# Routing Hub Configuration User Guide

# **Oracle Banking Supply Chain Finance**

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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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# Contents

1	Pref	eface1				
	1.1	Purp	pose1			
	1.2	Inte	nded Audience1			
	1.3	Doc	ument Accessibility1			
	1.4	Acce	ess to Oracle Support1			
	1.5	Acro	onyms and Abbreviations1			
	1.6	Stru	icture2			
2	Intro	oduct	tion3			
	2.1	Defi	initions4			
3	Star	t Ma	intenance - Login Screen			
4	Mai	n Me	enu Screen			
5	Serv	vice C	Consumer7			
	5.1	Add				
	5.1.3	1	Audit Type			
	5.1.2	2	Environment Variables			
	5.2	Imp	ort14			
	5.3	Viev	N			
	5.4	Edit				
	5.5	Dele	ete			
	5.6	JSOI	N Export			
	5.7		Export			
6			Providers			
-	6.1					
	6.1.2		Headers			
	6.1.2		Service			
	6.2		ort			
	6.3	•				
	6.4					
	6.5		ete			
		•				
	6.6 6.7	•	ort			



7	Imp	leme	entation	33
-	7.1	Add	I	35
	7.1.	1	Authentication	39
	7.1.	2	Headers	10
	7.1.	3	Service	12
	7.1.	4	Queue	16
-	7.2	Imp	ort4	18
-	7.3	Viev	w2	19
-	7.4	Edit		50
-	7.5	Dele	ete5	51
-	7.6	Exp	ort5	51
-	7.7	Con	figuration	51
8	Con	sume	er Services	53
8	3.1	Add	I	54
	8.1.	1	Attributes	57
8	3.2	Imp	ort5	59
8	3.3	Viev	ωθ	50
8	3.4	Edit	εθ	51
8	8.5	Dele	ete6	51
8	8.6	Exp	ort6	52
9	Trar	nsfor	mation	53
Q	9.1	Add	۱	55
Q	Э.2	Imp	port6	59
9	9.3	Viev	w7	71
9	9.4	Edit		72
9	9.5	Dele	ete7	73
9	9.6	Exp	ort7	73
10	Rou	ting.		74
	10.1	Add	I7	75
	10.1	L.1	Add Routing with Custom Rule	76
	10.1	L.2	Add Custom Rule using Expression Editor	77
	10.1	L.3	Transformations	78
	10.2	Viev	ωε	31



1	0.3	Edit		81	
1	0.4	Dele	ete	82	
11	Chai	ining		83	
12	Exte	ensibi	ility	85	
1	2.1	XML	L merging attributes	85	
	12.1	1	Identity Matcher	85	
	12.1	2	Skip Matcher	86	
	12.1	3	Override Action	87	
	12.1	4	Complete Action	88	
	12.1	5	Replace Action	89	
	12.1	6	Preserve Action	90	
	12.1	7	Delete Action	90	
13	Aud	it pur	rging / archiving	91	
14	Mul	tipart	t request	92	
15	Con	figura	ation	93	
16	Aud	it Log	g	98	
17	Mor	nitorii	ng Dashboard	100	
18	Trar	nsforr	mation Type	105	
1	8.1	Velo	ocity	105	
1	8.2	XSLT	т	108	
1	8.3	JSLT		108	
19	Orac	cle Ba	anking Routing Hub Integration Specification	109	
1	19.1 Token Generation				
1	19.2 Synchronous Dispatch API Specification		chronous Dispatch API Specification	110	
1	9.3	Asyr	nchronous Dispatch API Specification	112	
1	9.4	Asyr	nchronous Dispatch Response API Specification	114	
1	9.5	Tem	nplate evaluation API Specification	116	
20	Orad	cle Ba	anking Routing Hub VM Arguments	118	



## 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 Acronyms and Abbreviations

Abbreviation	Description
OIC	Oracle Integration Cloud
OBRH	Oracle Banking Routing Hub
UAT	User Acceptance Testing



## 1.6 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

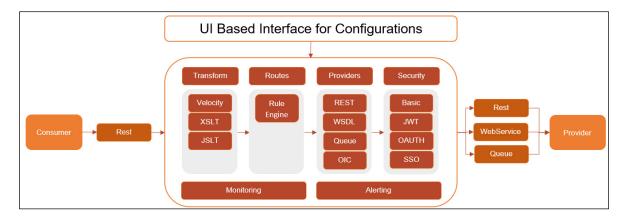
'Oracle Banking Routing Hub' enables seamless & standardized integrations between FSGBU Banking Products using configurations. This component is available as part of the product Infrastructure solution. A loose couple integration between banking products is possible with Oracle Banking Routing Hub.

**Consumer Application** (An application/product that needs to integrate with another product to retrieve information or post transactions) need not know following details while coding the integration.

- Servicing Providers or Product Processors Products which provides data to the Consumer Application when required or posts the transaction when initiated from a consumer application.
- Name of the Service Logical name of the service e.g. Funds Transfer, Letter of Credit Initiation to fetch the details from Service Provider product or post a transaction.
- Messaging structure of Service Structure of the message e.g JSON, XML, multipart request.
- Communication Protocol Web services, Rest API, Queue, OIC.

Integration can be achieved and modified anytime later through 'Oracle Banking Routing Hub' configurations. A consumer can also be integrated with different versions of a single Product processors if required.

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 Definitions

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

Definitions	Description
Service Consumers	Applications that need to integrate with multiple product processors to fetch the information or post a transaction. Service Consumer integrates with Oracle Banking Routing Hub
Service Providers	The product processors available to serve the request send by Oracle Banking Routing Hub on behalf of Service Consumer
Service	Soap or Rest Web Services. Soap Services can be imported through WSDL while Rest Services can be imported through Swagger
Headers	headers require by product processor while sending request



# 3 Start Maintenance - Login Screen

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

ORACLE
User Name
Password
Sign In

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

=				Ģ	~
Menu Item Search	Q	Dashboard			
Menu		- (1988)			+

Component briefing								
Component Name	Component Type	Comments						
Core Maintenance	Main menu item							
Routing Hub	Sub menu item							
Monitoring Dashboard	Sub menu option	Navigates to Monitoring Dashboard						
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

This option enables set up of Service Consumer. Service Consumer is an Oracle banking product which invokes Oracle Banking Routing Hub API for integration. Oracle Banking Routing Hub analyses, evaluate destination product processor and transform data into format as required by the destination product processor for service a request type.

Service Consumer comprises of the source and destination integration details.

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

Service Consumers the service Service Consumers									
Ch     Add     Ch     Import     Search     Q									
CBSToBureau :	OBSCFCM_OBVAM_20042023	OBSCFCM_OBVAM	: 4	K_PAYMENTS	: OE	SCFPM_ELCM	:	OBDX_DYNAMIC_CONSUMER	:
AK_TEST_PAYMENTS_5	SharePoint	OBDX_TRUNK	:						
Page 1	of 1 (1-9 of 9 items)  <								

You can Import the settings shipped out of the box by a Oracle Banking product or from another environment say UAT or pre-production environment.

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) Note: Use wildcard character (*) for pattern matching 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

In addition to importing Service Consumers, users can create Service Consumers manually using Add option.

Navigation: Service Consumers -> Add



			(D	EFAULTENTITY)	March 6, 2023	SHARATH V
Service Consumers						;; ×
C. Add	Search C	Add Service Consumer		×		
CBSToBureau	BSCFCM_OBVAM_2004202	3 Name	Audit Type Service level configuratior	PM_ELCM	:	OBDX_DYNAMIC_CONSUMER
AK_TEST_PAYMENTS_5	: SharePoint	Required				
Page 1	of 1 (1-9 of 9 items)	Ch Add ▼ Group				
		Select  Required				
		Actions Name	Value			
		No data to display.				
			Save			

Component b	riefing				
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
Audit Type	Combo Box One	Yes			Predefined Values: All Requests / Service level configuratio n / None Please refer Audit Type section
Environment Variables	Table Content				



\$ Save	Button		Saves the
			Service
			Consumer

## 5.1.1 Audit Type

The application provides multiple options to audit a requires in OBRH. Following options are available via configurations:

- All Requests All requests are logged in the OBRH and can be viewed later for debugging.
- **Specific Request**: Option has been provided at consumer services for enabling audit of requests for specific Consumer Services. Audit type should be configured as "Service level configuration" and audit option at "Consumer Services" should be selected for Consumer Services which need to be audited. Monitoring dashboard does not provide the data for requests which are not being audited.
- **None** Disables the audit completely. Audit logs cannot be reviewed later and monitoring dashboard does not provide the data.

## 5.1.2 Environment Variables

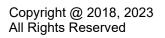
User will be able to define the group of variables which can be accessed throughout the specific consumer's configuration. Below is the syntax for accessing environment variables: \$env.Environment\_Group\_Name.Environment\_Variable\_Name eg: \$env.COMMON.BRANCH\_CODE



			OBRH (000 ) March 6, 2023	$\hat{\mathbf{Q}}$ sharath $arphi$
Service Consumers				;; ×
Ch Add Ch Import Search Q	Add Service Consumer	×		
CBSToBureau : OBSCFCM_OBVAM_20042023	Audo Service Consumer           Name         Audit Type           Service level configurat         Service level configurat	PM_ELCM	:	OBDX_DYNAMIC_CONSUMER
AK_TEST_PAYMENTS_5 SharePoint	Add Environment Group Name	×		
Page 1 of 1 (1-9 of 9 items)	Required			
	No data to display.	ОК		
		Save		

			(DEFAULTENTITY)	OBRH (000) March 6, 2023	${f Q}$ sharath $arphi$
Service Consumers					;; ×
Add Ct Import	Search Q		×		
CBSToBureau	OBSCFCM_OBVAM_20042023	Add Service Consumer	PM_ELCM	:	OBDX_DYNAMIC_CONSUMER
AK_TEST_PAYMENTS_5	SharePoint	Add Environment Variable Name	×		
Page 1	of 1 (1-9 of 9 items)	Value Required	OK Save		

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

						(DEFAU	TENTITY]	OBRI (000 ) Merch 6, 2023	Û	SHARATH	·~
Service Consumer	rs									::	×
🕒 Add 🗋 Import	Searc	th Q	Import Service Consumer			×					
CBSToBureau	:	OBSCTCM_OBVAM_20042025	File	s	elect	Extract	M_ELCM	:	OBDX_DYNAMIC	CONSUMER	:
AK_TEST_PAYMENTS_5	:	SharePoint of 1 (1-9 of 9 items)	Name Required Overwrite extended templates O Yes  No								
			Service Providers     Net     No data to display.	er we							
						[ Import ]					

Component briefing									
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



			(DEFAULTENTITY)	OBRH (000 ) March 6, 2023	Ĉ	SHARATH $\lor$
Service Consumers						::×
Ct Add Ct Import Sear	ch	View Service Consumer		D ×		
CBSToBureau	OBSCFCM_	Name CBSToBureau	Audit Type Service level configuration	:	OBCFPM_ELCM	:
OBDX_DYNAMIC_CONSUMER	AK_TEST_P	✓ Environment Variables Group		:	OBDX_TRUNK_old	:
Page 1	) of 1 (1-	EXPERIAN Actions Name	Value			
		REPORT_TYPE	\$headers["reportType"][0]			

#### 5.4 Edit

User can modify the consumer details.

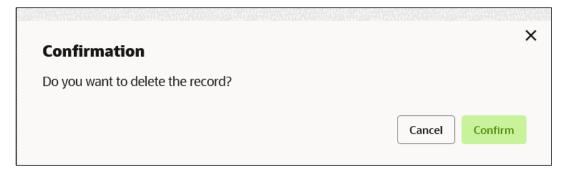
Navigation: Service Consumers -> Operation Menu (3 dot icon) -> Edit

				(DEFAULTENTITY)	March 6, 2023	Ç SHARATH ∨
Service Consumers						:: ×
C Add  Sear	ch Q					
CBSToBureau :	OBSCFCM_OBVAM_20042023	Edit Service Consumer Name	Audit Type	X PM_ELCM	:	OBDX_DYNAMIC_CONSUMER
AK_TEST_PAYMENTS_5	SharePoint	CBSToBureau CBSToBureau Environment Variables	Service level configuration	•		
Page 1	of 1 (1-9 of 9 items)	Ct Add ▼ C Edit III Delete Group				
		EXPERIAN   Actions Name	Value			
		REPORT_TYPE	\$headers["reportType"][0]			
			Sav	ve		

### 5.5 Delete

User can delete the consumer.

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





## 5.6 JSON Export

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

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

			(DEFAULTENTITY)	March 6, 2023	Ļi sharath ∨
Service Consumers	_				;; ×
C Add C Import Sear	ch Q	Export Service Consumer	×		
CBSToBureau	OBSCFCM_OBVAM_20042023	Name CBSToBureau	PM_ELCM	:	OBDX_DYNAMIC_CONSUMER
AK_TEST_PAYMENTS_5	SharePoint	✓ Service Providers			
Page 1	of 1 (1-9 of 9 items)	Name Name			
		EQUIFAX 14.4			
		EXPERIAN 14.4			
		EOUIFAX114.4			
			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

	×
Confirmation	
Do you want to export? Note: Sensitive data such as Implementation Host, Port and Password will no be exported	I
Cancel	Confirm

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



## 6 Service Providers

Service Providers are the product processors configured to process the 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

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) Note: Use wildcard character (*) for pattern matching			



Navigation: Service Providers -> 3 dot icon (operation menu)						
View	menu option	Non-editable	Pops up view dialog			
Edit	menu option		Pops up edit dialog			
Delete	menu option					
Export	menu option		Exports in JSON			
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
-------------	---------	-------------	-----

					march 0, 2023	
Service Consumers		Add Service Provider Product Name	Туре		×	:: ×
CBSToBureau			Select	•		
Service Providers Consumer Servi	ces	Required	Active	Required		
Add D Import Searc	h					
	-	Required				
EQUIFAX	EXPERIAN	> Headers				
Version 14.4 Type EXTERNAL Status ACTIVE	Version 14.4 Type EXTERN Status ACTIVE	✓ Service Type URL				
	_	WSDL -		Import		
Page 1	of 1 (1-3 of			Required		
		Service	Operation			
		No data to display.				
				Sa	ve	

Component b	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

A 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.

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

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

- ORACLE	Contraction of the				Contraction of the	ALCONCERN:	March 6, 2023	SHARATH
Service Consumers		ce Provider	Туре			×		:: ×
CBSToBureau				ect	•			
Service Providers Consumer Services	Version				Ressort			
Ct Add Ct Import Search		Add Header			×			
EQUIFAX : EXPERIAN	✓ Head	Name						
Version 14.4 Version 14. Type EXTERNAL Type EX Status ACTIVE Status AC		Value	Required					
Page 1 of 1 (1	No data 3 of							
	✓ Servi Type				ок			
	WSDL	•		Required	iort			
					s	ive		
	10 million -							

Component briefing						
Component Name	Component Type	ls Mandatory	Data type	Validation	Comments	
Add	Button				Pops up add dialog	
Navigation: So	ervice Provide	rs -> Headers	s -> 3 dot icon	(operation menu)	i	
Edit	menu option				Pops up edit dialog	
Delete	menu option				Deletes header	
Navigation: Se	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

				OBRH (000 ) March 6, 2023	Ç SHARATH ∨
Service Consumers	Add Service Provider		×		:: ×
CBSToBureau	Product Name	Type Select			
Service Providers Consumer Services	Required	Required			
C Add C Import Search	Required				
EQUIFAX : EXPERIAN Version 14.4 Type EXTERNAL Type EXTER Status ACTIVE Status ACTIV Page 1 of 1 (1-3	Headers     Service     Type URL     WSDL	Import Required			
	Service No data to display.	Operation	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			
Context Path	Text Box		Context path of below formatted URL <a href="http://host">http://host</a> :port/context-path/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.

				×
Add Service Provider				
<ul> <li>Service</li> </ul>				
ӯуре				
OTHERS -				
lame		Http Method		
		Select	•	
Requir	ed		Required	
indpoint				
				Required
Context Path ⑦				
Service Headers				
<ul> <li>Service Query Parameters</li> </ul>				
C Add				
Actions	Name		Value	
No data to display.				
				Add
Service	Ope	eration		
No data to display.				

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
Context Path	Text Box			Context path of below formatted URL <u>http://host</u> :port/context- path/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).

#### Navigation: Service Providers -> Import



		СОВИ (000) (ОТРАЦІТЕНТІТУ) Мисн.е., 2023 Ф. SHARATH V	
Service Consumers			;; ×
CBSToBureau			
Service Providers Consumer Se	rvices		
Add C Import Se	earch Q		×
EQUIFAX		Import Service Provider File	
Version 14.4 Type EXTERNAL Status ACTIVE	Version 14,4 Type EXTERNAL Status ACTIVE	V1032705-01.zip Overwrite extended templates O Yes  No	Select
Page 1	of 1 (1-3 of 3 items) I		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

					March 6, 2023 📮 SHARATH 🗸
Service Consumers		View Service Provider		⊳ ×	;; ×
CBSToBureau Service Providers Consumer Se	ervices	Product Name EQUIFAX Version 14.4	Type EXTERNAL Active On		
EQUIFAX Version 14.4 Type EXTERNAL Status ACTIVE	Version 14.4 Type EXTERN Status ACTIVE	Headers     Actions Name     Authorization	Value		
Page 1	of1 (1-3of	Service Service /reports/credit-report /r2/oauth/token /reports/credit-report/[pdf-request-id]	Operation requestConsumerCreditReport equifaxAuth		



## 6.4 Edit

User can modify the provider details.

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

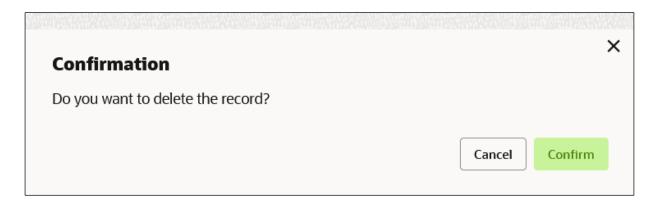
dit Service Provider	
roduct Name	Туре
EQUIFAX	EXTERNAL -
ersion	Active
14.4	
<ul> <li>Headers</li> </ul>	
Add	
Actions Name	Value
Authorization	
<ul> <li>Service</li> </ul>	
ype URL	
WSDL 🔻	Import
^	Required
Service	Operation
/reports/credit-report	requestConsumerCreditReport
/v2/oauth/token	equifaxAuth
/reports/credit-report/{pdf-request-id}	

## 6.5 Delete

User can delete the provider.

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





## 6.6 Export

User can export the provider configuration as JSON file. Navigation: Service Providers -> Operation Menu (3 dot icon) -> Export

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

**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



	PACLE	l	BRH (000) rch 6, 2023	۵	SHARATH V
Servi	Configuration (Service Provider: EQUIFAX)				×
CBSToBu	Timeout Provider Level Timeout?				
Service Pro	Connection Timeout	Read Timeout			
EQUIFAX	Enter value in milliseconds	Enter value in milliseconds			
Version Type	Required	Required			
Status	Handle exception?	Status Codes			
Page			Clear Reset	Save	
((mail))					

Component briefing									
Component Name	Component Type	ls Mandatory	Validation	Comments					
Provider level timeout	Switch			This property is used to override the global timeout values. Default value is false.					
Connection Timeout	Text Box	Νο	Value should be in milliseconds	This property is used to set the timeout in making the initial connection i.e. connection handshake.					
Read Timeout	Text Box	No	Value should be in milliseconds	This property is used to set the timeout on waiting to read data.					
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

Servio	ce Consumers					; ×
CBSToBu	reau > Service Provid	ers > EQUIFAX 14.4				
Implement	ation					
D. Add	Import Sear	ch Q				
Actions	Name	Description	Service Name	Host	Port Queue	
:	EQUIFAX_Defa	ult Default Implementation		api.sandbox.equifax.com	0	
Page	1	of 1 (1-1 of 1 items) $ \langle \langle (1 - 1) \rangle \rangle$				

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) Note: Use wildcard character ( * ) for pattern matching
Navigation: In	nplementation -> 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
Configuratio n	menu option		Pops up configuration dialog
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.

lame				
ame				
Required				
escription				
				Required
ype	Default			requires
DEFAULT -				
DEFAULI				
cheme	Host		Port	
Select 👻				
Required		Required		
19 Sec. 2 (1907)				
<ul> <li>Authentication</li> </ul>				
уре				
NONE -				
Headers				
neauers				
Service				

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> </ul>	
				<ul> <li>No space allowed at beginning or ending of the value.</li> </ul>	
Туре	Combo Box One	Yes			Predefined Values: DEFAULT / QUEUE / OIC <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. Note: api-gateway will be removed (if present) from the



					provider request url if Eureka Instance is toggled ON. And api-gateway will be added (if missing) in the provider request url if Eureka Instance is toggled OFF & Authentication type is selected as JWT_TOKEN or OAUTH_TOKEN.
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 or OIC.
Service	Collapsible Header & Content				Service option is available only when type is default or OIC.
Queue	Content				Queue content is available only when type is queue.
Save	Button				Saves the Implementation



#### 7.1.1 Authentication

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

**NOTE:** In case of no authentication, NONE needs to be set as Authentication Type. In case of identity propagation, SSO needs to be set as Authentication Type. In case of JWT, OAUTH\_TOKEN and OAUT\_TOKEN\_OIC, token will be cached by default.

Process of configuration of these is described below.

			1835
Edit Implementation			×
Name			
EQUIFAX_Default			
Description			
Default Implementation			
Туре	Default		
DEFAULT -			
Scheme	Host	Port	
https 👻	api.sandbox.equifax.com	0	
Type NONE  Headers  Add			
Actions	Name	Value	
No data to display.			
✓ Service			
Type URL			
WSDL -	Import		
l	Required		
Service	Operation		
No data to display.		Save	



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

#### 7.1.2 Headers

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

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



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

				OBRH (000) March 6, 2023	Ç SHARATH ∨
Service Consumers	Add Implementation			×	:: ×
CBSToBureau > Service Prov	DEFAULT	•			
Implementation	Scheme	Host	Port		
C Add C Import Se	Select	Add Header	×		
Actions Name	> Authentication	Name			Port Queue
EQUIFAX_D	✓ Headers	Required			0
Page 1	Ct Add				
	Actions				
	No data to display.		ОК		
	✓ Service		Ŭĸ		
	Туре	URL			
	WSDL -		Import		
			And the second se	Save	

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

Component briefing							
Component Name	Component Type	ls Mandatory	Data type	Validation	Comments		
Add	Button				Pops up add dialog		
Navigation: In	nplementation	-> Headers ->	> 3 dot icor	n (operation menu)			
Edit	menu option				Pops up edit dialog		
Delete	menu option				Deletes header		



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 characte rs	• 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		

## 7.1.3 Service

			OBRH (000) March 6, 2023	Ģ SHARATH ∨
Service Consumers CBSToBureau > Service Prov	Add Implementation NONE		×	;; ×
Implementation	✓ Headers			
Add La Import Se	☐ Add			
Actions Name	Actions Name	Value		Port Queue
EQUIFAX_D	asas			0
Page 1	✓ Service			
	Type URL			
	WSDL -	Required		
	Service	Operation		
	No data to display.			
			Save	



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				
Context Path	Text Box		Context path of below formatted URL <u>http://host</u> :port/context- path/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.

D, D, SHARATH ∨	OBRH (000 ) March 6, 2023	₿			
× ;;×	×			Add Implementation	Service Consumers
				✓ Service	CBSToBureau > Service Prov
				Type OTHERS	Implementation
			Http Metho	Name	Add D Import Se
Port Queue		Required	Select	Required	Actions Name
0				Endpoint	EQUIFAX_D
		Required		Context Path @	Page 1
				> Service Headers	
				> Service Query Parameters	
		Add			
Save	Save				
Sive	Save				Page 1

Component briefing						
Component Name	Component Type	ls Mandatory	Validation	Comments		
Name	Text Box	Yes	<ul> <li>Name cannot be blank</li> </ul>	Name of operation		



			<ul> <li>No space allowed at beginning.</li> </ul>	
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
Context Path	Text Box			Context path of below formatted URL <u>http://host</u> :port/context- path/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

Add Implementation				2
Name				
Required				
Description				
-				Require
Туре	Default			
QUEUE				
Queue Broker		Request Reply Pattern		
WEBLOGIC_JMS -		JMS_MESSAGEID -		
✓ Request Queue				
		0		
Connection Factory		Queue		
Required		Required		
<ul> <li>Response Queue</li> </ul>				
Connection Factory		Queue		
	J		1	
				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	Taxt Day	Connection Factory is IND
Connection	Text Box	Connection Factory is JNDI
Factory		based connection factory
		name which is used to
		create connection for JMS
		client.
		Request Connection Factory
		is mandatory, and Response
		Connection Factory is
		optional.
		Response Connection
		Factory is needed when
		destination is going to
		respond back after
		processing the request.
Queue	Text Box	Queue Name is JNDI based
		destination name.
		Request Queue Name is
		mandatory, and Response
		Queue Name is optional.
		Response Queue Name is
		needed when destination is
		going to respond back after
		processing the request.



#### 7.2 Import

User can create an implementation by importing the JSON file.

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

= 0	RACLE			(DEFAULTENTIT	OBRH (000 ) March 6, 2023 Y)	Û	SHARATH 🗸
Servio	e Consumers						:: ×
CBSToBur	reau > Service Prov	viders > EQUIFAX 14.4					
Implementa	ation						
🗋 Add	Import Se	earch Q					
Actions	Name	Descrip		×		Port	Queue
:	EQUIFAX_D	efault Default	Import Implementation File		com	0	
Page	1	of 1 (1-1 of 1 items)		Select			
2				Import			
111111							

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.

			×
View Implementation			េំ
Name			
EQUIFAX_Default			
Description			
Default Implementation			
Туре	Default		
DEFAULT	On		
Scheme	Host	Port	
https	api.sandbox.equifax.com	0	
✓ Authentication			
Туре			
NONE			
✓ Headers			
Actions	Name	Value	
No data to display.			
M. Samisa			
✓ Service			
Service	Operation		
No data to display.			

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



# 7.4 Edit

User can modify the implementation details.

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

Edit Implementation Name					
EQUIFAX_Default					
Description					
Default Implementation					
Туре		Default			
DEFAULT	•				
Scheme		Host		Port	
https	•	api.sandbox.equifax.com		0	
NONE V Headers	•				
Actions		Name		Value	
No data to display.					
✓ Service					
Туре	URL				
	•		Import		
		Requi	red		
		Operation			
Service					
Service No data to display.					



#### 7.5 Delete

User can delete the implementation.

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

	~
Confirmation	^
Do you want to delete the record?	
	Cancel Confirm

## 7.6 Export

User can export the implementation configuration as JSON file.

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

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

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

- Implementation Host
- Implementation Port
- Implementation Authentication Password

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

### 7.7 Configuration

End-user can configure the property to disable the token caching. Navigation: Implementation -> Operation Menu (3 dot icon) -> Configuration

	ACLE	₪	OBRH (000 ) March 6, 2023	Ģ	SHARATH V
Servio	Configuration (Implementation: EQUIFAX_Default)				×
CBSToBu Implement	✓ Token Disable cache				
Add Actions			Clear Reset	Save	
:					
Page					
111111		NAME OF STREET			

Component briefing						
Component Name	Component Type	ls Mandatory	Validation	Comments		
Disable cache	Switch			This property is used to disable the token caching. Default value is false.		



#### 8 Consumer Services

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

Consumer Services comprises of source integration details.

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

Service Consume	Service Consumers						
CBSToBureau	IBSToBureau						
Service Providers Consur	iervice Providers Consumer Services						
🗅 Add 🗋 Import	Search Q						
Actions	Name	Description					
:	Fetch_Credit_Report	To fetch credit report					
Page 1	of 1 (1 - 1 of 1 items)  <	1					
			ŧ,				

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) Note: Use wildcard character ( * ) for pattern matching

(ob "



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

				OBRH (000) March 6, 2023	Ĵ SHARATH ∨
Service Consumers	Add Service	Status	×		;; ×
CBSToBureau					
Service Providers Consumer Services	Required				
Add         D. Import         Search	Yes O No     Applicable if the Audit type at 'Service Consumer' is 'Se	rvice level configuration'			
Actions Name	Description				
E Fetch.					
Page 1 of 1 (1-1 of					
	2		Required		
	C. Add				
	Actions Attribute Nar	ne	json path		
	No data to display.				
			Save		



Component b	oriefing				
Component Name	Component Type	ls Manda tory	Data type	Validation	Comments
Id	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.



Audit	Radio Button				Predefined Values: Yes / No Yes: This option is for enabling the audit for consumer service and No: This option is for disabling the audit for consumer service. Note: This option is only applicable if audit type at 'Service Consumer' is 'Service level configuration'
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

		Ē	OBRH (000.) March 6, 2023 Q SHARATH V
Service Consumers	Add Service ID Status	×	:: ×
CBSToBureau			
Service Providers Consumer Services	Audit	×	
Add         D. Import         Search	Yes Add Attribute     Name		
Actions Name	Descriptio		
: Fetch	Required		
Page 1 of 1 (1-1 of			
		Required	
		Required	
	Actions No date	ок	
		_	
		Save	

Component briefing								
Component Name	Component Type	ls Mandatory	Data type	Validation	Condit ion	Comments		
Add	Button					Pops up add dialog		
Navigation: C	consumer Servi	ces -> Header	s -> 3 dot icor	ı (operation menı	l)			
Edit	menu option					Pops up edit dialog		
Delete	menu option					Deletes attribute		
Navigation: C	consumer Servi	ces -> Header	s -> Add			<u> </u>		



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

			(DEFAULTENTITY)	OBRH (000.) March 6, 2023	${f Q}$ sharath $ee$
Service Consumers					::×
CBSToBureau					
Service Providers Consumer Service	s				
C Add C Import Search	Q				
Actions	Name	Import Service	×		
:	Fetch_Credit_Repor	File			
Page 1	of 1 (1 - 1 of 1 items)	Overwrite extended templates O Yes  No	Select		
			Import		
111144 Mile 2011 Mile				Mare 2000	

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** 

		۵		OBRH (000) March 6, 2023	Ç SHARATH ∨
Service Consumers	View Service		⊳ ×		:: ×
CBSToBureau	ID Fetch_Credit_Report	Status On			
Service Providers Consumer Services	Audit Yes				
Add C Import Search	Description				
: Fetch.	To fetch credit report				
Page 1 of 1 (1-1 of	Actions Attribute Name	json path			
	BureauType	\$.headers["bureauType"][0]			



### 8.4 Edit

User can modify the consumer service details.

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

				OBRH (000 ) March 6, 2023	$\hat{\mathcal{Q}}$ sharath $\checkmark$
Service Consumers CBSToBureau Service Providers Consumer Services Ch. Add Ch. Import Search Actions Name E Fetch	Edit Service ID Fetch_Credit_Report Audit So Yes O No Description To fetch credit report	Status	×		:: ×
Page 1 of 1 (1-1of	Actions     Attribute Name       :     BureauTiype	json path \$.headers["bureauType"][0	Save		

#### 8.5 Delete

User can delete the consumer service.

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

Confirmation	×
Do you want to delete the record?	
	Cancel



#### 8.6 Export

User can export the consumer service configuration as JSON file. Navigation: Consumer Services -> Operation Menu (3 dot icon) -> Export

Confirmation		Х
Do you want to export?		
	Cancel	
	Cancer	



## 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

Servic	Service Consumers									
CBSToBure	EBSToBureau > Consumer Services > Fetch_Credit_Report									
Transformat	Transformation Routing									
🗅 Add	Search Search	Q								
Actions	Name	Status	Product Processor	Implementation	Service					
:	TRANSFORMATION1	ACTIVE	EXPERIAN 14.4	EXPERIAN_Default	CreditReports - /v2/credit-report					
:	EQUIFAX_CR_TRANS	ACTIVE	EQUIFAX1 14.4	EQUIFAX_Default	requestConsumerCreditReport - /reports/credit-report					
:	EQUIFAX_AUTH_TRANS	ACTIVE	EQUIFAX 14.4	EQUIFAX_Default	equifaxAuth - /v2/oauth/token					
Page 1	· · · · ·									

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) Note: Use wildcard character ( * ) for pattern matching		



Navigation: Transformation -> 3 dot icon (operation menu)					
View	menu option	Non-editable	Pops up view dialog		
Edit	menu option		Pops up edit dialog		
Delete	menu option				
Export	menu option		Exports in JSON		
Request Audit	menu option		Pops up request audit log		



# 9.1 Add

User can create Transformation manually.

#### Navigation: Transformation-> Add

(					
Damide					
Require	łd				
Product Processor		level and a station			
Product Processor Select		Implementation Select		•	
Require	ed	Jucci			
Service	_				
Select					
Require	*d				
✓ Service					
Service		Operation			
✓ Headers					
Actions	Name		Value		
No data to display.					
<ul> <li>Request Transformation</li> </ul>					
Template Type					
VELOCITY -					
Template					
Extended Template					
Extended Template					
✓ Response Headers					
<ul> <li>Response Headers</li> <li>C: Add</li> <li>Actions</li> </ul>	Name		Value		
<ul> <li>Response Headers</li> <li>Add</li> </ul>	Name		Value		
<ul> <li>Response Headers</li> <li>C: Add</li> <li>Actions</li> </ul>	Name		Value		
Response Headers      Add  Actions  No data to display.	Name	Template	Value		
Response Headers      Add  Actions  No data to display.  Response Transformation	Name	Template	Value		
Response Headers      Add  Actions  No data to display.  Response Transformation  Template Type	Name	Template	Value		
Response Headers      Add  Actions  No data to display.  Response Transformation  Template Type	Name	Template	Value		
Response Headers      Add  Actions  No data to display.  Response Transformation  Template Type	Name	Template Mock Template	Value		
Response Headers  Add  Actions  No data to display.  Response Transformation Template Type  VELOCITY	Name		Value		
	Name		Value		
	Name		Value		
	Name		Value		
	Name	Mock Template	Value		
	Name	Mock Template	Value		
	Name	Mock Template	Value		
	Name	Mock Template	Value		



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 Processor	Collapsible Header				
Product Processor	Combo Box One	Yes			Displays provider list relevant to consumer
Implementat ion	Combo Box One				Displays implementation list relevant to selected provider
Service	Combo Box One	Yes			Displays service list relevant to selected provider and implementation
Service	Collapsible Header & Content				Displays service details of selected service



Headers	Collapsible		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 Header &		Displays path param list relevant to selected service
	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 / BINARY
			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 or BINARY.
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	Switch		Predefined Values:
required?			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

	ACLE			(DEFAULTENTITY) OBRN (000) March 6, 2023 Q SHARATH ~
Service	Consumers			:: ×
CBSToBureau	u > Consumer Services > Fetc	h_Credit_Report		
Transformation	n Routing			
C1 Add	C Import Search	Q		
Actions	Name	Status		×
:	TRANSFORMATION1	ACTIVE	Import Transformation File	/v2/credit-report
:	EQUIFAX_CR_TRANS	ACTIVE	Overwrite extended templates	select erCreditReport - /reports/credit-report
:	EQUIFAX_AUTH_TRANS	ACTIVE	O Yes   No	2/oauth/token
Page 1	of 1 (1-	5 of 5 items)		Import

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			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.
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) -> Vi	iew
----------------------------	-------------------	--------------------	-----

View Transformation			D
Name		Active	10
		On	
TRANSFORMATION1			
✓ Product Processor			
Product Processor		Implementation	
EXPERIAN 14.4		EXPERIAN_Default	
		Do Doro (Deroan	
Service			
CreditReports - /v2/credit-report			
✓ Service			
Service		Operation	
POST /consumerservices/credit-pr report	rofile/v2/credit-	CreditReports	
✓ Headers			
Actions Name		Value	
Accept		application/json	
Authorization		Bearer \$body.access_token	
clientReferenceld		SBMYSQL	
<ul> <li>Path Parameters</li> </ul>			
Actions	Name	Value	
No data to display.			
<ul> <li>Query Parameters</li> </ul>			
Actions	Name	Value	
	Name	value	
No data to display.			
✓ Request Transformation			
Body Type		Template Type	
RAW		VELOCITY	
Template			
Template			
{ #set(\$body = \$snapshot.get(0) "consumerPii": {	).body)		
{ #set(\$body = \$snapshot.get(0) "consumerPii": {	).body)		
#set(\$body = \$snapshot.get(0) "consumerPii": { "primaryApplicant": { "name": {	).body)		
#set(\$body = \$snapshot.get(0) "consumerPii": { "primaryApplicant": { "name": {	).body)		
#set(\$body = \$snapshot.get(0) "consumerPii": { "primaryApplicant": {	).body)		
#set(\$body = \$snapshot.get(0) "consumerPii": { "primaryApplicant": { "name": {	).body)		
#set(\$body = \$snapshot.get(0) "consumerPii": { "primaryApplicant": { "name": {	).body)		
#set(\$body = \$snapshot.get(0) "consumerPii": { "primaryApplicant": { "name": {	).body)		
#set(\$body = \$snapshot.get(0) "consumerPii": { "primaryApplicant": { "name": {	).body)		
#set(\$body = \$snapshot.get(0 "corsumerNir.{ "primaryApplicant"; { "name"; { Extended Template		Vite	
<pre>#set(\$body = \$snapshot.get(0</pre>	).body) Name	Value	
#set(\$body = \$snapshot.get(0 "corsumerNir.{ "primaryApplicant"; { "name"; { Extended Template		Value	
#set(\$body = \$snapshot.get(0 "consumerNi": { "primaryApplicant": { "name": { Extended Template Response Headers Actions No data to display.		Value	
#set(\$body = \$snapshot.get(0 "consumerNi".{ "primaryApplicant":{ "name": { Extended Template Extended Template No data to display. > Response Transformation			
#set(\$body = \$snapshot.get(0 "consumerNin" { "primaryApplicant"; { "name"; { Extended Template Extended Template Actions No data to display. Response Transformation Template Type		Template	
#set(\$body = \$snapshot.get(0 "consumerNin" { "primaryApplicant"; { "name"; { Extended Template Extended Template No data to display. Response Transformation Template Type		Template #set ( \$obj = " ) ## dummy object	
<pre>#set(\$body = \$snapshot.get(0</pre>		Template #set ( \$obj = " ) ## dummy object #set ( \$int, class = \$obic.class.forMame(?iava.lang.Number) )	
#set(\$body = \$snapshot.get(0 "consumerNin" { "primaryApplicant"; { "name"; { Extended Template Extended Template Actions No data to display. Response Transformation Template Type		Template #set ( \$obj = " ) ## dummy object #set ( \$int, class =	
#set(\$body = \$snapshot.get(0 "consumerNi"; { "primaryApplicant"; { "name"; { Extended Template Extended Template Actions No data to display. Response Transformation Template Type VELOCITY		Template #set (\$obj = " ) ## dummy object #set (\$int_class = \$obj.class.forName(]vaa.lang.Number)) #set (\$bool_class =	
#set(\$body = \$snapshot.get(0)         "consumerNi: {         "primaryApplicant"; {         "name"; {         Extended Template         V         Response Headers         Actions         No data to display.         VeloCITY         Mocking required?		Template #set { 5obj = " ] ## dummy object #set { 5int_class = \$objclass.SinName('javalang.Number') ) #set { 50od_class = \$objclass.SinName('javalang.Boolean') )	
#set(\$body = \$snapshot.get(0)         "consumerNin".{         "primaryApplicant":{         "primaryApplicant":{         "name"; {         Extended Template         V         Response Headers         Actions         No data to display.         V         Response Transformation         Template Type         VELOCITY         Mocking required?		Template #set { 5obj = " ] ## dummy object #set { 5int_class = \$objclass.SinName('javalang.Number') ) #set { 50od_class = \$objclass.SinName('javalang.Boolean') )	
#set(\$body = \$snapshot.get(0)         "consumerNi: {         "primaryApplicant"; {         "name"; {         Extended Template         V         Response Headers         Actions         No data to display.         VeloCITY         Mocking required?		Template #set ( \$obj = " ) ## dummy object #set ( \$int, class = \$objc,class,clonkme(?java.lang.Number') ) #set ( \$bool,class = \$objc,class,clonkme(?java.lang.Boolean') ) Mock Template	
#set(\$body = \$snapshot.get(0)         "consumerNi: {         "primaryApplicant"; {         "name"; {         Extended Template         V         Response Headers         Actions         No data to display.         VeloCITY         Mocking required?		Template #set { 5obj = " ] ## dummy object #set { 5int_class = \$objclass.SinName('javalang.Number') ) #set { 50od_class = \$objclass.SinName('javalang.Boolean') )	
#set(\$body = \$snapshot.get(0 "consumerNi": { "primaryApplicant": { "name": { Extended Template Extended Template No data to display. Response Transformation Template Type		Template #set ( \$obj = " ) ## dummy object #set ( \$int, class = \$objc,class,clonkme(?java.lang.Number') ) #set ( \$bool,class = \$objc,class,clonkme(?java.lang.Boolean') ) Mock Template	





## 9.4 Edit

User can modify the transformation details.

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

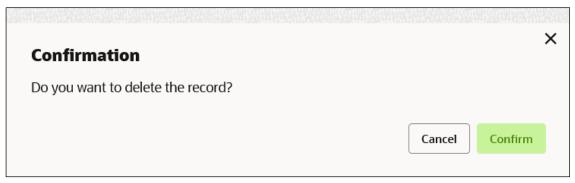
				>
Edit Transfor	mation			
Name TRANSFOF	DAMATION/1		Active	
TRANSFUR	RMATIONT			
<ul> <li>Product I</li> </ul>				
EXPERIAN			Implementation EXPERIAN_Default	
Service	14.4	•	EXPERIAN_Default	
	orts - /v2/credit-repc	-		
	, , , , , , , , , , , , , , , , , , , ,			
✓ Service				
Service			Operation	
POST /con report	sumerservices/credit-p	orofile/v2/credit-	CreditReports	
✓ Headers				
Actions	Name		Value	
:	Accept		application/json	
:	Authorization		Bearer \$body.access_token	
:	clientReferenceId		SBMYSQL	
✓ Path Para	ameters			
Actions		Name	Value	
No data to o	display.			
<ul> <li>Query Pa</li> </ul>	irameters			
Actions		Name	Value	
Body Type	display. Transformation	•	Template Type VELOCITY	
	Transformation		VELOCITY	
✓ Request Body Type RAW	Transformation		VELOCITY	
✓ Request Body Type RAW	Transformation cry: soooy.pr "state": "\$body.p "zipCode": "\$bod			
✓ Request Body Type RAW	Transformation		VELOCITY	
✓ Request Body Type RAW	Transformation -cry : suouy,pri "state": "\$body,p "zipCode": "\$bod ], "previousAddress": [ #set(\$i=0)		VELOCITY	
Request Body Type RAW Template	Transformation -cry : suouy,pri "state": "\$body,p "zipCode": "\$bod ], "previousAddress": [ #set(\$i=0)		VELOCITY	
Request Body Type RAW Template	Transformation -cry : suouy,pri "state": "\$body,p "zipCode": "\$bod ], "previousAddress": [ #set(\$i=0)		VELOCITY	
<ul> <li>Request</li> <li>Body Type</li> <li>RAW</li> <li>Template</li> </ul>	Transformation -cry : suouy,pri "state": "\$body,p "zipCode": "\$bod ], "previousAddress": [ #set(\$i=0)		VELOCITY	
Request Body Type RAW Template Extended Tem	Transformation		VELOCITY	
Request ' Body Type RAW Template Extended Tem	Transformation		VELOCITY	
Request Body Type RAW Template Extended Tem	Transformation		VELOCITY	
Request Tope Body Type RAW Template Extended Tem Response Response Radd Actions	Transformation		VELOCITY	
Request ' Body Type RAW Template Extended Tem      Response	Transformation	maryappicant.aoun	VELOCITY   SesscurrentAddress.state", daddress.suprentAddress.stateCode*	
Request ' Body Type RAW Template Extended Tem      Response Response Radd Actions No data to o	Transformation	maryappicant.aoun	VELOCITY   SesscurrentAddress.state", daddress.suprentAddress.stateCode*	
Request ' Body Type RAW Template Extended Tem      Response Response Radd Actions No data to o	Transformation	maryappicant.aoun	VELOCITY   SesscurrentAddress.state", daddress.suprentAddress.stateCode*	
Request ' Body Type RAW Template Extended Tem Response Response Actions No data to or Response Response	Transformation	maryappicant.aoun	VELOCITY  esscurrentAddress.state", desscurrentAddress.state", dedress.currentAddress.state Value  Value  fiset (Sobj = ") ## dummy object ##stel (Sobj = ") ## dummy object #stel (Sobj = ") #st	
Request boots of the second seco	Transformation	maryappicant.aoun	VELOCITY  VELOCITY  esscurrentAddress.state*, address.currentAddress.state*, address.currentA	
Request boots of the second seco	Transformation	maryappicant.aoun	VELOCITY  esscurrentAddress.state", desscurrentAddress.state", dedress.currentAddress.state Value  Value  fiset (Sobj = ") ## dummy object ##stel (Sobj = ") ## dummy object #stel (Sobj = ") #st	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  VELOCITY  esscurrentAddress.state*, address.currentAddress.state*, address.currentA	
Request block Type RAW Template Extended Tem Extended Tem Response Res	Transformation	maryappicant.aoun	VELOCITY  VELOCITY  ESSCUTION/URINESSEU() -  thress.current/Address.state*, address.current/Address.state*, address.current/Ad	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  VELOCITY  ESSCUTION/URINESSEU() -  thress.current/Address.state*, address.current/Address.state*, address.current/Ad	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  UELOCITY  UELOCITY  UESCONTENDADIOSSCUY-  dross.currentAddress.state", address.cutrentAddress.state", address.currentAddress.state", address.curr	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  VELOCITY  ESSCUTION/URINESSEU() -  thress.current/Address.state*, address.current/Address.state*, address.current/Ad	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  UELOCITY  UELOCITY  UESCONTENDADIOSSCUY-  dross.currentAddress.state", address.cutrentAddress.state", address.currentAddress.state", address.curr	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  UELOCITY  UELOCITY  UESCONTENDADIOSSCUY-  dross.currentAddress.state", address.cutrentAddress.state", address.currentAddress.state", address.curr	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  UELOCITY  UELOCITY  UESCONTENDADIOSSCUY-  dross.currentAddress.state", address.cutrentAddress.state", address.currentAddress.state", address.curr	
Request ' Body Type RAW RAW Extended Tem Extended Tem C Add Actions No data to o Response Template Type VELOCITY Mocking requi	Transformation	maryappicant.aoun	VELOCITY  UELOCITY  UELOCITY  UESCONTENDADIOSSCUY-  dross.currentAddress.state", address.cutrentAddress.state", address.currentAddress.state", address.curr	



## 9.5 Delete

User can delete the transformation.

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



## 9.6 Export

User can export the transformation configuration as JSON file. Navigation: **Transformation -> Operation Menu (3 dot icon) -> Export** 

Confirmation			×
Do you want to export?			
	Cancel	Confirm	



# 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	e Consumers						::×
CBSToBure	au > Consumer Serv	vices > Fetch_	Credit_Report				
Transformati	on Routing						
□ Add	Search	Q					
Actions	Name	Start/Stop	Rule	Product Processor	Implementation	Service	
:	Route_EQUIFAX		(BureauType == "EQUIFAX")	EQUIFAX1 14.4	EQUIFAX_Default	requestConsumerCreditReport - /reports/credit-report	
÷	Route_Experian		( BureauType == "EXPERIAN" )	EXPERIAN 14.4	EXPERIAN_Default	CreditReports - /v2/credit-report	
Page 1		of 1 (1-20	of 2 items)  < ( 1 > >				

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) Note: Use wildcard character ( * ) for pattern matching		



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

		OBRH (000) March 6, 2023 Q SHARATH V
Service Consumers       CBSToBureau > Consumer Services >       Transformation       Routing       D, Add       Search	Required       Image: Second Seco	;; ×
Actions Name Start Route_EQUIFAX Route_Experian	Stop           Add         Actions         Product Processor         Implementation         Transformation           No data to display.         Implementation         Implementation         Implementation         Implementation	erCredilReport - /reports/credit-report /v2/credit-report
Page 1 of 1	(1-2 of	

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

				OBRH (000 ) March 6, 2023 Q SHARATH V
Service Consumers	Add Route Name Start/Stop	Auto Shutdown	×	;; ×
CBSToBureau > Consumer Services > Fetch_Cr	START STO			
Transformation Routing	Required			
C Add Search Q	<ul> <li>Rule</li> </ul>			
Actions Name Start/Stop	<ul> <li>Rule</li> </ul>			
: Route_EQUIFAX				erCreditReport - /reports/credit-report
: Route_Experian	Expression Editor			/v2/credit-report
Page 1 of 1 (1-2 of	✓ Transformations			
	Ct Add			
	Actions Product Processor	nplementation Transformation		
	No data to display.			
			Save	



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**

ttribute		Operator		Value		×
Select	-	Select	-	Vuide		
	Required		Required		Required	
ondition Type						
Select	•					
	Required					

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.



Add Transformation Product Processor	Implementation		Transformation	
Select		•	Select	•
Requi		Required		Required
✓ Headers				
Actions	Name		Value	
No data to display.				
✓ Product Processor				
Service				
✓ Request Transformation				
Template Type		Template		
✓ Response Transformation				
Template Type		Template		
Marking and the		March Tanada (		
Mocking required?		Mock Template		



Component bri	efing		
Component Name	Component Type	ls Mandatory	Comments
Product Processor	Combo Box One	Yes	Displays provider list relevant to consumer
Implementatio n	Combo Box One	Yes	Displays implementation list relevant to selected provider
Transformatio n	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 Transformatio n	Collapsible Header & Content		Displays request transformation template
Response Transformatio n	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
-------------	------------	-----------	---------	--------------	--------

			E1		OBRH (000 ) March 6, 2023	Ĵ SHARATH ∨
Service Consumers	View Route			⊳ ×		:: ×
CBSToBureau > Consumer Services > Fetch_Cr	Name Route_EQUIFAX	Start/Stop	Auto Shutdown On			
Transformation Routing	O Default Rule					
C Add Search Q	✓ Rule					
Actions Name Start/Stop	(BureauType == "EQUIFAX")					
Route_EQUIFAX	(bacourpe Egonaty)				erCreditReport - /reports/credit	-report
: Route_Experian					/v2/credit-report	
Page 1 of 1 (1-2 of	✓ Transformations					
inde i ori (i-zoi	Actions Product Processor	Implementation	Transformation			
	EQUIFAX114.4	EQUIFAX_Default	EQUIFAX_AUTH_TRANS1			
	EQUIFAX1 14.4	EQUIFAX_Default	EQUIFAX_CR_TRANS			

## 10.3 Edit

User can modify the routing details.

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

	<b>a</b>	OBRH (000) March 6, 2023 Q SHARATH V
Service Consumers CBSToBureau > Consumer Services > F Transformation Routing	Edit Route Name Start/Stop Auto Shutdown	× ;; ×
Add Search	✓ Rule	
Actions Name Start/Str Route_EQUIFAX	( BureauType == "EQUIFAX") Expression Editor	verCreditReport - /reports/credit-report
Route_Experian	✓ Transformations	/v2/credit-report
Page 1 of 1 (	2 of D: Add	
	Actions Product Processor Implementation Transformation	
	EQUIFAX114.4 EQUIFAX_Default EQUIFAX_AUTH_TRANS1	
	Save	



## 10.4 Delete

User can delete the routing.

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

	x
	~
Confirm	
e	cel Confirm



## 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.

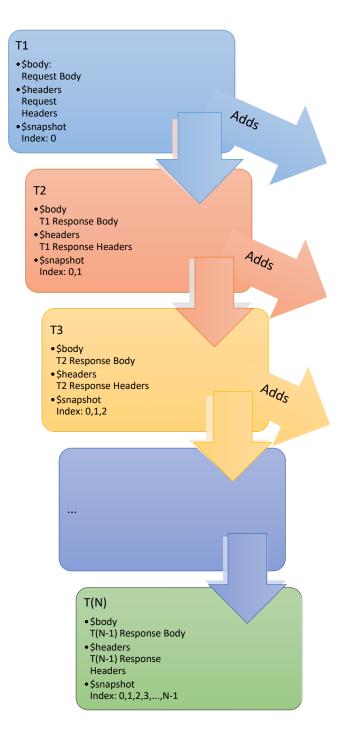
So, end-user can access response body or headers of all processed transformations at any given step.

### 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	



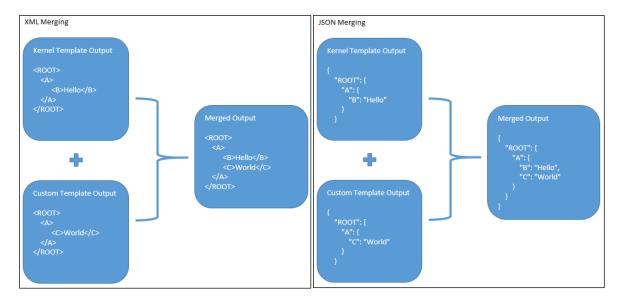
## **12 Extensibility**

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:



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

## 12.1 XML merging attributes

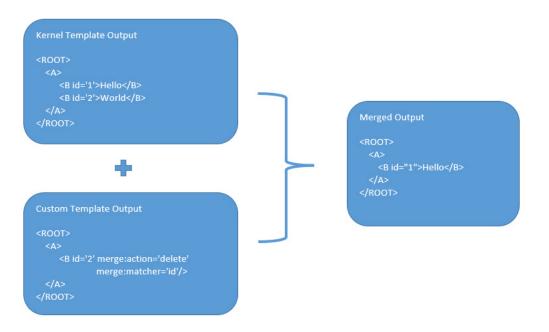
### 12.1.1 Identity Matcher

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

Syntax: merge:matcher='<ATTRIBUTE\_NAME>'



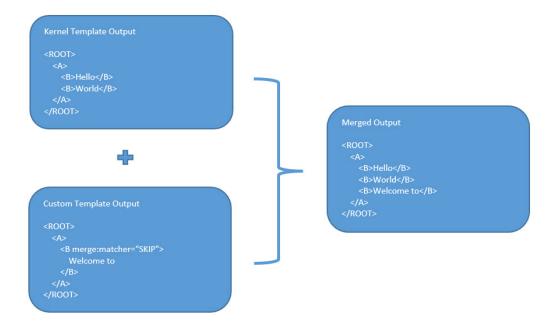
#### Example:



### 12.1.2 Skip Matcher

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

Syntax: merge:matcher='SKIP'

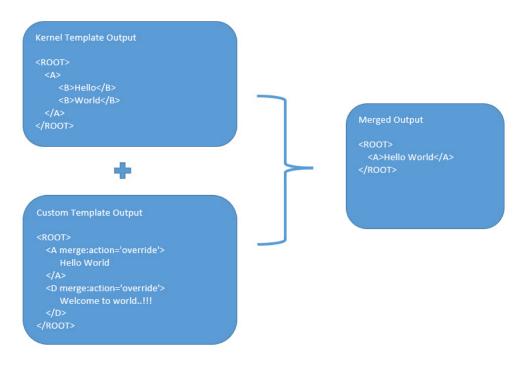




### 12.1.3 Override Action

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

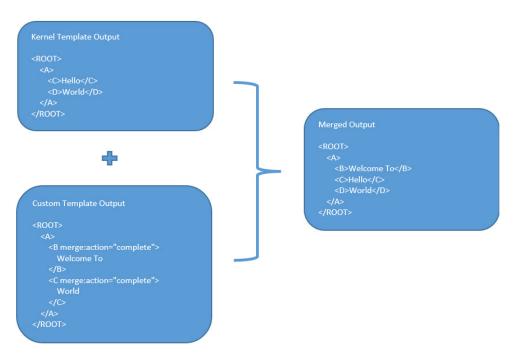
Syntax: merge:action='override'





### 12.1.4 Complete Action

Copies the patch element only if it does not exist in kernel/mock template. Syntax: merge:action='complete'

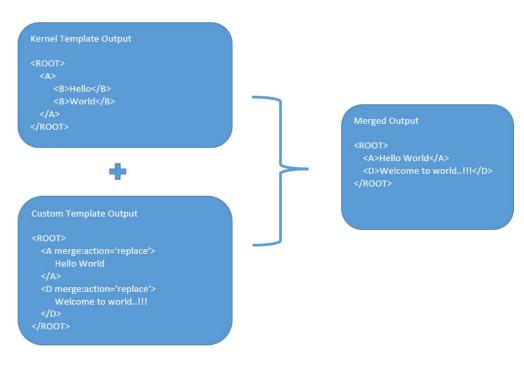




### 12.1.5 Replace Action

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

Syntax: merge:action='replace'



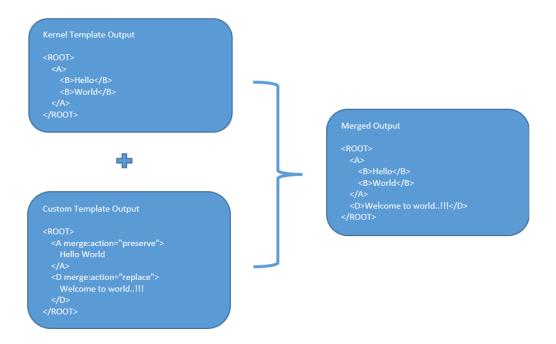


### **12.1.6 Preserve Action**

No replace action is performed on the original element.

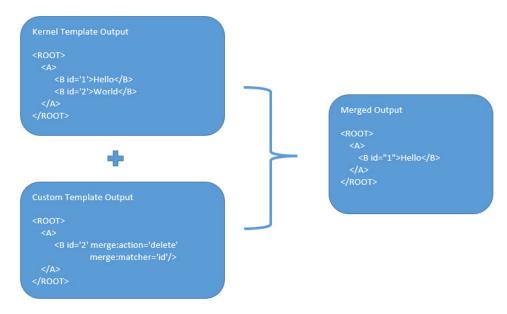
Syntax: merge:action='preserve'

Example:



### 12.1.7 Delete Action

Deletes the original element. Syntax: merge:action='delete' 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": "$body.files.get(0).file"
},
{
    "key": "name",
    "type": "TEXT",
    "value": "$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					::×
✓ Monitoring					
Window Type	Window Size				
Count O Time	100				
✓ Alert					
Minimum number of calls	Failure rate threshold				
100	50% ~ ^				
✓ Email Alert					
Email Addresses					
✓ Export					
Mark data as factory shipped					
✓ OIC					
Customer OIC instance URL	Customer OIC IDCS stripe URL	Client Id	a	lient Secret	
Scope					
				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	Νο		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 Email Alert	Number Box Collapsible	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. This section has properties that are
	Header & Content		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.
OIC	Collapsible Header & Content		This section has properties that are required for OIC integration. This section will be visible at system level only.



Customer OIC instance URL	Text Box	No	This property is used to url of OIC instance.	o specify the
Customer OIC IDCS stripe URL	Text Box	No	This property is used to striped url of IDCS.	o specify the
Client Id	Text Box	No	This property is used to client identifier.	specify the
Client Secret	Text Box	No	This property is used to secret.	o specify the
Scope	Text Box	No	This property is used to intent of access.	specify the



#### 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

Reques	t Audit								::×
Request Id			Consumer		Consumer Service		Provider		
Provider Imple	ementation		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 dis	splay.	_							
Page 1		of 0 (1-0 of 0	) items)  < ∢ → >						
						//////////////////////////////////////			111/1/2/2/11/1
	ACLE						OBRH (000 ) Marsh 6, 2023	Δ	SHARATH V
Requ	Request Audit Details								× ;; ×
Request Id	Request Id								
	wC97q1ZAGJ1xC97q1Z	AGj1yC97q1ZAGj1zC9	7q1ZAGj1AC97q1ZAGj1BC97q1Z.	4Gj1CC97q1ZAGj1DC97q1ZAC	5j1EC97q1ZAGj1FC97q1ZAGj1GC97q1ZAC	5j1HC97q1ZAGj1			
Provider In		Ø		Ø	Ø		📀		
User Id	OBR	H Request	Provi	der Request	Provider Response		OBRH Response		
	2023-05-10T10:32:26.9	953Z							Search
Request Id	Message								± Id
wC97q1Z	1								RUN
ccjapuVA	"headers": { "branchCode": [								RUN
sGeGTvR	"000" ], "SERVICE-CONSL	IMER-SERVICE": [							RUN
WxUZZO	"PARTY_CASA_ ].	ACCOUNTS_LIST"							RUN
Page	"appld": [ "CMNCORE" ],								
	"entityld": [ "DEFAULTENTI	TY"							
	], "userid": [		10000000000000000000000000000000000000						

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



Component brie	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 Implementatio n	Text Box		Provider Implementation Name			
Provider Service	Text Box		Provider Service Name			
Transformatio n	Text Box		Transformation Name			
Route	Text Box		Route Name			
Request Id	Text Box		Correlation Id			
User Id	Text Box		User Id			
Search	Button	<ul> <li>Search is done based on below things:</li> <li>Case insensitive</li> <li>Pattern matching</li> <li>Single / Multi Column search</li> </ul>	Performs search operation with specified values			

**NOTE:** End-user has to use wildcard character (\*) to match an arbitrary number of characters as search pattern for all fields except Request Id.

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 Monitoring Dashboard**

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

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

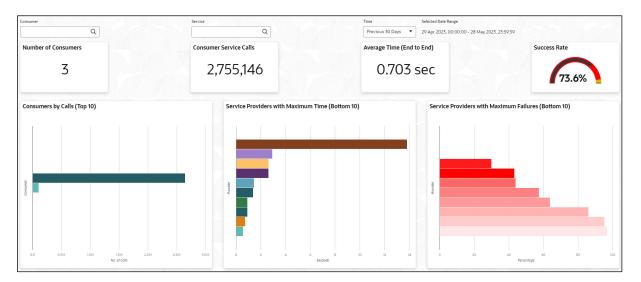
Below are steps to schedule the job once cmc-obrh-services and plato-batch-server is UP and RUNNING:

- 1. On Home Screen, Click Task Management
- 2. Under Task Management, Click "Configure Tasks"
- 3. Select "Schedule" option
- 4. Select "**Task Name**" as routingHubAuditSummaryJob and "**Task Trigger Name**" will be generated automatically.
- 5. Specify the CRON expression to daily EOD

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

**NOTE:** Monitoring Dashbord will also be not available if Audit logs are turned off

#### Navigation: Core Maintenance -> Routing Hub -> Monitoring Dashboard



**Number of Consumers:** This widget displays total number of consumers configured in the Oracle Banking Routing Hub.



**Consumer Service Calls:** This widget displays total number of consumer services requested during chosen period.

Average Time (End to End): This widget displays the average time (in seconds) taken to process successful requests, during chosen period.

**Success Rate:** This widget provides an indicator of how many successful requests were made during chosen period.

**Consumers by Calls (Top 10):** This widget provides a graphical display of the top 10 consumers based on requests they have made during chosen period. A link on the bar graph is provided to view further details of the Consumer.

**Service Providers with Maximum Time (Bottom 10):** This widget provides a graphical display of bottom 10 providers based on the time taken to process requests, during s chosen period.

**Service Providers with Maximum Failures (Bottom 10):** This widget provides a graphical display of bottom 10 providers based on failed requests, during s chosen period.

#### **Consumer Page**

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



This page displays following information:

**Number of Providers:** This widget displays the total number of service providers configured in Oracle Banking Routing Hub for the selected consumer.



**Consumer Service Calls:** This widget displays total number of consumer services requested by the selected consumer during chosen period.

Average Time (End to End): This widget displays the average time (in seconds) taken to process successful requests made by the selected consumer, during chosen period.

**Success Rate:** This widget provides an indicator of how many successful requests were made by the selected consumer during chosen period.

**Consumer Services by Calls (Top 10):** This widget provides a graphical display of the top 10 consumers Services during chosen period. A link on the bar graph is provided to view further details of the Consumer Service.

**Service Providers by Calls (Top 10):** Shows top 10 service providers based on the maximum requests which are requested chosen period.

**Service Providers with Maximum Time (Bottom 10):** Shows bottom 10 providers based on the maximum time taken to process successful requests which are requested during chosen period.

**Service Providers with Maximum Failures (Bottom 10):** Shows bottom 10 providers based on the maximum number of failed requests which are requested during chosen period.

#### **Consumer Service Page**

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

Monitoring Dashboard						::×
Consumer Oracle_ <u>Service_Consumed</u>	Service           READ_PARTY         Image: Control of the service of the	Time Selected Date Previous 30 Days   10 Apr 2023,	Range 00:00:00 - 9 May 2023, 23:	59:59		
Number of Providers	Consumer Service Calls	Average Time (End to End)		Success Ra	ate	
2	631,128	0.563 sec			7.74%	
						Ŧ
Request Id			Time in Routing Hub (sec)	Time In Service Providers (sec)	Total Time (sec)	Details
$e{\sf T} GfbaUOXi1f{\sf T} GfbaUOXi1g{\sf T} GfbaUOXi1h{\sf T} GfbaUOXi1i{\sf T} GfbaU$	UOXi1 jTGf ba UOXi1 kTGf ba UOXi1 tTGf ba UOXi1 mTGf ba UOXi1 mTGf ba UOXi1 tTGf ba	TGfbaUOXi1	0.081	43.443	43.524	۲
EAyhYdUOXi1FAyhYdUOXi1GAyhYdUOXi1HAyhYdUOXi1IAyhY	YdUOXi1JAyhYdUOXi1KAyhYdUOXi1LAyhYdUOXi1MAyhYdUOXi1NAyhYdUOXi1OAyhYdU	JOXi1PAyhYdUOXi1	0.079	43.099	43.178	۲
4cFMJZTOXi15cFMJZTOXi16cFMJZTOXi17cFMJZTOXi18cFM	UZTOXi19cFMJZTOXi1acFMJZTOXi1bcFMJZTOXi1ccFMJZTOXi1dcFMJZTOXi1ecFMJZT	OXitfcFMJZTOXit	0.076	42.721	42.797	۲
8yHSkWTOXi19yHSkWTOXi1ayHSkWTOXi1byHSkWTOXi1cyH	+skwToXitdyHSkwToXiteyHSkwToXitfyHSkwToXitgyHSkwToXithyHSkwToXitlyHS	kWTOXitjyHSkWTOXit	0.080	40.875	40.955	۲
CLUd2TTOXiIDLUd2TTOXiIELUd2TTOXiIFLUd2TTOXiIGLUd	d2TTOXiIHLUd2TTOXiILUd2TTOXiILUd2TTOXiILUd2TTOXiILUd2TTOXiILUd2TTOXiILUd2T	TOXiINLUd2TTOXiI	0.074	37.248	37.322	۲
QwR10QTOXi1RwR10QTOXi1SwR10QTOXi1TwR10QTOXi1UwR	tloQTOXi1VwR10QTOXi1WwR10QTOXi1XwR10QTOXi1YwR10QTOXi1ZwR10QTOXi10xR10	QTOXi11xR10QTOXi1	0.074	36.195	36.269	۲
2fic7TTOXI13fic7TTOXI14fic7TTOXI15fic7TTOXI16fic7TTOX	n7fic7TT0Xn8fic7TT0Xn9fic7TT0Xnafic7TT0Xnbfic7TT0Xncfic7TT0Xndfic7TT0Xn	1	0.078	36.035	36.113	۲
CNpT:BTOXIDNpT:BTOXIENPT:BTOXIENP					35.871	۲
0/58/0/0X/11/58/0/0X/12/58/0/0X/14/68/0/0X/15/58/0/0X/15/68/0/0X/19/58/0/0X/19/58/0/0X/19/58/0/0X/16/58/0X/16/58/0/0X/10X/11/58/0/0X/16/58/0/0X/16/58/0/0X/16/58/0/0X/16/58/0/0X/16/58/00X/16/58/00/0X/100/0X/16/58/00/0X/100/0X					35.433	۲
ΟJOKRETOXIPJOKRETOXIRJOKRETOXIRJOKRETOXIRJOKRETOXITJOKRETOXIIJJOKRETOXINJOKRETOXINJOKRETOXINJOKRETOXINJOKRETOXI				35.245	35.319	۲
Page 1 of 30225 (1 - 10 of	302244 items)  < 4 1 2 3 4 5 30225 → >J					

**Number of Providers:** This widget displays total number of service providers to which this request is routed to complete the integration.

**Consumer Service Calls:** This widget displays total number of consumer services made during chosen period.

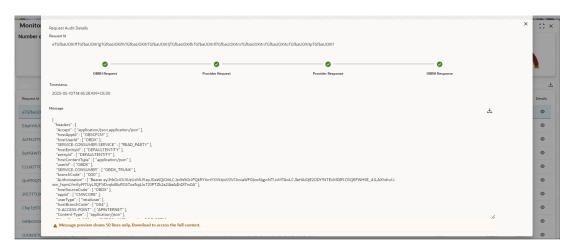
**Average Time (End to End):** This widget displays the average time taken to process successful requests made during chosen period.

Success Rate: Shows the percentage of successful requests which are made during chosen period.

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

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





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

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



# **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 <u>https://velocity.apache.org/tools/3.1/apidocs/org/apache/velocity/tools/generic/XmlTool.</u> html

> 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	r whf00lse:7002/api-gateway/platojwtauth			Send <b>v</b> Save <b>v</b>
Param		re-request Script Tests  Settings		
	ers 💿 9 hidden	VALUE	DESCRIPTION	
<b>v</b>	appld	SECSRV001		
~	Content-Type	application/json		



#### **Request Payload**

POST	whf00lse:7002/api-gateway/platojwtauth	Send 🔻 Save 🔻
Params Aut	norization Headers (12) Body Pre-request Script Tests Settings	Cookies Code
• none • f	orm-data 🔍 x-www-form-urlencoded 🌑 raw 🔍 binary 🔍 GraphQL _ JSON 💌	Beautify
3 "ра	ername": "VEVTVFVTRVIx", ssword": "VEVTVFVTRVIx"	
4 }		

### **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/XML payload which shall act as input to the transformation template in request transformer.
- Response Body:

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

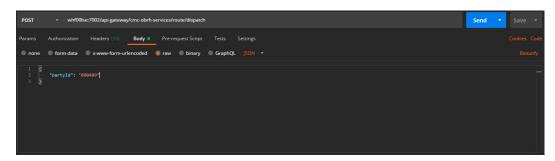
- If the route invocation succeeds, data JSON member would contain the transformed (optional) response of the provided service. If it's a provided web service and no response transformation template is supplied, XML Soap Body of response would be converted into JSON object and sent in data JSON member.
- 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

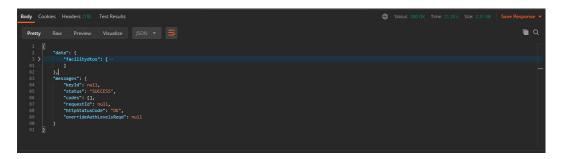
POS	ST v whf00lse-7002/api-gateway/cmc-obrh-services/route/dispatch				
Param	ns Authorization Headers (17) Body  Pre-request Script Test:				
		VALUE	DESCRIPTION	••• Bulk E	dit Presets 🗸
$\checkmark$	Content-Type	application/json			
	appld	CMNCORE			
$\sim$	entityld	DEFAULTENTITY			
	userld	TESTUSER1			
$\sim$	branchCode	004			
	Authorization	Bearer ({token)}			
$\sim$	SERVICE-CONSUMER	Oracle_Service_Consumer			
	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/XML 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

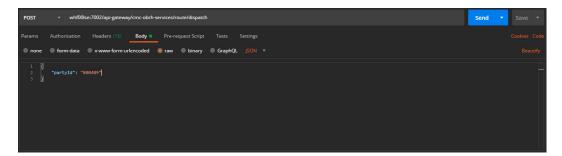
### **Query Params**

POST	whf00lse:7	/002/api-gateway/c	mc-obrh-ser	vices/route/dispatch?isA	sync=true			Send	•		
Params • Query Param	Authorization	Headers (17)	Body 单	Pre-request Script	Tests	Settings				Cookies	
KEY				VALUE			DESCRIPTION				
isAsync				true							
Кеу											

#### Headers

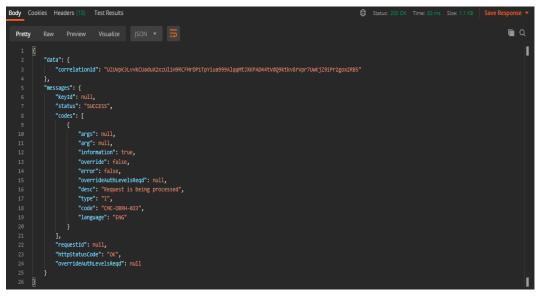
POST v whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatch	YisAsync=true			Send v
Params  Authorization Headers (17) Body  Pre-request Script Tr				
Headers 💿 9 hidden				
		DESCRIPTION	••• Bulk Edit	Presets $\sim$
Content-Type	application/json			
I appld	CMNCORE			
I entityld	DEFAULTENTITY			
✓ userId	TESTUSER1			
✓ branchCode	004			
Authorization	Bearer ((token))			
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.

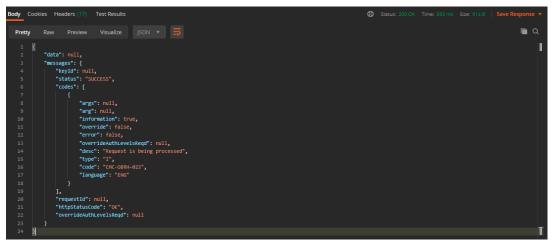
Example - Below are the screenshots of route dispatch for

ServiceConsumer Oracle\_Service\_Consumer and ServiceConsumerService List\_Facilities

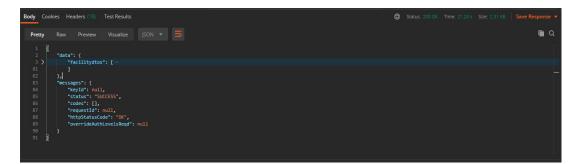
Headers

CET v whf00lse:7002/api-gateway/cmc-obrh-services/route/dispatchRe	esponse/4WTTEvRceo3hfb8nd9wnql7uokPPSoLk2EyajSeT8bA65vXWC2CGMyb	Efly8rGxar3BidzYGdVhq4mFQiHWVCVRb		Send v
Params Authorization Headers (15) Body  Pre-request Script Tests	Settings			
Headers 📀 9 hidden				
KEY	VALUE	DESCRIPTION	••• Bulk Edit	Presets $ \smallsetminus $
Content-Type	application/json			
sppld	CMNCORE			
I entityId	DEFAULTENTITY			
S userid	TESTUSER1			
JoranchCode	004			
Authorization	Bearer {{token}}			

Response Payload when request is still processing



Response Payload when request is processed (on Successful Dispatch)





Body Cool	es Headers (16) Test Results	Status: 400 Bad Request Time: 91 ms Size: 1.16 KB	Save Response 🗸
Pretty			🖻 Q
1 <b>S</b> 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	<pre>fata:: null, "mssaget: null, "separa: null, "status:: "ANLUME", "codes:: [ { ferget: null, farget: null, ferget: false, ferget: null, ferget: null, fe</pre>		
19 > 30			
31 32	], "requestid": null,		
33	"httpstatusCode": "BAD_REQUEST",		
34	"overrideAuthLevelsReqd": null		
35 36			Т

Response Payload when request is processed (on Failed Dispatch)

# 19.5 Template evaluation API Specification

Template evaluation endpoint will return the evaluated output of transformation template. End-user can validate the template based on the returned output.

Template evaluation endpoint signature -

- Method: POST
- Path : /template/evaluate
- 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>
  - > SERVICE-TRANSFORMATION : <name of service transformation>
- Query Parameters:
  - transformationType : REQUEST / RESPONSE / MOCK\_RESPONSE
     Note: Default value is REQUEST if not specified
- Request Body:
  - Any valid JSON / XML payload which shall act as input to the transformation template in request transformer.



```
• Response Body:
```

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

}



# 20 Oracle Banking Routing Hub VM Arguments

### Common Core Managed Server

Parameter	Default	Values
CMC-O	BRH-SERVIC	E
cmc-obrh-services.server.port		<server_port></server_port>
obrh.db.jndi		<cmncore_jndi></cmncore_jndi>
cmc-obrh-services.oic.secretStore.url		<oic_secret_store_url></oic_secret_store_url>
cmc-obrh-services.audit.retention.days		<audit_retention_policy_day S&gt;</audit_retention_policy_day 
cmc-obrh-services.audit.retention.archival		Y/N
		(Y for archiving and N for purging)
Enable and configure connection pooling for	or REST calls	
obrh.rest.connectionpool.enabled	false	true / false
obrh.rest.connectionpool.totalConnectionCou nt	20	<pool_total_conn_count></pool_total_conn_count>
obrh.rest.connectionpool.maxConnectionCou ntPerRoute	2	<pool_max_conn_per_route></pool_max_conn_per_route>
obrh.rest.connectionpool.timeToLive.ms	-1	<pool_ttl></pool_ttl>
Receive routing failure mail notification via	plato-alerts-r	nanagement-service
obrh.alerts.enabled	false	true / false



Change approach for auditing		
obrh.audit.type	DEFAULT	DEFAULT / KAFKA / JMS / LOG / OFF
		For KAFKA option, cmc-obrh-kafka- consumer service needs to be deployed.
		For JMS option, cmc-obrh-jms- consumer service needs to be deployed.
Overwrite the customization that is n	ot part of configura	ation json
obrh.import.overwrite	false	true / false
Use Custom Keystore and Truststore	for HTTPS scheme	9
obrh.keystore.password.encoded		true / false (true, if password is base 64 encoded)
obrh.truststore.path		<truststore_path></truststore_path>
obrh.truststore.password		<truststore_password></truststore_password>
obrh.usekeystore		true / false (true, if keystore is required along with truststore)
obrh.keystore.path		<keystore_path></keystore_path>
obrh.keystore.password		<keystore_password></keystore_password>
obrh.keystore.alias		<keystore_alias_list></keystore_alias_list>
obrh.keystore.aliaspassword		<keystore_alias_password_i IST&gt;</keystore_alias_password_i 
obrh.ssl.protocol	TLS	TLS / TLSv1 / TLSv1.1 / TLSv1.2



For tomcat deployment					
obrh.server.isJavaEE	true	true / false			
		(false for tomcat)			
obrh.taskexecutor.corepoolsize	50	<core_poolsize></core_poolsize>			
obrh.taskexecutor.maxpoolsize	50	<max_poolsize></max_poolsize>			
obrh.taskexecutor.queuecapacity	100	<queue_capacity></queue_capacity>			
Set Proxy settings for HTTPS					
As per the Java Networking documentation, H	HTTPS protoc	ol handler will use the same as the http			
handler (i.e. http.nonProxyHosts).					
But in case of Weblogic, http.nonProxyHosts	will not work f	or some reason.			
So, use https non proxy host argument (i.e. h	ttps.nonProxy	/Hosts).			
https.proxyHost		<pre><proxy_host_name></proxy_host_name></pre>			
https.proxyPort		<pre><proxy_port></proxy_port></pre>			
https.nonProxyHosts		<non_proxy_host_list></non_proxy_host_list>			
http.nonProxyHosts		<non_proxy_host_list></non_proxy_host_list>			
Set logger level	L				
plato.service.logging.level		<log_level></log_level>			
Support SSL based SOAP provider calls in	n weblogic er	nvironment			
This property will enforce WebLogic Server to	use SUN SS	L implementation (javax package) rather			
than the WebLogic one.					
UseSunHttpHandler		true			
CMC-OBRH	-KAFKA-CON	NSUMER			
cmc-obrh-kafka-consumer.server.port		<server_port></server_port>			
Change ID generator					



obrh.audit.id-generator	UUID	UUID / SNOWFLAKE				
CMC-OBRH-JMS-CONSUMER						
cmc-obrh-jms-consumer.server.port		<server_port></server_port>				
cmc-obrh-jms-consumer.connectionFactory		<jms_conn_factory_jndi></jms_conn_factory_jndi>				
cmc-obrh-jms-consumer.queue		<jms_conn_queue_jndi></jms_conn_queue_jndi>				
Change ID generator						
obrh.audit.id-generator	UUID	UUID / SNOWFLAKE				

Plato Core Managed Server

Oracle Banking Routing Hub is using Multipart for Import feature.

By default, spring supports max 1MB file size and 10MB request size for Multipart.

In order to import bigger files,

plato-api-gateway.multipart.max-file-size=<MAX\_FILE\_SIZE> (default is 200MB)

plato-api-gateway.multipart.max-request-size=<MAX\_REQUEST\_SIZE> (default is 200MB)

NOTE: -1 for no size constraint

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

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

