

Getting Started With Data Sync

This guide introduces Oracle Business Intelligence Cloud Service Data Sync Version 2.3 and provides installation instructions.

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Overview

Data Sync loads data that you want to analyze into a target database, for example, Database As A Service.

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 V1.7 or later of Java Development Kit (JDK) and apply critical updates.

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

Database Support

Data Sync supports the following databases:

- 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 and uses JDBC to extract data from databases. 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 Data Sync client machine.

| 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

Data Sync stores sensitive information, including connection information, to your databases. Install Data Sync in a controlled environment where the operating system and file system privileges are tightly controlled.

Installing and Setting Up Data Sync

To install Data Sync, you download the software pack from OTN, 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 **BICS Data Sync <Version>** link to download the BICSDataSyncVn.n.zip file.
2. Copy the BICSDataSyncVn.n.zip file to an installation directory with no spaces in the folder names (for example, c:\DataSync2_2), and extract the contents.

Note: We recommend that you only install Data Sync in protected environments because the Data Sync client stores transactional system passwords.

Setup The Java Home Environment Variable

Depending on your operating system, edit either the config.bat or config.sh file, modifying the line that sets the JAVA_HOME. Replace "@JAVA_HOME" with the directory where the JDK is installed. If your JDK directory has spaces in the name, 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

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 is displayed 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 Data Sync client if it is open.

Alternatively, run 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

You can upgrade Data Sync and carry forward projects and settings from the earlier environment. For instructions, see the Readme.

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 use to distinguish the repository in multi-repository environments. For example, you might name the instance Development Environment or Production Environment, and that name is then displayed as a tool tip for the system tray Data Sync icon and also on the title bar of the client.
- **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.

- Create a project or select an existing one.
- Set system properties and configure email notifications.

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 communicates with Database As A 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').

Note: This functionality is included in Data Sync Version 2.3 as a Beta feature.

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 is compatible with the Java version you are 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 and 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. |

| Option | What to specify |
|------------|--|
| 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 is 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 (that is, it 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 Target and 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 An Oracle Analytics Cloud Target

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

- In the **Connection Type** field, select **Oracle (Thin)**.
- In the **User** and **Password** fields, specify the user name and password of a user with BI Dataload Author role.
- In the **Service name** field, specify your DBaaS service details. For example, DATASYNC.us.company.com.
- In the **Host** field, specify the host name of your DBaaS service. For example, myDBaaSHost.US.ORACLE.COM.
- In the **Port** field, specify the port number of your DBaaS service. For example, 1521.
- Specify the other mandatory connection details for your DBaaS target.

Connecting Data Sync To An Oracle BI Cloud Service Target

On the Connections tab, edit the connection with the name TARGET, and specify the connection details of your Oracle Business Intelligence Cloud Service.

- In the **User** and **Password** fields, specify the user name and password of a user with BI Dataload Author role.

- In the **URL** field, specify your Oracle Business Intelligence Cloud Service URL. For example, `https://...oraclecloud.com`. Do not use URL extensions.
- In the **Connection Type** field, don't change the connection type **Oracle (BICS)** unless you are loading to Database As A Service rather than the default Schema As A Service that comes with Oracle BI Cloud Service.

Note: If you load data to Oracle Database as a Service rather than the default Schema As A Service, then you must use the Oracle (Thin) connection type in Data Sync. If you were using the Oracle (BICS) connection type to load to Oracle Database as a Service before upgrading to Data Sync V2.3, then you must change the connection type to Oracle (Thin).

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.

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