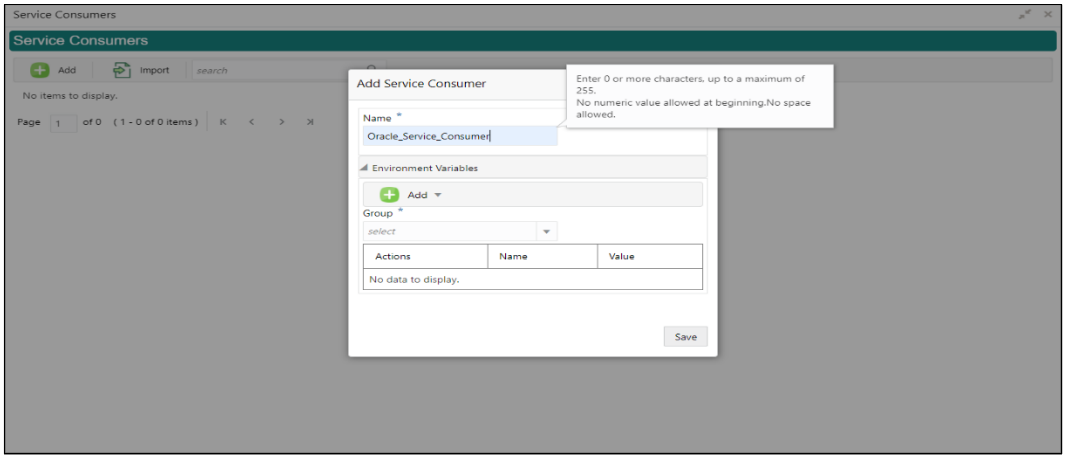
Component briefing			
Component Name	**Component Type**	**Condition**	**Comments**
Add	Button		Pops up add dialog
Import	Button		Pops up import dialog

Search	Combo Box One		Provides search functionality with case insensitive (Service Consumer Name)
Navigation: Service Consumers -> 3 dot icon (operation menu)			
View	menu option	Non-editable	Pops up view dialog
Edit	menu option		Pops up edit dialog
Delete	menu option		
Export	Sub menu item		
JSON	menu option		Exports in JSON
SQL	menu option		Exports in SQL
Configuration	menu option		Pops up configuration dialog
Request Audit	menu option		Pops up request audit log

5.1 Add

User can create Service Consumer manually.

Navigation: **Service Consumers -> Add**


Service Consumers
Service Consumers
Add
Import
search
Page 1 of 0 (1 - 0 of 0 items)
Add Service Consumer
Environment Variables
Add
Group *
select
Actions
Name
Value
Save

No items to display.

Name * Oracle_Service_Consumer

Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.

No data to display.

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

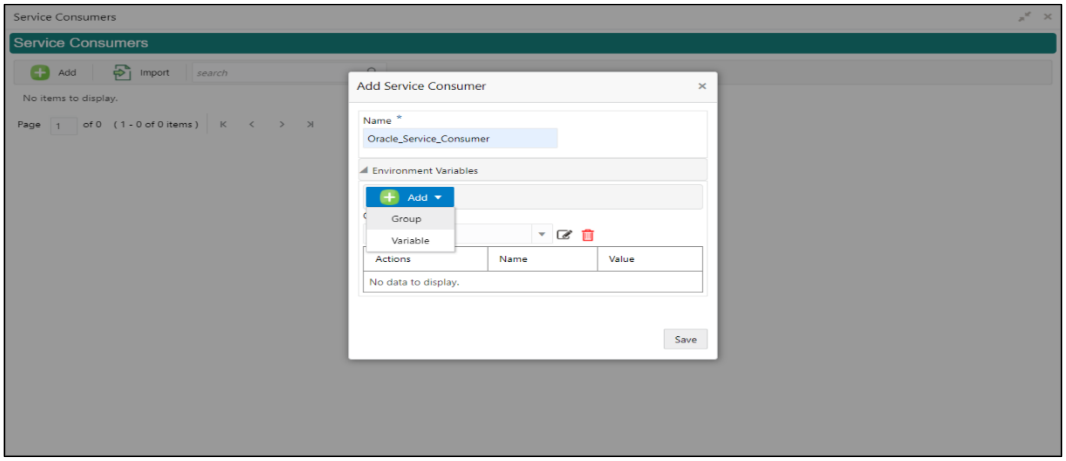
5.1.1 Environment Variables

User will be able to define the group of variables which can be accessed throughout the specific consumer's configuration.

Below is the syntax for accessing environment variables:

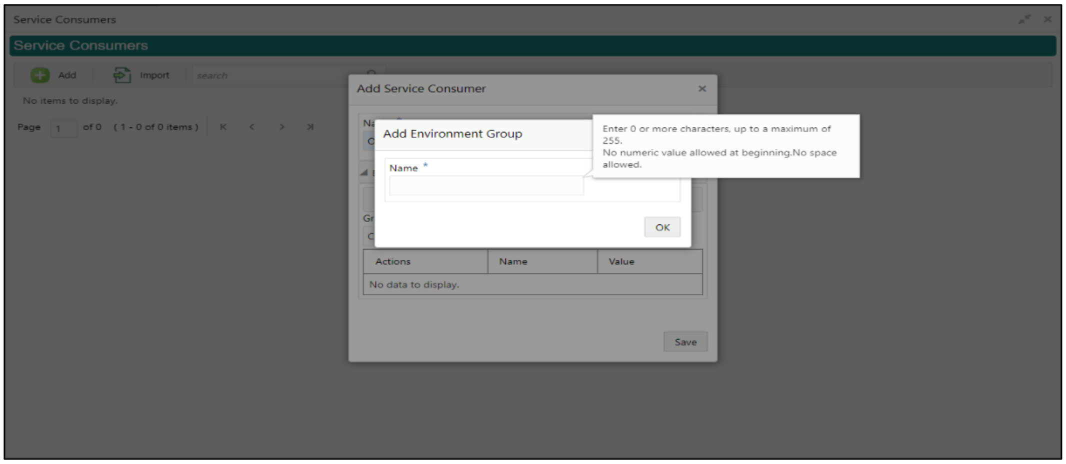
$env.Environment_Group_Name.Environment_Variable_Name

eg: $env.COMMON.BRANCH_CODE

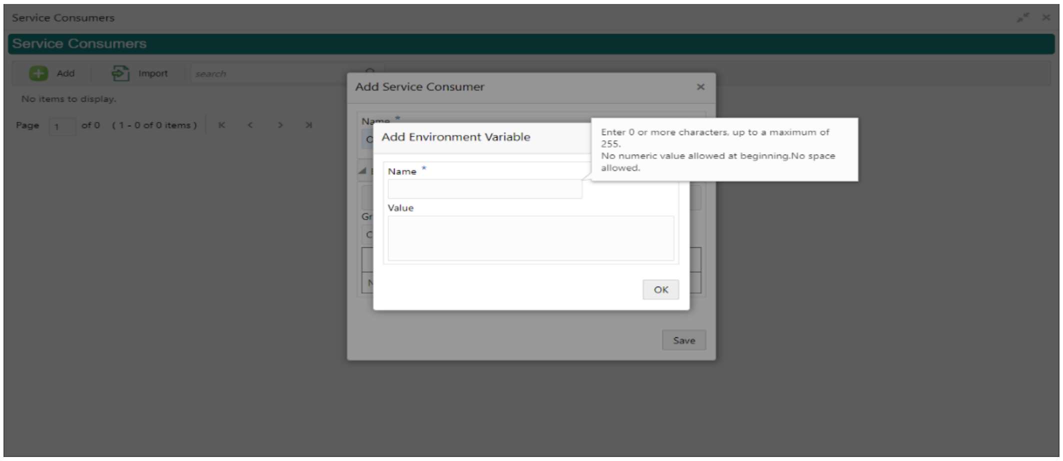

Service Consumers
Service Consumers
Add
Import
search
No items to display.
Page 1 of 0 (1 - 0 of 0 items)
Add Service Consumer
Environment Variables
Add
Group
Variable
Actions
Name
Value
No data to display.
Save

Name *

Oracle_Service_Consumer


Service Consumers
Service Consumers
Add
Import
search
No items to display.
Page 1 of 0 (1 - 0 of 0 items)
Add Service Consumer
Add Environment Group
Name *
OK
Actions
Name
Value
No data to display.
Save

Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.


Service Consumers
Service Consumers
Add
Import
search
No items to display.
Page 1 of 0 (1 - 0 of 0 items)
Add Service Consumer
Add Environment Variable
Name *
Value
OK
Save

Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.

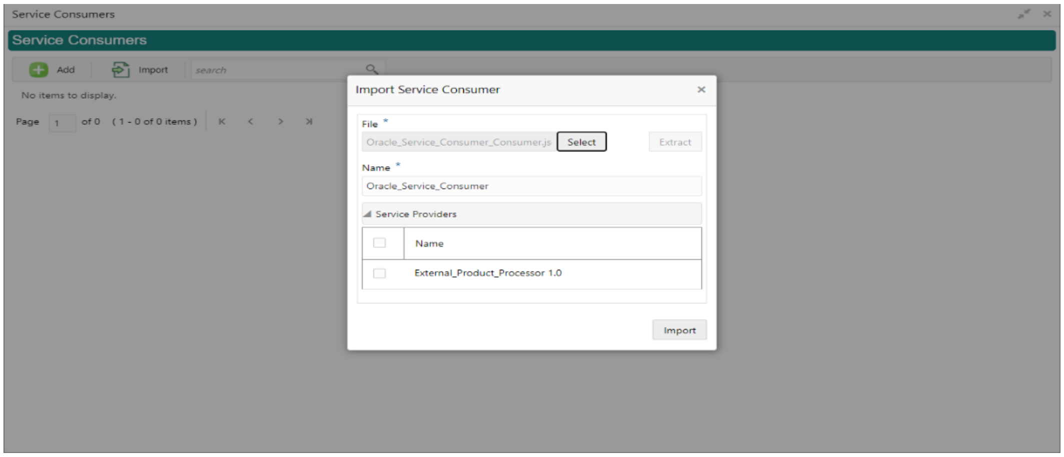
Component briefing					
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Comments**
Add	Menu Item				
Group	Menu option				Pops up add group dialog
Variable	Menu option				Pops up add variable dialog
Navigation: Service Consumer -> Environment Variables -> 3 dot icon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

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

5.2 Import

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.

Navigation: **Service Consumers -> Import**


Service Consumers
Service Consumers
Add
Import
search
No items to display.
Page 1 of 0 (1 - 0 of 0 items)
Import Service Consumer
Select
Extract
Service Providers
Import

File * Oracle_Service_Consumer_Consumer.js

Name * Oracle_Service_Consumer

☐	Name
☐	External_Product_Processor 1.0

Component briefing						
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Condition**	**Comments**
File	File picker	Yes		Allows only to select one file	Accepts only JSON file	Pops up file selection dialog box
Extract	Button	Yes				Extracts Consumer Name and Service Provider list from JSON file and displays it in the respective elements.

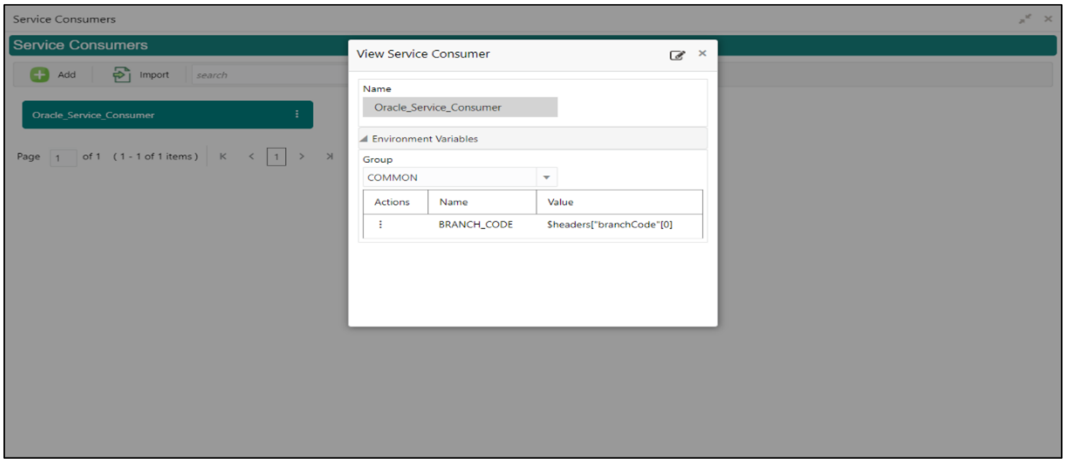
Name	Text Box	Yes	Alphanumeric with special characters	- Name cannot be blank - Enter 0 or more characters, up to a maximum of 255 - No numeric value at beginning and no space allowed	Editable	Unique
Service Provider	Collapsible Header & Content					Displays the list of service providers that are present in JSON file
Import	Button					Imports Service Consumer

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

- Implementation Host and Port
- Implementation Authentication Password

5.3 View

User can view consumer details and can also switch to edit form by clicking on edit icon. Navigation: **Service Consumers -> Operation Menu (3 dot icon) -> View**


Service Consumers
Service Consumers
Add
Import
search
Oracle_Service_Consumer
Page 1 of 1 (1 - 1 of 1 items)
1
View Service Consumer
Environment Variables

Name: Oracle_Service_Consumer

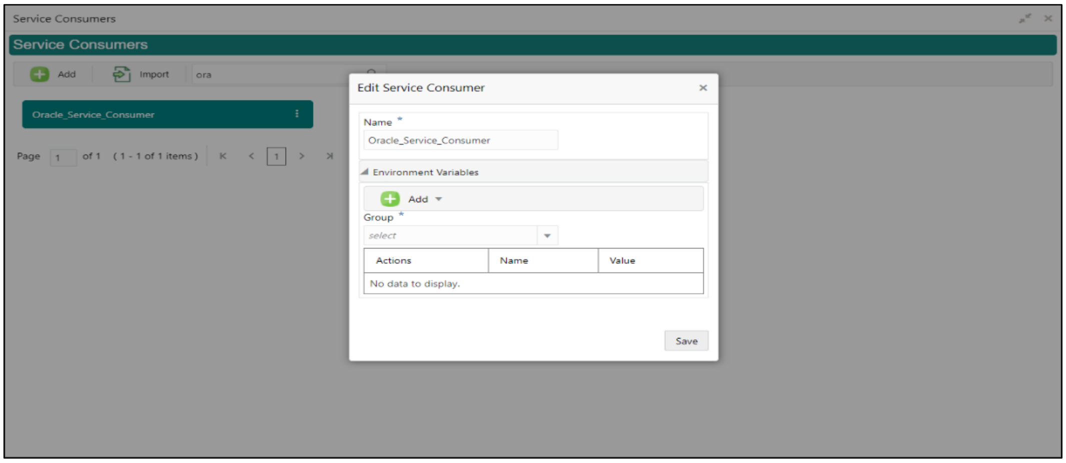
Group: COMMON

Actions	Name	Value
⋮	BRANCH_CODE	$headers["branchCode"[0]

5.4 Edit

User can modify the consumer details.

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


Service Consumers
Service Consumers
Add
Import
ora
Oracle_Service_Consumer
Page 1 of 1 (1 - 1 of 1 items)
Edit Service Consumer
Environment Variables
Add
Group *
select
Actions
Name
Value
Save

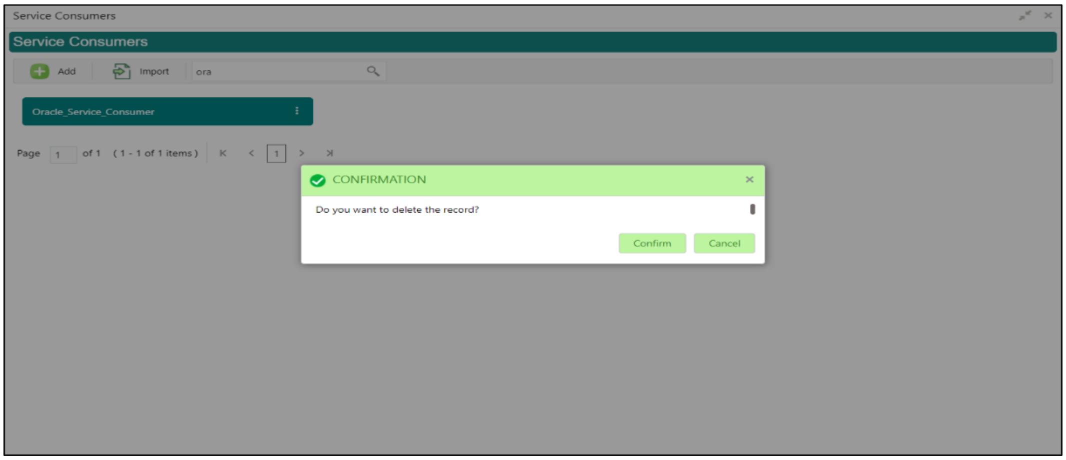
Name * Oracle_Service_Consumer

No data to display.

5.5 Delete

User can delete the consumer.

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

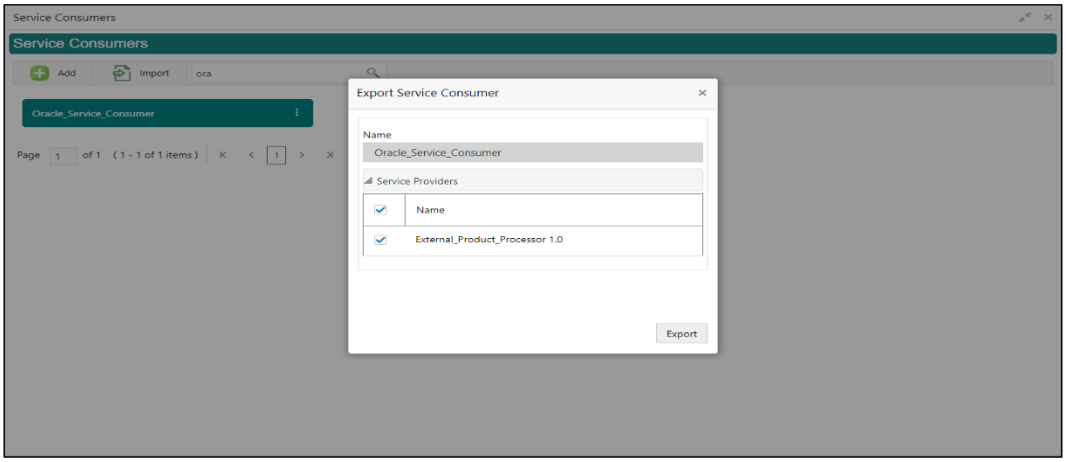

Service Consumers
Service Consumers
Add
Import
ora
Oracle_Service_Consumer
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

Do you want to delete the record?

5.6 JSON Export

User can export the consumer configuration as JSON file.

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


Service Consumers
Service Consumers
Add
Import
ora
Oracle_Service_Consumer
Page 1 of 1 (1 - 1 of 1 items)
Export Service Consumer
Service Providers
Export

Name: Oracle_Service_Consumer

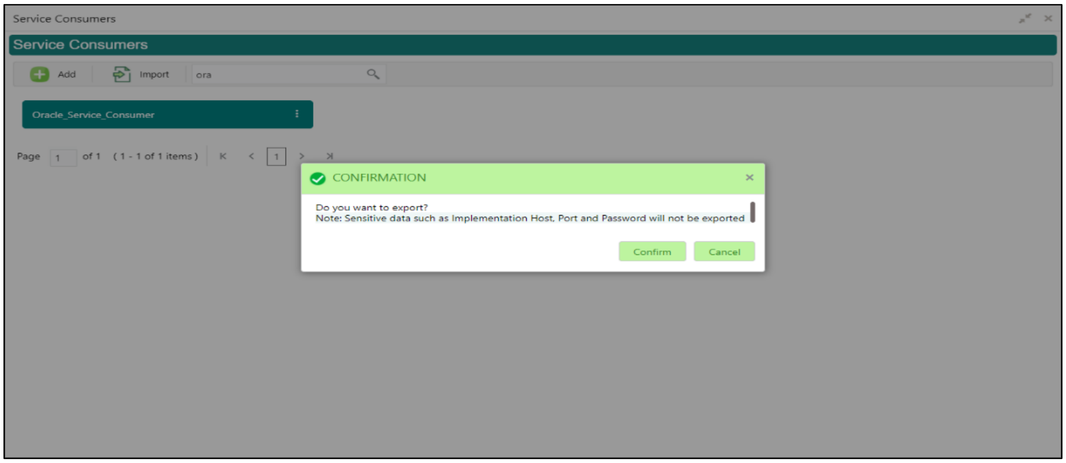
☑	Name
☑	External_Product_Processor 1.0

Note:
• User has an option to select service providers from the list which needs to be exported or can click on "Select All" option for all service providers.
• JSON Export feature will export below data:
  - Selected service consumer
  - All consumer services
  - Selected service providers with services
  - Default implementation of selected service providers with services (without Host, Port and Authentication Password)
  - Default transformations
  - All default implementation routes

5.7 SQL Export

User can export the consumer configuration as SQL file.

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


Service Consumers
Service Consumers
Add
Import
ora
Oracle_Service_Consumer
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

Do you want to export?
Note: Sensitive data such as Implementation Host, Port and Password will not be exported

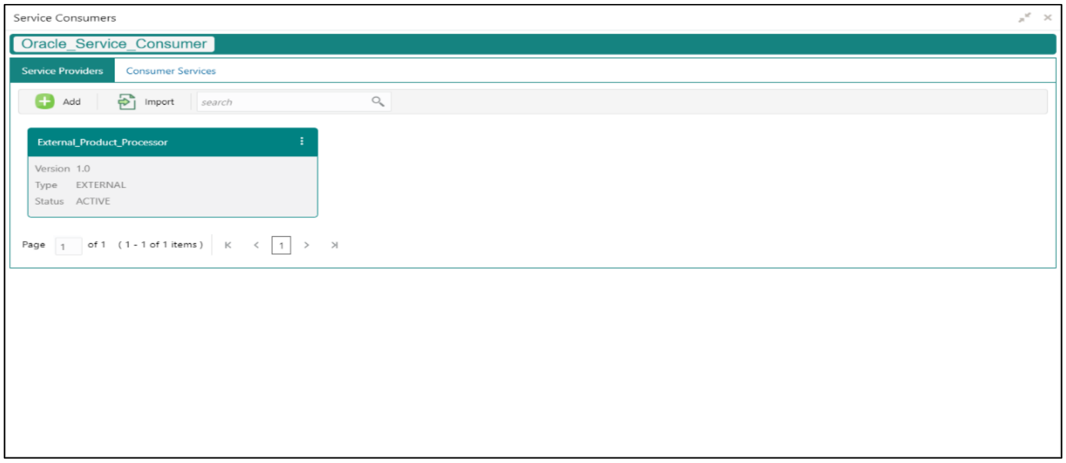
NOTE: SQL Export feature will export entire configuration without Host, Port and Authentication Password details.

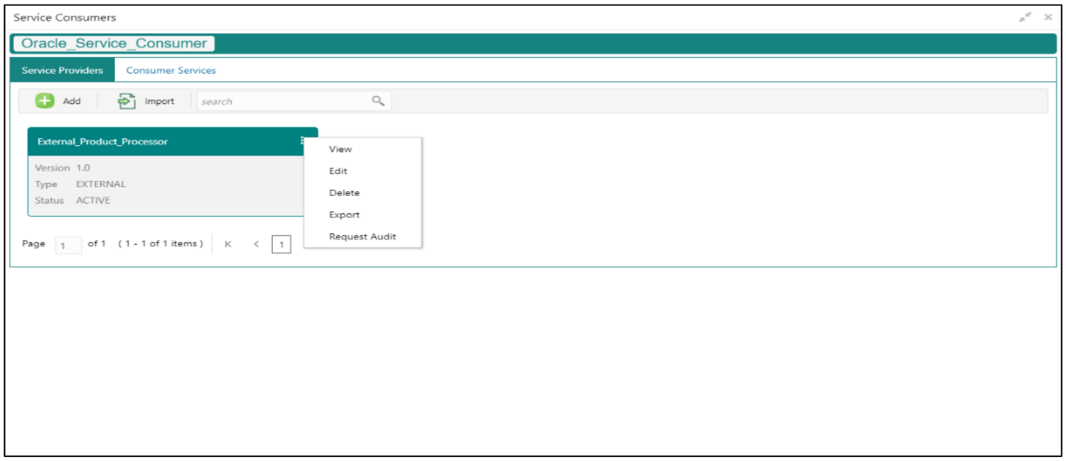
6. Service Providers

Service Providers are the product processors configure to process request send by Oracle Banking Routing Hub on behalf of service consumers.

Service Provider comprises of destination integration details.

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


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Version 1.0
Type EXTERNAL
Status ACTIVE
Page 1 of 1 (1 - 1 of 1 items)
1


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Version 1.0
Type EXTERNAL
Status ACTIVE
View
Edit
Delete
Export
Request Audit
Page 1 of 1 (1 - 1 of 1 items)
1

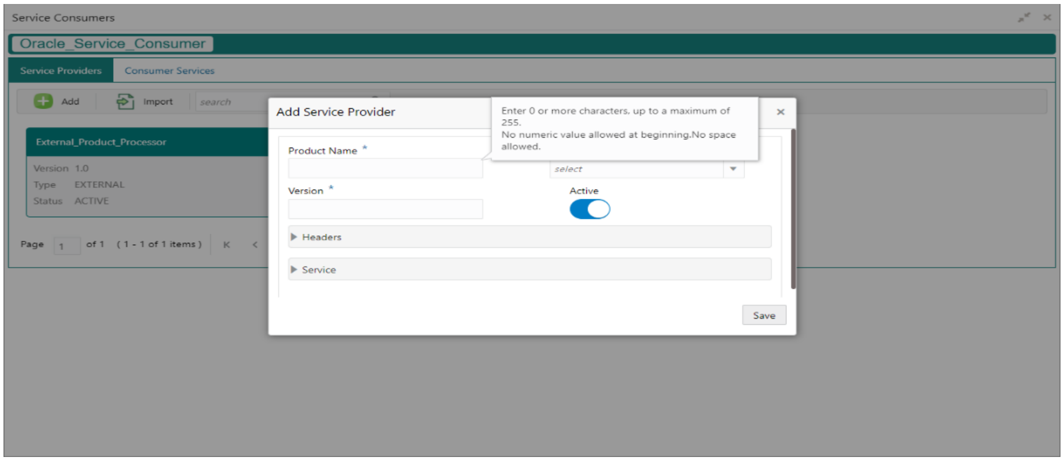
Component briefing			
Component Name	**Component Type**	**Condition**	**Comments**
<Service Consumer>	Button		Navigates back to Service Consumers

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

6.1 Add

User can create Service Provider manually.

Navigation: **Service Providers-> Add**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Page 1 of 1 (1 - 1 of 1 items)
Add Service Provider
Product Name *
select
Version *
Active
Headers
Service
Save

Version 1.0
Type EXTERNAL
Status ACTIVE

Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.

Component briefing					
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Comments**

Product Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Enter 0 or more characters, up to a maximum of 255. • No numeric value at beginning and no space allowed.	Unique provider name
Type	Combo Box One	Yes			Predefined Values: INTERNAL / EXTERNAL INTERNAL type should be used for oracle products. EXTERNAL type should be used for non-oracle products
Version	Text Box	Yes	Number	• Version cannot be blank • Enter 0 or more characters, up to a maximum of 255. • Enter only numeric or decimal values.	Unique provider version
Active	Switch				Predefined Values: ACTIVE / INACTIVE If provider is marked as inactive, then all related routes will be stopped.

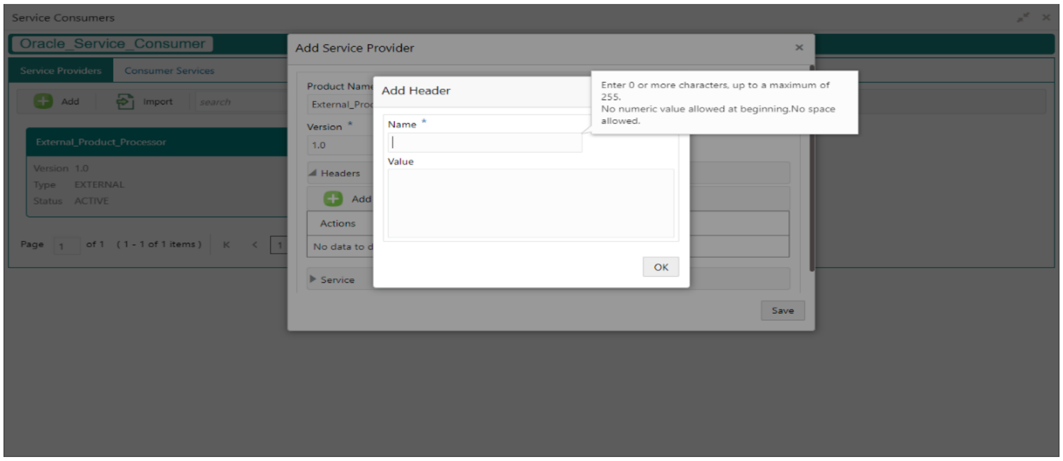
Headers	Collapsible Header & Content				Provider specific headers
Service	Collapsible Header & Content				Provider specific service details
Save	Button				Saves the Service Provider

6.1.1 Headers

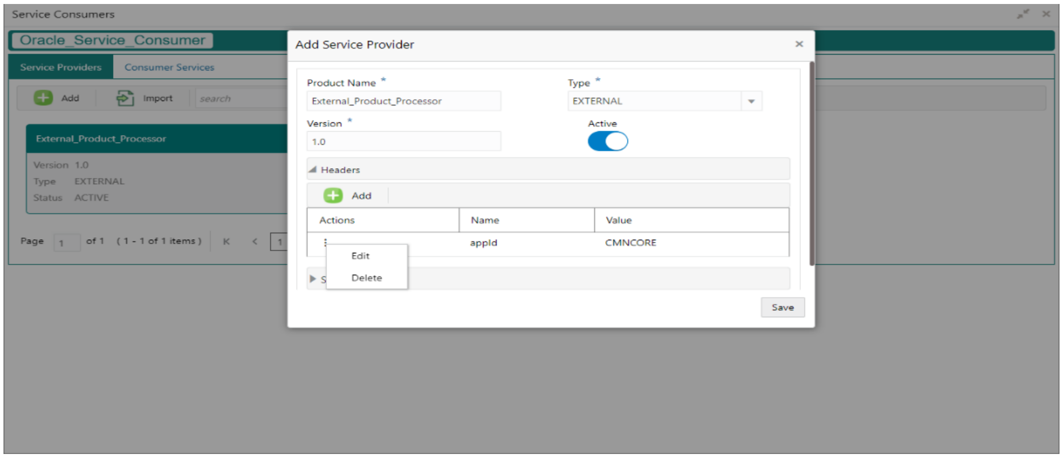
External product processor might require some standard headers to be passed along with the request.

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

These headers can be configured in Oracle Banking Routing Hub using the steps given below


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Version 1.0
Type EXTERNAL
Status ACTIVE
Page 1 of 1 (1 - 1 of 1 items)
Add Service Provider
Product Name
Version
Headers
Add
Actions
No data to d
Service
Save
Add Header
Name *
Value
OK

Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Version 1.0
Type EXTERNAL
Status ACTIVE
Page 1 of 1 (1 - 1 of 1 items)
Add Service Provider
Headers
Add
Edit
Delete
Save

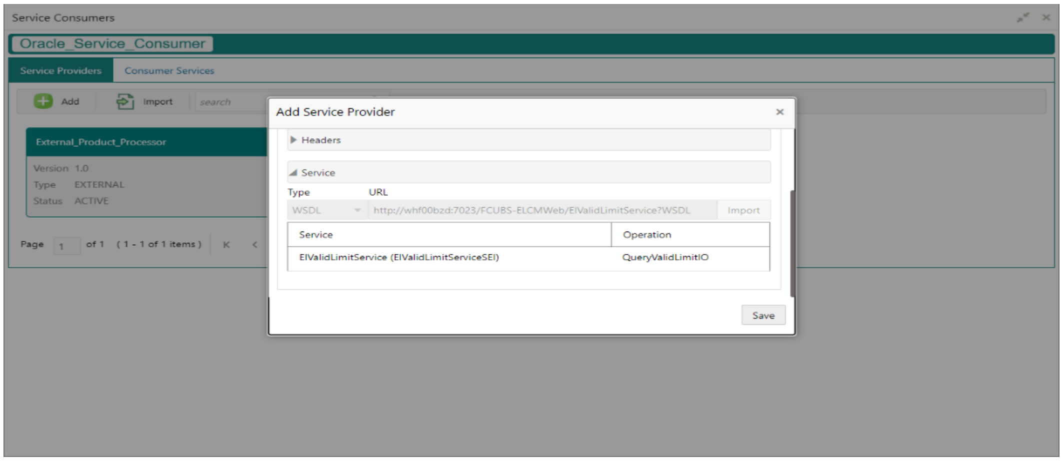
Product Name *: External_Product_Processor
Type *: EXTERNAL
Version *: 1.0
Active

Actions	Name	Value
⋮	appId	CMNCORE

Component briefing					
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Comments**
Add	Button				Pops up add dialog
Navigation: Service Providers -> Headers -> 3 dot icon (operation menu)					

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

6.1.2 Service


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Version 1.0
Type EXTERNAL
Status ACTIVE
Page 1 of 1 (1 - 1 of 1 items)
Add Service Provider
Headers
Service
Import
Save

Type: WSDL

URL: http://whf00bzd:7023/FCUBS-ELCMWeb/ElValidLimitService?WSDL

Service	Operation
ElValidLimitService (ElValidLimitServiceSEI)	QueryValidLimitIO

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

6.1.2.1 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.

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

6.1.2.2 SWAGGER

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

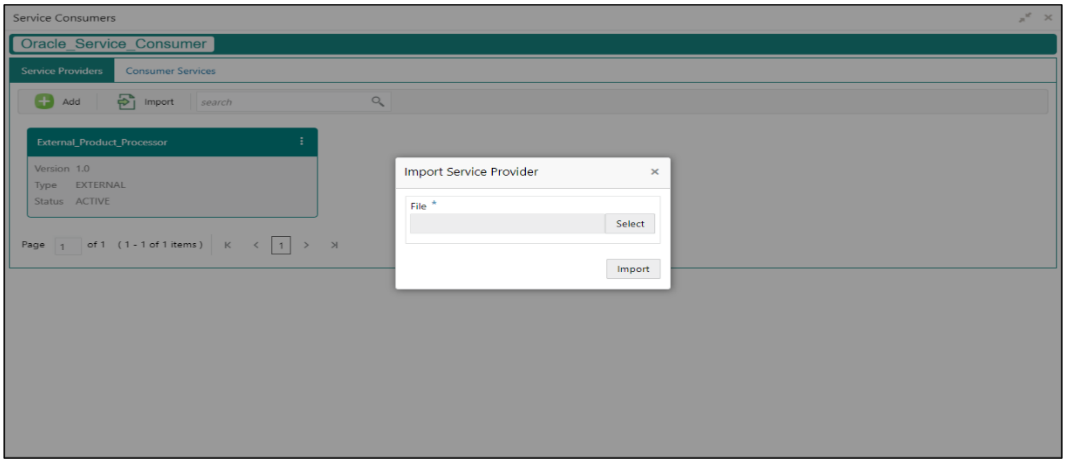
Currently, Swagger 2.0 & OpenAPI 3.0 both are supported.

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

6.2 Import

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

Navigation: **Service Providers -> Import**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Page
of 1
(1 - 1 of 1 items)
Import Service Provider
File *
Select
Import

Version 1.0
Type EXTERNAL
Status ACTIVE

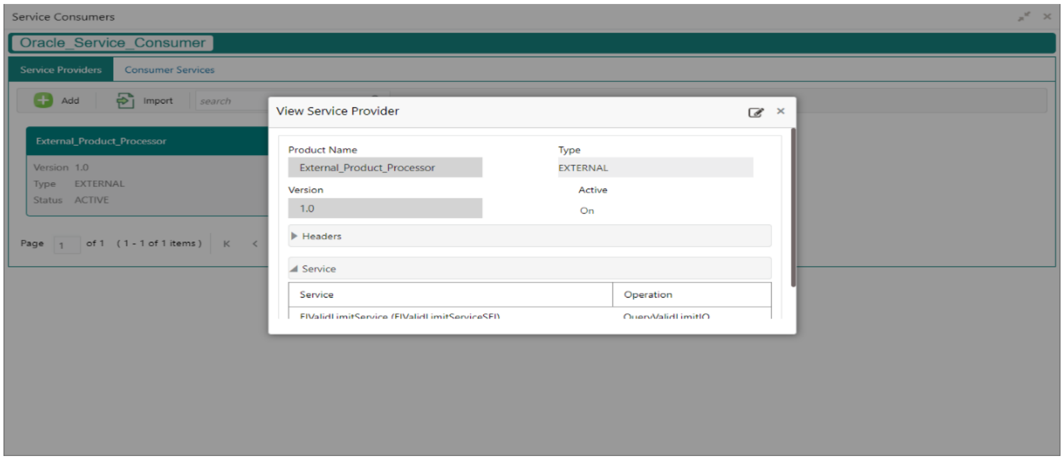
Component briefing					
Component Name	**Component Type**	**Is Mandatory**	**Validation**	**Condition**	**Comments**
File	File picker	Yes	Allows only to select one file	Accepts only JSON file	Pops up file selection dialog box
Import	Button				Imports Service Provider

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

- Implementation Host and Port
- Implementation Authentication Password

6.3 View

User can view provider details and can also switch to edit form by clicking on edit icon. Navigation: **Service Providers -> Operation Menu (3 dot icon) -> View**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
View Service Provider

External_Product_Processor

Version 1.0

Type EXTERNAL

Status ACTIVE

Page 1 of 1 (1 - 1 of 1 items)

Product Name: External_Product_Processor

Type: EXTERNAL

Version: 1.0

Active: On

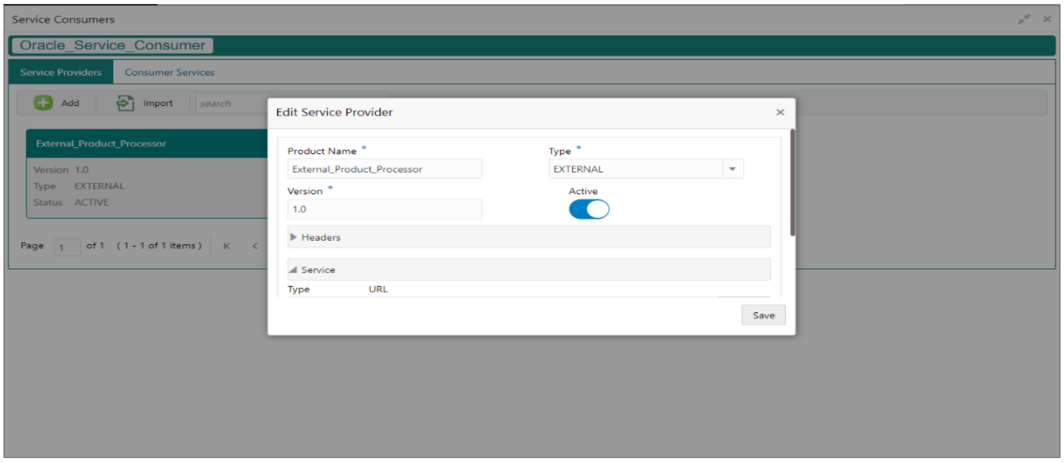
Headers
Service

Service	Operation
FIValidLimitService (FIValidLimitServiceSFI)	QueryValidLimitIO

6.4 Edit

User can modify the provider details.

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


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Edit Service Provider

External_Product_Processor

Version 1.0

Type EXTERNAL

Status ACTIVE

Page 1 of 1 (1 - 1 of 1 items)

Product Name *: External_Product_Processor

Type *: EXTERNAL

Version *: 1.0

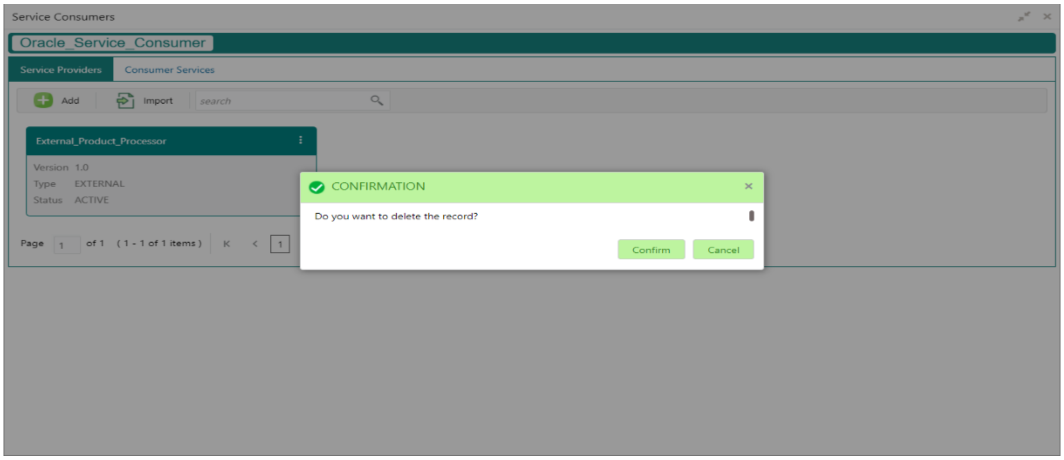
Active: On

Headers
Service
Type
URL
Save

6.5 Delete

User can delete the provider.

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

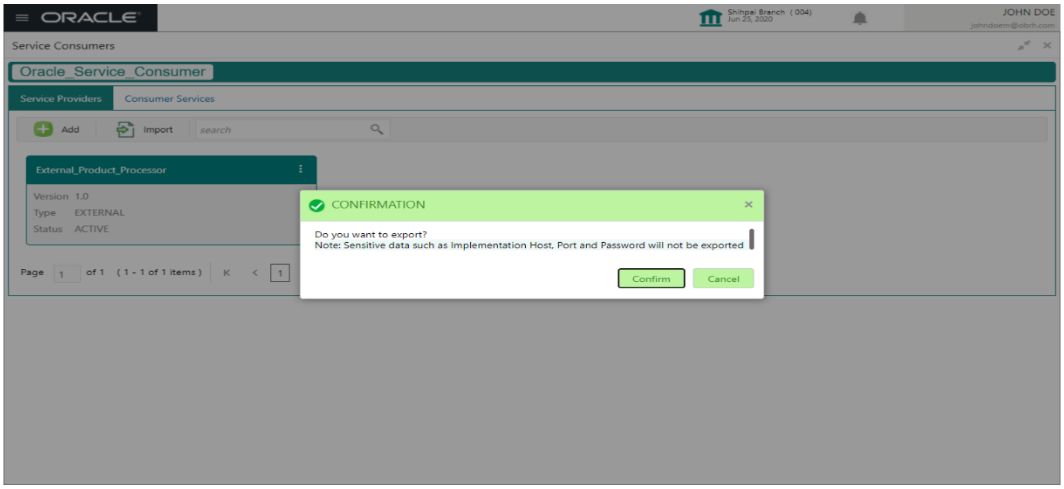

Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Version 1.0
Type EXTERNAL
Status ACTIVE
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

Do you want to delete the record?

6.6 Export

User can export the provider configuration as JSON file.

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


ORACLE
JOHN DOE
Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
External_Product_Processor
Version 1.0
Type EXTERNAL
Status ACTIVE
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

Do you want to export?
Note: Sensitive data such as Implementation Host, Port and Password will not be exported

NOTE: Below data will not be exported:

- Implementation Host
- Implementation Port
- Implementation Authentication Password

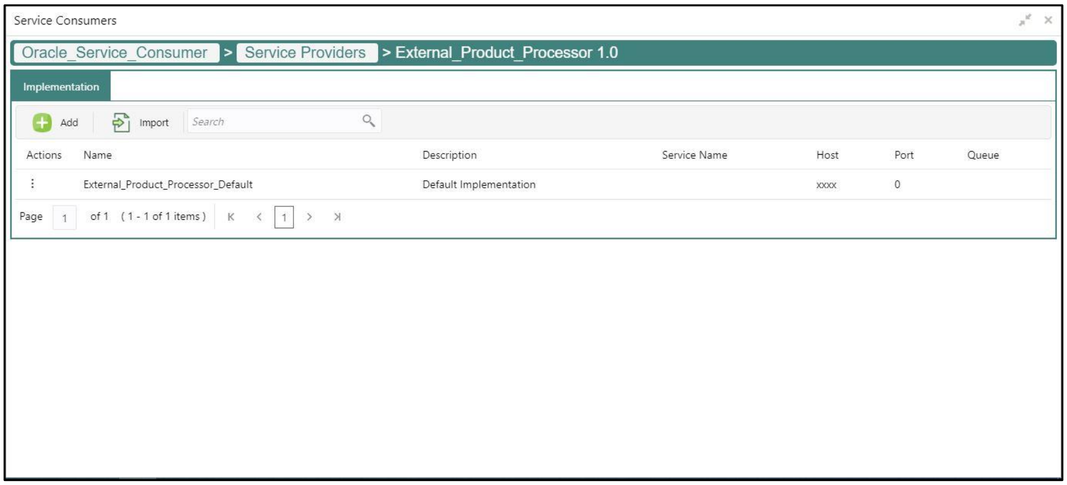
The above data needs to be configured manually after importing the configuration file. Same has been mentioned in Import section

7. Implementation

Implementation comprises of Eureka client instance, Queue, Host, Port, authentication and implementation specific service details. Oracle Banking Routing Hub supports webservice and Rest API.

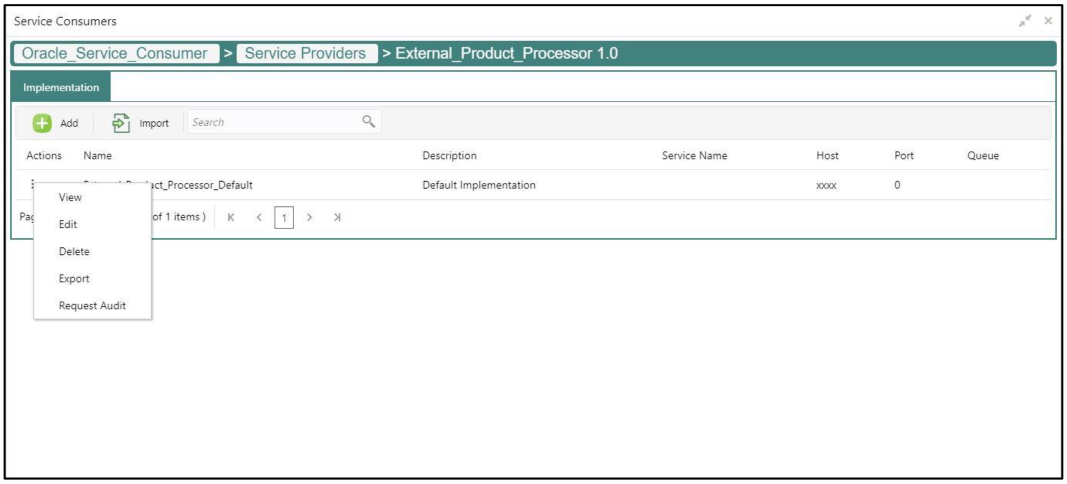
NOTE: Default implementation is created whenever a new service provider is added.

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


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
Search

Actions	Name	Description	Service Name	Host	Port	Queue
⋮	External_Product_Processor_Default	Default Implementation		xxxx	0	

Page 1 of 1 (1 - 1 of 1 items)


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
Search
View
Edit
Delete
Export
Request Audit

Actions	Name	Description	Service Name	Host	Port	Queue
⋮	ct_Processor_Default	Default Implementation		xxxx	0	

of 1 items)

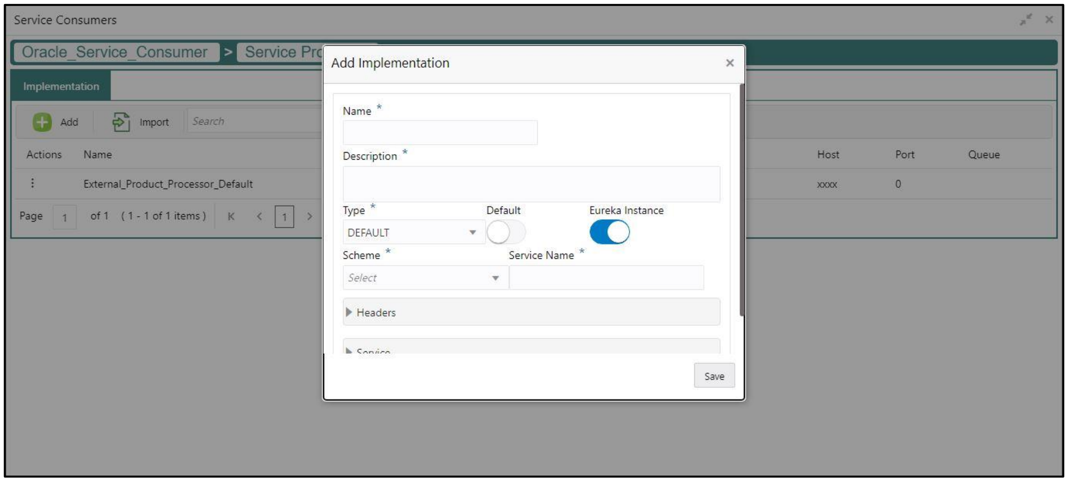
Component briefing			
Component Name	**Component Type**	**Condition**	**Comments**

<Service Consumer>	Button		Navigates back to Service Consumers
<Service Provider>	Button		Navigates back to Service Providers
Add	Button		Pops up add dialog
Import	Button		Pops up import dialog
Search	Combo Box One		Provides search functionality with case insensitive (Implementation Name)
Navigation: Implementation -> 3 dot icon (operation menu)			
View	menu option	Non-editable	Pops up view dialog
Edit	menu option		Pops up edit dialog
Delete	menu option		
Export	menu option		Exports in JSON
Request Audit	menu option		Pops up request audit log

7.1 Add

User can create Implementation manually.

Navigation: **Implementation-> Add**


Service Consumers
Oracle_Service_Consumer
>
Service Pro
Implementation
Add
Import
Search
Actions
Name
External_Product_Processor_Default
Host
Port
Queue
xxxx
0
Page
1
of 1
(1 - 1 of 1 items)
1
Add Implementation
Name *
Description *
Type *
DEFAULT
Default
Eureka Instance
Scheme *
Select
Service Name *
Headers
Service
Save

Component briefing					
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Comments**
Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Enter 0 or more characters, up to a maximum of 255. • No numeric value at beginning and no space allowed.	Unique implementation name

Description	Text Area	Yes	Alphanumeric with special characters	• Description cannot be blank • Enter 0 or more characters, up to a maximum of 1000. • No space allowed at beginning or ending of the value.	
Type	Combo Box One	Yes			Predefined Values: DEFAULT / QUEUE **Note:** DEFAULT type is for REST and SOAP API calls.
Default	Switch				Each type can have one default implementation.
Eureka Instance	Switch				**Eureka Instance** option is available only for internal providers and default type. By default, **Eureka Instance** will be toggled ON for internal providers and OFF for external providers.

Scheme	Combo Box One	Yes			Scheme option is available only for default type. Predefined Values: HTTPS / HTTP
Service Name	Text Box	Yes		- Service Name cannot be blank - Enter 0 or more characters, up to a maximum of 255. No space allowed.	If **Eureka Instance** is toggled ON and type is default, then only service name is required.
Host	Text Box	Yes	Alphanumeric with special characters	- Host cannot be blank - Enter 0 or more characters, up to a maximum of 255. - No space allowed.	If **Eureka Instance** is toggled OFF and type is default, then only host and port is required.
Port	Text Box	Yes	Number	- Port cannot be blank - Enter 0 or more characters, up to a maximum of 6. - Only numeric value allowed.	If **Eureka Instance** is toggled off and type is default, then only host and port is required.

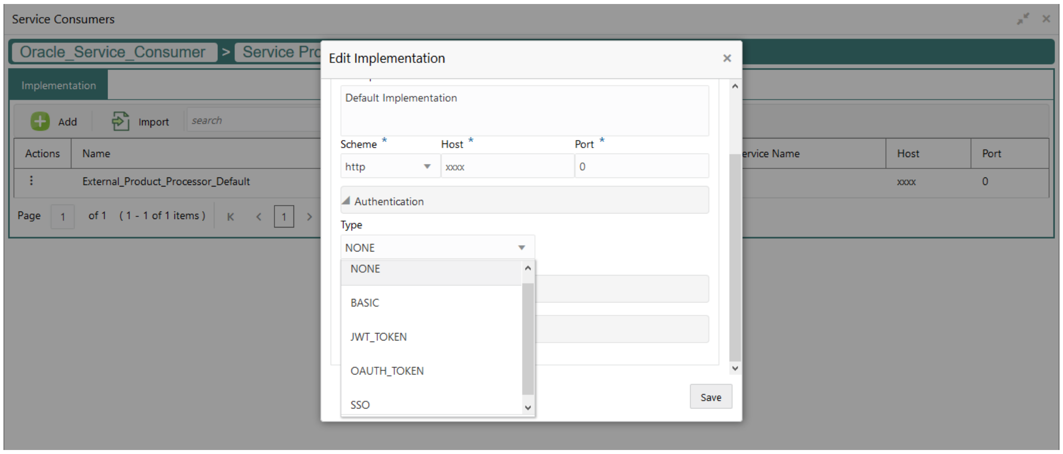
Authentication	Collapsible Header & Content				Authentication option is available only when **Eureka Instance** is toggled OFF and type is default.
Headers	Collapsible Header & Content				Header option is available only when type is default.
Service	Collapsible Header & Content				Service option is available only when type is default.
Queue	Content				Queue content is available only when type is queue.
Save	Button				Saves the Implementation

7.1.1 Authentication

If External Product processor require authentication to connect to it, Oracle Banking Routing Hub provides standard authentication mechanism schemes like BASIC, JWT, OAUTH_TOKEN, SSO.

NOTE: In case of no authentication, NONE needs to be set as Authentication Type.
In case of identity propagation, SSO needs to be set as Authentication Type.

Process of configuration of these is described below.


Service Consumers
Oracle_Service_Consumer
>
Service Pro
Implementation
Add
Import
search
Actions
Name
ervice Name
Host
Port
Edit Implementation
Authentication
Save

External_Product_Processor_Default | xxxx | 0

Page 1 of 1 (1 - 1 of 1 items)

Default Implementation

Scheme * http

Host * xxxx

Port * 0

Type NONE

NONE
BASIC
JWT_TOKEN
OAUTH_TOKEN
SSO

Component briefing

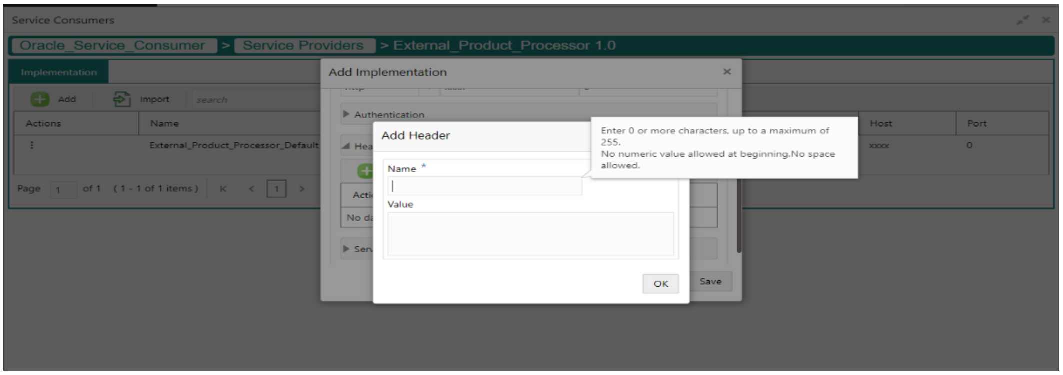
Component Name	Component Type	Is Mandatory	Data type	Validation	Comments
Type	Combo Box One	Yes			Predefined Values: NONE / BASIC / JWT_TOKEN / OAUTH_TOKEN / SSO
Username	Text Box		Alphanumeric with special characters	• Username cannot be blank • Enter 0 or more characters, up to a maximum of 255. • No numeric value at beginning and no space allowed.	Username is mandatory if authentication type is BASIC / JWT_TOKEN / OAUTH_TOKEN
Password	Text Box		Alphanumeric with special characters	Password cannot be blank	Password is mandatory if authentication type is BASIC / JWT_TOKEN / OAUTH_TOKEN

7.1.2 Headers

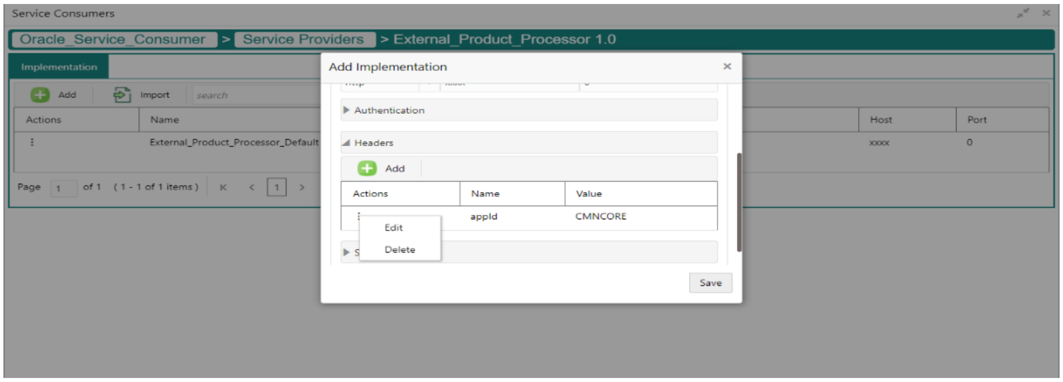
External product processor might require some standard headers to be passed along with the request.

User can specify the headers which are required by service endpoints for specific implementation but not present in swagger file.

These headers can be configured in Oracle Banking Routing Hub using the steps given below


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Actions
Name
External_Product_Processor_Default
Host
Port
xxxx
0
Page 1 of 1 (1 - 1 of 1 items)
Add Implementation
Authentication
Add Header
Name *
Value
OK
Save

Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.

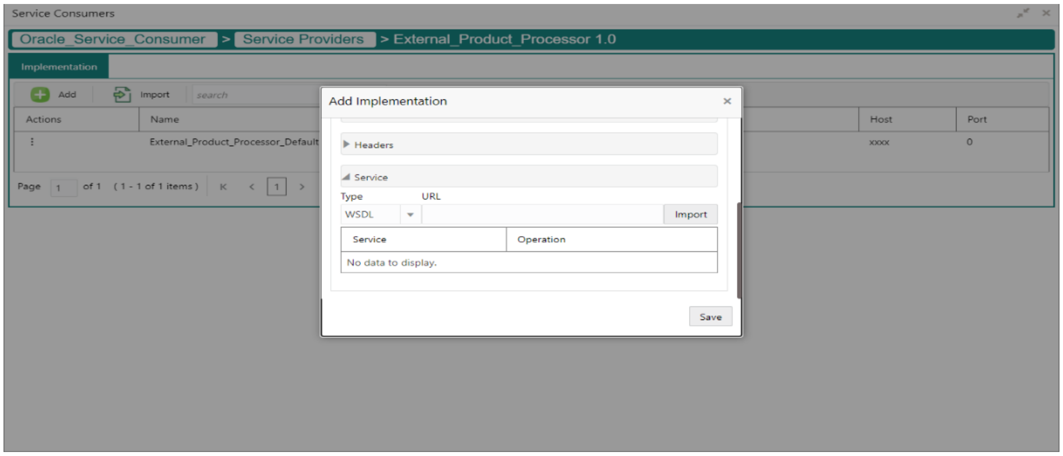

Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Actions
Name
External_Product_Processor_Default
Host
Port
xxxx
0
Page 1 of 1 (1 - 1 of 1 items)
Add Implementation
Authentication
Headers
Add
Edit
Delete
Save

Actions	Name	Value
⋮	appId	CMNCORE

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

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

7.1.3 Service


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Add Implementation
Headers
Service
Import
Save

Actions	Name	Host	Port
⋮	External_Product_Processor_Default	xxxx	0

Page 1 of 1 (1 - 1 of 1 items)

Type: WSDL

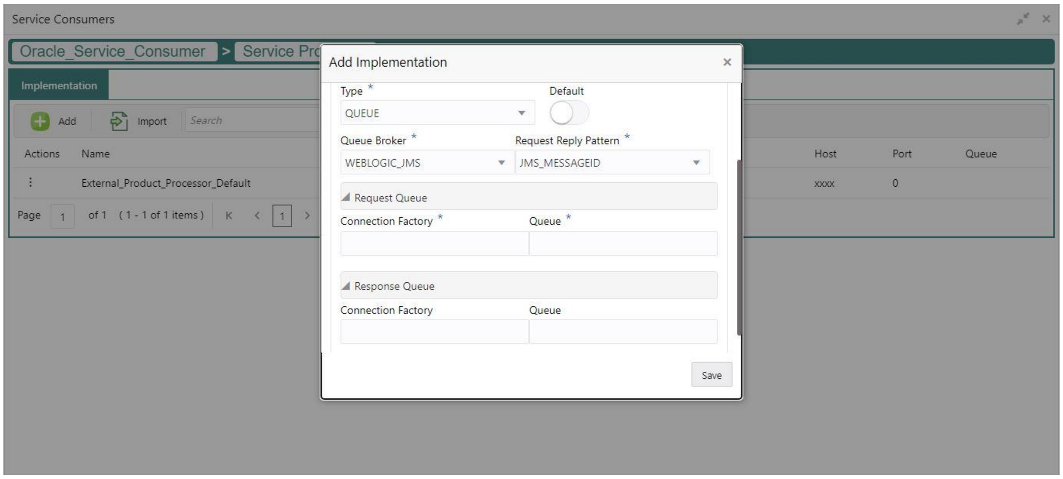
URL:

Service	Operation
No data to display.	

Component briefing			
Component Name	**Component Type**	**Is Mandatory**	**Comments**

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

7.1.4 Queue


Service Consumers
Oracle_Service_Consumer
Service Pro
Implementation
Add
Import
Search
Actions
Name
Host
Port
Queue
Page 1 of 1 (1 - 1 of 1 items)
Add Implementation
Default
Request Queue
Connection Factory *
Queue *
Response Queue
Connection Factory
Queue
Save

External_Product_Processor_Default xxxx 0

Type * QUEUE

Queue Broker * WEBLOGIC_JMS

Request Reply Pattern * JMS_MESSAGEID

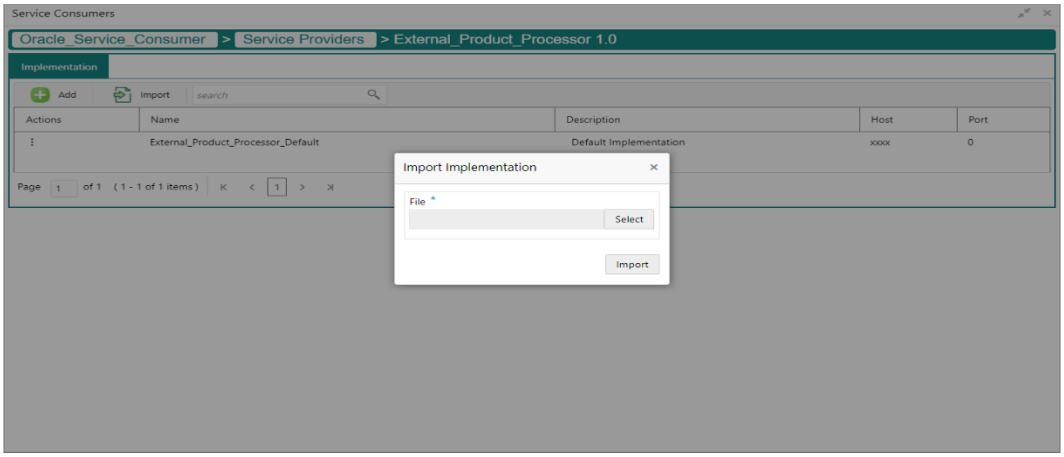
Component briefing			
Component Name	**Component Type**	**Is Mandatory**	**Comments**
Queue Broker	Combo Box One	Yes	Predefined Values: WEBLOGIC_JMS
Request Reply Pattern	Combo Box One	Yes	Predefined Values: JMS_MESSAGEID / JMS_CORRELATIONID

			JMS_MESSAGEID is default request-reply pattern.
Connection Factory	Text Box		Connection Factory is JNDI based connection factory name which is used to create connection for JMS client. Request Connection Factory is mandatory, and Response Connection Factory is optional. Response Connection Factory is needed when destination is going to respond back after processing the request.
Queue	Text Box		Queue Name is JNDI based destination name. Request Queue Name is mandatory, and Response Queue Name is optional. Response Queue Name is needed when destination is going to respond back after processing the request.

7.2 Import

User can create an implementation by importing the JSON file.

Navigation: **Implementation -> Import**


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
1
Import Implementation
File *
Select
Import

Actions	Name	Description	Host	Port
⋮	External_Product_Processor_Default	Default Implementation	xxxx	0

Component briefing						
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Condition**	**Comments**
File	File picker	Yes		Allows only to select one file	Accepts only JSON file	Pops up file selection dialog box
Import	Button					Imports Implementation

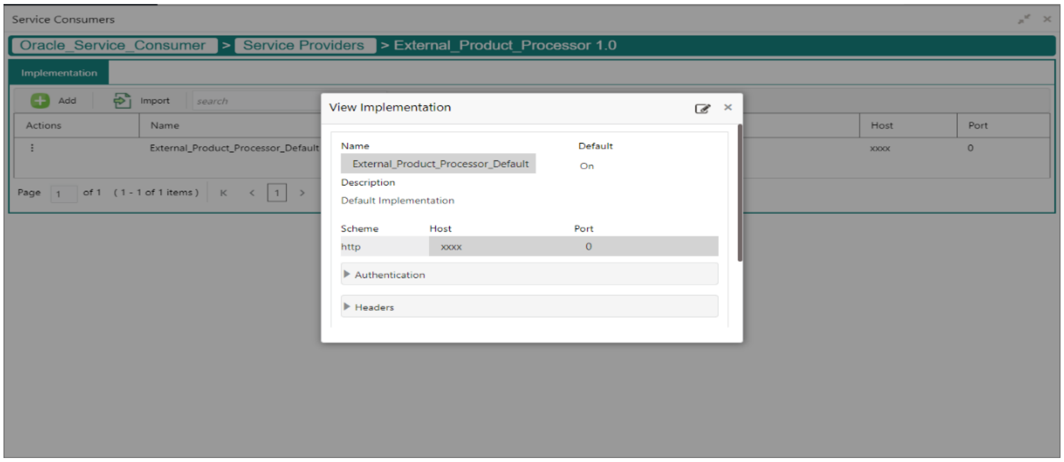
NOTE: Below data needs to be changed after importing implementation configuration file:

- Implementation Host and Port
- Implementation Authentication Password

7.3 View

User can view implementation details and can also switch to edit form by clicking on edit icon.

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


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Actions
Name
Host
Port
External_Product_Processor_Default
xxxx
0
Page 1 of 1 (1 - 1 of 1 items)
View Implementation
Authentication
Headers

Name: External_Product_Processor_Default

Default: On

Description: Default Implementation

Scheme: http

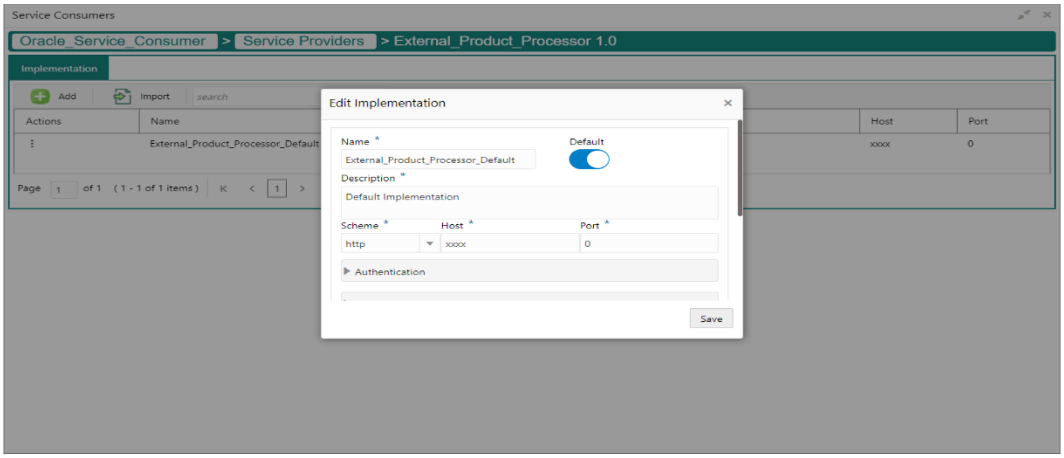
Host: xxxx

Port: 0

7.4 Edit

User can modify the implementation details.

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


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Actions
Name
Host
Port
External_Product_Processor_Default
xxxx
0
Page 1 of 1 (1 - 1 of 1 items)
Edit Implementation
Authentication
Save

Name *: External_Product_Processor_Default

Default: On

Description *: Default Implementation

Scheme *: http

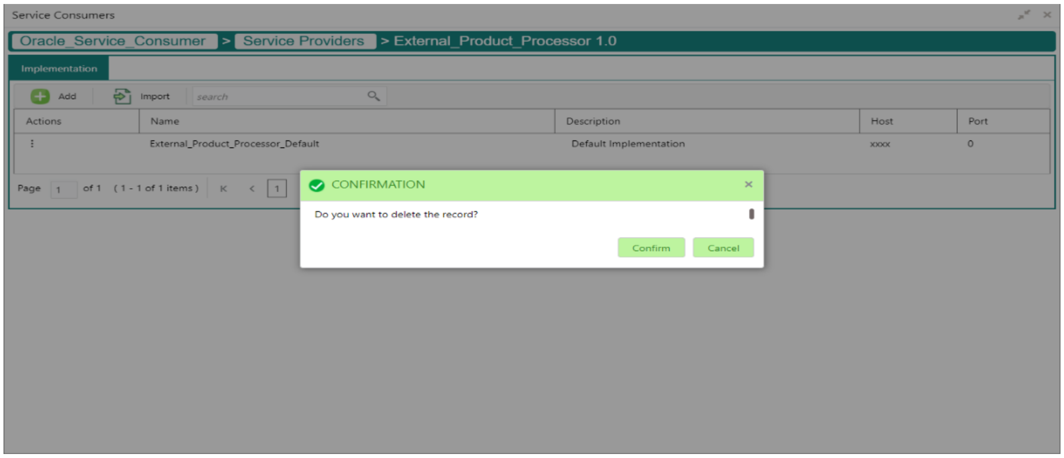
Host *: xxxx

Port *: 0

7.5 Delete

User can delete the implementation.

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


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

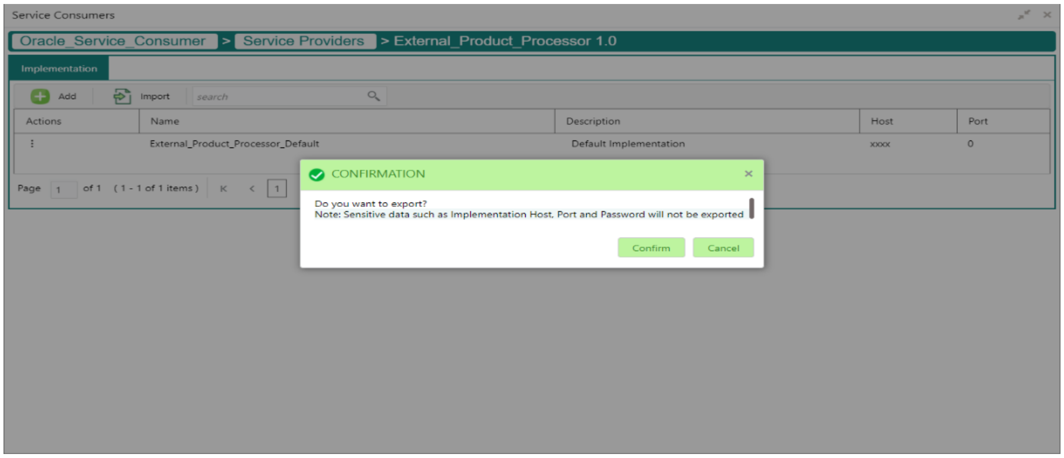
Actions	Name	Description	Host	Port
⋮	External_Product_Processor_Default	Default Implementation	xxxx	0

Do you want to delete the record?

7.6 Export

User can export the implementation configuration as JSON file.

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


Service Consumers
Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0
Implementation
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

Actions	Name	Description	Host	Port
⋮	External_Product_Processor_Default	Default Implementation	xxxx	0

Do you want to export?
Note: Sensitive data such as Implementation Host, Port and Password will not be exported

NOTE: Below data will not be exported:

- Implementation Host
- Implementation Port
- Implementation Authentication Password

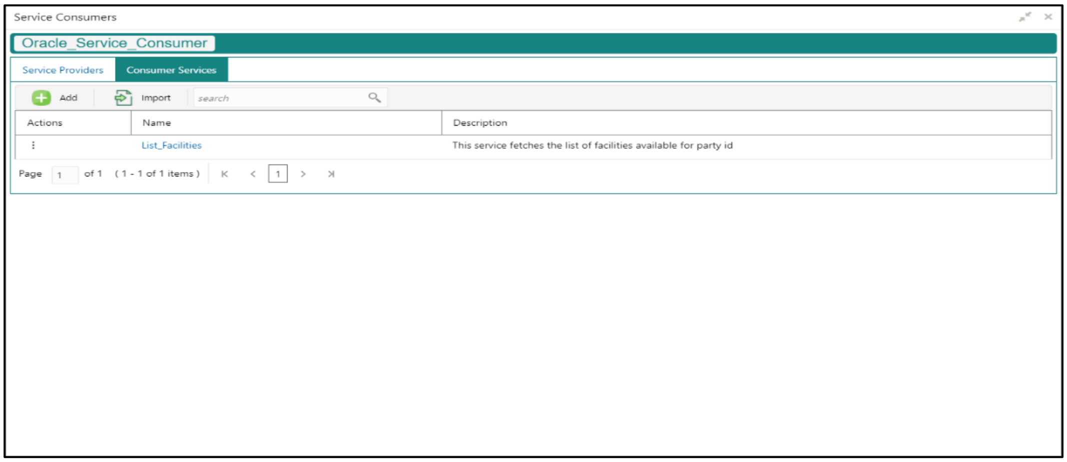
The above data needs to be configured manually after importing the configuration file. Same has been mentioned in Import section

8. Consumer Services

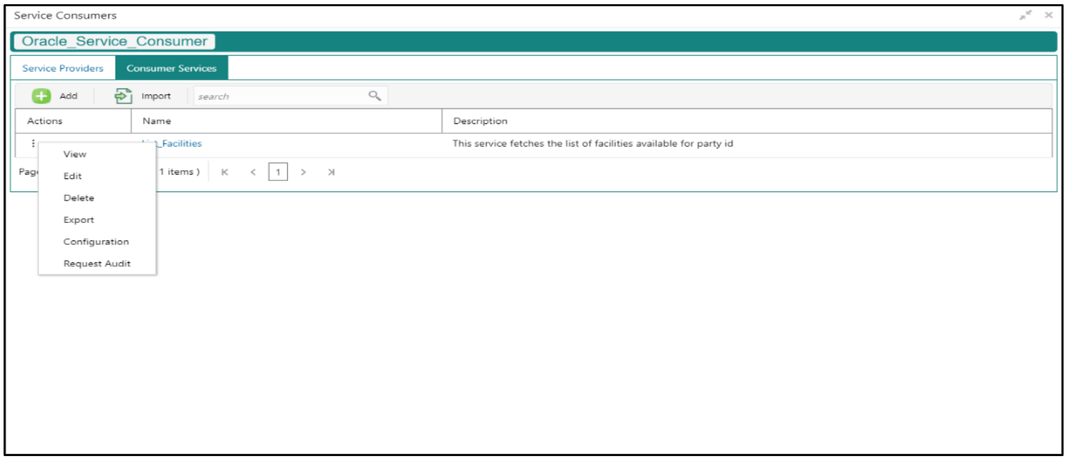
Consumer Services defines the service ID which is going to be send from service consumer. This will also cater transformation and route definition as well.

Consumer Services comprises of source integration details.

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


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)

Actions	Name	Description
⋮	List_Facilities	This service fetches the list of facilities available for party id


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
View
Edit
Delete
Export
Configuration
Request Audit

Actions	Name	Description
⋮	List_Facilities	This service fetches the list of facilities available for party id

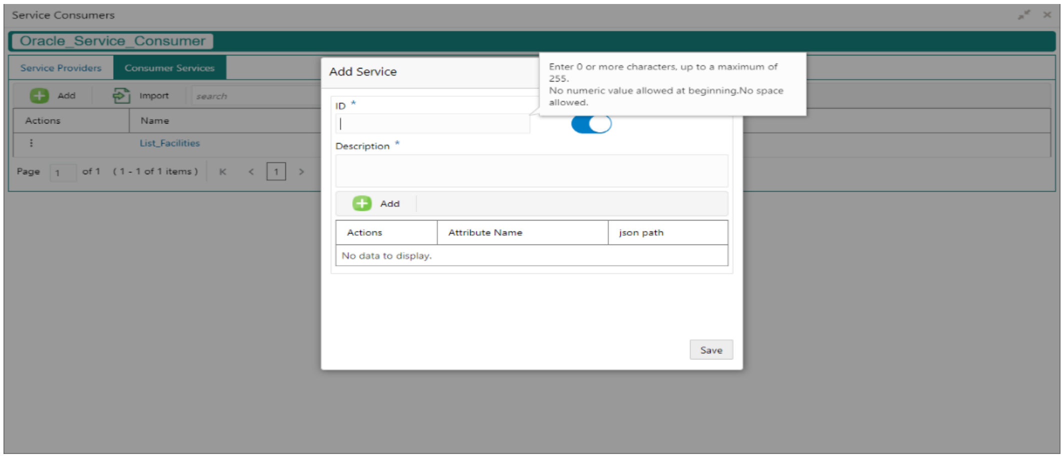
Component briefing			
Component Name	**Component Type**	**Condition**	**Comments**
<Service Consumer>	Button		Navigates back to Service Consumers
Add	Button		Pops up add dialog

Import	Button		Pops up import dialog
Search	Combo Box One		Provides search functionality with case insensitive (Consumer Service Name)
Navigation: Consumer Services -> 3 dot icon (operation menu)			
View	menu option	Non-editable	Pops up view dialog
Edit	menu option		Pops up edit dialog
Delete	menu option		
Export	menu option		Exports in JSON
Configuration	menu option		Pops up configuration dialog
Request Audit	menu option		Pops up request audit log

8.1 Add

User can create Consumer Service manually.

Navigation: **Consumer Services-> Add**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Actions
Name
List_Facilities
Page
1
of 1
(1 - 1 of 1 items)
1
Add Service
ID *
Description *
Add
Actions
Attribute Name
json path
Save

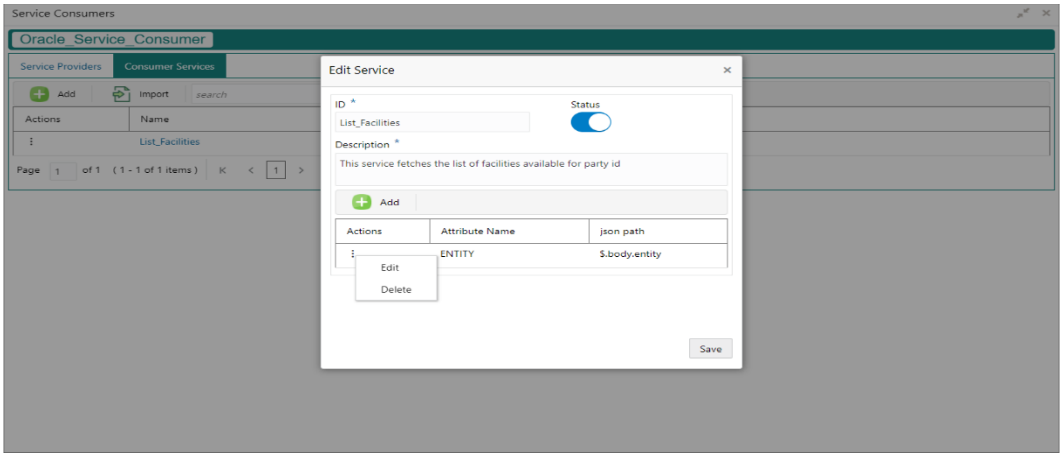
Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.

No data to display.

Component briefing

Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Comments**
Id	Text Box	Yes	Alphanumeric with special characters	Name cannot be blank Enter 0 or more characters, up to a maximum of 255. No numeric value at beginning and no space allowed.	Unique Service Id
Status	Switch	Yes			Predefined Values: ACTIVE / INACTIVE If consumer service is marked as inactive, then all related routes will be stopped.
Description	Text Area	Yes	Alphanumeric with special characters	Description cannot be blank Enter 0 or more characters, up to a maximum of 1000. No space allowed at beginning or ending of the value.	
Attributes	Table Content				
Save	Button				Saves the Consumer Service

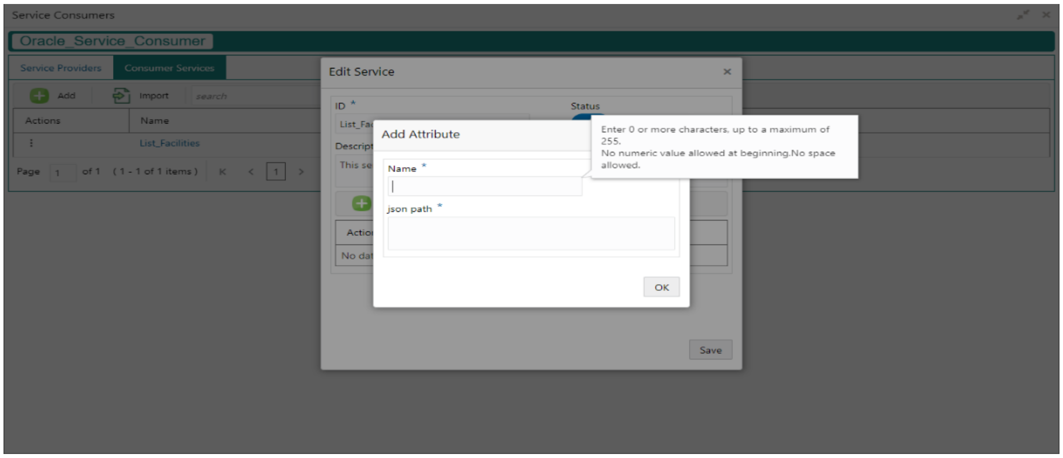
8.1.1 Attributes


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Actions
Name
List_Facilities
Page 1 of 1 (1 - 1 of 1 items)
Edit Service
ID *
Status
Description *
Add
Actions
Attribute Name
json path
Edit
Delete
Save

ID: List_Facilities

Description: This service fetches the list of facilities available for party id

Actions	Attribute Name	json path
⋮	ENTITY	$.body.entity


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Actions
Name
List_Facilities
Page 1 of 1 (1 - 1 of 1 items)
Edit Service
ID *
Status
Add Attribute
Name *
json path *
OK
Save

Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.

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

Navigation: Consumer Services -> Headers -> Add						
Name	Text Box	Yes	Alphanumeric with special characters	Name cannot be blank Enter 0 or more characters, up to a maximum of 255. No numeric value at beginning and no space allowed.		
JSON Path	Text Area	Yes	Alphanumeric with special characters	Value cannot be blank Enter 0 or more characters, up to a maximum of 255. No space allowed.		Value will be JSON path.
OK	Button					Saves the header details and displays it in the list

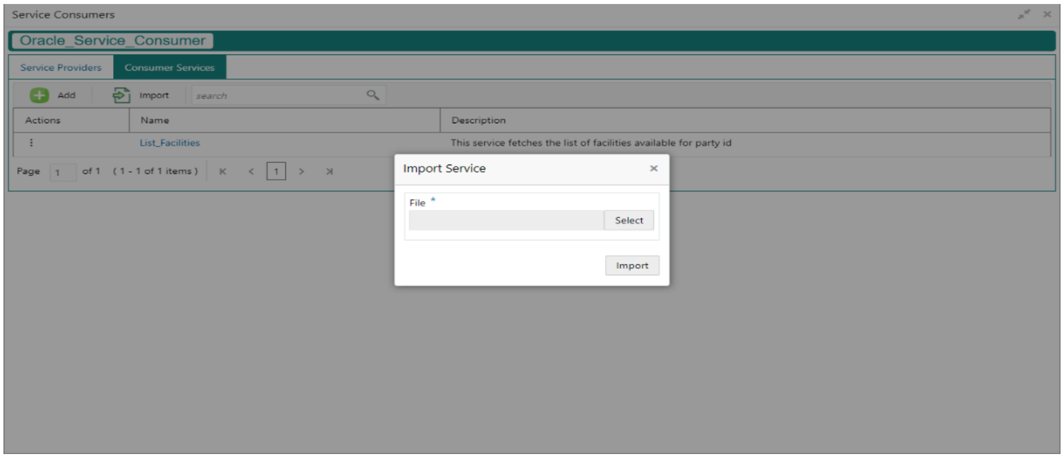
NOTE:

- Using $.body, user can access request body.
  Syntax: $.body.fieldName
  Example: $.body.branchCode
- Using $.headers, user can access request headers.
  Syntax: $.headers["fieldName"][0]
  Example: $.headers["branchCode"][0]

8.2 Import

User can create a consumer service by importing the JSON file.

Navigation: **Consumer Services -> Import**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
1
Import Service
File *
Select
Import

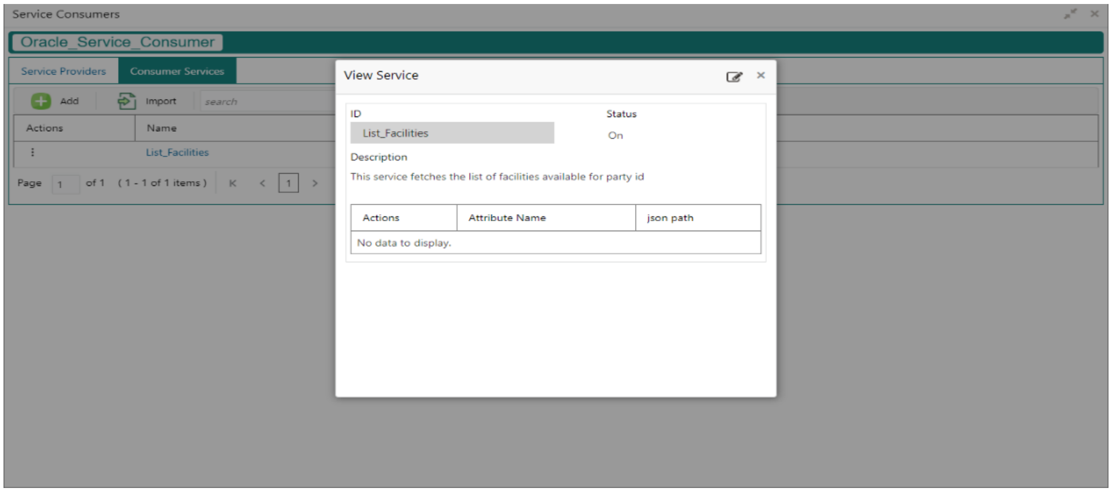
Actions	Name	Description
⋮	List_Facilities	This service fetches the list of facilities available for party id

Component briefing						
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Condition**	**Comments**
File	File picker	Yes		Allows only to select one file	Accepts only JSON file	Pops up file selection dialog box
Import	Button					Imports Consumer Service

8.3 View

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

Navigation: **Consumer Services -> Operation Menu (3 dot icon) -> View**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
View Service

Actions	Name
⋮	List_Facilities

ID: List_Facilities

Status: On

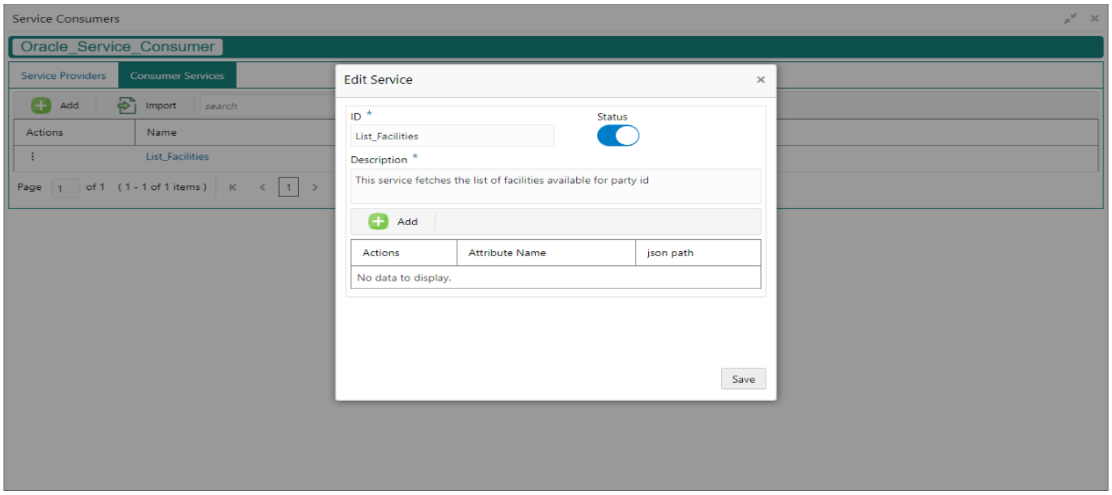
Description: This service fetches the list of facilities available for party id

Actions	Attribute Name	json path
No data to display.		

8.4 Edit

User can modify the consumer service details.

Navigation: **Consumer Services -> Operation Menu (3 dot icon) -> Edit**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
Edit Service
Add
Save

Actions	Name
⋮	List_Facilities

ID *: List_Facilities

Status: On

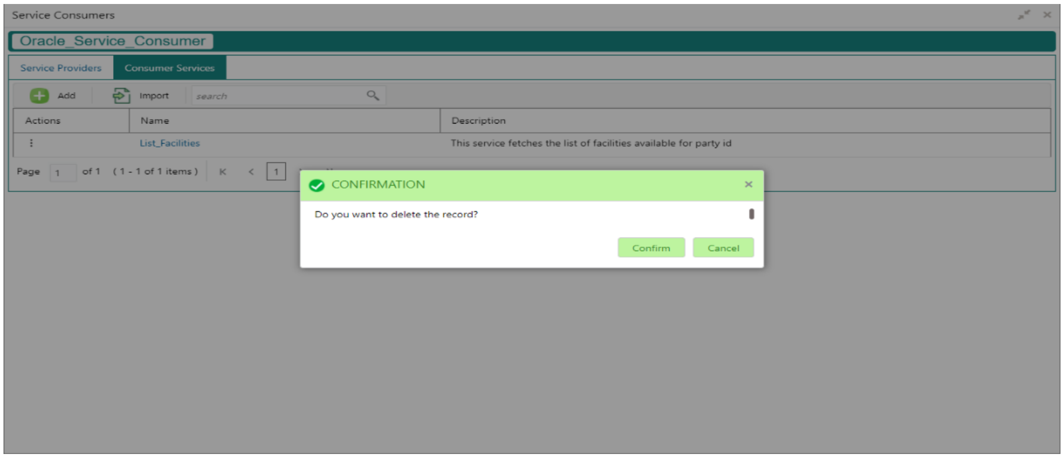
Description *: This service fetches the list of facilities available for party id

Actions	Attribute Name	json path
No data to display.		

8.5 Delete

User can delete the consumer service.

Navigation: **Consumer Services -> Operation Menu (3 dot icon) -> Delete**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

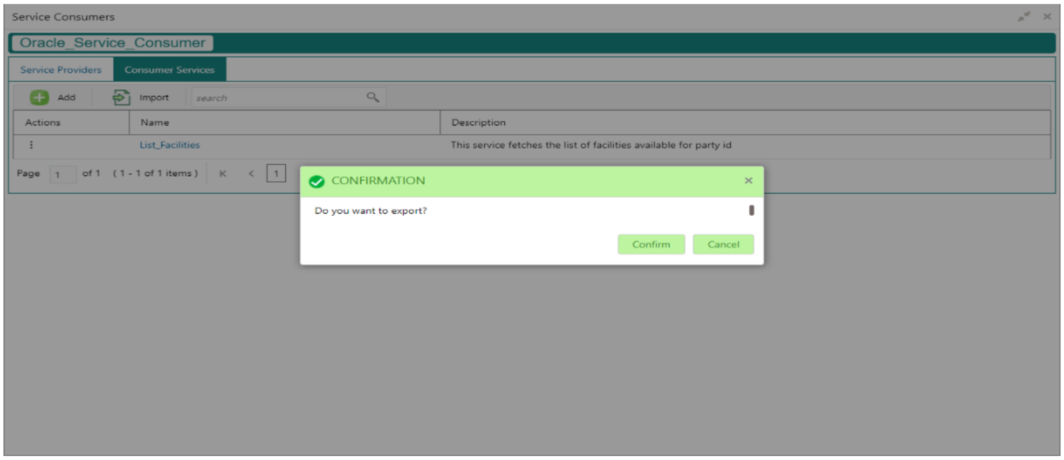
Actions	Name	Description
⋮	List_Facilities	This service fetches the list of facilities available for party id

Do you want to delete the record?

8.6 Export

User can export the consumer service configuration as JSON file.

Navigation: **Consumer Services -> Operation Menu (3 dot icon) -> Export**


Service Consumers
Oracle_Service_Consumer
Service Providers
Consumer Services
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

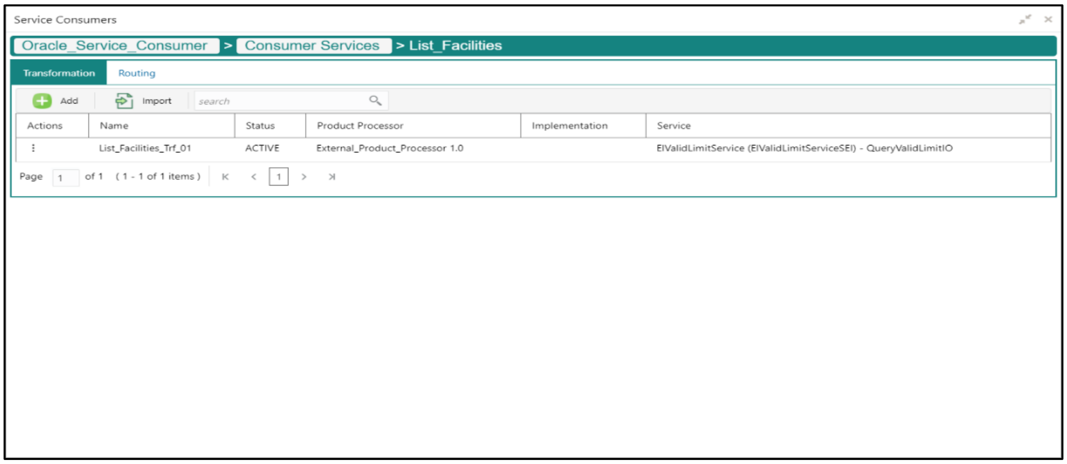
Actions	Name	Description
⋮	List_Facilities	This service fetches the list of facilities available for party id

Do you want to export?

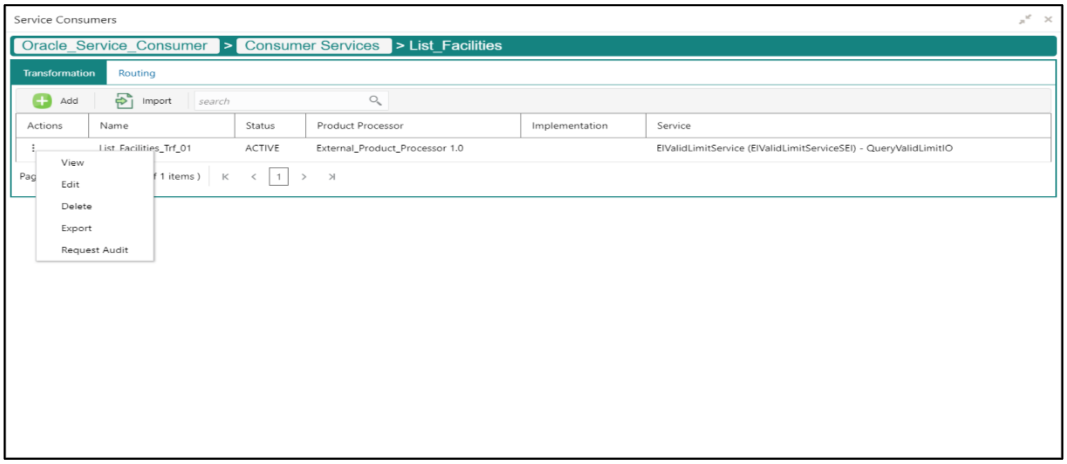
9. Transformation

Transformation acts as an assembling and transforming data from source to destination and vice-versa. This will take place under consumer service. This converts data of service consumer into service provider

Navigation: Core Maintenance -> Routing Hub -> Service Consumers -> <Specific Service Consumer> -> Consumer Services -> <Specific Consumer Service> -> Transformation


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
1

Actions	Name	Status	Product Processor	Implementation	Service
⋮	List_Facilities_Trf_01	ACTIVE	External_Product_Processor 1.0		ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
Import
search
View
Edit
Delete
Export
Request Audit
1

Actions	Name	Status	Product Processor	Implementation	Service
⋮	List_Facilities_Trf_01	ACTIVE	External_Product_Processor 1.0		ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO

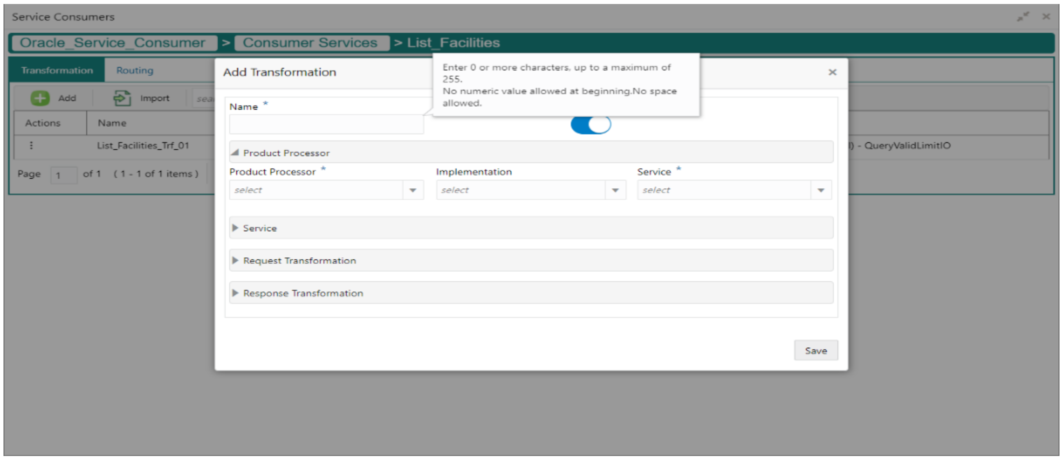
Component briefing			
Component Name	**Component Type**	**Condition**	**Comments**
<Service Consumer>	Button		Navigates back to Service Consumers

<Consumer Service>	Button		Navigates back to Consumer Services
Add	Button		Pops up add dialog
Import	Button		Pops up import dialog
Search	Combo Box One		Provides search functionality with case insensitive (Transformation Name)
Navigation: Transformation -> 3 dot icon (operation menu)			
View	menu option	Non-editable	Pops up view dialog
Edit	menu option		Pops up edit dialog
Delete	menu option		
Export	menu option		Exports in JSON
Request Audit	menu option		Pops up request audit log

9.1 Add

User can create Transformation manually.

Navigation: **Transformation-> Add**



Enter 0 or more characters, up to a maximum of 255.
No numeric value allowed at beginning.No space allowed.

Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
Import
Actions
Name
List_Facilities_Trf_01
) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)
Add Transformation
Name *
Product Processor
Product Processor *
Implementation
Service *
select
select
select
Service
Request Transformation
Response Transformation
Save

Component briefing

Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Validation**	**Comments**
Name	Text Box	Yes	Alphanumeric with special characters	• Name cannot be blank • Enter 0 or more characters, up to a maximum of 255. • No numeric value at beginning and no space allowed.	Unique Transformation Name
Active	Switch				Predefined Values: ACTIVE/INACTIVE If transformation is marked as inactive, then user will not be able to select transformation in routing.
Product Processor	Collapsible Header				
Product Processor	Combo Box One	Yes			Displays provider list relevant to consumer
Implementation	Combo Box One				Displays implementation list relevant to selected provider
Service	Combo Box One	Yes			Displays service list relevant to selected provider and implementation
Service	Collapsible Header & Content				Displays service details of selected service

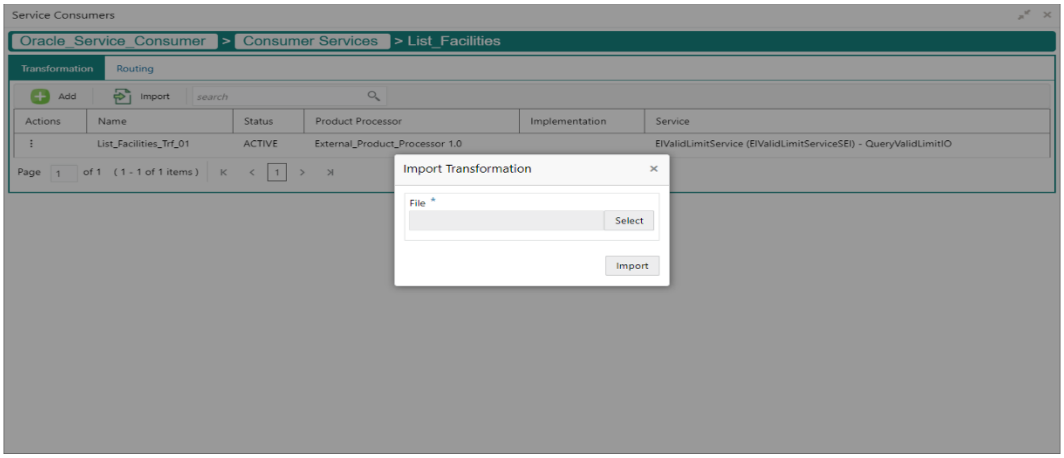
Headers	Collapsible Header & Content				Displays header list relevant to selected provider, implementation and service User can change the header values. Value can either be hardcoded or can be Velocity mapping.
Path Params	Collapsible Header & Content				Displays path param list relevant to selected service User can change the param values. Value can either be hardcoded or can be Velocity mapping.
Query Params	Collapsible Header & Content				Displays query param list relevant to selected service User can change the param values. Value can either be hardcoded or can be Velocity mapping.
Request Transformation	Collapsible Header				
Type	Combo Box One				Predefined Values: VELOCITY / JSLT / XSLT
Template	Text Area				User has to define the template in which provider accepts. Please refer Transformation Type for syntax
Response Transformation	Collapsible Header				
Type	Combo Box One				Predefined Values: VELOCITY / JSLT / XSLT

Template	Text Area				User has to define the template in which consumer accepts. Please refer Transformation Type for syntax
Save	Button				Saves transformation details

9.2 Import

User can create a transformation by importing the JSON file.

Navigation: **Transformation -> Import**


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
Import
search
Import Transformation
File *
Select
Import

Actions	Name	Status	Product Processor	Implementation	Service
⋮	List_Facilities_Trf_01	ACTIVE	External_Product_Processor 1.0		ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO

Page 1 of 1 (1 - 1 of 1 items)

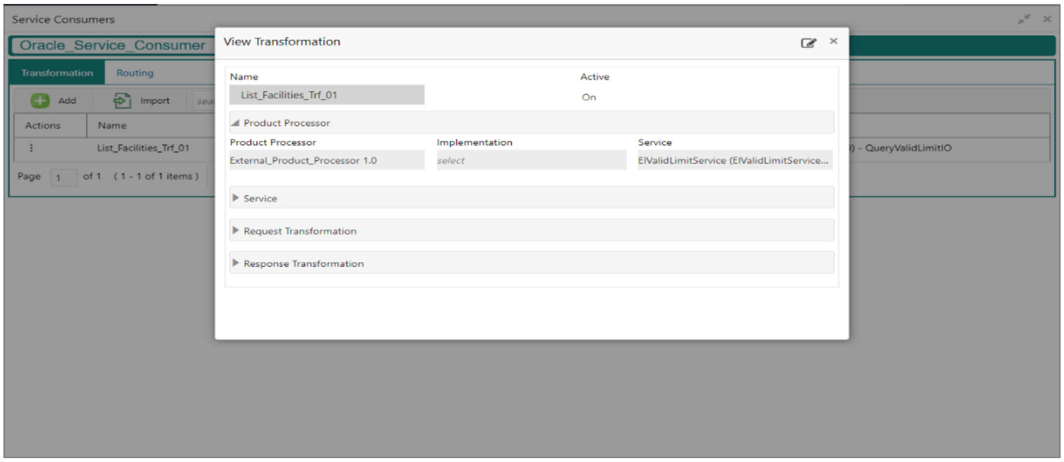
Component briefing

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

9.3 View

User can view transformation details and can also switch to edit form by clicking on edit icon.

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


Service Consumers
Oracle_Service_Consumer
Transformation
Routing
Add
Import
Actions
Name
List_Facilities_Trf_01
Page 1 of 1 (1 - 1 of 1 items)
) - QueryValidLimitIO
View Transformation
Product Processor
Service
Request Transformation
Response Transformation

Name: List_Facilities_Trf_01

Active: On

Product Processor: External_Product_Processor 1.0

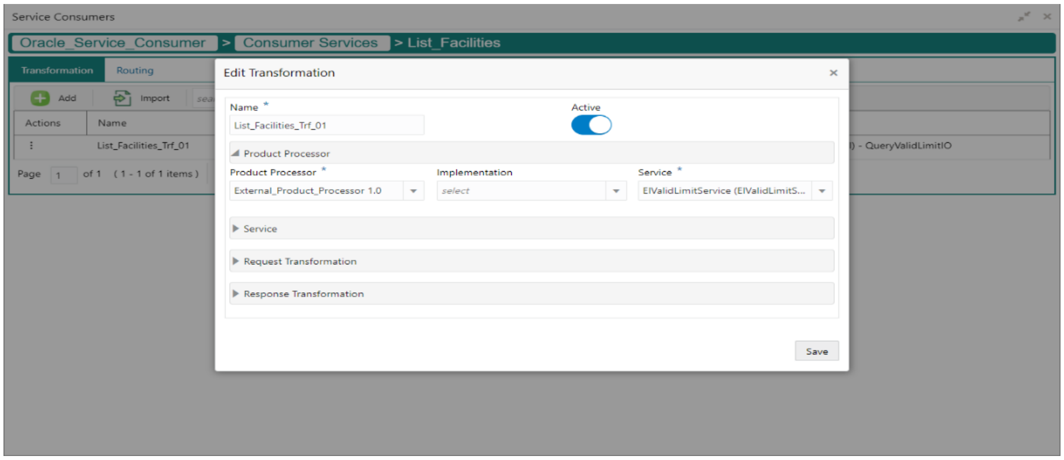
Implementation: select

Service: ElValidLimitService (ElValidLimitService...

9.4 Edit

User can modify the transformation details.

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


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
Import
Actions
Name
List_Facilities_Trf_01
Page 1 of 1 (1 - 1 of 1 items)
) - QueryValidLimitIO
Edit Transformation
Product Processor
Service
Request Transformation
Response Transformation
Save

Name *: List_Facilities_Trf_01

Active: ●

Product Processor *: External_Product_Processor 1.0

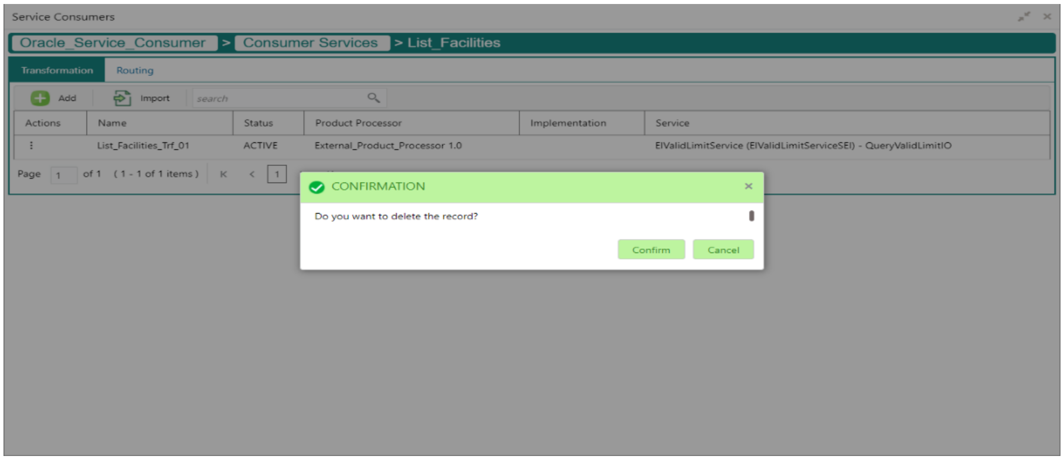
Implementation: select

Service *: ElValidLimitService (ElValidLimitS...

9.5 Delete

User can delete the transformation.

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


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
1
CONFIRMATION
Confirm
Cancel

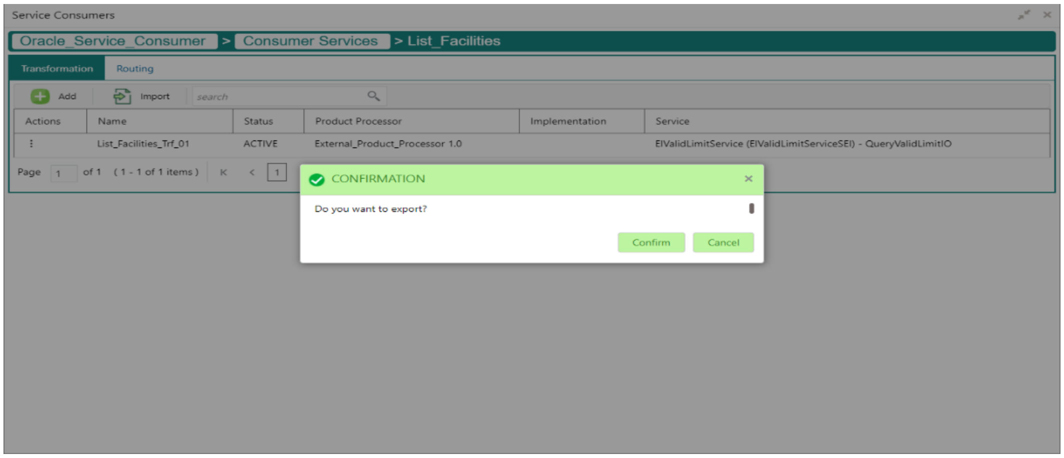
Actions	Name	Status	Product Processor	Implementation	Service
⋮	List_Facilities_Trf_01	ACTIVE	External_Product_Processor 1.0		ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO

Do you want to delete the record?

9.6 Export

User can export the transformation configuration as JSON file.

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


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
Import
search
Page 1 of 1 (1 - 1 of 1 items)
1
CONFIRMATION
Confirm
Cancel

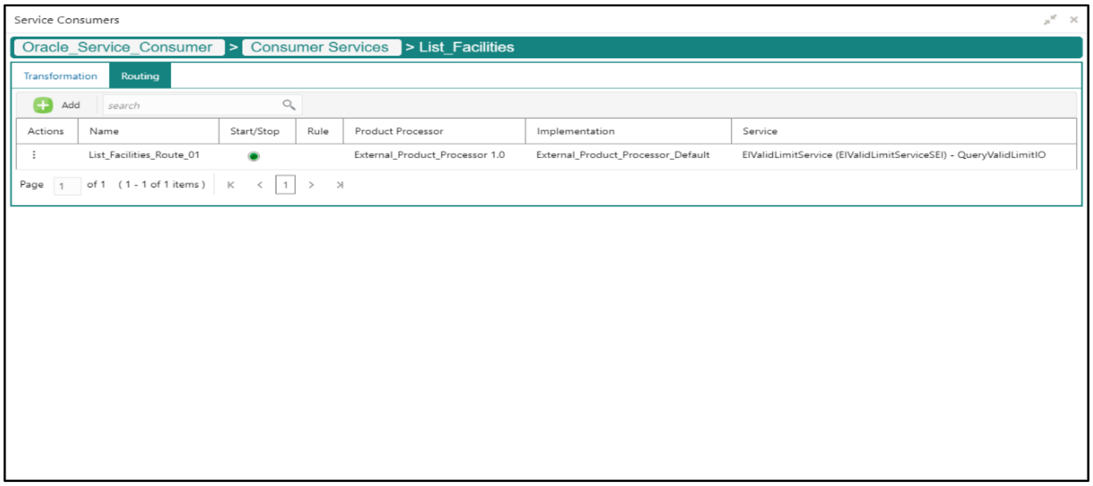
Actions	Name	Status	Product Processor	Implementation	Service
⋮	List_Facilities_Trf_01	ACTIVE	External_Product_Processor 1.0		ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO

Do you want to export?

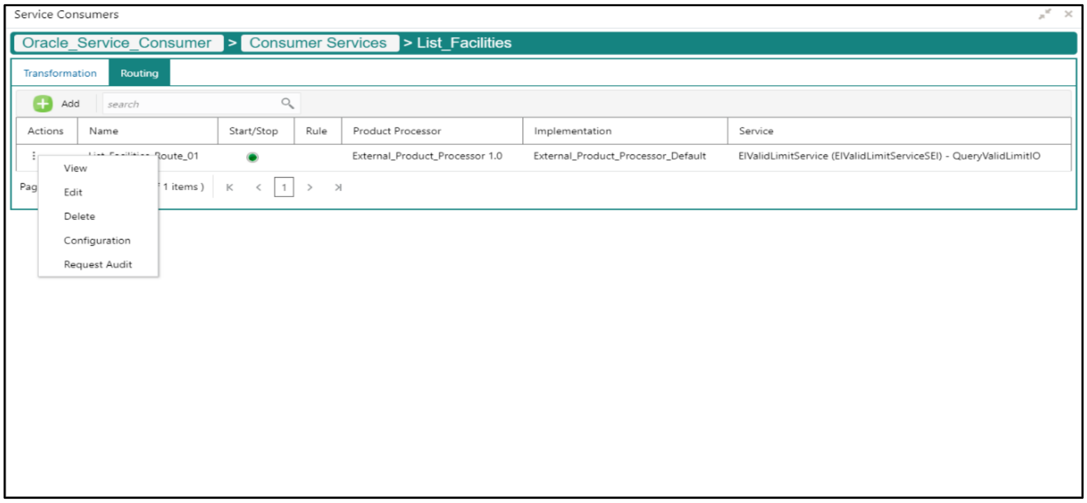
10. Routing

Routing defines no rule or rule-based route configuration. Route decide the actual request to be send to which service provider based on maintenance and evaluation.

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


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
search
Page 1 of 1 (1 - 1 of 1 items)
1

Actions	Name	Start/Stop	Rule	Product Processor	Implementation	Service
⋮	List_Facilities_Route_01	●		External_Product_Processor 1.0	External_Product_Processor_Default	ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
search
View
Edit
Delete
Configuration
Request Audit
1 items)
1

Actions	Name	Start/Stop	Rule	Product Processor	Implementation	Service
⋮	Route_01	●		External_Product_Processor 1.0	External_Product_Processor_Default	ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO

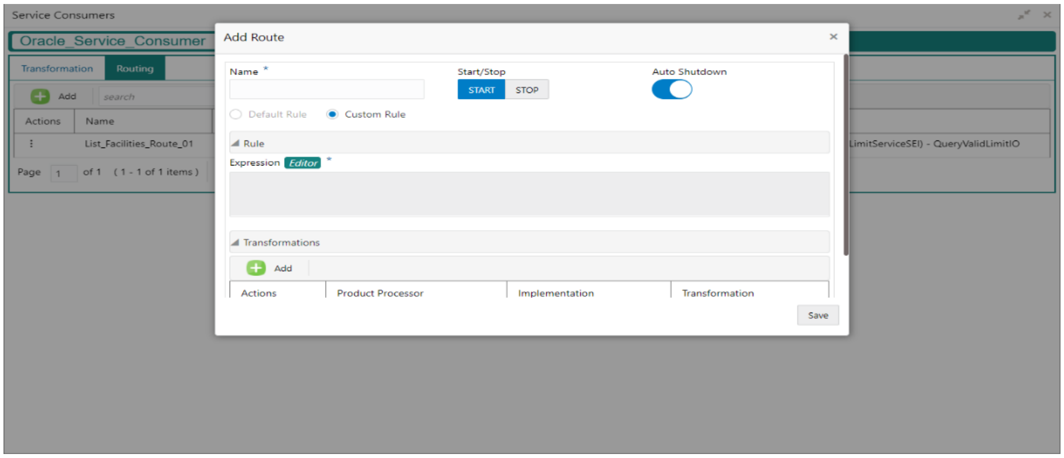
<table>
<tr><th colspan="4">Component briefing</th></tr>
<tr><th>Component Name</th><th>Component Type</th><th>Condition</th><th>Comments</th></tr>
<tr><td><Service Consumer></td><td>Button</td><td></td><td>Navigates back to Service Consumers</td></tr>
</table>

<Consumer Service>	Button		Navigates back to Consumer Services
Add	Button		Pops up add dialog
Search	Combo Box One		Provides search functionality with case insensitive (Routing Name)
Navigation: Routing -> 3 dot icon (operation menu)			
View	menu option	Non-editable	Pops up view dialog
Edit	menu option		Pops up edit dialog
Delete	menu option		
Configuration	menu option		Pops up configuration dialog
Request Audit	menu option		Pops up request audit log

10.1 Add

User can create Routing manually.

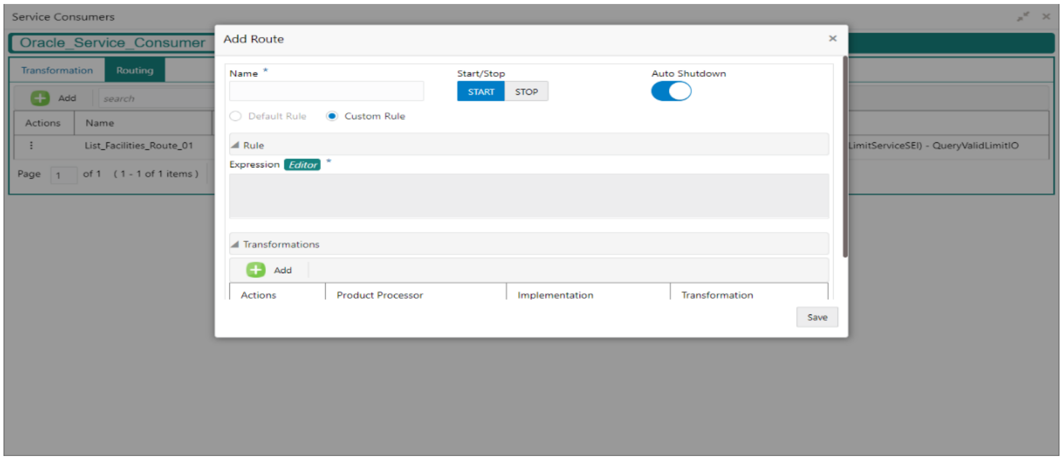
Navigation: **Routing -> Add**


Service Consumers
Oracle_Service_Consumer
Transformation
Routing
Add
search
Actions
Name
List_Facilities_Route_01
LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)
Add Route
Name *
Start/Stop
START
STOP
Auto Shutdown
○ Default Rule
● Custom Rule
Rule
Expression Editor *
Transformations
Add
Actions
Product Processor
Implementation
Transformation
Save

Component briefing			
Component Name	**Component Type**	**Is Mandatory**	**Comments**

Name	Text Box	Yes	Unique routing name
Start / Stop	Switch	Yes	Predefined Values: START / STOP If routing is marked as STOP, then consumer request will fail at routing hub level only.
Auto Shutdown	Switch	Yes	Predefined Values: ON / OFF If AutoShutdown flag is ON, then route state will be changed to STOP if route failure goes beyond the threshold failure limit based on the monitoring and alert configuration.
Rule Type	Radio Button	Yes	Predefined Values: Default Rule / Custom Rule
Transformations	Collapsible Header & Content		
Save	Button		Saves the routing details

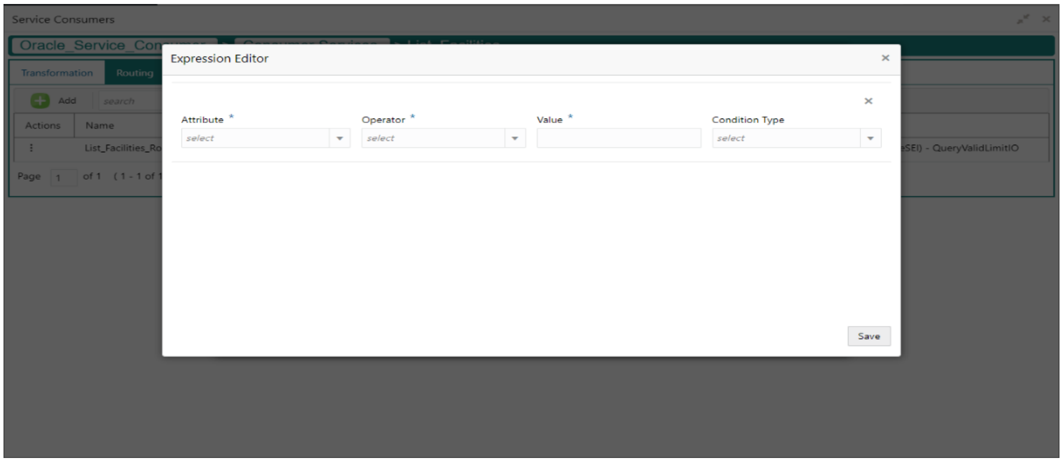
10.1.1 Add Routing with Custom Rule


Service Consumers
Oracle_Service_Consumer
Transformation
Routing
Add
search
Actions
Name
List_Facilities_Route_01
LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)
Add Route
Name *
Start/Stop
START
STOP
Auto Shutdown
○ Default Rule
● Custom Rule
Rule
Expression Editor *
Transformations
Add
Actions
Product Processor
Implementation
Transformation
Save

Component briefing				
Component Name	**Component Type**	**Is Mandatory**	**Data type**	**Comments**

Expression	Text Area	Yes		User can view expression that is formed through expression editor.
Editor	Button			Pops up expression editor dialog

10.1.2 Add Custom Rule using Expression Editor


Service Consumers
Oracle_Service_Con
Transformation
Routing
Add
search
Actions
Name
List_Facilities_Ro
eSEI) - QueryValidLimitIO
Page
1
of 1
(1 - 1 of 1
Expression Editor
Attribute *
select
Operator *
select
Value *
Condition Type
select
Save

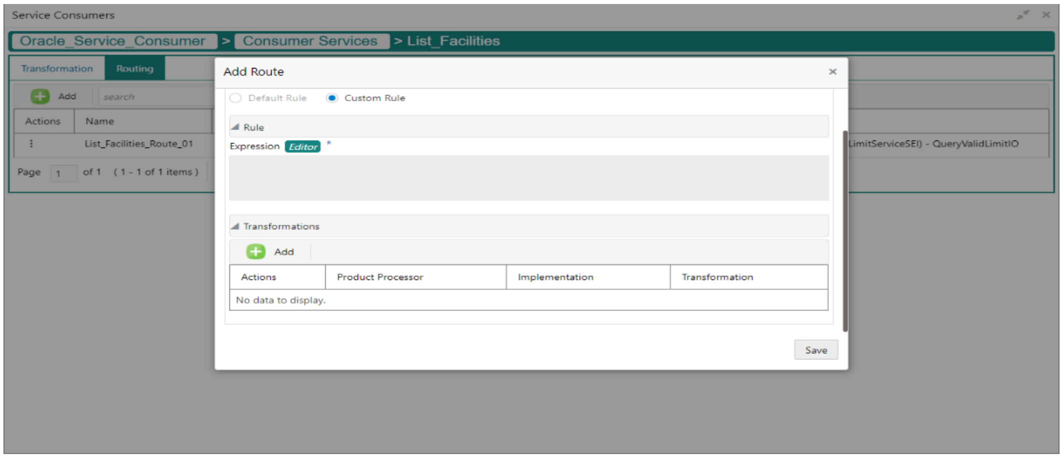
Component briefing			
Component Name	**Component Type**	**Is Mandatory**	**Comments**
Attribute	Combo Box One	Yes	Displays list of attributes relevant to consumer service
Operator	Combo Box One	Yes	Logical operators to form an expression
Value	Text Box	Yes	
Condition type	Combo Box One		Conditional Operators
Save	Button		Saves the expression

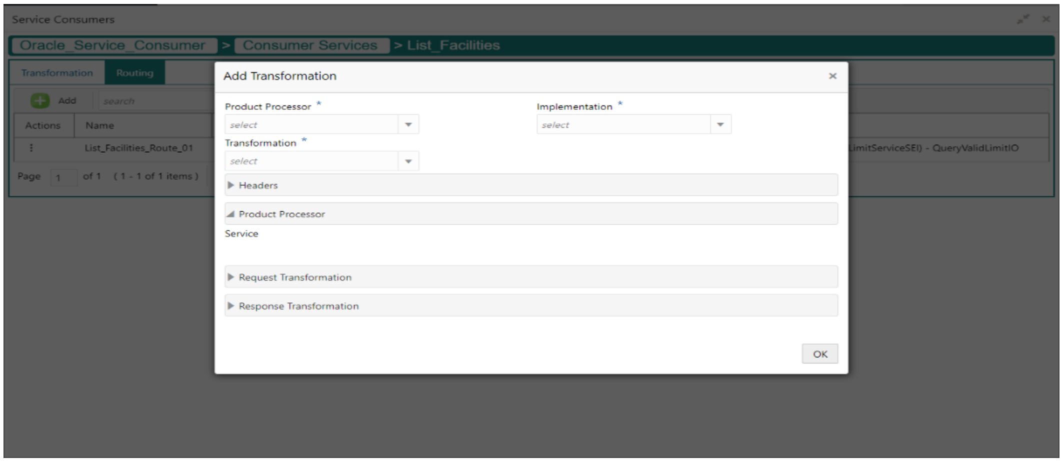
NOTE: String value should be quoted using single quotes (')
eg: 'abc'
List value should be comma separated values and quoted using single quotes (')
eg: 'abc,xyz,1.23,true'

10.1.3 Transformations

User can define the sequence of transformations for each routing in which request should be processed.

Sequence of transformations in list can be changed by using drag-n-drop feature.


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
search
Actions
Name
List_Facilities_Route_01
LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)
Add Route
Default Rule
Custom Rule
Rule
Expression Editor *
Transformations
Add
Actions
Product Processor
Implementation
Transformation
No data to display.
Save


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
search
Actions
Name
List_Facilities_Route_01
LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)
Add Transformation
Product Processor *
select
Implementation *
select
Transformation *
select
Headers
Product Processor
Service
Request Transformation
Response Transformation
OK

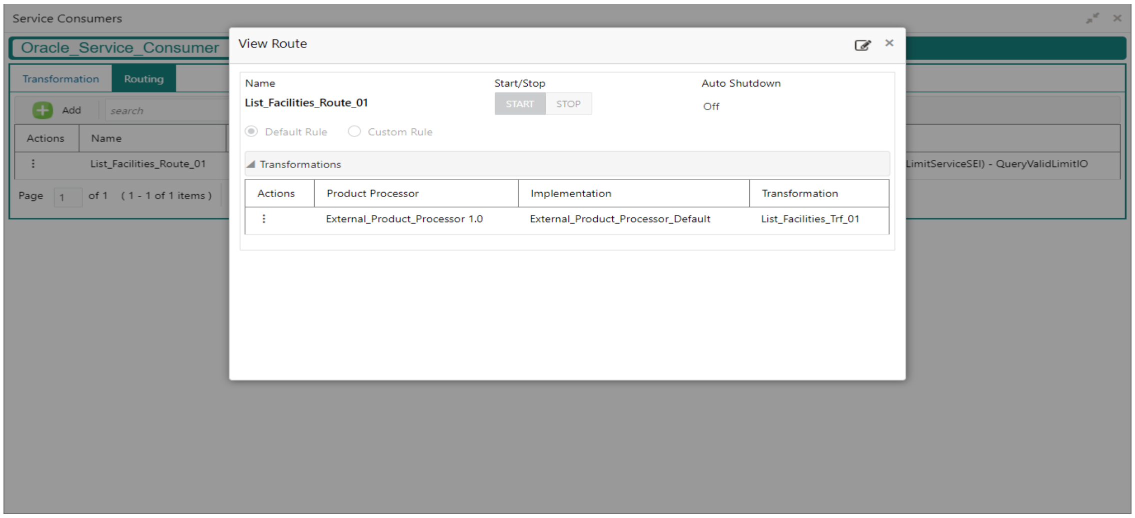
Component briefing			
Component Name	**Component Type**	**Is Mandatory**	**Comments**
Product Processor	Combo Box One	Yes	Displays provider list relevant to consumer
Implementation	Combo Box One	Yes	Displays implementation list relevant to selected provider

Transformation	Combo Box One	Yes	Displays transformation list relevant to select provider & implementation
Headers	Collapsible Header & Content		Displays header list relevant to selected implementation and transformation User can change the header values. Value can either be hardcoded or can be Velocity mapping.
Product Processor	Collapsible Header & Content		Displays service details relevant to selected transformation
Request Transformation	Collapsible Header & Content		Displays request transformation template
Response Transformation	Collapsible Header & Content		Displays response transformation template
OK	Button		Saves the transformation details in list

10.2 View

User can view routing details and can also switch to edit form by clicking on edit icon.

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


Service Consumers
Oracle_Service_Consumer
Transformation
Routing
Add
search
Actions
Name
List_Facilities_Route_01
Page 1 of 1 (1 - 1 of 1 items)
LimitServiceSEI) - QueryValidLimitIO
View Route
START
STOP
Default Rule
Custom Rule
Transformations

Name: List_Facilities_Route_01

Start/Stop

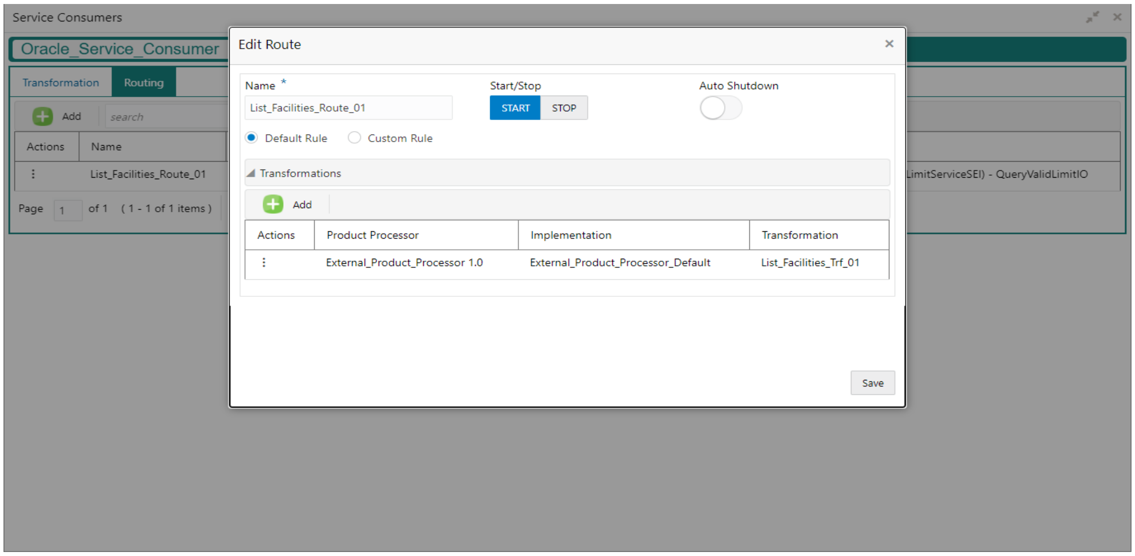
Auto Shutdown: Off

Actions	Product Processor	Implementation	Transformation
⋮	External_Product_Processor 1.0	External_Product_Processor_Default	List_Facilities_Trf_01

10.3 Edit

User can modify the routing details.

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


Service Consumers
Oracle_Service_Consumer
Transformation
Routing
Add
search
Actions
Name
List_Facilities_Route_01
Page 1 of 1 (1 - 1 of 1 items)
LimitServiceSEI) - QueryValidLimitIO
Edit Route
START
STOP
Default Rule
Custom Rule
Transformations
Add
Save

Name *: List_Facilities_Route_01

Start/Stop

Auto Shutdown

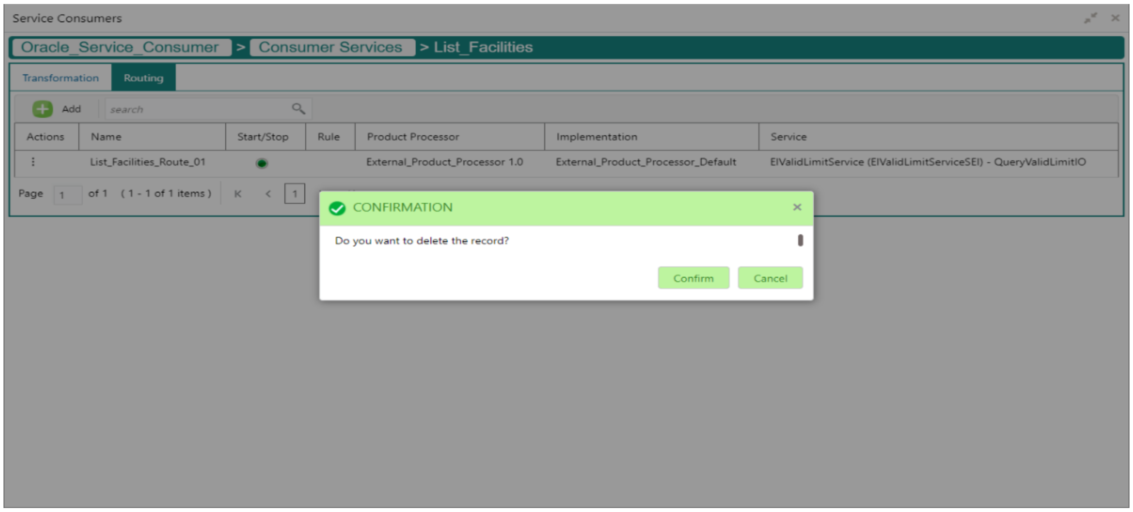
● Default Rule ○ Custom Rule

Actions	Product Processor	Implementation	Transformation
⋮	External_Product_Processor 1.0	External_Product_Processor_Default	List_Facilities_Trf_01

10.4 Delete

User can delete the routing.

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


Service Consumers
Oracle_Service_Consumer > Consumer Services > List_Facilities
Transformation
Routing
Add
search
Page 1 of 1 (1 - 1 of 1 items)
CONFIRMATION
Confirm
Cancel

Actions	Name	Start/Stop	Rule	Product Processor	Implementation	Service
⋮	List_Facilities_Route_01	●		External_Product_Processor 1.0	External_Product_Processor_Default	ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO

Do you want to delete the record?

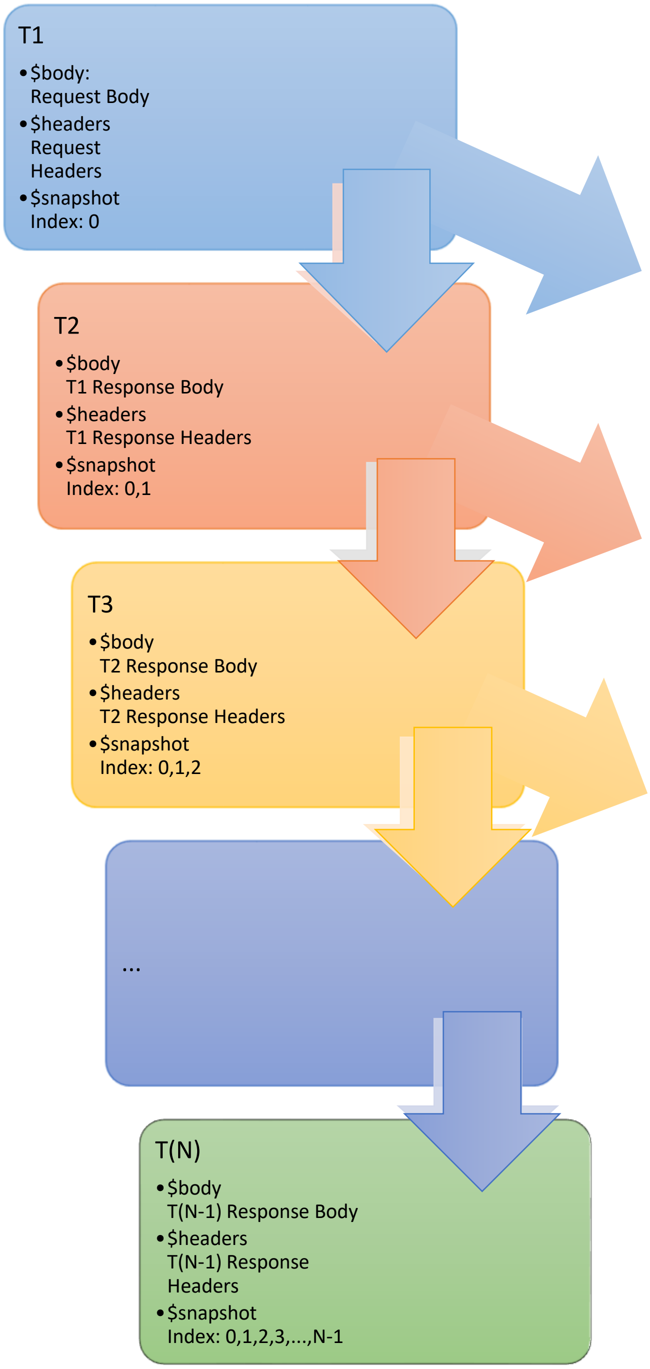
11. Chaining

End-user will be able to define the sequence of transformations for each routing in which request should be processed.

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

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

NOTE: $body and $headers will refer the response body and headers of previous step.


T1
• $body:
Request Body
• $headers
Request
Headers
• $snapshot
Index: 0
T2
• $body
T1 Response Body
• $headers
T1 Response Headers
• $snapshot
Index: 0,1
T3
• $body
T2 Response Body
• $headers
T2 Response Headers
• $snapshot
Index: 0,1,2
…
T(N)
• $body
T(N-1) Response Body
• $headers
T(N-1) Response
Headers
• $snapshot
Index: 0,1,2,3,…,N-1

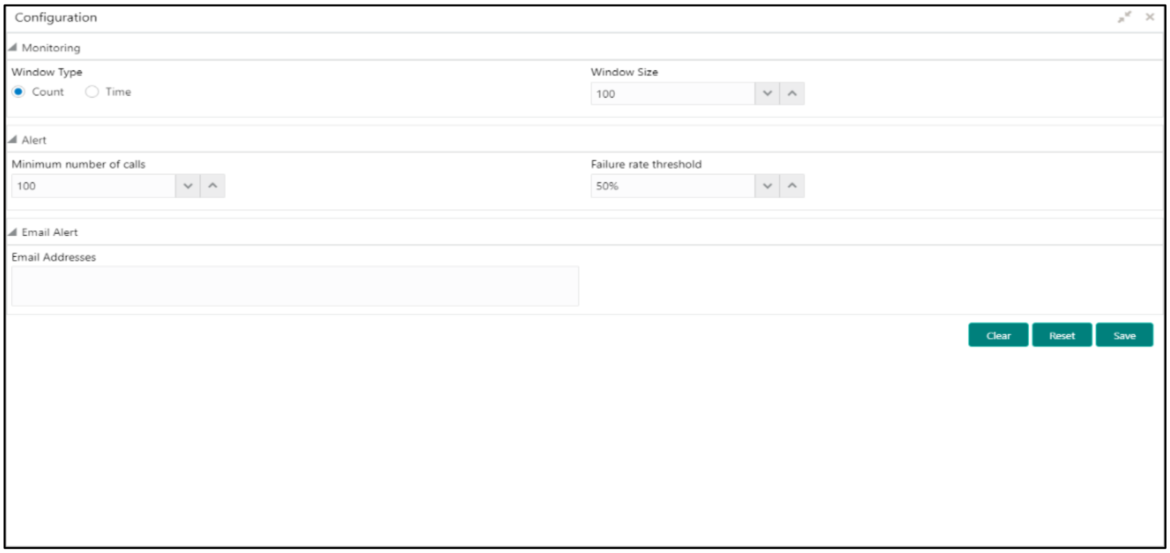
Snapshot List		
Index	**body**	**headers**
0	Request Body	Request Headers
1	T1 Response Body	T1 Response Headers
2	T2 Response Body	T2 Response Headers
3	T3 Response Body	T3 Response Headers
…		

12. Configuration

End-user can configure the properties w.r.t. monitoring and alerting.

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

Navigation: **Core Maintenance -> Routing Hub -> Configuration**



Configuration

Monitoring

Window Type ● Count ○ Time

Window Size: 100

Alert

Minimum number of calls: 100

Failure rate threshold: 50%

Email Alert

Email Addresses

Component briefing				
Component Name	**Component Type**	**Is Mandatory**	**Validation**	**Comments**
Monitoring	Collapsible Header & Content		Monitoring properties are mandatory if alert properties have been configured.	This section has properties that are required by Breaker for storing and aggregating the outcome of calls using WindowType and WindowSize.
Window Type	Radio Button	No		Predefined Values: COUNT / TIME The count-based sliding window aggregates the outcome of the last N calls (Window Size). The time-based sliding window aggregates the outcome of the calls

				of the last N seconds (Window Size).
Window Size	Number Box	No		This property is used to record the outcome of calls when the CircuitBreaker is closed. In case of count-based sliding window, window size will be N calls. In case of time-based sliding window, window size will be N seconds.
Alert	Collapsible Header & Content		Alert properties are mandatory if monitoring properties have been configured.	This section has properties that are required for transitioning CircuitBreaker.
Minimum number of calls	Number Box	No		If minimumNumberOfCalls is 10, then at least 10 calls must be recorded, before the failure rate can be calculated. If only 9 calls have been recorded the CircuitBreaker will not transition to open even if all 9 calls have failed.
Failure rate threshold	Number Box	No		Configures the failure rate threshold in percentage. When the failure rate is equal or greater than the threshold the CircuitBreaker transitions to open and starts short-circuiting calls.
Email Alert	Collapsible Header & Content			This section has properties that are required for mail notification.

Email Addresses	Text Box	No		Once the failure rate crosses the failureRateThreshold, then end-user will be notified about the event via mail. This property will be semi-colon separated email addresses

Example

Let say

WindowType is Count

WindowSize is 20

Minimum number of calls is 10

Failure rate threshold is 50%

Configured properties will behave as below:

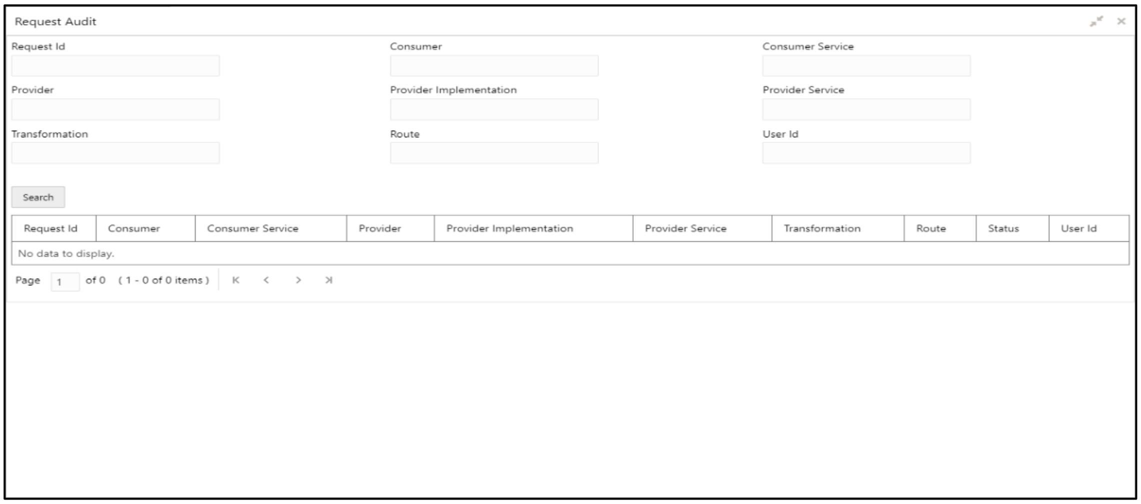
After 10 (min number of calls) calls, routing would get shutdown if 50% (failure rate) of atmost last 20 (window size) calls have failed.

And if email address property is configured, then end-user will be notified as well.

13. Audit Log

Check Audit log on the below navigation path for Oracle Banking Routing Hub

Navigation: **Core Maintenance -> Routing Hub -> Request Audit**



Request Audit

Request Id

Consumer

Consumer Service

Provider

Provider Implementation

Provider Service

Transformation

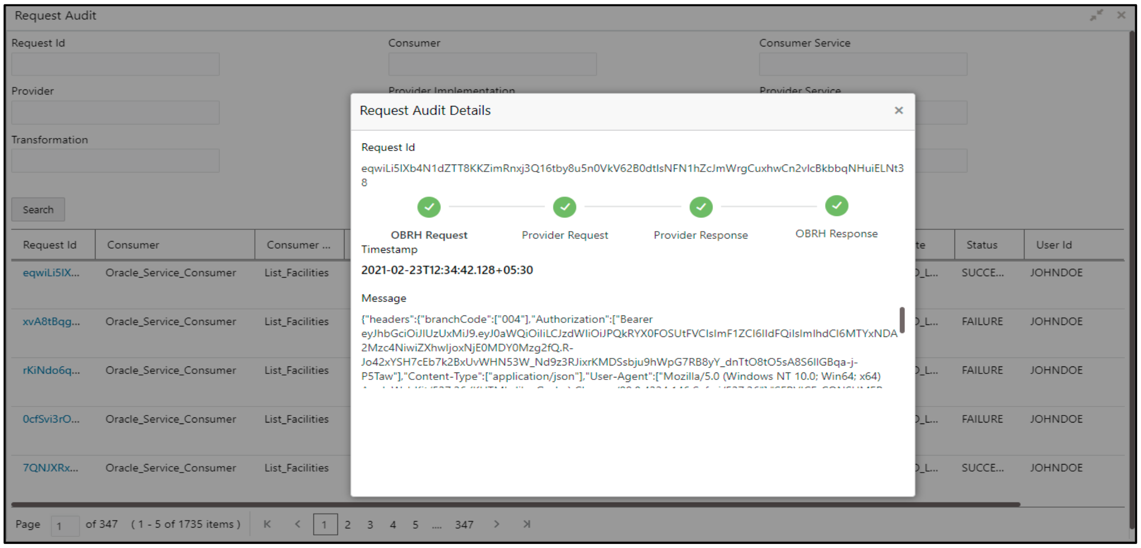
Route

User Id

Search

Request Id	Consumer	Consumer Service	Provider	Provider Implementation	Provider Service	Transformation	Route	Status	User Id
No data to display.									

Page 1 of 0 (1 - 0 of 0 items)



Request Audit

Request Id

Consumer

Consumer Service

Provider

Provider Implementation

Provider Service

Transformation

Search

Request Id	Consumer	Consumer ...	te	Status	User Id
eqwiLi5IX...	Oracle_Service_Consumer	List_Facilities	D_L...	SUCCE...	JOHNDOE
xvA8tBqg...	Oracle_Service_Consumer	List_Facilities	D_L...	FAILURE	JOHNDOE
rKiNdo6q...	Oracle_Service_Consumer	List_Facilities	D_L...	FAILURE	JOHNDOE
0cfSvi3rO...	Oracle_Service_Consumer	List_Facilities	D_L...	FAILURE	JOHNDOE
7QNJXRx...	Oracle_Service_Consumer	List_Facilities	D_L...	SUCCE...	JOHNDOE

Page 1 of 347 (1 - 5 of 1735 items) 1 2 3 4 5 347

Request Audit Details

Request Id

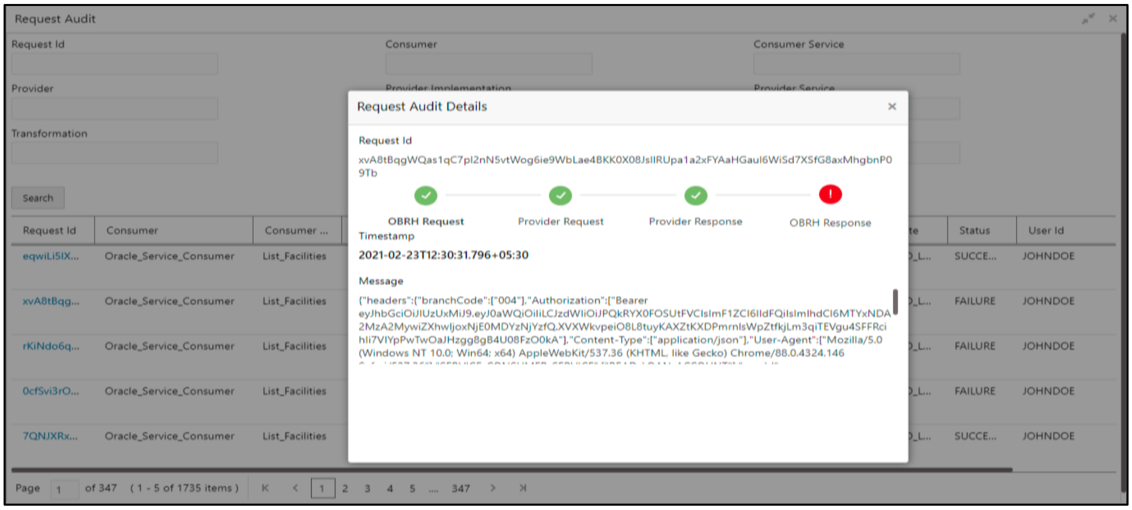
eqwiLi5IXb4N1dZTT8KKZimRnxj3Q16tby8u5n0VkV62B0dtlsNFN1hZcJmWrgCuxhwCn2vlcBkbbqNHuiELNt38

Timestamp

2021-02-23T12:34:42.128+05:30

Message

```
{"headers":{"branchCode":["004"],"Authorization":["Bearer
eyJhbGciOiJIUzUxMiJ9.eyJ0aWQiOiliLCJzdWliOiJPQkRYX0FOSUtFVCIsImF1ZCI6IldFQilsImlhdCI6MTYxNDA
2Mzc4NiwiZXhwljoxNjE0MDY0Mzg2fQ.R-
Jo42xYSH7cEb7k2BxUvWHN53W_Nd9z3RJixrKMDSsbju9hWpG7RB8yY_dnTtO8tO5sA8S6IlGBqa-j-
P5Taw"],"Content-Type":["application/json"],"User-Agent":["Mozilla/5.0 (Windows NT 10.0; Win64; x64)
```


Request Audit
Request Id
Consumer
Consumer Service
Provider
Provider Implementation
Provider Service
Transformation
Search
Request Id
Consumer
Consumer ...
Status
User Id
Page 1 of 347 (1 - 5 of 1735 items)
OBRH Request
Provider Request
Provider Response
OBRH Response

Request Audit Details

Request Id

xvA8tBqgWQas1qC7pl2nN5vtWog6ie9WbLae4BKK0X08JslIRUpa1a2xFYAaHGaul6WiSd7XSfG8axMhgbnP09Tb

Timestamp

2021-02-23T12:30:31.796+05:30

Message

```
{"headers":{"branchCode":["004"],"Authorization":["Bearer
eyJhbGciOiJIUzUxMiJ9.eyJ0aWQiOiIiLCJzdWIiOiJPQkRYX0FOSUtFVCIsImF1ZCI6IldFQiIsImlhdCI6MTYxNDA
2MzA2MywiZXhwIjoxNjE0MDYzNjYzfQ.XVXWkvpeiO8L8tuyKAXZtKXDPmrnlsWpZtfkjLm3qiTEVgu4SFFRci
hli7VlYpPwTwOaJHzgg8gB4U08FzO0kA"],"Content-Type":["application/json"],"User-Agent":["Mozilla/5.0
(Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/88.0.4324.146
```

Request Id	Consumer	Consumer ...	Status	User Id
eqwiLi5IX...	Oracle_Service_Consumer	List_Facilities	SUCCE...	JOHNDOE
xvA8tBqg...	Oracle_Service_Consumer	List_Facilities	FAILURE	JOHNDOE
rKiNdo6q...	Oracle_Service_Consumer	List_Facilities	FAILURE	JOHNDOE
0cfSvi3rO...	Oracle_Service_Consumer	List_Facilities	FAILURE	JOHNDOE
7QNJXRx...	Oracle_Service_Consumer	List_Facilities	SUCCE...	JOHNDOE

Component briefing			
Component Name	**Component Type**	**Condition**	**Comments**
Consumer	Text Box		Consume Name
Consumer Service	Text Box		Service Consumer Name
Provider	Text Box		Provider Name
Provider Implementation	Text Box		Provider Implementation Name
Provider Service	Text Box		Provider Service Name
Transformation	Text Box		Transformation Name
Route	Text Box		Route Name
Request Id	Text Box		Correlation Id
User Id	Text Box		User Id

Search	Button	Search is done based on below things: • Case insensitive • Pattern matching • Single / Multi Column search	Performs search operation with specified values

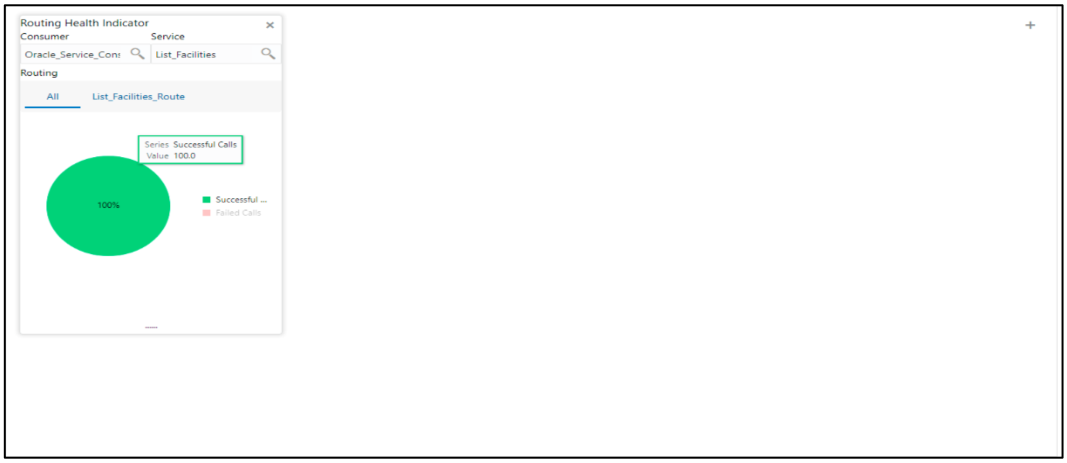
NOTE: **Clicking on “RequestId” value will display step by step execution of request with data such as Routing Hub Request & Timestamp, Provider Request & Timestamp, Provider Response & Timestamp, Routing Hub Response & Timestamp.**

14. Dashboard

14.1 Routing Health Indicator Widget

User can view the metric information Successful calls vs Failed calls ratio of each routing.

NOTE: Failed calls here refer to the calls that are failed due to timeout issue.



Routing Health Indicator

Consumer: Oracle_Service_Con

Service: List_Facilities

Routing

×
All
List_Facilities_Route
Series Successful Calls
Value 100.0
100%
Successful ...
Failed Calls
+

15. Transformation Type

15.1 Velocity

Velocity is a Java-based template engine.

Velocity can be used to generate XML files, SQL, PostScript and most other text-based formats.

NOTE: In routing hub, Velocity will be used to generate JSON and XML.

- 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]

- Below are some available extension methods:

  - Date Conversion

    Syntax: $dateUtil.convert(inputDate, fromPattern, toPattern)

    Parameters:

    - inputDate - String
    - fromPattern - String
    - toPattern - String

    Returns: String

    Please refer 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()

  Please refer

  https://velocity.apache.org/tools/3.0/apidocs/org/apache/velocity/tools/generic/XmlTool.html

- Date Tool

  Syntax: $date.methodName()

  Please refer

  https://velocity.apache.org/tools/3.0/apidocs/org/apache/velocity/tools/generic/DateTool.html

- Json Tool

  Syntax: $json.methodName()

  Please refer

  https://velocity.apache.org/tools/3.0/apidocs/org/apache/velocity/tools/generic/JsonTool.html

- Math Tool

  Syntax: $math.methodName()

  Please refer

  https://velocity.apache.org/tools/3.0/apidocs/org/apache/velocity/tools/generic/MathTool.html

- Number Tool

  Syntax: $number.methodName()

  Please refer

  https://velocity.apache.org/tools/3.0/apidocs/org/apache/velocity/tools/generic/NumberTool.html

- ➢ Escape Tool

  Syntax: $esc.methodName()

  Please refer

  https://velocity.apache.org/tools/3.0/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

- 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.

15.2 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 will be used to transform arbitrary XML to JSON.

15.3 JSLT

JSLT is a complete query and transformation language for JSON.

16. Oracle Banking Routing Hub Integration Specification

16.1 Token Generation

PlatoJWTAuth endpoint Signature -

- Path : /platojwtauth
- Headers:
  - appId : SECSRV001
  - Content-Type : application/json
- Request Body:

```
{
    "username": "",
    "password": ""
}
```

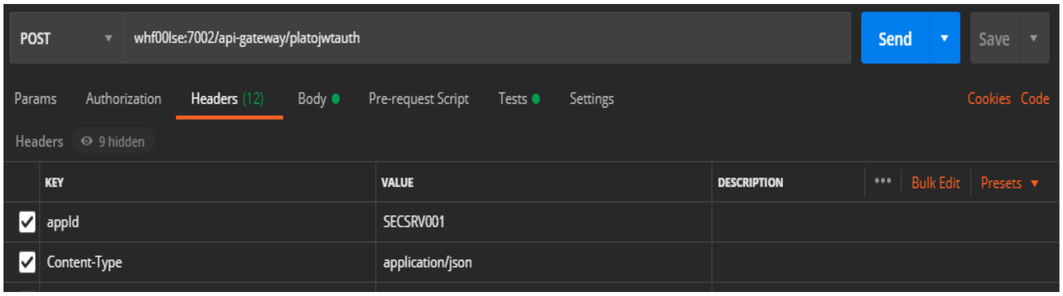
  - Username and password will be base64 encoding of plaintext.

- Response Body:

```
{
  "token": “”,
  "userAlreadyLoggedIn": “Y”,
  "expires_in": 3180,
  "home_entity_id": "DEFAULTENTITY",
  "multi_entity_admin": "N",
  "multi_entity_admin_locale": “”
}
```

Example - Below are the screenshots

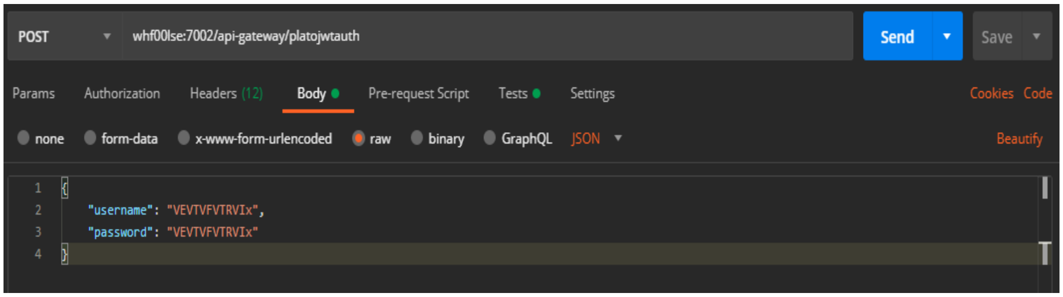
Headers


Send
Save
Params
Authorization
Headers (12)
Body
Pre-request Script
Tests
Settings
Cookies
Code
Headers
9 hidden
Bulk Edit
Presets

POST whf00lse:7002/api-gateway/platojwtauth

KEY	VALUE	DESCRIPTION
☑ appId	SECSRV001	
☑ Content-Type	application/json	

Request Payload

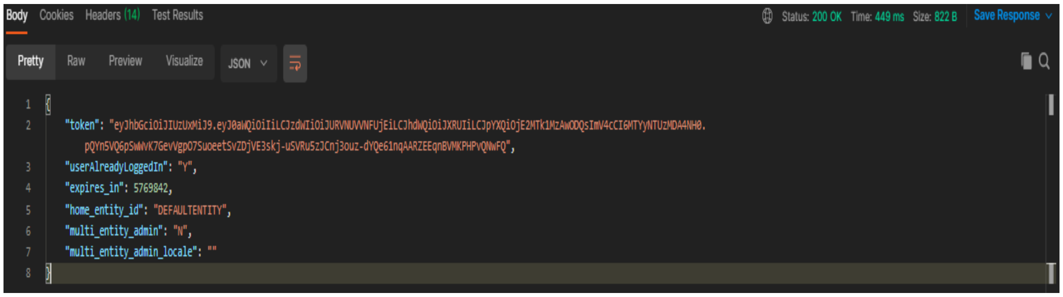

Send
Save
Params
Authorization
Headers (12)
Body
Pre-request Script
Tests
Settings
Cookies
Code
Beautify

POST whf00lse:7002/api-gateway/platojwtauth

○ none ○ form-data ○ x-www-form-urlencoded ● raw ○ binary ○ GraphQL JSON

```
{
    "username": "VEVTVFVTRVIx",
    "password": "VEVTVFVTRVIx"
}
```

Response Payload


Body
Cookies
Headers (14)
Test Results
Save Response
Pretty
Raw
Preview
Visualize
JSON

Status: 200 OK Time: 449 ms Size: 822 B

```
{
    "token": "eyJhbGciOiJIUzUxMiJ9.eyJ0aWQiOiIiLCJzdWIiOiJURVNUVVNFUjEiLCJhdWQiOiJXRUIiLCJpYXQiOjE2MTk1MzAwODQsImV4cCI6MTYyNTUzMDA4NH0.
      pQYn5VQ6pSwWvK7GevVgpO7SuoeetSvZDjVE3skj-uSVRu5zJCnj3ouz-dYQe61nqAARZEEqnBVMKPHPvQNwFQ",
    "userAlreadyLoggedIn": "Y",
    "expires_in": 5769842,
    "home_entity_id": "DEFAULTENTITY",
    "multi_entity_admin": "N",
    "multi_entity_admin_locale": ""
}
```

16.2 Synchronous Dispatch API Specification

Dispatch endpoint is the **single** entry-point for invoking the routes configured in Oracle Banking Routing Hub for services of a Service Consumer.

Dispatch endpoint Signature -

- Path : /route/dispatch
- Headers:
    - appId : CMNCORE
    - entityId : DEFAULTENTITY
    - userId : <user id>

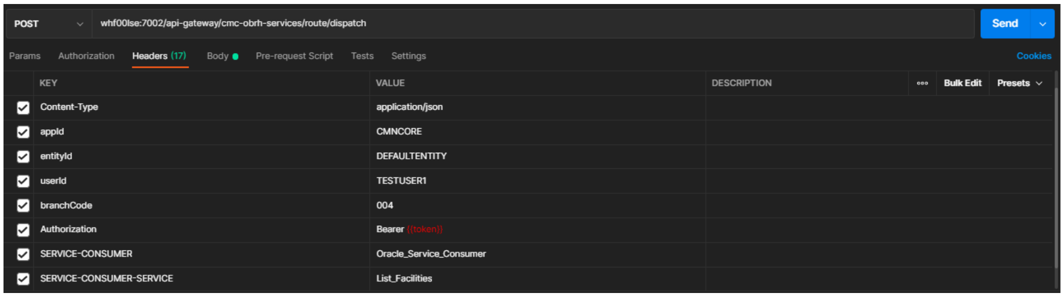
  - branchCode : <branch code>
  - Authorization : Bearer <Token>
  - SERVICE-CONSUMER : <name of service consumer>
  - SERVICE-CONSUMER-SERVICE : <name of service consumer service>
- Request Body:
  - Any valid JSON payload which shall act as input to the transformation template in request transformer.
- Response Body:

```
{
  "data": {}
  "messages": {}
}
```

  - If the route invocation succeeds, data JSON member would contain the transformed (optional) response of the provided service. If it's a provided web service and no response transformation template is supplied, XML Soap Body of response would be converted into JSON object and sent in data JSON member.
  - If the route invocation fails due to misconfigured route or connection time out to ServiceProviderImpl or some other reason, relevant error messages would be sent in messages JSON member. In that case, data JSON member would be null or empty.

Example - Below are the screenshots of route dispatch for ServiceConsumer **Oracle_Service_Consumer** and ServiceConsumerService **List_Facilities**

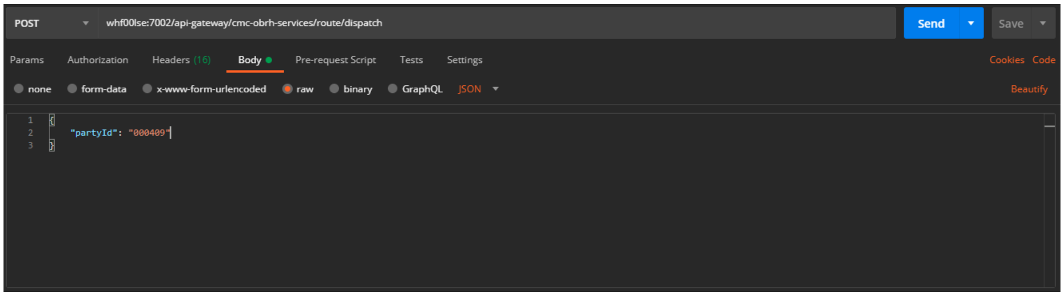
Headers



POST whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch

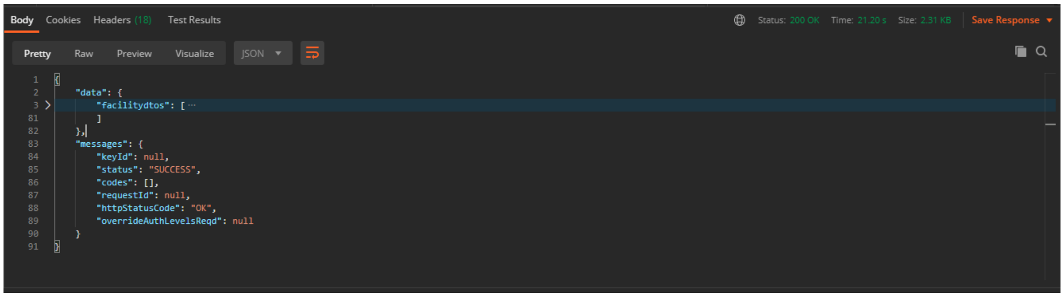
	KEY	VALUE	DESCRIPTION
☑	Content-Type	application/json	
☑	appId	CMNCORE	
☑	entityId	DEFAULTENTITY	
☑	userId	TESTUSER1	
☑	branchCode	004	
☑	Authorization	Bearer {{token}}	
☑	SERVICE-CONSUMER	Oracle_Service_Consumer	
☑	SERVICE-CONSUMER-SERVICE	List_Facilities	

Request Payload


POST
whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch
Send
Save
Params
Authorization
Headers (16)
Body
Pre-request Script
Tests
Settings
Cookies
Code
none
form-data
x-www-form-urlencoded
raw
binary
GraphQL
JSON
Beautify

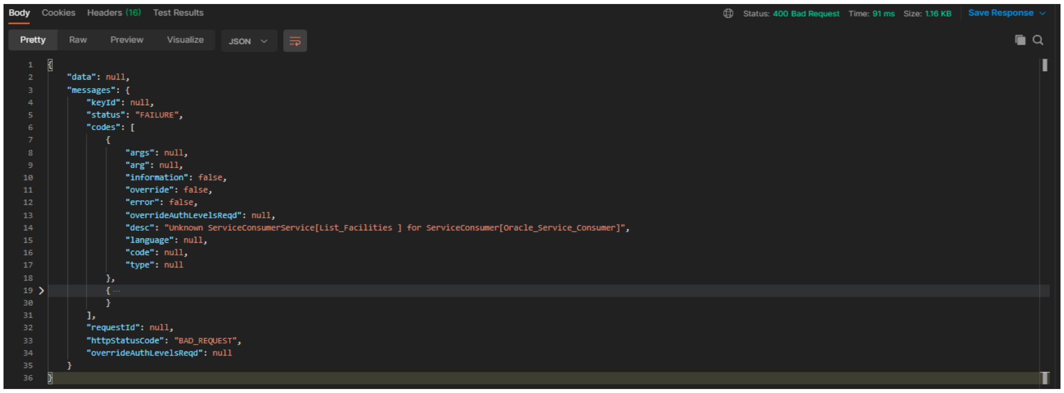
```
{
    "partyId": "000409"
}
```

Response Payload on Successful Dispatch


Body
Cookies
Headers (18)
Test Results
Status: 200 OK
Time: 21.20 s
Size: 2.31 KB
Save Response
Pretty
Raw
Preview
Visualize
JSON

```
{
    "data": {
        "facilitydtos": [⋯
        ]
    },
    "messages": {
        "keyId": null,
        "status": "SUCCESS",
        "codes": [],
        "requestId": null,
        "httpStatusCode": "OK",
        "overrideAuthLevelsReqd": null
    }
}
```

Response Payload on Failed Dispatch


Body
Cookies
Headers (16)
Test Results
Status: 400 Bad Request
Time: 91 ms
Size: 1.16 KB
Save Response
Pretty
Raw
Preview
Visualize
JSON

```
{
    "data": null,
    "messages": {
        "keyId": null,
        "status": "FAILURE",
        "codes": [
            {
                "args": null,
                "arg": null,
                "information": false,
                "override": false,
                "error": false,
                "overrideAuthLevelsReqd": null,
                "desc": "Unknown ServiceConsumerService[List_Facilities ] for ServiceConsumer[Oracle_Service_Consumer]",
                "language": null,
                "code": null,
                "type": null
            },
            {⋯
            }
        ],
        "requestId": null,
        "httpStatusCode": "BAD_REQUEST",
        "overrideAuthLevelsReqd": null
    }
}
```

16.3 Asynchronous Dispatch API Specification

Dispatch endpoint is the **single** entry-point for invoking the routes configured in Oracle Banking Routing Hub for services of a Service Consumer.

Dispatch endpoint Signature -

- Path : /route/dispatch
- Query Params:
    - isAsync : true
- Headers:
    - appId : CMNCORE

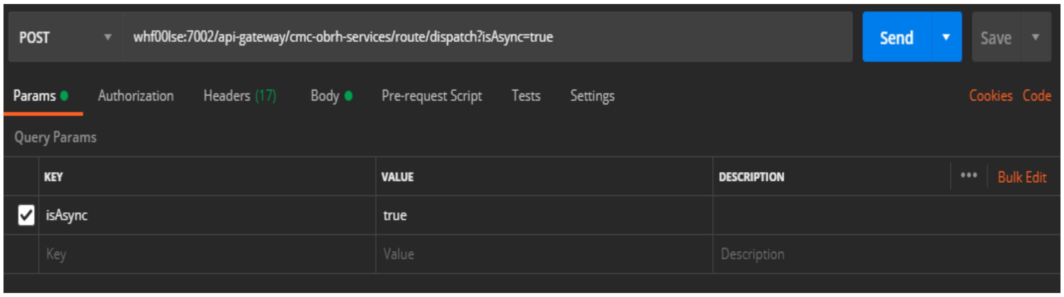
- entityId : DEFAULTENTITY
- userId : <user id>
- branchCode : <branch code>
- Authorization : Bearer <Token>
- SERVICE-CONSUMER : <name of service consumer>
- SERVICE-CONSUMER-SERVICE : <name of service consumer service>

- Request Body:
  - Any valid JSON payload which shall act as input to the transformation template in request transformer.
- Response Body:

```
{
  "data": { “correlationId” : “” },
  "messages": {}
}
```

Example - Below are the screenshots of route dispatch for ServiceConsumer **Oracle_Service_Consumer** and ServiceConsumerService **List_Facilities**

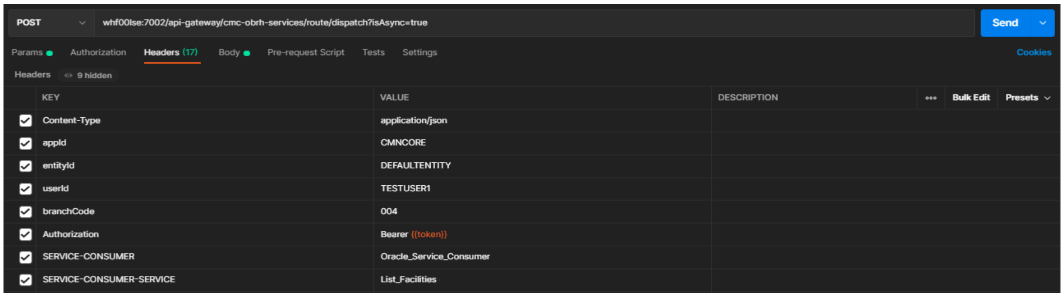
Query Params


POST
Send
Save
Params
Authorization
Headers (17)
Body
Pre-request Script
Tests
Settings
Cookies
Code
Query Params
Bulk Edit

whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch?isAsync=true

	KEY	VALUE	DESCRIPTION
☑	isAsync	true	
	Key	Value	Description

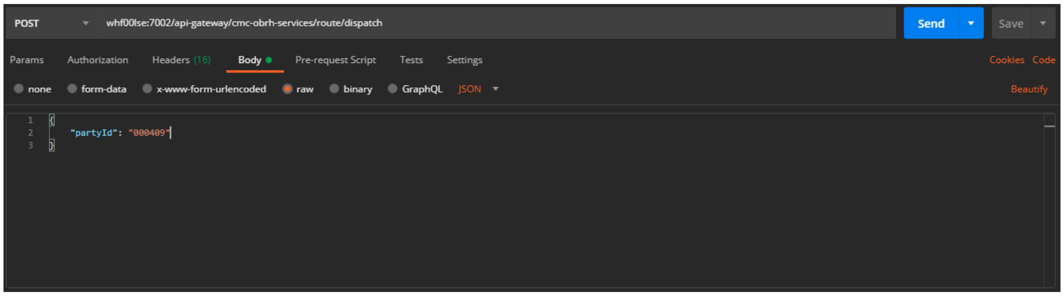
Headers


POST
Send
Params
Authorization
Headers (17)
Body
Pre-request Script
Tests
Settings
Cookies
Headers
9 hidden
Bulk Edit
Presets

whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch?isAsync=true

	KEY	VALUE	DESCRIPTION
☑	Content-Type	application/json	
☑	appId	CMNCORE	
☑	entityId	DEFAULTENTITY	
☑	userId	TESTUSER1	
☑	branchCode	004	
☑	Authorization	Bearer {{token}}	
☑	SERVICE-CONSUMER	Oracle_Service_Consumer	
☑	SERVICE-CONSUMER-SERVICE	List_Facilities	

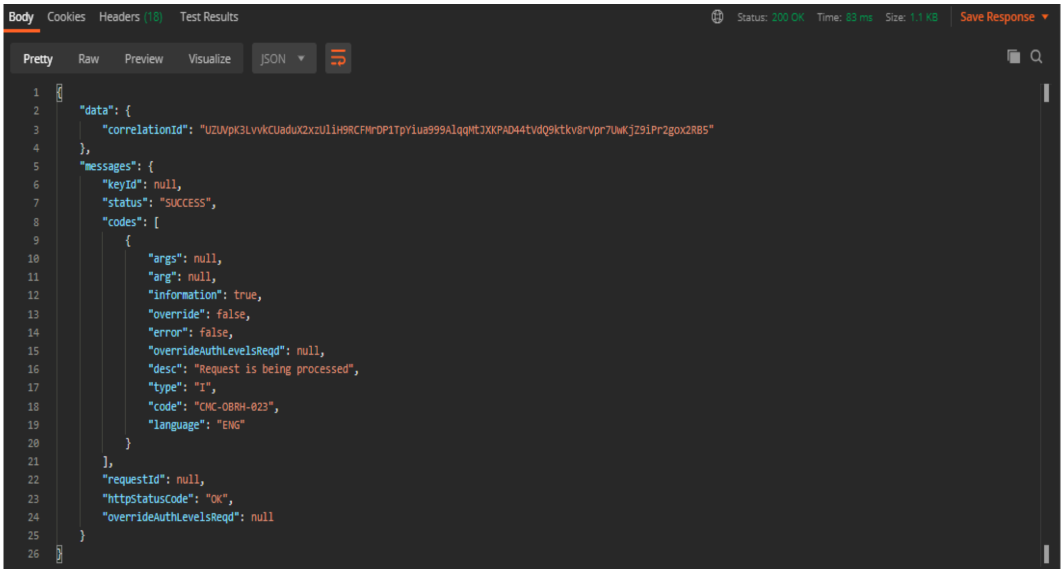
Request Payload


Send
Save
Params
Authorization
Headers (16)
Body
Pre-request Script
Tests
Settings
Cookies
Code
○ none
○ form-data
○ x-www-form-urlencoded
● raw
○ binary
○ GraphQL
JSON
Beautify

POST whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch

```
{
    "partyId": "000409"
}
```

Response Payload


Body
Cookies
Headers (18)
Test Results
Save Response
Pretty
Raw
Preview
Visualize
JSON

Status: 200 OK Time: 83 ms Size: 1.1 KB

```
{
    "data": {
        "correlationId": "UZUVpK3LvvkCUaduX2xzUliH9RCFMrDP1TpYiua999AlqqMtJXKPAD44tVdQ9ktkv8rVpr7UwKjZ9iPr2gox2RB5"
    },
    "messages": {
        "keyId": null,
        "status": "SUCCESS",
        "codes": [
            {
                "args": null,
                "arg": null,
                "information": true,
                "override": false,
                "error": false,
                "overrideAuthLevelsReqd": null,
                "desc": "Request is being processed",
                "type": "I",
                "code": "CMC-OBRH-023",
                "language": "ENG"
            }
        ],
        "requestId": null,
        "httpStatusCode": "OK",
        "overrideAuthLevelsReqd": null
    }
}
```

16.4 Asynchronous Dispatch Response API Specification

Response endpoint Signature -

- Path : /route/dispatchResponse/{Correlation-Id}
    - Correlation-Id will be coming from the response of dispatch endpoint.
- Headers:
    - appId : CMNCORE
    - entityId : DEFAULTENTITY
    - userId : <user id>
    - branchCode : <branch code>
    - Authorization : Bearer <Token>

- Response Body:

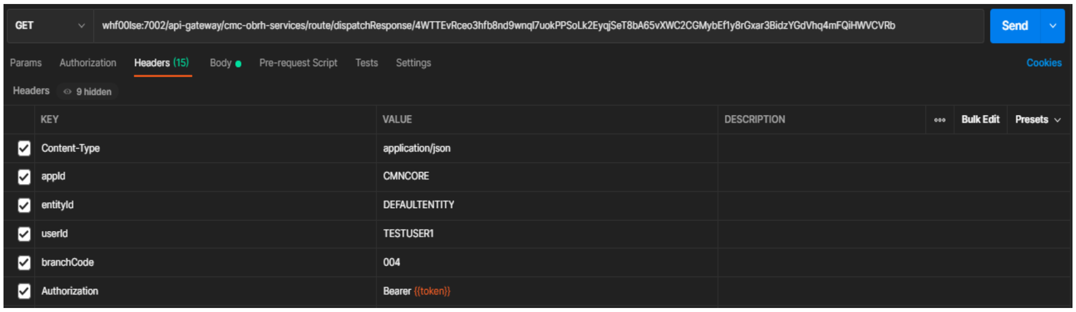
```
{
  "data": {}
  "messages": {}
}
```

  - ➢ If the route invocation succeeds, data JSON member would contain the transformed (optional) response of the provided service. If it's a provided web service and no response transformation template is supplied, XML Soap Body of response would be converted into JSON object and sent in data JSON member.
  - ➢ If the route invocation fails due to misconfigured route or connection time out to ServiceProviderImpl or some other reason, relevant error messages would be sent in messages JSON member. In that case, data JSON member would be null or empty.

Example - Below are the screenshots of route dispatch for

ServiceConsumer **Oracle_Service_Consumer** and ServiceConsumerService **List_Facilities**

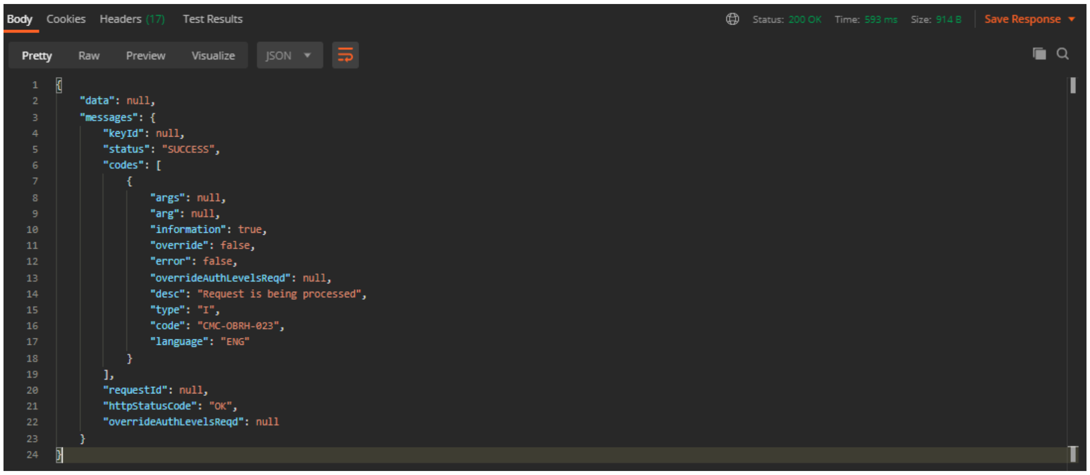
Headers


GET
Send
Params
Authorization
Headers (15)
Body
Pre-request Script
Tests
Settings
Cookies
Headers
9 hidden
Bulk Edit
Presets

whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatchResponse/4WTTEvRceo3hfb8nd9wnql7uokPPSoLk2EyqjSeT8bA65vXWC2CGMybEf1y8rGxar3BidzYGdVhq4mFQiHWVCVRb

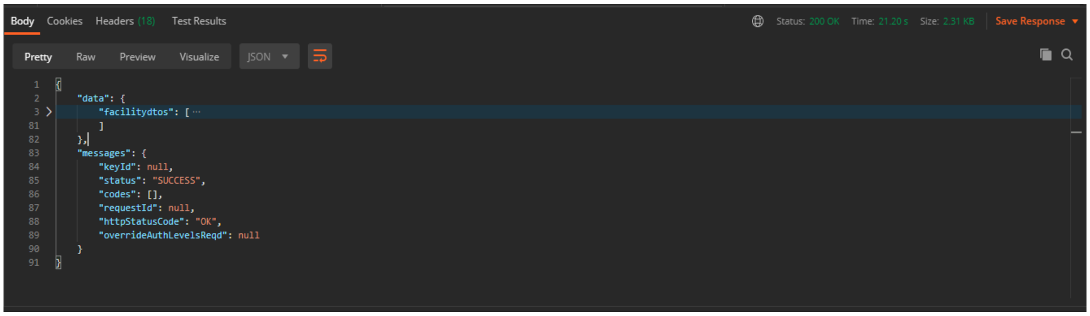
	KEY	VALUE	DESCRIPTION
☑	Content-Type	application/json	
☑	appId	CMNCORE	
☑	entityId	DEFAULTENTITY	
☑	userId	TESTUSER1	
☑	branchCode	004	
☑	Authorization	Bearer {{token}}	

Response Payload when request is still processing


Body
Cookies
Headers (17)
Test Results
Status: 200 OK
Time: 593 ms
Size: 914 B
Save Response
Pretty
Raw
Preview
Visualize
JSON

```
{
    "data": null,
    "messages": {
        "keyId": null,
        "status": "SUCCESS",
        "codes": [
            {
                "args": null,
                "arg": null,
                "information": true,
                "override": false,
                "error": false,
                "overrideAuthLevelsReqd": null,
                "desc": "Request is being processed",
                "type": "I",
                "code": "CMC-OBRH-023",
                "language": "ENG"
            }
        ],
        "requestId": null,
        "httpStatusCode": "OK",
        "overrideAuthLevelsReqd": null
    }
}
```

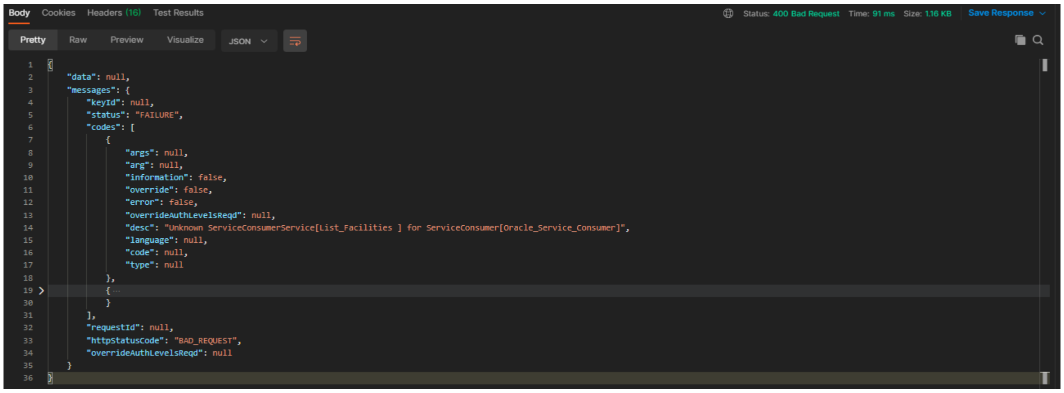
Response Payload when request is processed (on Successful Dispatch)


Body
Cookies
Headers (18)
Test Results
Save Response
Pretty
Raw
Preview
Visualize
JSON

Status: 200 OK Time: 21.20 s Size: 2.31 KB

```
{
    "data": {
        "facilitydtos": [ ···
        ]
    },
    "messages": {
        "keyId": null,
        "status": "SUCCESS",
        "codes": [],
        "requestId": null,
        "httpStatusCode": "OK",
        "overrideAuthLevelsReqd": null
    }
}
```

Response Payload when request is processed (on Failed Dispatch)


Body
Cookies
Headers (16)
Test Results
Save Response
Pretty
Raw
Preview
Visualize
JSON

Status: 400 Bad Request Time: 91 ms Size: 1.16 KB

```
{
    "data": null,
    "messages": {
        "keyId": null,
        "status": "FAILURE",
        "codes": [
            {
                "args": null,
                "arg": null,
                "information": false,
                "override": false,
                "error": false,
                "overrideAuthLevelsReqd": null,
                "desc": "Unknown ServiceConsumerService[List_Facilities ] for ServiceConsumer[Oracle_Service_Consumer]",
                "language": null,
                "code": null,
                "type": null
            },
            { ···
            }
        ],
        "requestId": null,
        "httpStatusCode": "BAD_REQUEST",
        "overrideAuthLevelsReqd": null
    }
}
```

17. Oracle Banking Routing Hub VM Arguments

Common Core Managed Server

-Dcmc-obrh-services.server.port=<SERVER_PORT>

-Dobrh.db.jndi=<CMNCORE_JNDI>

-Dcmc-obrh-services.kafka.server.path=<KAFKA_SERVER_PATH>

-Dcmc-obrh-services.zookeeper.server.path=<ZOOKEEPER_SERVER_PATH>

In order to receive routing failure mail notification via plato-alerts-management-service, then set the below property to true,

Otherwise set it to false

-Dcmc-obrh-services.kafka.enabled=<KAFKA_ENABLED>

In order to disable the modification of imported data (i.e. Factory Shipped data), then set the below argument to true (otherwise false).

-Dobrh.factory-shipped-data.readonly=true

In order to use Custom Truststore for HTTPS scheme,

-Dobrh.truststore.path=<TRUSTSTORE_PATH>

-Dobrh.truststore.password=<TRUSTSTORE_PASSWORD>

In order to do tomcat deployment,

-Dobrh.server.isJavaEE=false (mandatory)

-Dobrh.taskexecutor.corepoolsize=<CORE_POOLSIZE> (default is 50) (optional)

-Dobrh.taskexecutor.maxpoolsize=<MAX_POOLSIZE> (default is 50) (optional)

-Dobrh.taskexecutor.queuecapacity=<QUEUE_CAPACITY> (default is 100) (optional)

In order to set Proxy settings for HTTPS,

-Dhttps.proxyHost=<PROXY_HOST_NAME>

-Dhttps.proxyPort=<PROXY_PORT>

-Dhttps.nonProxyHosts=<NON_PROXY_HOST_LIST>

-Dhttp.nonProxyHosts=<NON_PROXY_HOST_LIST>

NOTE: **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).

In order to configure for SSL/Authentication enabled Kafka broker,

-Dspring.cloud.stream.kafka.binder.jaas.options.username=<Zookeeper user created for clients>

-Dspring.cloud.stream.kafka.binder.jaas.options.password=<Zookeeper user encrypted password for clients>

-Dspring.cloud.stream.kafka.binder.configuration.ssl.truststore.location=<location of client trust store certificate>

-Dspring.cloud.stream.kafka.binder.configuration.ssl.truststore.password=<Pass code of client truststore certificate>

NOTE: **Please refer Oracle Banking Microservices Platform Foundation Installation Guide.**

In order to set logger level,

- Dplato.service.logging.level=<LOG_LEVEL>

In order to do SSL based SOAP provider calls and if RoutingHub is deployed on weblogic environment,

-DUseSunHttpHandler=true

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

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.

In order to import bigger files,

plato-api-gateway.multipart.max-file-size=<MAX_FILE_SIZE> (default is 1MB)

plato-api-gateway.multipart.max-request-size=<MAX_REQUEST_SIZE> (default is 10MB)

NOTE: **-1 for no size constraint**

Example:

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

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