

Getting Started With Data Sync

This guide introduces Data Sync Version 2.4 and provides installation instructions. Data Sync loads and transforms data that you want to analyze into a target database, for example, Oracle Database Cloud Service or Essbase Cloud Service (Essbase).

Topics:

- Before You Start
- Installing and Setting Up Data Sync
- Connecting to Oracle Database Cloud Service Using SSH Tunneling
- Connecting To Your Data Target and Data Source

Before You Start

To install Data Sync, you must meet the requirements and prerequisites, download the application from Oracle Technology Network, then install and configure the software.

Prerequisites

Before installing, you must have Java V1.8.x (not V1.9.x) of Java Development Kit (JDK) and apply critical updates.

 **Note:**

Data Sync doesn't work with Java Runtime Environment (JRE); you must have JDK.

Source Database Support

Data Sync supports the following source database types:

- Oracle
- NetSuite

- Microsoft SQL Server
- DB2
- Teradata
- MySQL
- Oracle TimesTen
- Generic JDBC with prepackaged drivers for Greenplum, MongoDB, Salesforce, Redshift, Hive and PostgreSQL
- Other sources that support JDBC
- Oracle Transactional Business Intelligence:
 - Oracle Financials Cloud
 - Oracle HCM Cloud
 - Oracle Procurement Cloud
 - Oracle Project Management Cloud
 - Oracle Sales Cloud
 - Oracle Supply Chain Management Cloud
- Oracle Service Cloud (RightNow)

JDBC Drivers

Data Sync is a Java application that uses Java Database Connectivity (JDBC). Data Sync is installed with Oracle JDBC Version 12.1.0.2.0. If you're using a different database or version, then you must replace the installed Oracle JDBC version with the JDBC version that's specific to your database. To replace the installed JDBC version, you copy the JDBC drivers from your Oracle database environment to the `\lib` directory on the machine where you installed Data Sync.

Vendor	JDBC Driver File name
Oracle	ojdbc7.jar
MySQL	Mysql-connector-java*.jar
Microsoft SQL Server	sqljdbc.jar
DB2	db2java.zip
TimesTen	ttjdbc6.jar, orai18n.jar, timestenjmsxla.jar, jms.jar, javax.jms.jar
Teradata	terajdbc4.jar, log4j.jar, teradata.jar, tdgssjava.jar, tdgssconfig.jar

Security

Oracle recommends that you only install Data Sync in protected environments because Data Sync stores connection information and passwords for your databases.

Installing and Setting Up Data Sync

To install Data Sync, you download the software pack from Oracle Technology Network, install the software, then configure Data Sync.

Download and Install Data Sync

1. On the Data Sync Downloads site (<http://www.oracle.com/technetwork/middleware/bicloud/downloads/index.html>), accept the OTN license agreement, and click the **OAC Data Sync** link to download the OACDataSync.zip file.
2. Copy the OACDataSync.zip file to an installation directory with no spaces in the folder names (for example, c:\DataSync2_4), and extract the contents.

Setting up the Java Home Environment Variable

Depending on your operating system, edit the config.bat or config.sh file, and modify the line that sets the JAVA_HOME. Replace “@JAVA_HOME” with the directory where the JDK is installed. If your JDK directory name contains spaces, then put double-quotes around it.

For example, on Windows:

```
set JAVA_HOME=D:\Java
```

For example, on UNIX:

```
JAVA_HOME=usr/java
```

Starting Data Sync

To start Data Sync and its server, run datasync.bat (Windows) or datasync.sh (Linux/UNIX) from the directory where you installed Data Sync. The Data Sync icon displays in your system icon tray to show that the server is running.



- Select **Start UI** to open the Data Sync client. When you close the Data Sync client, the Data Sync server remains running.
- Select **Exit** to stop the Data Sync server and close the Data Sync client if it is open.

Alternatively, use these files:

- `datasyncClient.bat/sh` opens the Data Sync tool (when the server is running).
- `stopserver.bat/sh` stops the Data Sync server.

Upgrading an Existing Data Sync Installation

If your existing environment is using JDK V1.7, follow these steps to upgrade:

 **Note:**

You can only upgrade if your existing environment is loading to Oracle Database Cloud Service for Oracle Analytics Cloud.

1. Create a new Data Sync 2.3 environment using JDK V1.8.
2. From the old environment, export the metadata (from the **Tools** menu, then **Export**, then and select all categories and projects).
3. From the old environment, import the metadata (from the **Tools** menu, then **Import**, then and select all categories and projects).
4. Use the new environment to upgrade to Data Sync V2.4.

Running Data Sync for the First Time

The first time you start the Data Sync client, the Configuration Setup wizard prompts you to enter the following information:

- **Logical Name.** Specify a name for the repository to distinguish the repository in multi-repository environments. For example, you might name the instance Development Environment or Production Environment.
- **Password.** Provide a password for accessing Data Sync. Optionally, use the **Remember password** option to specify whether Data Sync stores the password so that you don't have to specify it each time you start Data Sync.

 **Note:**

The **Remember password** option on the Enter Password dialog only stores the password if the system property named **Allow Clients To Remember User Password** is set to true. If this property is set to false, then Data Sync overrides the **Remember password** option selected.

Reconfiguring Data Sync With Its Default Settings

To reset Data Sync with default settings and re-run the setup process, run `datasync.bat` (Windows) or `datasync.sh` (Linux/UNIX) in a command window with the `-clean` option.

Uninstalling Data Sync

To uninstall Data Sync, delete the install directory.

Connecting to Database As A Service Using SSH Tunneling

By default, Data Sync V2.4 communicates with Oracle Database Cloud Service using port 1521. Alternatively, you can configure Data Sync to communicate with Database

As A Service using the Secure Shell (SSH) port 22 (this configuration is known as 'SSH Tunneling').

1. Close Data Sync and the Data Sync server.

To stop the Data Sync server, click the Data Sync icon on the Windows tool bar and click **Exit**.



2. Update your JDK/JRE with Java Cryptography Extension (JCE), which supports Unlimited Strength.

The default JDK doesn't install the unlimited strength version of JCE (Java Cryptography Extension). You must install a version of JCE that's compatible with the Java version you're using for Data Sync. For example, you might download JCE V7 from <http://www.oracle.com/technetwork/java/javase/downloads/jce-7-download-432124.html>, or JCE V8 from <http://www.oracle.com/technetwork/java/javase/downloads/jce8-download-2133166.html>.

3. Unzip the contents of the downloaded JCE ZIP file and replace the local_policy.jar and US_export_policy.jar in \$JAVA_HOME/jre/lib/security with the downloaded files.
4. Start Data Sync.
5. From the **Views** menu, click **SSH Tunnels (Beta)**.
6. Create a new entry to configure the port forwarding from the local machine to the remote host.

Option	What to specify
Name	A short descriptive name to identify this configuration in Data Sync.
Remote Host	The IP address of the Database As A Service node.
Remote SSH Port	The SSH Port on the remote host, which is typically 22.
User Name	The user name for the remote server, which is typically <code>opc</code> .
Private Key	The SSH private key file that matches the public key associated with the deployment. When you create a Database As A Service instance, you create a public key and a private key. The Public Key was used on instance creation. The private key is used to connect to the instance at the Operating System (OS) level. Download this file and point the location of that key file.
Passphrase	The password that you specified when you created the database deployment.
Port Forward	The database port on the remote host, which is typically 1521.
Local Port	An unassigned port on the local machine that can be used for the tunnel. If you don't know the port number to enter, click Find Available Port , and select a port.

7. Save the details and test the connection.

When you test a connection and it's successful, Data Sync creates the SSH tunnel, and this SSH tunnel remains active as long as Data Sync is running.

8. Configure the default TARGET connection or create a new database connection to your Database As A Service instance by choosing Oracle (Thin) type connection.

For the **Host**, use `localhost`, and for the **Port**, use the local port that you defined in Step 6.

9. Create a project and load your data as normal.

If for any reason the SSH tunnel closes (or is deactivated), then reported failures in the job will relate to IO Exceptions. From the **Views** menu, click **SSH Tunnels (Beta)**, and correct any issues.

Connecting to Your Data Source

In Data Sync, navigate to the Connections tab and specify connection details for your target database and the data sources that you want to extract from.

Connecting Data Sync to Your Data Source

On the Connections tab, create a connection for each of your data sources. If you load data only from files, skip this task and access the Project-File Data dialog to specify the files and loading details. On the Connections tab, click **New** and specify the connection details of your data source.

- In the **User** and **Password** fields, specify the user name and password for a user with sufficient reporting privileges for the data source.
- In the **URL** field, specify the URL for your data source. For example, for Amazon Redshift you might enter: `jdbc:redshift://bics-source.abcdefg.us.redshift.amazonaws.com:1234/prod`.
- In the **Connection Type** field, select the appropriate data source type. For example, for Amazon Redshift, you select Generic JDBC.

For additional information about specifying connections for JDBC, Oracle Service Cloud, or NetSuite, click Help.

Connecting to a Oracle Database Cloud Service Target

In Data Sync, navigate to the Connections tab and specify connection details for your target database and the data sources that you want to extract from.

Connecting Data Sync To A Oracle Database Cloud Service Data Target

On the Connections tab, edit the connection with the name TARGET, and specify the connection details of your database target.

- In the **Connection Type** field, don't change the connection type **Oracle (BICS)**.

- In the **User** and **Password** fields, specify the user name and password of a user appropriate Application Roles.

The user must have **BI Dataload Author** to load data into a table, and **DV Content Author** to load data into a data set.

- In the **URL** field, specify your Oracle Analytics Cloud URL. For example, <https://...oraclecloud.com>. Do not use URL extensions.

Connecting to an Essbase Target

In Data Sync, navigate to the Connections tab and specify connection details for your target database and the data sources that you want to extract from.

Connecting Data Sync To An Essbase Target

On the Connections tab, edit the connection with the name TARGET, and specify the connection details of your database target.

- In the **Connection Type** field, select **Essbase**.
- In the **User** and **Password** fields, specify the user name and password of a user with the Application Role named **BI Dataload Author**.
- In the **URL** field, specify your Essbase URL. For example, <http://myEssbasehost.com:9000/>.

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This document introduces Oracle Business Intelligence Cloud Service Data Sync Version 2.2 and provides installation instructions.