# Routing Hub Configuration User Guide

# **Oracle Banking Branch**

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#### **Routing Hub Configuration User Guide**

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 https://www.oracle.com/industries/financial-services/index.html

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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 <a href="http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc">http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc</a>.

#### 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

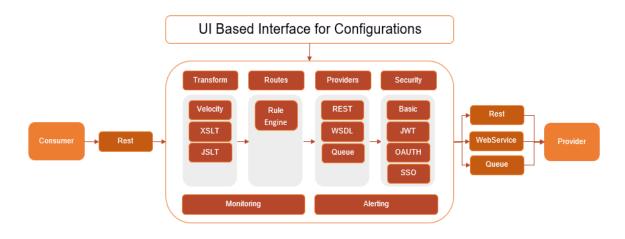
Oracle Banking Routing Hub is routing hub which enables seamless & standardized integrations between FSGBU

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, Queue.
- 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





# 2.1 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.

Sign In
User Name *
Password *
Sign In
Cancel

Component I	Component briefing					
Component Name	Component Type	ls 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

=	<u> </u>
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		

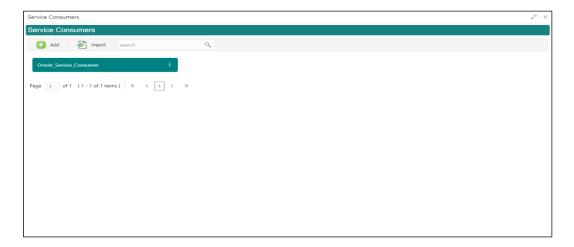


### 5 Service Consumer

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		< <sup>عر</sup> ير
Service Consumers		
Add 🔂 Import search	٩,	
Oracle_Service_Consumer     I       Page 1 of 1 (1-1 of 1 items)     K < 1	View Edit Delete Export JSON Configuration SQL Request Audit	

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



Search Navigation: Service	Combo Box One	icon (operation	Provides search functionality with case insensitive (Service Consumer Name) 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.

Service Consumers					$\mu^{\mu'} \times$
Service Consumers					
Add         Import         search           No items to display.         Page         1         of 0         (1 - 0 of 0 items)         K         X         X	Add Service Consumer		Enter 0 or more characters, up to a maximum of 255, um for a maximum of 255, no numeric value allowed at beginning.No space allowed.		
	Oracle_Service_Consume     Environment Variables     Add      Group *     select     Actions Name     No data to display.		Value		
			Save		

Navigation: Service Consumers -> Add



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

#### 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		,, <sup>14</sup> ×
Service Consumers		
Add     Import     search       No items to display.     Page     of0 (1-0 of 0 items)     K < > >	Add Service Consumer	



Service Consumers					, <sup>12</sup> ×
Service Consumers					
Add P Import search No items to display.	Add Service Consumer		×		
Page 1 of 0 (1 - 0 of 0 tems) K < > >	C Add Environment G	roup	Enter 0 or more characters, up to a maximum of 255. No numeric value allowed at beginning.No space allowed.		
	Actions No data to display.	Name	Value		

Component briefing						
Component Name	Component Type	ls 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	Environment Group / Variable						
Name	Text Box	Yes	Alphanumeric with special characters	<ul> <li>Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255</li> <li>No numeric value at beginning and no space allowed</li> </ul>			
Value	Text Area				Value can either be hardcoded or Velocity mapping.		
ок	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.

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

Navigation: Service Consumers -> Import

Service Consumers		"* ×
Service Consumers		
🕂 Add 🛃 Import Search	Import Service Consumer	×
No items to display. Page 1 of 0 (1-0 of 0 items) K < > >	File     *       Oracle_Service_Consumer_Consume     Select       Name     *       Oracle_Service_Consumer     •       Overvice estended templates     •       V Yes     ® No       all Service Providers     •       External_Product_Processor 1.0     •	A

Componen t Name	Componen t Type	ls Manda tory	Data type	Validation	Condition	Comments
File	File picker	Yes		Allows only to select one file	Accepts JSON and ZIP file	Pops up file selection dialog box
Extract	Button	Yes				Extracts Consumer Name and Service Provider list from JSON file only and displays it in the respective elements.



Name	Text Box	Yes	Alphanu meric with special charact ers	<ul> <li>Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255</li> <li>No numeric value at beginning and no space allowed</li> </ul>	Editable	Name is required only for JSON file
Overwrite extended templates	Radio Button	Yes				Predefined Values: Yes / No Yes: This option is for overwriting the extended templates in configuration and No: This option is for retaining the existing extended templates in configuration.
Service Provider	Collapsible Header & Content					Displays the list of service providers that are present in JSON file only
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	View Service	Consumer		<b>♂</b> ×	
Add Emport search	Name		_		
Oracle_Service_Consumer :		vice_Consumer			
Page 1 of 1 (1-1 of 1 items) K < 1 > X	d Environmer Group	nt Variables			
	COMMON		•		
	Actions	Name BRANCH_CODE	Value Sheaders["branchCode"	[0]	



## 5.4 Edit

User can modify the consumer details.

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

Service Consumers		,, <sup>,e</sup> ×
Service Consumers		
Add       Import       ora         Oracle_Service_Consumer       I         Page       1       of 1       (1 - 1 of 1 items)       K       1       >       X	Edit Service Consumer × Name * Oracle_Service_Consumer   Environment Variables  Coup * select Actions Name Value	
	No data to display.	

#### 5.5 Delete

User can delete the consumer.

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

Service Consumers			× <sup>v</sup> <sub>8</sub>
Service Consumers			
🕒 Add 🛃 Import ora	٩		
Oracle_Service_Consumer			
Page 1 of 1 (1 - 1 of 1 items) K < 1	к		
	CONFIRMATION	×	
	Do you want to delete the record?	I	
		Confirm Cancel	



#### 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		$_{\mu^{W^{-}}}\times$
Service Consumers		
Add 🛃 Import ora	Q. Export Service Consumer ×	
Oracle_Service_Consumer     I       Page 1 of 1 (1-1 of 1 items)     K	Name Oracle_Service_Consumer  Service Providers  Name  External_Product_Processor 1.0	
	Export	

#### 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
- All implementations of selected service providers with services (without Host, Port and Authentication Password)
- All transformations
- All 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	٩,	
Oracle_Service_Consumer :		
Page 1 of 1 (1 - 1 of 1 items) K < 1	x CONFIRMATION ×	
	Do you want to export? Note: Sensitive data such as Implementation Host, Port and Password will not be exported	
	Confirm Cancel	

**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	,, <sup>10</sup> ×
Oracle_Service_Consumer	
Service Providers Consumer Services	
Add Start search	
External_Product_Processor         i           Version 1.0         Type EXTERNAL           Status ACTIVE         Status ACTIVE	

Service Consumers		×*
Oracle_Service_Consumer		
Service Providers Consumer Services		
🕂 Add 🛛 🔂 Import Search	0	
External_Product_Processor     5       Version 1.0     Type INTERNAL       Status ACTIVE       Page 1 of 1 (1-1 of 1 items) K < 1	View Edit Delete Export Configuration Request Audit Clear Cache	

Component briefing						
Component Name	Component Type	Condition	Comments			
<service Consumer&gt;</service 	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: Serv	ice 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	
Configuration	menu option		Pops up configuration dialog	
Request Audit	menu option		Pops up request audit log	
Clear Cache	menu option		Clears SOAP client cache	



# 6.1 Add

User can create Service Provider manually.

Navigation: Service Providers-> Add

Service Consumers			ć ×
Oracle_Service_Consumer			
Service Providers Consumer Services			
🛨 Add 🔁 Import search	Add Service Provider	Enter 0 or more characters, up to a maximum of x	
External_Product_Processor	Product Name *	No numeric value allowed at beginning.No space allowed.	
Version 1.0 Type EXTERNAL Status ACTIVE	Version *	select  Active	
Page 1 of 1 (1 - 1 of 1 items) K <	► Headers		
	Service		
		Save	

Component briefing						
Component Name	Component Type	ls Mandatory	Data type	Validation	Comments	
Product Name	Text Box	Yes	Alphanumeric with special characters	<ul> <li>Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>	Unique provider name	
Туре	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	<ul> <li>Version cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>Enter only numeric or decimal values.</li> </ul>	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	Add Service Provider ×
Service Providers Consumer Services	
Add	Product Nam Add Header Enter 0 or more characters, up to a maximum of 255.
	External_Prof No numeric value allowed at beginning.No space allowed.
External_Product_Processor	1.0
Version 1.0 Type EXTERNAL	al Headers
Status ACTIVE	Add
	Actions
Page 1 of 1 (1 - 1 of 1 items) K < 1	No data to d
	OK ■
	Save

Oracle Service Consumer     Add Service Provider     ×       Service Founder     Consumer Services       Import     exerch       Import     exerch <th>Service Consumers</th> <th></th> <th></th> <th></th> <th></th> <th>, <sup>2</sup> ×</th>	Service Consumers					, <sup>2</sup> ×
Add       Type *         External_Product_Processor       External_Product_Processor         Version 1.0       Active         Type EXTERNAL       Active         Status ACTIVE       Add         Page 1 of 1 (1-1 of 1 items) K < 1       Edit         Edit       appld         CMNCORE       Edit         > y Delete       Active	Oracle_Service_Consumer	Add Service Provider			×	
External_Product_Processor       1.0         Version 1.0       Image: Constraint of the constraint		External_Product_Processor	EXTE	RNAL	¥	
Type EXTERNAL Status ACTIVE  Page 1 of1 (1-1 of 1 items) K < 1 Edit appld CMNCORE Edit S Delete	External_Product_Processor					
Status         ACTIVE           Page		A Headers				
Page         of 1         (1-1 of 1 items)         K         I         appld         CMNCORE           Edit         Edit		🚹 Add				
	Page 1 of 1 (1 - 1 of 1 items) K < 1	Edit				
		▶ s Delete			Save	

Component briefing					
Component Name	Component Type	ls 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: So	ervice Provide	rs -> Headers	s -> Add			
Name	Text Box	Yes	Alphanumeric with special characters	<ul> <li>Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>		
Value	Text Area	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.	
ОК	Button				Saves the header details and displays it in the list	



#### 6.1.2 Service

acle_Service_Consumer			<u> </u>
vice Providers Consumer Services			
🔁 Add 🛛 🔂 Import search	Add Service Provider	×	
External_Product_Processor	▶ Headers		
Version 1.0 Type EXTERNAL Status ACTIVE	d Service Type URL WSDL ♥ http://whf00bzdr7023/FCUBS-ELCMWel	yElValidLimitService?WSDL Import	
jeof1 (1-1of1items) K <	Service ElValidLimitService (ElValidLimitServiceSEI)	Operation QueryValidLimitIO	
	Eivandeimitservice (Eivandeimitservicesei)	Queryvalideimite	
		Save	

Component briefing					
Component Name	Component Type	ls Mandatory	Comments		
Туре	Combo Box One	Yes	Predefined Values: WSDL / SWAGGER / OTHERS		
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.



#### 6.1.2.3 OTHERS

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

Service Consumers				× **
Oracle_Service_Consumer	Edit Service Provider		×	
Service Providers Consumer Services	d Service Type Name OTHERS U Http Method Endpoint Select U		^	
Version 1.0 Type INTERNAL Status ACTIVE	Gateway Prefix  Gateway Prefix  Service Headers Service Query Params		I	
	Service EIValidLimitService (EIValidLimitServiceSEI)	Add Operation QueryValidLimitIO	2	
		Sav	e	

Component briefing					
Component Name	Component Type	ls Mandatory	Validation	Comments	
Name	Text Box	Yes	<ul> <li>Name cannot be blank</li> <li>No space allowed at beginning.</li> </ul>	Name of operation	
Http Method	Combo Box One	Yes		Predefined Values: GET / POST / PUT / PATCH / DELETE	
Endpoint	Text Box	Yes	<ul> <li>Endpoint cannot be blank</li> <li>No space allowed at beginning.</li> </ul>	Endpoint URL of operation	
Gateway Prefix	Text Box			Gateway Prefix is context path of below formatted URL http://host:port/gateway- prefix/endpoint	



Service Headers	Collapsible Header & Content		Endpoint specific headers Value can either be hardcoded or can be Velocity mapping.
Service Query Params	Collapsible Header & Content		Endpoint specific query parameters Value can either be hardcoded or can be Velocity mapping.
Add	Button		Adds the endpoint details in the Service list

**NOTE:** In case there is a change in existing endpoint, then same endpoint details need to be entered again with the new changes in order to update the existing provided service information in routing hub.

#### 6.2 Import

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

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

Service Consumers	2 <sup>4</sup> ×
Oracle_Service_Consumer	
Service Providers Consumer Services	
🚯 Add 🛛 🖗 import Search 🔍	
External_Product_Processor i	
Version 1.0 Type INTERNAL	Import Service Provider ×
Status ACTIVE	File *
	Oracle_Service_Consumer_Consumer.z) Select
Раде 1 of1 (1-1 of1 items) к < 1 > н	Overwrite extended templates Ves  No
	Import

Navigation: Service Providers -> Import



Component briefing						
Component Name	Component Type	ls Mandatory	Validation	Condition	Comments	
File	File picker	Yes	Allows only to select one file	Accepts JSON and ZIP file	Pops up file selection dialog box	
Overwrite extended templates	Radio Button	No			Predefined Values: Yes / No Yes: This option is for overwriting the extended templates in configuration No: This option is for retaining the existing extended templates in configuration. Note: This option is only visible if ZIP file is selected	
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				,, <sup>se</sup> ×
Oracle_Service_Consumer				
Service Providers Consumer Services				
Add import search	View Service Provider		₿×	
External_Product_Processor           Version 1.0           Type         EXTERNAL           Status         ACTIVE           Page	Product Name External_Product_Processor Version 1.0 I Headers Service	Type EXTERNAL Active On		
	Service FMaletI imitCenvice (FMaletI imitCenvice)		Operation Preer-Malid imit/O	)



## 6.4 Edit

User can modify the provider details.

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

Service Consumers				,» <sup>w</sup> ×
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 of1 (1-1 of1 kems) K <	Product Name * External_Product_Processor Version * 1.0 > Headers Service Type URL	Type * EXTERNAL Active		

#### 6.5 Delete

User can delete the provider.

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

Service Consumers			, <sup>4</sup> ×
Oracle_Service_Consumer			
Service Providers Consumer Services			
Add Import search	٩		
External Product Processor Version 1.0 Type EXTERNAL Status ACTIVE Page 1 of 1 (1-1 of 1 items) K < 1	CONFIRMATION Do you want to delete the record?	X Confirm Cancel	



#### 6.6 Export

User can export the provider configuration as JSON file.

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

			Shihpai Branch (004) Jun 25, 2020	JOHN DOE johndoem@obrh.com
Service Consumers				$_{\mu^{\mu^{\mu}}}$ $\times$
Oracle_Service_Consumer				
Service Providers Consumer Services				
Add Add Import search	٩			
External_Product_Processor       Version 1.0       Type     EXTERNAL       Status     ACTIVE       Page     of1 (1-1of1items)     K < 1	CONFIRMATION Do you want to export? Note: Sensitive data such as Imple	_	And 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

#### 6.7 Configuration

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

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

Service Consumers				, <sup>12</sup> - X
Oracle_Service_Consumer Service Providers Consumer Services	Configuration (Service Pr	ovider: External_Product_Processo	r) ×	
Add  Import Search  External_Product_Processor	Exception     Handle exception?	Status Codes		
Version 1.0 Type INTERNAL Status ACTIVE		Clear Reset S	ave	



Component briefing							
Component Name	Component Type	ls Mandatory	Validation	Comments			
Handle exception	Switch			This property is used to fail the routing hub request for failed provider requests. Default value is false.			
Status Codes	Text Box	No	Only 4xx and 5xx status codes are allowed as comma- separated values.	This property is used to fail routing hub request for specific status codes of failed provider requests. If not specified, then routing hub request will fail for all 4xx and 5xx status codes of failed provider requests.			



### 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

						,, <sup>12</sup> ×
Oracle_Service_O	Consumer > Service Providers >	External_Product_Processor 1.0				
Implementation						
🕒 Add 🔂 I	mport Search Q					
Actions Name		Description	Service Name	Host	Port	Queue
External_Pro	duct_Processor_Default	Default Implementation		XXXXX	0	
Page 1 of 1 (1-	1 of 1 items ) K < 1 > X					
						2
Service Consumers						$_{\mu ^{b^{\prime }}}$ $\times$
Oracle_Service_C	Consumer > Service Providers >	External_Product_Processor 1.0				,, <sup>w</sup> ×
Oracle_Service_O		External_Product_Processor 1.0				, ** ×
Oracle_Service_C	Consumer > Service Providers >		Sanica Name	Most	Bost	
Oracle_Service_C	mport Search Q	Description	Service Name	Host	Port	, de veue
Oracle_Service_C	Import Search Q		Service Name	Host	Port 0	
Oracle_Service_C	Import Search Q	Description	Service Name			
Cracle_Service_C Implementation Add	Import Search Q	Description	Service Name			
Oracle_Service_C Implementation Add P A Actions Name View Pa Edit Delete Export Request Audit	Import Search Q	Description	Service Name			
Cracle_Service_C Implementation Add	Import Search Q	Description	Service Name			
Oracle_Service_C Implementation Add P A Actions Name View Pa Edit Delete Export Request Audit	Import Search Q	Description	Service Name			
Oracle_Service_C Implementation Add P A Actions Name View Pa Edit Delete Export Request Audit	Import Search Q	Description	Service Name			
Oracle_Service_C Implementation Add P A Actions Name View Pa Edit Delete Export Request Audit	Import Search Q	Description	Service Name			
Oracle_Service_C Implementation Add P A Actions Name View Pa Edit Delete Export Request Audit	Import Search Q	Description	Service Name			
Oracle_Service_C Implementation Add P A Actions Name View Pa Edit Delete Export Request Audit	Import Search Q	Description	Service Name			



Component briefing						
Component Name	Component Type	Condition	Comments			
<service Consumer&gt;</service 	Button		Navigates back to Service Consumers			
<service Provider&gt;</service 	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: In	plementation -> 3 dot io	con (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			
Clear Cache	Menu option		Clears SOAP client cache			



# 7.1 Add

User can create Implementation manually.

#### Navigation: Implementation-> Add

Service Consumers					$_{\mu}^{at}$ $\times$
Oracle_Service_Consumer > Service Pro	Add Implementation	×			
Implementation					
Add 🔂 Import Search	Name *				
Actions Name	Description *		Host	Port	Queue
External_Product_Processor_Default			XXXXX	0	
Page 1 of 1 (1-1 of 1 items) K < 1 >	Type * Default Eureka Instance DEFAULT * Service Name * Select * Headers \$ Condina	Save			

Component briefing							
Component Name	Component Type	ls Mandatory	Data type	Validation	Comments		
Name	Text Box	Yes	Alphanum eric with special characters	<ul> <li>Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>	Unique implementation name		



Description	Text Area	Yes	Alphanum eric with special characters	<ul> <li>Description cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 1000.</li> <li>No space allowed at beginning or ending of the value.</li> </ul>	
Туре	Combo Box One	Yes			Predefined Values: DEFAULT / QUEUE <b>Note:</b> 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		<ul> <li>Service Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>No space allowed.</li> </ul>	If <b>Eureka Instance</b> is toggled ON and type is default, then only service name is required.
Host	Text Box	Yes	Alphanum eric with special characters	<ul> <li>Host cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>No space allowed.</li> </ul>	If <b>Eureka Instance</b> is toggled OFF and type is default, then only host and port is required.
Port	Text Box	No	Number	<ul> <li>Enter 0 or more characters, up to a maximum of 6.</li> <li>Only numeric value allowed.</li> </ul>	If <b>Eureka Instance</b> is toggled off and type is default, then only host and port is required.



Authenticati on	Collapsible Header & Content		Authentication option is available only when <b>Eureka</b> <b>Instance</b> 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, OAUTH\_TOKEN\_OIC

**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. In case of OIC integration, OAUTH\_TOKEN\_OIC needs to be set as Authentication Type.

Process of configuration of these is described below.

Service Consumers					$_{\mu}^{\mu}$ $\times$
Oracle_Service_Consumer > Service Pro	Edit Implementati	on		×	
Implementation           Implementation           Import         search	Default Implement	tation		^	
	Scheme *	Host *	Port *	ervice Name	Host Port
Actions Name  External_Product_Processor_Default		X000X	0		xxxx 0
Page 1 of 1 (1 - 1 of 1 items) K < 1 >	Authentication				
	NONE	•			
	NONE	^		_	
	BASIC			_	
	JWT_TOKEN				
	OAUTH_TOKEN			~	
	SSO	~		Save	

Component b	Component briefing						
Component Name	Component Type	ls Mandatory	Data type	Validation	Comments		
Туре	Combo Box One	Yes			Predefined Values: NONE / BASIC / JWT_TOKEN / OAUTH_TOKEN / SSO / OAUTH_TOKEN_ OIC		
Username	Text Box		Alphanum eric with special characters	<ul> <li>Username cannot be blank</li> </ul>	Username is mandatory if authentication type is BASIC /		

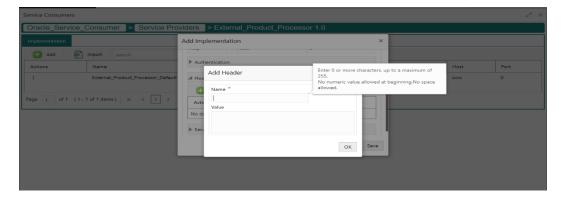


#### 7.1.2 Headers

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 Implementation ×	
Add P Import search	insp , noor	
Actions Name	Authentication	Host Port
External_Product_Processor_De	ault 🖌 Headers	хоох 0
	🕒 Add	
Page 1 of 1 (1 - 1 of 1 items) K < 1	Actions Name Value	
	Edit CMNCORE	
	▶ S Delete	
	Save	

Component b	Component briefing							
Component Name	Component Type	ls Mandatory	Data type	Validation	Comments			
Add	Button				Pops up add dialog			
Navigation: In	Navigation: Implementation -> Headers -> 3 dot icon (operation menu)							
Edit	menu option				Pops up edit dialog			
Delete	menu option				Deletes header			
Navigation: In	Navigation: Implementation -> Headers -> Add							
Name	Text Box	Yes	Alphanu meric with special characte rs	<ul> <li>Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>				
Value	Text Area	Yes	Alphanu meric with special	<ul> <li>Enter 0 or more characters, up to a maximum of 255.</li> </ul>	Value can either be hardcoded or can be Velocity mapping.			



		characte	
		rs	
ОК	Button		Saves the header details and displays it in the list

## 7.1.3 Service

Service Consumers						$\mu^{t\ell}$ ×
Oracle_Service_C	onsumer > Service Pro	viders > External_Produc	ct_Processor 1.0			
Implementation						
🔂 Add 🔂 ir	mport search	Add Implementation		×		
Actions	Name				Host	Port
:	External_Product_Processor_Default	Headers			XXXXX	0
Page 1 of 1 (1-1	of 1 items) K < 1 >	Service URL USDL  Service No data to display.	Operation	Import		

Component briefing								
Component Name	Component Type	Is Mandatory	Comments					
Туре	Combo Box One	Yes	Predefined Values: WSDL / SWAGGER / OTHERS					
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



#### 7.1.3.1 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.

#### 7.1.3.2 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.

#### 7.1.3.3 OTHERS

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

Service Consumers						$\times *_{\kappa}$
Oracle_Service_Consumer > Service Pro	viders > External Product Processor 1.0		-			
Implementation	Edit Implementation	×				
🚓 Add 🛛 🔂 Import Search	Service					
Actions Name	Type Name * OTHERS			Host	Port	Queue
External_Product_Processor_Default	Http Method * Endpoint *			XXXX	o	
Page 1 of 1 (1 - 1 of 1 items) K < 1 >	Select 👻					
	Gateway Prefix 🔞					
	Service Headers					
	Service Query Params					
		Add				
	Service Operation					
	No data to display.					
		Save				

Component briefing							
Component Component Is Name Type Mandatory		Validation	Comments				
Name	Text Box	Yes	<ul> <li>Name cannot be blank</li> <li>No space allowed at beginning.</li> </ul>	Name of operation			



Http Method	Combo Box One	Yes		Predefined Values: GET / POST / PUT / PATCH / DELETE
Endpoint	Text Box	Yes	<ul> <li>Endpoint cannot be blank</li> <li>No space allowed at beginning.</li> </ul>	Endpoint URL of operation
Gateway Prefix	Text Box			Gateway Prefix is context path of below formatted URL http://host:port/gateway- prefix/endpoint
Service Headers	Collapsible Header & Content			Endpoint specific headers Value can either be hardcoded or can be Velocity mapping.
Service Query Params	Collapsible Header & Content			Endpoint specific query parameters Value can either be hardcoded or can be Velocity mapping.
Add	Button			Adds the endpoint details in the Service list

**NOTE:** In case there is a change in existing endpoint, then same endpoint details need to be entered again with the new changes in order to update the existing provided service information in routing hub.



## 7.1.4 Queue

Oracle_Service_Consumer > Service P	Add Implementation		×			
Implementation	Type *	Default				
Add 🖓 Import Search	QUEUE	•				
	Queue Broker *	Request Reply Pattern *				
Actions Name	WEBLOGIC_JMS	JMS_MESSAGEID	· ·	Host	Port	Queue
External_Product_Processor_Default	Request Queue			XXXXX	0	
Page 1 of 1 (1-1 of 1 items) K < 1	Connection Factory *	Queue *				
	Response Queue					
	Connection Factory	Queue				
			Save			

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.
		proceeding the request.



### 7.2 Import

User can create an implementation by importing the JSON file.

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

Navigation: Implementation -> Import

Service Consumers					× <sup>36</sup> م
Oracle_Service_0	Consumer > Service Providers >	External_Product_Proc	essor 1.0		
Implementation					
🔂 Add 🔂	Import search Q				
Actions	Name		Description	Host	Port
:	External_Product_Processor_Default		Default Implementation	20000	0
Page 1 of 1 (1-	1 of 1 items) K < 1 > 3	Import Implementation	x Select Import		

Component briefing									
Component Name	Component Type	ls Mandatory	Data type	Validation	Conditio n	Comments			
File	File picker	Yes		Allows only to select one file	Accepts JSON and ZIP 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							,, <sup>12</sup> ×
Oracle_Service	_Consumer > Service Pro	oviders > Exte	ernal_Product_Pro	cessor 1.0			
Implementation							
🔂 Add 🔂	Import search	View Implement	tation		ĭ ×		
Actions	Name					Host	Port
:	External_Product_Processor_Default	Name		Default		XXXXX	0
			uct_Processor_Default	On			
Page 1 of 1 (1	- 1 of 1 items) K < 1 >	Description					
		Default Impleme	ntation				
		Scheme	Host	Port			
		http	XXXXX	0			
		Authenticatio	n				
		Headers					

## 7.4 Edit

User can modify the implementation details.

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

Service Consumers						$_{\mu}^{\mu}$ ×
Oracle_Service_	Consumer > Service Prov	viders > External_Product_Pro	cessor 1.0			
Implementation						
🕒 Add 🔂	Import search	Edit Implementation		×		
Actions	Name				Host	Port
:	External_Product_Processor_Default	Name *	Default		30000	0
Page 1 of 1 (1-	1 of 1 items) K < 1 >	External_Product_Processor_Default Description * Default Implementation Scheme * Host * http v xxxx Authentication .	Port *	Save		



#### 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_Prov	cessor 1.0			
Implementation						
🔂 Add 🛃	Import search	۹.				
Actions	Name		Description	Host	Port	
:	External_Product_Processor_Det	fault	Default Implementation	XXXXX	0	
age 1 of 1 (1	- 1 of 1 items ) K < 1		×			
		Do you want to delete the record?				
			Confirm Cancel			

## 7.6 Export

User can export the implementation configuration as JSON file.

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

Service Consumers				" <sup>u</sup> " ×				
Oracle_Service_	Oracle_Service_Consumer > Service Providers > External_Product_Processor 1.0							
Implementation								
🔂 Add	Import search Q							
Actions	Name	Description	Host	Port				
:	External_Product_Processor_Default	Default Implementation	XXXXX	0				
Page 1 of 1 (1-	1 of 1 items) K < 1 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

	rs			$\mu^{t'} \times$
Oracle_Servi	ice_Consumer			
Service Providers	Consumer Services			
🕂 Add	Import search	0,		
Actions	Name		Description	
:	List_Facilities		This service fetches the list of facilities available for party id	
Page 1 of 1	(1 - 1 of 1 items) K < 1 > >			
Service Consumer	rs			,, <sup>,e</sup> ×
				,, <sup>,e</sup> ×
Oracle_Servi	ice_Consumer			** ×
Oracle_Servi	ice_Consumer	Q		<sup>بو</sup> ×
Oracle_Servi	ice_Consumer	Q	Description	** ×
Oracle_Service Service Providers	Consumer Consumer Services	Q		,* ×
Oracle_Servi Service Providers	Consumer Services  Consumer Services  Import search Name Facilities	٩	Description	"* ×
Oracle_Service Service Providers Add Actions I View	Consumer Services Consumer Services Import search Name Lacifies	Q	Description	× **
Oracle_Servi Service Providers Add Actions : View Page Edit	Consumer Services  Consumer Services  Import search Name Facilities	Q	Description	× **
Oracle_Servi Service Providers Add Actions : View Pag Edit Delete	Consumer Consumer Services Import search Name 1 items) K < 1 > X	Q.	Description	** ×
Oracle_Service Service Providers Add Actions : View Psg. Edit Delete Export	Consumer       Consumer Services       import       search       Name	Q	Description	*** ×
Oracle_Service Service Providers Add Actions : View Page Edit Delete Export Configura	Consumer       Consumer Services       import       search       Name	٩,	Description	,** ×
Oracle_Service Service Providers Add Actions : View Page Edit Delete Export Configura	Consumer       Consumer Services       import       search       Name	Q.	Description	,* ×
Oracle_Service Service Providers Add Actions : View Page Edit Delete Export Configura	Consumer       Consumer Services       import       search       Name	Q.	Description	** ×
Oracle_Service Service Providers Add Actions : View Page Edit Delete Export Configura	Consumer       Consumer Services       import       search       Name	Q.	Description	,* ×
Oracle_Service Service Providers Add Actions : View Page Edit Delete Export Configura	Consumer       Consumer Services       import       search       Name	9	Description	** ×
Cracle_Service Service Providers Add Actions : View Pag Edit Delete Export Configura	Consumer       Consumer Services       import       search       Name	9	Description	

Component briefing					
Component Name	Component Type	Condition	Comments		
<service consumer=""></service>	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 d	lot icon (operation m	enu)
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	5						p <sup>et</sup>	×
Oracle_Servie	ce_Consumer							
Service Providers	Consumer Services	Add Service		Enter 0 or m 255.	ore characters, up to a m	aximum of		
🕂 Add	Import search	ID *		No numeric allowed.	value allowed at beginni	ng.No space		
Actions	Name	1			)			
E	List_Facilities	Description *						
Page 1 of 1	(1 - 1 of 1 items) K < 1 >							
		🔂 Add						
		Actions	Attribute Name		json path			
		No data to display.						
					Save			

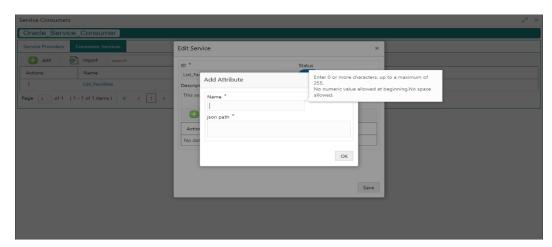


Component b	oriefing				
Component Name	Component Type	ls Manda tory	Data type	Validation	Comments
ld	Text Box	Yes	Alphanum eric with special characters	Name cannot be blank Enter 0 or more characters, up to a maximum of 255. No numeric value at beginning and no space allowed.	Unique Service Id
Status	Switch	Yes			Predefined Values: ACTIVE / INACTIVE If consumer service is marked as inactive, then all related routes will be stopped.
Description	Text Area	Yes	Alphanum eric 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		, <sup>2</sup> ×
Oracle_Service_Consumer		
Service Providers Consumer Services	Edit Service ×	
Add Simport search	ID * Status	
Actions Name	List_Facilities	
E List_Facilities	Description *	
Page 1 of 1 (1-1 of 1 items) K < 1 >	This service fetches the list of facilities available for party id	
	🔂 Add	
	Actions Attribute Name json path	
	ENTITY S.body.entity	
	Delete	
	Save	



Component briefing						
Component Name	Component Type	ls Mandatory	Data type	Validation	Condit ion	Comments
Add	Dutton					Dana un add
Add	Button					Pops up add dialog
Navigation: C	onsumer Servi	ces -> Headers	s -> 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	Alphanumeri c 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	Alphanumeri c 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.
ОК	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]
- Using \$.env, user can access environment variables. Syntax: \$.env.group.variable



#### 8.2 Import

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

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

Navigation: Consumer Services -> Import

Service Consumers	* ×
Oracle_Service_Consumer	
Service Providers Consumer Services	
🕒 Add 🛛 🚰 Import Search 🔍	
Actions Name	Description
E List_Facilities	This earning fatches the list of facilities suplishing for nystuid
Page 1 ef1 (1-1 of1 kens) x < 1 → x	Import Service × File * Overwrite estendart semplates Viss * No Import

Component briefing							
Component Name	Component Type	ls Mandatory	Data type	Validation	Condition	Comments	
File	File picker	Yes		Allows only to select one file	Accepts JSON and ZIP file	Pops up file selection dialog box	
Overwrite extended templates	Radio Button	Yes				Predefined Values: Yes / No Yes: This option is for	
						overwriting the extended templates in configuration and	
						No: This option is for retaining the existing extended templates in configuration.	



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				" <sup>u</sup> ×
Oracle_Service_Consumer				
Service Providers Consumer Services	View Service		æ×	
🕂 Add 🔂 Import search	ID	Status		
Actions Name	List_Facilities	On		
E List_Facilities	Description	-		
Page 1 of 1 (1 - 1 of 1 items) K < 1 >	This service fetches the list of facilities a	vailable 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	Edit Service		×	
Add Dimport search	ID *	Status		
Actions Name	List_Facilities			
E List_Facilities	Description *			
Page 1 of 1 (1 - 1 of 1 items) K < 1 >	This service fetches the list of facilities av	ailable for party id		
	+ Add			
	Actions Attribute Name	json path		
	No data to display.			
			Save	



#### 8.5 Delete

User can delete the consumer service.

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

Service Consumers				$_{\mu^{b^{\prime}}}$ $\times$
Oracle_Service	_Consumer			
Service Providers	Consumer Services			
🕂 Add 🔂	Import search	9,		
Actions	Name		Description	
÷	List_Facilities		This service fetches the list of facilities available for party id	
Page 1 of 1 (1	- 1 of 1 items ) K < 1	CONFIRMATION Do you want to delete the	e 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				,, <sup>ve</sup> ×
Oracle_Servic	e_Consumer			
Service Providers	Consumer Services			
Add 🗧	Import search	9		
Actions	Name		Description	
÷	List_Facilities		This service fetches the list of facilities available for party id	
Page 1 of 1 (	1 - 1 of 1 items ) K < 1		×	
		Do you want to export?	1	
			Confirm	



## 9 Transformation

Transformation acts as an assembling and transforming data from source to destination and viceversa. 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 Consu	mers				$_{\mu}^{\nu}$ $\times$					
Oracle_Se	ervice_Consumer >	Consum	er Services > List_Facilities							
Transformatio	n Routing									
🕂 Add	Import search		٩,							
Actions	Name	Status	Product Processor	Implementation	Service					
:	E List_Facilities_Trf_01 ACTIVE External_Product_Processor 1.0 ElValidLimitService (EValidLimitServiceSE) - QueryValidLimitIO									
Page 1 c	Page 1 of 1 (1-1 of 1 items) K < 1 > X									
Service Consu	mers				,					
		Consum	er Services > List_Facilities							
Transformatio		Contrain								
Add	Import search		٩,							
Actions	Name	Status	Product Processor	Implementation	Service					
i.	List Facilities_Trf_01	ACTIVE	External_Product_Processor 1.0	implementation	ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO					
View	f1items) K	_								
Edit										
Delete										
	ist Audit									

Component briefing						
Component Name	Component Type	Condition	Comments			
<service Consumer&gt;</service 	Button		Navigates back to Service Consumers			



<consumer Service&gt;</consumer 	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: Tr	Navigation: Transformation -> 3 dot icon (operation menu)						
View	menu option	Non-editable	Pops up view dialog				
Edit	menu option		Pops up edit dialog				

Exports in JSON

Pops up request audit log

menu option

menu option

menu option

Delete

Export

Request

Audit



## 9.1 Add

User can create Transformation manually.

#### Navigation: Transformation-> Add

Service Consumers Oracle_Service_Consumer Transformation Routing	Add Transformation	Enter 0 to 255 characters. No numeric value allowed at beginning.N allowed.	lo space	×	,* ×
Add Dimport Search	Product Processor Product Processor Select	Implementation Select	Service *	v	
Elist_Facilities_Tirf_01	Service Headers Request Transformation				ryValidUmittO
	Response Headers     Response Transformation				
				Save	

Component b	Component briefing							
Component Name	Component Type	ls Mand atory	Data type	Validation	Comments			
Name	Text Box	Yes	Alphanum eric with special characters	<ul> <li>Name cannot be blank</li> <li>Enter 0 or more characters, up to a maximum of 255.</li> <li>No numeric value at beginning and no space allowed.</li> </ul>	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	Collapsible			
Processor	Header			
Product	Combo Box	Yes		Displays provider list relevant to
Processor	One			consumer
Implementat	Combo Box			Displays implementation list
ion	One			relevant to selected provider
Service	Combo Box	Yes		Displays service list relevant to
	One			selected provider and
				implementation
Service	Collapsible			Displays service details of
	Header &			selected service
	Content			
Headers	Collapsible			Displays header list relevant to
	Header &			selected provider, implementation and service
	Content			User can change the header values.
				Value can either be hardcoded
				or can be Velocity mapping.
Path Params	Collapsible			Displays path param list relevant to selected service
	Header &			
	Content			User can change the param values.
				Value can either be hardcoded
				or can be Velocity mapping.
Query Params	Collapsible Header &			Displays query param list relevant to selected service
	Content			User can change the param values.
				Value can either be hardcoded
				or can be Velocity mapping.



Request	Collapsible		
Transformati	Header		
on			
Body Type	Combo Box		Predefined Values:
	One		RAW / FORM_DATA
			Note: This option is only visible
			if selected service is REST
			service.
Туре	Combo Box		Predefined Values:
	One		VELOCITY / JSLT / XSLT
Template	Text Area		User has to define the kernel template in which provider accepts.
			Refer Transformation Type for
			syntax and Multipart Request
			for sample request if body type
			is FORM_DATA
Extended Template	Text Area		User has to define the custom template in order to extend the kernel template.
			Please refer Extensibility and Transformation Type for syntax
			Note: This option is not visible if body type is FORM_DATA.
Response Headers	Collapsible Header & Content		Response Headers is used for specifying additional headers required to be part of routing hub response headers.
			Value can either be hardcoded
			or can be Velocity mapping.
Туре	Combo Box		Predefined Values:
	One		VELOCITY / JSLT / XSLT
Template	Text Area		User has to define the kernel template in which consumer accepts.



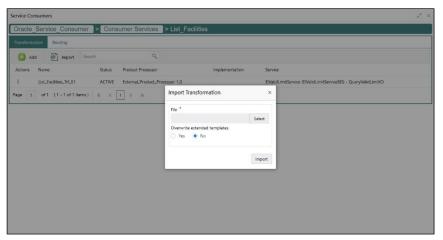
			Refer Transformation Type for syntax
Mocking required?	Switch		Predefined Values: YES / NO If flag is marked as yes, then routing hub will return the mocked template output (with extended template output if mentioned) to consumer without invoking provider API.
Mock Template	Text Area		User has to define the kernel mocked template in which consumer accepts. Refer Transformation Type for syntax
Extended Template	Text Area		User has to define the custom template in order to extend the kernel template. Refer Extensibility and Transformation Type for syntax
Save	Button		Saves transformation details

#### 9.2 Import

User can create a transformation by importing the JSON file.

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

#### Navigation: Transformation -> Import





Component briefing							
Component Name	Component Type	ls Mand atory	Validation	Condition	Comments		
File	File picker	Yes	<ul> <li>Allows only to select one file</li> </ul>	Accepts JSON and ZIP file	Pops up file selection dialog box		
Overwrite extended templates	Radio Button	Yes			<ul> <li>Predefined Values:</li> <li>Yes / No</li> <li>Yes: This option is for overwriting the extended templates in configuration</li> <li>No: This option is for retaining the existing extended templates in configuration.</li> </ul>		
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	View Transformation		C	× ×
Oracle_Service_Consumer	Name List_Facilities_Trf_01	Act		
Add 🔂 Import Search	I Product Processor			
Actions Name	Product Processor	Implementation	Service	
List_Facilities_Trf_01	External_Product_Processor 1.0	Select	ElValidLimitService (ElValidLimitServ	 JeryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items )	Service			
	▶ Headers			
	Request Transformation			
	Response Headers			
	Response Transformation			



## 9.4 Edit

User can modify the transformation details.

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

Service Consumers	Edit Transformation			×	, <sup>2</sup> ×
Oracle_Service_Consumer       Transformation       Routing       Add       Import     Search	Name * List_Facilities_Trf_01 # Product Processor	Active			
Actions Name : List_Facilities_Trf_01	Product Processor * External_Product_Processor 1.0 v	Implementation Select	Service * ElValidLimitService (ElValidLimitS	¥	JeryVəlidLimitIO
Page 1 of 1 (1 - 1 of 1 items)	Service     Headers				
	Request Transformation     Response Headers				
	Response Transformation				
				Save	

### 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	Q,								
Actions Name Status	Product Processor	Implementation	Service						
EList_Facilities_Trf_01 ACTIVE	External_Product_Processor 1.0		ElValidLimitService (ElVa	lidLimitServiceSEI) - QueryValidLimitIO					
Page 1 of 1 (1-1 of 1 items) K < 1	CONFIRMATION Do you want to delete the record?	Ce	× Infirm Cancel						



# 9.6 Export

User can export the transformation configuration as JSON file.

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

Service Cons	umers				×*	×
Oracle_S	Service_Consumer >	Consum	er Services > List_Facilities			
Transformati	on Routing					
🕂 Add	Import search		9			
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) K	< 1			×	
			Do you want to export?		1	
				с	Confirm Cancel	



# 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 C	onsumers						» <sup>رو</sup> ×
Oracle	e_Service_Cons	umer	> Consu	mer Se	ervices > List_Facilities		
Transform	mation Routing						
	Add search		٩,				
Actions	Name		Start/Stop	Rule	Product Processor	Implementation	Service
:	List_Facilities_Rout	te_01	۲		External_Product_Processor 1.0	External_Product_Processor_Default	ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO
Page 1	of 1 (1 - 1 of 1 i	items )	К < 1	> >	4		
1							
	onsumers						$\mu^{d}$ ×
Oracle	Service_Cons	umer	> Consur	mer Se	ervices > List_Facilities		
Transform	mation Routing						
	Add search		٩,				
Actions	Name		Start/Stop	Rule	Product Processor	Implementation	Service
	View Continue Rout	te_01	۲		External_Product_Processor 1.0	External_Product_Processor_Default	ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO
Dee	View Edit 1 it	items )	к < 1	> >	1		,
	Delete						
	Configuration						
	Request Audit						

Component briefing								
Component Name	Component Type	Condition	Comments					
<service Consumer&gt;</service 	Button		Navigates back to Service Consumers					



<consumer Service&gt;</consumer 	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		
Configuratio n	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				, <sup>10</sup> ×
Oracle_Service_Consumer	Add Route		:	
Transformation Routing	Name *	Start/Stop	Auto Shutdown	
Add search		START STOP		
Actions Name	O Default Rule   Custom Rule			
List_Facilities_Route_01	a Rule			LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1-1 of 1 items)	Expression Editor *			
	A Transformations			
	🕂 Add			
	Actions Product Processor	Implementation	Transformation	
			Save	



Component briefing						
Component Name	Component Type	ls 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			
Transformati ons	Collapsible Header & Content					
Save	Button		Saves the routing details			

# 10.1.1 Add Routing with Custom Rule

Service Consumers				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Oracle_Service_Consumer	Add Route			×
Transformation Routing           Add         search           Actions         Name	Name *	Start/Stop START STOP	Auto Shutdown	
List_Facilities_Route_01 Page 1 of 1 (1 - 1 of 1 items)	▲ Rule Expression <i>Editor</i> *			LimitServiceSEI) - QueryValidLimitIO
	A Transformations			
	Add     Actions     Product Processor	Implementation	Transformation	
				_



Component briefing							
Component Name	Component Type	ls 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							× * <sub>4</sub>
Oracle_Service_Con Transformation Routing	Expression Editor		lat Pasilitaa			×	
Add search	Attribute *	Operator		Value *	Condition Type	×	
List_Facilities_Ro		▼ select	*		select	•	eSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1							
						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						, <sup>16</sup> ×
Oracle_Service_Consumer	> Consumer S	Services > List_Facilities				
Transformation Routing	Add Route				×	
Add search	O Default Rule	Custom Rule				
Actions Name	A Rule					
List_Facilities_Route_01	Expression Editor	*				LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)						
	Transformations					
	Add					
	Actions	Product Processor	Implementation	Transformation		
	No data to display.					
					Save	
					June	
Service Consumers					-	,* ×,
Service Consumers	> Consumer S	Services > List_Facilities	_	_		* ×
	Consumer S		-		×	
Oracle_Service_Consumer			Implementation *	-	×	,* ×
Oracle_Service_Consumer Transformation Routing	Add Transformation		Implementation *		×	,* ×
Oracle_Service_Consumer	Add Transformation Product Processor * select Transformation *	v.		×	×	ی ۲ × LimitSeniceSE) - QueryVälidLimittö
Oracle_Service_Consumer           Transformation         Routing           Add         search           Actions         Name	Add Transformatio Product Processor * select Transformation * select	on		•	×	ی می
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatio Product Processor * select Transformation * select Headers	v v		•	×	ی می در در می د LimitServiceSE() – QueryValidLimitiO
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatic Product Processor * select Transformation * select Headers Product Processor	v v		v	×	
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatio Product Processor * select Transformation * select Headers	v v		•	×	umitServiceSE) - QueryValidLimit0
Actors         Name           :         Ust_Facilities_Route_01	Add Transformation	v v		•	×	LimitServiceSE) - QueryValidLimitiO
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatio Product Processor * select Transformation * selecr > Headers # Product Processor Service > Request Transform	on v v			×	
Actors         Name           :         Ust_Facilities_Route_01	Add Transformation	on v v		•	×	یر بر
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatio Product Processor * select Transformation * selecr > Headers # Product Processor Service > Request Transform	on v v		•		
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatio Product Processor * select Transformation * selecr > Headers # Product Processor Service > Request Transform	on v v			х	یی بر بر LimitServiceSE() - QueryValidLimitIO
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatio Product Processor * select Transformation * selecr > Headers # Product Processor Service > Request Transform	on v v				_v" ×
Actors         Name           :         Ust_Facilities_Route_01	Add Transformatio Product Processor * select Transformation * selecr > Headers # Product Processor Service > Request Transform	on v v				یم ک



Component briefing						
Component Name	Component Type	ls 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			
ОК	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					,,, <sup>,,,</sup> , ×
Oracle_Service_Consumer	View Route			e ×	
Transformation         Routing           Image: Add         search           Actions         Name	Name List_Facilities		t/Stop Auto TART STOP Off	Shutdown	
Eist_Facilities_Route_01	Transform	ations	1		LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)	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				,, <sup>st</sup> ×
Oracle_Service_Consumer	Edit Route		×	
Transformation Routing  Add search  Actions Name	Name * List_Facilities_Route_01 Default Rule Custom Rule	Start/Stop START STOP	Auto Shutdown	
E List_Facilities_Route_01	Transformations			LimitServiceSEI) - QueryValidLimitIO
Page 1 of 1 (1 - 1 of 1 items)	🕂 Add			
	Actions Product Processor	Implementation	Transformation	
	External_Product_Processor	1.0 External_Product_Processor_Defai	ult List_Facilities_Trf_01	
			Save	



## 10.4 Delete

User can delete the routing.

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

Service Cor	nsumers					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
Oracle	Service_Consumer	> Consu	mer So	ervices > List_Facilities		
Transforma	ation Routing					
🕂 Ad	d search	٩,				
Actions	Name	Start/Stop	Rule	Product Processor	Implementation	Service
:	List_Facilities_Route_01	۲		External_Product_Processor 1.0	External_Product_Processor_Default	ElValidLimitService (ElValidLimitServiceSEI) - QueryValidLimitIO
Page 1	of 1 (1 - 1 of 1 items)	К < 1	•	CONFIRMATION		×
			Do	you want to delete the record?		1
					Confirm	Cancel



## **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.

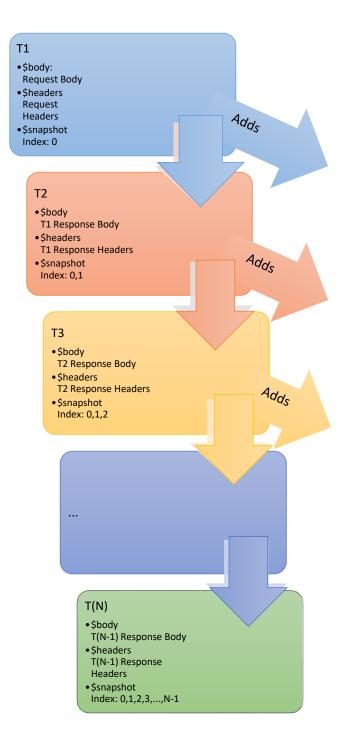
So, end-user can access response body or headers of all processed transformations at any given step.

### Syntax:

\$snapshot.get(index).body or \$snapshot.get(index).headers

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





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					



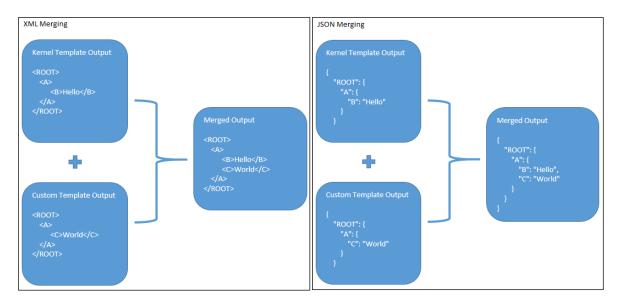
## **12 Extensibility**

Extensibility in Routing Hub refers to template extensibility and is achieved by specifying the extended templates for request and response kernel transformation templates.

And as part of extensibility, Routing Hub merges the output of kernel template and custom template in terms of JSON / XML merging.

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

Example:





## 13 Audit purging / archiving

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

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

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

1. Open "Configure Tasks" screen (Task Management -> Configure Tasks)

2. Select "Schedule" option

3. Select "Task Name" as routingHubAuditRetentionJob and "Task Trigger Name" will be generated automatically

4. Specify the CRON expression to daily EOD

In order to resolve table space issue of Audit table (CMC\_RH\_AUDIT\_EVENT\_LOG), Database Management Team has to configure database job which should be triggered after routingHubAuditRetentionJob.

This database job can be redefining the table (DBMS\_REDEFINITION) after purging/archiving is done or other approach.

So, unused LOB segment space can be released.

And in order to resolve table space issue of Audit history table (CMC\_RH\_AUDIT\_EVENT\_LOG\_HISTORY), Database Management Team has to configure database job to truncate table periodically basis.



# 14 Multipart request

[

Below is the sample template for multipart request:

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

]



# **15 Configuration**

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

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

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

Configuration			$_{\mu}^{\nu}$ $\times$
al Monitoring			
Window Type Count Time	Window Size	× ×	
⊿ Alert			
Minimum number of calls	Failure rate threshold		
100 🗸 🗸	50%	× ^	
⊿ Email Alert			
Email Addresses			
⊿ Export			
Mark data as factory shipped			
			Clear Reset Save

Component briefing									
Component Name	Component Type	ls 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 properti es 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
Export	Collapsible Header & Content		This section has properties that are required for exporting configuration JSON. This section will be visible at system level only.
Mark data as factory shipped	Switch	Yes	This property is used to mark the exported configuration JSON as factory shipped JSON. So, end-user will not be able to modify or delete the certain data once imported. Default value is false.



#### 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.



# 16 Audit Log

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

Request Audit	t								$_{\mu}^{\nu}$ $\times$
Request Id			Consum	er		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 disp	olay.								
Page 1 of	f0 (1-0 of 0 item	15) K < > X							

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

Request Audit	1								, <sup>ж</sup> ×
Request Id			Consumer		c	Consumer Service			
Provider			Provider Implements	ation	P	Provider Service			
			Request Audit Details			×			
Transformation			Request Id						
			eqwiLi5IXb4N1dZTT8KKZi 8	imRnxj3Q16tby8u5n0VkV62	80dtlsNFN1hZcJmWrgCux	wwCn2vlcBkbbqNHuiELNt3			
Search			<ul> <li>—</li> </ul>	<b>v</b>	<b>⊘</b>	<b>⊘</b>			
Request Id	Consumer	Consumer	OBRH Request Timestamp	Provider Request	Provider Response	OBRH Response	te	Status	User Id
eqwiLi5IX	Oracle_Service_Consumer	List_Facilities	2021-02-23T12:34:42.128	3+05:30			>_L	SUCCE	JOHNDOE
			Message						
xvA8tBqg	Oracle_Service_Consumer	List_Facilities	eyJhbGciOiJlUzUxMiJ9.eyJ 2Mzc4NiwiZXhwljoxNjE0N		RYX0FOSUtFVCIsImF1ZCI6I		)_L	FAILURE	JOHNDOE
rKiNdo6q	Oracle_Service_Consumer	List_Facilities		HN53W_Nd9z3RJixrKMDSs application/json"],"User-Ag			)_L	FAILURE	JOHNDOE
0cfSvi3rO	Oracle_Service_Consumer	List_Facilities					)_L	FAILURE	JOHNDOE
7QNJXRx	Oracle_Service_Consumer	List_Facilities					)_L	SUCCE	JOHNDOE
Page 1 of	f 347 (1 - 5 of 1735 items)	К < 1 2	3 4 5 347	к «					



Request Audit									,,, <sup>w</sup> ×
Request Id			Consumer		(	Consumer Service			
Provider			Provider Implementa	tion	1	Provider Service			
Transformation			Request Audit Details			×			
			Request Id xvA8tBqgWQas1qC7pl2nN 9Tb	v5vtWog6ie9WbLae4BKK(	0X08JsIIRUpa1a2xFYAaHGau	il6WiSd7XSfG8axMhgbnP0			
Search			<b>O</b>			••••			
Request Id	Consumer	Consumer	OBRH Request Timestamp	Provider Request	Provider Response	OBRH Response	te	Status	User Id
eqwiLi5IX	Oracle_Service_Consumer	List_Facilities	2021-02-23T12:30:31.796 Message	+05:30			>_L	SUCCE	JOHNDOE
xvA8tBqg	Oracle_Service_Consumer	List_Facilities	2MzA2MywiZXhwljoxNjE0	0aWQiOiliLCJzdWliOiJPQ MDYzNjYzfQ.XVXWkvpei	kRYX0FOSUtFVCIsImF1ZCI6 O8L8tuyKAXZtKXDPmrnIsW	pZtfkjLm3qiTEVgu4SFFRci	)_L	FAILURE	JOHNDOE
rKiNdo6q	Oracle_Service_Consumer	List_Facilities	(Windows NT 10.0: Win64:		Type":["application/json"],"U 6 (KHTML, like Gecko) Chror		)_L	FAILURE	JOHNDOE
0cfSvi3rO	Oracle_Service_Consumer	List_Facilities					)_L	FAILURE	JOHNDOE
7QNJXRx	Oracle_Service_Consumer	List_Facilities					)_L	SUCCE	JOHNDOE
Page 1 of	347 (1 - 5 of 1735 items)	К < 1 2	3 4 5 347	к <					

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:	Performs search
		Case insensitive	operation with specified values
		Pattern matching	values
		Single / Multi Column search	

**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.



# 17 Dashboard 17.1 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 Indicato	r	×
	Service	
Oracle_Service_Cons	List_Facilities	Q
Routing		
All List_Facilitie	es_Route	
	Series Successful Calls Value 100.0	
100%	Successfi Failed Ca	



# **18 Transformation Type**

## 18.1 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]
- Using **\$bodyAsString**, user can access response body as string. Syntax: **\$bodyAsString**
- Below are some available extension methods:
  - Date Conversion
     Syntax: \$dateUtil.convert(inputDate, fromPattern, toPattern)
     Parameters:
    - inputDate String
    - fromPattern String
    - toPattern String

#### Returns: String

Please refer <u>https://docs.oracle.com/javase/8/docs/api/java/text/SimpleDateFormat.html</u> 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
<a href="https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/XmlTool.html">https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/XmlTool.html</a>

Date Tool

Syntax: \$date.methodName()

Please refer

https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/DateTool. html

Json Tool

Syntax: \$json.methodName()

#### Please refer

https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/JsonTool. html

Math Tool

Syntax: \$math.methodName()

#### Please refer

https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/MathTool .html

> Number Tool

Syntax: \$number.methodName()

#### Please refer

https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/NumberT ool.html



Escape Tool
 Syntax: \$esc.methodName()
 Please refer
 <a href="https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/EscapeT">https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/EscapeT</a>
 ool.html

Serialization of object into its equivalent Json representation
 Syntax: \$custom.toJson(src)

Parameters:

src - Object

Returns: String

Get additional field's value based on fieldname

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

- jsonString String
- fieldname String

### Returns: String

Get list of additional fields based on fieldname prefix

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

- jsonString String
- prefixval String

### Returns: List

 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.



## 18.2 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.

## 18.3 JSLT

JSLT is a complete query and transformation language for JSON.



# **19 Oracle Banking Routing Hub Integration Specification**

## **19.1 Token Generation**

PlatoJWTAuth endpoint Signature -

- Path : /platojwtauth
- Headers:
  - > appld : 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

POST v whf00lse:7002/api-gateway/platojwtauth		Send <b>v</b> Save	•
Params Authorization Headers (12) Body	Pre-request Script Tests Settings		
Headers 💿 9 hidden			
kEY ✓ appid	VALUE SECSRV001	DESCRIPTION ••• Bulk Edit Preset	5 🔻
✓ Content-Type	application/json		
Concent Type			



#### **Request Payload**

POST	whf00lse:7002/api-gateway/platojwtauth	Send <b>v</b> Save <b>v</b>
Params	Authorization Headers (12) Body Pre-request Script Tests Settings	Cookies Code
none	● form-data ● x-www-form-urlencoded ● raw ● binary ● GraphQL JSON ▼	Beautify
1 <b>{</b> 2 3	"username": "VEVTVFVTRVIx", "password": "VEVTVFVTRVIx"	I
4 }		T

### **Response Payload**



## **19.2 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 -

- Method: POST / GET
- Path : /route/dispatch
- Headers:
  - > appld : 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

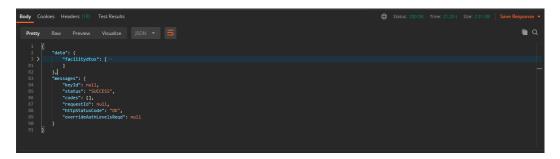
POS	T v whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch				Send ~
Param	ns Authorization Headers (17) Body  Pre-request Script Test				
		VALUE	DESCRIPTION	••• Bull	Edit Presets 🗸
$\checkmark$	Content-Type	application/json			
	appld	CMNCORE			
	entityld	DEFAULTENTITY			
	userid	TESTUSERI			
	branchCode	004			
	Authorization	Bearer ((token))			
	SERVICE-CONSUMER	Oracle_Service_Consumer			
$\checkmark$	SERVICE-CONSUMER-SERVICE	List_Facilities			

#### **Request Payload**





**Response Payload on Successful Dispatch** 



**Response Payload on Failed Dispatch** 



## **19.3 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:
  - > appld : 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

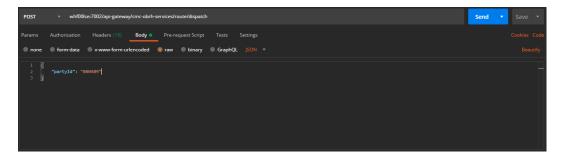
#### **Query Params**

POST	whf00lse:	7002/api-gateway/c	mc-obrh-serv	vices/route/dispatch?isA	lsync=true			Send	•	
Params • Query Param	Authorization	Headers (17)	Body 😐	Pre-request Script	Tests	Settings				
KEY				VALUE			DESCRIPTION			
isAsync				true						
Key										

#### Headers

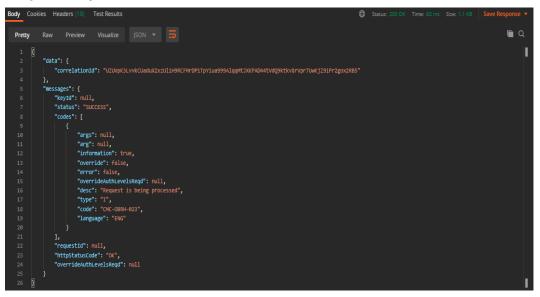
POS	T v whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch?	sAsync=true			s	end v
	is Authorization Headers (17) Body Pre-request Script Te					
Head	ers 🐵 9 hiddon					
		VALUE	DESCRIPTION	000 E	Bulk Edit	Presets $\lor$
$\checkmark$	Content-Type	application/json				
$\checkmark$	appld	CMNCORE				
$\sim$	entityId	DEFAULTENTITY				
2	userld	TESTUSER1				
$\checkmark$	branchCode	004				
$\checkmark$	Authorization	Bearer ((token))				
$\checkmark$	SERVICE-CONSUMER	Oracle_Service_Consumer				
~	SERVICE-CONSUMER-SERVICE	List_Facilities				

#### **Request Payload**





#### **Response Payload**



## 19.4 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:
  - > appld : 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.

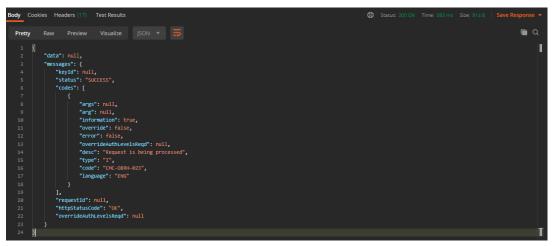
Example - Below are the screenshots of route dispatch for

ServiceConsumer Oracle\_Service\_Consumer and ServiceConsumerService List\_Facilities

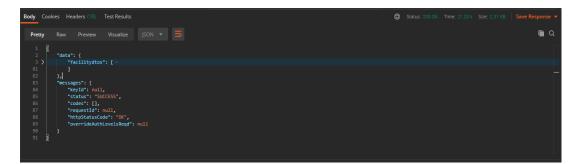
Headers

GET v whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatchR	esponse/4WTTEvRceo3hfb8nd9wnql7uokPPSoLk2EyqjSeT8bA65vXWC2CGMyt	bEf1y8rGxar3BidzYGdVhq4mFQiHWVCVRb		iend v
Params Authorization Headers (15) Body  Pre-request Script Tests	s Settings			
Headers 💿 9 hidden				
KEY	VALUE	DESCRIPTION	••• Bulk Edit	Presets $\lor$
Content-Type	application/json			
I appld	CMNCORE			
I entityld	DEFAULTENTITY			
Suserid	TESTUSER1			
✓ branchCode	004			
Authorization	Bearer ({token}}			

Response Payload when request is still processing



Response Payload when request is processed (on Successful Dispatch)







Response Payload when request is processed (on Failed Dispatch)



## 20 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.oic.oauth.scope=<OIC\_OAUTH\_SCOPE>
-Dcmc-obrh-services.oic.secretStore.url=<OIC\_SECRET\_STORE\_URL>
-Dcmc-obrh-services.oic.idcs.url=<OIC\_IDCS\_URL>
-Dcmc-obrh-services.audit.retention.days=<AUDIT\_RETENTION\_POLICY\_DAYS>
-Dcmc-obrh-services.audit.retention.archival=<AUDIT\_RETENTION\_POLICY\_APPROACH>
(Y for archiving and N for purging)

In order to receive routing failure mail notification via plato-alerts-management-service, then set the below Property to true, (Default value is false) -Dobrh.alerts.enabled=<ALERTS\_ENABLED>

In order to change the behavior of auditing, then set the below property from predefined values (DEFAULT / KAFKA / LOG / OFF), (Default value is DEFAULT) -Dobrh.audit.type=<AUDIT\_TYPE>

**NOTE:** For KAFKA option, cmc-obrh-kafka-consumer service needs to be deployed.

In order to overwrite the customization that is not part of configuration json, -Dobrh.import.overwrite=<IMPORT\_OVERWRITE> (Default value is false)

In order to use Custom Keystore and Truststore for HTTPS scheme,

-Dobrh.keystore.password.encoded=<IS\_PASSWORD\_ENCODED> (true, if password is base 64 encoded)

-Dobrh.truststore.path=<TRUSTSTORE\_PATH>

-Dobrh.truststore.password=<TRUSTSTORE\_PASSWORD>

-Dobrh.usekeystore=<USE\_KEYSTORE> (true, if keystore is required along with truststore)

-Dobrh.keystore.path=<KEYSTORE\_PATH>

-Dobrh.keystore.password=<KEYSTORE\_PASSWORD>

-Dobrh.keystore.alias=<KEYSTORE\_ALIAS>

-Dobrh.keystore.aliaspassword=<KEYSTORE\_ALIAS\_PASSWORD>

-Dobrh.ssl.protocol=<SSL\_PROTOCOL> (Default value is TLS)

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 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

#### 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

#### CMC-OBRH-KAFKA-CONSUMER

-Dcmc-obrh-kafka-consumer.server.port=<SERVER\_PORT>



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