

Oracle® Banking Microservices Architecture Configuration and Deployment Guide



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Purpose

This guide is a supporting document for the installation of Oracle Banking Microservices Architecture applications. The user can find the reference in the respective installation guides.

Audience

This guide is intended for WebLogic admin or ops-web team who are responsible for installing OFSS Banking Products.

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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.

Related Resources

For more information on any related features, refer to the following documents

- Product Installation Guide

Acronyms and Abbreviations

The list of the acronyms and abbreviations used in this guide are as follows:

Table 1 Acronyms and Abbreviations

Abbreviation	Description
LDAP	Lightweight Directory Access Protocol

1

Placeholder Update for Oracle Banking Microservices Architecture Services

This topic provides the information about the various methods to perform the placeholder update for Oracle Banking Microservices Architecture services.

- [Method 1 – Via setUserOverrides.sh file](#)
This topic provides the systematic instructions to run Oracle Banking Microservices Architecture services through setUserOverrides.sh file.
- [Method 2 – Via Passing the -D params in the Server Start Argument](#)
This topic provides the systematic instructions to run the Oracle Banking Microservices Architecture services by passing the -D params in the Server start argument.
- [Method 3 – Using env files and setUserOverrides.sh file](#)
This topic provides the systematic instructions to run Oracle Banking Microservices Architecture services by using env files and setUserOverrides.sh file.
- [Method 4 – Workflow Configuration](#)
This topic provides the systematic instructions to run Oracle Banking Microservices Architecture services through workflow configuration.

1.1 Method 1 – Via setUserOverrides.sh file

This topic provides the systematic instructions to run Oracle Banking Microservices Architecture services through setUserOverrides.sh file.

1. Create a file named **setUserOverrides.sh** inside the WebLogic bin location.
2. The following formats of the **setUserOverrides.sh** file and the list of parameters that need to be passed to run Oracle Banking Microservices Architecture Services properly.

Note:

Below is the list of **-D params** (ENV variables) that must be set for all individual services. Set a single **-Dparam** as follows:
JAVA_OPTIONS="{JAVA_OPTIONS} -DParam =<ParamValue>" export
JAVA_OPTIONS

//Common Properties

```
-Dplato.services.config.port= <CONFIG_SERVICE_PORT>
-Dplato.services.config.uri= http://
<CONFIG_SERVICE_HOSTNAME>:<CONFIG_SERVICE_PORT>
-Deureka.client.serviceUrl.defaultZone= http://
<DISCOVERY_SERVICE_HOST>:<DISCOVERY_SERVICE_PORT>/plato-discovery-
service/eureka
```

```
-Dplato.services.entityservices.port= <PLATO_ORCH_SERVICE_PORT>
-Dplato.service.logging.path= <LOGGING_PATH>
-Dspring.cloud.loadbalancer.ribbon.enabled=false
-Dspring.main.allow-circular-references=true

//Flyway Common Placeholders
-Dflyway.domain.placeholders.eureka.host= <DISCOVERY_SERVICE_HOST>
-Dflyway.domain.placeholders.eureka.port= <DISCOVERY_SERVICE_PORT>
-Dflyway.domain.placeholders.plato-api-gateway.server.port=
<API_GATEWAY_PORT>
-Dflyway.domain.placeholders.zipkin.host= <ZIPKIN_HOSTNAME>
-Dflyway.domain.placeholders.zipkin.port= <ZIPKIN_PORT>

//SMS - Needed for other services also
-Dflyway.domain.placeholders.sms.username= <SMS_SCHEMA_USERNAME>
-Dflyway.domain.placeholders.sms.password= <SMS_SCHEMA_PASSWORD>
-Dflyway.domain.placeholders.sms.jdbcUrl= <SMS_SCHEMA_URL>
-Dflyway.domain.placeholders.sms.schemas= <SMS_SCHEMA_NAME>

//Plato Config Service - Needed for other services also
-Dflyway.domain.placeholders.plato-config.username=
<PLATO_DB_USERNAME>
-Dflyway.domain.placeholders.plato-config.password=
<PLATO_DB_PASSWORD>"
-Dflyway.domain.placeholders.plato-config.jdbcUrl= <PLATO_DB_URL>
-Dflyway.domain.placeholders.driver.className= oracle.jdbc.driver.OracleDriver
-Dflyway.domain.placeholders.plato-config.schemas=
<PLATO_DB_SCHEMANAME>

//Plato Api Gateway - Needed for other services also
-Dflyway.domain.placeholders.api-gateway.username=
<SECURITY_DB_USERNAME>
-Dflyway.domain.placeholders.api-gateway.password=
<SECURITY_DB_PASSWORD>
-Dflyway.domain.placeholders.api-gateway.jdbcUrl= <SECURITY_DB_URL>
-Dflyway.domain.placeholders.api-gateway.schemas=
<SECURITY_SCHEMANAME>
-Dflyway.domain.placeholders.apigateway.host=
<APIGATEWAY_ROUTER_HOSTNAME>
-Dflyway.domain.placeholders.apigateway.port=
<APIGATEWAY_ROUTER_PORT>
-Dflyway.domain.placeholders.USER.STORE= <USER.STORE>
-Dflyway.domain.placeholders.LDAP.CORS.allowed.origin= <LDAP_CORS>
```



```
-Dflyway.domain.placeHolders.LDAP.credential.SALT= <LDAP_CREDENTIALS_SALT>
-Dflyway.domain.placeHolders.JWT.EXPIRY.seconds= <JWT_EXPIRY_SECONDS>
-Dflyway.domain.placeHolders.LDAP.url = <LDAP_SERVER_URL >
-Dflyway.domain.placeHolders.LDAP.userId = <LDAP_SERVER_USER>
-Dflyway.domain.placeHolders.LDAP.server.base = <LDAP_SERVER_BASE>
-Dflyway.domain.placeHolders.LDAP.server.credential = <LDAP_CREDENTIALS>
-Dflyway.domain.placeHolders.LDAP.usersearch.base = <LDAP_USER_BASE>
-Dflyway.domain.placeHolders.LDAP.user.prefix = <LDAP_USER_PREFIX>
-Dflyway.domain.placeHolders.LDAP.provider = <LDAP_PROVIDER>
-Dflyway.domain.placeHolders.TOKEN.autoregenerate =
<TOKEN_AUTOREGENERATION>
-Dflyway.domain.placeHolders.SSO.enabled = <SSO_ENABLED>
-Dflyway.domain.placeHolders.TOKEN.regeneration.enabled =
<TOKEN_ALWAYSNEW_GENERATION >
-Dplato-api-gateway.enableAudit=true
```

//Plato Discovery Service

```
-Dflyway.domain.placeHolders.plato-discovery-
service.server.port=<DISCOVERY_SERVICE_PORT>
```

//Plato UI-Config Services

```
-Dflyway.domain.placeHolders.plato-ui-config-
services.server.port=<UICONFIG_SERVICE_PORT>
-Dflyway.domain.placeHolders.plato-ui-
config.username=<UICONFIG_SCHEMA_USERNAME>
-Dflyway.domain.placeHolders.plato-ui-
config.password=<UICONFIG_SCHEMA_PASSWORD>
-Dflyway.domain.placeHolders.plato-ui-config.jdbcUrl=<UICONFIG_SCHEMA_URL>
-Dflyway.domain.placeHolders.plato-ui-config.schemas=<UICONFIG_SCHEMA_NAME>
```

//Plato Apigateway Router Service

```
-Dflyway.domain.placeHolders.plato-apigateway-router.server.port=
<APIGATEWAY_ROUTER_PORT>
-Dflyway.domain.placeHolders.plato-apigateway
router.router.protocol=<ROUTER_PROTOCOL>
-Dflyway.domain.placeHolders.plato-apigateway-
router.router.meadmin.port=<ROUTER_PORT>
```

//Plato Feed Services

```
-Dflyway.domain.placeHolders.plato-feed-
services.feed.upload.directory=<FEED_SERVICE_UPLOAD_PATH>
-Dflyway.domain.placeHolders.plato-feed-
services.server.port=<FEED_SERVICE_PORT>
-Dflyway.domain.placeHolders.plato-feed-services.username=<FEED_DB_USERNAME>
-Dflyway.domain.placeHolders.plato-feed-services.password=<FEED_DB_PASSWORD>
```

```
-Dflyway.domain.placeholders.plato-feed-services.jdbcUrl=<FEED_DB_URL>
-Dflyway.domain.placeholders.plato-feed-
services.schemas=<FEED_SCHEMA_NAME>

//Plato Batch Server

-Dflyway.domain.placeholders.plato-batch-
server.server.port=<BATCH_SERVER_PORT>

-Dflyway.domain.placeholders.plato-batch-
server.plato.eventhub.kafka.brokers=<EVETNHUB_KAFKA_BROKERS>

-Dflyway.domain.placeholders.plato-batch-
server.plato.eventhub.zk.nodes=<ZK_NODES>

-Dflyway.domain.placeholders.plato-batch-
server.username=<BATCH_SCHEMA_USERNAME>

-Dflyway.domain.placeholders.plato-batch-
server.password=<BATCH_SCHEMA_PASSWORD>

-Dflyway.domain.placeholders.plato-batch-
server.jdbcUrl=<BATCH_SCHEMA_URL>

-Dflyway.domain.placeholders.plato-batch-
server.schemas=<BATCH_SCHEMA_NAME>

// Plato-Alerts-Management-Services

-Dflyway.domain.placeholders.plato-alerts-management-
services.server.port=<ALERTS-MANAGEMENT-SERVER-PORT>

-Dflyway.domain.placeholders.plato-alerts-management-
services.plato.eventhub.kafka.brokers=<EVETNHUB_KAFKA_BROKERS>

-Dflyway.domain.placeholders.plato-alerts-management-
services.plato.eventhub.zk.nodes=<ZK_NODES>

-Dflyway.domain.placeholders.plato-alerts-management-
services.username=<ALERTS_SCHEMA_USERNAME>

-Dflyway.domain.placeholders.plato-alerts-management-
services.password=<ALERTS_SCHEMA_PASSWORD>

-Dflyway.domain.placeholders.plato-alerts-management-
services.jdbcUrl=<ALERTS_SCHEMA_URL>

-Dflyway.domain.placeholders.plato-alerts-management-
services.schemas=<ALERTS_SCHEMA_NAME>

//Plato Orch Service

-Dflyway.domain.placeholders.plato-orch-
service.server.port=<ORCH_SERVICE_PORT>

-Dflyway.domain.placeholders. plato-orchestrator.hostname=<CONDUCTOR-
EUREKA-HOSTNAME >

//Plato Transport Service

Dflyway.domain.placeholders.transport.config.db.jndi=$
{PLATOTRANSPORT_JNDI}

Dflyway.domain.placeholders.transport.config.schemas=$
{PLATOTRANSPORT_SCHEMA}
```

Dflyway.domain.placeholders.plato-transport-services.coherence.enabled=false

//Conductor

-Dconductor.properties=<CONDUCTOR_CONFIG_FILE_PATH>

//Plato Regional Configurator Service

-Dflyway.domain.placeholders.plato-regional-configurator-

services.server.port=<REGIONAL_CONFIGURATOR_SERVICE_PORT>

-Dflyway.domain.placeholders.plato-regional-configurator-services.locations =

- “db/migration/domain/obrc” (By default)

- “db/migration/domain/obrc, db/migration/domain<YOUR DOMAINS>”

-Dflyway.domain.placeholders.plato-regional-configurator-services.schemas = “OBRC”

-Dflyway.domain.placeholders.plato-regional-configurator-services.db.jndi = “jdbc/OBRC”

-Dflyway.domain.placeholders.plato-regional-configurator-

services.username=<OBRC_SCHEMA_USERNAME>

-Dflyway.domain.placeholders.plato-regional-configurator-

services.password=<OBRC_SCHEMA_PASSWORD>

//Common core NLP services

-Dflyway.domain.placeholders.cmc-nlp-annotator-

services.server.port=<CMC_NLP_ANNOTATOR_SERVICES_PORT>

-Dflyway.domain.placeholders.cmc-nlp-dashboard-widget-

services.server.port=<CMC_NLP_DASHBOARD_SERVICES_PORT>

-Dflyway.domain.placeholders.cmc-nlp-model-mngmnt-

services.server.port=<CMC_NLP_MODEL_MANGEMENT_PORT>

-Dflyway.domain.placeholders.cmc-nlp-online-processing-

services.server.port=<CMC_NLP_ONLINE_PROCESSING_PORT>

-Dflyway.domain.placeholders.cmc-nlp-tag-maint-

services.server.port=<CMC_NLP_TAG_MAINTENANCE_PORT>

-Dflyway.domain.placeholders.cmc-nlp-text-extraction-

services.server.port=<CMC_NLP_TEXT_EXTRACTION_PORT>

-Dflyway.domain.placeholders.cmc-nlp-txn-log-

services.server.port=<CMC_NLP_TXN_LOG_SERVICES_PORT>

-Dflyway.domain.placeholders.cmc-nlp-util-

services.server.port=<CMC_NLP_UTIL_SERVICES_PORT>

// Common core NLP Poller service

-Dflyway.domain.placeholders.cmc-fc-ai-ml-services.server.port=<Server_Port>

-Dflyway.domain.placeholders.cmc-fc-ai-ml-services.server.postingPath=<Posting_Path>

-Dflyway.domain.placeholders.cmc-fc-ai-ml-services.server.pollingPath=<Polling_Path>

-Dflyway.domain.placeholders.cmc-fc-ai-ml-services.server.pollingEmail=<Polling_Email>

-Dflyway.domain.placeholders.cmc-fc-ai-ml-

services.server.emailServerHost=<Email_Server_Host>

-Dflyway.domain.placeholders.cmc-fc-ai-ml-

services.server.emailServerPort=<Email_Server_PORT>

```
-Dflyway.domain.placeholders.cmc-fc-ai-ml-
services.server.pollingFrequency=<Polling_Frequency>

-Dflyway.domain.placeholders.cmc-fc-ai-ml-
services.server.pollerInitialDelay=<Poller_Initial_Delay>

-Dflyway.domain.placeholders.cmc-fc-ai-ml-
services.server.emailPassword=<Poller_Email_Password>

// Common Core Interest Rate Service

-Dflyway.domain.placeHolders.cmc-interest-rate-services.server.port=<8020>

-Dflyway.domain.placeHolders.cmc-interest-rate-services.schemas=<CMNCORE>

-Dflyway.domain.placeHolders.cmc-interest-rate-
services.coherence.enabled=<false>
```

1.2 Method 2 – Via Passing the -D params in the Server Start Argument

This topic provides the systematic instructions to run the Oracle Banking Microservices Architecture services by passing the -D params in the Server start argument.

All the above mentioned -D parameters can be passed through the Server start argument in the respective managed server.

1. On **Domain Structure**, click **Environment**. Under **Environment**, click **Servers**.

The **Summary of Servers** screen displays.

Figure 1-1 Summary of Servers

Summary of Servers

Configuration Control

A server is an instance of WebLogic Server that runs in its own Java Virtual Machine (JVM) and has its own configuration.
This page summarizes each server that has been configured in the current WebLogic Server domain.

Customize this table

Servers (Filtered - More Columns Exist)

Click the **Lock & Edit** button in the Change Center to activate all the buttons on this page.

New Clone Delete Showing 1 to 2 of 2 Previous Next

Name	Type	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)	Configured		whf00dxc	RUNNING	OK	7001
managed1_server	Configured		whf00dxc	RUNNING	OK	7003

New Clone Delete Showing 1 to 2 of 2 Previous Next

2. On the **Servers (Filtered - More Columns Exist)** table, click managed server to pass the values.

The **Settings for managed server** tab displays.

Figure 1-2 Settings for managed server

Settings for managed1_server

Configuration Protocols Logging Debug Monitoring Control Deployments Services Security Notes

General Cluster Services Keystores SSL Federation Services Deployment Migration Tuning Overload Concurrency Health Monitoring **Server Start**

Web Services Coherence

Click the **Lock & Edit** button in the Change Center to modify the settings on this page.

Save

Node Manager is a WebLogic Server utility that you can use to start, suspend, shut down, and restart servers in normal or unexpected conditions. Use this page to configure the startup settings that Node Manager will use to start this server on a remote machine.

Java Home: The Java home directory (path on the machine running Node Manager) to use when starting this server. [More Info...](#)

Java Vendor: The Java Vendor value to use when starting this server. [More Info...](#)

BEA Home: The BEA home directory (path on the machine running Node Manager) to use when starting this server. [More Info...](#)

Root Directory: The directory that this server uses as its root directory. This directory must be on the computer that hosts Node Manager. If you do not specify a Root Directory value, the domain directory is used by default. [More Info...](#)

Class Path: The classpath (path on the machine running Node Manager) to use when starting this server. [More Info...](#)

3. On **Settings for managed server** tab, select **Server Start** tab.
4. Edit the **Arguments** field and pass all the environment parameters required for the service to run.

Figure 1-3 Arguments

Node Manager is a WebLogic Server utility that you can use to start, suspend, shut down, and restart servers in normal or unexpected conditions. Use this page to configure the startup settings that Node Manager will use to start this server on a remote machine.

Java Home: The Java home directory (path on the machine running Node Manager) to use when starting this server. [More Info...](#)

Java Vendor: The Java Vendor value to use when starting this server. [More Info...](#)

BEA Home: The BEA home directory (path on the machine running Node Manager) to use when starting this server. [More Info...](#)

Root Directory: The directory that this server uses as its root directory. This directory must be on the computer that hosts Node Manager. If you do not specify a Root Directory value, the domain directory is used by default. [More Info...](#)

Class Path: The classpath (path on the machine running Node Manager) to use when starting this server. [More Info...](#)

Arguments: The arguments to use when starting this server. [More Info...](#)

```
-Deureka.server.enable-self-preservation=false
-Deuring.flyway.enabled=false -Dflyway.enabled=false
-Deureka.client.serviceUrl.defaultZone=http://whf00dkx:7003
/plato-discovery-service/eureka -Dserver.port=7003
```

5. Save the configuration and restart the managed server.
After restart, the service can be started or deployed properly.

1.3 Method 3 – Using env files and setUserOverrides.sh file

This topic provides the systematic instructions to run Oracle Banking Microservices Architecture services by using env files and setUserOverrides.sh file.

1. Copy the **setUserOverrides.sh** file to each of the <domain>/bin folder.

The example of the file is given below:

```
#!/bin/bash
# shellcheck disable=SC1090
# Common functions

set -e -x

config_file=""
PLATO_CONFIG_MANAGED_SERVER_NAME=""

# This file is used only for PLATO-CONFIG service
plato_config_file="${DOMAIN_HOME}/bin/plato-config-deploy.env"

# This file is used for rest of the services
domain_config_file="${DOMAIN_HOME}/bin/domain-config-deploy.env"

if [ -f "$plato_config_file" ] ; then
    PLATO_CONFIG_MANAGED_SERVER_NAME=`cat ${DOMAIN_HOME}/bin/plato-
config-deploy.env | grep "PLATO_CONFIG_MANAGED_SERVER_NAME" | cut -
d=' ' -f2`
fi
if [ "${SERVER_NAME}" = "${PLATO_CONFIG_MANAGED_SERVER_NAME}" ] ;
then
    # This will get executed only for Plato-config service entries
    config_file="${plato_config_file}"
fi
if [ -f "$config_file" ]
then
    while read -r prop || [ -n "$prop" ]
    do
        case "$prop" in \#*) continue ;; esac
        if [ -z "${prop}" ]; then
            continue
        else
            PLACEHOLDERS=${PLACEHOLDERS}" "${(echo -D$prop)}
            PLACEHOLDERS="${PLACEHOLDERS}"
        fi
    done < "$config_file"
else
    echo "$config_file not found. please provide the property file
to set -D parameter"
    exit 1
fi

PLACEHOLDERS="${PLACEHOLDERS}"
```

```
JAVA_OPTIONS="${JAVA_OPTIONS}${PLACEHOLDERS}"  
  
export JAVA_OPTIONS  
  
echo "${JAVA_OPTIONS}"
```

2. Place the **env** files containing all the key value pairs of the **-D params** in the respective <domain>/env folder.

The `plato-config-deploy.env` file contains all the key value pairs specific only to the `plato-config-service` and need to be placed in the bin folder of the `plato-domain`. The `domain-config-deploy.env` file contains the key-value pairs for the rest of the services and should be placed in each <domain>/bin folder.

Sample file for **plato-config-deploy.env** is given below:

```
### Managed server name of plato-config service ###  
PLATO_CONFIG_MANAGED_SERVER_NAME=  
  
### plato config flyway connection entries ###  
flywayTask=migrate  
flyway.enabled=true  
spring.flyway.enabled=false  
plato-config.flyway.domain.db.username=  
plato-config.flyway.domain.db.password=  
plato-config.flyway.domain.db.jdbcUrl=  
plato-config.flyway.domain.schemas=  
plato-config.flyway.domain.locations=db/migration/domain/plato,db/  
migration/domain/sms,db/migration/domain/cmc,db/migration/domain/obvam  
  
#### Kafka properties for all services ####  
flyway.domain.placeholders.plato.eventhub.broker.hosts=  
flyway.domain.placeholders.plato.eventhub.zookeeper.hosts=  
  
#### Kafka Security for all services ####  
flyway.domain.placeholders.plato.eventhub.broker.hosts=  
flyway.domain.placeholders.plato.eventhub.zookeeper.hosts=  
flyway.domain.placeholders.kafka.ssl.truststore.location=  
flyway.domain.placeholders.kafka.ssl.truststore.password=  
flyway.domain.placeholders.kafka.broker.username=  
flyway.domain.placeholders.kafka.broker.password=  
  
### common entries for all services ###  
flyway.domain.placeholders.driver.className=oracle.jdbc.driver.OracleDrive  
r  
spring.cloud.loadbalancer.ribbon.enabled=false  
spring.main.allow-circular-references=true  
  
### eureka entries for all services ###  
flyway.domain.placeholders.eureka.host=  
flyway.domain.placeholders.eureka.port=  
  
### zipkin entries for all services ###  
flyway.domain.placeholders.zipkin.host=  
flyway.domain.placeholders.zipkin.port=
```

```

### plato config flyway placeholder entries ###
flyway.domain.placeholders.plato-config.username=
flyway.domain.placeholders.plato-config.password=
flyway.domain.placeholders.plato-config.jdbcUrl=
flyway.domain.placeholders.plato-config.schemas=
flyway.domain.placeholders.plato-config.sessionIdleTimeout=
flyway.domain.placeholders.plato-config.sessionIdleWarningTime=
flyway.domain.placeholders.plato-config.environment=

### plato api-gateway flyway placeholder entries ###
flyway.domain.placeholders.api-gateway.host=
flyway.domain.placeholders.api-gateway.username=
flyway.domain.placeholders.api-gateway.password=
flyway.domain.placeholders.api-gateway.jdbcUrl=
flyway.domain.placeholders.api-gateway.schemas=
flyway.domain.placeholders.plato-api-gateway.server.port=

### plato api-gateway LDAP flyway placeholder entries ###
flyway.domain.placeholders.USER.STORE=
flyway.domain.placeholders.LDAP.CORS.allowed.origin=
flyway.domain.placeholders.LDAP.credential.SALT=
flyway.domain.placeholders.JWT.EXPIRY.seconds=
flyway.domain.placeholders.LDAP.url=
flyway.domain.placeholders.LDAP.userId=
flyway.domain.placeholders.LDAP.server.base=
flyway.domain.placeholders.LDAP.server.credential=
flyway.domain.placeholders.LDAP.usersearch.base=
flyway.domain.placeholders.LDAP.user.prefix=
# Allowed values for LDAP provider are: EMBEDDED_WEBLOGIC, PLATO
# If LDAP is running in webllogic then value should be
EMBEDDED_WEBLOGIC
# If spring based LDAP(which is run through a jar provided) is
used, then the value should be PLATO
flyway.domain.placeholders.LDAP.provider=
flyway.domain.placeholders.TOKEN.autoregenerate=
flyway.domain.placeholders.SSO.enabled=
flyway.domain.placeholders.TOKEN.regeneration.enabled=

### plato-ui-config flyway placeholder entries ###
flyway.domain.placeholders.plato-ui-config.username=
flyway.domain.placeholders.plato-ui-config.password=
flyway.domain.placeholders.plato-ui-config.jdbcUrl=
flyway.domain.placeholders.plato-ui-config.schemas=
flyway.domain.placeholders.plato-ui-config-services.server.port=
flyway.domain.placeholders.apigateway.host=
flyway.domain.placeholders.apigateway.port=

### plato-discovery flyway placeholder entries ###
flyway.domain.placeholders.plato-discovery-service.server.port=

### plato-apigateway-router flyway placeholder entries ###
flyway.domain.placeholders.plato-apigateway-router.server.port=
flyway.domain.placeholders.plato-apigateway-router.router.protocol=
flyway.domain.placeholders.plato-apigateway-
router.router.meadmin.port=

```



```
### plato-orch flyway placeholder entries ###
flyway.domain.placeholders.plato-orch-service.server.port=
flyway.domain.placeholders.plato-orchestrator.hostname=

### plato-feed flyway placeholder entries ###
flyway.domain.placeholders.plato-feed-services.username=
flyway.domain.placeholders.plato-feed-services.password=
flyway.domain.placeholders.plato-feed-services.jdbcUrl=
flyway.domain.placeholders.plato-feed-services.jndi=jdbc/PLATOFEED
flyway.domain.placeholders.plato-feed-services.schemas=
flyway.domain.placeholders.plato-feed-services.feed.upload.directory=
flyway.domain.placeholders.plato-feed-services.server.port=

### plato-batch flyway placeholder entries ###
flyway.domain.placeholders.plato-batch-server.username=
flyway.domain.placeholders.plato-batch-server.password=
flyway.domain.placeholders.plato-batch-server.jdbcUrl=
flyway.domain.placeholders.plato-batch-server.schemas=
flyway.domain.placeholders.plato-batch-server.server.port=
flyway.domain.placeholders.plato-batch-
server.plato.eventhub.kafka.brokers=
flyway.domain.placeholders.plato-batch-server.plato.eventhub.zk.nodes=
flyway.domain.placeholders.plato-batch-server.jndi=jdbc/PLATOBATCH

### plato-alerts-management flyway placeholder entries ###
flyway.domain.placeholders.plato-alerts-management-services.username=
flyway.domain.placeholders.plato-alerts-management-services.password=
flyway.domain.placeholders.plato-alerts-management-services.jdbcUrl=
flyway.domain.placeholders.plato-alerts-management-services.schemas=
flyway.domain.placeholders.plato-alerts-management-services.server.port=

### sms flyway placeholder entries ###
flyway.domain.placeholders.sms-core-services.server.port=
flyway.domain.placeholders.sms.username=
flyway.domain.placeholders.sms.password=
flyway.domain.placeholders.sms.jdbcUrl=
flyway.domain.placeholders.sms.schemas=

### cmncore flyway placeholder entries ###
flyway.domain.placeholders.cmncore.username=
flyway.domain.placeholders.cmncore.password=
flyway.domain.placeholders.cmncore.jdbcUrl=
flyway.domain.placeholders.cmncore.schemas=
flyway.domain.placeholders.cmc-corebanking-adapter-service.server.port=
flyway.domain.placeholders.cmc-currency-services.server.port=
flyway.domain.placeholders.cmc-account-services.server.port=
flyway.domain.placeholders.cmc-base-services.server.port=
flyway.domain.placeholders.cmc-external-virtual-account-
services.server.port=
flyway.domain.placeholders.cmc-branch-services.server.port=
flyway.domain.placeholders.cmc-customer-services.server.port=
flyway.domain.placeholders.cmc-external-chart-account-
services.server.port=
flyway.domain.placeholders.cmc-external-system-services.server.port=
```

```

flyway.domain.placeholders.cmc-advice-services.server.port=
flyway.domain.placeholders.cmc-facilities-services.server.port=
flyway.domain.placeholders.cmc-txn-code-services.server.port=
flyway.domain.placeholders.cmc-settlement-services.server.port=
flyway.domain.placeholders.cmc-businessoverrides-
services.server.port=
flyway.domain.placeholders.cmc-resource-segment-orchestrator-
service.server.port=
flyway.domain.placeholders.cmc-screenclass-services.server.port=
flyway.domain.placeholders.cmc-datasegment-services.server.port=
flyway.domain.placeholders.cmc-settlements-services.server.port=
flyway.domain.placeholders.cmc-transactioncontroller-
services.server.port=
flyway.domain.placeholders.cmc-report-services.server.port=
flyway.domain.placeholders.cmc-nlp-annotator-services.server.port=
flyway.domain.placeholders.cmc-nlp-dashboard-widget-
services.server.port=
flyway.domain.placeholders.cmc-nlp-model-mngmnt-
services.server.port=
flyway.domain.placeholders.cmc-nlp-online-processing-
services.server.port=
flyway.domain.placeholders.cmc-nlp-tag-maint-services.server.port=
flyway.domain.placeholders.cmc-nlp-text-extraction-
services.server.port=
flyway.domain.placeholders.cmc-nlp-txn-log-services.server.port=
flyway.domain.placeholders.cmc-nlp-util-services.server.port=
flyway.domain.placeholders.cmc-batch-services.server.port=
flyway.domain.placeholders.cmc-fc-ai-ml-services.server.port=
flyway.domain.placeholders.cmc-fc-ai-ml-services.postingPath=
flyway.domain.placeholders.cmc-fc-ai-ml-services.pollingEmail=
flyway.domain.placeholders.cmc-fc-ai-ml-services.emailServerPort=
flyway.domain.placeholders.cmc-fc-ai-ml-services.emailServerHost=
flyway.domain.placeholders.cmc-fc-ai-ml-services.pollingFrequency=
flyway.domain.placeholders.cmc-fc-ai-ml-services.pollerInitialDelay=
flyway.domain.placeholders.cmc-fc-ai-ml-services.emailPassword=
flyway.domain.placeholders.cmc-fc-ai-ml-services.pollingPath=

### biPublisher related cmc-report-service entries ###
flyway.domain.placeholders.weblogic.userid=
flyway.domain.placeholders.weblogic.password=
flyway.domain.placeholders.biPublisher.host=
flyway.domain.placeholders.biPublisher.port=
flyway.domain.placeholders.runReportTemplate=
flyway.domain.placeholders.emailTemplate=
flyway.domain.placeholders.dms.host=
flyway.domain.placeholders.dms.port=

### flyway jndi connection details for shared services placeholder
entries ###
flyway.domain.placeholders.plato.jndi=jdbc/PLATO
flyway.domain.placeholders.plato-config.jndi=jdbc/PLATO
flyway.domain.placeholders.plato-sec.jndi=jdbc/PLATO_SECURITY
flyway.domain.placeholders.plato-ui-config.jndi=jdbc/PLATO_UI_CONFIG
flyway.domain.placeholders.sms.jndi=jdbc/sms
flyway.domain.placeholders.cmncore.jndi=jdbc/CMNCORE

```

```
### flyway jndi connection details for obvam services placeholder entries
###
flyway.domain.placeholders.eie.jndi=jdbc/EIE
flyway.domain.placeholders.eie.server.port=
flyway.domain.placeholders.eie.schemas=

flyway.domain.placeholders.elm.jndi=jdbc/ELM
flyway.domain.placeholders.elm.server.port=
flyway.domain.placeholders.elm.schemas=

flyway.domain.placeholders.vam.jndi=jdbc/VAM
flyway.domain.placeholders.vam.server.port=
flyway.domain.placeholders.vam.schemas=

flyway.domain.placeholders.vac.jndi=jdbc/VAC
flyway.domain.placeholders.vac.server.port=
flyway.domain.placeholders.vac.schemas=

flyway.domain.placeholders.vab.jndi=jdbc/VAB
flyway.domain.placeholders.vab.server.port=
flyway.domain.placeholders.vab.schemas=

flyway.domain.placeholders.vae.jndi=jdbc/VAE
flyway.domain.placeholders.vae.server.port=
flyway.domain.placeholders.vae.schemas=

flyway.domain.placeholders.eda.jndi=jdbc/EDA
flyway.domain.placeholders.eda.server.port=
flyway.domain.placeholders.eda.schemas=

flyway.domain.placeholders.vai.jndi=jdbc/VAI
flyway.domain.placeholders.vai.server.port=
flyway.domain.placeholders.vai.schemas=

flyway.domain.placeholders.van.jndi=jdbc/VAN
flyway.domain.placeholders.van.server.port=
flyway.domain.placeholders.van.schemas=

flyway.domain.placeholders.vap.jndi=jdbc/VAP
flyway.domain.placeholders.vap.server.port=
flyway.domain.placeholders.vap.schemas=

flyway.domain.placeholders.vas.jndi=jdbc/VAS
flyway.domain.placeholders.vas.server.port=
flyway.domain.placeholders.vas.schemas=

flyway.domain.placeholders.vat.jndi=jdbc/VAT
flyway.domain.placeholders.vat.server.port=
flyway.domain.placeholders.vat.schemas=
flyway.domain.placeholders.vaj.server.port=
flyway.domain.placeholders.platoorch.domain.jndi=jdbc/PLATO-O
flyway.domain.placeholders.platoorch.domain.schemas=
flyway.domain.placeholders.plato.alerts.email.userId=
flyway.domain.placeholders.plato.alerts.email.password=
```

```

flyway.domain.placeholders.plato.alerts.cmc.userId=
flyway.domain.placeholders.plato.alerts.cmc.branchCode=
flyway.domain.placeholders.plato.alerts.cmc.appId=
flyway.domain.placeholders.plato-rule.hostname=
flyway.domain.placeholders.plato-rule-service.server.port=
flyway.domain.placeholders.platorule.domain.jndi=
flyway.domain.placeholders.platorule.domain.schemas=
flyway.domain.placeholders.obrh.import.data.disable-modify=
flyway.domain.placeholders.cmc-obrh-services.kafka.server.path=
flyway.domain.placeholders.cmc-obrh-services.zookeeper.server.path=
flyway.domain.placeholders.cmc.schemas=
flyway.domain.placeholders.cmc-nlp-opennlp-services.server.port=
flyway.domain.placeholders.cmc-nlp-maintenance-services.server.port=
flyway.domain.placeholders.cmc-nlp-pipeline-services.server.port=
flyway.domain.placeholders.cmc-nlp-docview-services.server.port=
flyway.domain.placeholders.cmc-ml-indb-services.server.port=
flyway.domain.placeholders.cmc-obrh-services.kafka.enabled=
flyway.domain.placeholders.cmc-sla-services.server.port=
flyway.domain.placeholders.cmc-obcbs-services.schemas=
flyway.domain.placeholders.obcbs.server.port=
flyway.domain.placeholders.orch.cmc.brn=
flyway.domain.placeholders.orch.cmc.user=
flyway.domain.placeholders.orch.enableDynamicAllocation=
flyway.domain.placeholders.orch.enableSLA=
flyway.domain.placeholders.report-service.server.port=
flyway.domain.placeholders.report-service.hostname=
flyway.domain.placeholders.report-service.domain.jndi=jdbc/
PLATOREPORT
flyway.domain.placeholders.report-service.template-metadata-
directory=
flyway.domain.placeholders.report-service.output-directory=
flyway.domain.placeholders.report-service.fop-config-file=

### generic entries for all services ###
spring.cloud.config.uri=
apigateway.url=
service.logging.environment=
service.logging.path=

```

Sample file for **domain-config-deploy.env** is given below:

```

### domain config flyway connection entries ###
flywayTask=migrate
flyway.enabled=true
spring.flyway.enabled=false

### generic entries for all services ###
spring.cloud.config.uri=
apigateway.url=
service.logging.environment=
service.logging.path=

```

1.4 Method 4 – Workflow Configuration

This topic provides the systematic instructions to run Oracle Banking Microservices Architecture services through workflow configuration.

1. Create Metadata of the workflow.

The sample DSL for workflow creation is given below:

```
{
  "name": "initialTest",
  "description": "Test workflow",
  "version": 4,
  "tasks": [
    {
      "name": "TEST",
      "taskReferenceName": "TESTING3",
      "description": "TESTING2",
      "inputParameters": {
        "FUNCTIONAL_CODE": "TEST_FA_ILS_REGTN2",
        "processRefNo":
"${workflow.input.transactionModel.txnIdentification.processRefNo}",
        "processName": "Testing Process2",
        "processCode":
"${workflow.input.transactionModel.txnIdentification.processName}",
        "transactionModel": "${workflow.input.transactionModel}",
        "stage": "TESTING2",
        "priority":
${workflow.input.transactionModel.transactionData.moduleData.taskPriority}
      },
      "applicationDate":
"${workflow.input.transactionModel.txnIdentification.applicationDate}",
      "applicationNumber":
"${workflow.input.transactionModel.txnIdentification.processRefNo}",
      "processRefNumber":
"${workflow.input.transactionModel.txnIdentification.processRefNo}",
      "branch": "${workflow.input.transactionModel.txnIdentification.branchCode}",
      "user": "${workflow.input.transactionModel.txnIdentification.currentUser}",
      "customerNumber":
"${workflow.input.transactionModel.transactionData.moduleData.customerId}",
      "amount":
"${workflow.input.transactionModel.transactionData.moduleData.amount}",
      "currencyCode":
"${workflow.input.transactionModel.transactionData.moduleData.currency}",
      "TASK_OUTCOMES": [
        "PROCEED"
      ]
    }
  ]
}
```

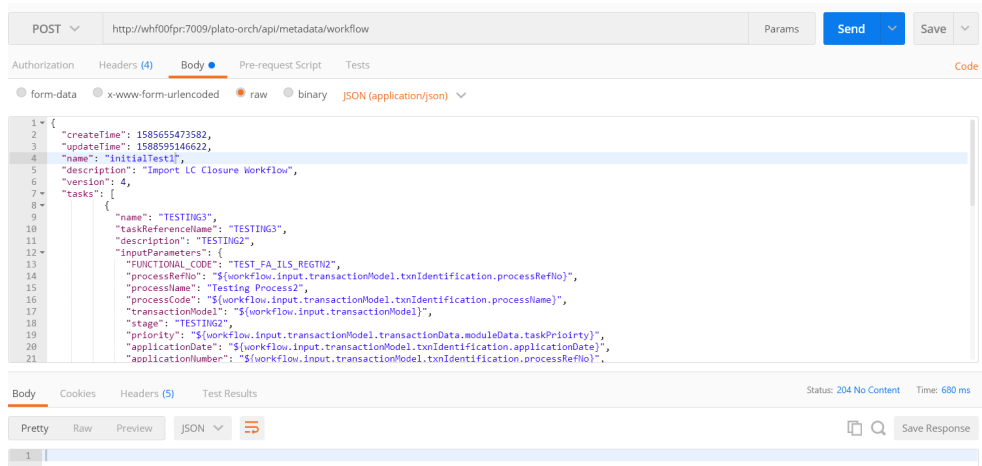
```

    "moduleCode": "OBTFPM",
    "customFilter": [
      {
        "key": "contractRefNo",
        "label": "Back Office Reference"
      },
      {
        "key": "otherRefNo",
        "label": "External Reference"
      }
    ],
    "type": "WAIT",
    "startDelay": 0,
    "optional": false,
    "asyncComplete": false
  },
  ],
  "outputParameters": {
    "stage": "CLMO_FA_SNPOAR_APPEN",
    "taskOutcome": "PROCEED_WITH_PARTICIPANT"
  },
  "schemaVersion": 2,
  "restartable": true,
  "workflowStatusListenerEnabled": false
}

```

Call the API (/api/metadata/workflow) and pass the DSL in body. The below screen depicts the sample workflow

Figure 1-4 Body



- For workflow creation, call the API (/api/workflow) to create the workflow. This API provides the information to the workflow metadata which is created using previous call.

```

{
  "name": "initialTest",
  "description": "initialTest",

```

```

"version": 4,
"input": {
  "transactionModel": {
    "transactionData": {
      "moduleData": {
        "amount": 122,
        "currency": "GBP",
        "customerId": "001506",
        "customerName": "MARKS AND SPENCER",
        "taskPriority": "H"
      }
    }
  },
  "txnIdentification": {
    "branchCode": "000",
    "currentStage": "TEST_FA_ILS_REGTN2",
    "currentUser": "SWAGATIKA",
    "key1": "Desk",
    "moduleCode": "TRMO",
    "processName": "Testing Process2",
    "processRefNo": "300ILCI012260",
    "applicationDate": 1588582461960,
    "taskOutcome": "PROCEED",
    "taskPriority": "H"
  }
}
}
}
}

```

Pass the DSL in body. The below screen depicts the sample workflow:

Figure 1-5 Body

The screenshot shows a REST client interface with the following details:

- Method:** POST
- URL:** http://whf00fpr:7009/plato-orch/api/workflow
- Body Type:** raw (JSON (application/json))
- Request Body (JSON):**

```

1 {
2   "name": "InitialTest1",
3   "description": "Import LC Closure Workflow",
4   "version": 4,
5   "input": {
6     "transactionModel": {
7       "transactionData": {
8         "moduleData": {
9           "amount": 122,
10          "currency": "GBP",
11          "customerId": "001506",
12          "customerName": "MARKS AND SPENCER",
13          "taskPriority": "H"
14        }
15      }
16    },
17    "txnIdentification": {
18      "branchCode": "000",
19      "currentStage": "TEST_FA_ILS_REGTN2",
20      "currentUser": "SWAGATIKA",
21      "key1": "Desk",
22      "moduleCode": "TRMO",

```
- Status:** 200 OK
- Time:** 187272 ms
- Response:** 1 151d78d7-6711-46ae-be15-bf7b558c4b36

2

Domain Creation and Cluster Configuration

This topic provides the information about the domain creation instructions, cluster configuration, and post domain creation configurations.

- [Create Domain and Cluster Configuration](#)
This topic provides the systematic instructions to create domain and cluster configuration.
- [Post Domain Creation Configurations](#)
This topic provides the systematic instructions for the configurations to be performed once the domain is created.

2.1 Create Domain and Cluster Configuration

This topic provides the systematic instructions to create domain and cluster configuration.



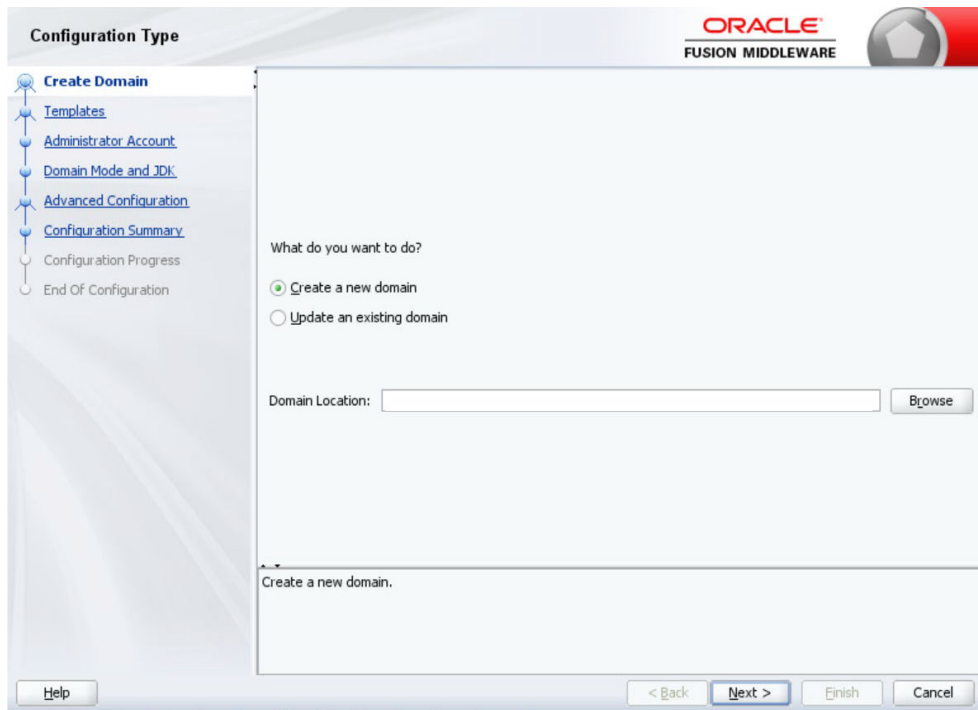
Note:

Names need not to be same as provided in the screenshot.

1. Open `/oracle_common/common/bin` and run **config.cmd** (or **.sh** if operating system is linux).
2. Create domain with required cluster and server configurations. Refer to the screenshots below.
3. Select **Create a new domain** and specify the domain name. For example, **platoinfra_domain**.

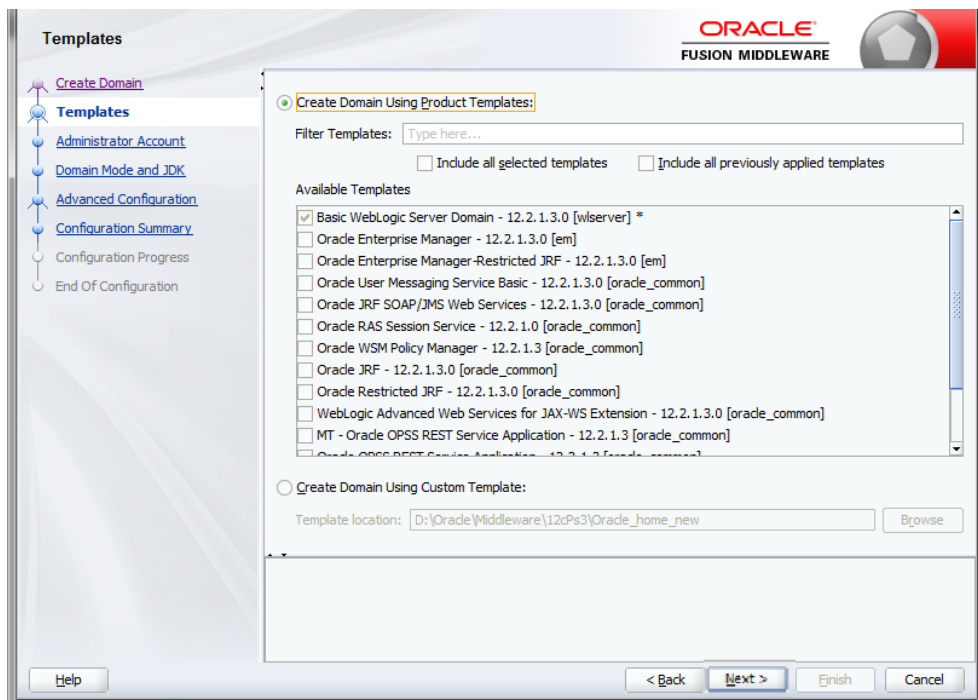
The **Create Domain** screen displays.

Figure 2-1 Create Domain



4. Click **Next**.
The **Templates** screen displays.

Figure 2-2 Templates



5. Click **Next** to create simple domain with default templates.

The **Administrator Account** screen displays.

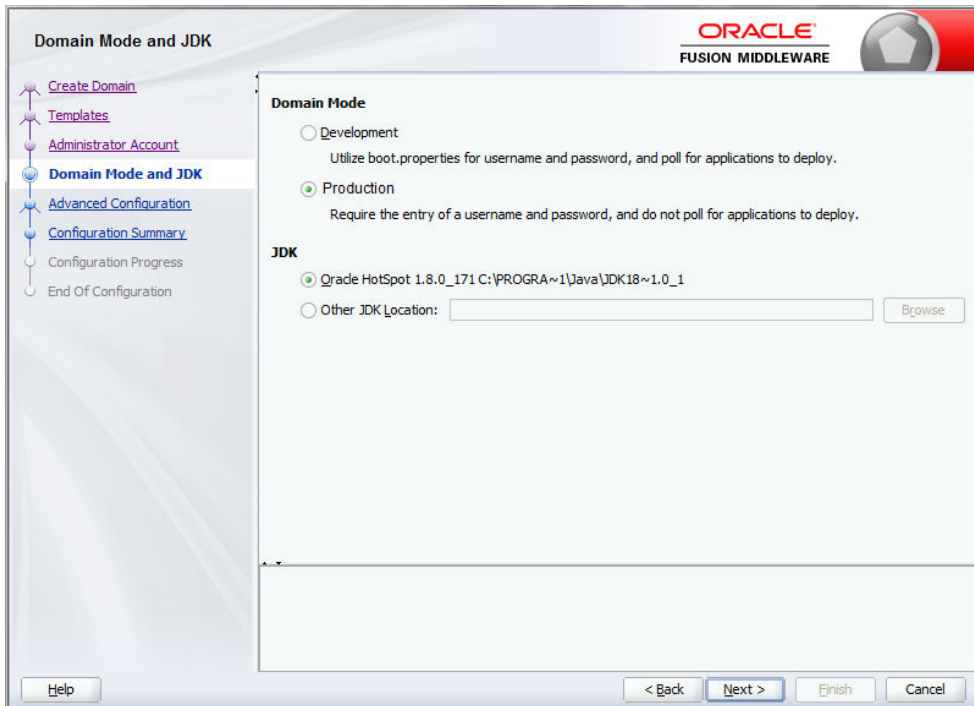
Figure 2-3 Administrator Account

The screenshot shows the 'Administrator Account' configuration window. The title bar includes the Oracle logo and 'FUSION MIDDLEWARE'. On the left is a navigation pane with the following items: 'Create Domain', 'Templates', 'Administrator Account' (highlighted), 'Domain Mode and JDK', 'Advanced Configuration', 'Configuration Summary', 'Configuration Progress', and 'End Of Configuration'. The main area contains three input fields: 'Name' (with the value 'weblogic'), 'Password', and 'Confirm Password'. Below the fields is a text box with the password requirements: 'Must be the same as the password. Password must contain at least 8 alphanumeric characters with at least one number or special character.' At the bottom are buttons for 'Help', '< Back', 'Next >', 'Finish', and 'Cancel'.

6. Fill the fields **Password** and **Confirm Password** to set the password, and click **Next** to proceed.

The **Domain Mode and JDK** screen displays.

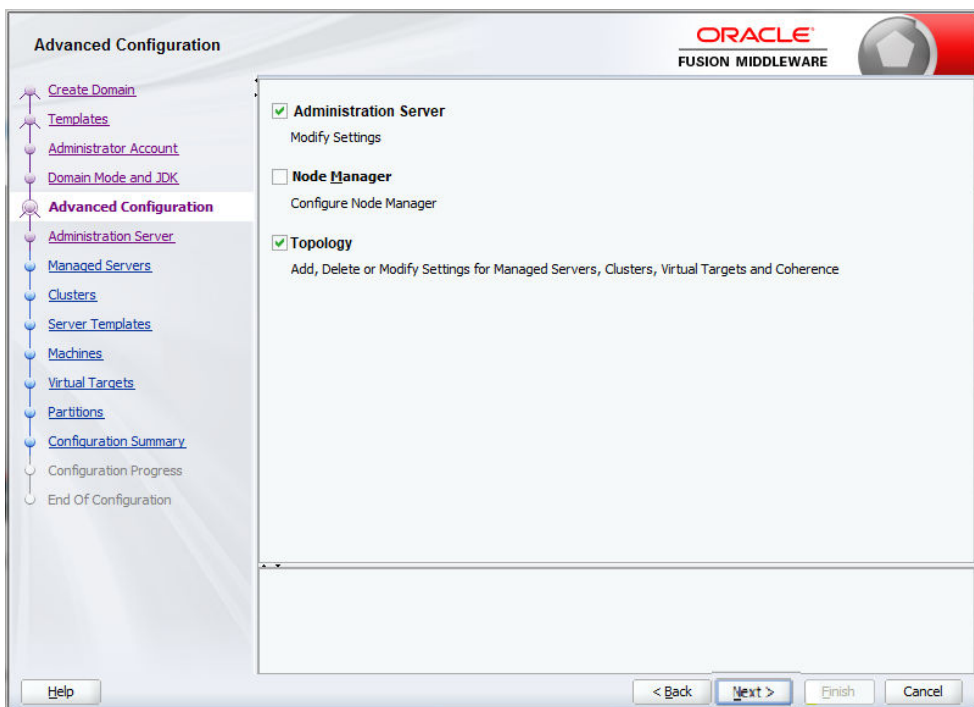
Figure 2-4 Domain Mode and JDK



7. Select **Domain Mode** as **Production**.
8. Select **JDK**, and click **Next**.

The **Advanced Configuration** screen displays.

Figure 2-5 Advanced Configuration



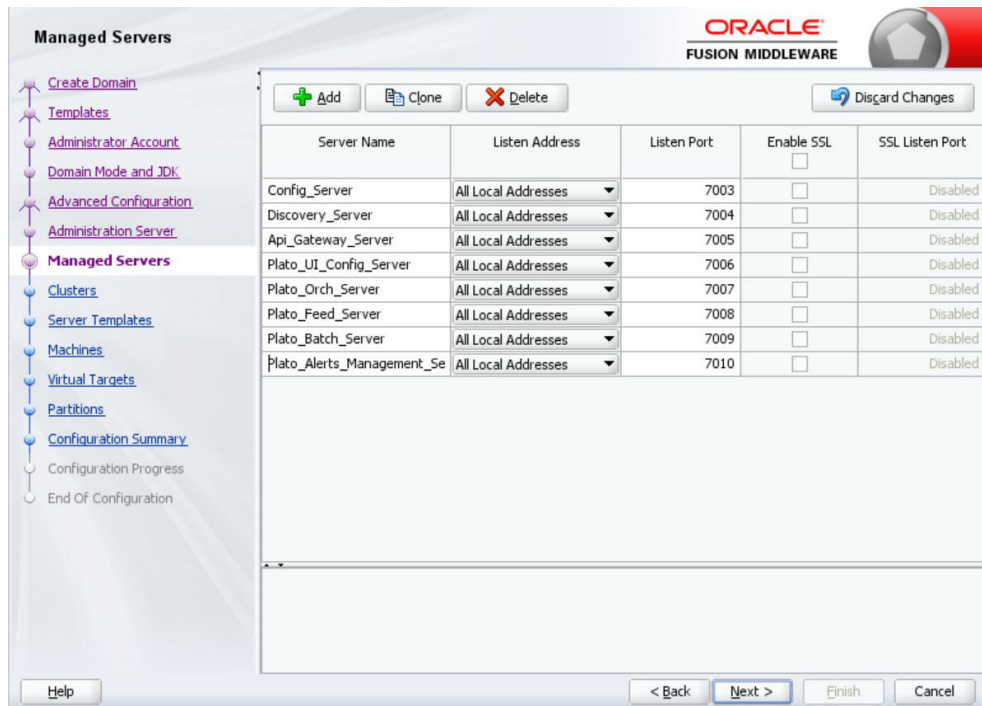
9. Select **Administration Server** and **Topology**, and click **Next**.
The **Administration Server** screen displays.

Figure 2-6 Administration Server

The screenshot shows the 'Administration Server' configuration window. On the left is a navigation tree with the following items: Create Domain, Templates, Administrator Account, Domain Mode and JDK, Advanced Configuration, **Administration Server** (highlighted), Managed Servers, Clusters, Server Templates, Machines, Virtual Targets, Partitions, Configuration Summary, Configuration Progress, and End Of Configuration. The main area contains the following fields: Server Name (AdminServer), Listen Address (All Local Addresses), Listen Port (7001), Enable SSL (unchecked), and SSL Listen Port (empty). A validation message at the bottom states: 'The name must not be null or empty and may not contain any : , * ? % / _cloned.' Navigation buttons at the bottom include Help, < Back, Next >, Finish, and Cancel.

10. Edit the fields **Listen Port** and host configurations as required, and click **Next**.
The **Managed Servers** screen displays.

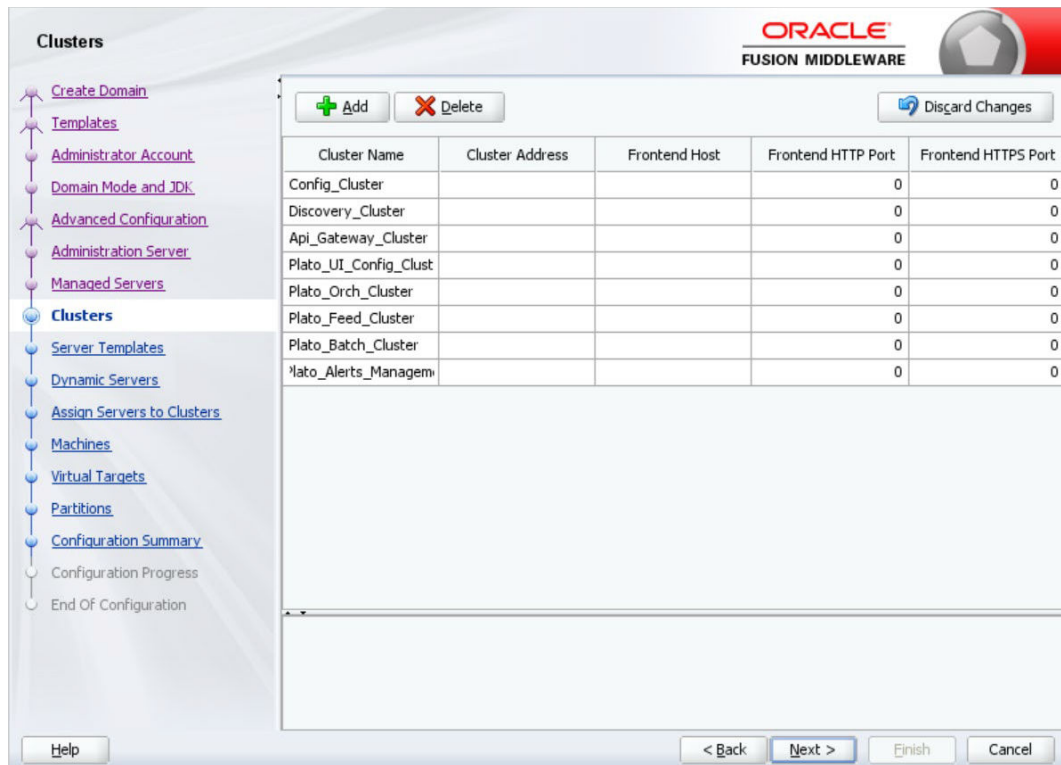
Figure 2-7 Managed Servers



11. Click **Add** to add managed servers and edit the fields as required.
 - a. Specify the name in **Server Name** field.
 - b. Edit the address in **Listen Address** field.
 - c. Edit the port in **Listen Port** field.
12. Click **Next**.

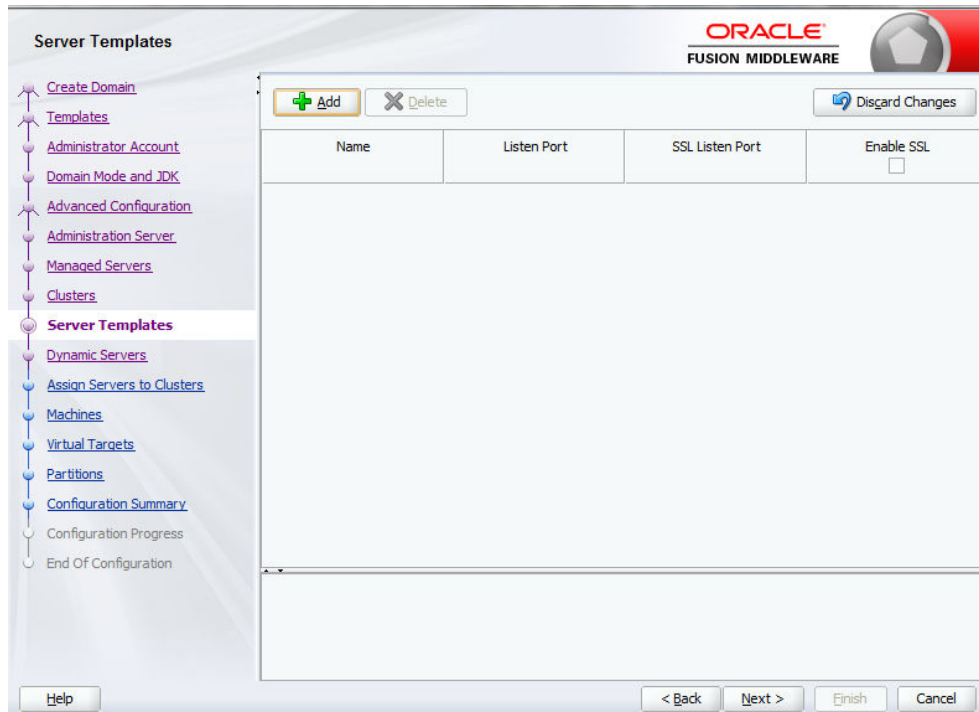
The **Cluster** screen displays.

Figure 2-8 Cluster



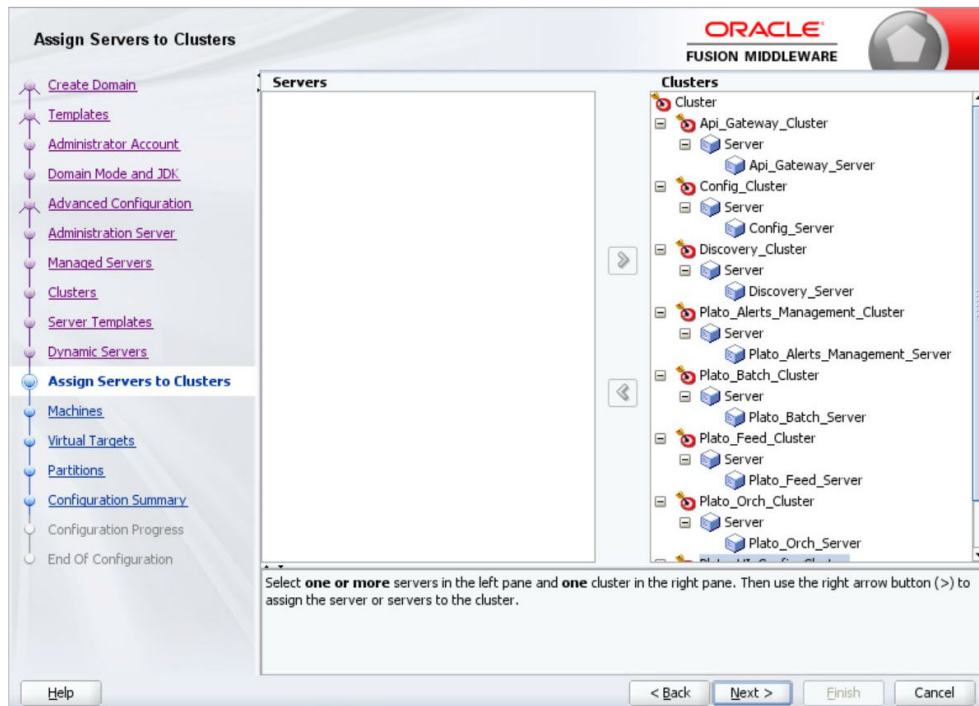
- Click **Add** to add clusters one for each **Managed Servers**, and click **Next**.
The **Server Template** screen displays.

Figure 2-9 Server Template



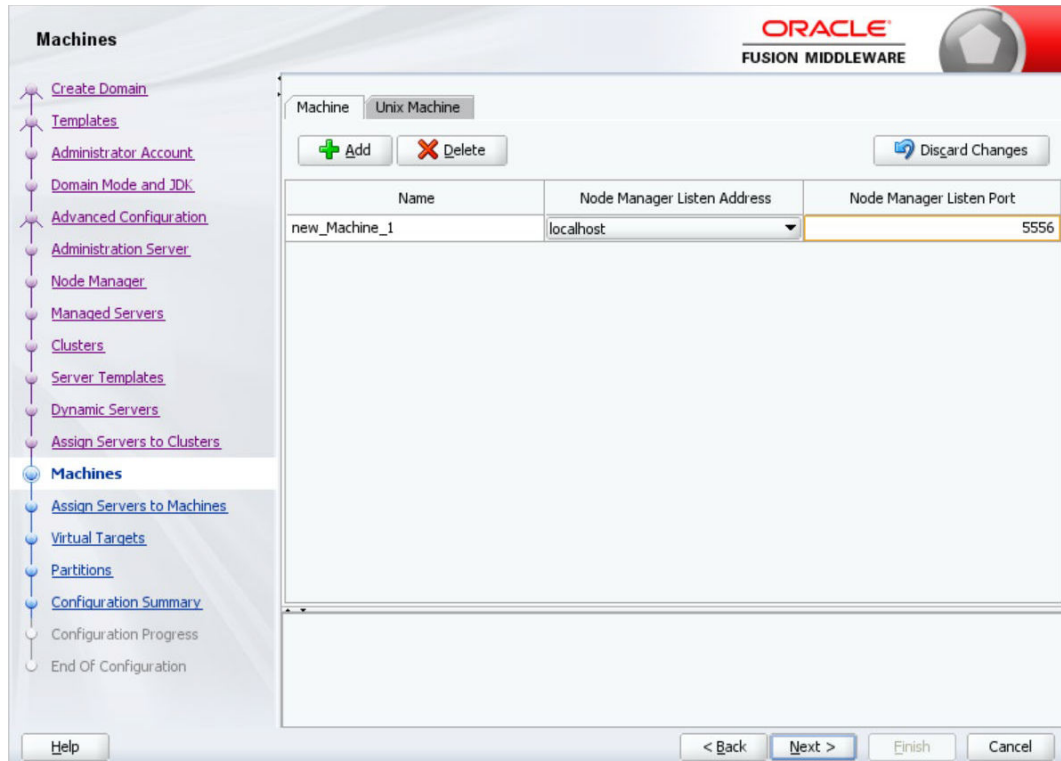
14. Skip the **Server Templates** and **Dynamic Servers**, and click **Next**.
The **Assign Servers to Clusters** screen displays.

Figure 2-10 Assign Servers to Clusters



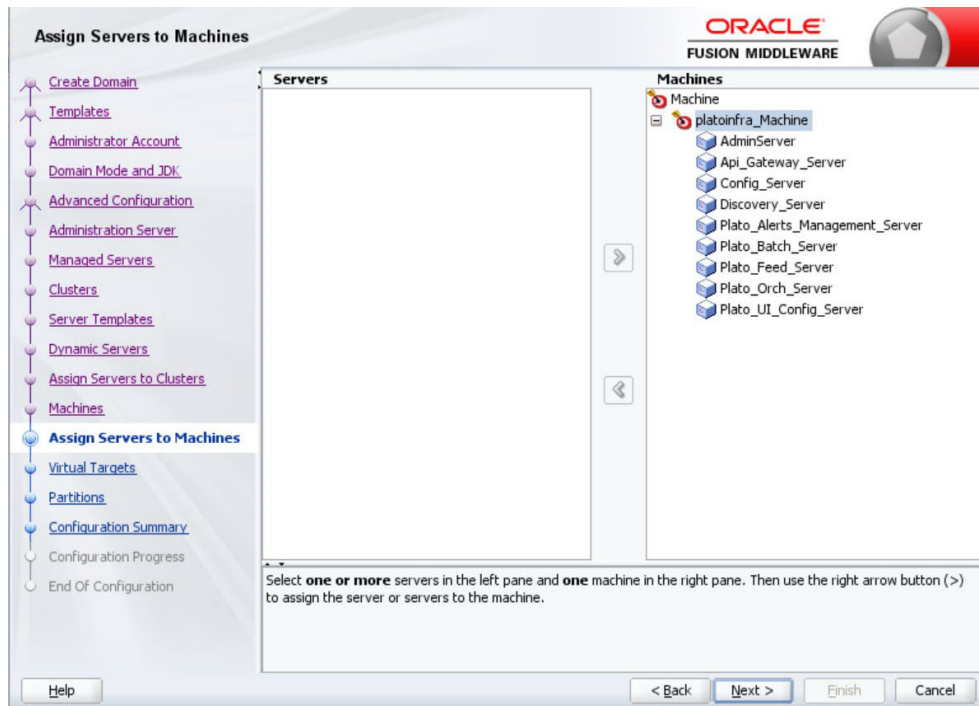
15. Assign clusters with servers, and click **Next**.
The **Machines** screen displays.

Figure 2-11 Machines



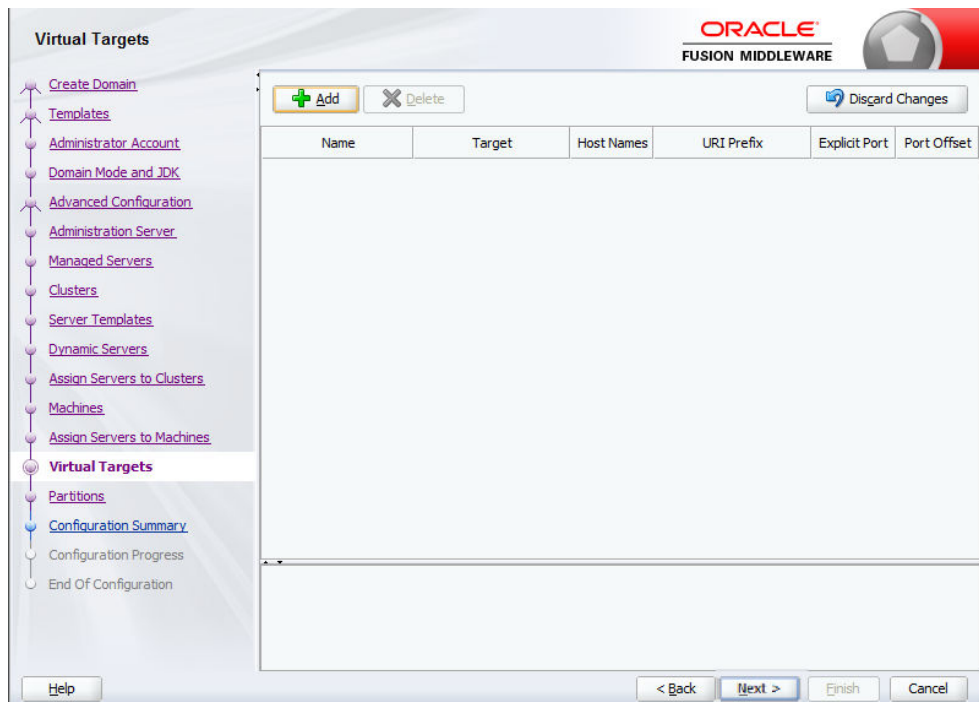
16. Click **Add** to add **Machine** or **Unix Machine** based on the operating system and configure **Name**, **Node Manager Listen Address**, and **Node Manager Listen Port** as required.
17. Click **Next**.
The **Assign Servers to Machines** screen displays.

Figure 2-12 Assign Servers to Machines



18. Map all the managed servers under the machine created, and click **Next**.
The **Virtual Targets** screen displays.

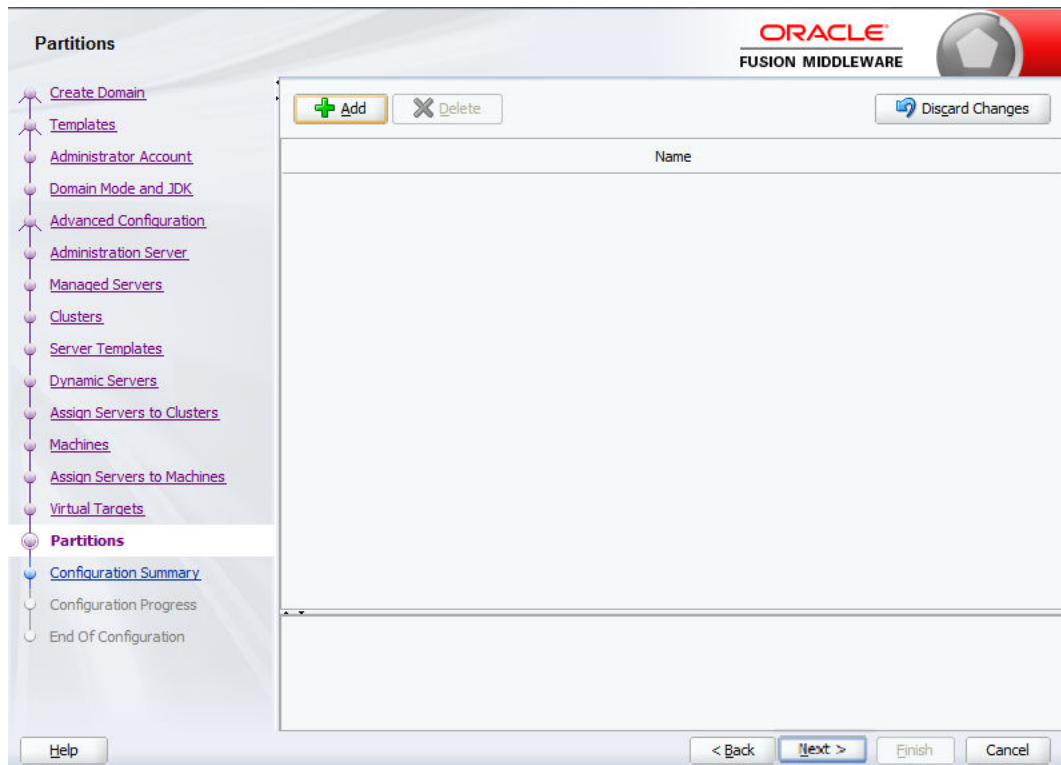
Figure 2-13 Virtual Targets



19. Skip or configure **Virtual Targets**, and click **Next**.

The **Partitions** screen displays.

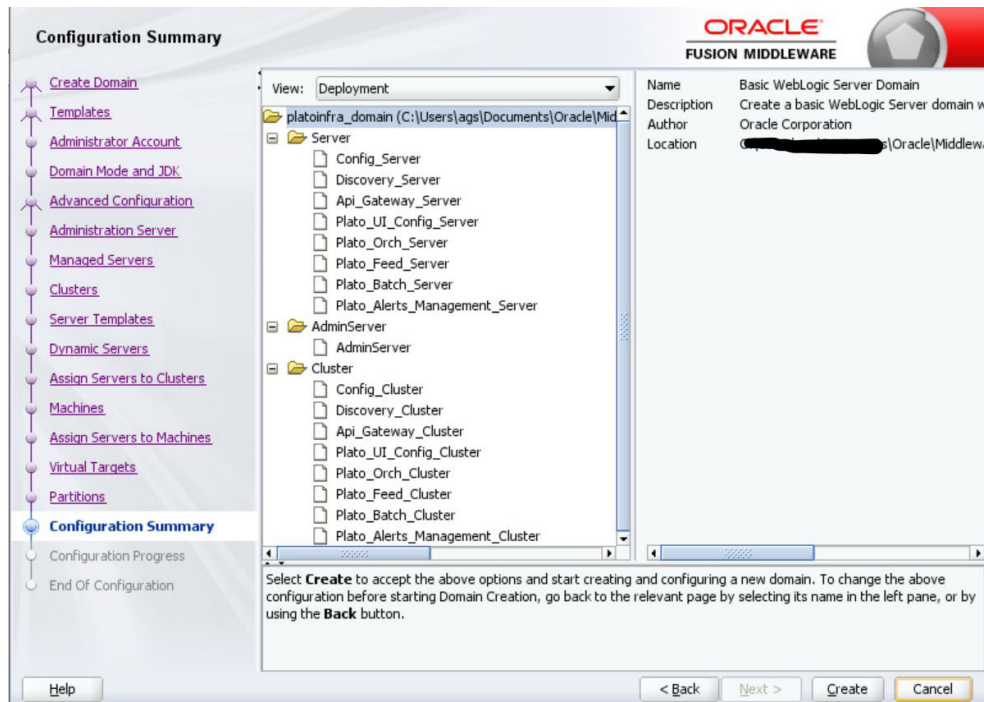
Figure 2-14 Partitions



20. Skip or configure **Partitions**, and click **Next**.

The **Configuration Summary** screen displays.

Figure 2-15 Configuration Summary

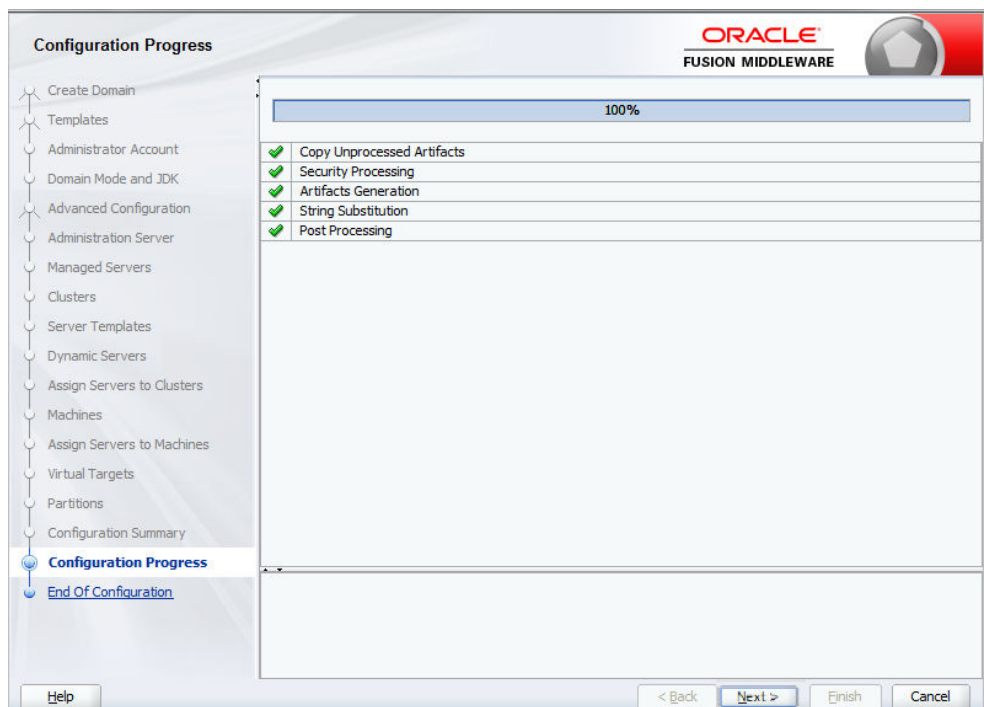


21. Check the **Configuration Summary** and confirm creating the domain.

22. Click **Next**.

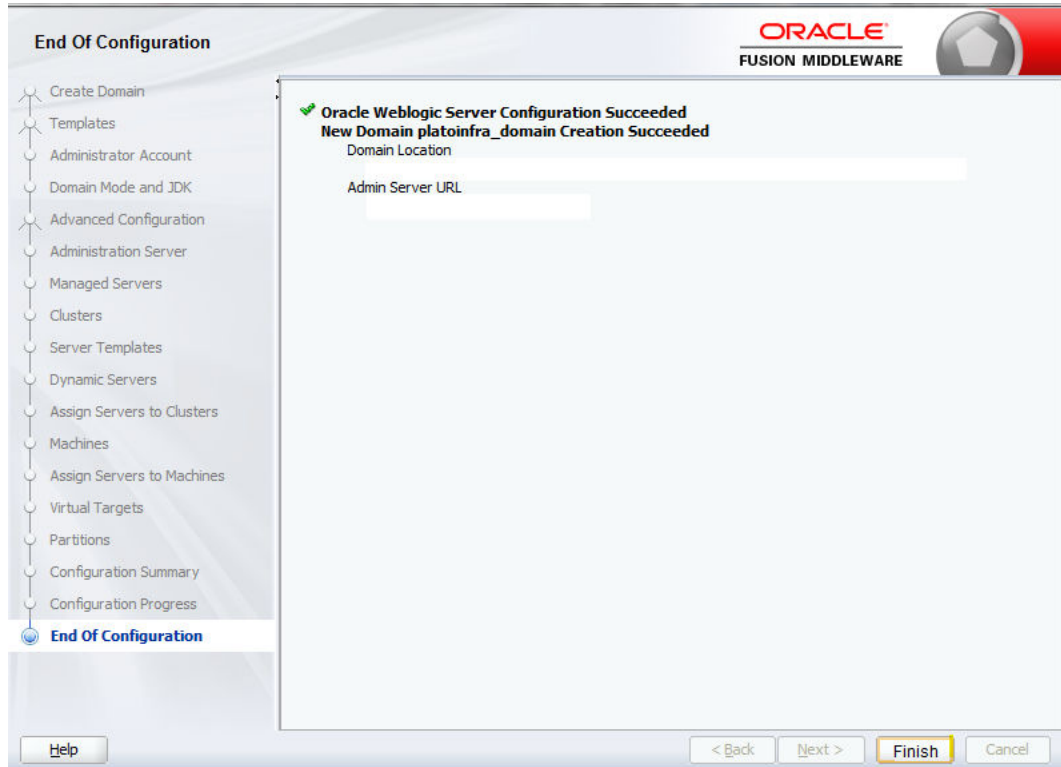
The **Configuration Progress** screen displays.

Figure 2-16 Configuration Progress



23. Check the **Configuration Progress** screen, and click **Next**.
The **End of Configuration** screen displays.

Figure 2-17 End of Configuration



24. Click **Finish** to complete the procedure.
The configuration is completed successfully.

2.2 Post Domain Creation Configurations

This topic provides the systematic instructions for the configurations to be performed once the domain is created.

Note:

Once domain creation and cluster configuration is done, refer to Oracle Fusion Middleware documents for more details on how to start an admin server, node manager, and managed servers.

1. Open `/user_projects/domain/platoinfra_domain/bin`.
2. Perform all the Environment Setup steps such as setting `-D` parameters, Embedded Weblogic Setup and, changes required for OAuth.
3. Run `startWeblogic.cmd`. Run `.sh` if operating system is linux.
4. Open `/user_projects/domains/platoinfra_domain/bin`.

5. Run `setNMJavaHome.cmd`. Run `.sh` if operating system is linux.
6. Open `/user_projects/domains/platoinfra_domain/nodemanager`.
7. Edit `nodemanager.properties` as required (`securelistner = false` if `ssl` and `keystore` is not given).
8. In admin console, select the following options in sequential order: Under **Machine**, select **platoinfra_Machine**.
 - a. **Machine**
 - b. **platoinfra_Machine**
 - c. **Node Manager**
 - d. **Type**
 - e. **Plain**
 - f. **Save**
9. Open `/user_projects/domains/platoinfra_domain/bin`.
10. Run `startNodeManager.cmd`. Run `.sh` if operating system is linux.
11. Start all managed servers.
12. Access the **Oracle WebLogic Administration Console**.
13. From **Domain Structure**, Click **Services** and verify the **Servers (Filtered - More Coloumns Exist)** table.

The **Summary of Services** screen displays.

Figure 2-18 Summary of Services

The screenshot shows the Oracle WebLogic Administration Console interface. On the left is the 'Domain Structure' tree with 'Servers' expanded. The main area displays the 'Servers (Filtered - More Columns Exist)' table. The table has columns for Name, Type, Cluster, Machine, State, Health, and Listen Port. The 'AdminServer(admin)' is in a 'RUNNING' state with 'OK' health. Other servers are in 'SHUTDOWN' states with 'Not reachable' health.

Name	Type	Cluster	Machine	State	Health	Listen Port
AdminServer(admin)	Configured		platoinfra_Machine	RUNNING	OK	7001
Apl_Gateway_Server	Configured	Apl_Gateway_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7005
Config_Server	Configured	Config_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7003
Discovery_Server	Configured	Discovery_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7004
Plato_Alerts_Management_Server	Configured	Plato_Alerts_Management_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7010
Plato_Batch_Server	Configured	Plato_Batch_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7009
Plato_Feed_Server	Configured	Plato_Feed_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7008
Plato_Orch_Server	Configured	Plato_Orch_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7007
Plato_UI_Config_Server	Configured	Plato_UI_Config_Cluster	platoinfra_Machine	SHUTDOWN	Not reachable	7006

14. Click **Clusters** and verify the **Clusters (Filtered - More Coloumns Exist)** table.
The **Summary of Clusters** screen displays.

Figure 2-19 Summary of Clusters

The screenshot shows the Oracle WebLogic Administration Console interface. On the left is the 'Change Center' sidebar with a 'Domain Structure' tree and 'How do I...' section. The main content area is titled 'Summary of Clusters' and contains a table of clusters. The table has 8 columns: Name, Cluster Address, Cluster Messaging Mode, Migration Basis, Default Load Algorithm, Replication Type, Cluster Broadcast Channel, and a status column. There are 8 rows of cluster data.

Name	Cluster Address	Cluster Messaging Mode	Migration Basis	Default Load Algorithm	Replication Type	Cluster Broadcast Channel	S
Api_Gateway_Cluster		Unicast	Database	Round Robin	(None)		A
Config_Cluster		Unicast	Database	Round Robin	(None)		C
Discovery_Cluster		Unicast	Database	Round Robin	(None)		D
Plato_Alerts_Management_Cluster		Unicast	Database	Round Robin	(None)		P
Plato_Batch_Cluster		Unicast	Database	Round Robin	(None)		P
Plato_Feed_Cluster		Unicast	Database	Round Robin	(None)		P
Plato_Orch_Cluster		Unicast	Database	Round Robin	(None)		P
Plato_UI_Config_Cluster		Unicast	Database	Round Robin	(None)		P

- Click **Machines** and verify the **Machines (Filtered - More Columns Exist)** table. The **Summary of Machines** screen displays.

Figure 2-20 Summary of Machines

The screenshot shows the Oracle WebLogic Administration Console interface. On the left is the 'Change Center' sidebar with a 'Domain Structure' tree and 'How do I...' section. The main content area is titled 'Summary of Machines' and contains a table of machines. The table has 2 columns: Name and Type. There is 1 row of machine data.

Name	Type
platoinfra_Machine	Machine

3

Datasource Creation

This topic provides the systematic instruction to create datasource.

- [Create Datasource](#)

3.1 Create Datasource

Specify **User ID** and **Password** to login to **Oracle WebLogic Administration Console**.

Perform the following steps to create data source:

1. Start **AdminServer** and **Node Manager**.

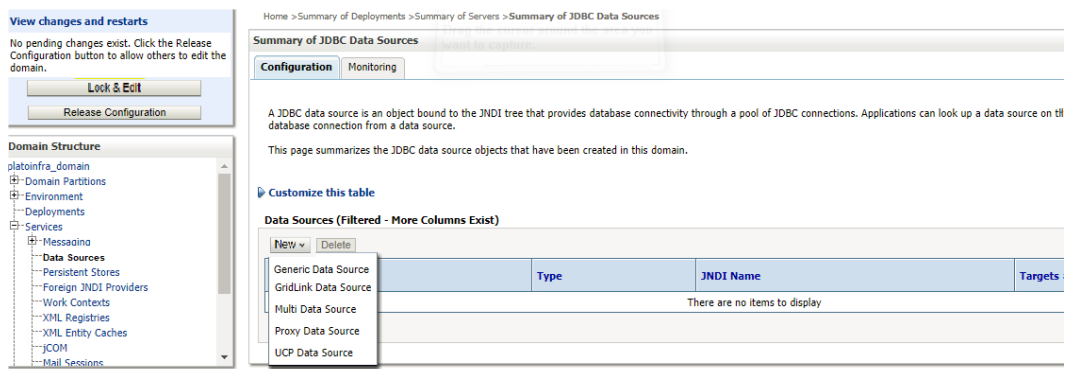
 **Note:**

Make sure that all the managed servers (targets) are in running mode.

2. On **Domain Structure**, click **Services**. Under **Services**, click **Data Sources**.
3. On the **Data Sources (Filtered - More Columns Exist)** table, click **New** and select **Generic Data Source** from drop-down list.

The **Summary of JDBC Data Sources** screen displays.

Figure 3-1 Summary of JDBC Data Source



4. Specify the **Name** and **JNDI Name** on **Create a New JDBC Data Source** and click **Next**. The **Create a New JDBC Data Source** screen displays.

Figure 3-2 Create a New JDBC Data Source

The screenshot shows the 'Create a New JDBC Data Source' wizard at the 'JDBC Data Source Properties' step. At the top, there are navigation buttons: 'Back', 'Next', 'Finish', and 'Cancel'. Below the title, a note states: 'The following properties will be used to identify your new JDBC data source. * Indicates required fields'. The form contains three sections:

- Name:** A text input field with the value 'PLATO'.
- Scope:** A dropdown menu with 'Global' selected.
- JNDI Name:** A text area containing 'jdbc/PLATO'.

At the bottom, there is a section for 'Database Type' with a dropdown menu showing 'Oracle'. Navigation buttons 'Back', 'Next', 'Finish', and 'Cancel' are located at the very bottom of the form.

5. On **Database Driver**, select **Thin for Service Connections (Instant)** from drop-down list and click **Next**.

The **Create a New JDBC Data Source - Database Driver** screen displays.

Figure 3-3 Create a New JDBC Data Source - Database Driver

The screenshot shows the 'Create a New JDBC Data Source' wizard at the 'Database Driver' step. At the top, there are navigation buttons: 'Back', 'Next', 'Finish', and 'Cancel'. Below the title, a note states: 'The following properties will be used to identify your new JDBC data source.' The form contains two sections:

- Database Type:** A label 'Database Type:' followed by the text 'Oracle'.
- Database Driver:** A dropdown menu with the selected option: '*Oracle's Driver (Thin) for Service connections; Versions:Any'.

A note above the dropdown menu reads: 'What database driver would you like to use to create database connections? Note: * indicates that the driver is explicitly supported by Oracle WebLogic Server.' Navigation buttons 'Back', 'Next', 'Finish', and 'Cancel' are located at the bottom of the form.

6. Uncheck the **Supports Global Transactions** and click **Next**.

The **Create a New JDBC Data Source - Transaction Options** screen displays.

Figure 3-4 Create a New JDBC Data Source - Transaction Options

Home > Summary of Deployments > Summary of Servers > Summary of JDBC Data Sources

Create a New JDBC Data Source

Back Next Finish Cancel

Transaction Options

You have selected non-XA JDBC driver to create database connection in your new data source.

Does this data source support global transactions? If yes, please choose the transaction protocol for this data source.

Supports Global Transactions

Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the *Logging Last Resource (LLR)* transaction option Emulate Two-Phase Commit.

Logging Last Resource

Select this option if you want to enable non-XA JDBC connections from the data source to emulate participation in global transactions using JTA. Select this option *only* if your appl conditions.

Emulate Two-Phase Commit

Select this option if you want to enable non-XA JDBC connections from the data source to participate in global transactions using the one-phase commit transaction processing. Will can participate in the global transaction.

One-Phase Commit

Back Next Finish Cancel

7. Specify the required fields on **Connection Properties**.

The **Create a New JDBC Data Source - Connection Properties** screen displays.

Figure 3-5 Create a New JDBC Data Source - Connection Properties

Home > Summary of Deployments > Summary of Servers > Summary of JDBC Data Sources

Create a New JDBC Data Source

Back Next Finish Cancel

Connection Properties

Define Connection Properties.

What is the name of the database you would like to connect to?

Database Name:

What is the name or IP address of the database server?

Host Name:

What is the port on the database server used to connect to the database?

Port:

What database account user name do you want to use to create database connections?

Database User Name:

What is the database account password to use to create database connections?

Password:

Confirm Password:

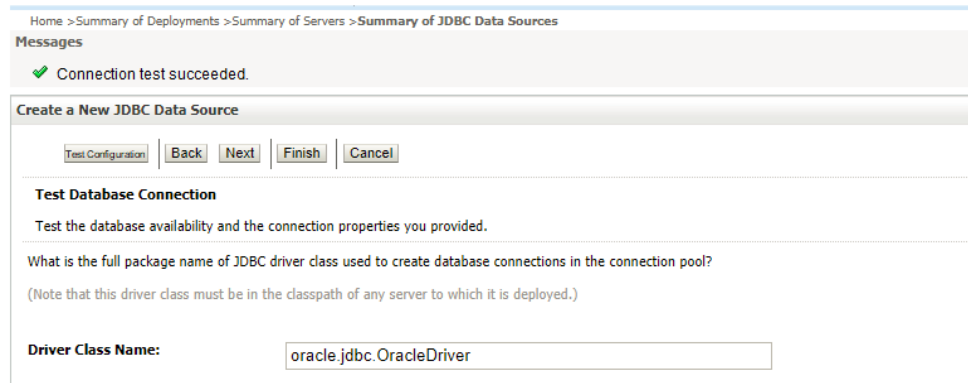
Additional Connection Properties:

oracle.jdbc.DRCPConnectionClass:

8. Click **Next** to test connection.

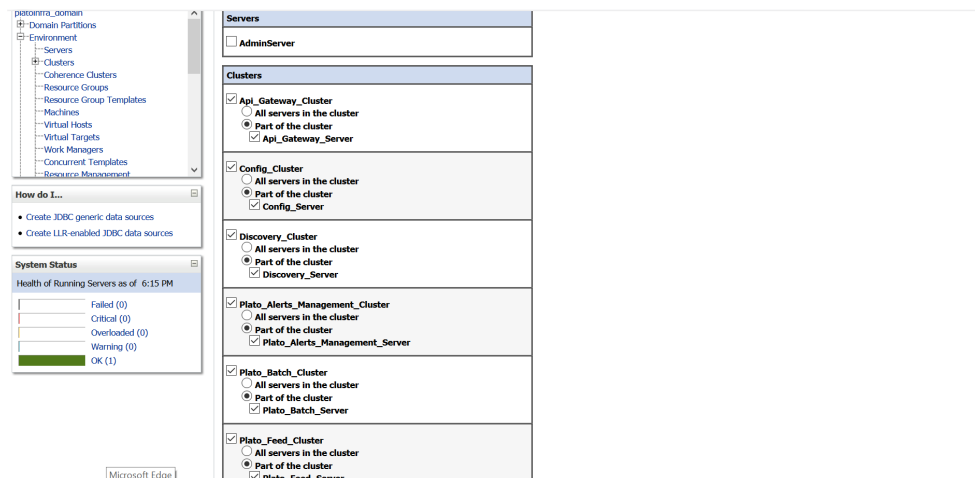
The **Connection test succeeded** message displays.

Figure 3-6 Connection test succeeded - Message



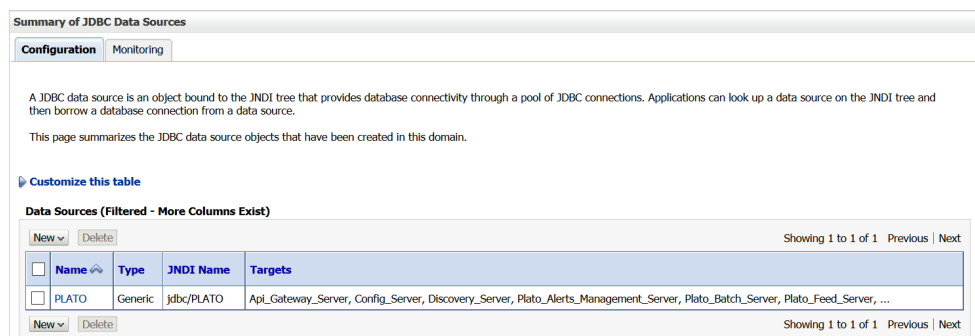
9. Select the target **Servers** and **Clusters** to deploy the data source and click **Next**.

Figure 3-7 Servers and Clusters



10. Go to **Summary of JDBC Data Sources**.
11. On the **Data Sources (Filtered - More Columns Exist)** table, verify the **JNDI Name** and **Targets**.

Figure 3-8 Summary of JDBC Data Source - Configuration



- On the **Change Center**, click **Activate Changes** once the details are confirmed. All the changes are activated.

Figure 3-9 Change Center

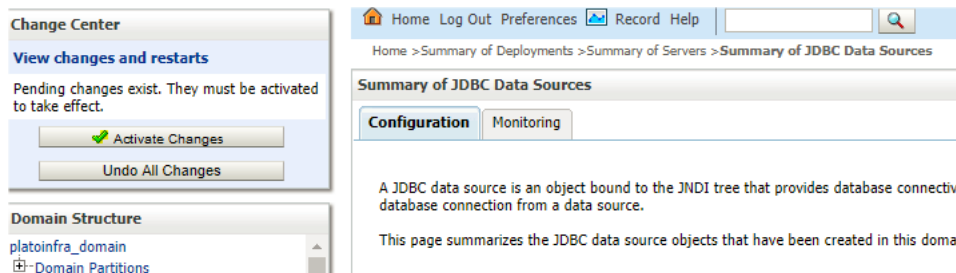
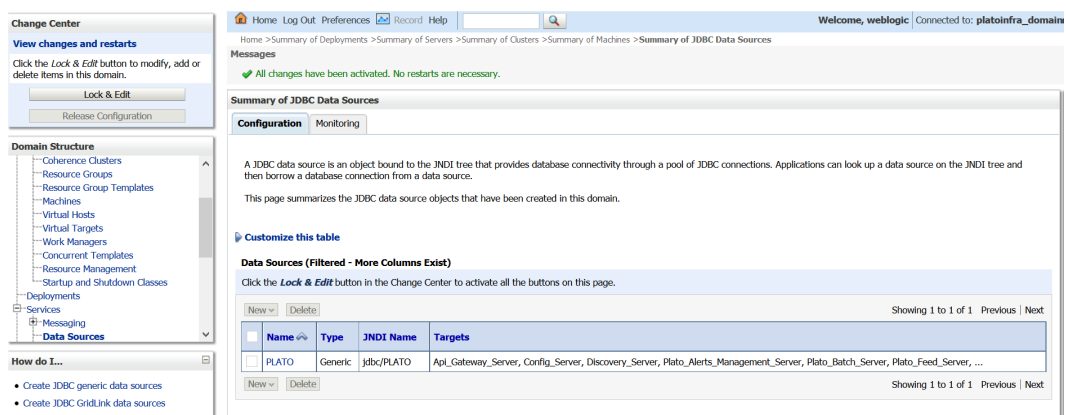


Figure 3-10 Changes - Success Message



4

Deploy Application

This topic provides the systematic instructions to deploy the application.

- [Deploy Application](#)

4.1 Deploy Application

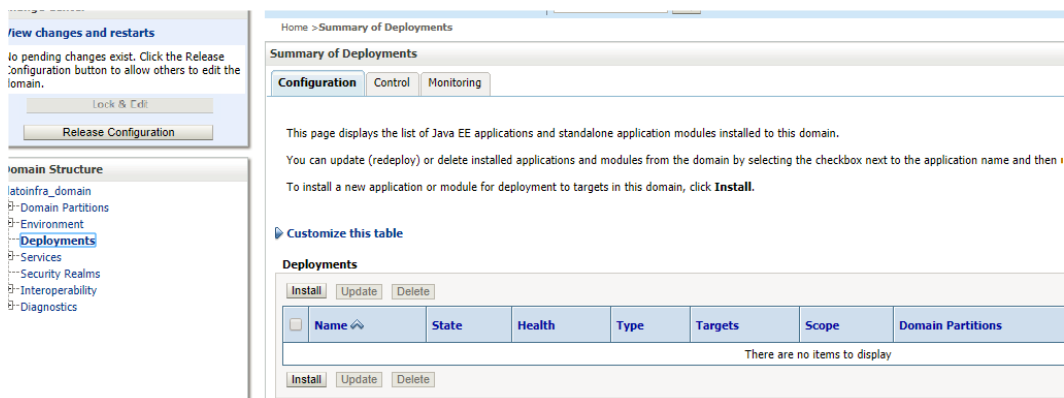
Specify **User ID** and **Password** to login to **Oracle WebLogic Administration Console**.

The steps for deploying archives as an application in WebLogic are the same for all of the above except the managed server and the domain, where we deploy differs.

1. Navigate to left menu and click **Domain Structure**.
2. On **Domain Structure**, click **Deployments**.

The **Summary of Deployments** screen displays.

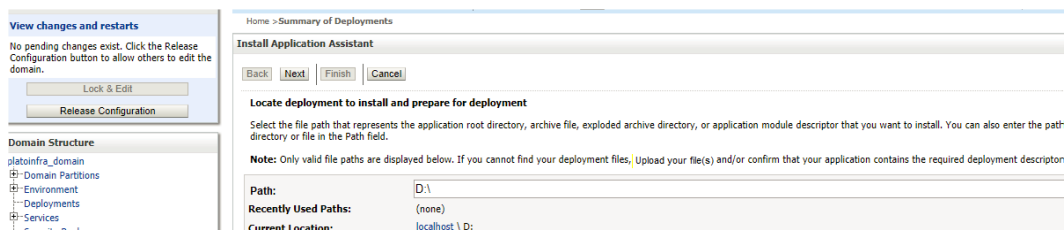
Figure 4-1 Summary of Deployments



3. On the **Change Center**, click **Lock and Edit**.
4. On the **Deployments** table, click **Install**.

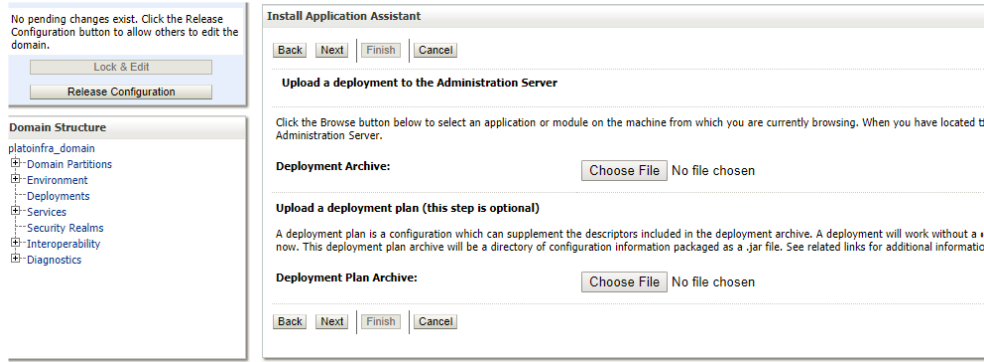
The **Install Application Assistant** screen displays.

Figure 4-2 Install Application Assistant



- Click **Upload your file(s)** to select archive. On **Deployment Archive**, select **Choose File**.

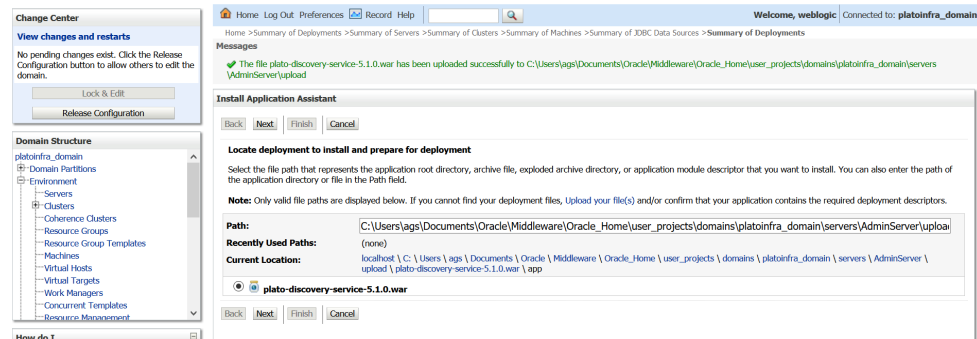
Figure 4-3 Install Application Assistant



- Once the Archive is uploaded, click **Next**.

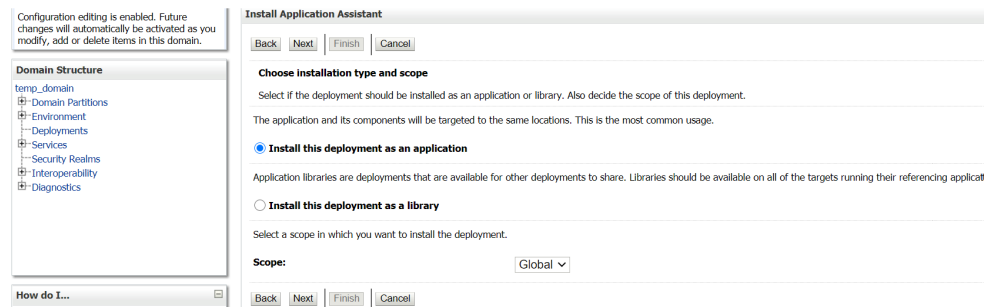
The file is uploaded successfully.

Figure 4-4 File Upload - Success Message



- Click **Next**.
- Select **Install this deployment as an application** and click **Next**.

Figure 4-5 Install Application Assistant



- Select the target **Servers** and **Clusters** to deploy.

Figure 4-6 Available targets

10. Click Next.

Figure 4-7 Install Application Assistant

11. Click Finish.

The deployment is successfully completed.

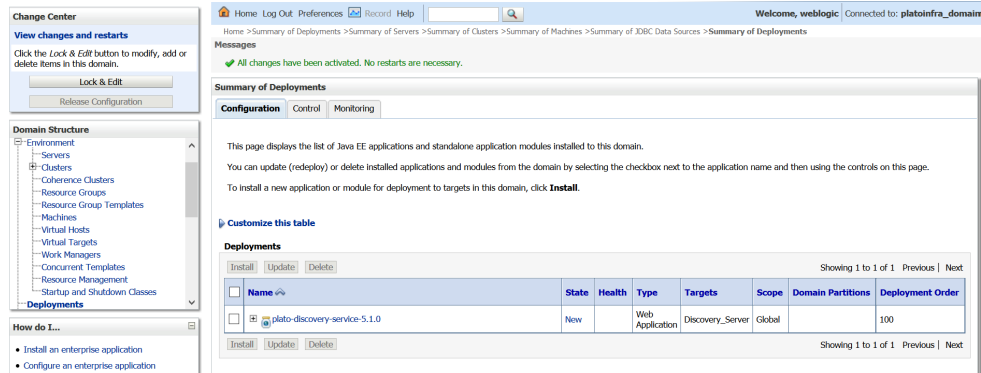
Figure 4-8 Deployment - Success Message

Name	State	Health	Type	Targets	Scope	Domain Partitions	Deployment Order
plato-discovery-service-5.1.0	distribute Initializing		Web Application	Discovery_Server	Global		100

12. On **Change Center**, click **Activate Changes**.

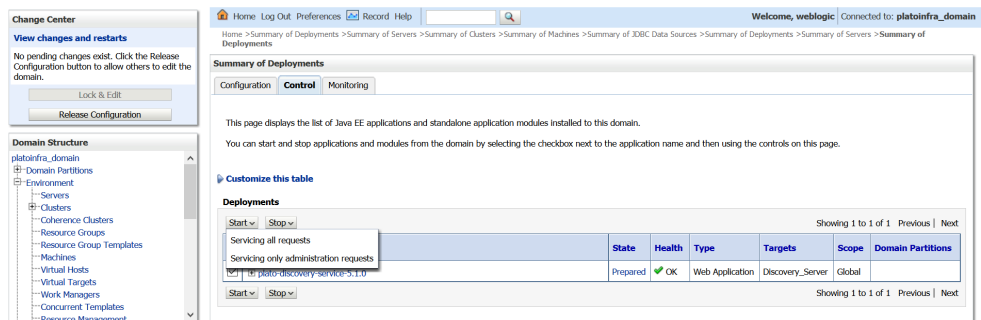
All the changes are activated.

Figure 4-9 Activate Changes - Success Message



13. On the **Summary of Deployments**, click **Control** to change the status from prepared to active.

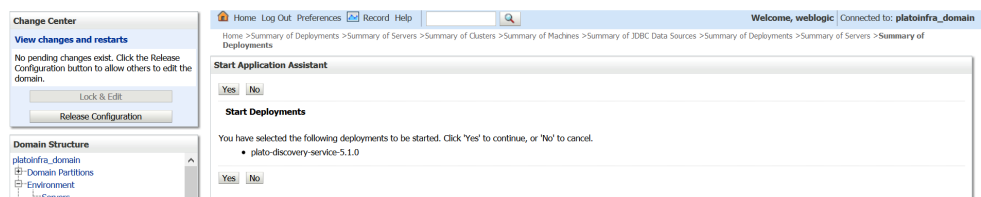
Figure 4-10 Summary of Deployments - Control



14. On **Deployments** table, select the server. Click **Start** and select **Servicing all requests** from the drop-down list.

Start Application Assistant screen displays.

Figure 4-11 Start Application Assistant



15. Click **Yes**.

16. The status is displayed as **Active** in the state column.

Figure 4-12 Summary of Deployments - Configuration

The screenshot shows the Oracle WebLogic Administration Console interface. On the left is the 'Change Center' sidebar with options like 'View changes and restarts', 'Lock & Edit', and 'Release Configuration'. Below it is the 'Domain Structure' tree showing a hierarchy from Environment to Servers, Clusters, Coherence Clusters, Resource Groups, Resource Group Templates, Machines, Virtual Hosts, Virtual Targets, Work Managers, Concurrent Templates, Resource Management, and Startup and Shutdown Classes. The main content area is titled 'Summary of Deployments' and has tabs for 'Configuration', 'Control', and 'Monitoring'. It contains a paragraph explaining that the page displays a list of Java EE applications and standalone application modules installed to the domain. Below this is a 'Customize this table' link and a table of deployments. The table has columns for Name, State, Health, Type, Targets, Scope, Domain Partitions, and Deployment Order. One deployment is listed: 'plato-discovery-service-5.1.0' with State 'Active', Health 'OK', Type 'Web Application', Targets 'Discovery_Server', Scope 'Global', and Deployment Order '100'. At the bottom of the table are 'Install', 'Update', and 'Delete' buttons and a pagination indicator 'Showing 1 to 1 of 1 Previous | Next'.

Name	State	Health	Type	Targets	Scope	Domain Partitions	Deployment Order
plato-discovery-service-5.1.0	Active	OK	Web Application	Discovery_Server	Global		100

5

Undeploy Application

This topic provides the systematic instructions to undeploy the application.

- [Undeploy Application](#)

5.1 Undeploy Application

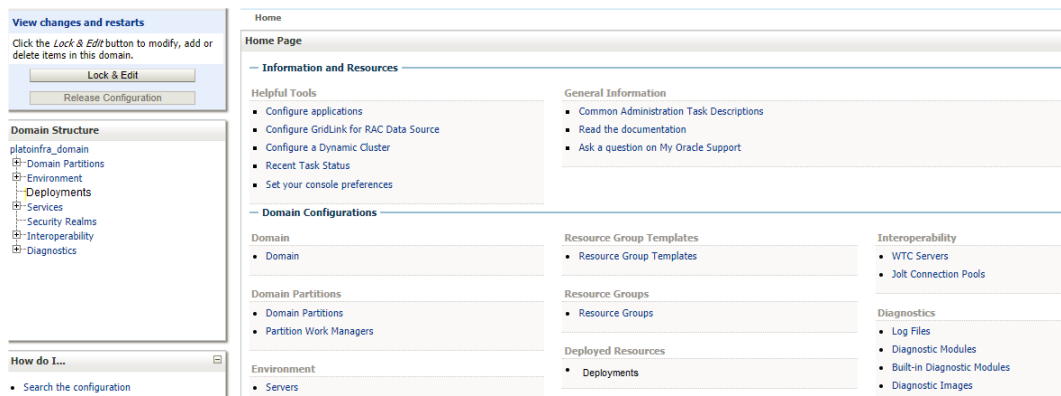
Specify **User ID** and **Password** to login to **Oracle WebLogic Administration Console**.

Perform the following steps to undeploy the application:

1. On **Domain Structure**, click **Deployments**.

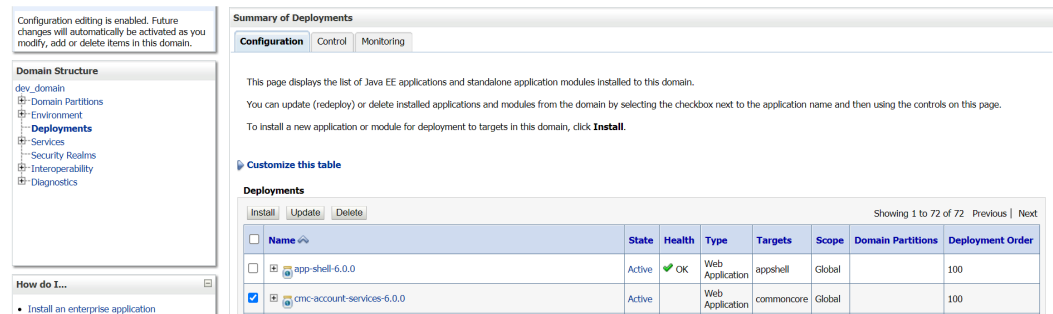
The **Summary of Deployments** screen displays.

Figure 5-1 Summary of Deployments



2. Click **Lock and Edit**.

Figure 5-2 Lock and Edit



3. On the **Deployments** table, select the service that needs to be undeployed in **Deployments**.

- Go to **Control**. On the **Deployments** table, click **Stop** and select **Force stop now** from the drop-down list.

Figure 5-3 Summary of Deployments - Control

The screenshot shows the 'Summary of Deployments' page in the 'Control' tab. The 'Deployments' table is as follows:

Name	State	Health	Type	Targets	Scope	Domain Partitions
When work completes						
Force stop now						
Stop, but continue servicing administration requests	Active	OK	Web Application	appshell	Global	
cmc-account-services-6.0.0	Active	OK	Web Application	commoncore	Global	
cmc-additional-attributes-services-6.0.0	Active	OK	Web Application	commoncore	Global	
cmc-advice-services	Active	OK	Web Application	commoncore	Global	

- Once the status is changed to **Prepared** state, go to **Configuration**.

Figure 5-4 Summary of Deployments

The screenshot shows the 'Summary of Deployments' page in the 'Configuration' tab. The 'Deployments' table is as follows:

Name	State	Health	Type	Targets	Scope	Domain Partitions	Deployment Order
app-shell-6.0.0	Active	OK	Web Application	appshell	Global		100
cmc-account-services-6.0.0	Active		Web Application	commoncore	Global		100
cmc-additional-attributes-services-6.0.0	Active		Web Application	commoncore	Global		100
cmc-advice-services	Prepared		Web Application	commoncore	Global		100

- Select the service again and click **Delete** to undeploy the service.

6

Restart Servers

This topic provides the systematic instruction to restart the server.

- [Restart Servers](#)

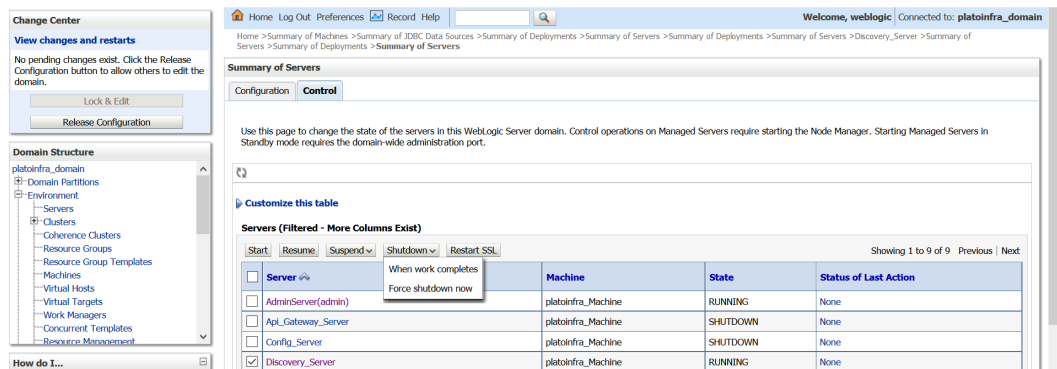
6.1 Restart Servers

Specify **User ID** and **Password** to login to **Oracle WebLogic Administration Console**.

Perform the following steps to restart the server:

1. On Domain Structure, click **Environment**. Under **Environment**, click **Servers**.
The **Summary of Servers** screen displays.
2. On the **Summary of Servers** screen, click **Control**.
The **Summary of Servers - Control** screen displays.

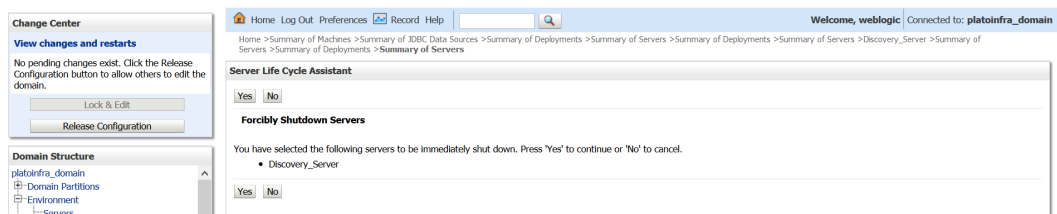
Figure 6-1 Summary of Servers - Control



3. On the **Servers (Filtered - More Columns Exist)** table, select the server. Click **Shutdown** and select the required option from the drop-down list.

The **Server Life Cycle Assistant** screen displays.

Figure 6-2 Server Life Cycle Assistant



4. Click **Yes** to confirm shutdown.

A request is sent to immediately shut down the selected server.

Figure 6-3 Request Sent - Success Message

The screenshot shows the Oracle Change Center interface. On the left, there is a navigation pane with 'Domain Structure' expanded to 'Servers'. The main content area displays a success message: 'A request has been sent to immediately shut down the selected servers.' Below this is a 'Summary of Servers' section with a 'Control' tab. A table titled 'Servers (Filtered - More Columns Exist)' is shown, listing several servers and their current states.

Server	Machine	State	Status of Last Action
<input type="checkbox"/> AdminServer(admin)	platoinfra_Machine	RUNNING	None
<input type="checkbox"/> Api_Gateway_Server	platoinfra_Machine	SHUTDOWN	None
<input type="checkbox"/> Config_Server	platoinfra_Machine	SHUTDOWN	None
<input type="checkbox"/> Discovery_Server	platoinfra_Machine	FORCE_SHUTTING_DOWN	TASK IN PROGRESS

- On the **Servers (Filtered - More Columns Exist)** table, select the server and click **Start**.

The **Server Life Cycle Assistant** screen displays.

Figure 6-4 Server Life Cycle Assistant

The screenshot shows the 'Server Life Cycle Assistant' dialog box. It has a 'Yes' button selected and a 'No' button. Below the buttons, it says 'Start Servers' and 'You have selected the following servers to be started. Press 'Yes' to continue or 'No' to cancel.' A list of servers is shown, with 'Discovery_Server' selected.

- Click **Yes** to confirm the action.
 - A request is sent to the node manager to start the selected servers.

Figure 6-5 Request Sent - Success Message

The screenshot shows the Oracle Change Center interface after the start action. A success message is displayed: 'A request has been sent to the Node Manager to start the selected servers.' The 'Summary of Servers' section now shows the 'Discovery_Server' in the 'SHUTDOWN' state, while the other servers remain in their previous states.

Server	Machine	State	Status of Last Action
<input type="checkbox"/> AdminServer(admin)	platoinfra_Machine	RUNNING	None
<input type="checkbox"/> Api_Gateway_Server	platoinfra_Machine	SHUTDOWN	None
<input type="checkbox"/> Config_Server	platoinfra_Machine	SHUTDOWN	None
<input type="checkbox"/> Discovery_Server	platoinfra_Machine	SHUTDOWN	TASK IN PROGRESS

- All the requested servers are running in the state column.

Figure 6-6 Summary of Servers - Control

The screenshot shows the Oracle WebLogic Administration Console interface. On the left, there is a 'Change Center' panel with 'View changes and restarts' and 'Release Configuration' buttons. Below it is the 'Domain Structure' tree. The main content area is titled 'Summary of Servers' and has tabs for 'Configuration' and 'Control'. A table lists the servers:

Server	Machine	State	Status of Last Action
AdminServer(admin)	platoinfra_Machine	RUNNING	None
Apl_Gateway_Server	platoinfra_Machine	SHUTDOWN	None
Config_Server	platoinfra_Machine	SHUTDOWN	None
Discovery_Server	platoinfra_Machine	RUNNING	TASK COMPLETED

- When all requested servers are running, go to **Summary of Deployments** and check if deployments status is active.

Figure 6-7 Summary of Deployments

The screenshot shows the Oracle WebLogic Administration Console interface. On the left, there is a 'Change Center' panel with 'View changes and restarts' and 'Release Configuration' buttons. Below it is the 'Domain Structure' tree. The main content area is titled 'Summary of Deployments' and has tabs for 'Configuration', 'Control', and 'Monitoring'. A table lists the deployments:

Name	State	Health	Type	Targets	Scope	Domain Partitions	Deployment Order
plato-discovery-service-5.1.0	Active	OK	Web Application	Discovery_Server	Global	100	

7

Check Port Number

This topic describes the systematic instructions to check the port number.

Specify **User ID** and **Password** to login to **Oracle WebLogic Administration Console**.

1. On **Domain Structure**, click **Environment**. Under **Environment**, click **Servers**.

The **Summary of Servers** screen displays.

Figure 7-1 Summary of Servers

<input type="checkbox"/> Name ↕	Type	Cluster	Machine	State	Health	Listen Port
<input type="checkbox"/> AdminServer(admin)	Configured			RUNNING	✔ OK	7020
<input type="checkbox"/> managed_server1	Configured		Machine1	RUNNING	✔ OK	7023

2. On the **Servers (Filtered - More Columns Exist)** table, check all the listed servers.

8

WebLogic Embedded LDAP Setup

This topic provides the information to configure the Weblogic Embedded LDAP server for Oracle Banking Microservices Architecture

- [Configure WebLogic LDAP](#)
This topic provides systematic instructions to configure WebLogic LDAP Setup.
- [Create Users](#)
This topic provides systematic instructions to create users.
- [Oracle Banking Microservices Architecture Security Config Table Entries](#)
This topic describes about Oracle Banking Microservices Architecture Security Config Table Entries.

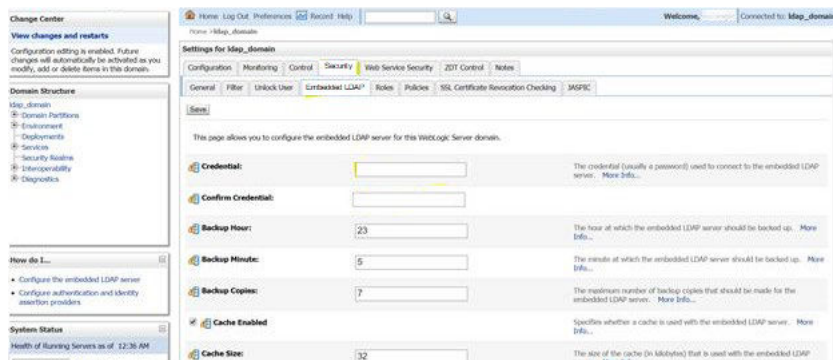
8.1 Configure WebLogic LDAP

This topic provides systematic instructions to configure WebLogic LDAP Setup.

Specify **User ID** and **Password** to login to **Oracle WebLogic Administration Console**.

1. Navigate to left panel and click domain name.
2. Under **Settings for Idap_domain**, click **Security** and **Embedded LDAP**.

Figure 8-1 Settings for Idap_domain



3. Set the **Credential** for WebLogic Embedded LDAP store.

Note:

This is needed in the Security Config table.

8.2 Create Users

This topic provides systematic instructions to create users.

Specify **User ID** and **Password** to login to **Oracle WebLogic Administration Console**.

1. On **Domain Structure**, click **Security Realms**.

The **Summary of Security Realms** screen displays.

Figure 8-2 Summary of Security Realms

The screenshot shows the Oracle WebLogic Administration Console interface. On the left, the 'Domain Structure' tree is expanded to 'Security Realms'. The main content area is titled 'Summary of Security Realms'. It contains a table with the following data:

Name	Default Realm
myrealm	true

2. On the **Realms (Filtered - More Columns Exist)** table, click **myrealm**.

The **Setting of myrealm** screen displays.

Figure 8-3 Settings for myrealm

The screenshot shows the Oracle WebLogic Administration Console interface for the 'myrealm' settings. The 'Users and Groups' tab is selected. It contains a table with the following data:

Name	Description
AdminChannelUsers	AdminChannelUsers can access the admin channel.
Administrators	Administrators can view and modify all resource attributes and start and stop servers.
AppTesters	AppTesters group.
CrossDomainConnectors	CrossDomainConnectors can make inter-domain calls from foreign domains.
Deployers	Deployers can view all resource attributes and deploy applications.
Monitors	Monitors can view and modify all resource attributes and perform operations not restricted by roles.
Operators	Operators can view and modify all resource attributes and perform server lifecycle operations.
OracleSystemGroup	Oracle application software system group.

3. Under **Settings for myrealm**, click **Users and Groups**

4. Click **Groups**. On the **Groups** table, Click **New**.

The **Create a New User** screen displays.

Figure 8-4 Create a New User

5. Specify all the required details and click **OK**.

The new group is created.

6. Go to **Settings for myrealm**, click **Users**.

Figure 8-5 Settings for myrealm

7. On the **Users** table, Click **New**.

The **Create a New User** screen displays.

Figure 8-6 Create a New User

- Specify all the required details and click **OK**.
The new user is created.

Figure 8-7 User Creation- Success Message

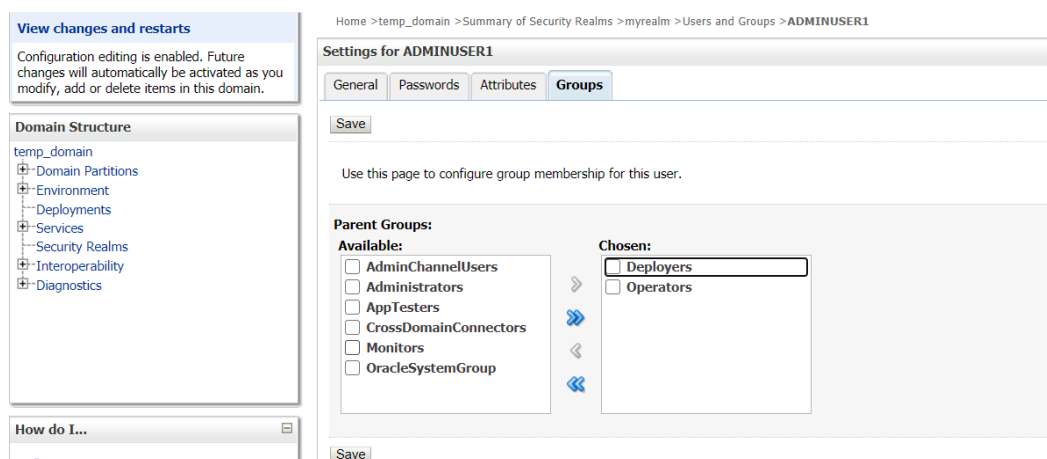
The screenshot shows the Oracle WebLogic console interface. On the left, there is a 'Domain Structure' tree and a 'How do I...' section. The main area displays a 'Messages' section with a green checkmark and the text 'User created successfully'. Below this, there are tabs for 'Configuration', 'Users and Groups', 'Roles and Policies', 'Credential Mappings', 'Providers', and 'Migration'. The 'Users and Groups' tab is active, showing a table of users. The table has columns for 'Name' and 'Description'. The users listed are ADMINUSER1, LCMUser, OracleSystemUser, and weblogic. There are 'New' and 'Delete' buttons above and below the table.

- On the **Users (Filtered - More Columns Exist)** table, click on the newly created user to assign to some group.
The **Setting for ADMINUSER1** screen displays.
- On **Setting for ADMINUSER1** (or whatever your user name is) window, click **Groups** and select the required groups to assign to the user and click single right button as shown below.

Figure 8-8 Setting for ADMINUSER1

The screenshot shows the 'Settings for ADMINUSER1' screen. The 'Groups' tab is active. There is a 'Save' button at the top. Below it, there is a message: 'Use this page to configure group membership for this user.' The 'Parent Groups' section is divided into 'Available' and 'Chosen'. The 'Available' list includes AdminChannelUsers, Administrators, AppTesters, CrossDomainConnectors, Deployers, Monitors, Operators, and OracleSystemGroup. The 'Deployers' and 'Operators' groups are selected with blue checkmarks. The 'Chosen' list is currently empty.

- Click **Save**.
The selected groups displays on **Chosen**.

Figure 8-9 Setting for ADMINUSER1

8.3 Oracle Banking Microservices Architecture Security Config Table Entries

This topic describes about Oracle Banking Microservices Architecture Security Config Table Entries.

Connection details for the embedded LDAP of WebLogic (assuming the admin server is running on 10.99.99.10:7001) are given below:

Connection Details:

URL: ldap:// 10.99.99.10:7001

Server Base: dc={DOMAIN_NAME} (in our case it would be dc=ldap_domain)

User Search Base: ou=people,ou=myrealm

Server User: cn=admin

Server Credentials: As setup in step Point 3 under 1.8.1

Security Config Table Entries:

Table 8-1 Security Config Table Entries:

ID	VALUE	Description
LDAP_URL	ldap:// 10.99.99.10:7001	Valid LDAP Server address with port.
LDAP_SERVER_USER	cn=admin	LDAP server login username
LDAP_SERVER_BASE	dc=ldap_domain	LDAP Server Base
LDAP_SERVER_CREDENTIAL	ylksiMFfjVbfcP A7Qheh8Q==	LDAP server credentials in encrypted form (For Encryption steps, refer to Encrypted Utility section below)
LDAP_USER_SEARCH_BASE	ou=people,ou=myrealm	LDAP User Search Base

Table 8-1 (Cont.) Security Config Table Entries:

ID	VALUE	Description
LDAP_PROVIDER	EMBEDDED_WEBLOGIC	Which LDAP Provider to be used. Also, if this row is not present in this table, then In-House Spring Plato LDAP will be used.

9

Oracle Analytic Server Setup

This topic provides the information to configure the Oracle Analytic Server for Oracle Banking Microservices Architecture.

- [Prerequisites](#)
This topic describes about prerequisites for Oracle analytic server setup.
- [Start BI Server](#)
This topic provides systematic instructions to start BI server.
- [Upload BI Reports](#)
This topic provides systematic instructions to upload BI reports.
- [Test BI Reports](#)
This topic provides systematic instructions to test BI reports.

9.1 Prerequisites

This topic describes about prerequisites for Oracle analytic server setup.

- Make sure that the machine is installed with Java JDK.

 **Note:**

For the exact version to be installed, refer to **Software Prerequisites** section in **Release Notes**.

- Oracle Analytics Server 5.5.0

9.2 Start BI Server

This topic provides systematic instructions to start BI server.

1. Start the WebLogic server and analytics server.
2. Check the WebLogic console whether analytics server is running.

9.3 Upload BI Reports

This topic provides systematic instructions to upload BI reports.

1. Login to the Analytics server console.
2. Open the OSDC and check for the report Catalog object `\{unzip folder}\REP\{reportfilename}.xdrz` or any other Catalog objects listed below:

Table 9-1 Upload BI Reports

Catalog Object	Extensions Supported
Data Model	.xdmz
Folder	.xdrz
Report	.xdoz
Style Template	.xssz
Subtemplate	.xsbz

3. Upload the catalog object to Analytics Server.

9.4 Test BI Reports

This topic provides systematic instructions to test BI reports.

1. Open the application, and go the **Reports** section of the application.
2. Choose the report generation criteria. For example, **Start Date** or **End Date**.
3. Choose the format of the report.
4. Generate the report.

 **Note:**

If the format of the report selected is PDF, a PDF report is generated.

10

How to deploy Plato-Apigateway Router

This topic provides the systematic instructions to deploy the plato-apigateway router.

Router deployment steps

The following services must be deployment in below order to setup router service:

1. Deploy plato-config-service

- a. Set placeholder `-Dflyway.domain.placeholders.plato-apigateway-router.server.port=<new server port for plato-apigateway-router>`

2. Deploy plato-ui-config-service

- a. set `-Dflyway.domain.placeholders.apigateway.port=<new server port for plato-apigateway-router>`
- b. set `-Dflyway.domain.placeholders.apigateway.host=<server host for plato-apigateway-router>`

3. Deploy plato-api-gateway

- a. Migrate existing OAuth users:

```
API for migration - /api-gateway/migrateOAuthUsers
Example: http://hostname:8080/api-gateway/migrateOAuthUsers
Authorization - jwtToken
Headers:
appId,userId,entityId
Body (Json): ["client1", "client2"] - Migrate selected list of clients
or
Body (Json): ["ALL"] -Migrate all clients.
```

4. Deploy plato-apigateway-router

```
java -jar plato-apigateway-router.jar --plato.services.config.uri=http://hostname:8001--
plato.service.logging.path=/logfilePath
```

`--plato.services.config.uri` - Config server URI which is referred by all other services.

`--plato.service.logging.path` - Path where log file(plato-apigateway-router.log) must be created. Specify the same path as that of other services.

We can enable SSL for plato-apigateway-router by providing:

```
--server.ssl.enabled=true
--server.ssl.key-store=C:/Users/KEYS/keytool/keystore.jks
--key-store-password=xxxx
--server.ssl.trust-store=C:/Users/KEYS/keytool/truststore.jks
--trust-store-password=xxxxx
--salt=xxxxx
```

Note: Passwords and salt must be encrypted value generated using respective toolkits.

Provide ssl certs of plato-api-gateway required for validation call when plato-api-gateway is deployed in different server.:

```
--apigateway.useServerSSLKeys=false
--apigateway.ssl.key-store=C:/Users/KEYS/keytool/keystore.jks
--apigateway.ssl.key-store-password=xxxx
--apigateway.ssl.trust-store=C:/Users/KEYS/keytool/truststore.jks
--apigateway.ssl.trust-store-password=xxxxx
```

Note: Above certificates can be different than that of plato-apigateway-route we must also provide trust certificates as

```
--spring.cloud.gateway.httpclient.ssl.trusted-x509-certificates=C:/Users/KEYS/keytool/keystore1.pem, C:/Users/KEYS/keytool/keystore2.pem
```

Note: Run this service with nohup command to that process will run on background

App-shell must point to plato-apigateway-router service. Update 'apigateway.url' by correcting it to "http://hostname:8080" - here 8080 is the port is configured for plato-apigateway-router.

Generation pem file and encryption of secrets:

Use plato-security-toolkit to encrypt secrets ---key-store-password, --trust-store-password, --apigateway.ssl.key-store-password, --apigateway.ssl.trust-store-password and these encrypted values must be passed to router service.

Encryption of secrets:

To encrypt the passwords as per Oracle Standards, we recommend toolkit - plato-security-toolkit

Encrypted Password: m4Q1rbtegkWse2s7D2jKfw==

Usage: java -jar plato-security-toolkit-9.1.0.jar

Enter pass phrase: Test123

Enter Salt: 0.9412345671234567

Encryption of salt:

To encrypt --salt value used while generating encrypted secret. This encrypt salt must be passed to router service.

To encrypt the salt as per Oracle Standards, we recommend toolkit - plato-security-salt-encryption-toolkit

Usage: java -jar plato-security-salt-encryption-toolkit-9.1.0.jar

Enter Salt: 0.9412345671234567

Encrypted Password:

VmtjMWQxTnJOVlpPV0VaWFZrVndUMWxYTVU1bFJsSlpZMFZLYTFaVVZrWldWbWgzVkrGS1JsWnFVVDA9

PEM file from keystore

```
keytool -exportcert -alias localhost -keystore keystore.jks -rfc -file keystore.pem
```


Timeout parameters

These parameters are similar to earlier ribbon timeout params:

```
spring.cloud.gateway.httpclient.connect-timeout= 3000 //seconds
spring.cloud.gateway.httpclient.response-timeout= 360s
spring.cloud.gateway.httpclient.pool.acquire-timeout=6000 //milliseconds
spring.cloud.gateway.httpclient.pool.max-connections=10000
```

#Properties used webclient call is made to plato-api-gateway for validation:

```
webclient.http.max.connections=1000
webclient.http.acquire.timeout.millisec=5000
webclient.http.connection.timeout.millisec=20000
webclient.http.read.timeout.seconds=20000
webclient.http.write.timeout.seconds=20000
```

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