OBO and Third Party Setup and Configuration Guide
Oracle Banking Digital Experience
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OBO and Third Party Setup and Configuration Guide

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1. Preface

1.1 Purpose

Welcome to the User Guide for Oracle Banking Digital Experience. This guide explains the operations that the user will follow while using the application.

1.2 Audience

This manual is intended for Customers and Partners who setup and use Oracle Banking Digital Experience.

1.3 Documentation Accessibility

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

Access to Oracle Support

Oracle customers that have purchased support 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.

1.4 Critical Patches

Oracle advises customers to get all their security vulnerability information from the Oracle Critical Patch Update Advisory, which is available at Critical Patches, Security Alerts and Bulletins. All critical patches should be applied in a timely manner to ensure effective security, as strongly recommended by Oracle Software Security Assurance.

1.5 Diversity and Inclusion

Oracle is fully committed to diversity and inclusion. Oracle respects and values having a diverse workforce that increases thought leadership and innovation. As part of our initiative to build a more inclusive culture that positively impacts our employees, customers, and partners, we are working to remove insensitive terms from our products and documentation. We are also mindful of the necessity to maintain compatibility with our customers' existing technologies and the need to ensure continuity of service as Oracle's offerings and industry standards evolve. Because of these technical constraints, our effort to remove insensitive terms is ongoing and will take time and external cooperation.

1.6 Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.

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Italic	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1.7 <u>Screenshot Disclaimer</u>

The images of screens used in this user manual are for illustrative purpose only, to provide improved understanding of the functionality; actual screens that appear in the application may vary based on selected browser, theme, and mobile devices.

1.8 <u>Acronyms and Abbreviations</u>

The list of the acronyms and abbreviations that you are likely to find in the manual are as follows:

Abbreviation	Description
OBDX	Oracle Banking Digital Experience

2. Introduction

This document is intended as a guide to set up OBDX 25.1.0.0.0 originations with OBO 14.8.0.0.0 and Third-Party releases.

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3. Prerequisites OBO
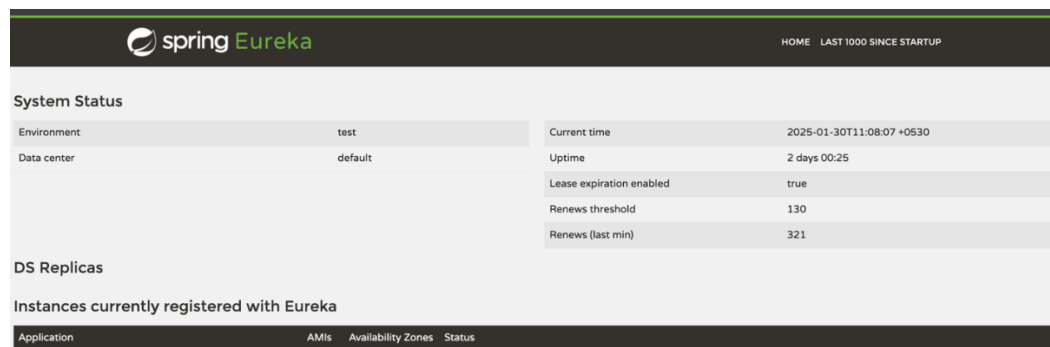
The following are the prerequisites required in **Oracle Banking Origination (OBO)** to successfully integrate with **Oracle Banking Digital Experience (OBDX)**.

3.1 OBO version

This information is required to identify the version of OBO that is integrated with OBDX. Depending on the OBO and OBDX versions, integrated features and services may vary, making it essential to confirm the specific version for accurate setup and configuration. Refer Introduction for details on OBO-OBDX version compatibility.

3.2 Eureka URL

The OBO Eureka URL, which is shared by the OBO team, is mandatory for the configuration of OBRH-OBDX. Eureka is used to list down all the services that are up and running at OBO and we will config the same at OBRH to either manually add ip/port or to add the service name of the API.

spring Eureka		HOME LAST 1000 SINCE STARTUP	
System Status			
Environment	test	Current time	2025-01-30T11:08:07 +0530
Data center	default	Uptime	2 days 00:25
		Lease expiration enabled	true
		Renews threshold	130
		Renews (last min)	321
DS Replicas			
Instances currently registered with Eureka			
Application	AMIs Availability Zones Status		

3.3 OBO Users and configuration

The following three users must be created with the required functionality, services, and role access in **Oracle Banking Origination (OBO)** before testing the integration with **Oracle Banking Digital Experience (OBDX)**. These users will be used to invoke the OBO services as documented in the **Section: Eureka URL**.

1. OBDX – This user is required for the **OBDX/OBRH configuration** to call **OBO endpoints** directly. These calls are made to the **OBO host** and do not pass through the **API Gateway Router**.

2. OBDXAPI1 – This user is required for the **OBDX/OBRH configuration** to communicate with the **Document Management System (DMS)** also known as Content. The DMS is used to manage all documents centrally across both **OBDX** and **OBO**. Since both systems use a centralized DMS, maintaining this user and its permissions is mandatory.
   All api-gateway or api-gateway-router requests through the API use this user.

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3. OBDXUSER – This user is required to access **OBO AppShell** application login to perform tasks such as verifying **product maintenance**, managing **business processes**, acquiring tasks, processing applications, and handling other OBO-related tasks. This ensures that all applications submitted through **OBDX** are correctly processed and validated within the **OBO** system.

Note:

➢ As per the above configuration, **DO NOT** use **OBDX** or **OBDXAPI1** to log into the **OBO application**. Doing so could cause **API failures** within the application, leading to errors such as **Bad Credential** or **Token Expired**.

➢ Ensure that the above three users have access to OBO services and OBRH consumers.

3.4 <u>User Access Testing</u>

3.4.1 <u>Token Generation</u>

The Token Generation API is used to check user access.

curl --location '<protocol>://<ip>:<port>/api-gateway/platojwtauth' \

--header 'appId: SECSRV001' \

--header 'Content-Type: application/json' \

--data '{

"username": "<user>",

"password": "<password>"

}'

protocol : http/https check in Eureka for service api-gateway-router

ip : api-gateway-router ip

port : api-gateway-router port

user : encrypted user

password : encrypted password

Note: Please use user/password in Base64 or PLATO encryption.

To find the encryption type, use the following query:

```
SELECT * FROM digx_fw_config_all_b WHERE CATEGORY_ID =
'authenticationConfig';
```

Response : The token returned by this API will be used in the subsequent API.

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3.4.2 Access Any document related API with the Above Token

Document read api – Loading images for product
curl --location '<protocol>://<host>:<port>/api-gateway/cmc-document-services/cmc-document-services/service/v1/documents?documentRefId=<image_id>' \

--header 'Content-Type: application/json' \

--header 'userId: <user>' \

--header 'appId: OBREMOBPDETAILS' \

--header 'branchCode: <branch_code>' \

--header 'entityId: DEFAULTENTITY' \

--header 'Authorization: Bearer <token>'

image_id : You will get this ID in the product listing API. In the above api 310803 is image_id
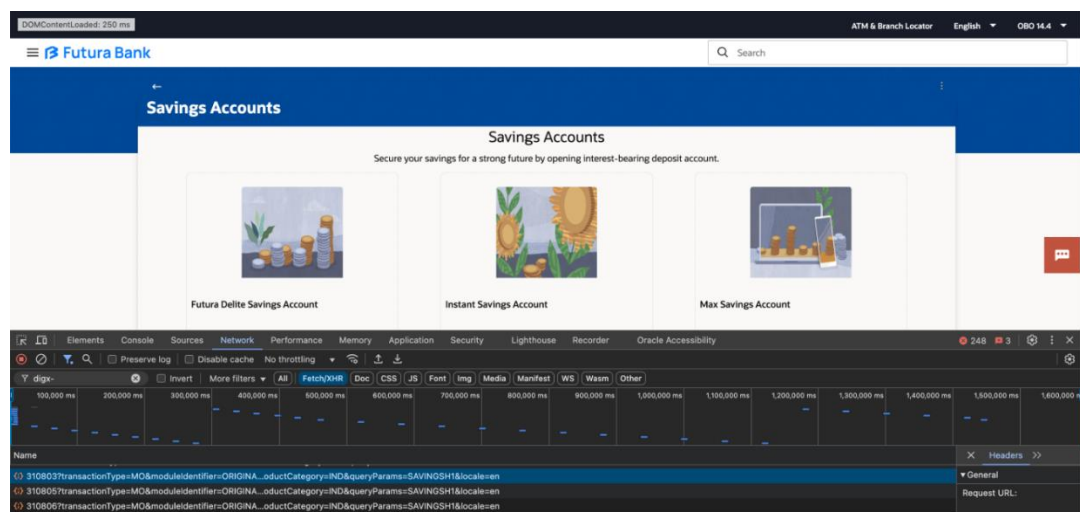
3.5 SSL certificate

The **OBO Eureka URL** lists discovery services, and if these services are running securely on **https**, an **SSL certificate** is mandatory to be installed on the **OBDX/OBRH servers**. This SSL certificate must be provided by the **OBO team**. Only after the certificates are installed on the OBDX and OBRH servers can the OBO APIs be accessed through the OBDX/OBRH servers and respective applications. In line with **OBDX standards**, all API calls must be made over **HTTPs** to ensure secure communication.

If the **SSL certificate** is not installed correctly, you may encounter errors such as failed API calls or connection issues. In this case, the system will prompt an error related to SSL, and you will need to **re-install the SSL certificate** on the OBDX/OBRH servers.

javax.ws.rs.ProcessingException: javax.net.ssl.SSLHandshakeException: PKIX path building failed: sun.security.provider.certpath.SunCertPathBuilderException: unable to find valid certification path to requested target at

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3.6 OBO Business products

Ensure that all **OBO business products** are properly maintained in OBO, following the processes established by the OBO maintenance team. This ensures that the products are available and accessible through the OBDX channel prior to integration with OBDX.

3.7 OBO Regional maintenance

All regional maintenance configurations should be established in the OBO setup. This applies to both the **US (United States)** region and **RW (Rest of the World)**. Note that RW will always be regarded as the default configuration.

3.8 OBO API testing via postman

OBO API's testing: The following curl command is utilized to test the OBO APIs prior to integration with the OBDX application. This command checks whether the APIs are functioning correctly with the expected headers.

1. **Product listing**

   This API is used to fetch the list of products that are maintained in OBO.

   curl --location '<protocol>://<ip>:<port>/obremo-rpm-businessproductdetails-services/web/businessproducts?channel=OBDX&productType=<product_type>&productCategory=IND' \

   --header 'Content-Type: application/json' \

   --header 'userId: <user_id>' \

   --header 'appId: OBREMOBPDETAILS' \

   --header 'branchCode: <branch_code>' \

   --header 'entityId: DEFAULTENTITY'

   To verify and set <protocol>://<ip>:<port>
   - Navigate to the Eureka URL
   - Search for endpoint **obremo-rpm-businessproductdetails-services**
   - Click on the result URL of the endpoint you have searched, and note the **protocol**, the **IP address**, and the **port number** used in the curl**.**
   - <user_id> : User created in OBO e.g. OBDXAPI1
   - <branch_code> : OBO branch code
   - <product_type> :
     - ➢ S for savings

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- ➢ C for current account
- ➢ L for loan
- ➢ T for term deposit
- ➢ R for credit card
- ➢ V for auto loan
- ➢ H for home loan
- ➢ E for education loan

2. **Read application**

   This API is used to fetch application details using the application number.

   curl --location '<protocol>://<host>:<port>/obremo-rpm-process-driver-
   services/service/getData/<application_id>' \

   --header 'branchCode: <branch_code>' \

   --header 'appId: RPMPROCESSDRIVER' \

   --header 'entityId: DEFAULTENTITY' \

   --header 'userId: <user_id>' \

   - `--header 'Content-Type: application/json'` Follow the steps of **Product listing api** to set <protocol>, <host>, <port>, <branch_code>, <user_id>
     1. Navigate to the Eureka URL
     2. Search for endpoint **obremo-rpm-process-driver-services**
   - <application_id>, enter the application number for which you have to fetch details

3. **Enumeration**

   This API fetches a list of values from OBO. For example, the following API is used to fetch the list of values maintained for the Salutation dropdown menu.

   curl --location '<protocol>://<host>:<port>/obpy-party-maintenance-
   service/service/v1/retail/getAll?entityCode=<entity_code>' \

   --header 'Content-Type: application/json' \

   --header 'userId: <user_id>' \

   --header 'appId: PRTONB' \

   --header 'branchCode: <branch_code>' \

   --header 'entityId: DEFAULTENTITY' \

   --header 'authToken: TOEKN'

   - Follow the steps of the Product Listing api to set <protocol>, <host>, <port>, <user_id>, <branch_code>
     1. Navigate to the Eureka URL

2. Search for endpoint **obpy-party-maintenance-service**

- Use <entity_code> as **SAL**. This code is used to fetch values maintained for the salutation dropdown in OBPY.

- It will list all OBPY enumeration LOV's, without query param.

4. Get Token

This API is used to generate a token. This token will further be used in any api-gateway call.

curl --location '<protocol>://<host>:<port>/api-gateway/platojwtauth/' \

--header 'appId: SECSRV001' \

--header 'Content-Type: application/json'

--data '{

"username": "<encoded_user_name>",

"password": "<encoded_password> "

}'

- Follow the steps of **Product listing api** to set <protocol>, <host>, <port>

    3. Navigate to the Eureka URL

    4. Search for endpoint **apigateway-router**

- To check the encoding used by the application for username and password setup, refer to the OBRH encoding technical documentation.

Use Base64 encoding as the standard method to setup the username and password.

5. Document type

This API is used to fetch the list of primary document types that the user can upload in the application.

curl --location '<protocol>://<ip>:<port>/api-gateway/cmc-documentmanagement-services/documenttype' \

--header 'Content-Type: application/json' \

--header 'userId: <user_id>' \

--header 'appId: CMNCORE' \

--header 'branchCode: <branch_code>' \

--header 'entityId: DEFAULTENTITY' \

--header 'Authorization: Bearer <token>'

- Follow the steps of **Product listing api** to set <protocol>, <host>, <port>, <user_id>, <branch_code>\B

    6. Navigate to the Eureka URL

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7. Search for endpoint **apigateway-router**

- To set the Bearer <token>, refer the Get Token API response

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Note: For any queries related to the OBO API, including product creation, maintenance, and other inquiries, reach out to the OBO consulting team.

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4. Prerequisites OBRH

Refer the OBRH technical documentation for details on OBRH configurations to import service consumer and other OBRH related maintenances.

4.1 OBRH Origination Configuration

Follow the steps to configure origination users:

1. Go to the service consumer – **OBDX_TRUNK** or **OBDX** (check the name mentioned in installer as the same needs to be imported in OBRH).

2. Click on View More. By default, the tab will be on **Environment Variables**. Select Edit Group on **ORIGINATION_CONFIG**

3. Configure the user and branch code.

   - For OBO_USER, OBO_BRANCH, OBPY_USER, OBPY_BRANCH configuration, refer **OBO Users creation and configuration-step2.**

   - For CMC_USER, CMC_BRANCH configuration, refer **OBO Users creation and configuration-step2.**
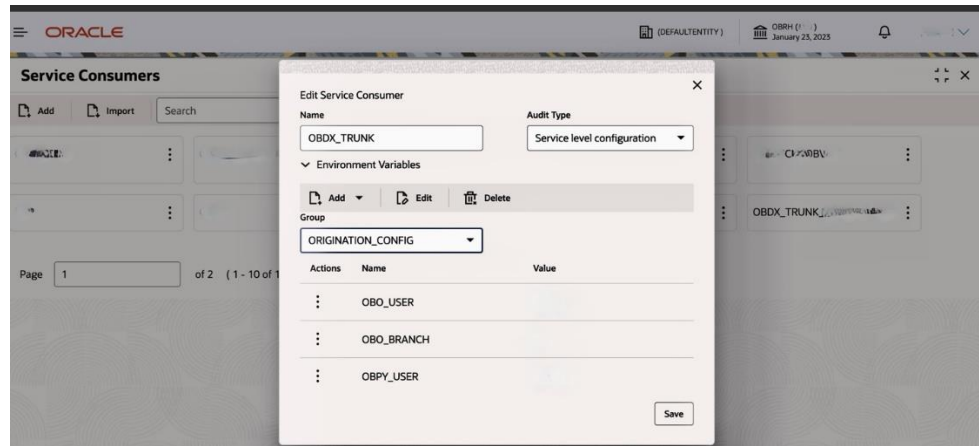
   - For JUMIO_AUTH: Check with the bank to check if Jumio vendor integration with the license version is enabled for KYC purposes; if not, keep these value as blank or configure the Jumio bearer token, followed by Basic … , refer **Jumio Configuration.**

4.2 <u>Origination Service Provider</u>

The following list of service providers is applicable for originations and their respective their endpoints.

Service Consumer	End Point
PLATO-APIGATEWAY-ROUTER	api-gateway
OBREMO_LOANAPPLICATIONS	obremo-rpm-lo-loanapplications
OBREMO_COMMON	obremo-rpm-cmn-applicantservices
OBREMO_RPM_CMN_APPLICANTSERVICES	obremo-rpm-cmn-applicantservices
OBREMO_PROJECTION	obremo-rpm-projection-services
OBREMO_PROCESS_DRIVER_SERVICE	obremo-rpm-process-driver-services
OBREMO_RPM_CMN_APPLICANTSERVICES	obremo-rpm-cmn-applicantservices
OBREMO_RPM_BUSINESSPRODUCTDETAILS_SERVICES	obremo-rpm-businessproductdetails-services
OBREMO-RPM-BUSINESSPROCESS-SERVICES	obremo-rpm-businessprocess-services
OBREMO_MAINTENACE	obremo-rpm-maintenance-services
OBPY	obpy-party-maintenance-service
OBPY_PARTY_SEARCH	obpy-party-services
OBPY_PARTY_MAINTANANCE	obpy-party-maintenance-service
CMC_BUSINESS_OVERRIDES	cmc-businessoverrides-services
CMC_OPDS_QUESTIONNAIRE	cmc-opds-services
CMC_OPDS	cmc-opds-services
CMC_CUSTOMER_SERVICES	cmc-customer-services
CMC_CURRENCY_SERVICES	cmc-currency-services
CMC_BASE_SERVICE	cmc-base-service

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4.3 <u>Config Service Provider</u>

Consider the following example as a guide on how to configure service provider e.g. PLATO-APIGATEWAY-ROUTER.

The **PLATO-APIGATEWAY-ROUTER** service provider is utilized for generating API gateway tokens prior to using any document API. As documents uploaded by users contain sensitive information that is important for both the bank and the user. Therefore, it is essential to transmit these documents securely through the API gateway.

Search **PLATO-APIGATEWAY-ROUTER** in Service Providers.
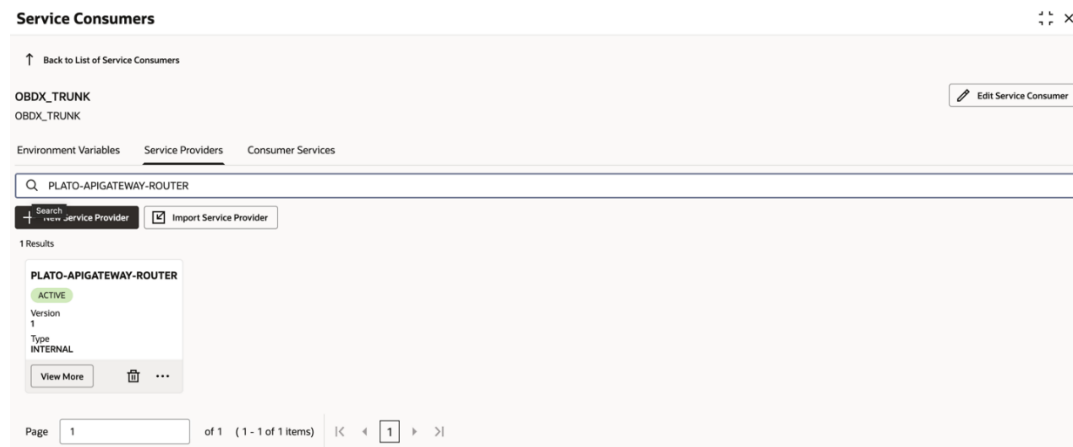
Select **View More** on **PLATO-APIGATEWAY-ROUTER**, click on the **Edit** icon**.**
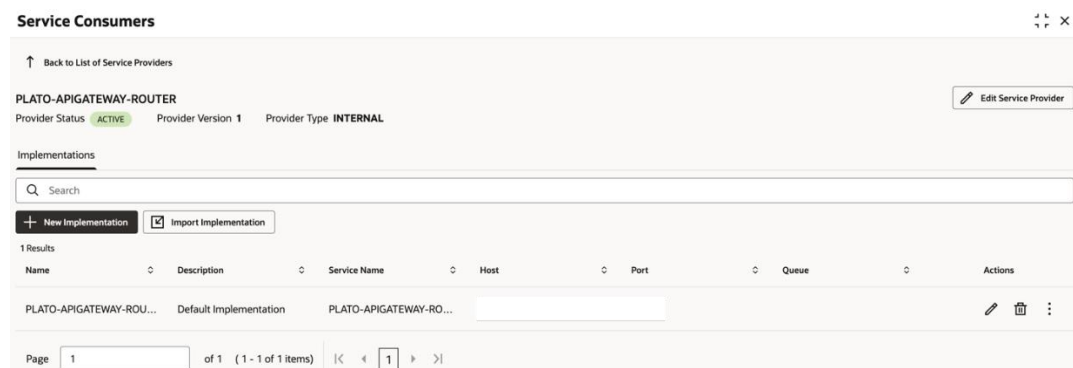
There are two ways to configure the host and port: Using the manual method or through service discovery.

1. Manual Method: Configure protocol(https/http), host, and port, refer the **OBO API Testing: Get Token** for further information or follow the steps below.

    - Navigate to the Eureka URL

    - On this page, you can search for the endpoint that you need to configure.

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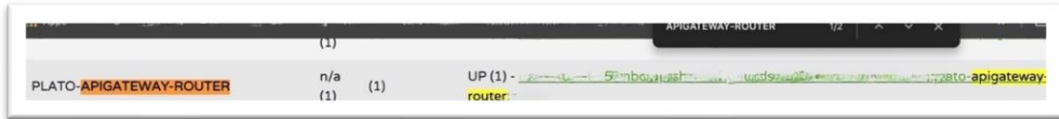
- Open the Search Result in a new tab.
- Copy Protocol(https/http), Host, and Port.
- Configure the same in the **service provider**.

2. Using Service discovery: Enable Eureka using the **Eureka Instance** toggle button and enter the service name which is found in the Eureka search.

- For JWT_TOKEN, to config Username and Password, refer **OBO Users and configuration-step2** (*This is only required in the case of the token service; it is optional for other service consumers.*)

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4.4 Testing Consumer service via postman

After the above OBRH configuration is completed, use the below curl command to test that all service consumers are functioning as expected.

e.g. Testing READ_APPLICATION Consumer service

1. Generate token and configure <protocol>, <ip>, <port>, <user_id>, <Bearer_Token> first refer to **OBO API Testing: Get Token**

2. Use Bearer token in the below curl command.

3. <application_id> Enter the application number of the data you need to fetch.

4. <service_consumer> Enter the name of the service consumer e.g. OBDX_TRUNK

5. <consumer_service> Here we are fetching data from READ_APPLICATION

curl --location '<protocol>://<ip>:<port>/api-gateway/cmc-obrh-services/route/dispatch' \

--header 'Content-Type: application/json' \

--header 'appId: CMNCORE' \

--header 'userId: <user_id>' \

--header 'branchCode: <branch_code>' \

--header 'SERVICE-CONSUMER: <service_consumer>' \

--header 'SERVICE-CONSUMER-SERVICE: <consumer_service>' \

--header 'entityId: DEFAULTENTITY' \

--header 'Authorization: <Bearer Token>' \

--data '{"applicationId": "<application_id>"}'

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5. Database Configuration

The following configurations need to be carried out post installation.

5.1   System Configuration

Complete day one maintenance from the admin screen. Refer the **User Manual Oracle Banking Digital Experience System Configuration** document for details on day one maintenances. These are mandatory configurations required for the application to work and should be completed before the application can be used.

5.1.1   Origination specific fields

5.1.2   Description of fields under origination tab:

If any of the values below are null, they will not be reflected on the Configuration page of the UI.

Configuration of OBPY API	
RPM Branch code	The branch code for OBPY rest
Configurations of OBO API	
RPM Business Process Channel	The channel for OBO rest
Application Tracker Configuration	
Application Expiring Days	The number of days after which an application form that is in-draft (i.e. a saved application) is deleted if no action is taken on the application form.
Purging Days	Status of the application from the date minus the number of days mentioned in purging days.
Credit Card Configuration	

CC Balance Transfer Supported	Whether the feature of transferring balances is to be supported in credit card applications or not.
	Should be set to "Y" if balance transfer is supported.
Maximum Card Balance Transfer	The maximum number of credit cards that can be defined to transfer balances to a new card in a credit card application form.
Issuer List	List of issuers supported by OBDX. Comma seperated
	Example VISA, Master Card
Maximum Add on Cards	The maximum number of add-on cards that can be added to a credit card in a credit card application form.
Credit Card Type	The different types of credit cards that are supported in OBO. i.e. card types based the payment networks. The values can be VISA, MasterCard, American Express, ec
OCR Configuration	
Microblink Host IP address	The IP Address for OCR
Microblink Host port	The Port for OCR
OCR Authorization token	The Bearer token for OCR access
OCR Document Categories	The list of documents supports for OCR
Other Configurations	
RPM Multilingual Check required	Default value: false. Can be set to true if multilingual hooks are required for the product catalogue.
Inactive KYC allow flag	Should be set to Y if applicant is allowed to apply for product in case of inactive KYC.
External Funding Supported	Applicable to savings accounts, checking accounts and term deposit application forms.
	This field is used to specify whether external funding, for the initial funding of the account /deposit being applied for, should be allowed or not.
	Should be set to "true" if External Funding is supported.
Wallet Product Code	The business product code to be mapped to wallet products.
Customer Subtype	The types of customers supported, e.g. INDIVIDUAL, SMB
Insta Account Products	Comma separated business product codes which are insta products.

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No of Days for Re-KYC	The number of days after which the applicant/customer is required to complete KYC again. The number of days differ based on the current KYC score or risk category of the applicant. Eg. "Low,720,Medium,365,High,180" Here 720 days is the validity of KYC for Low risk category level. 365 days is for medium and 180 days for High risk applicants. The number of days per risk category is configurable.
Simple Term Deposit Products	The Simple Term Deposit product codes that are supported by OBO.

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5.2   Additional (functional) Configuration

5.2.1   Configuring Repository adapter for Applications:

- **OBO Host Configuration**

  No Configuration required.

- **Third Party Configuration**

  If local (database) storage is required for a third party entity, the following query needs to be executed:

  Insert into DIGX_FW_CONFIG_ALL_O
  (PROP_ID,PREFERENCE_NAME,PROP_VALUE,DETERMINANT_VALUE,CREATED_BY,CREATION_DATE,LAST_UPDATED_BY,LAST_UPDATED_DATE) values
  ('RPM_APPLICATION_REPOSITORY_ADAPTER','RepositoryAdapterFactories','com.ofss.digx.domain.origination.entity.application.repository.adapter.LocalApplicationRepositoryAdapter,com.ofss.digx.domain.origination.entity.application.repository.adapter.RemoteApplicationRepositoryAdapter','OBDX_BU',null,sysdate,'ofssuser',sysdate);

5.2.2   Configuring Repository adapter for Application Tracker:

- **OBO Host Configuration**

  No Configuration required.

- **Third Party Configuration**

  If local (database) storage is required for a third party entity, the following query needs to be executed:

  Insert into digx_fw_config_all_o
  (PROP_ID,PREFERENCE_NAME,PROP_VALUE,DETERMINANT_VALUE,CREATED_BY,CREATION_DATE,LAST_UPDATED_BY,LAST_UPDATED_DATE) values
  ('APPLICATIONTRACKER_REPOSITORY_ADAPTER','RepositoryAdapterFactories','com.ofss.digx.domain.origination.entity.application.repository.adapter.LocalApplicationTrackerRepositoryAdapter,com.ofss.digx.domain.origination.entity.application.repository.adapter.RemoteApplicationTrackerRepositoryAdapter',<ENTITY_ID>,null,sysdate,'ofssuser',sysdate);

5.2.3   Configuring Repository adapter for Product Documents

- **OBO Host Configuration**

  No Configuration required.

- **Third Party Configuration**

  If the bank wants to fetch the list of documents from OBDX local storage, then a separate entry in DIGX_FW_CONFIG_ALL_O table is required.

  Insert into DIGX_FW_CONFIG_ALL_O (PROP_ID, PREFERENCE_NAME, PROP_VALUE, DETERMINANT_VALUE, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE)

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values ('PRODUCT_DOCUMENT_REPOSITORY_ADAPTER',
'RepositoryAdapterFactories',
'com.ofss.digx.domain.origination.entity.product.repository.adapter.LocalProductReposito
ryAdapter', '<Entity ID>', null, SYSDATE, 'ofssuser',SYSDATE);

Note: This local storage table for product documents is
DIGX_OR_PRODUCT_DOCUMENTS

Insert queries as per the screenshot of this table below:

ID	CATEGORY	NAME	DESCRIPTION	MANDATORY	PRODUCT_CODE	PRODUCT_CATEGORY	CREATED_BY	CREATION_DATE	LAST_UPDATED_BY	LAST_UPDATED_DATE	OBJE
1 DOC1	Address Poof	Aadhaar card	Aadhaar card	N	OBDXSJ	SAVINGSH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
2 DOC17	Address Proof	Aadhaar card	Aadhaar card	N	OBDXCP	CHECKINGH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
3 DOC19	Address Proof	Aadhaar card	Aadhaar card	N	OBDXCA	CHECKINGH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
4 DOC20	Id Proof	DL	Driving license	N	OBDXSJ	SAVINGSH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
5 DOC22	Id Proof	DL	Driving license	N	SAADVT	SAVINGSH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
6 DOC23	Id Proof	DL	Driving license	N	OBDXCP	CHECKINGH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
7 DOC24	Id Proof	DL	Driving license	N	OBDXCA	CHECKINGH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
8 DOC3	Address Proof	Aadhaar card	Aadhaar card	N	SAADVT	SAVINGSH1	ofssuser	10-JUL-20 08.05.03.000000000 AM	ofssuser	10-JUL-20 08.05.03.000000000 AM	A
9 DOC10	Id Proof	PAN Card	PAN Card	N	OBDUPL	PERSONALLOANH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
10 DOC11	Proof of Income	Property Documents	Property Documents	N	OBDXAL	AUTOLOANH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
11 DOC12	Proof of Income	Salary Proof	Salary Proof	N	OBDXAL	AUTOLOANH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
12 DOC13	Proof of Identity and Address	Aadhaar card	Aadhaar card	N	OBDXAL	AUTOLOANH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
13 DOC14	Address Proof	DL	Driving license	N	OBDXAL	AUTOLOANH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
14 DOC15	Proof of Identity and Address	Passport	Passport	N	OBDXAL	AUTOLOANH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
15 DOC16	Id Proof	PAN Card	PAN Card	N	OBDXAL	AUTOLOANH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
16 DOC18	Id Proof	PAN card	PAN card	N	OBDXCP	CHECKINGH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A
17 DOC2	Id Proof	PAN card	PAN card	N	OBDXSJ	SAVINGSH1	ofssuser	04-JUL-20 04.24.43.000000000 PM	ofssuser	04-JUL-20 04.24.43.000000000 PM	A

A sample query is defined below for reference:

Insert into DIGX_OR_PRODUCT_DOCUMENT
(ID,CATEGORY,NAME,DESCRIPTION,MANDATORY,PRODUCT_CODE,PRODUCT_C
ATEGORY,CREATED_BY,CREATION_DATE,LAST_UPDATED_BY,LAST_UPDATED_
DATE,OBJECT_STATUS,OBJECT_VERSION_NUMBER) values ('DOC1','Address
Poof','Aadhaar card','Aadhaar
card','N','OBDXSJ','SAVINGSH1','ofssuser',SYSDATE,'ofssuser',SYSDATE, 'A',21);

5.2.4 **Configuring Repository adapter for Mid Office Content Repository**

- **OBO Host Configuration**

No Configuration required.

- **Third Party Configuration**

Execute the following query, which will fetch content from the local database:

Insert into digx_fw_config_all_o
(PROP_ID,PREFERENCE_NAME,PROP_VALUE,DETERMINANT_VALUE,CREATED_
BY,CREATION_DATE,LAST_UPDATED_BY,LAST_UPDATED_DATE) values
('MO_CONTENT_REPOSITORY_ADAPTER','RepositoryAdapterFactories','com.ofss.dig
x.domain.content.entity.repository.adapter.LocalContentRepositoryAdapter','OBDX_BU',n
ull,sysdate,null,null);

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5.2.5 Configuring Adapter Preference for Entity

- **OBO Host Configuration**

  Execute the following query to find the adapter preference of the entity.

  select * from digx_fw_config_all_o where prop_id = 'OBDX_BU';

  Update prop value of the above selected record such that **RPM14.4 should be after UBS12.4**

  A sample adapter preference is defined below:

  UBS14.4,UBS14.3,UBS14.2,UBS14.1,UBS14.0,UBS12.4,
  RPM14.4,OBCL14.3,OBCLPM14.3,ELCM14.3,OBVAM14.4,OBVAM14.3,OBSCF14.4,O
  BSCF14.3,ASP14.4,INV14.4,CMS14.4,OBCFPM14.4,OBCFPM14.3,OBLM14.4,OBLM14
  .2,OBIC

  14.4,OBTF14.4,MIDOFFICE1.0,TP1.0

  Execute the following query to update adapter preference.

  Update digx_fw_config_all_o set prop_value='<Updated_Adapter_Preference>' where prop_id = 'OBDX_BU';

- **Third party Configuration**

  No Configuration required.

5.2.6 Configuring Origination Workflow (Loan Requirement Step)

- **OBO Host Configuration**

  No Configuration required.

- **Third party Configuration**

  Execute the following queries to update UI component names of origination workflow steps:

  update digx_or_steps set ui_definition='{"ui-component": "auto-loan-requirement","showInReview": true,"category": "LOANS","productClass": "AUTOMOBILE"}'

  where step_id='AUTOLNINFO' and determinant_value='OBDX_BU';

  update digx_or_steps set ui_definition='{"ui-component": "home-loan-requirements","showInReview": true,"category": "LOANS","productClass": "HOME_LOAN"}'

  where step_id='HOMELNINFO' and determinant_value='OBDX_BU';

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6. Product Configuration

- To enable products, execute the following script:

  update digx_or_product_category set status='ACTIVE' where
  determinant_value=<entity_id> and id='<required_product>';

  eg. Complete the following steps to activate a CASA Savings product with id
  SAVINGSH1:

  update digx_or_product_category set status='ACTIVE' where
  determinant_value='OBDX_BU' and id='SAVINGSH1';

- To enable all supported products, execute the following script:

  update digx_or_product_category set status='ACTIVE' where
  determinant_value='OBDX_BU' and id in
  ('SAVINGSH1','CHECKINGH1','AUTOLOANH1','PERSONALLOANH1','HOMELOANH1','
  EDUCATIONLOANH1','TERMDEPOSITH1','CREDITCARDH1', 'TERMLOANH1',
  'CAPITALLOANH1');

- To enable existing customers to apply for all supported products, execute the following
  script:

  update digx_or_product_category set EXISTING_CUST_FLOW='Y' where
  determinant_value='OBDX_BU' and id in
  ('SAVINGSH1','CHECKINGH1','AUTOLOANH1','PERSONALLOANH1','HOMELOANH1','
  EDUCATIONLOANH1','TERMDEPOSITH1','CREDITCARDH1', 'TERMLOANH1',
  'CAPITALLOANH1');

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7. National ID Configuration

OBDX Origination supports National ID verification as a mode of Online KYC. To enable this KYC mode for a specific product category, customise the origination workflow for the specific product category, through the administrator login.

If the Bank wants to enable National ID verification such as Aadhar Card, then the Bank will have to undertake customization depending on the KYC vendor which they have selected for the same. OBDX provides extension to undertake customization to integrate third party National ID KYC APIs.

8. DMS Configuration

A **Document Management System** is mandatory for OBDX and OBO integration. In OBDX, documents are either stored locally in the database or sent to the OBO team, which manages in their DMS server.
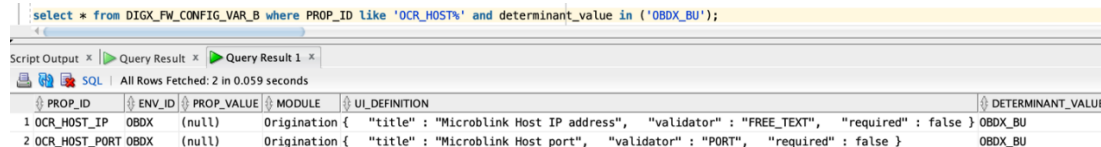
Refer **Adapter database** script for details on how documents can be stored locally.

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9. OCR Configuration

Post Day 1 configuration for OCR:

```
select * from DIGX_FW_CONFIG_VAR_B where PROP_ID like 'OCR_HOST%' and determinant_value in ('OBDX_BU');
```

Script Output × Query Result × Query Result 1 ×

SQL | All Rows Fetched: 2 in 0.059 seconds

	PROP_ID	ENV_ID	PROP_VALUE	MODULE	UI_DEFINITION	DETERMINANT_VALUE
1	OCR_HOST_IP	OBDX	(null)	Origination	{ "title" : "Microblink Host IP address", "validator" : "FREE_TEXT", "required" : false }	OBDX_BU
2	OCR_HOST_PORT	OBDX	(null)	Origination	{ "title" : "Microblink Host port", "validator" : "PORT", "required" : false }	OBDX_BU

Note: If the bank is using "Microblink" as the third party OCR platform then the configurations defined below, need to be carried out. In case of any other platform, the hostname and port number should be changed accordingly.

Insert into DIGX_FW_CONFIG_VAR_B
(PROP_ID,ENV_ID,PROP_VALUE,FACTORY_SHIPPED_FLAG,PROP_COMMENTS,CREATED_BY,CREATION_DATE,LAST_UPDATED_BY,LAST_UPDATED_DATE,OBJECT_STATUS,OBJECT_VERSION_NUMBER,MODULE,DETERMINANT_VALUE,TYPE,UI_DEFINITION) values
('DOC_TYPE','OBDX','<Document categories supporting OCR>' ,null,'Document Type','ofssuser',sysdate,'ofssuser',null,'A',1,'Origination','OBDX_BU','TXT','{"title":"OCR Document Categories","validator":"ALPHANUMERIC","required":false}');

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10. Security Changes:

The OTP authentication generates JWT Token which remains active for 15 mins. The property defined below, can be updated to change the token expiration time in the digx_fw_config_all_b table. This token expiration time is valid for each individual OTP. Hence, if the token expiration time is 15 minutes and even if the user opts to have the OTP re-sent, the new OTP will be valid for another 15 minutes after it has been sent.

ORG_REG_LINK_TIMEOUT

11. Enumeration Configuration:

11.1 Configuration for enumeration

- The following table contains origination related database entries in DIGX_FW_CONFIG_ALL_B, DIGX_FW_CONFIG_ALL_O and DIGX_FW_ENUM_REPRESENTATIONS:

Enumeration <PROP_ID>	Type of Enumeration < PROP_VALUE >	Enum Key <ENUM_FQN>
OR_TD_MATURITY_INSTRUC TION	LOCAL_CLOSE_ENUM	fetchTDMaturityInstruction
CHEQUEBOOKLEAVES	LOCAL_OPEN_ENUM	getChequeBookLeaves
COUNTRY	LOCAL_OPEN_ENUM	getCountry
ISDCODE	LOCAL_OPEN_ENUM	getISDCode
OR_APPLICANT_RELATIONS	LOCAL_OPEN_ENUM	fetchApplicantRelations
OR_DIMENSION_MEASURE_ TYPE	LOCAL_OPEN_ENUM	fetchDimensionMeasureType
OR_DISBURSEMENT_MODE	LOCAL_OPEN_ENUM	fetchDisbursementMode
OR_EDUCATION_LOAN_ADM ISSSION_STATUS	LOCAL_OPEN_ENUM	fetchEducationLoanAdmissio nStatus
OR_EDUCATION_LOAN_COU RSE_TYPES	LOCAL_OPEN_ENUM	fetchEducationLoanCourseTy pes
OR_HOME_LOAN_PURPOSE	LOCAL_OPEN_ENUM	fetchHomeLoanPurpose
OR_INSIDER_PROFILE	LOCAL_OPEN_ENUM	fetchInsiderProfile
OR_PROPERTY_STATUS	LOCAL_OPEN_ENUM	fetchPropertyStatus
OR_REPAYMENT_MODE	LOCAL_OPEN_ENUM	fetchRepaymentMode
OR_STAKEHOLDER_TYPES	LOCAL_OPEN_ENUM	fetchStakeHolderTypes
OR_STATE	LOCAL_OPEN_ENUM	getUsState
OR_VEHICLE_CATEGORY	LOCAL_OPEN_ENUM	fetchVehicleCategory
RELATIONSHIP_SERVING_O FFICER	LOCAL_OPEN_ENUM	getRelationShipServingOffice r
EMPLOYMENTTYPE	REMOTE_OPEN_ENUM	getEmploymentType

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Enumeration <PROP_ID>	Type of Enumeration < PROP_VALUE >	Enum Key <ENUM_FQN>
OR_APPLICANT_DOCUMENT _TYPE	REMOTE_OPEN_ENUM	fetchApplicantDocumentType
OR_APPLICANT_LOCATION	REMOTE_OPEN_ENUM	fetchApplicantLocation
OR_COUNTRY_OF_REGISTR ATION	REMOTE_OPEN_ENUM	fetchCountryOfRegistration
OR_CUSTOMER_CATEGORY	REMOTE_OPEN_ENUM	fetchCustomerCategory
OR_EMPLOYER_NAME	REMOTE_OPEN_ENUM	getEmployerNames
OR_INSIDER_PROFILE_ROL E	REMOTE_OPEN_ENUM	fetchInsiderProfileRole
OR_MODE_OF_OPERATION	REMOTE_OPEN_ENUM	fetchModeOfOperation
OR_PREFERRED_CURRENC Y	REMOTE_OPEN_ENUM	fetchPreferredCurrency
OR_PROFESSIONS	REMOTE_OPEN_ENUM	fetchProfessions
OR_STATES	REMOTE_OPEN_ENUM	fetchStates
OR_SUFFIX	REMOTE_OPEN_ENUM	fetchSuffix
SERVICE_BRANCH	REMOTE_OPEN_ENUM	getServiceBranch
FINANCIAL_ASSETS_TYPE	REMOTE_OPEN_ENUM	financialAssetsTypes
FINANCIAL_EXPENSE_FREQ UENCY	REMOTE_OPEN_ENUM	getExpenseFrequency
FINANCIAL_EXPENSE_TYPE	REMOTE_OPEN_ENUM	getFinancialExpense
FINANCIAL_INCOME_FREQU ENCY	REMOTE_OPEN_ENUM	getIncomeFrequency
FINANCIAL_INCOME_TYPE	REMOTE_OPEN_ENUM	getFinancialIncome
FINANCIAL_LIABILITY_FREQ UENCY	REMOTE_OPEN_ENUM	getLiabilityFrequency
FINANCIAL_LIABILITY_TYPE	REMOTE_OPEN_ENUM	getFinancialLiability
GENDER	REMOTE_OPEN_ENUM	getGender
IDENTIFICATIONTYPES	REMOTE_OPEN_ENUM	GetTaxType
MARITALSTATUS	REMOTE_OPEN_ENUM	getMaritalStatus

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Enumeration <PROP_ID>	Type of Enumeration < PROP_VALUE >	Enum Key <ENUM_FQN>
OR_CITIZENSHIP_BY	REMOTE_OPEN_ENUM	fetchCitizenshipBy
OR_EMPLOYMENT_CATEGORY	REMOTE_OPEN_ENUM	fetchEmploymentCategory
OR_ORGANIZATION_CATEGORY	REMOTE_OPEN_ENUM	fetchOrganizationCategory
OR_ORGANIZATION_OPERATIONS	REMOTE_OPEN_ENUM	fetchOrganizationOperations

11.2 Local Enum Configuration

Refer to the following SQL script for store enum locally to fetch LOV from the database.

Insert into DIGX_FW_CONFIG_ALL_B (PROP_ID, PREFERENCE_NAME, PROP_VALUE, DETERMINANT_VALUE, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE) values ('GENDER','EnumerationConfig','LOCAL_OPEN_ENUM','OBDX_BU',null,sysdate,null,null)

For local enumeration, the respective data is stored in the below table. Refer to column 3 for the **ENUM_FQN.**

*select * from DIGX_FW_ENUM_REPRESENTATIONS where ENUM_FQN in ('<Enum Key>')*

11.3 Remote Enum Configuration

For remote enumeration, refer the following SQL script:

The following is an example of an override database entry for existing records in DIGX_FW_CONFIG_ALL_B table.

Insert into DIGX_FW_CONFIG_ALL_O (PROP_ID, PREFERENCE_NAME, PROP_VALUE, DETERMINANT_VALUE, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE) values ('OR_STATES','EnumerationConfig','REMOTE_OPEN_ENUM','OBDX_BU',null,sysdate,null,null)

Here OR_STATES fetch the LOV from integrated Mid office enumeration maintenance route via OBRH, so below 2 database sql scripts are required.

Insert into DIGX_FW_CONFIG_ALL_O (PROP_ID, PREFERENCE_NAME, PROP_VALUE, DETERMINANT_VALUE, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE) values ('OBDX_BU.com.ofss.digx.extxface.common.adapter.IEnumerationAdapter.fetchStates','Extxface AdapterPreference','com.ofss.digx.extxface.enumeration.impl.EnumerationAdapter','01','ofssuser' ,sysdate,'ofssuser',sysdate);

Insert into DIGX_FW_CONFIG_ALL_O (PROP_ID, PREFERENCE_NAME, PROP_VALUE, DETERMINANT_VALUE, CREATED_BY, CREATION_DATE, LAST_UPDATED_BY, LAST_UPDATED_DATE) values ('ENUMERATION_LIST_FETCHSTATES','ExtXfaceConfig','com.ofss.digx.extxface.impl.endpoint. OBRHEndPoint','OBDX_BU','ofssuser',sysdate,'ofssuser',sysdate);

Note: To convert a remote enumeration to a local one, update the PROP_VALUE from REMOTE_OPEN_ENUM to LOCAL_OPEN_ENUM and make the corresponding entry in the DIGX_FW_ENUM_REPRESENTATIONS table.

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12. OBDX-OBO Kafka consumer configuration

Below script use for verifying database based kafka consumer properties

Select * from DIGX_FW_CONFIG_ALL_B where PROP_ID like 'externalSystermAlertMessage%'

PROP_ID	PROP_VALUE	Description
externalSystemAlertMessage@auto.commit.interval.ms	1000	A commit is triggered after 1,000 messages
externalSystemAlertMessage@auto.offset.reset	earliest / latest	Is it always going to start consuming from start or last checkpoint
externalSystemAlertMessage@bootstrap.servers		List of host/port pairs to use for establishing the initial connection to the Kafka cluster.
externalSystemAlertMessage@enable.auto.commit	false	If set to true, the consumer's offset will be periodically committed in the background.
externalSystemAlertMessage@group.id	obdx-obo-consumer	Name of the group that the consumer joins to read messages from a given topic or topics.
externalSystemAlertMessage@sasl.jaas.config	org.apache.kafka.common.security.scram.ScramLoginModule required username="xxx" password="xxx";	This configuration property used to specify the Java Authentication and Authorization Service (JAAS) configuration for SASL authentication in Kafka
externalSystemAlertMessage@sasl.mechanism	SCRAM-SHA-256	
externalSystemAlertMessage@security.protocol	SASL_SSL	Type of Security protocol

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externalSystemAlertMessage@session.timeout.ms	30000	Session timeout in milliseconds
externalSystemAlertMessage@ssl.endpoint.identification.algorithm		SSL Algorithm
externalSystemAlertMessage@ssl.truststore.location	/scratch/app/domain/obdx_domain/KafkaServerKeystore.jks	SSL Location
externalSystemAlertMessage@ssl.truststore.password		SSL password
externalSystemAlertMessage@target.unit	OBDX_BU	Entity name

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13. OBRH Configuration

During Bank Implementation, it is assumed that OBRH is installed and configured as part of OBO installation. For OBDX and mid Office OBO integration using OBRH, the following configurations need to be done.

1. Carry out all the steps mentioned under the OBRH Integration Configuration section in the OBRH Configuration document. The service provider for mid-office product OBO end-points configured in OBRH is "OBO".

2. After all the steps mentioned above are completed, the user will need to execute some scripts for the host APIs that are to be consumed via OBRH. These are the scripts to pick the third party adapter implementation instead of the host specific implementations as well as to call the OBRH endpoint for the configured interfaces. The scripts are available at the following location:

    /Installables/db/OFLO/DIGX_FW_CONFIG_ALL_O.sql

    Note: '%ENTITY_ID%' should be replaced with the entity identifier (For Example if the entity during implementation is OBDX_BU then '%ENTITY_ID%' should be replaced by 'OBDX_BU').

3. The list of Interface names that are integrated with OBDX-Origination using OBRH, are as follows:

Interface Id	OBDX Screen	Description
READ_PARTY_ADDITIONAL_DETAILS	Internal Call – no screen	This service is used to define the sections to be displayed in the application form of an existing customer.
OR_APPLICATIONOFFER_READ	Application tracker details	This service is used to fetch and display the offer letter in the application tracker.
OR_APPLICATIONOFFER_CREATE	Application tracker details	This service is called to accept or reject the offer.
APPLICATION_DELETE	Delete Application on tracker page	This service is used to delete an application form from the application tracker.
APPLICATION_TRACKER	Application Mobile Tracker	This service is used to display the applications, mapped to a specific mobile number, in the application tracker.

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Interface Id	OBDX Screen	Description
OR_CLARIFICATION_LIST	Application tracker details	This service is called to invoke the to and fro communications in the application tracker.
OR_CLARIFICATION_UPDATE	Application tracker details	This service is called to update the to and fro communications in the application tracker.
EXTRACT_TEXT_BASE64	Document upload screen	Regarding the OCR document, extract information from the document.
NI_NATIONALIDVERIFICATION_VALIDATE	National ID validation	This service is used to validate the national ID number that has been entered.
NI_NATIONALIDVERIFICATION_INITIATE	National ID verification screen	This service is used to initiate the National ID verification process.
CREATE_APPLICATION	After verifying mobile number	This service is used to request the creation of an application in OBO.
ORG_PRODUCT_LIST_CREDITCARDH1	Selection of Credit card from products	This service is used to fetch and display the list of Credit Card products from OBO.
ORG_PRODUCT_LIST_TERMDEPOSITH1	Selection of Term Deposit from products	This service is used to fetch and display the list of Term Deposit products from OBO.
ORG_PRODUCT_LIST_CHECKINGH1	Selection of Checking Account from products	This service is used to fetch and display the list of Checking Account products from OBO.
ORG_PRODUCT_LIST_SAVINGSH1	Selection of Saving Account from products	This service is used to fetch and display the list of Savings Account products from OBO.
ORG_PRODUCT_LIST_AUTOLOANH1	Selection of Auto Loan from products	This service is used to fetch and display the list of Auto Loan products from OBO.

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Interface Id	OBDX Screen	Description
ORG_PRODUCT_LIST_HOMELOANH1	Selection of Home Loan from products	This service is used to fetch and display the list of Home Loan products from OBO.
ORG_PRODUCT_LIST_EDUCATIONL OANH1	Selection of Education Loan from products	This service is used to fetch and display the list of Education Loan products from OBO.
ORG_PRODUCT_LIST_PERSONALLO ANH1	Selection of Personal Loan from products	This service is used to fetch and display the list of Personal Loan products from OBO.
ORG_PRODUCT_LIST_WALLETH1	Selection of Wallet from products	This service is used to fetch and display the list of Wallet products from OBO.
ENUMERATION_LIST_GETSERVICEB RANCH	Personal Information screen	This service is used to fetch and display values under the Service Branch LOV, applicable for U.S. Military Service Members.
ENUMERATION_LIST_FETCHINSIDER PROFILEROLE	Personal Information Screen	This service is used to fetch and display the values under the Role LOV, that is valid for the applicant or if the applicant is related to an insider of the bank.
CITY_LIST	Personal Information Screen	This service is used to fetch and display the values under the City LOV which is part of the address list of fields.
READ_APPLICATION	On each segment / step	This service is used to fetch the details defined in the application that was initiated in OBO, so that the same can be displayed in the application tracker.

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Interface Id	OBDX Screen	Description
UPDATE_APPLICATION	On each segment / step	This service is invoked after each step in the OBDX application form to update the application in OBO.
ORG_PRODUCT_LIST_CAPITALLOANH1	Selection of Working Capital Loan from business products	This service is used to fetch and display the list of Working Capital Loan Business products from OBO.
ORG_PRODUCT_LIST_TERMLOANH1	Selection of Term Loan from business products	This service is used to fetch and display the list of Term Loan Business products from OBO.
OR_CASA_OFFER_CREATE	Application tracker details	This service is used to accept or reject the CASA overdraft offer.
CASA_OFFER_DETAILS	Application tracker details	This service is used to fetch and display the CASA overdraft offer in the application tracker.
CONTENT_CREATE_ORIGINATION	Upload Document Section	This service is used to upload documents to OBO.
CONTENT_DELETE_ORIGINATION	View Document Section	This service is used to delete an uploaded document.
CONTENT_LIST_ORIGINATION	List Uploaded Documents	This service is used to fetch and display the list of the applicant's documents, from OBO.
CONTENT_READ_ORIGINATION	Read Document	This service is used to view the applicant's documents.
ADDRESS_MAINTENANCE	After application initiated	This service is used to identify the default address supported in OBPY.
BUSINESS_OVERRIDES	After application submit	This service is used to accept all business rules / segment skipped during the application, in OBO.

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Interface Id	OBDX Screen	Description
READ_PARTY_FROM_CIFID_SERVICE_MEMBER	Personal Information Screen	This service is used to read service member details from the CIF id entered.
READ_PARTY_FROM_CIFID_STAKEHOLDER	Stakeholder Information Screen	This service is used to read stakeholder details from the CIF id entered.
OR_QUESTIONNAIRE	Account Specification Screen	This service is used to fetch and display the questionnaire applicable for a CASA application, from OBO.
OR_QUESTIONNAIRE_CONSENT	Terms of Service Screen	This service is used to fetch questionnaire consents for the product application, from OBO
ENUMERATION_LIST_FETCHBUSINESSPROPERTYTYPES	Collateral screen	This service is used to fetch the values to be displayed under the Property Type LOV, in case the collateral being added is of type 'Property'.
ENUMERATION_LIST_FETCHCITIZENSHIPBY	Business Details screen	List of Citizen Ship By
ENUMERATION_LIST_FETCHCOUNTRYOFREGISTRATION	Business Details screen	This service is used to fetch the values to be displayed under the Country of Registration LOV.
ENUMERATION_LIST_FETCHEMPLOYERNAME	Employment Information Screen	This service is used to fetch the values to be displayed under the Company/Employer Name LOV.
ENUMERATION_LIST_FETCHEMPLOYMENTCATEGORY	Employment Information Screen	This service is used to fetch the values to be displayed under the Occupation field.
ENUMERATION_LIST_FETCHEMPLOYMENTSTATUS	Employment Information Screen	This service is used to fetch the values to be displayed under the Employment Status LOV.

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Interface Id	OBDX Screen	Description
ENUMERATION_LIST_FETCHORGANI ZATIONCATEGORY	Employment Information Screen	This service is used to fetch the values to be displayed under the Organization Category LOV.
ENUMERATION_LIST_FETCHPREFER REDCURRENCY	Account Specification	This service is used to fetch the values to be displayed under the Preferred Currency LOV.
ENUMERATION_LIST_FETCHSUFFIX	Personal Information Screen	This service is used to fetch the values to be displayed under the Suffix LOV.
ENUMERATION_LIST_GETFINANCIAL EXPENSE	Financial Information screen	This service is used to fetch the values to be displayed under the Expense Type LOV.
ENUMERATION_LIST_GETFINANCIAL INCOME	Financial Information screen	This service is used to fetch the values to be displayed under the Income Mode LOV.
ENUMERATION_LIST_FINANCIALASS ETSTYPES	Financial Information screen - Assets	List of Financial Asset Types e.g. Deposit, Vehicle, Other, House - Financial Information screen
ENUMERATION_LIST_GETFINANCIAL LIABILITY	Financial Information screen	This service is used to fetch the values to be displayed under the Liability Type LOV.
ENUMERATION_LIST_GETGENDER	Personal Information screen	This service is used to fetch the values to be displayed under the Gender LOV.
ENUMERATION_LIST_GETMARITALS TATUS	Personal Information screen	This service is used to fetch the values to be displayed under the Marital Status LOV.

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Interface Id	OBDX Screen	Description
ENUMERATION_LIST_GETNOMINEE RELATIONS	Nomination information screen	This service is used to fetch the values to be displayed under the Relationship with Application LOV under the Nominee/Beneficiary Information section.
OR_CREATE_DOCUMENT	Personal Information screen	This service is used to create documents in the application form.
OR_LIST_DOCUMENTS	Personal Information screen Application Tracker	This service is used to fetch the list of documents uploaded by the applicant.
VERIFY_DEDUPE	Personal Information screen	This service is used to perform duplicate check of the applicants in case of joint applications.
OR_VALIDATE	Personal / Nominee / Guardian / Stake holder Information screen	This service is used to verify whether the applicant is a minor or an adult and also to identify the retail unsecured personal loans that are designed specifically for women (applicable only for the US region).
OR_ORACLE_KYC	Terms and Condition screen	This service is used to send the ID documents to the mid office for KYC, once the application is submitted.
ENUMERATION_LIST_FETCHCUSTO MERCATEGORY	SMB Business Information page	This service is used to define the customer category.
READ_PARTY_FROM_CIFID_INSIDER	Personal Information screen (US)	Read party details for cif/party id This service is used to verify details of the Insider from the CIF ID defined, in case the applicant is related to an insider of the bank.

Interface Id	OBDX Screen	Description
ENUMERATION_LIST_FETCHVEHICL ETYPES	Collateral	This service is used to fetch and the values under the Type of Vehicle LOV, applicable if the collateral type selected is Vehicle.
ENUMERATION_LIST_FETCHPROFE SSIONS	Employment Information screen	This service is used to fetch and display the values under the Profession LOV, applicable in case the Employment Type (Occupation in OBDX) is Self Employed.
ENUMERATION_LIST_GETEMPLOYM ENTTYPE	Employment Information screen	This service is used to fetch and display the values under the Employment Type (Occupation in OBDX) LOV.
ENUMERATION_LIST_GETEXPENSEF REQUENCY	Financial Information/Profile	This service is used to fetch the supported frequency for an expense.
ENUMERATION_LIST_GETINCOMEFR EQUENCY	Financial Information/Profile	This service is used to fetch the supported frequency for an income.
ENUMERATION_LIST_FETCHORGANI ZATIONOPERATIONS	Employment Information	This service is used to fetch and display the values supported as Organization Operations (Demographics in OBO).
ENUMERATION_LIST_GETTAXTYPE	Personal information screen Identification tab e.g.	List of Identification type e.g. Passport, State Issued Drivers License, Bank Statement, Aadhar
ENUMERATION_LIST_QRY_PARTY_P REFIX	Personal Information screen	This service is used to fetch and display the values supported as salutation e.g. Mr., Miss., Ms.

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Interface Id	OBDX Screen	Description
OR_GET_PRODUCT_DOCUMENT_LIST	Document upload screen	This service is used to fetch and display the primary category of application-level documents e.g Financial Proof, Identity Proof
ENUMERATION_LIST_FETCHSTATES	Address right panel	This service is used to fetch and display the values to be available under the States LOV which is part of the Address list of fields.
ENUMERATION_LIST_FETCHMODEO FOPERATION	Checking/Savings Account Specifications	This service is used to fetch and display the values to be available under the Mode of Operation LOV, applicable in case of Joint Applications.
OR_BUSINESS_PROCESS	Business Overrides	This service is used to override the sections skipped in the application form.
OR_PRODUCT_DOCUMENT_LIST	Document upload screen	This service is used to fetch and display the sub category of application-level documents e.g Board Resolution, Certificate of Incorporation, Company PAN Card
ENUMERATION_LIST_FETCHAPPLIC ANTDOCUMENTTYPE	Document upload screen	This service fetches the types of documents that are supported, to be uploaded, for the product at the applicant level.
OR_ENUMERATION_LOOKUP	Personal Information screen	This service is used to call OBPY enumerations.
INITIATE_EARLY_KYC	Personal Information screen	This service is used to send the personal information required to perform early KYC, to OBO.

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Interface Id	OBDX Screen	Description
READ_PARTY_PERSONAL_DETAILS	Personal Information	This service is used to read the existing customer's personal information from the CIF ID.
OR_RELATIONSHIP_PRICING	EMI calculator	This service is used to fetch the relationship pricing benefit and schedule.
OR_STANDARD_SCHEDULE	All Loan products – Loan Information	This service is used to fetch and display the standard loan repayment schedule based on information provided.
ENUMERATION_LIST_FETCHRANK	Region US – Personal Information	This service is used to fetch and display the values under the Rank LOV, applicable for Service Members.
ENUMERATION_LIST_FETCHDEPEN DENTTYPE	Region US – Personal Information. Service Member	This service is used to fetch and display the values to capture relationship of the applicant with the Service Member, in case the applicant is a dependent of a service member.
ENUMERATION_LIST_FETCHREJECT REASONS	Application Tracker	this service is used to fetch the list of values to be available as reasons for rejection, in case the applicant chooses to reject the loan/CASA overdraft offer.
GENERIC_CODE	Repayment / Disbursement screen	This service is used to fetch the branch details in which the account selected for disbursement or repayment, is maintained, in case of internal accounts.

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14. Jumio Configuration

The Non-Assisted KYC flow or selfie KYC flow, requires users to activate the Jumio check for licensing verification.

1. Login to https://customer-portal.netverify.com/ and note bearer token.

2. Bearer token is required to update in OBRH Service consumer configuration.

3. Go to environment variables.

15. Trouble shooting and Assumptions

1. **Issue:** Content API failing, or Origination product details cannot be seen on screen.

   Assumption: This is due to the content API IP and port not being properly configured in the database.

   Steps to Troubleshoot:
   - First, test the API using Postman. Refer: **OBO API testing via postman-steps 4and5**.
   - Configure the user and branch name correctly. Refer to the **OBRH Origination config** for CMC user configuration and properly configure the **Origination service consumer** for the DMS server.

2. **Issue:** Final submit is failing for mandate details.

   Assumption: This is because we are not sending all segments to OBO, as the OBDX channel is responsible for sending only the mandatory segments to OBO.

   Steps to Troubleshoot: Check the request and response OBRH logs for BUSINESS_OVERRIDE, as after calling this API from OBDX, it is responsible for sending consents to OBO to handle the remaining mandatory segments managed by OBO.

3. **Issue:** National ID Verification failed, and access denied for doc upload.

   Assumption: This is a UI issue; some required fields might not be loaded on the Personal Information screen due to the regional requirements of the framework.

   Steps to Troubleshoot: UI validation needs to be handled to check which fields are present on the Personal Information screen.

4. **Issue:** "TIMED OUT EXCEPTION." While fetching workflows after login.
   OR
   Not able to proceed after login as registered user

   Assumption: This is an existing user use case in which the user logs in, navigates to the Origination product offerings page from the kebab menu, starts a new application, selects any product, and the API fails with a timeout error. If you check the OBDX logs, you might find the error as shown below.

   ERROR com.ofss.digx.app.origination.service.product.Product - Exception from fetchDocuments() for requestDTO DomainObjectDTO [auditSequence=1, createdBy=null, creationDate=null, entityStatus=null, lastUpdatedBy=null, lastUpdatedDate=null, recordStatus=null, version=1] in class com.ofss.digx.app.origination.service.product.Product com.ofss.digx.infra.exceptions.Exception: null

   Steps to Troubleshoot: This is because the content API is not configured correctly. Refer to issue no.1 to fix any content API failures.

5. **Issue:** Document type ID, **name** and Description in Remote Product Repository Adapter.

   Assumption: OBDX either stores the document locally in the database or sends it to OBO. Since we are configuring the remote adapter, the document will be sent to the DMS server. We need to ensure that the maintenance of this API is correctly done on the OBO side.

   Steps to Troubleshoot: Refer **OBO API testing via Postman-point5**. There are two APIs: List of Categories and Category Sub-Type. The second API depends on the response of the first API.
   Test with Postman first before testing via the OBDX application.

6. **Issue:** After entering financial information, Application update call failed.

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Assumption: In the financial information section, there is a bug that was rectified and fixed in the previous release, and the same fix has been added in this release.

7. **Issue**: Personal Loan Application for new customer is failing at OBDX with Error "SUM OF INDIVIDUAL REPAYMENT SHARES SHOULD BE EQUAL TO 100%".

   Assumption: This issue might be related to the mandate segment.

   Steps to Troubleshoot: This issue needs to be rectified from the logs, and the OBDX request should check if the mandatory details have been sent to OBO, as well as whether the same mandate segment is received in the OBO response.

8. **Issue:** JUMIO Flow is failing.

   Assumption: This could be a Jumio API issue that gives us a non-compliance response.

   Steps to Troubleshoot: Test the Jumio API with Postman and check if it is giving a compliance response or not. If it is giving a non-compliance response, check with the Jumio team.

   curl --location
   '<protocol>://<host>:<port>//netverify.com/api/netverify/v2/scans/<reference_no>/data' \

   --header 'Accept: application/json,text/plain,image/jpeg,*/*' \

   --header 'Authorization: Basic xxxx'

9. **Issue:** Details of the existing user are missing in originations application.

   Assumption: In UBS, the expected mandatory fields might be missing. Also, check if the OBPY API is providing the same user details.

   Steps to Troubleshoot: In UBS, * denotes mandatory fields, and the same will be read in OBDX.

   Refer to the API below that fetches user details from OBPY, and verify the UBS API response details.

   curl --location '<protocol>://<host>:<port>/obpy-party-services/service/v1/getParty/<party_id>' \

   --header 'branchCode: <branch_code>' \

   --header 'appId: PRTONB \

   --header 'entityId: DEFAULTENTITY' \

   --header 'userId: <user_id>' \

   --header 'Content-Type: application/json'

10. **Issue:** Mobile number entered already exists.

    Assumption: This issue occurs when an existing customer tries to initiate a new application using the prospect flow with an existing mobile number.

    Steps to Troubleshoot: An already onboarded user attempting to use the same mobile number to initiate the prospect flow is an invalid use case. Ask them to log in and initiate the application.

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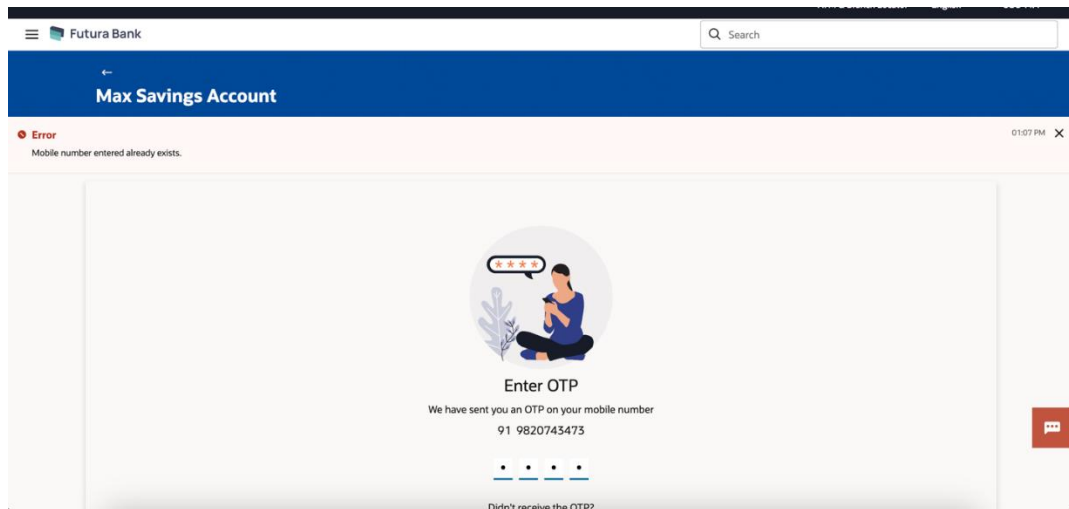
Below are a few assumptions

- Online KYC is entirely dependent on the bank's site. The bank will define the mode of verification that needs to be enabled for Online KYC.

- A DMS server is mandatory from the OBDX perspective, as required documents are read, uploaded, or deleted from that system.

- If the bank is using a customized alert system for email, SMS, or other media, the bank is responsible for troubleshooting any issues related to integration with other systems.

- If any OBO API takes more than 1 minute, check with the OBO team to resolve the issue.

- Check the type of encoding used in the system to encode the username and password e.g.

  select * from digx_fw_config_all_b where prop_id='OBRH_ENCODING' update value to PLATO_ENCRYPTION

- If OBO APIs are using HTTPS, then check for SSL installation on the OBDX and OBRH servers.

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