

**Common Core Services Installation Guide**

# **Oracle Banking Origination**

Release 14.7.1.0.0

**Part Number F81701-01**

May 2023

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# 1. Preface

## 1.1 Introduction

This guide helps you to install the common core services on designated environment. It is assumed that all the prior setup is already done related with WebLogic installation, WebLogic managed server creation and Oracle DB installation.

**Note:** For the exact version to be installed, refer to **Tech Stack** section of Release Notes.

It is recommended to use dedicated managed server for each of the common core services.

## 1.2 Audience

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

## 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>.

## 1.4 Organization

This installation guide allows you to install following 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-CHARGES-CALCULATION-SERVICES
9. CMC-COREBANKING-ADAPTER-SERVICE
10. CMC-CURRENCY-SERVICES
11. CMC-CUSTOMER-SERVICES
12. CMC-DATASEGMENT-SERVICES
13. CMC-EXTERNAL-CHART-ACCOUNT
14. CMC-EXTERNAL-SYSTEM-SERVICES
15. CMC-EXTERNAL-VIRTUAL-ACCOUNT-SERVICES
16. CMC-FACILITIES-SERVICE
17. CMC-FC-AI-ML-SERVICES
18. CMC-ML-INDB-SERVICES
19. CMC-NLP-DASHBOARD-WIDGET-SERVICES
20. CMC-NLP- MAINTENANCE-SERVICES
21. CMC-NLP-OPENNLP-SERVICES
22. CMC-NLP-PIPELINE-SERVICES
23. CMC-NLP-TEXT-EXTRACTION-SERVICES
24. CMC-OBCBS-SERVICES
25. CMC-OBRRH-SERVICE
26. CMC-REPORT-SERVICE

27. CMC-RESOURCE-SEGMENT-ORCHESTRATOR-SERVICE
28. CMC-SCREENCLASS-SERVICES
29. CMC-SETTLEMENTS-SERVICES
30. CMC-TRANSACTIONCONTROLLER-SERVICES
31. CMC-TXN-CODE-SERVICES
32. CMC-OPDS-SERVICES
33. CMC-TXN-CODE-SERVICESCMC-APPLICATIONCATEGORY-SERVICES
34. CMC-CHECKLIST-SERVICES
35. CMC-CHECKLISTMANAGEMENT-SERVICES
36. CMC-COMMENTS-SERVICES
37. CMC-DOCUMENT-SERVICES
38. CMC-DOCUMENTMANAGEMENT-SERVICES
39. CMC-KYCCHECK-SERVICES
40. CMC-MAILNOTIFICATION-SERVICES
41. CMC-PRIORITY-SERVICES
42. CMC-PROCESSCODE-SERVICE
43. CMC-SEQUENCEGENERATOR-SERVICES
44. CMC-ADDITIONAL-ATTRIBUTES-SERVICES
45. CMC-SLA-SERVICES

## 1.5 **Documents**

- Configuration and Deployment Guide

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## 2. Database Setup

### 2.1 Introduction

In this section you are going to setup database related configuration for Common Core Installation.

### 2.2 Prerequisite

Below setup is dependent on Common Core Schema and SMS schema. Before you proceed with below setup ensure Common Core Schema and SMS Schema is provided to you.

### 2.3 Database Setup

To setup DB for Common Core schema to be created:

| Service Name                          | Schema Required          |
|---------------------------------------|--------------------------|
| CMC-ACCOUNT-SERVICES                  | Yes (Common Core Schema) |
| CMC-ADDITIONAL-ATTRIBUTES-SERVICE     | Yes (Common Core Schema) |
| CMC-ADVICE-SERVICES                   | Yes (Common Core Schema) |
| CMC-BASE-SERVICES                     | Yes (Common Core Schema) |
| CMC-BATCH-SERVICES                    | Yes (Common Core Schema) |
| CMC-BRANCH-SERVICES                   | Yes (Common Core Schema) |
| CMC-BUSINESSOVERRIDES-SERVICES        | Yes (Common Core Schema) |
| CMC-CHARGES-CALCULATION-SERVICES      | Yes (Common Core Schema) |
| CMC-COREBANKING-ADAPTER-SERVICE       | Yes (Common Core Schema) |
| CMC-CURRENCY-SERVICES                 | Yes (Common Core Schema) |
| CMC-CUSTOMER-SERVICES                 | Yes (Common Core Schema) |
| CMC-DATASEGMENT-SERVICES              | Yes (Common Core Schema) |
| CMC-EXTERNAL-CHART-ACCOUNT            | Yes (Common Core Schema) |
| CMC-EXTERNAL-SYSTEM-SERVICES          | Yes (Common Core Schema) |
| CMC-EXTERNAL-VIRTUAL-ACCOUNT-SERVICES | Yes (Common Core Schema) |
| CMC-FACILITIES-SERVICE                | Yes (Common Core Schema) |
| CMC-FC-AI-ML-SERVICES                 | Yes (Common Core Schema) |
| CMC-ML-INDB-SERVICES                  | Yes (Common Core Schema) |

| <b>Service Name</b>                       | <b>Schema Required</b>   |
|---|--------------------------|
| CMC-NLP-DASHBOARD-WIDGET-SERVICES         | Yes (Common Core Schema) |
| CMC-NLP-MAINTENANCE-SERVICES              | Yes (Common Core Schema) |
| CMC-NLP-OPENNLP-SERVICES                  | Yes (Common Core Schema) |
| CMC-NLP-PIPELINE-SERVICES                 | Yes (Common Core Schema) |
| CMC-NLP-TEXT-EXTRACTION-SERVICES          | Yes (Common Core Schema) |
| CMC-OBCBS-SERVICES                        | Yes (Common Core Schema) |
| CMC-OBRRH-SERVICE                         | Yes (Common Core Schema) |
| CMC-REPORT-SERVICE                        | Yes (Common Core Schema) |
| CMC-RESOURCE-SEGMENT-ORCHESTRATOR-SERVICE | Yes (Common Core Schema) |
| CMC-SCREENCLASS-SERVICES                  | Yes (Common Core Schema) |
| CMC-SETTLEMENTS-SERVICES                  | Yes (Common Core Schema) |
| CMC-TRANSACTIONCONTROLLER-SERVICES        | Yes (Common Core Schema) |
| CMC-TXN-CODE-SERVICES                     | Yes (Common Core Schema) |
| CMC-OPDS-SERVICES                         | Yes (Common Core Schema) |
| CMC-APPLICATIONCATEGORY-SERVICES          | Yes (Common Core Schema) |
| CMC-CHECKLIST-SERVICES                    | Yes (Common Core Schema) |
| CMC-CHECKLISTMANAGEMENT-SERVICES          | Yes (Common Core Schema) |
| CMC-COMMENTS-SERVICES                     | Yes (Common Core Schema) |
| CMC-DOCUMENT-SERVICES                     | Yes (Common Core Schema) |
| CMC-DOCUMENTMANAGEMENT-SERVICES           | Yes (Common Core Schema) |
| CMC-KYCCHECK-SERVICES                     | Yes (Common Core Schema) |
| CMC-MAILNOTIFICATION-SERVICES             | Yes (Common Core Schema) |
| CMC-PRIORITY-SERVICES                     | Yes (Common Core Schema) |
| CMC-PROCESSCODE-SERVICE                   | Yes (Common Core Schema) |
| CMC-SEQUENCEGENERATOR-SERVICES            | Yes (Common Core Schema) |
| CMC-SLA-SERVICES                          | Yes (Common Core Schema) |

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## 3. Domain and Cluster Configuration

### 3.1 Common Core Domain Configuration

#### 3.1.1 Prerequisites

1. Machine should have Java JDK installed.
2. Oracle Fusion Middleware has to be installed on the machine.  
**Note:** Before proceeding with below steps complete Oracle Banking Microservices Architecture installation guided.
3. Steps for creating all Common core domains, properties like port numbers, names will be changing based on the domain. Screenshots provided for such deviations. Domain creation process remains the same.  
**Note:** For the exact version to be installed, refer to **Tech Stack** section of Release Notes.

#### 3.1.2 Steps to Create Domain

It is recommended to have different managed server in one domain for each application. For Creating Domain and Configuration, refer to **How to create and Cluster Configuration** section in **Configuration and Deployment Guide**.

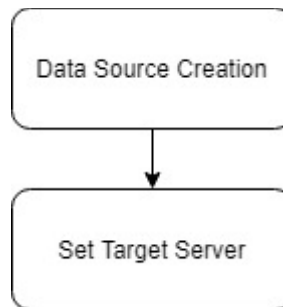
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## 4. Data Sources Creation

### 4.1 Prerequisite

Database and application setup for Oracle Banking Microservices Architecture has to be performed prior to 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 Common Core services and the steps to configure them in the server.



### 4.2 Data sources List

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

| Data source Name  | Data source JNDI                 | Targets  |
|---|----------------------------------|--|
| PLATO   | jdbc/PLATO                       | Common Core Managed Server                     |
| CMNCORE   | jdbc/CMNCORE                     | Common Core Managed Server, API Gateway Server |
| PLATOBATCH  | jdbc/PLATOBATCH                  | Common Core Managed Server                     |
| SMS   | jdbc/sms                         | Common Core Managed Server                     |
| PLATOUI   | jdbc/PLATO_UI_CONFIG             | Common Core Managed Server                     |
| PLATOFEED   | jdbc/PLATOFEED                   | Common Core Managed Server                     |
| PLATOSECURITY   | jdbc/PLATO_SECURITY              | Common Core Managed Server                     |
| <PRODUCT PROJECTION SCHEMA> (Required for Machine Learning framework) | jdbc/<PRODUCT PROJECTION SCHEMA> | Common Core Managed Server                     |

Steps to create data source in WebLogic is same for all the above except for the connection details and names. Check the below screenshots to understand data source creation.



### **Common Core Services using Plato-Feed**

The below listed common core services requires the data source to be created for plato-feeds on each domain prior to deployment of applications onto managed servers.

| <b>Service Name</b>     | <b>Data Source Name</b> | <b>Data Source JNDI</b> | <b>Target</b>              |
|-------------------------|-------------------------|-------------------------|----------------------------|
| cmc-account-services    | PLATOFEED               | jdbc/PLATOFEED          | Common Core Managed Server |
| cmc-base-services       | PLATOFEED               | jdbc/PLATOFEED          | Common Core Managed Server |
| cmc-branch-services     | PLATOFEED               | jdbc/PLATOFEED          | Common Core Managed Server |
| cmc-settlement-services | PLATOFEED               | jdbc/PLATOFEED          | Common Core Managed Server |
| cmc-currency-services   | PLATOFEED               | jdbc/PLATOFEED          | Common Core Managed Server |
| cmc-customer-services   | PLATOFEED               | jdbc/PLATOFEED          | Common Core Managed Server |

### **Database Grant Privileges**

The below listed user privileges are required for Machine Learning Framework:

- GRANT CREATE MINING MODEL TO <PRODUCT PROJECTION SCHEMA>;
- GRANT CREATE ANY MINING MODEL TO <PRODUCT PROJECTION SCHEMA>;
- GRANT ALTER ANY MINING MODEL TO <PRODUCT PROJECTION SCHEMA>;
- GRANT DROP ANY MINING MODEL TO <PRODUCT PROJECTION SCHEMA>;
- GRANT SELECT ANY MINING MODEL TO <PRODUCT PROJECTION SCHEMA>;
- GRANT COMMENT ANY MINING MODEL TO <PRODUCT PROJECTION SCHEMA>;
- GRANT EXECUTE ON DBMS\_DATA\_MINING to <PRODUCT PROJECTION SCHEMA>;
- GRANT CREATE JOB TO <PRODUCT PROJECTION SCHEMA>;

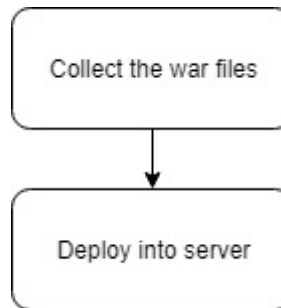
## **4.3 Creating Data source**

For creating data source, refer to **How to create Data sources** section in **Configuration and Deployment Guide**.

## 5. Deployments

### 5.1 Prerequisite

The database setup and data sources creation need 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 sections explain the list of war files of the Common Core service and the steps to deploy them into the server.



### 5.2 Deployments List

Below table give details of the deployments required on each domain for the Common Core application to run. Deploy one after other in the same given order.

| Application                       | Archive name                                     | OSDC path   | Targets                    |
|-----------------------------------|--|---|----------------------------|
| CMC-ACCOUNT-SERVICES              | cmc-account-services-{version}.war               | {Unzip OSDC Package}\cmc-account-services               | Common Core Managed Server |
| CMC-ADDITIONAL-ATTRIBUTES-SERVICE | cmc-additional-attributes-services-{version}.war | {Unzip OSDC Package}\cmc-additional-attributes-services | Common Core Managed Server |
| CMC-ADVICE-SERVICES               | cmc-advice-services-{version}.war                | {Unzip OSDC Package}\cmc-advice-services                | Common Core Managed Server |
| CMC-BASE-SERVICES                 | cmc-base-services-{version}.war                  | {Unzip OSDC Package}\cmc-base-services                  | Common Core Managed Server |
| CMC-BATCH-SERVICES                | cmc-batch-services-{version}.war                 | {Unzip OSDC Package}\cmc-batch-services                 | Common Core Managed Server |
| CMC-BRANCH-SERVICES               | cmc-branch-services-{version}.war                | {Unzip OSDC Package}\cmc-branch-services                | Common Core Managed Server |
| CMC-BUSINESSOVERRIDE-SERVICES     | cmc-businessoverrides-services-{version}.war     | {Unzip OSDC Package}\cmc-businessoverrides-services     | Common Core Managed Server |
| CMC-CHARGES-CALCULATION-SERVICES  | cmc-charges-calculation-services-{version}.war   | {Unzip OSDC Package}\cmc-charges-calculation-services   | Common Core Managed Server |

| <b>Application</b>                    | <b>Archive name</b>                                 | <b>OSDC path</b>   | <b>Targets</b>             |
|---------------------------------------|---|--|----------------------------|
| CMC-COREBANKING-ADAPTER-SERVICE       | cmc-corebanking-adapter-service-{version}.war       | {Unzip OSDC Package}\cmc-corebanking-adapter-service       | Common Core Managed Server |
| CMC-CURRENCY-SERVICES                 | cmc-currency-services-{version}.war                 | {Unzip OSDC Package}\cmc-currency-services                 | Common Core Managed Server |
| CMC-CUSTOMER-SERVICES                 | cmc-customer-services-{version}.war                 | {Unzip OSDC Package}\cmc-customer-services                 | Common Core Managed Server |
| CMC-DATASEGMENT-SERVICES              | cmc-datasegment-services-{version}.war              | {Unzip OSDC Package}\cmc-datasegment-services              | Common Core Managed Server |
| CMC-EXTERNAL-CHART-ACCOUNT            | cmc-external-chart-account-{version}.war            | {Unzip OSDC Package}\cmc-external-chart-account            | Common Core Managed Server |
| CMC-EXTERNAL-SYSTEM-SERVICES          | cmc-external-system-services-{version}.war          | {Unzip OSDC Package}\cmc-external-system-services          | Common Core Managed Server |
| CMC-EXTERNAL-VIRTUAL-ACCOUNT-SERVICES | cmc-external-virtual-account-services-{version}.war | {Unzip OSDC Package}\cmc-external-virtual-account-services | Common Core Managed Server |
| CMC-FACILITIES-SERVICE                | cmc-facilities-service-{version}.war                | {Unzip OSDC Package}\cmc-facilities-service                | Common Core Managed Server |
| CMC-FC-AI-ML-SERVICES                 | cmc-fc-ai-ml-services-{version}.war                 | {Unzip OSDC Package}\cmc-fc-ai-ml-services                 | Common Core Managed Server |
| CMC-ML-INDB-SERVICES                  | cmc-ml-indb-services-{version}.war                  | {Unzip OSDC Package}\cmc-ml-indb-services                  | Common Core Managed Server |
| CMC-NLP-DASHBOARD-WIDGET-SERVICES     | cmc-nlp-dashboard-widget-services-{version}.war     | {Unzip OSDC Package}\cmc-nlp-dashboard-widget-services     | Common Core Managed Server |
| CMC-NLP-MAINTENANCE-SERVICES          | cmc-nlp-maintenance-services-{version}.war          | {Unzip OSDC Package}\cmc-nlp-maintenance-services          | Common Core Managed Server |
| CMC-NLP-OPENNLP-SERVICES              | cmc-nlp-opennlp-services-{version}.war              | {Unzip OSDC Package}\cmc-nlp-opennlp-services              | Common Core Managed Server |
| CMC-NLP-PIPELINE-SERVICES             | cmc-nlp-pipeline-services-{version}.war             | {Unzip OSDC Package}\cmc-nlp-pipeline-services             | Common Core Managed Server |
| CMC-NLP-TEXT-EXTRACTION-SERVICES      | cmc-nlp-text-extraction-services-{version}.war      | {Unzip OSDC Package}\cmc-nlp-text-extraction-services      | Common Core Managed Server |
| CMC-OBCBS-SERVICES                    | cmc-obcbs-services-{version}.war                    | {Unzip OSDC Package}\cmc-obcbs-service                     | Common Core Managed Server |
| CMC-OBRRH-SERVICES                    | cmc-obrrh-services-{version}.war                    | {Unzip OSDC Package}\cmc-obrrh-services                    | Common Core Managed Server |

| <b>Application</b>                        | <b>Archive name</b>                                     | <b>OSDC path</b>   | <b>Targets</b>             |
|---|---|--|----------------------------|
| CMC-REPORT-SERVICE                        | cmc-report-service-{version}.war                        | {Unzip OSDC Package}\cmc-report-service                        | Common Core Managed Server |
| CMC-RESOURCE-SEGMENT-ORCHESTRATOR-SERVICE | cmc-resource-segment-orchestrator-service-{version}.war | {Unzip OSDC Package}\cmc-resource-segment-orchestrator-service | Common Core Managed Server |
| CMC-SCREENCLASS-SERVICES                  | cmc-screenclass-services-{version}.war                  | {Unzip OSDC Package}\cmc-screenclass-services                  | Common Core Managed Server |
| CMC-SETTLEMENTS-SERVICES                  | cmc-settlements-services-{version}.war                  | {Unzip OSDC Package}\cmc-settlements-services                  | Common Core Managed Server |
| CMC-TRANSACTIONCONTROLLER-SERVICES        | cmc-transactioncontroller-services-{version}.war        | {Unzip OSDC Package}\cmc-transactioncontroller-services        | Common Core Managed Server |
| CMC-TXN-CODE-SERVICES                     | cmc-txn-code-services-{version}.war                     | {Unzip OSDC Package}\cmc-txn-code-services                     | Common Core Managed Server |
| CMC-APPLICATIONCATEGORY-SERVICES          | cmc-applicationcategory-services-{version}.war          | {Unzip OSDC Package}\cmc-applicationcategory-services          | Mid-Office Managed Server  |
| CMC-CHECKLIST-SERVICES                    | cmc-checklist-services-{version}.war                    | {Unzip OSDC Package}\cmc-checklist-services                    | Mid-Office Managed Server  |
| CMC-CHECKLISTMANAGEMENT-SERVICES          | cmc-checklistmanagement-services-{version}.war          | {Unzip OSDC Package}\cmc-checklistmanagement-services          | Mid-Office Managed Server  |
| CMC-COMMENTS-SERVICES                     | cmc-comments-services-{version}.war                     | {Unzip OSDC Package}\cmc-comments-services                     | Mid-Office Managed Server  |
| CMC-DOCUMENT-SERVICES                     | cmc-document-services-{version}.war                     | {Unzip OSDC Package}\cmc-document-services                     | Mid-Office Managed Server  |
| CMC-DOCUMENTMANAGEMENT-SERVICES           | cmc-documentmanagement-services-{version}.war           | {Unzip OSDC Package}\cmc-documentmanagement-services           | Mid-Office Managed Server  |
| CMC-KYCCHECK-SERVICES                     | cmc-kyccheck-services-{version}.war                     | {Unzip OSDC Package}\cmc-kyccheck-services                     | Mid-Office Managed Server  |
| CMC-MAILNOTIFICATION-SERVICES             | cmc-mailnotification-services-{version}.war             | {Unzip OSDC Package}\cmc-mailnotification-services             | Mid-Office Managed Server  |
| CMC-PRIORITY-SERVICE                      | cmc-priority-service-{version}.war                      | {Unzip OSDC Package}\cmc-priority-service                      | Mid-Office Managed Server  |
| CMC-PROCESSCODE-SERVICE                   | cmc-processcode-service-{version}.war                   | {Unzip OSDC Package}\cmc-processcode-service                   | Mid-Office Managed Server  |

| Application                    | Archive name                                 | OSDC path   | Targets                    |
|--------------------------------|--|---|----------------------------|
| CMC-SEQUENCEGENERATOR-SERVICES | cmc-sequencegenerator-services-{version}.war | {Unzip OSDC Package}\cmc-sequencegenerator-services |                            |
| CMC-SLA-SERVICES               | cmc-sla-services-{version}.war               | {Unzip OSDC Package}\cmc-sla-services               |                            |
| CMC-OPDS-SERVICES              | cmc-opds-services-{version}.war              | {Unzip OSDC Package}\cmc-opds-services              | Common Core Managed Server |

**NOTE:** Refer to OSDC file for the exact version number for each service.

### 5.3 Steps to Deploy as Application

To deploy application, refer to **How to deploy** section in **Configuration and Deployment Guide**.

### 5.4 Deprecated Services

Deploy the common core service to clean up the deprecated service-related DB objects from common core / SMS / PLATO schemas.

| Application                 | Archive name                              | OSDC path  | Targets                    |
|-----------------------------|---|--|----------------------------|
| CMC-SERVICE-DEPRECATION-SVC | cmc-service-deprecation-svc-{version}.war | {Unzip OSDC Package}\cmc-service-deprecation-svc | Common Core Managed Server |

Below table give details of the deprecated services in Common Core application and undeploy the services one after other in the same given order as given below.

| Application                 | Archive name                              | Targets                    |
|-----------------------------|---|----------------------------|
| CMC-EARMARK-SERVICES        | cmc-earmark-services-{version}.war        | Common Core Managed Server |
| CMC-QUEUE-SERVICES          | cmc-queue-services-{version}.war          | Common Core Managed Server |
| CMC-SERVICE-DEPRECATION-SVC | cmc-service-deprecation-svc-{version}.war | Common Core Managed Server |

**NOTE:** Refer to OSDC file for the exact version number for each service.

### 5.5 Steps to undeploy the deprecated application

To undeploy the deprecated applications, please refer **Configuration and Deployment Guide**. “**How to undeploy Application**” section.

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## 6. Document Verification Framework

### 6.1 Introduction

This section describes the document verification framework where after deployment of Common Core Applications in the WebLogic server.

### 6.2 Prerequisite

For running document verification APIs, OML4Py, python, tesseract, and other required libraries must be installed.

#### 6.2.1 OML4Py Installation

Oracle Machine Learning for Python (OML4Py) enables you to run Python commands for data transformations and for statistical, machine learning, and graphical analysis on data stored in or accessible through an Oracle database using a Python API.

OML4Py is available in the following Oracle database environments:

- The Python interpreter in Oracle Machine Learning Notebooks in your Oracle Autonomous Database.
- An OML4Py client connection to OML4Py in an on premise Oracle Database instance.

We have setup OML4Py using on premise Oracle Database. For which, you must install Python, the required Python libraries, and the OML4Py server components in the database, and you must install the OML4Py client as mentioned in below steps.

1. First check the system requirements to setup OML4Py.  
[OML4Py On Premises System Requirements](#)
2. Python 3.9.5 is required to install and use OML4Py.  
[Steps to install Python for OML4Py](#)
3. Both the OML4Py server and client installations for an on-premises Oracle database require installing a set of supporting Python packages.  
[Steps to install Python supporting packages for OML4Py](#)
4. Follow the steps mentioned in the below link for installing and setting up OML4PY server and OML4PY client for on premise oracle database respectively.  
[Steps to install and setup OML4Py server](#)  
[Steps to install and setup OML4Py client](#)

Please note that, installing and setting up OML4Py server is optional for customers. Customers can only install OML4Py client, and the Python version supported by OML4PY.

### 6.2.2 Tesseract installation

Tesseract is an optical character recognition (OCR) engine for various operating systems. The latest version (5.1.0) must be installed on the machine to extract the text from the documents.

For more information on the steps to manually install the latest version of the tesseract (5.1.0). Please refer to **Section 10.4** in **Oracle Banking Microservices Platform Foundation Installation Guide**.

## 6.3 Document Verification Application Installation

The app will be shipped as a byte-coded whl file. This wheel file will install all the implementation files without the dependencies. All the required dependencies are bundled together in a python.zip file which are to be extracted and installed separately (refer to Step 2 below). It's 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. Applications using microservices based architecture and using the same for security, needs to create a **Config.ini** file, same is required for the Eureka server configuration. Please create a config file with the name Config.ini and paste the text below:

```
[DEFAULT]
eureka_server=http://whf00itb.in.oracle.com:7002/plato-discovery-service/eureka
```

You can edit the eureka server address if needed. The app name should not be changed. This is important for Role-Based Access Control. Please note that registering the app on Eureka is optional and you can skip this if not needed. But in any case, Config.ini is required. In eureka\_server variable you can simply give localhost url.

The folder structure to be followed is:

```
|—root_dir
    |— python
    |— Config.ini
```

**Note:** Please make sure that you are using **linux operating system** and the installed **Python** version is **3.9.5** and that of **pip** is above **20.0.0**. Run the following command to upgrade **pip** to the latest version.

```
pip install --upgrade pip
```

Once the pip is upgraded, follow the steps below to install the app and the dependencies:

1. Use the below command to install the application wheel package provided, e.g.  
ofss\_ml\_document\_verification\_server\_without\_req-{version}-py3-none-any.whl

```
pip install <wheel_package_name>.whl
```

**Note:** Refer to OSD file for the exact version number.

2. Now all the dependencies need to be installed. In order to do this, extract the python.zip file provided, go into the python folder (cd python/ ) and run the following commands:

```
pip install configparser --no-index --find-links.
pip install connexion --no-index --find-links.
pip install datefinder --no-index --find-links.
pip install dateparser --no-index --find-links.
pip install Flask --no-index --find-links.
pip install importlib-metadata --no-index --find-links.
pip install opencv-python --no-index --find-links.
pip install pdf2image --no-index --find-links.
pip install Pillow --no-index --find-links.
pip install pyap --no-index --find-links.
pip install pybase64 --no-index --find-links.
pip install pytesseract --no-index --find-links.
pip install python-dateutil --no-index --find-links.
pip install six --no-index --find-links.
pip install pyxDamerauLevenshtein --no-index --find-links.
pip install python-magic --no-index --find-links.
(optional) pip install py-eureka-client --find-links.
```

**Note:** Few dependencies including numpy, pandas and scikit-learn that are already installed during OML4Py setup are skipped in above step.

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

**Installing py-eureka-client is optional as it is needed only if you want to register the app on Eureka.**

3. After installing the wheel package and the dependencies, we can run the document verification server using the below-mentioned command,

```
python -m ofss_ml_document_verification_server
```

4. Please note: This will by default run the app on port 8090 and not register the app to Eureka. To do that please use the below-mentioned command:

```
python -m ofss_ml_document_verification_server -p 5000 -r true
```

The above commands make the app run on port 5000 and registers to the Eureka server as well. These arguments may or may not be used together and the port number can be any. By default, the system has been configured to -r false.

Please note that once the service is registered on Eureka, it will need role-based access to send and receive requests.

For example: if the app is registered on <http://whf00itb.in.oracle.com:7002/plato-discovery-service>, then we need a bearer token from <http://whf00itb.in.oracle.com:7002/api-gateway/platojwtauth> and then call <http://whf00itb.in.oracle.com:7002/api->



[gateway/ofss\\_ml\\_document\\_verification\\_server/extractInformation](#) with the following headers:

1. Authorization - bearer <token>
2. appid- (ex- CMNCORE)
3. branchCode
4. content-Type - application/json
5. userId

Please note that the userId and branchCode will be based on the flyway script entries.

#### **SMS Scripts:**

```
Insert into SMS_TM_SERVICE_ACTIVITY
(SERVICE_ACTIVITY_CODE,DESCRIPTION,CLASS_NAME,METHOD_NAME,APPLICATION_ID,SERVICE_TYPE,UI_ACTIVITY_CODE) values
('CMC_SA_OFSS_ML_DOCUMENT_VERIFICATION_EXTRACT_INFORMATION','Extracts meaningful details from an image','OFSS_ML_DOCUMENT_VERIFICATION_SERVER','extractInformation','CMC','Service API',null);
commit;
```

```
Insert into SMS_TM_FUNCTIONAL_ACTIVITY
(FUNCTIONAL_ACTIVITY_CODE, APPLICATION_ID, TYPE) values
('CMC_FA_OFSS_ML_DOCUMENT_VERIFICATION_EXTRACT_INFORMATION','CMC','O');
commit;
```

```
Insert into SMS_TM_FUNC_ACTIVITY_DETAIL
(ID,FUNCTIONAL_ACTIVITY_CODE,SERVICE_ACTIVITY_CODE) values
('CMC_FD_OFSS_ML_DOCUMENT_VERIFICATION_EXTRACT_INFORMATION','CMC_FA_OFSS_ML_DOCUMENT_VERIFICATION_EXTRACT_INFORMATION','CMC_SA_OFSS_ML_DOCUMENT_VERIFICATION_EXTRACT_INFORMATION');
commit;
```

## Plato Scripts:

```
Insert into PROPERTIES (ID,APPLICATION,PROFILE,LABEL,KEY,VALUE)
values (PROPERTIES_ID_SEQ.NEXTVAL,'plato-api-
gateway','jdbc','jdbc','zuul.routes.ofssmldoc.path','/ofss_ml_do
cument_verification_server/**');
Insert into PROPERTIES (ID,APPLICATION,PROFILE,LABEL,KEY,VALUE)
values (PROPERTIES_ID_SEQ.NEXTVAL,'plato-api-
gateway','jdbc','jdbc','zuul.routes.ofssmldoc.serviceId','ofss_m
l_document_verification_server');
Insert into PROPERTIES (ID,APPLICATION,PROFILE,LABEL,KEY,VALUE)
values (PROPERTIES_ID_SEQ.NEXTVAL,'plato-api-
gateway','jdbc','jdbc','zuul.routes.ofssmldoc.stripPrefix','fals
e');
commit;
```

This procedure makes sure that only authenticated users can use the API.

However, developers running the app have an option to disable registry on Eureka and test the API normally.

5. To run the document verification server in the background, use the command below.

```
nohup python -m ofss_ml_document_verification_server & tail -f
nohup.out
```

**Note:** After the execution of the above command, all the execution logs will be added to nohup.out (text file). Now you may close the terminal and the app will still be running on port.

6. To terminate/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 8090
```

```
kill -9 <process_id
```

---

## 7. Restarts and Refresh

Once everything is deployed, restart all the managed servers. And for each application call path “/refresh” for refreshing the configuration properties.

### 7.1 Restarting Servers

To restart the server, refer to **How to restart** section in **Configuration and Deployment Guide**.

---

## 8. Logging Area

### 8.1 Introduction

This part of the document will talk about the logs area where after deployment of Common Core Applications in WebLogic server.

#### 8.1.1 Logging Area

Common Core Application writes logs in the below area of the server:

<WEBLOGIC\_DOMAIN\_CONFIG\_AREA>/servers/CMNCOREAPP/logs/ CMNCOREAPP.out

Let's assume a domain has been created **CommonCore\_domain** with **managed\_server** name called **CMNCOREAPP** in the following area of the server

/scratch/oracle/middleware/user\_projects/domains/**CommonCore\_domain**. Logging area for Common core would be **/scratch/oracle/middleware/user\_projects/domains/ CommonCore\_domain/servers/CMNCOREAPP/logs/CMNCOREAPP.out**

---

## 9. Known Issues - Resolutions

### 9.1 cmc-ml-indb-services

Troubleshooting deployment failure in cmc-ml-indb-services.war –

#### Deployment Error –

1. org.flywaydb.core.api.FlywayException: Validate failed: Migration checksum mismatch for migration version 101.32.5.0.0.4.101032004.1.1 -> Applied to database : 589007451 -> Resolved locally : -692687536 :org.flywaydb.core.api.FlywayException:Validate failed: Migration checksum mismatch for migration version 101.32.5.0.0.4.101032004.1.1 -> Applied to database : 589007451 -> Resolved locally : -692687536
2. org.flywaydb.core.api.FlywayException: Validate failed: Migration checksum mismatch for migration version 101.32.5.0.0.4.101032004.1.1 -> Applied to database : -692687536-> Resolved locally : 589007451:org.flywaydb.core.api.FlywayException:Validate failed: Migration checksum mismatch for migration version 101.32.5.0.0.4.101032004.1.1 -> Applied to database : -> -692687536 Resolved locally : 589007451

#### Resolution –

1. Error 1 should get resolved after applying the war from latest patchset.
2. Error 2 will result in case there have been manual modifications made in table “flyway\_schema\_history” i.e. checksum of script/file  
V101\_32\_5.0.0\_4\_101032004\_1\_1\_\_CMC\_TM\_ML\_ALGO\_REPO.sql has been manually changed/updated to -692687536 in flyway table. If so please delete all the entries in “flyway\_schema\_history” for script  
V101\_32\_5.0.0\_4\_101032004\_1\_1\_\_CMC\_TM\_ML\_ALGO\_REPO.sql then redeploy/re-run the latest cmc-ml-indb-services.war.

### 9.2 cmc-branch-service

Troubleshooting steps for failed cmc-branch-service-6.0.0:

For branch service the following steps will need to be executed for deploying the service over March patchset:

1. Run the following scripts on the SMS schema:  
delete from "flyway\_schema\_history" where "version" in ('101.4.5.11.0.1.00051001006.10.1');  
  
delete from SMS\_TM\_FUNC\_ACTIVITY\_DETAIL where ID in ('CMC\_FA\_BRANCH\_WORKHR\_GETALL','CMC\_BRANCH\_WORKHR\_GETID','CMC\_BRANCH\_WORKHR\_SAVE','CMC\_FA\_BRANCH\_TIME\_GETALL','CMC\_BRANCH\_WORKHR\_AUTHQRY','CMC\_BRANCH\_WORKHR\_AUTH','CMC\_BRANCH\_WORKHR\_CLOSERECRD','CMC\_BRANCH\_WORKHR\_DELETE','CMC\_BRANCH\_WORKHR\_GETHISTRY','CMC\_BRANCH\_WORKHR\_MODRECRD','CMC\_BRANCH\_WORKHR\_ROPNRECRD');  
  
commit;
2. Start the cmc-branch-service-6.0.0 application in Weblogic.



## **Common Core Services Installation Guide**

Oracle Financial Services Software Limited  
Oracle Park  
Off Western Express Highway  
Goregaon (East)  
Mumbai, Maharashtra 400 063  
India

Worldwide Inquiries:

Phone: +91 22 6718 3000

Fax: +91 22 6718 3001

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

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