Common Core Services Installation Guide

Oracle Banking

Release 14.6.0.0.0

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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-OBRH-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 <u>Documents</u>

- ANNEXURE-1

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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)

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Service Name	Schema Required
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-OBRH-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)

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.
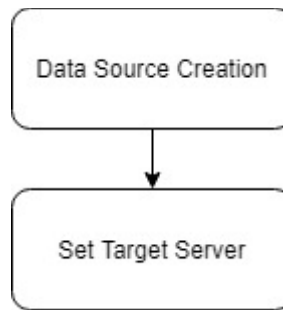
3.1.2 Steps to Create Domain

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 ANNEXURE-1.

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 only for DB based ML use cases)	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.

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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.

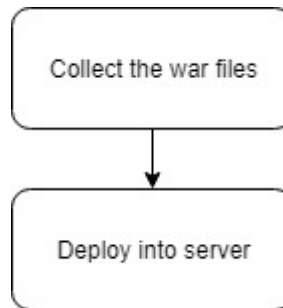| Service Name	Data Source Name	Data Source JNDI	Target
cmc-account-services	PLATOFEED	jdbc/PLATOFEED	Common Core Managed Server
cmc-base-services	PLATOFEED	jdbc/PLATOFEED	Common Core Managed Server
cmc-branch-services	PLATOFEED	jdbc/PLATOFEED	Common Core Managed Server
cmc-settlement-services	PLATOFEED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

4.3 Creating Data source

For creating data source, refer to **How to create Data sources** section in ANNEXURE-1.

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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.

```
┌─────────────────────┐
│ Collect the war files │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│  Deploy into 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-BUSINESSOVERRIDES-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

Application	Archive name	OSDC path	Targets
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-OBRH-SERVICES	cmc-obrh-services-{version}.war	{Unzip OSDC Package}\cmc-obrh-services	Common Core Managed Server

Application	Archive name	OSDC path	Targets
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 ANNEXURE-1.

5.4 Depreciated 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 ANNEXURE-1. **"How to undeploy Application"** section.

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6. Restarts and Refresh

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

6.1 Restarting Servers

To restart the server, refer to **How to restart** section in ANNEXURE-1.

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7. Logging Area

7.1 Introduction

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

7.1.1 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**

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8. Known Issues - Resolutions

8.1 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.

8.2 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
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