Oracle® Banking Origination
Installation Guide

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Preface

Purpose

This guide helps the user to perform the initial setup for Oracle Banking Origination application. The procedures given in this document must be completed to run the application successfully.

Audience

This document is intended for WebLogic admin or ops-web team who are responsible for installing the OFSS banking products.

Documentation Accessibility

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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.

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.
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.

Organization

This installation user guide would allow you to install the below mentioned Oracle Banking Origination services, UI, process flow in same order. Also mentioned is the list of Common Core services required by Oracle Banking Origination services.

Common Core Services

1. cmc-account-services
2. cmc-additional-attributes-services
3. cmc-advice-services
4. cmc-base-services
5. cmc-batch-services
6. cmc-branch-services
7. cmc-businessoverrides-services
8. cmc-checklist-services
9. cmc-checklistmanagement-services
10. cmc-comments-services
11. cmc-currency-services
12. cmc-customer-services
13. cmc-datasegment-services
14. cmc-document-services
15. cmc-documentmanagement-services
16. cmc-external-chart-account
17. cmc-external-system-services
18. cmc-ml-indb-services
19. cmc-obcbs-services
20. cmc-obrh-kafka-consumer
21. cmc-obrh-service
22. cmc-opds-services
23. cmc-priority-services
24. cmc-processcode-service
25. cmc-report-services

26. cmc-resource-segment-orchestrator-service

27. cmc-resourceclass-services

28. cmc-screenclass-services

29. cmc-sequencegenerator-services

30. cmc-settlements-services

31. cmc-sla-services

32. cmc-transactioncontroller-services

33. cmc-txn-code-services

Oracle Banking Origination Services

1. obremo-rpm-maintenance-services

2. obremo-rpm-process-driver-services

3. obremo-rpm-businessprocess-services

4. obremo-rpm-businessproductdetails-services

5. obremo-rpm-cmn-applicantservices

6. obremo-rpm-cmn-hostservices

7. obremo-rpm-cmn-scorecardservices

8. obremo-rpm-lo-loanapplications

9. obremo-rpm-sav-account-service

10. obremo-rpm-term-deposit-service

11. obremo-rpm-projection-services

12. obremo-rpm-batch-services

13. obremo-rpm-cmn-ipaservices

14. obremo-rpm-cmn-collateralservices

15. obremo-rpm-creditcardapplication

16. obremo-rpm-rule-configurationservice

17. obremo-rpm-cmn-mlservice

User Interface

UI war is split into individual component server war files. All the component server war files should be deployed in the same managed server.

For Common Core war files, deploy the war files mentioned below:

1. app-shell

2. cmc-component-server

3. moc-component-server

4. sms-component-server

For Domain Specific war files, deploy the individual component server war files mentioned below:

- oboflo-component-server

Oracle Banking Origination Process Workflow

1. CASAHOSTORCH
2. CREDITCARD
3. CURRENTACCOUNT
4. CURRENTACCOUNTUS
5. EDUCATIONLOAN
6. HOMELOAN
7. HOSTORCHESTRATOR
8. INITIATION
9. INSTCURACC
10. INSTPLOAN
11. INSTSAVACC
12. INSTTDACC
13. IPA
14. PERSONALLOAN
15. SAVINGSACCOUNT
16. SAVINGSACCOUNTUS
17. SMBCURRENTACCOUNT
18. SMBINITIATION
19. SMBLOAN
20. SMBSAVINGS
21. SMBTD1
22. SMBTERMLOAN
23. TDACCOUNT
24. TDACCOUNTUS
25. TDHOSTORCH
26. VEHICLELOAN

1
Database Setup

In this section you are going to setup database related configuration for Oracle Banking Origination Installation.

It is recommended to create different schema for each application. Below setup is designed to work with separate schema for each application.

Prerequisite

In this section, you are going to setup database related configuration for Oracle Banking Origination Installation. Before you proceed, ensure pre-installation setup is done. The pre-installation setup includes the configuration of database, setting up the setUserOverrides.sh. After creating the schema for each of the required micro services, DDLs and INCs of each micro-service to be compiled in the respective schemas. The DDLs and INCs ensure the creation of tables and availability of static data required for the execution of services. These are compiled automatically using flyway.

Database Setup

To setup DB for Oracle Banking Origination schema's to be created:

Table 1-1   Database Setup

Service Name	Schema Required
obremo-rpm-maintenance-services	Yes (obremo-rpm-maintenance-services schema)
obremo-rpm-process-driver-services	Yes (obremo-rpm-process-driver-services schema
obremo-rpm-businessprocess-services	Yes (obremo-rpm-businessprocess-services schema)
obremo-rpm-businessproductdetails-services	Yes (obremo-rpm-businessproductdetails-services schema)
obremo-rpm-cmn-applicantservices	Yes (obremo-rpm-cmn-applicantservices schema)
obremo-rpm-cmn-hostservices	Yes (obremo-rpm-cmn-hostservices schema)
obremo-rpm-cmn-scorecardservices	Yes (obremo-rpm-cmn-scorecardservices schema)
obremo-rpm-lo-loanapplications	Yes (obremo-rpm-lo-loanapplications schema)
obremo-rpm-sav-account-service	Yes (obremo-rpm-sav-account-service schema)
obremo-rpm-term-deposit-service	Yes (obremo-rpm-term-deposit-service schema)
obremo-rpm-projection-services	Yes (obremo-rpm-projection-services schema)
obremo-rpm-batch-services	No (uses the plato batch server schema)
obremo-rpm-cmn-ipaservices	Yes (obremo-rpm-cmn-ipaservices schema)
obremo-rpm-cmn-collateralservices	Yes (obremo-rpm-cmn-collateralservices schema)
obremo-rpm-creditcardapplication	Yes (obremo-rpm-creditcardapplication schema)
obremo-rpm-cmn-mlservice	Yes (obremo-rpm-cmn-mlservice schema)
obremo-rpm-rule-configurationservice	No (Plato rule schema)

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2
Domain Configuration

In thi section you are going to setup the domain configuration for Oracle Banking Origination application.

Prerequisites

1. Machine should have Java JDK installed.
2. Oracle Fusion Middleware has to be installed on the machine.

> **Note:**
>
> Before proceeding with the following steps, complete the Oracle Banking Microservices Architecture installation as guided.

3. Steps for creating all Oracle Banking Origination domains, properties like port numbers, names are changes based on the domain. Screenshots are provided for such deviations. Domain creation process remains the same.

> **Note:**
>
> For the exact version to be installed, refer to **Software Prerequisites** section in **License Guide**.

Oracle Banking Origination Domain Creation

It is recommended to have separate domain for Oracle Banking Origination application.

Table 2-1   Domain Creation List

Service Name	Domain Name
obremo-rpm-maintenance-services	Oracle Banking Origination Domain
obremo-rpm-process-driver-services	Oracle Banking Origination Domain
obremo-rpm-businessprocess-services	Oracle Banking Origination Domain
obremo-rpm-businessproductdetails-services	Oracle Banking Origination Domain
obremo-rpm-cmn-applicantservices	Oracle Banking Origination Domain
obremo-rpm-cmn-hostservices	Oracle Banking Origination Domain
obremo-rpm-cmn-scorecardservices	Oracle Banking Origination Domain
obremo-rpm-lo-loanapplications	Oracle Banking Origination Domain
obremo-rpm-term-deposit-service	Oracle Banking Origination Domain
obremo-rpm-batch-services	Oracle Banking Origination Domain
obremo-rpm-projection-services	Oracle Banking Origination Domain
obremo-rpm-sav-account-service	Oracle Banking Origination Domain
obremo-rpm-cmn-ipaservices	Oracle Banking Origination Domain

Table 2-1   (Cont.) Domain Creation List

Service Name	Domain Name
obremo-rpm-cmn-collateralservices	Oracle Banking Origination Domain
obremo-rpm-creditcardapplication	Oracle Banking Origination Domain
obremo-rpm-cmn-mlservice	Oracle Banking Origination Domain
obremo-rpm-rule-configurationservice	Oracle Banking Origination Domain
app-shell	Appshell Domain
cmc-component-server	Appshell Domain
moc-component-server	Appshell Domain
sms-component-server	Appshell Domain
oboflo-component-server	Appshell Domain

Steps to Create Domain and Cluster Configuration

> **Note:**
>
> For creating and configuring the domain, refer to **Domain Creation and Cluster Configuration** section in *ANNEXURE-1*.

3

Data Sources Creation

In this section you are going to setup the data source creation for Oracle Banking Origination installation.

Prerequisite

Database setup for Oracle Banking Origination has to be performed prior to the deployment setup. The data sources for the respective micro-services must be created first before the application deployment. Each of the data source target to their corresponding servers on which the application will be deployed. The following sections explain the list of data sources required to be created for Oracle Banking Origination services and the steps to configure them in the server.

Figure 3-1   Data Source Creation
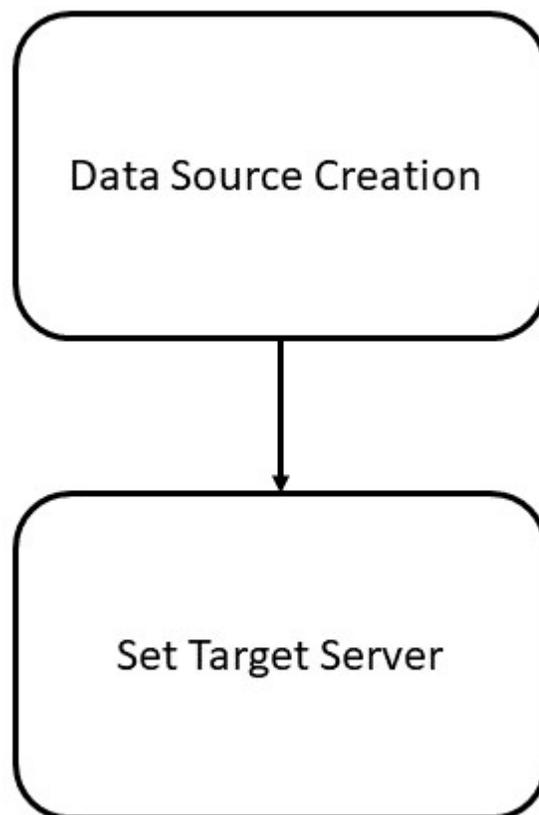
Data Source List

The table below lists the data sources to be created on each domain prior to deployment of applications onto managed servers.

Table 3-1   Data Source List

Service Name	Data Source Name	Data Source JNDI	Targets
obremo-rpm-maintenance-services	RPMMAINTENANCE	jdbc/OBREMOMAINTCE	Oracle Banking Origination Managed Server
obremo-rpm-process-driver-services	RPMProcessDriver	jdbc/RPMPROCESSDRIVER	Oracle Banking Origination Managed Server
obremo-rpm-businessprocess-services	RPMBusinessProcess	jdbc/OBREMOBUSSPRC	Oracle Banking Origination Managed Server
obremo-rpm-businessproductdetails-services	RPMBusinessProduct	jdbc/OBREMOBPDETAILS	Oracle Banking Origination Managed Server
obremo-rpm-cmn-applicantservices	RPMCmnApplicant	jdbc/CMNAPPLICANT	Oracle Banking Origination Managed Server
obremo-rpm-cmn-hostservices	RPMHostService	jdbc/RPMHOST	Oracle Banking Origination Managed Server
obremo-rpm-cmn-scorecardservices	RPMScorecard	jdbc/CMNSCORECARD	Oracle Banking Origination Managed Server
obremo-rpm-lo-loanapplications	RPMLoan	jdbc/LOANAPP	Oracle Banking Origination Managed Server
obremo-rpm-term-deposit-service	RPMTD	Jdbc/TDACC	Oracle Banking Origination Managed Server
obremo-rpm-projection-services	RPMPROJECTION	jdbc/RPMPROJECTION	Oracle Banking Origination Managed Server
obremo-rpm-sav-account-service	RPMSaving	jdbc/SAVACC	Oracle Banking Origination Managed Server
obremo-rpm-cmn-ipaservices	RPMIPA	jdbc/IPA	Oracle Banking Origination Managed Server
obremo-rpm-cmn-collateralservices	RPMCOLLATTERAL	jdbc/OBREMOCOLLATERAL	Oracle Banking Origination Managed Server
obremo-rpm-creditcardapplication	RPMCREDITCARD	jdbc/CCAPP	Oracle Banking Origination Managed Server
obremo-rpm-cmn-mlservice	RPMML	jdbc/OBREMOML	Oracle Banking Origination Managed Server, CMC Managed Server
Appshell UI	None	None	Appshell Server

Table 3-1   (Cont.) Data Source List

Service Name	Data Source Name	Data Source JNDI	Targets
cmc-component-server	None	None	Appshell Server
moc-component-server	None	None	Appshell Server
sms-component-server	None	None	Appshell Server
oboflo-component-server	None	None	Appshell Server

Steps to Create Datasource

For creating data source, refer to **How to Create Datasource** section in **ANNEXURE-1**

Additional Datasource Mapping

As part of Oracle Banking Origination, flyway jndi changes are incorporated. In order to deploy the services successfully, map the following data source to all the newly created managed servers for Oracle Banking Origination.

Table 3-2   List of Additional Datasource

Data Source Name	Data Source JNDI	Targets
PLATO	jdbc/PLATO	Oracle Banking Origination Managed Server
PLATO_UI_CONFIG	jdbc/PLATO_UI_CONFIG	Oracle Banking Origination Managed Server
SMS	jdbc/sms	Oracle Banking Origination Managed Server
PLATOBATCH	jdbc/PLATOBATCH	Oracle Banking Origination Managed Server
PLATORULE	jdbc/PLATORULE	Oracle Banking Origination Managed Server
COMMON CORE	jdbc/CMNCORE	Oracle Banking Origination Managed Server

User Grants

The following grants are provided to the user in the Projection schema which is required for Machine Learning use cases.

- GRANT CREATE MINING MODEL TO <RPMML SCHEMA>;
- GRANT CREATE ANY MINING MODEL TO <RPMML SCHEMA>;
- GRANT ALTER ANY MINING MODEL TO <RPMML SCHEMA>;
- GRANT DROP ANY MINING MODEL TO <RPMML SCHEMA>;
- GRANT SELECT ANY MINING MODEL TO <RPMML SCHEMA>;
- GRANT COMMENT ANY MINING MODEL TO <RPMML SCHEMA>;
- GRANT EXECUTE ON DBMS_DATA_MINING to <RPMML SCHEMA>;
- GRANT CREATE TABLE TO <RPMML SCHEMA>;
- GRANT DROP ANY TABLE TO < RPMML SCHEMA>;

- GRANT CREATE JOB TO <PRODUCT PROJECTION SCHEMA>;

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4
Deployments

In this section you are going to setup the deployments for Oracle Banking Origination Installation.

Prerequisite

The database setup and data sources creation has to be performed prior to the application deployment stage. Each of the services corresponds to a specific war file that needs to be deployed into the server. The following topic explains the list of war files of the Oracle Banking Origination application and the steps to deploy them into the server.

Figure 4-1   Deployments
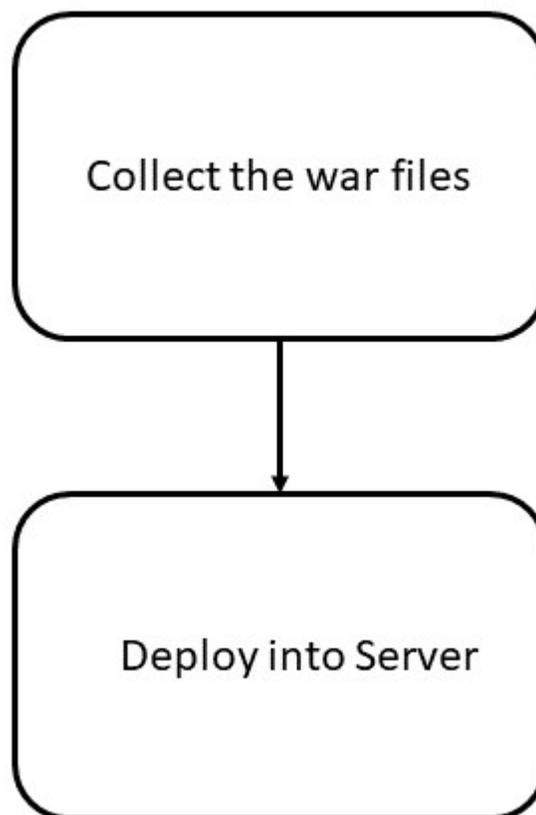
Deployments List

The following table gives the details of deployments required on each domain to run the Oracle Banking Origination application. Deploy one after other in the same given order. The provided archive names are for reference purpose.

> **Note:**
>
> For the exact version of the archive names and version, refer to the OSDC zip provided as a part of release.

Table 4-1   Deployments List

Application	Archive name	OSDC path	Targets
Maintenance Services	obremo-rpm-maintenance-services-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-maintenance-services	Oracle Banking Origination Managed Server
Process Driver	obremo-rpm-process-driver-services-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-process-driver-services	Oracle Banking Origination Managed Server
Business Process	obremo-rpm-businessprocess-services-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-businessprocess-services	Oracle Banking Origination Managed Server
Business Product details	obremo-rpm-businessproductdetails-services-{version}.war	{**unzip the file**} OFLO_SERVICES\ obremo-rpm-businessproductdetails-services	Oracle Banking Origination Managed Server
Common Applicant	obremo-rpm-cmn-applicantservices-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-cmn-applicantservices	Oracle Banking Origination Managed Server
Host Services	obremo-rpm-cmn-hostservices-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-cmn-hostservices	Oracle Banking Origination Managed Server
ScoreCard	obremo-rpm-cmn-scorecardservices-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-cmn-scorecardservices	Oracle Banking Origination Managed Server
Loan Applicant Services	obremo-rpm-lo-loanapplications-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-lo-loanapplications	Oracle Banking Origination Managed Server
Savings (CASA) Services	obremo-rpm-sav-account-service-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-sav-account-service	Oracle Banking Origination Managed Server
TD Services	obremo-rpm-term-deposit-service-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-term-deposit-service	Oracle Banking Origination Managed Server
Batch Service	obremo-rpm-batch-services-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-batch-services	Oracle Banking Origination Managed Server

Table 4-1   (Cont.) Deployments List

Application	Archive name	OSDC path	Targets
PROJECTION Service	obremo-rpm-projection-services-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-projection-services	Oracle Banking Origination Managed Server
IPA Service	obremo-rpm-cmn-ipaservices-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-cmn-ipaservices	Oracle Banking Origination Managed Server
Collateral Service	obremo-rpm-cmn-collateralservices-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-cmn-collateralservices	Oracle Banking Origination Managed Server
Credit Card Service	obremo-rpm-creditcardapplication-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-creditcardapplication	Oracle Banking Origination Managed Server
ML SERVICE	obremo-rpm-cmn-mlservice-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-cmn-mlservice	Oracle Banking Origination Managed Server
RULE CONFIGURATION SERVICE	obremo-rpm-rule-configurationservice-{version}.war	{**unzip the file**} OFLO_SERVICES\obremo-rpm-rule-configurationservice	Oracle Banking Origination Managed Server
OBO UI Components	app-shell-{version}.war cmc-component-server-{version}.war moc-component-server-{version}.war sms-component-server-{version}.war oboflo-component-server-{version}.war	{**unzip the file**} ui/	Appshell Server

> **Note:**
>
> Refer to OSDC zip for the exact version number for each service.

Steps to Deploy as Application

> **Note:**
>
> To deploy the application, refer to **Deploy Application** section in *ANNEXURE-1*.

5

Workflow Deployments

In this section you are going to setup the workflow deployments for Oracle Banking Origination Installation.

Oracle Banking Origination Processes

The following list of Conductor based processes have to be deployed for Oracle Banking Origination.

Table 5-1   List of Conductors

Serial Number	Process Name	Dependent Process
1	CASAHOSTORCH	None
2	CREDITCARD	None
3	CURRENTACCOUNT	None
4	CURRENTACCOUNTUS	None
5	EDUCATIONLOAN	None
6	HOMELOAN	None
7	HOSTORCHESTRATOR	None
8	INITIATION	None
9	INSTCURACC	None
10	INSTPLOAN	None
11	INSTSAVACC	None
12	INSTTDACC	None
13	IPA	None
14	PERSONALLOAN	None
15	SAVINGSACCOUNT	None
16	SAVINGSACCOUNTUS	None
17	SMBCURRENTACCOUNT	None
18	SMBINITIATION	None
19	SMBLOAN	None
20	SMBSAVINGS	None
21	SMBTD1	None
22	SMBTERMLOAN	None
23	TDACCOUNT	None
24	TDACCOUNTUS	None
25	TDHOSTORCH	None
26	VEHICLELOAN	None

Update the process

Before deploying the process the following section to be updated with the server ip/port for the end points used in the process.

For each process, open the process to find for "http_request" and modify the following in the uri.

`"uri": "http://{{PROCESS_SERVER_HOST}}:{{PROCESS_SERVER_PORT}}/`
{{PROCESS_SERVER_HOST}} - IP of the Conductor server.

{{PROCESS_SERVER_PORT}} - Port of the Conductor server

Deploy the Conductor Process

Approach 1 - Postman

> **Note:**
>
> Server names, Domain names must be same as provided in this guide.

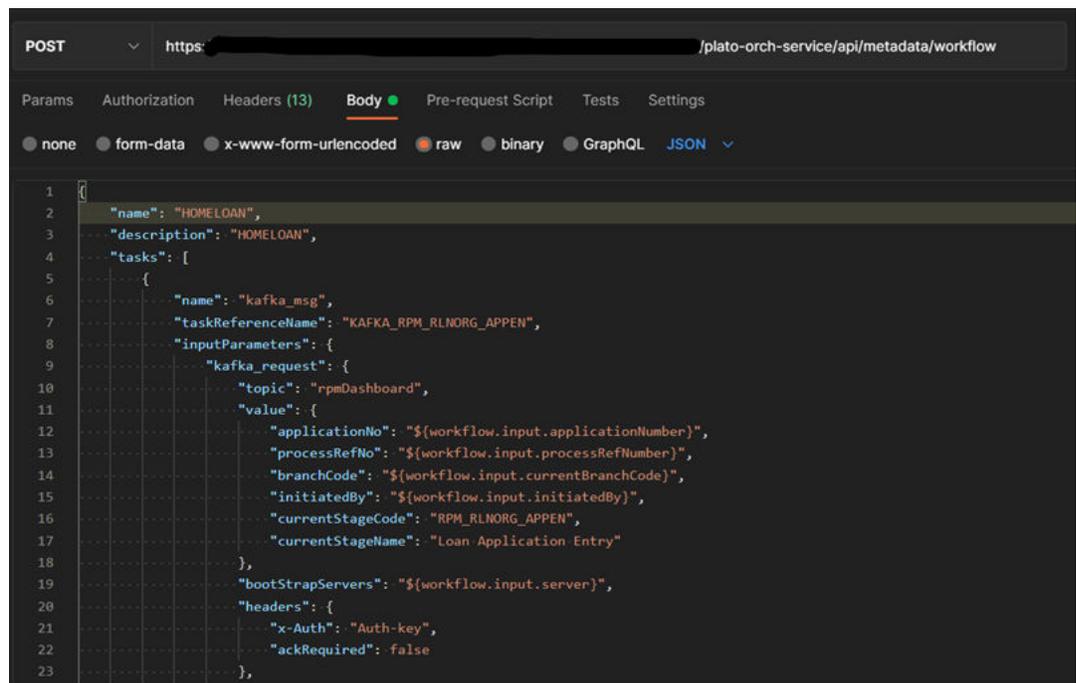Steps to Deploy a process remains the same for all the process files:

1. Launch Postman.

2. Select **POST** method.

3. Input the URL in the below format

   `http://{{PROCESS_SERVER_HOST}}:{{PROCESS_SERVER_PORT}}//plato-orch-service/api/metadata/workflow`

4. Input the header params as shown below:

   ```
   Content-Type:application/json
   userId:<userId>
   appId:platoorch
   branchCode:<branchCode>
   entityId:DEFAULTENTITY
   ```

5. Paste the body of the message with the content from the process file.

6. Click **Send**. Response status **200** returned from server.

Approach 2 – UI

1. Launch the menu **Tasks**à**Business Process Maintenance**.

Figure 5-1   Process List
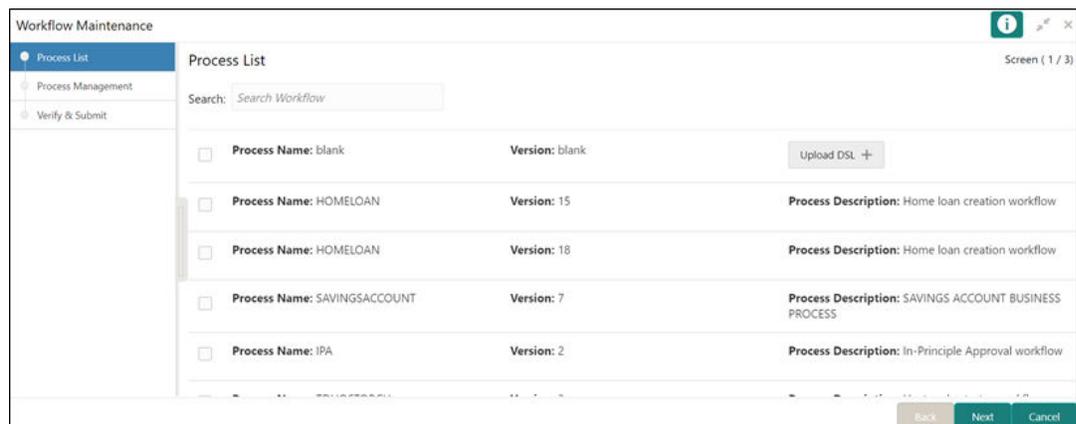
2. Click on the "Process Name" check box and upload the required DSL json file.
3. Click **Next** to navigate to the **Process Management** screen.

Figure 5-2   Process Management
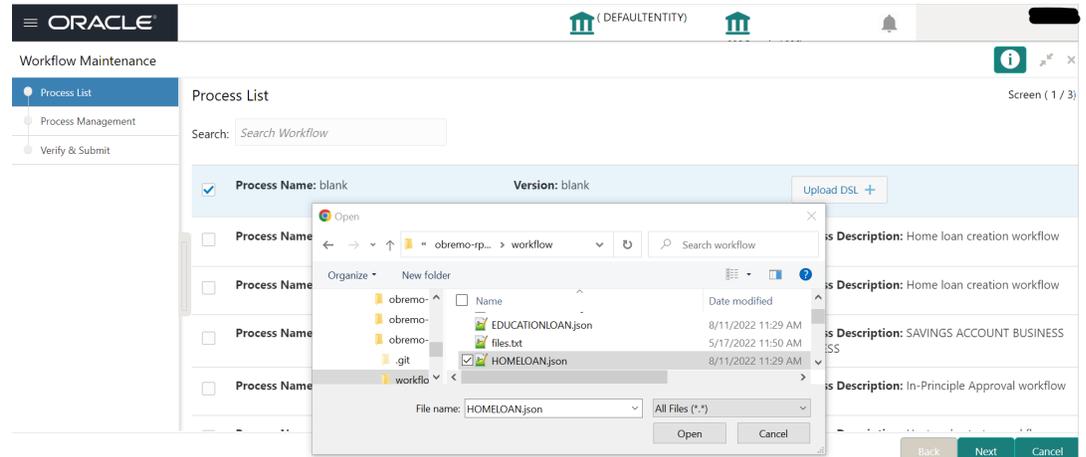
4. Click **Next** to navigate to the **Verify & Submit** screen.

Figure 5-3   Process Management
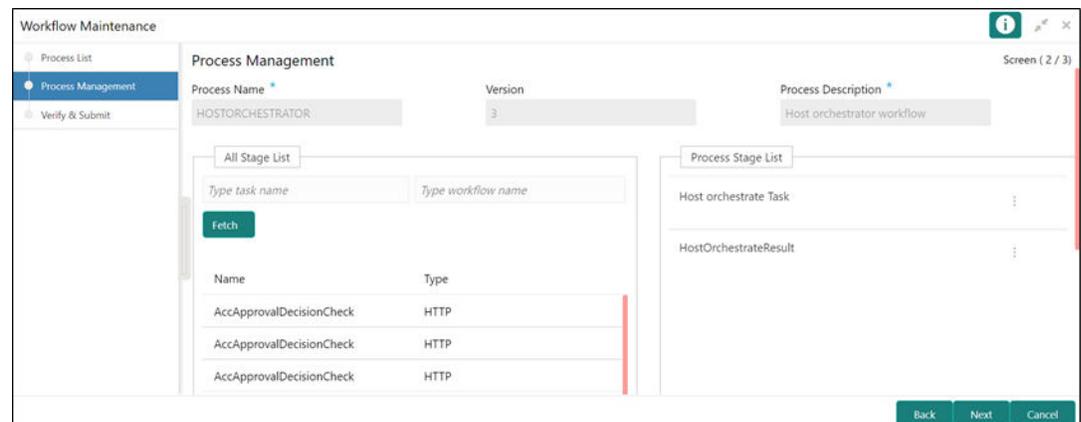
5. Click **Create Process**.

Figure 5-4   Create Process
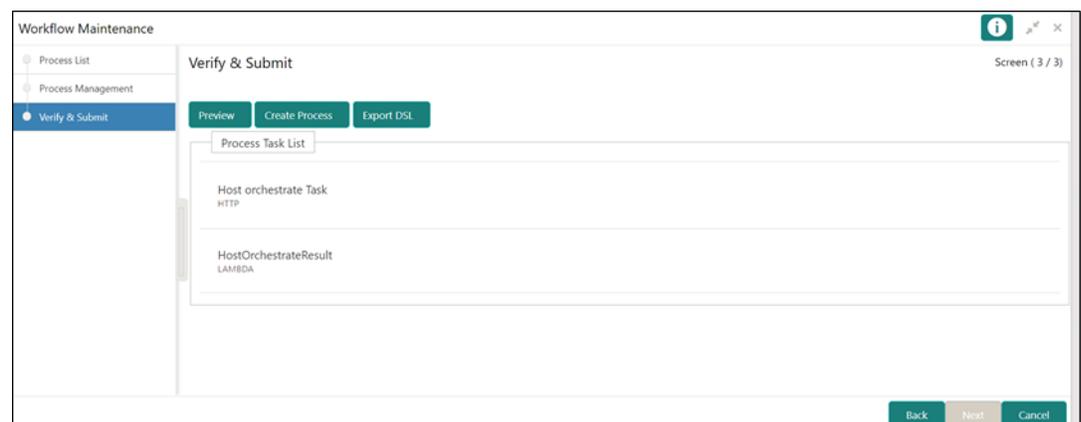
6

Kafka Topics

In this section you are going to setup the Oracle Banking Origination kafka topics.

Oracle Banking Origination Kafka Topics

Below mentioned are the Kafka topics that are used in Oracle Banking Origination. All the below topics are to be created and verified in the Kafka Server by using the command.

```
<Kafka Bin Folder>/kafka-topics.sh --create --bootstrap-server <Broker ip/
hostname>:<Broker Port> --replication-factor 1 --partitions 1 --topic <topic
name>
```

Table 6-1   Kafka Topics

Serial Number	Topic Name	Description	Usage
1	rpmDashboard	This event is used for populating projection data for rendering the dashboard.	Updating all the attributes related to a process
2	InitialFundingAck	This event is triggered when TD and savings initial funding option is selected as CASH, Oracle Banking Origination triggers a teller transaction Status change of the same transaction will be updated to Oracle Banking Origination asynchronously.	Status change occurrence for an Oracle Banking Origination initiated transaction in Teller
3	PartyKYCStatusUpdate	This event is triggered related to when a customer onboarding request is sent to the party module. Party has its own workflow Whenever the KYC verification is completed from party module, notification will be sent to Oracle Banking Origination.	KYC status update for the Customer
4	PartyHandoffNotification	This event is triggered related to when a customer onboarding request is sent to the party module. Party has its own workflow. A confirmation message will send from Oracle Banking Origination to the party module to notify that party module can proceed with creation of customer in their product processor.	Customer accepts the offer
5	PartyHandoffToHostStatus	After creating the customer in the product processor party module will send a message containing the created customer id to Oracle Banking Origination.	Customer is created in product processor

Table 6-1   (Cont.) Kafka Topics

Serial Number	Topic Name	Description	Usage
6	processTimePredic tionMessage	All services updates the required Machine Learning data into ML service table which will further be used for predicting the time required to complete the process.	Machine Learning Table Update
7	collateralHandoff	When the customer is created and notification is passed on to OBO, OBO will trigger a notification to OBCFPM based on which OBCFPM will actually create the liability	Notification to OBCFPM to initiate Liability Creation
8	ofloAcknowledgem ent	Once the OBBRN call is made for teller txn, OBBRN will notify OBO back when the transaction is complete via this topic	Notification from OBBRN to update Txn Ref No & Status
9	HandoffGenerated	OBO publish the channel event to send the customer ID to CFPM. So that user can go ahead for charge creation.	Notification from OBO to CFPM for charge creation.
10	collateralGenericEv ent	CFPM publish the channel event once the handoff success from CFPM end. This will update liability ID in OBO.	Notification from CFPM to OBO to update liability ID created by CFPM in OBO.

7

Restarts and Refresh

This topic describes the procedure to restart and refresh the servers.

Once everything is deployed, restart all the managed servers. For each application, call path `/refresh` to refresh the configuration properties.

> ✎ **Note:**
>
> To restart the server, refer to **Restart Servers** section ***ANNEXURE-1***.

8

Logging Area

This topic describes about the logging area after deployment of Oracle Banking Origination applications in WebLogic server.

Oracle Banking Origination Application writes logs in the logging area of the server:

<WEBLOGIC_DOMAIN_CONFIG_AREA/servers/APP/logs/ APP.out

Let's assume a domain has been created **obo_domain** with **managed_server** name called **OBOAPP** in the following area of the server

~/middleware/user_projects/domains/**oflo_domain**". Logging area for Oracle Banking Origination applications would be **~/middleware/user_projects/domains/oflo_domain/ servers/OBOAPP/logs/ OBOAPP.out**.

9

# Launch Oracle Banking Origination from UBS

This section provides information on how to setup database related configuration for Oracle Banking Origination Installation.

It is recommended to create different schema for each application. Below setup is designed to work with separate schema for each application.

Oracle FLEXCUBE Universal Banking Configurations

After Login to FLEXCUBE Universal Banking environment, click **Next Generation UI Menu** and launch the maintenance screen CSDNGUIM. Make sure that the user has roles for the screen. Update the Oracle Banking Microservices Architecture Product URL.

Figure 9-1   Next Gen UI Products Maintenance
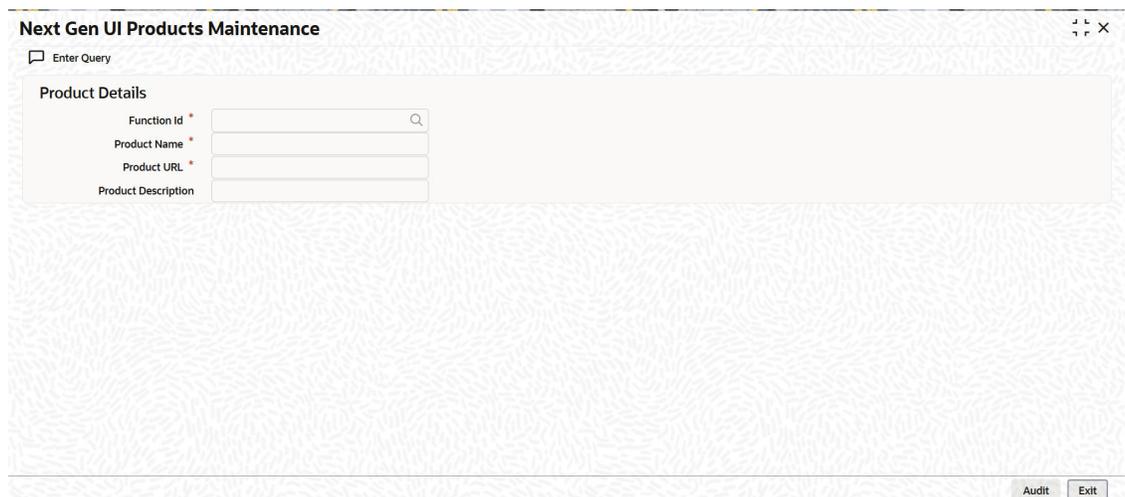
A new Function id NGTELLER is released as Static Data and make sure the user roles have been maintained for the same. Once the roles are maintained, Click **Next Gen UI** on the toolbar. **Next Gen UI** Dashboard displayed with the list of products. Click **OFLO** product, which Launches Plato Teller Dashboard. Make sure the same User ID is maintained for the Oracle Banking Origination product and it has the necessary roles.

Oracle Banking Microservices Architecture Configurations

SECURITY_CONFIG table in PLATO_SECURITY schema should have the following entries.

Table 9-1   Security Configuration

Key	Value
INTEGRATION_ENABLED	True

Table 9-1   (Cont.) Security Configuration

Key	Value
INTEGRATION_CALLBACK_URL	https://FCUBShostname:FCUBSport/FCJNeoWeb/ValidationService/FCNonceValidation/validate

Please update the Oracle FLEXCUBE Universal Banking hostname and port number in the above URL.

10

OCR Enabled Document Extraction Environment Setup

This topic provides the information on setting up the environment required for OCR enabled document extraction/verification feature used in Oracle Banking Origination.

The details of this feature can be obtained from **Operations User Guide**.

Reference Documents

Below are the references for setting up of this environment:

- Common Core Services Installation Guide à Document Verification Framework
- Oracle Banking Common Core User Guide à Document Verification Framework

11
Common Core Generative AI Service Setup

In this section you are going to setup the common core generative AI service for Oracle Banking Origination Installation.

Prerequisite

To run the Generative AI document analyzer service, below list must be installed:

- Operating System: Oracle Linux 8
- Python Version: 3.9.5
- Tesseract: 5.1.0
- Document Verification Service

Below package must be installed:

1. yum install zlib zlib-devel
2. yum install libffi-devel openssl-devel
3. yum install bzip2 bzip2-devel
4. yum install poppler-utils
5. yum install xz xz-devel xz-libs

Refer the**Document Verification Framework** of the **Common Core Services Installation Guide** for the manual installation process of the packages.

Application Installation

Geneartive AI document analyzer is a python-based application. The applciation is shipped as a byte-coded whl file. This wheel file installs all the implementation files without any dependencies. All the required dependencies are to be installed separately, refer below steps for the detailed process. It is recommended to install the whl file and the dependencies in a virtual environment using **pip** so that it doesn't affect any other operations or applications running in the system.

To install the application and the dependencies:

1. Use the below command to install the application wheel package provided, for example cmc_ml_genai_doc_analyzer-{version}-py3-none-any.whl

    pip install <wheel_package_name>.whl
2. Install all the dependencies.

Dependency Installation

After installing the Document verification service, the following dependencies must be installed. Please install below third-party dependencies before starting the services.

> **Note:**
>
> These packages must be installed in the environment where the document verification services are installed.

The dependencies can be installed using below commands:

```
pip install openai==0.27.7
pip install pypdf==3.9.1
pip install PyPDF2==3.0.1
pip install Flask-Cors==3.0.7
pip install pdfminer.six==20221105
pip install openpyxl==3.1.2
pip install cohere==4.32.0
pip install PyMuPDF==1.22.5
pip install tabulate==0.9.0
pip install oci==2.112.1
pip install oracledb==1.3.2
pip install langchain==0.0.295
pip install docx2txt==0.8
pip install tiktoken==0.5.2
pip install llama-cpp-python==0.1.83
pip install pydantic==1.10.13
pip install py-eureka-client==0.10.0
pip install importlib-metadata==6.0.0
pip install sentence-transformers==2.2.2
```

> **Note:**
>
> This application works when above libraries are installed with required versions. Please don't upgrade the libraries unless instructed in the documentation.

Configuration Update

We provide below configuration files:

1. application-config.json

2. system-config.json

3. logging-config.json

The **application-config.json** file has the configuration details that are supposed to be changed by the user. Please refer the below table for the fields and description of the fields:

Table 11-1   Configuration Update

Sr No	Parameter	Description
1	APPLICATION_NAME	Application name of our service to register on eureka.
2	LLM	Name of the LLM that you want to use. (openai/cohere)
3	LLM_API_KEY	The valid API Key of above mentioned LLM.

**Table 11-1   (Cont.) Configuration Update**

Sr No	Parameter	Description
4	USE_CONFIG_LLM_API_KEY	Whether the API key should be used from this application config or not. (yes/no)
5	DELETE_AFTER_TRAINING	Whether the documents, trained files should be deleted post use or not. (yes/no)
6	WORKING_DOCUMENT_DIR	Path to local folder where trained files will be stored. User should have Read-Write permissions to this folder.
7	OCI_CONFIG_FILE	Path to 'oci_config.txt' file. You can get the filepath after completing the step of setting up OCI Credentials & configuration setup explained later in this document.
8	EUREKA_CLIENT_SERVICE_DEFAULT_ZONE	Address of Eureka for which we are getting DMS host to connect with.
9	DMS_DOWNLOAD_ENDPOINT	Endpoint used for downloading from DMS.
10	DMS_UPLOAD_ENDPOINT	Endpoint used for uploading to DMS.
11	DMS_SERVICE	Name of the DMS service to locate on eureka.

**OCI Credentials and configuration setup**

To configure the setup:

1. Create a folder with name **secret**.
2. Access the OCI Link and login to OCI using your credentials.
3. Click **Profile** option from the menu bar. The option to login in profile appears.
4. Click oracle/<Your email ID> option.
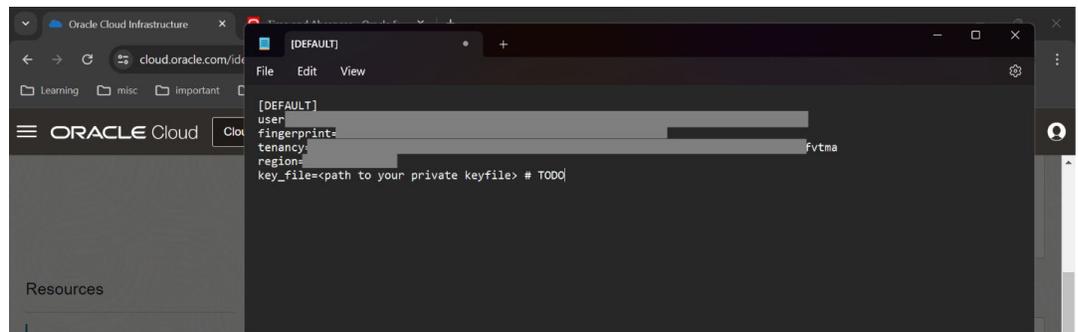
Figure 11-1   Login with your credentials
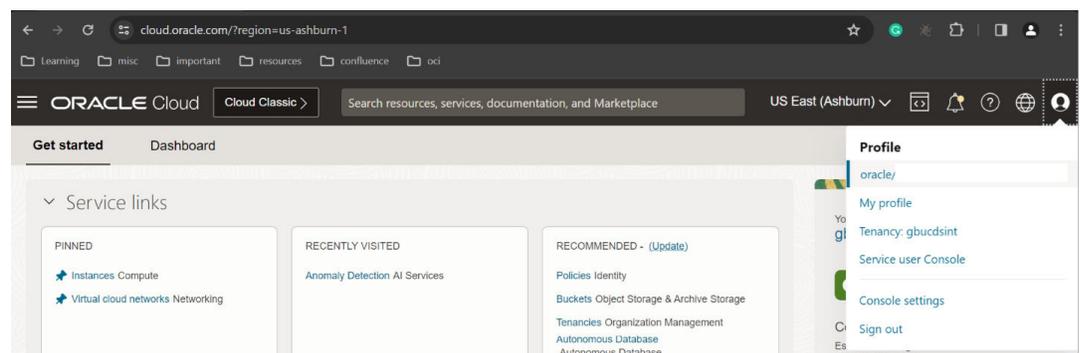
5. Scroll down to the page and click on Add API Key. The **Add API Key** page appreas.

Figure 11-2   Add API Key
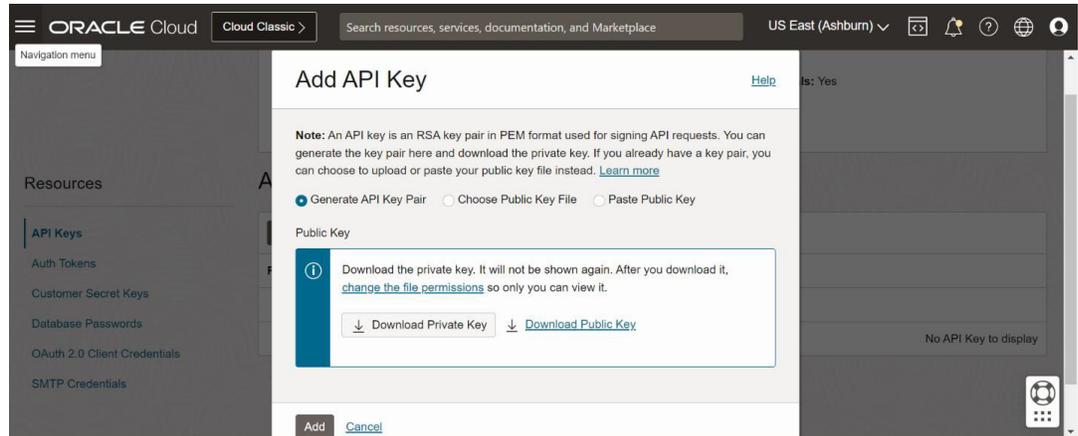
6. Click the **Download Private Key** button. The key get downloaded.

7. Copy the key and enter it in the **Select API Key Fingerprint** field. The Configuration File Preview window appears.

Figure 11-3   Configuration File Preview

8. Save the file in the **secret** named folder which is already created in Step 1.

9. Copy the downloaded private keys in the secret folder.

10. Edit oci_config.txt file. Change the key file path to the path of the private file in the secret folder. For example: key_file=./secret/oracle_oci.user-01-29-09-12.pem

11. Save the file oci_config.txt.

12. Move the logging-config.json, system-config.json and application-config.json to the current working directory.

13. This is how the folder structure should look like:
    ├──root_dir

    ├── secret
    └── Config.ini

    └── system-config.json

    └── application-config.json

    └── logging-config.json

Starting the application

To start the application:

1. After installing the wheel package and the dependencies and setting up the configuration files, we can run the genai_doc_analyzer server using the below-mentioned command, **python -m genai_doc_analyzer**.

2. Please note that this will by default run the app on port 7777. You can change the port by passing "–p" argument. For example, **python -m genai_doc_analyzer -p 5000**.

3. To run the service in the background, use this command **nohup python -m genai_doc_analyzer > nohup.txt &**.

> ✎ **Note:**
>
> After the execution of the above command, all the execution logs will be added to nohup.txt which is a text file. Now you may close the terminal and the app will keep running on port, unless stopped explicitly.

4. To terminate or kill the app, we can use the netstat command to find the process_id using the port on which the app is running and then use the kill command with the process_id of the app as shown below to terminate the application.
   netstat -nlp | grep 7777

   kill -9 <process_id>

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