Oracle® Banking Platform Analytics

Installation Guide

Release 2.10.0.0.0

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Preface

This Installation Guide contains information on installation and configuration of Oracle Banking Platform Analytics (OBPA).

This preface contains the following topics:

Audience

This guide is meant for the teams who perform installation of Oracle Banking Platform Analytics. It covers the step-by-step installation process. It also covers the prerequisites required to be configured before starting the installation process.

Documentation Accessibility

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Related Documents

For more information, see the following documentation:

- For installation of Oracle Banking Enterprise Originations, see the Oracle Banking Enterprise Originations Installation Guide - Silent Installation guide.
- For an overview of security and secure development, see the Oracle Banking Enterprise Originations Security Guide and Oracle Banking Enterprise Originations Secure Development Guide.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
italic	Italic type indicates book titles, emphasis, or placeholder variables for which you

Convention	Meaning
	supply particular values.
`monospace`	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

1 Introduction

Oracle Banking Platform Analytics (OBPA) leverages on the best-of-breed open source technologies to offer data ingestion and processing capabilities for deriving business insights, while ensuring cost-effectiveness, scalability, and reliability. It offers multiple dashboards that provide insights on the origination process.

2 Pre-installation Setups

This chapter explains the pre-installation setups required before installing Oracle Banking Platform Analytics (OBPA).

2.1 Install Oracle Banking

Install the Oracle Banking product for which you want to set up the analytics. OBPA currently supports analytics for the following Oracle Banking products:

- Oracle Banking Platform (OBP): For detailed information on installing OBP, see the Oracle Banking Platform Installation Guide - Silent Installation.
- Oracle Banking Enterprise Originations (OBEO): For detailed information on installing OBEO, see the Oracle Banking Enterprise Originations Installation Guide - Silent Installation.

2.2 Install Required Software

Oracle Banking Platform Analytics requires the following software for its functioning. Ensure that these are already installed.

Assumption: The hardware and memory requirements are already provisioned.

Table 2–1 List of software required

Sr. No.	Software	Version
1	Hadoop	2.10.0
2	Spark	2.4.4
3	Hive	2.3.6
4	HBase	2.3.3
5	Zookeeper	3.5.6
6	Drill	1.17.0
7	Kafka	2.4.0
8	Oracle GoldenGate 12c	12.3.0.1.4
9	Oracle GoldenGate for Big Data 12c	12.3.2.1.6

2.3 Configure Oracle GoldenGate for Big Data

This section explains the configurations required for Oracle GoldenGate for Big Data. It helps in performing data ingestion in real time.

Ensure that Oracle GoldenGate 12c and Oracle GoldenGate for Big Data 12c are installed before starting with these configurations.

2.3.1 Configure file

The configuration files for GoldenGate are present in the **gg_package** folder. After you unzip the OBP or OBEO mediapack, this folder is located at the following path:

obpa_package/gg_package

The **gg_package** folder contains the following:

- component-config
- config
- lib

2.3.2 Set up source

Source refers to the area from where the data needs to be extracted. In the **gg_package** folder, the **source** folder is located at the following path:

gg_package/component-config/goldengate/source

To set up source, do the following:

1. In the **source** folder, copy the contents of the **dirprm** folder from *gg_package/component-config/goldengate/source/dirprm* and paste them at the following path:

   <Source_GG_Installation_dir>/../dirprm

2. Open the following files present in the **dirprm** folder and update the values listed in the following table as per your DB and system configurations.

Table 2–2 Values to update for source

File	Update Values For	Description
obinit.prm	user_id	User ID
	pwd	Password
	rmt_host	Remote Host Name
	mgrport	Manager Port Name
	DB_NAME.SCHEMA_NAME	DB and Schema Name For example, "PBLRT02.BLRT02" where PBLRT02 is DB and BLRT02 is schema
	SCHEMA_NAME	Schema Name For example, "BLRT02"

Table 2–2 Values to update for source

File	Update Values For	Description
obext.prm	user_id	User ID
	pwd	Password
	DB_NAME.SCHEMA_NAME	DB and Schema Name For example, "PBLRT02.BLRT02" where PBLRT02 is DB and BLRT02 is schema
	SCHEMA_NAME	Schema Name For example, "BLRT02"
obpump.prm	user_id	User ID
	pwd	Password
	rmt_host	Remote Host Name
	mgrport	Manager Port Name
	DB_NAME.SCHEMA_NAME	DB and Schema Name For example, "PBLRT02.BLRT02" where PBLRT02 is DB and BLRT02 is schema

3. Perform initial load on extract server. Add extract using following command:

   $GG_HOME/ggsci

   ggsci>> ADD EXTRACT OBINIT, SOURCEISTABLE

   ggsci>> INFO EXTRACT OBINIT

2.3.3 Set up target

Target refers to the area where the data needs to be replicated. In the **gg_package** folder, the **target** folder is located at the following path:

gg_package/component-config/goldengate/target

To set up target, do the following:

1. In the **target** folder, copy the contents of the **dirprm** folder from *gg_package/component-config/goldengate/target/dirprm* and paste them at the following path:

   <Target_GG_Installation_dir>/../dirprm

2. Open the following files present in the **dirprm** folder and update the values listed in the following table as per your DB and system configurations.

Table 2–3 Values to update for target

File	Update Values For	Description
custom_kafka_ producer.properties	bootstrap.servers	Kafka Server details It is recommended to configure more than one nodes. For example, if platform consists of a cluster of 3 nodes, then you need to add three: mum00cbq.in.oracle.com, mum00bhc.in.oracle.com, mum00aqx.in.oracle.com:9092
kafka.props	gg.classpath	Classpath for kakfa libraries, gg library and config Update the details highlighted in **bold**: ***/scratch/ggate****/dirprm* ***/scratch/bdp/kafka****/libs/** ***/scratch/obpa****/gg_ package/lib/com.ofss.ob.gg.producer.jar* ***/scratch/obpa****/gg_ package/lib/com.ofss.ob.infra.jar* ***/scratch/obpa****/gg_package/config*
	Djava.class.path	Classpath for ggjava.jar Update this classpath.
obrinit.prm	DB_NAME.SCHEMA_NAME	DB and Schema Name For example, "PBLRT02.BLRT02" where PBLRT02 is DB and BLRT02 is schema

3. Perform initial load on replicate server. Add replicate using following command:

   $GG_HOME/ggsci

   ggsci>> ADD REPLICAT OBRINIT,SPECIALRUN

2.3.4 Set up target

Execute the following extract commands on the extract server:

ggsci >>ADD EXTRACT OBEXT , INTEGRATED TRANLOG , BEGIN NOW

You can also specify time using BEGIN {NOW | yyyy-mm-dd[hh:mi:[ss[.cccccc]]]}

ggsci >>add exttrail ./dirdat/gj, extract OBEXT

ggsci >>DBLOGIN USERID C##GG@C72255A PASSWORD welcome1

ggsci >>register extract OBEXT database container (PBLRT02);

ggsci >>start extract OBEXT

Execute the following pump commands on the extract server:

ggsci >>ADD EXTRACT OBPUMP , exttrailsource ./dirdat/gj

ggsci >>add rmttrail ./dirdat/gj , extract OBPUMP

ggsci >>start extract OBPUMP

Get the current scn number from the database and replace scn_number in obinit.prm.

SQL> select current_scn from v$database;

CURRENT_SCN

16483686664039

2.3.5 Start initial load process

Start extract from extract server:

$GG_HOME/ggsci

ggsci>>start extract OBINIT

Monitor extract process:

$GG_HOME/ggsci

ggsci>>info extract OBINIT

2.3.6 Start continuous replicate

Execute the following commands on replicate server once init load is finished:

ggsci >>add replicat OBREP exttrail ./dirdat/gj

ggsci >>start OBREP , aftercsn **16483686664039**

3 Installation Process

This chapter covers the installation process of Oracle Banking Platform Analytics (OBPA).

3.1 Download

When you download the product mediapack, it contains the **obpa_package** folder among other folders. This is the main installation folder for Oracle Banking Platform Analytics. It contains the following:

installer.sh

obpa_package/app_package/rest

obpa_package/app_package/rest

obpa_package/bd_package/db-artifacts

obpa_package/bd_package/insights

obpa_package/gg_package/component-config

obpa_package/gg_package/config

obpa_package/gg_package/lib

obpa_package/scripts/ingest-scripts

obpa_package/scripts/kafka

obpa_package/scripts/schema-scripts

obpa_package/scripts/spark

obpa_package/scripts/uninstall

obpa_package/scripts/utility-commands

3.2 Install OBPA Application

To install the application, do the following:

1. In the **obpa_package** folder, open the **installer.sh** file and change the installation directory where you want to install OBPA:

   export INSTALLATION_DIR**=/scratch**

2. Execute **installer.sh**.

3.3 Execute Scripts

Execute the following scripts:

1. HBase Schema Creation: Run **setup.sh** available at *obpa_package/scripts/schema-scripts/hbase/setup/setup.sh* on the machine where HBase Master is installed.

2. Hive Schema Creation: Run **setup.sh** available at *obpa_package/scripts/schema-scripts/hive/setup/setup.sh*.
3. Kafka Topic Creation: Run **create-kafka-topic.sh** available at *obpa_package/scripts/kafka/create-kafka-topic.sh*.

3.4 Change Config Properties

The **obp-app-config** folder is present in the obpa installation directory in this location: */scratch/obpa/insights/config*.

Change the following properties:

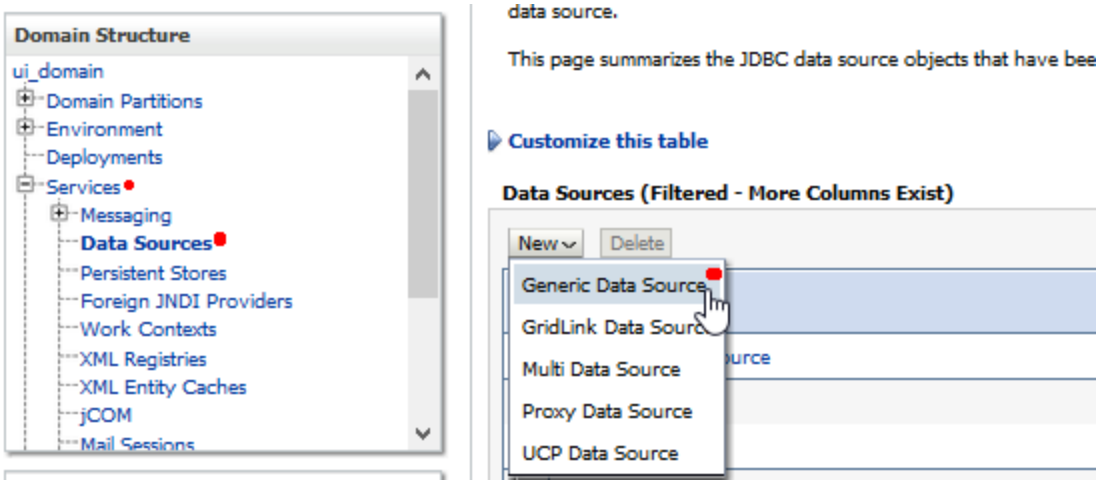
- In **KafkaProps** (*./insights/config/KafkaProps*), set the **BOOTSTRAP_SERVER**.
  - For example, BOOTSTRAP_SERVER=mum00cbq.in.oracle.com:9092, where mum00cbq.in.oracle.com is the machine name and 9092 is the port.
- In **drill.properties** (*/insights/config/drill.properties*), set the **drill_url**.
  - For example, drill_ url=jdbc:drill:zk=mum00cbq.in.oracle.com:2181,mum00bhc.in.oracle.com:2181,mum00aqx.in.oracle.com:2181/drill/drillbits1;schema=hbase
- In **hadoop.properties** (*obpa_installation_dir/insights/config/hadoop.properties*), set the **hdfs.uri**.
  - For example, hdfs.uri=hdfs://mum00cbq.in.oracle.com:9000
- In **hbase.properties** (*obpa_installation_dir/insights/config/hbase.properties*) set the **hbase.master**, **hbase.zookeeper.quorum** and **hbase.zookeeper.property.clientPort**. For example,
  - hbase.zookeeper.quorum=mum00cbq.in.oracle.com,mum00bhc.in.oracle.com,mum00aqx.in.oracle.com
  - hbase.master=mum00cbq.in.oracle.com:16010
  - hbase.zookeeper.property.clientPort=2181
- In **hive.properties** (obpa_installation_dir/insights/config/hive.properties), set the **hive.metastore.uris**.
  - For example, hive.metastore.uris=thrift://mum00cbq.in.oracle.com:9083
- In **integrationTest.properties** (*obpa_installation_dir/insights/config/integrationTest.properties*), set **runspark.path**.
- Set logging directories path in **logging.xml** (*obpa_installation_dir/insights/config/logging.xml*) and **log4j.properties** (*obpa_installation_dir/insights/config/log4j.properties*).

3.5 Configure Drill Data Source

To configure drill data source, do the following:

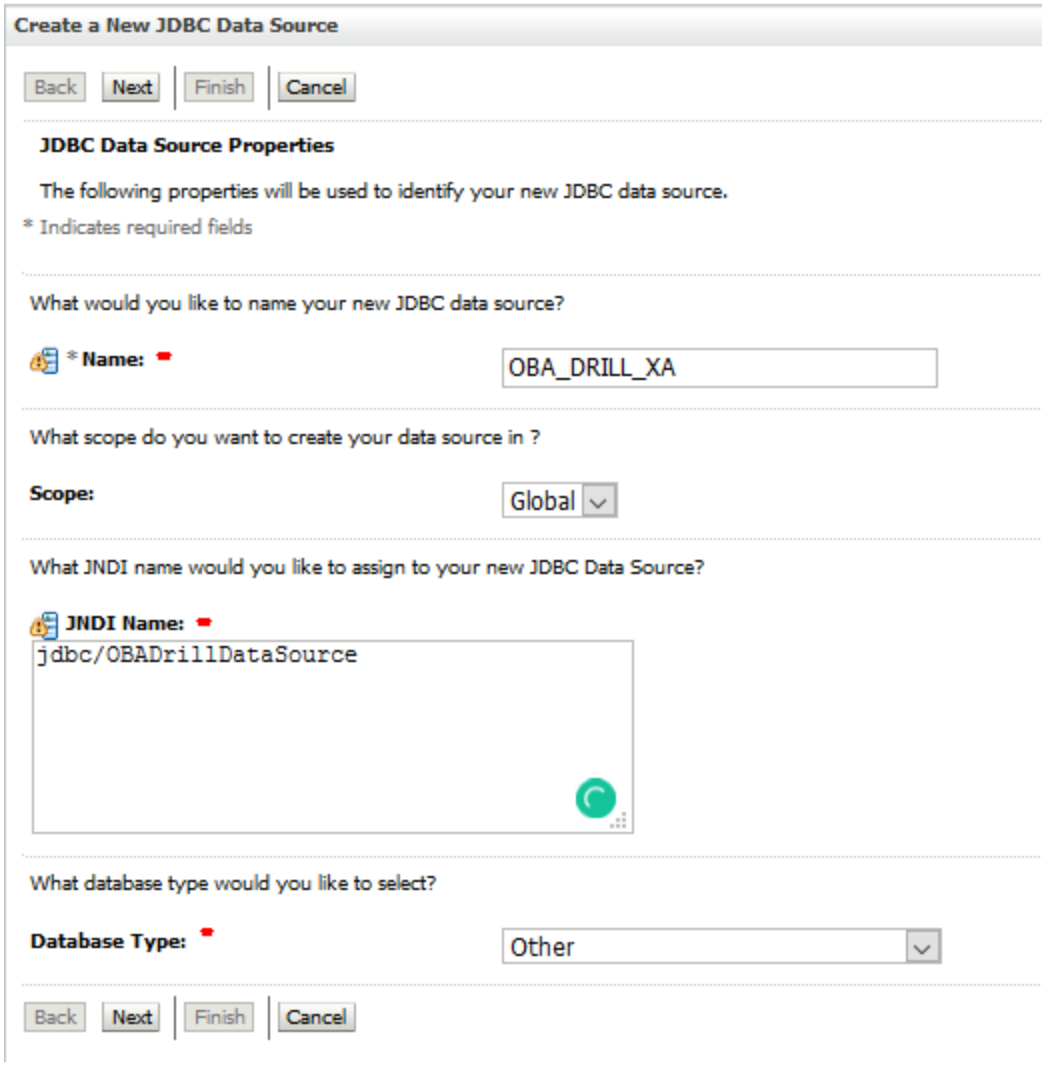
1. In the weblogic console, go to **Services** and then **Data Sources**.
2. Click **New** and select **Generic Data Source**.

Figure 3–1 Select Generic Data Source



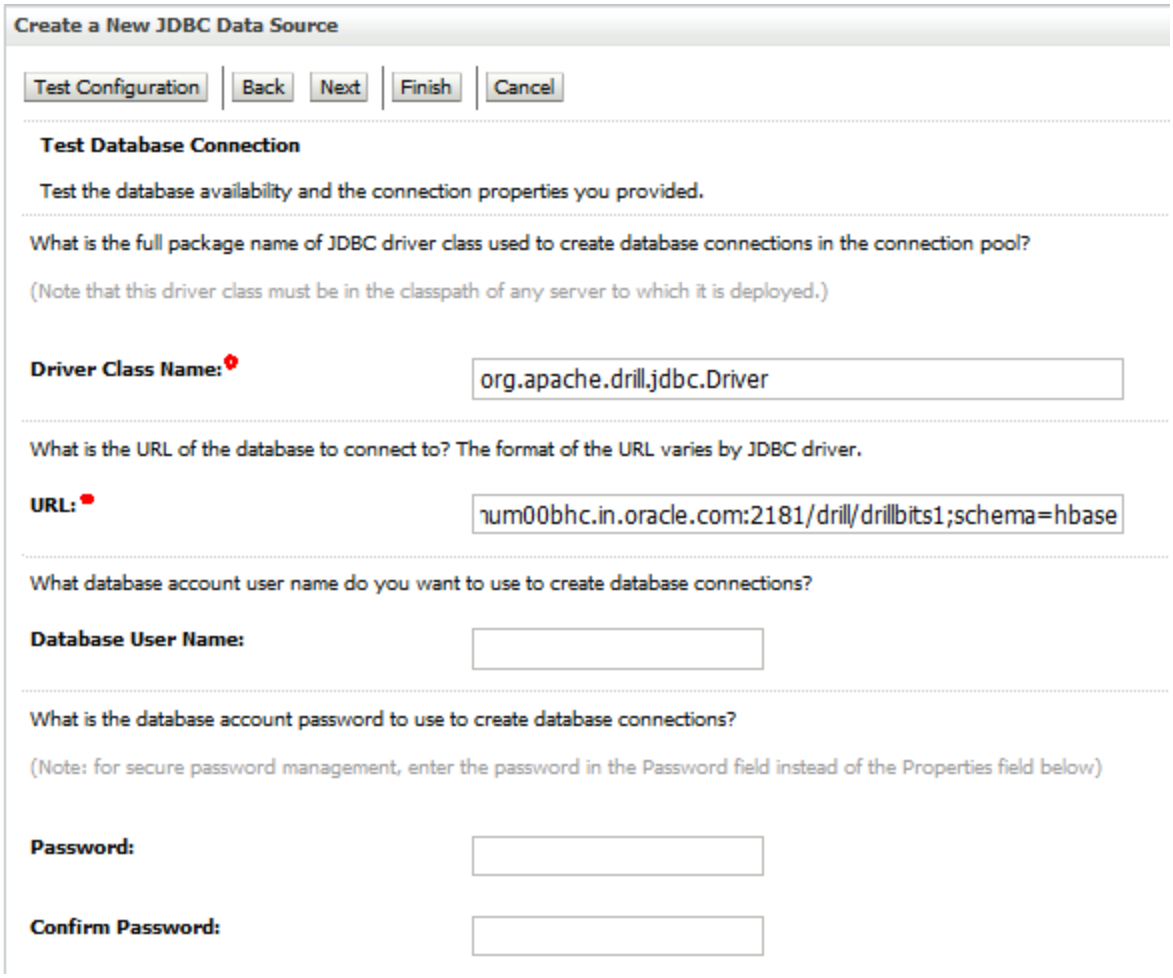
3. In the Create a New JDBC Data Source section, enter the following details and click **Next**:
   - Name: OBA_DRILL_XA
   - JNDI Name: jdbc/OBADrillDataSource
   - Database Type: Other

Figure 3–2 Enter JDBC data source details



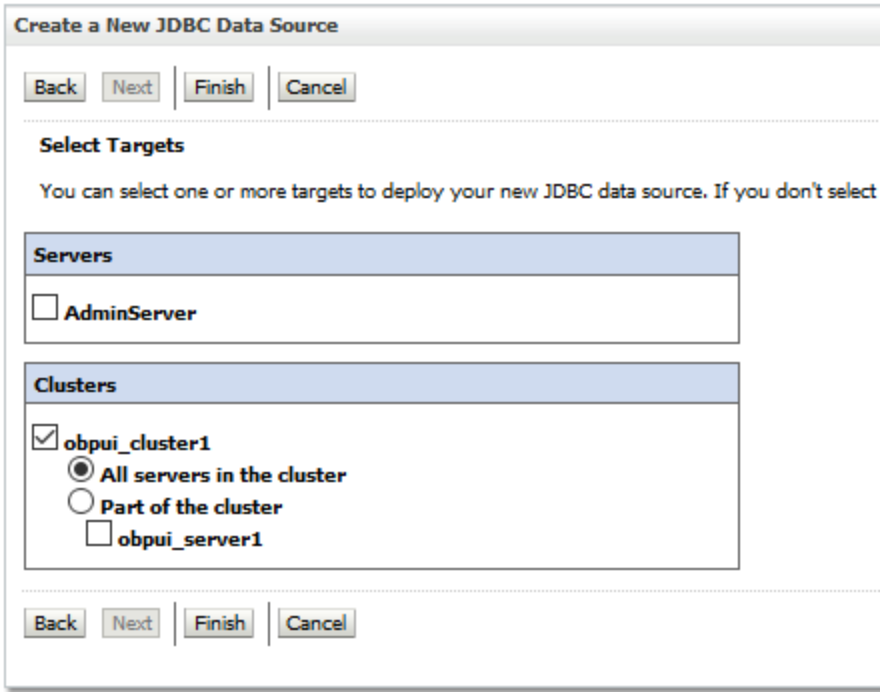
4. Click **Next** for the next three sections.
5. Enter the following details and click **Next**.
   - Driver Class Name: org.apache.drill.jdbc.Driver
   - URL: jdbc:drill:zk=mum00cbq.in.oracle.com:2181,mum00aqx.in.oracle.com:2181,mum00bhc.in.oracle.com:2181/drill/drillbits1;schema=hbase

Figure 3–3 Enter driver class name and URL



6. Click **Finish**.

Figure 3–4 Click Finish



3.6 Deploy REST and UI

REST Deployment:

Deploy the REST applications on weblogic server (OBP Host server). Connection pool configuration required for DRILL

In **setDomainEnv.sh**, add the OBPA config directory to the classpath. Also, provide **drill-jdbc-all** jar to set up the connection pool.

Figure 3–5 Deploy REST

UI Deployment:

Deploy the UI application on weblogic server.

Figure 3–6 Deploy UI

4 Start Application

This chapter covers the process to start the Oracle Banking Platform Analytics (OBPA) application.

4.1 Start Kafka Consumer

To start the Kafka consumer, execute the following command:

./ingest.sh starter <RAW/STAGE> <DOMAIN NAME> <TOPIC NAME> &

4.2 Start Spark Jobs

To start origination task monitoring jobs, run the following:

scripts/spark/og_task_monitoring/start_tasks_monitoring.sh

To start origination application monitoring jobs, run the following:

scripts/spark/og_application_monitoring/start_application_monitoring.sh