

TIBCO Jaspersoft running in AWS accessing a back office Oracle database via JDBC with Progress DataDirect Cloud.

This tutorial walks through the installation and configuration process to access data from an Oracle version 11g database located on Windows 10 Virtual Machine on a local network. The data will be viewed in Jaspersoft Studio Community Edition that is installed on a Windows AWS instance and access is provided by Progress Data Direct Cloud (D2C) with the On-Premises Connector. The list of computers for this are:

1. Progress DataDirect Cloud
Location: AWS
2. Jaspersoft Community Edition Server
Location: AWS
Operating System: Windows Server 2008 R2
Products Installed: Tibco Jaspersoft Community Edition version 6.3.1
Progress DataDirect HDP JDBC Driver
3. Oracle Database Server
Location: Windows Hyper-V Virtual Machine
Operating System: Windows 10 Professional
Products Installed: Oracle Version 11g

* Access to the AWS instance with Jaspersoft Community Edition as well as the Oracle database can be provide for purposes of this tutorial.

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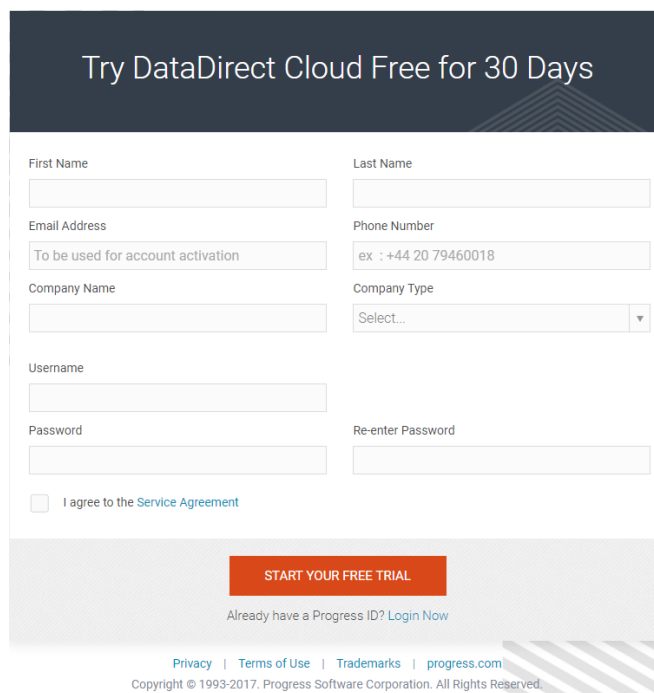
DataDirect Cloud

Supported Browsers

- Internet Explorer® 11.0
- Firefox® 48 +
- Chrome™ 53 +
- Safari® 9.1 +
- Microsoft Edge®

Creating a DataDirect Cloud Account

To create a DataDirect Cloud Account, you need to register for a free 30-day evaluation. Go to the [DataDirect Cloud \(D2C\) website](#) to complete the registration.

A screenshot of the DataDirect Cloud registration form. The form is titled 'Try DataDirect Cloud Free for 30 Days' in a dark header. It contains several input fields: 'First Name', 'Last Name', 'Email Address' (with a note 'To be used for account activation'), 'Phone Number' (with an example '+44 20 79460018'), 'Company Name', 'Company Type' (a dropdown menu), 'Username', 'Password', and 'Re-enter Password'. There is a checkbox for 'I agree to the Service Agreement'. At the bottom, there is an orange button labeled 'START YOUR FREE TRIAL' and a link 'Already have a Progress ID? Login Now'. The footer includes links for 'Privacy', 'Terms of Use', 'Trademarks', and 'progress.com', along with a copyright notice: 'Copyright © 1993-2017, Progress Software Corporation. All Rights Reserved.'

Installing the DataDirect Cloud On-Premises Connector

Progress DataDirect Cloud provides an innovative on-premises connectivity service to access on-premises data stored behind the firewall from any cloud service. In order to do that you will have to install an On-Premises Connector behind your firewall that allows secure and real-time access to in-network data sources from anywhere. To learn more about the On-Premises Connector, you can watch this [video](#).

Supported Operating Systems

DataDirect Cloud On-Premises Connector supports all editions of the following Windows 32-bit and 64-bit operating systems:

- Windows 7
- Windows 8
- Windows 10
- Windows Server 2008
- Windows Server 2012 (Windows 64-bit only)

Note: Installing a 32-bit On-Premise Connector on a 64-bit Windows machine is not a supported configuration.

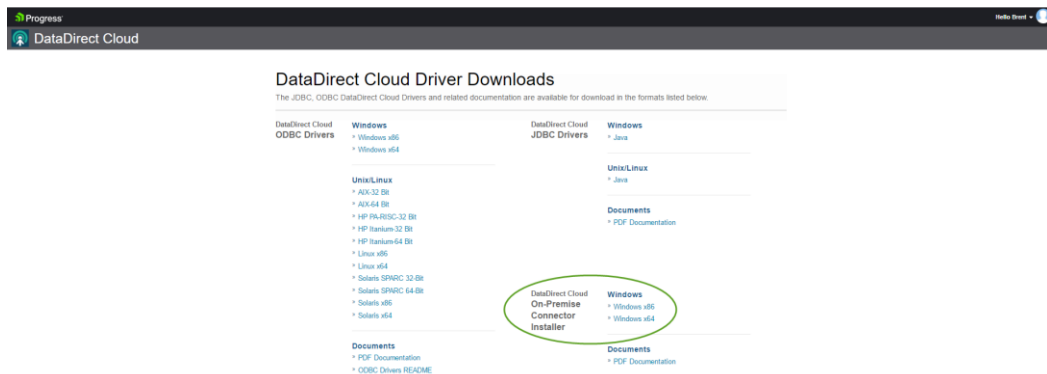
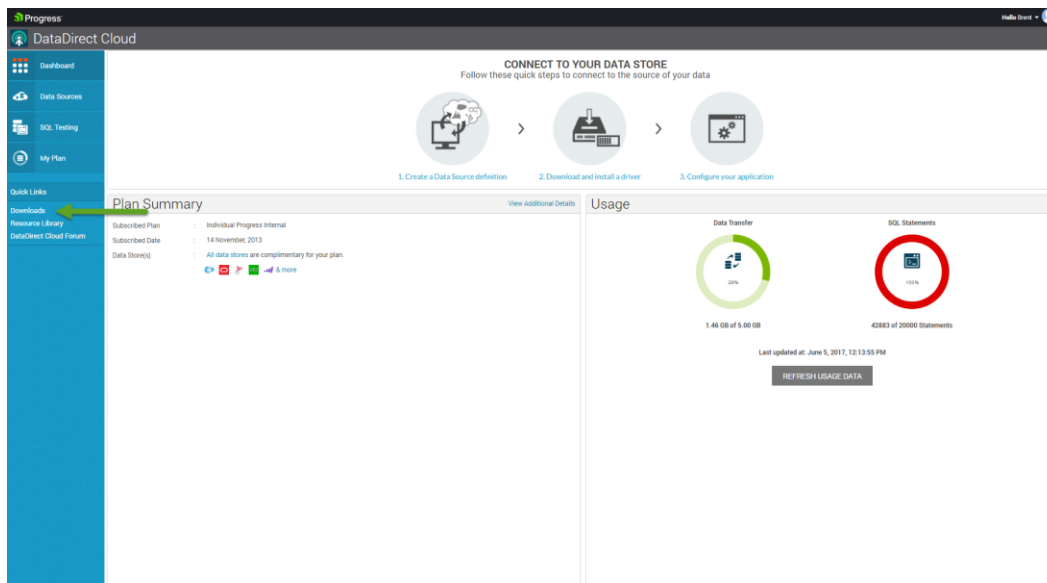
Supported Data Stores

DataDirect Cloud On-Premises Connector supports the following data stores in this release.

- Apache Hadoop Hive
- DB2 for Windows, UNIX, and Linux, z/OS, i
- Greenplum
- Informix
- Microsoft Dynamics CRM
- Microsoft SQL Server and Microsoft Azure
- Oracle
- PostgreSQL
- Progress OpenEdge
- Progress Rollbase
- SugarCRM
- Sybase ASE

Downloading the On-Premises Connector Installer Package

Log in to your DataDirect cloud account, select the Downloads tab on the left of the screen and then on the next window that opens download the JDBC Driver for your platform. For this tutorial we will use the Windows 64-bit JDBC Driver.



Installing the On-Premises Connector

1. Go to the folder where you downloaded the Hybrid Data Pipeline JDBC driver for Windows. Right-Click the

PROGRESS_DATADIRECT_CLOUD_OPCONNECTOR_4.0.2_WIN_64.exe file and select **Run as administrator**.

The **Introduction** window appears.



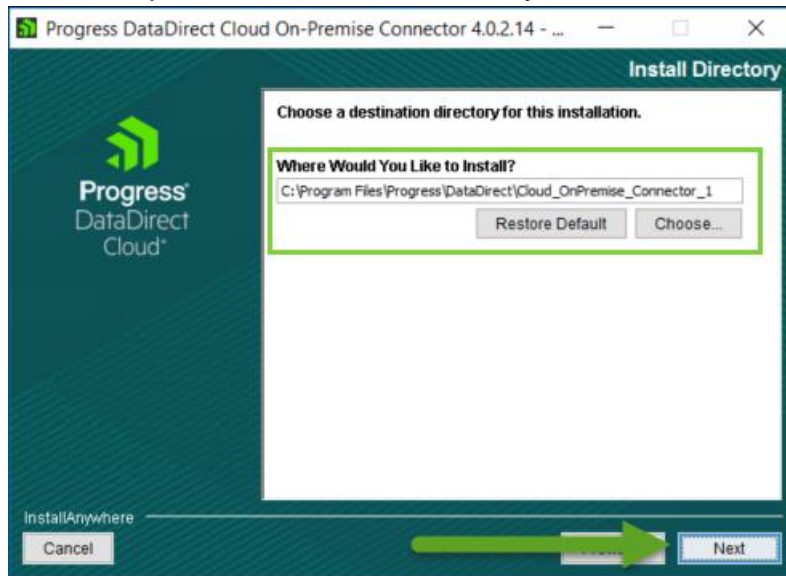
Click on **Next**.

2. On the next screen you may be asked to install a new instance or an existing instance. For this tutorial, we will use the **“Install a New Instance”**



Click on **Next**.

3. On the next screen you would be asked to choose installation directory. You can either keep it as a default or choose your own location.



For this tutorial, we will use the default installation folder:

C:\Program Files\Progress\DataDirect\Cloud_OnPremise_Connector_1

4. On the next screen, choose standard installation if you don't need any customization. For this tutorial, we will use a Standard installation.

If you need to enable support for Microsoft Dynamics CRM or you would need a proxy to access public internet, choose advanced installation.

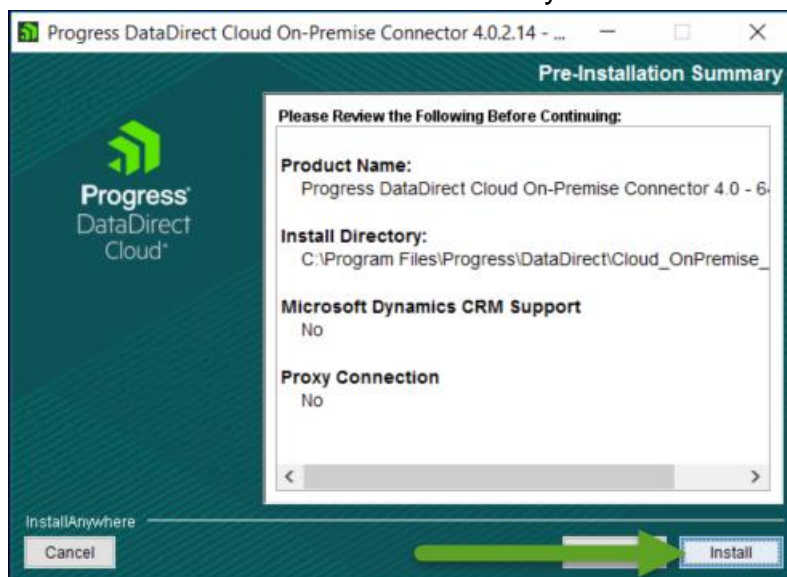


Click on **Next**.

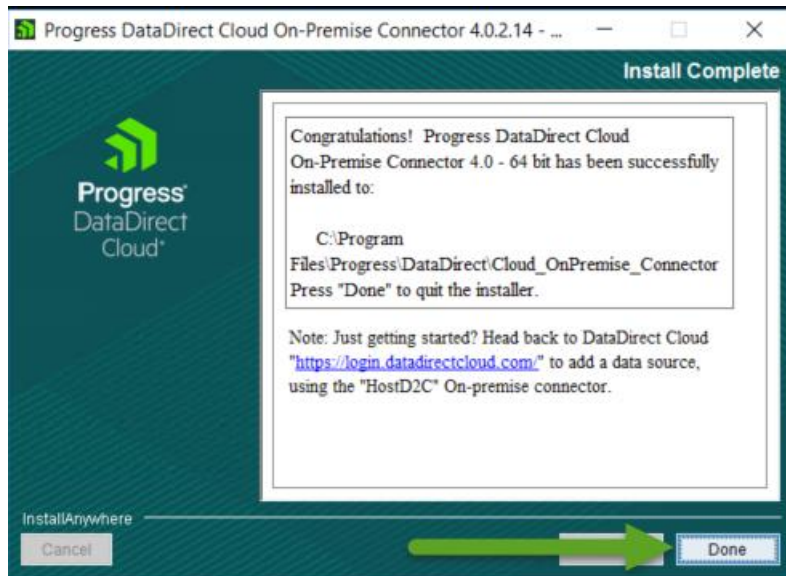
5. On the next screen, you would have to provide the credentials that you use to authenticate with DataDirect Cloud and a unique connector label and click on **Next**.



6. Your credentials will be verified at this point and if it's successfully authenticated, you will be shown Pre-installation summary. Click on **Install** to start the installation.

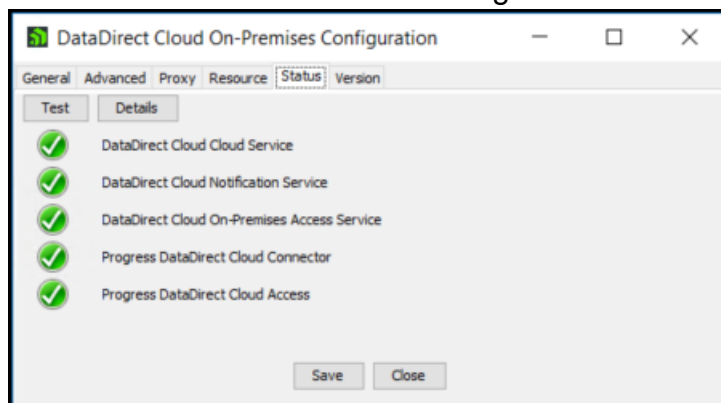


If the installation completes successfully, you should see a screen similar to this:



Click the **"Done"** button.

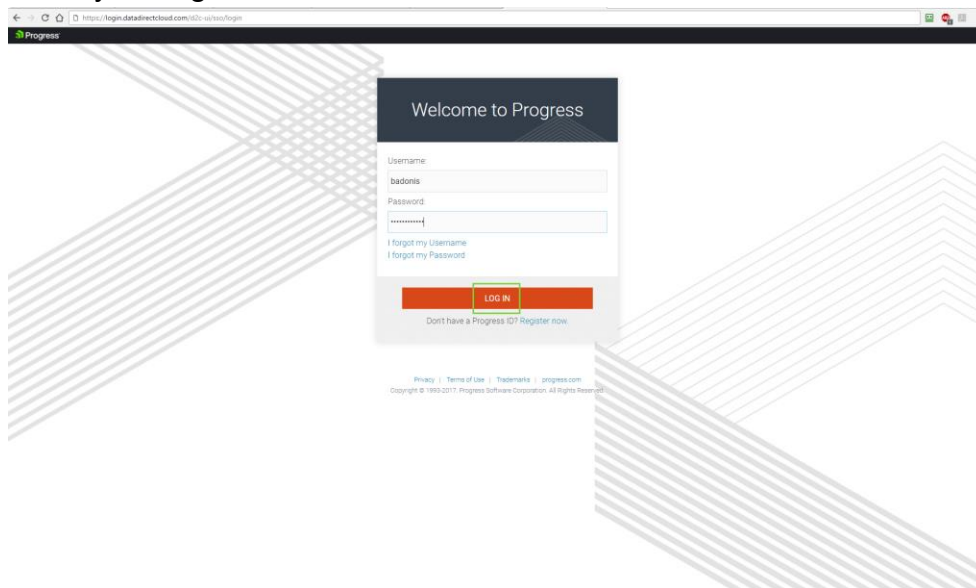
7. The DataDirect Cloud On-Premises Configuration Window pops up and should look like this if the installation and configuration is successful.



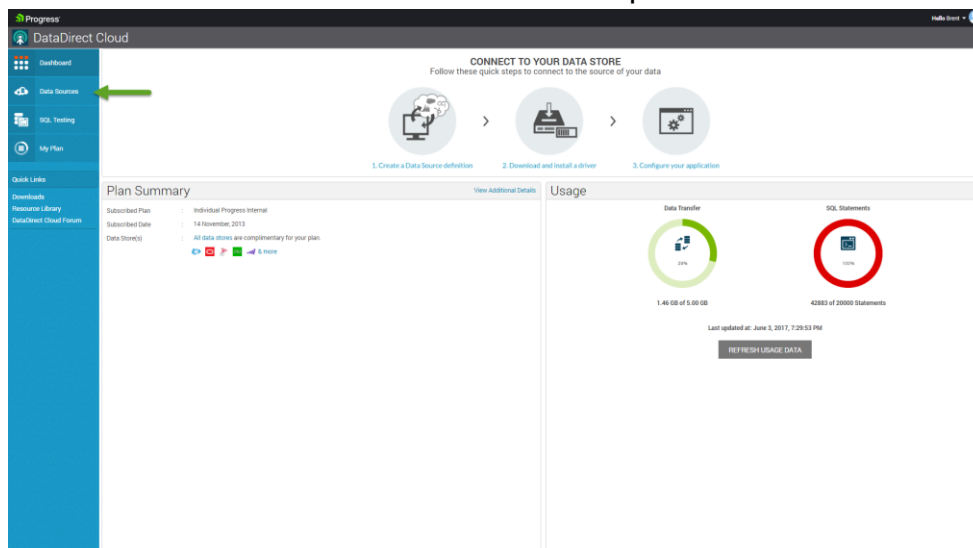
Configure your Oracle Data Source in DataDirect Cloud

Create your DataDirect Cloud Data Source

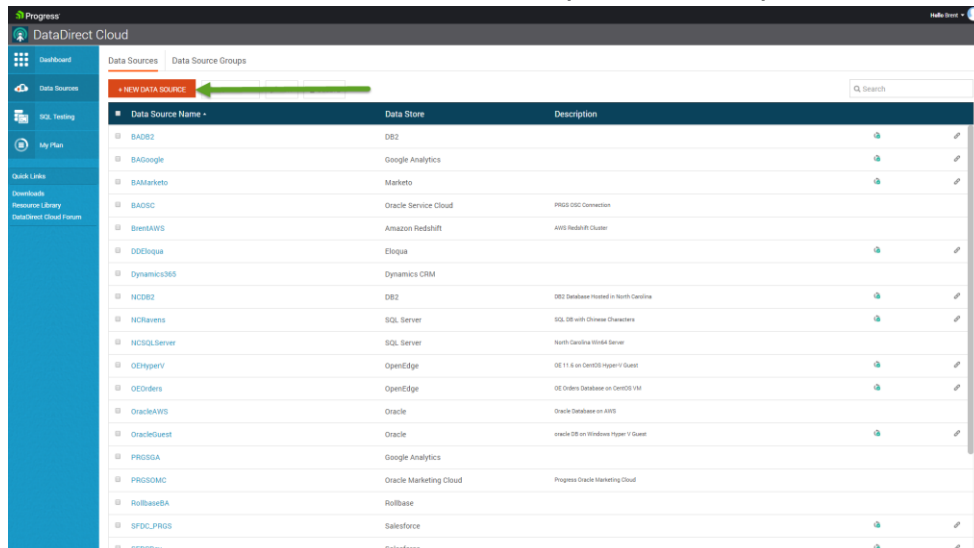
1. Go to the [DataDirect Cloud Website](https://login.datadirectcloud.com/ids-external-login).
2. Enter your login credentials and select **“LOG IN”**.



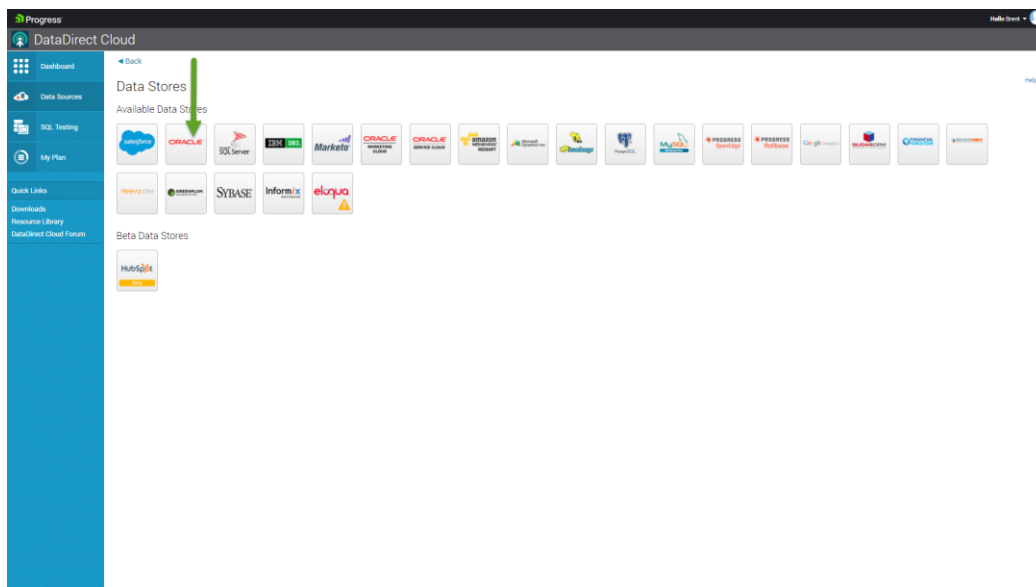
3. Select the **“Data Sources”** link from the left pane.



4. Select the “+NEW DATA SOURCES” option at the top of the screen.



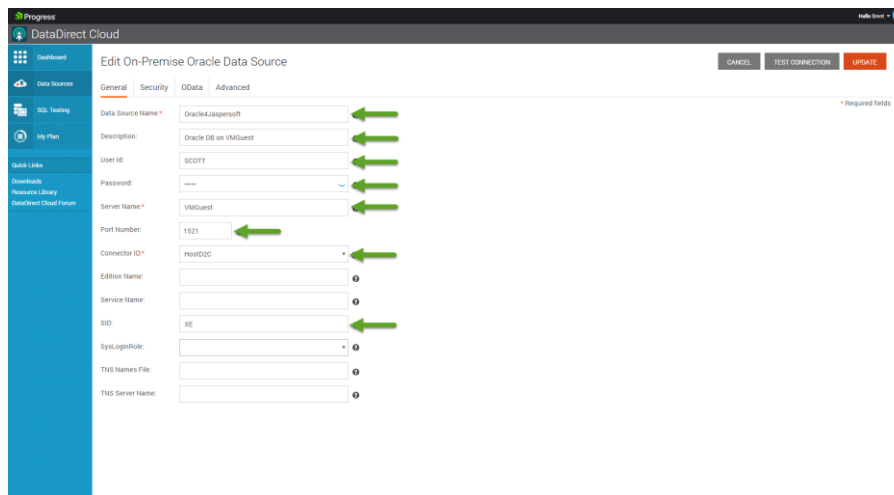
5. Select “Oracle”



6. Now complete the page with your Oracle Database Credentials. You will need:

- Select the On-Premise Radio button
- The **User Id** required to login to the database
- The **Password** for the specific User Id
- The **Server Name** on which the database resides
- The **Port Number** that this database broadcasts on
- The **Connector ID** that you chose when you installed the DataDirect On-Premises Connector
- The **SID**
 - The Oracle System Identifier that refers to the instance of the Oracle Database running on the server that you specified

By clicking on the “?” on the right of each field, it will give you a brief description of what is required for that specific field. You can also get more information from the [Online Documentation for configuring up your Oracle DataSource](#).



Progress DataDirect Cloud

Edit On-Premise Oracle Data Source

General Security OData Advanced

Data Source Name: OracleJaspersoft

Description: Oracle DB on VMGuest

User Id: SCOTT

Password:

Server Name: VMGuest

Port Number: 1521

Connector ID: HAWD20

Edition Name:

Service Name:

SID: XE

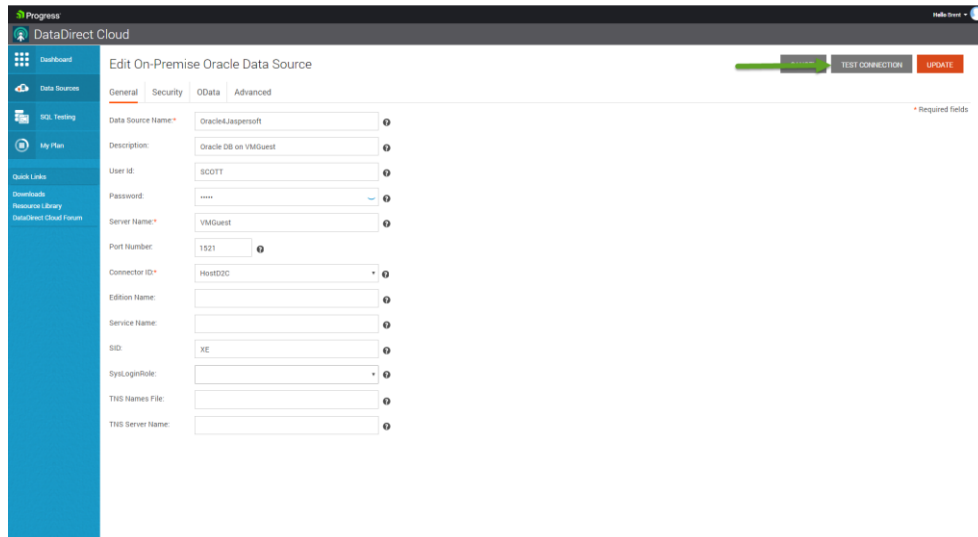
SysLogInRole:

TNS Names File:

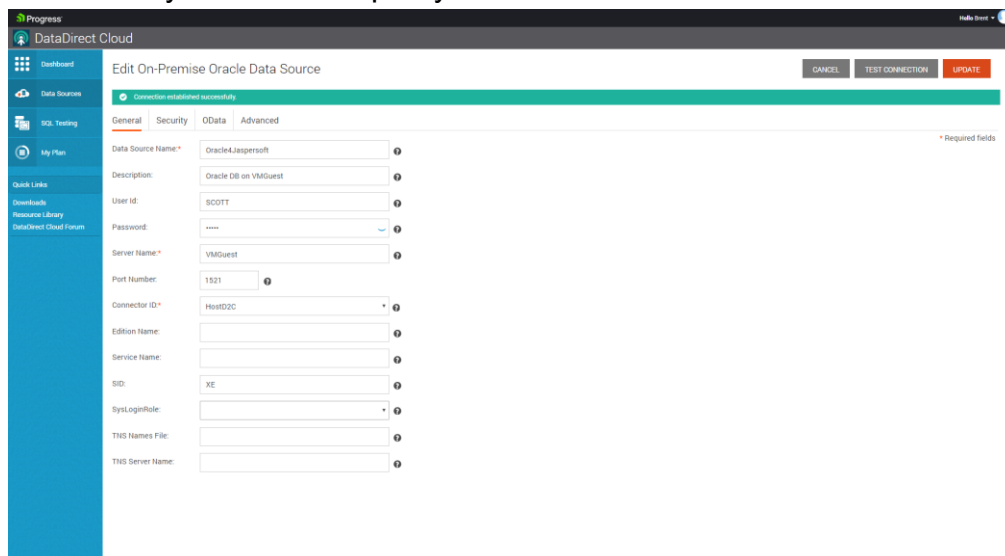
TNS Server Name:

Required fields

7. Once you complete the entries in the screen with your credentials, you can do a “TEST CONNECTION” to see if Data Direct Cloud can establish a connection from AWS to your Oracle Database.



8. If the connection was successful, then you should get a “Connection established successfully” bar at the top of your screen.



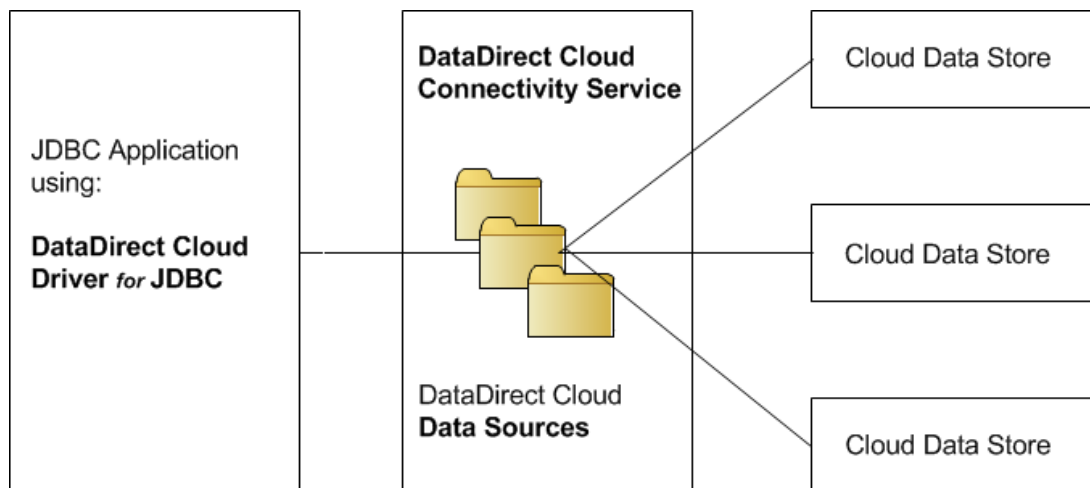
If you do not see the Connection established successfully screen, it will more than likely be because one of the credentials that you provided are not correct – verify this and you can also get more information from the [Online Documentation for configuring up your Oracle DataSource](#).

The DataDirect Cloud JDBC Driver

Getting Started

JDBC™ provides an API that Java applications can use to access a database using Structured Query Language (SQL). The DataDirect Cloud Driver for JDBC, which is compliant with JDBC 4.0 and earlier specifications, works with the DataDirect Cloud connectivity service to provide SQL access to supported cloud data stores from any JDBC application.

To access cloud data using DataDirect Cloud you must first obtain a Progress ID and evaluate or purchase DataDirect Cloud. The relationship between the DataDirect Cloud Driver for JDBC and the connectivity service is shown in the following figure.



The DataDirect Cloud Driver for JDBC connects to a DataDirect cloud Data Source, which in turn, connects to the cloud data store. The DataDirect connectivity service executes JDBC calls from the application and supports operations on data such as queries, inserts, updates, deletes, invocation of stored procedures and queries of meta data.

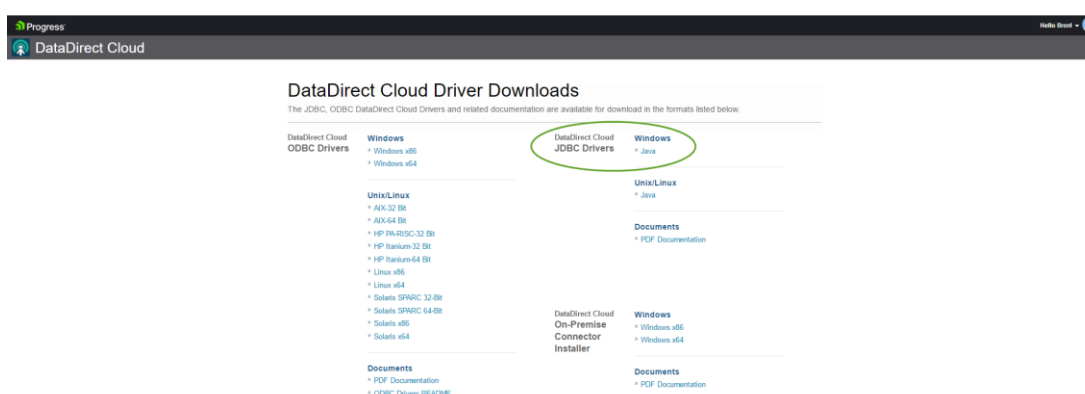
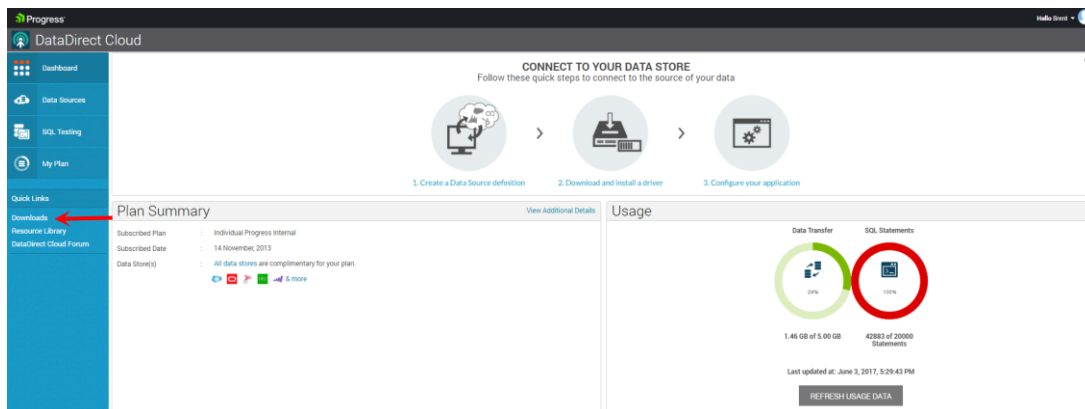
Prerequisites for the JDBC Driver

Before installing the Cloud Driver for JDBC:

- Verify that the host machine has a Java 6 or higher JVM and the PATH contains its location.
- For hard disk space requirements, refer to the README text file in the download package.

Downloading the JDBC Installer Package

Log in to your DataDirect cloud account, select the Downloads tab on the left of the screen and download the JDBC Driver for your platform. For this tutorial we will use the Windows 64-bit JDBC Driver.

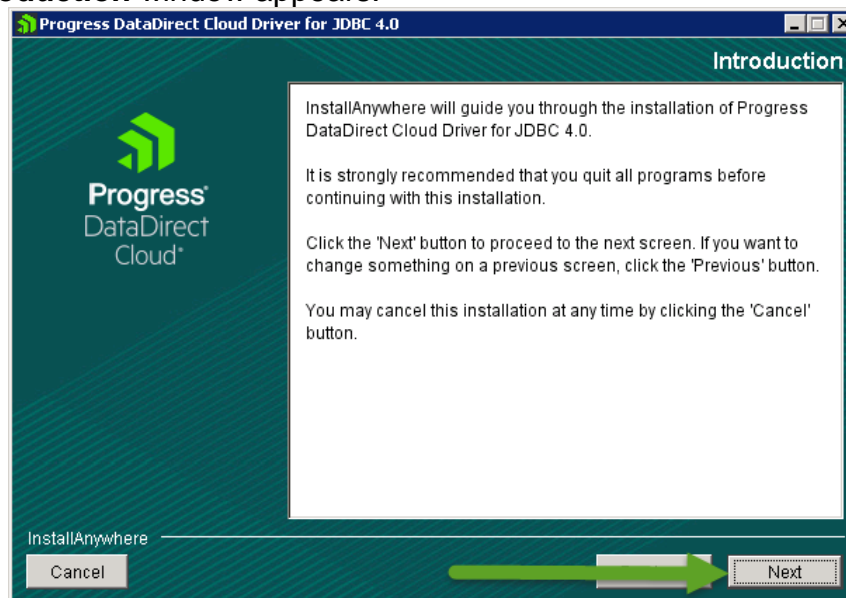


Installing the JDBC Driver

1. Go to the folder where you downloaded the Hybrid Data Pipeline JDBC driver for Windows. Right-Click the

PROGRESS_DATADIRECT_CLOUD_JDBC_4.0.2_WIN.exe file and select **Run as administrator**.

The **Introduction** window appears.

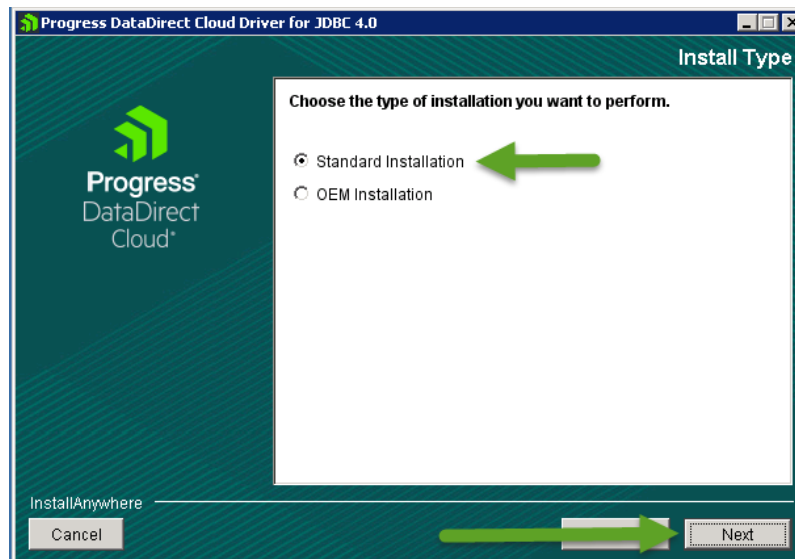


2. Click **Next**.

The Installation Type window appears.

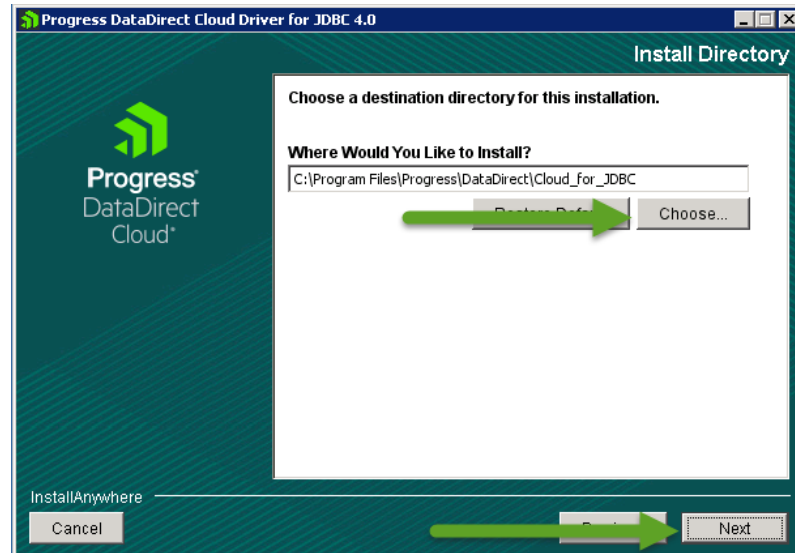
3. Choose the type of installation to perform. Select one of the following options:
 - Standard Installation. Select this option to install the standard unbranded version of the driver. Click Next to continue with the installation. Continue at the next step.
 - OEM Installation. Select this option if you have purchased a licensed version of the product. Enter your branding key. Then, click Next and continue with the next step.

For this tutorial we will use the “Standard Installation”.



Click **Next**.

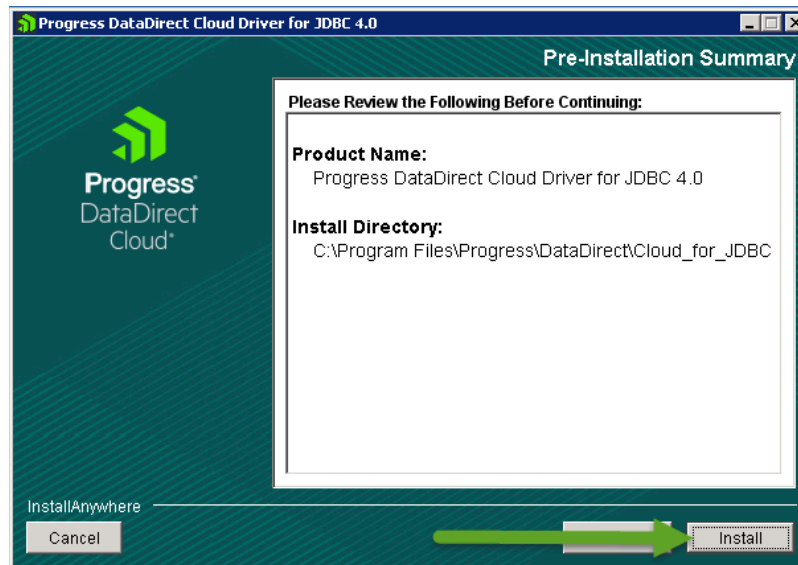
4. In the Where Would You Like to Install? field, click the “**Choose (...)**” button to browse to and select an installation directory or type the path, including the drive letter on Windows machines, of the appropriate directory.
For this tutorial, we will use the default directory.



Click **Next** to continue.

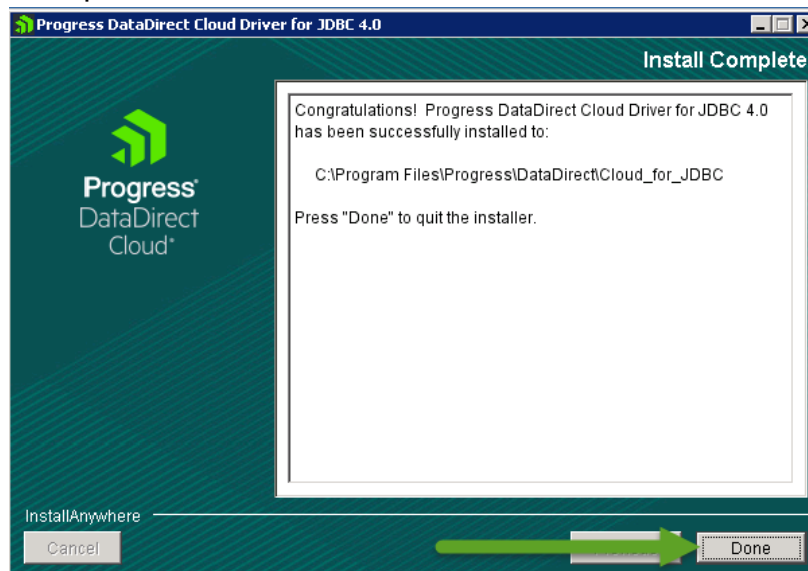
Note: If you specify a directory that contains a previous installation of the driver, a warning message appears allowing you to overwrite your existing installation or specify a different installation directory.

5. A window appears allowing you to confirm your installation options. Click **Previous** to revise your choices, or click **Install** to continue with the installation.



Click **Install**.

6. A window appears congratulating you in the successful installation and displays the folder into which the product was installed.



Click **Done** to exit the installer.

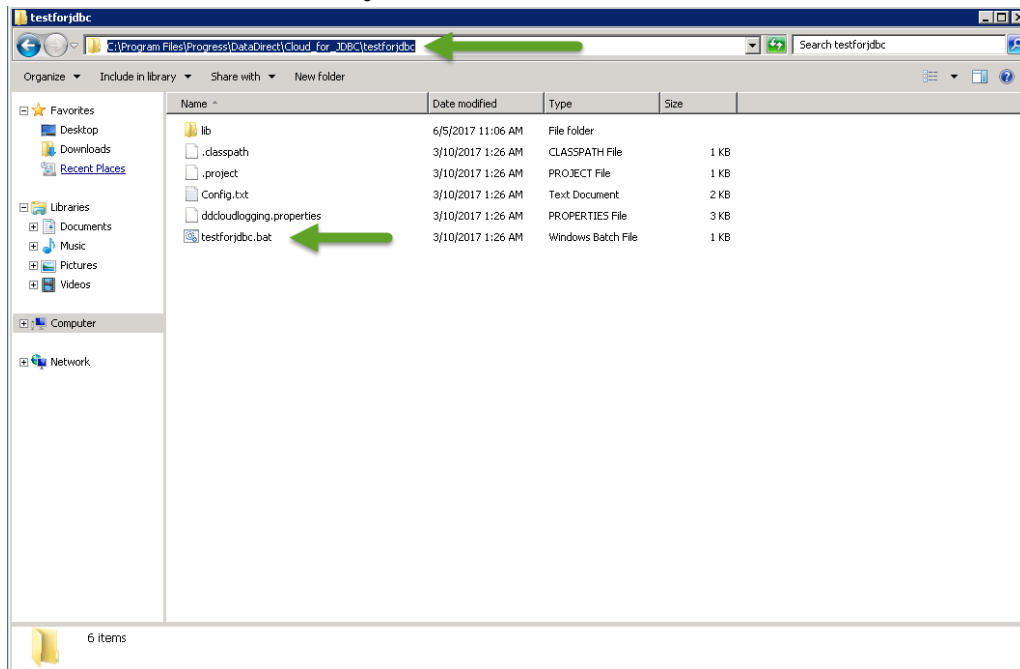
Testing the DataDirect Cloud JDBC Driver

Before using the DataDirect Cloud JDBC, you can test that it is able to connect to your required data source.

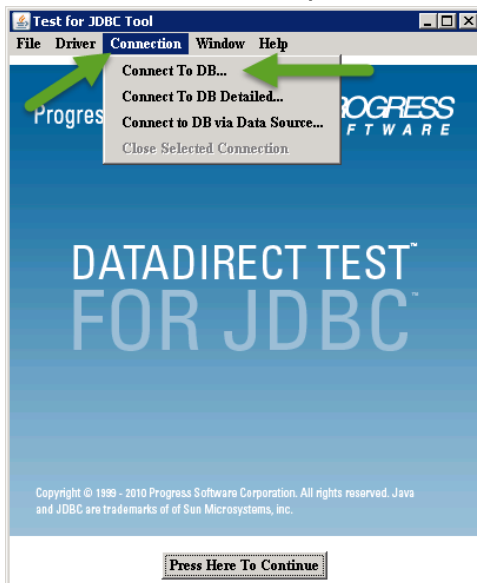
DataDirect Cloud provides a testing tool to do this which is installed when you successfully install the JDBC driver. The tool is called “testforjdbc” and can be found in the “testforjdbc” directory of the installation directory you chose during the installation of the JDBC driver for DataDirect Cloud. In this tutorial, we used the default directory for the installation and so the tool is located in:

C:\Program Files\Progress\DataDirect\Cloud_for_JDBC\testforjdbc

1. Go to the directory where the “testforjdbc” tool has been installed.
2. Double click on the “**testforjdbc.bat**” file.

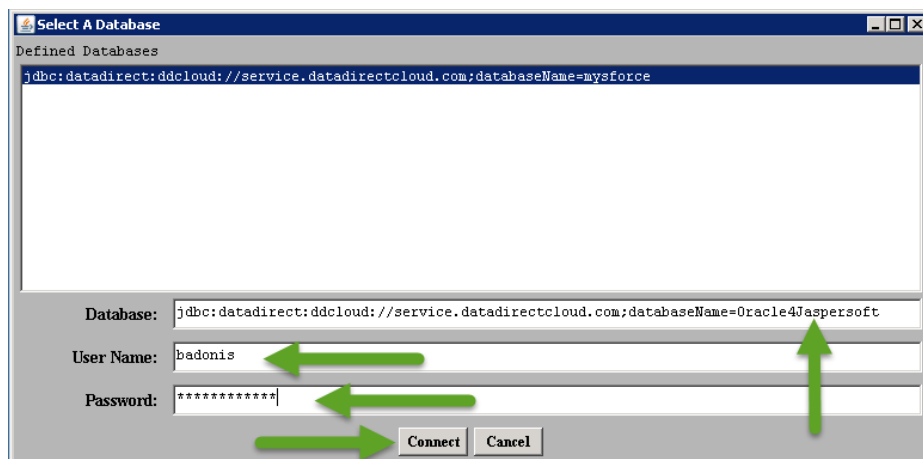


- This will open the **testforjdbc** tool. Select the “**Connection**” option and then select the “**Connect to DB...**” option.



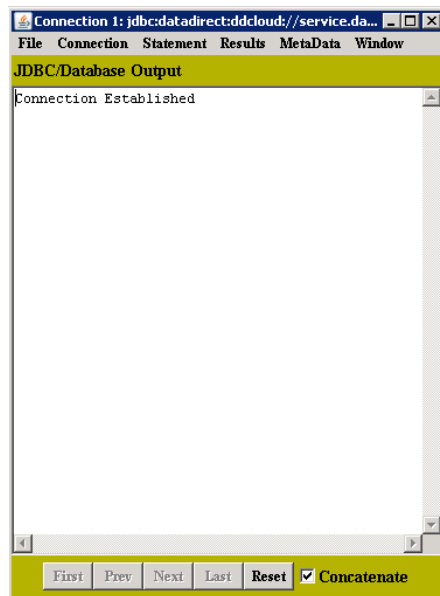
- The “Select A Database” Window pops up.
Replace “**mysforce**” with the name of the Oracle Data Source that you created in Data Direct Cloud.
You also need to enter the following DataDirect Cloud credentials:

- **User Name**
- **Password**



After providing the the data source name, your DataDirect Cloud username and password, click the “**Connect**” button.

5. If the connection was successful, you should get a window telling you that the connection was successful.

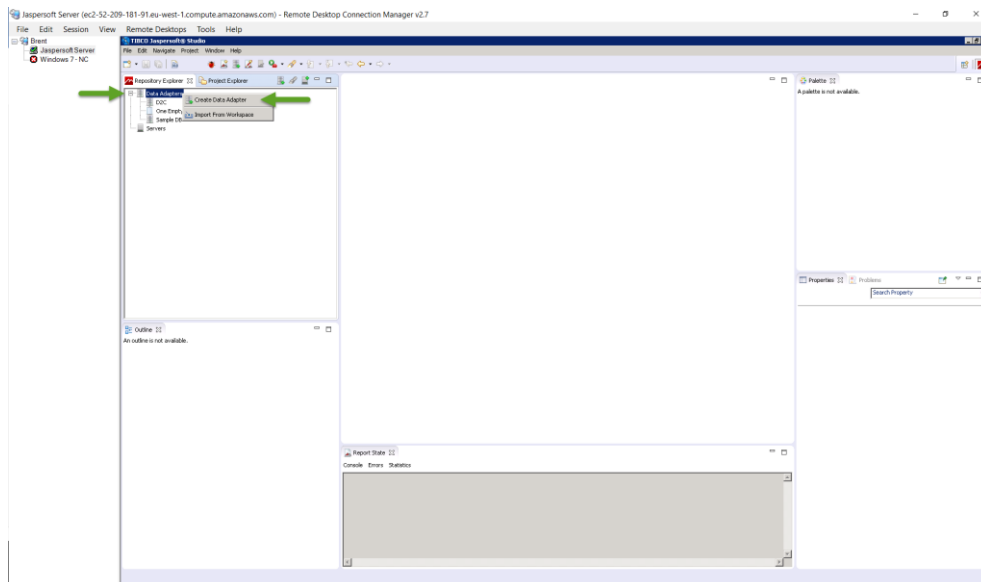


You are now ready to use the DataDirect Cloud JDBC driver with TIBCO JasperSoft Community Edition.

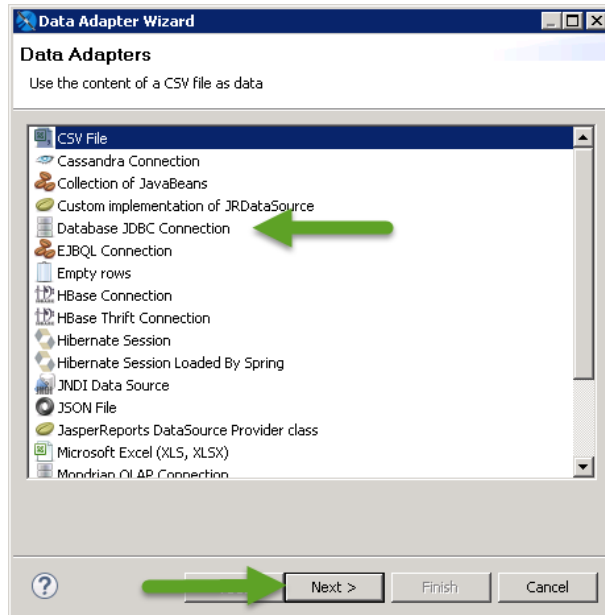
Creating a TIBCO Jaspersoft report from the Oracle Database via JDBC with DataDirect Cloud

Create a new JDBC Adapter in Jaspersoft Studio

1. For this tutorial, we are using TIBCO Jaspersoft Studio version 6.3.1. For more information, please visit the [Jaspersoft Studio website](#).
2. Open Jaspersoft studio.
3. Open the “**Repository Explorer**” View.
 - a. Expand the “**Data Adapters**” tree.
 - b. Right-Click the “Data Adapters” and select “**Create Data Adapter**”



4. Scroll down to the entry that says “**Database JDBC Connection**”.



Click the “**Next**” button.

5. Give the new data adapter you are creating a name and add the following information for the adapter:

Name: **D2COracle**

JDBC Driver: **com.ddtek.jdbc.ddcloud.DDCloudDriver**

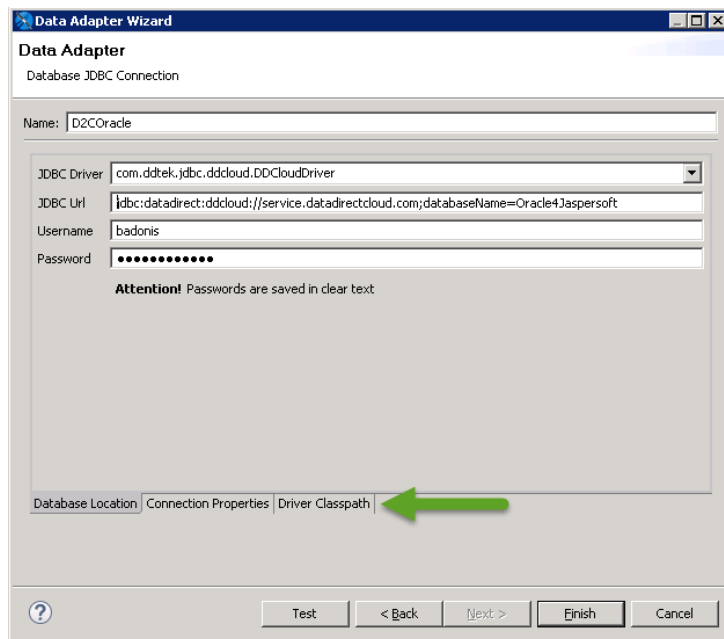
JDBC URL:

jdbc:datadirect:ddcloud://service.datadirectcloud.com;databaseName=Oracle4Jaspersoft

Username: **Your DataDirect Cloud Username**

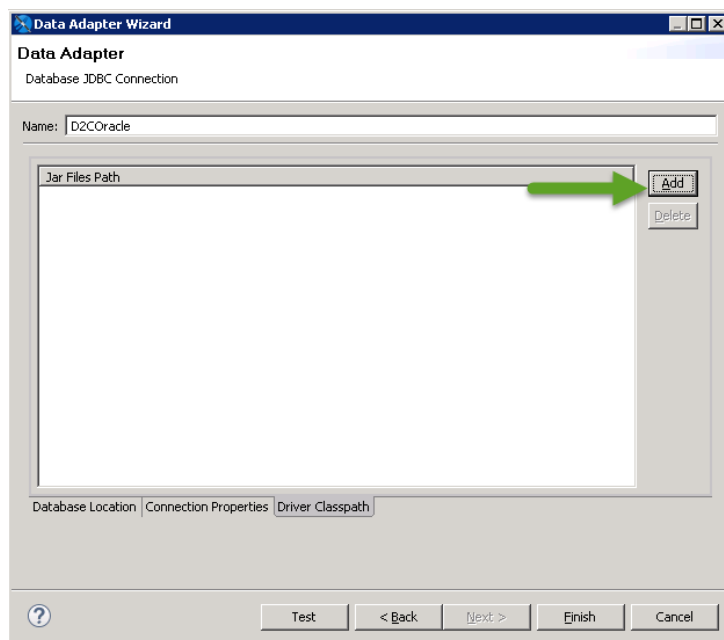
Password: **Your DataDirect Cloud Password**

NOTE: In this tutorial, we created a DataDirect Cloud Oracle Datasource with the name “Oracle4Jaspersoft” and this is the name that we provided in the JDBC URL. If you used a different DataSource Name, please replace “Oracle4Jaspersoft” with the name that you used.

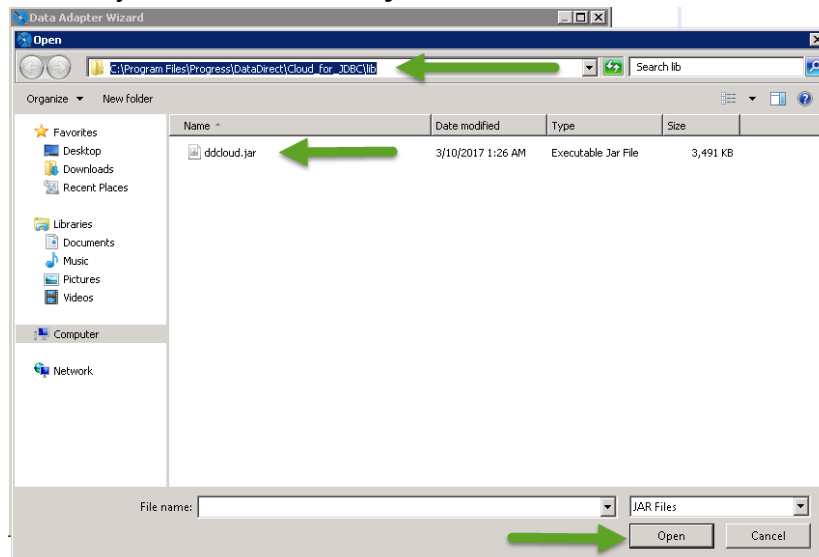


Select the “**Driver Classpath**” Tab.

6. Click the “**Add**” button.

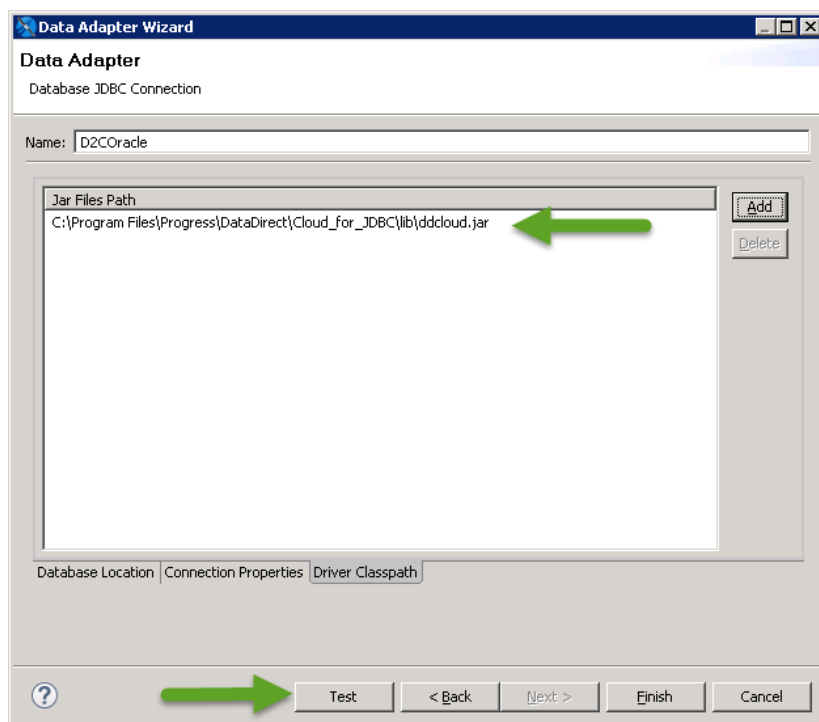


7. Navigate to the directory where you installed the “DataDirect Cloud JDBC Driver”. If you used the default directory settings when doing the install, it will be located in “C:\Program Files\Progress\DataDirect\Cloud_for_JDBC”. Select the “lib” directory and from the window which will list the .jar files in this directory, select “**ddcloud.jar**”

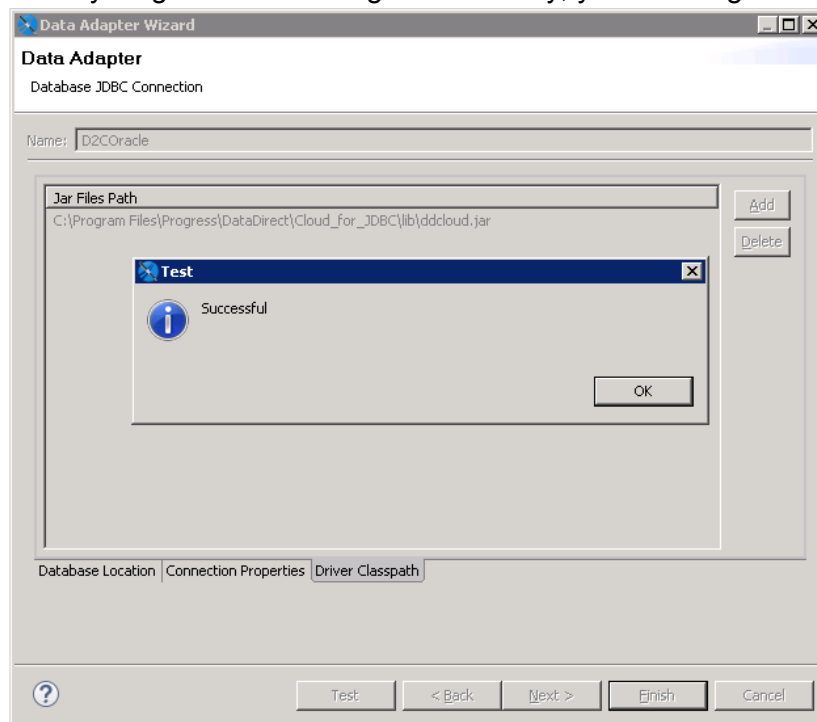


Select the “**Open**” button.

8. The DataDirect Cloud JDBC .jar file will be added to the “Jar Files Path”.
9. Select the “**Test**” button.

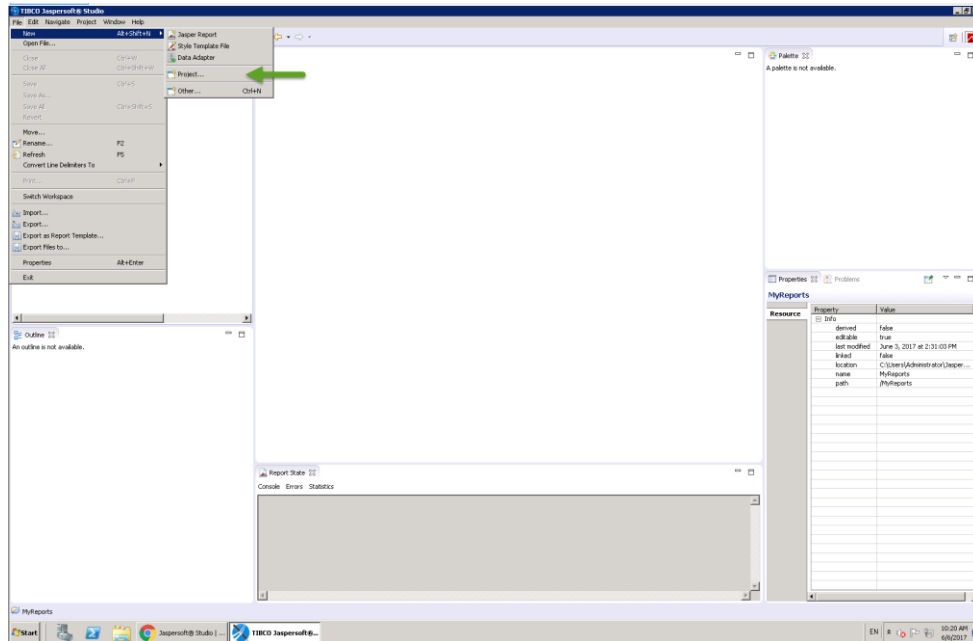


10. If everything has been configured correctly, you should get a “Successful” window pop up.

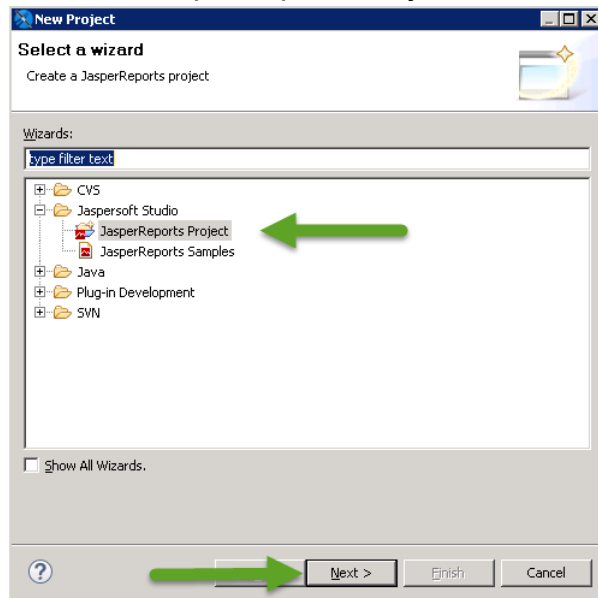


Creating a Jaspersoft Project

1. Select the “**Project Explorer**” View in Jaspersoft Studio.
2. Select File > New > Project

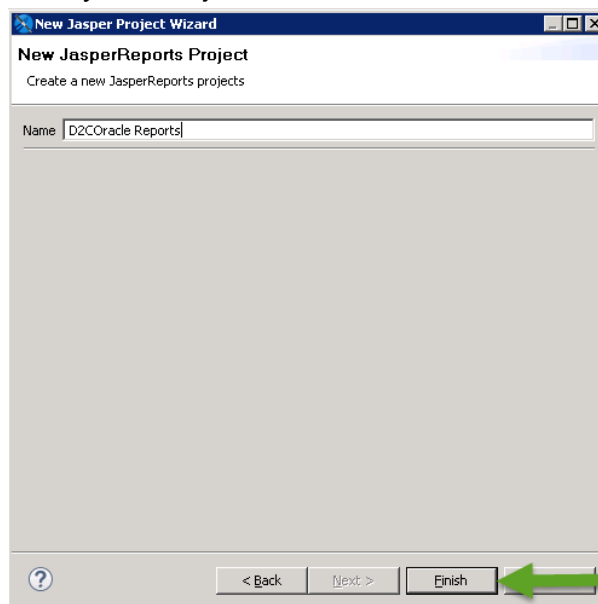


3. Select a “JasperReports Project”.



Select the “**Next**” button.

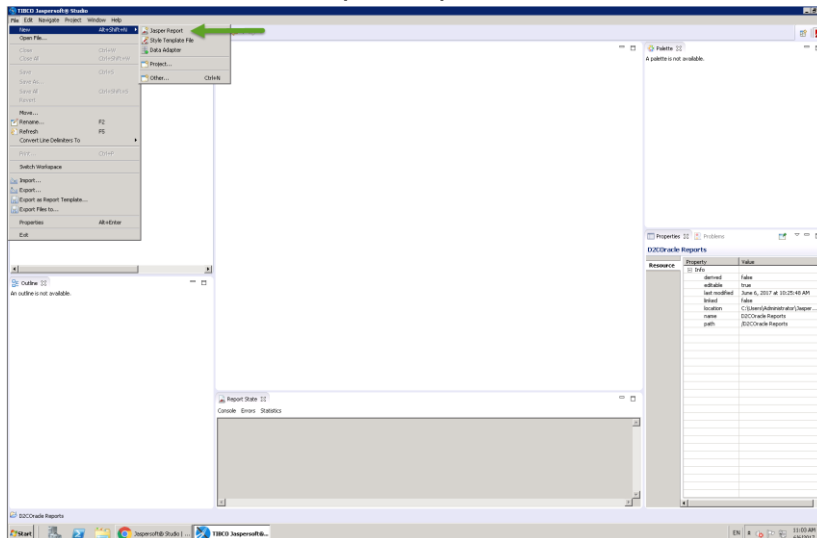
4. Give your Project a name.



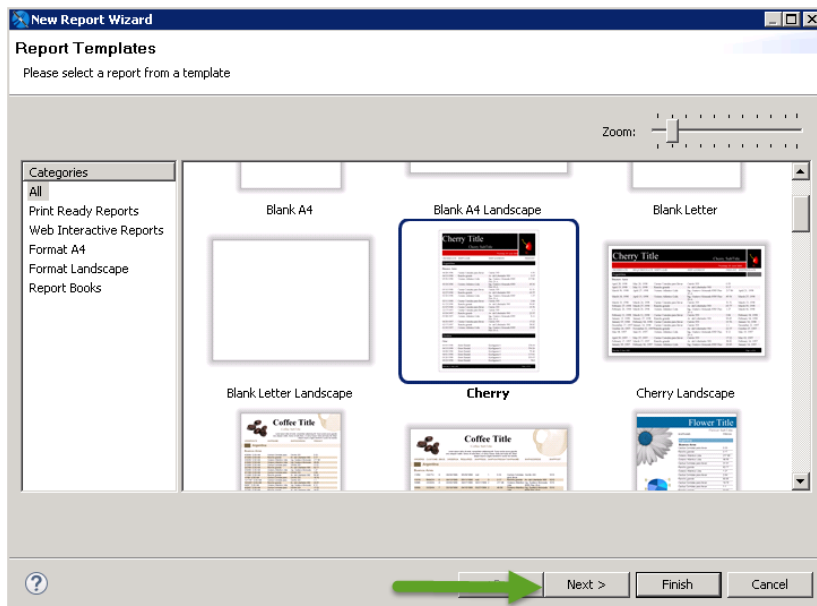
Select the “**Finish**” button.

Creating a Jaspersoft Project Report

1. Select the **“Project Explorer”** View.
Select the project you created before.
Select File > New > Jasper Report

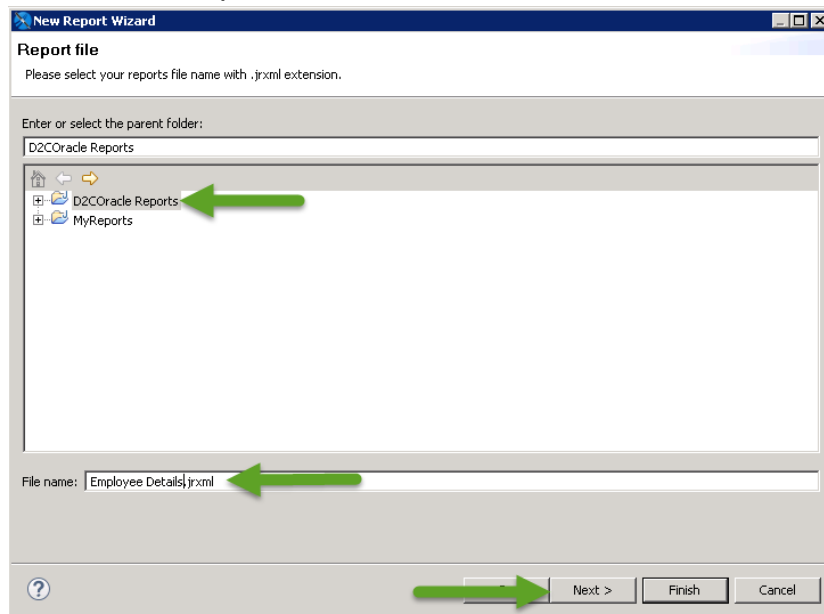


2. Select a report template of your choice.



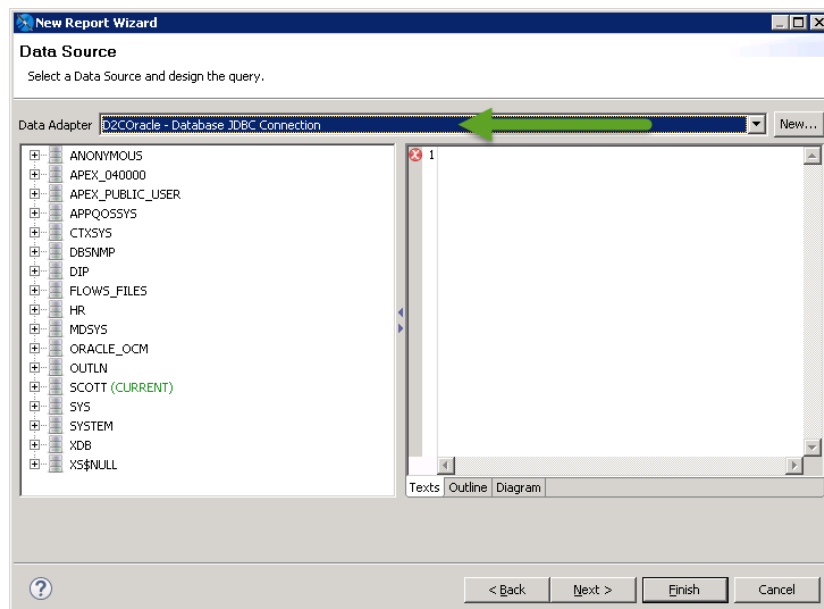
Select the **“Next”** button.

3. Select the Project you want the report to be in.
Rename the report.

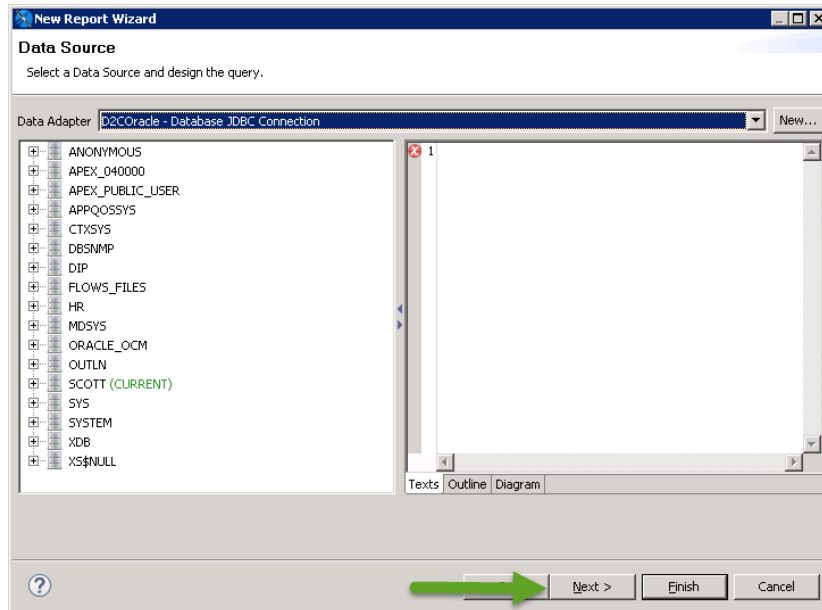


Select the “**Next**” button.

4. In the “Select a Data Source Window”, select the Data Adapter for the DataDirect Cloud JDBC driver to Oracle.



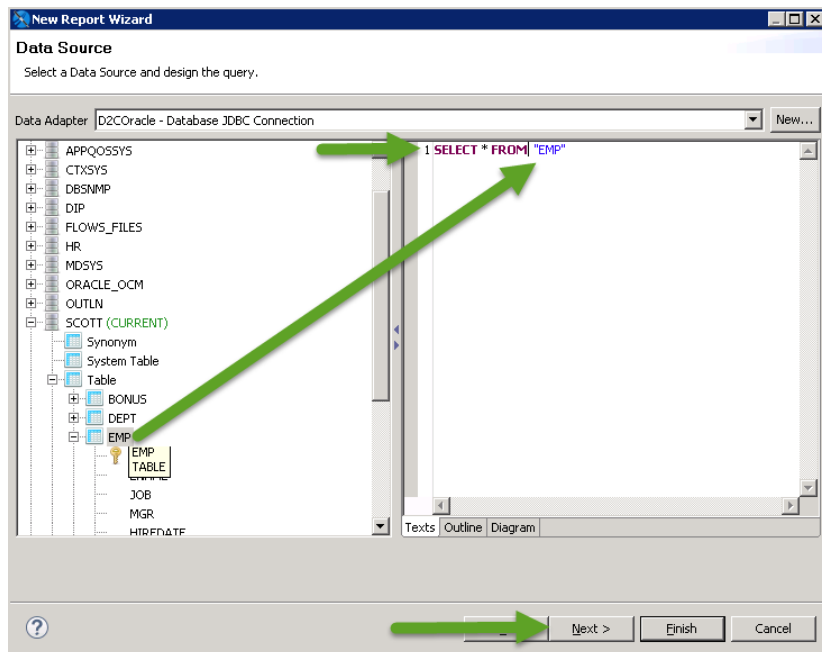
It may take a few seconds to establish the connection to DataDirect Cloud and then to the Oracle database to retrieve and present the schema in the window.



5. Now design your query.

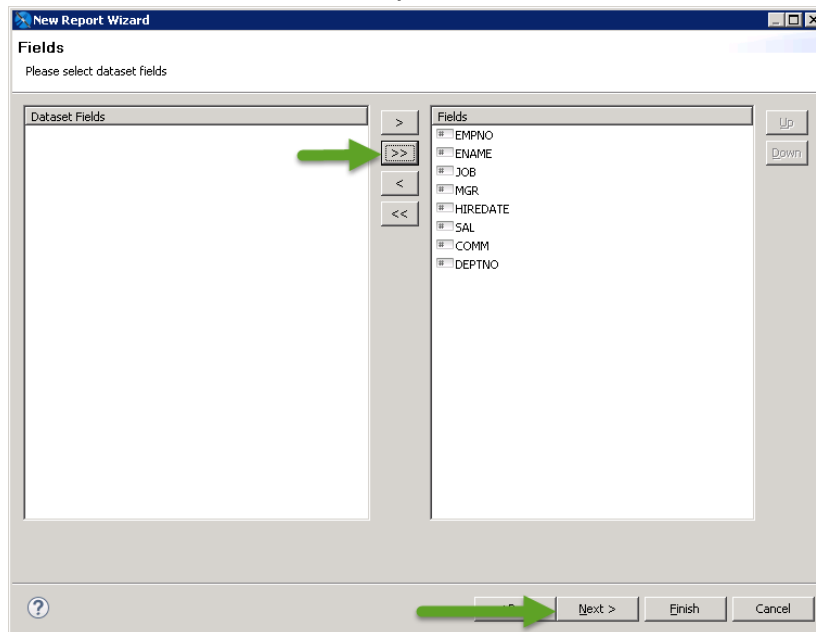
In the right hand pane, type "SELECT * FROM
Select the

- Schema that you want to use in your query.
- Table that you want to use in your query.
- Drag this table to the end of the query you typed.

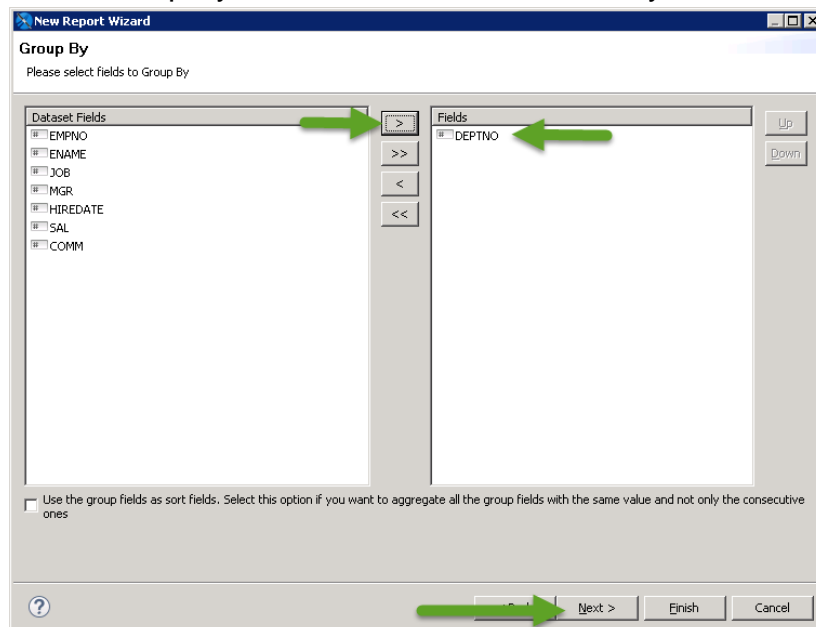


Select the **"Next"** button.

6. In the Fields Window, highlight the fields that you would like in your report and copy them across to the “Fields” pane from the “Dataset Fields” pane.

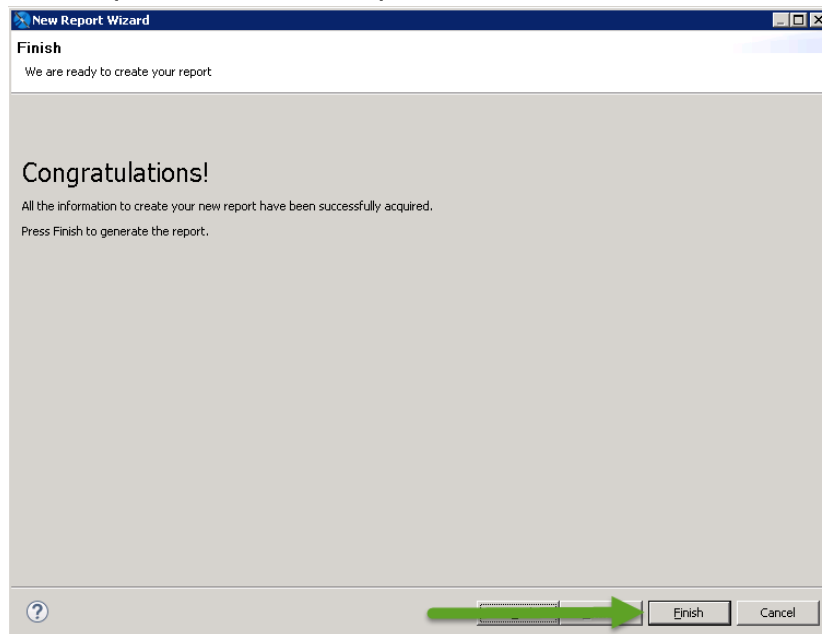


7. In the Group By Window, select the field that you want to group your records by.

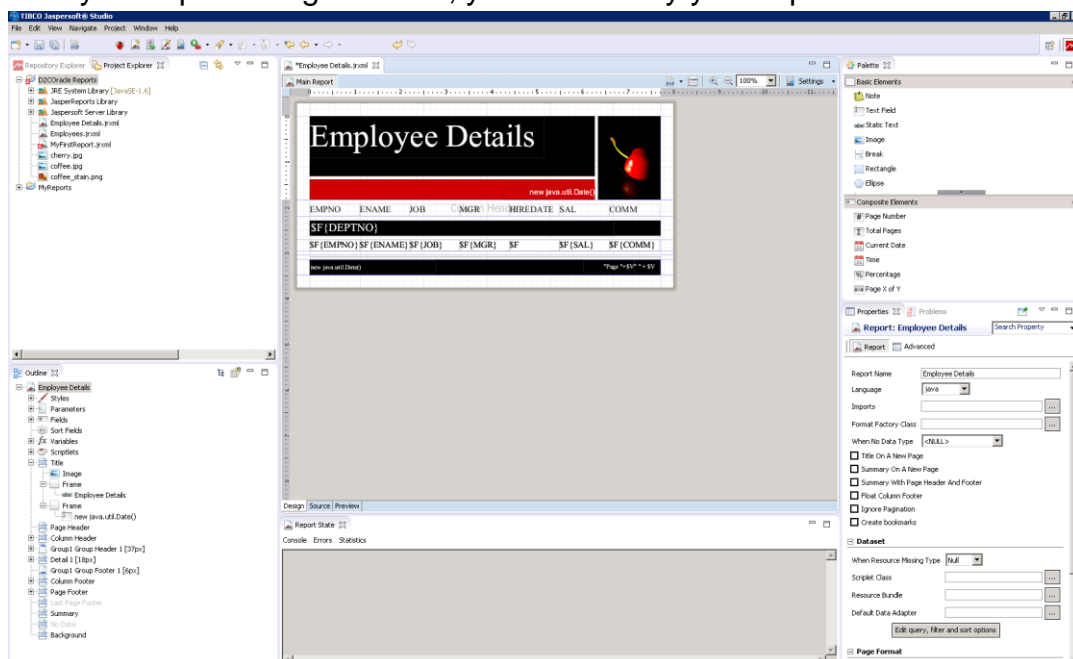


Click the “**Next**” button.

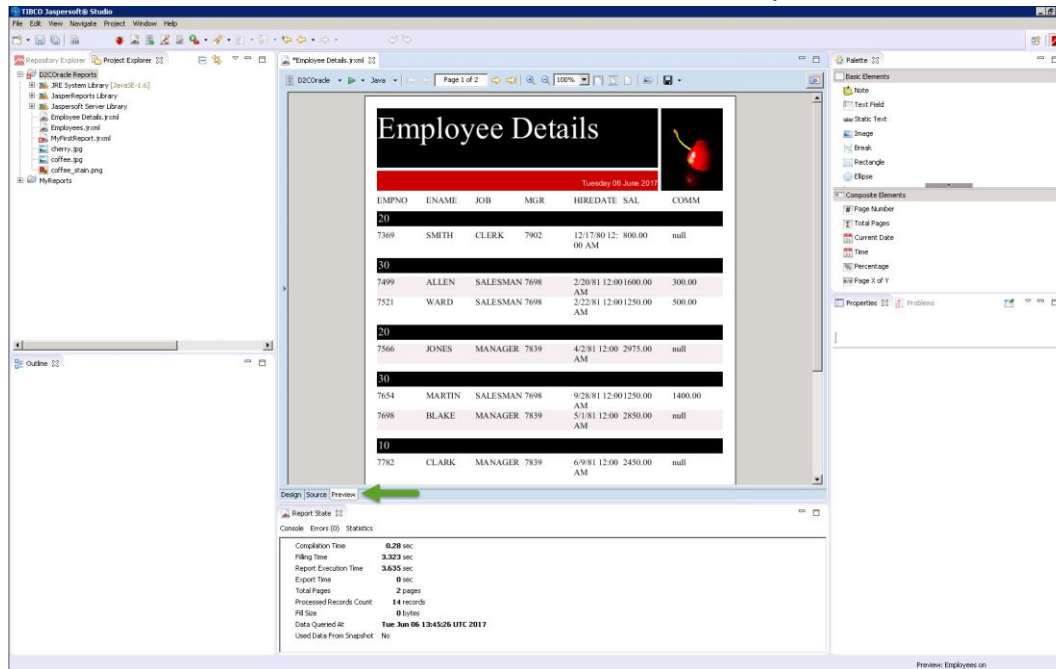
The Report Wizard is complete now.



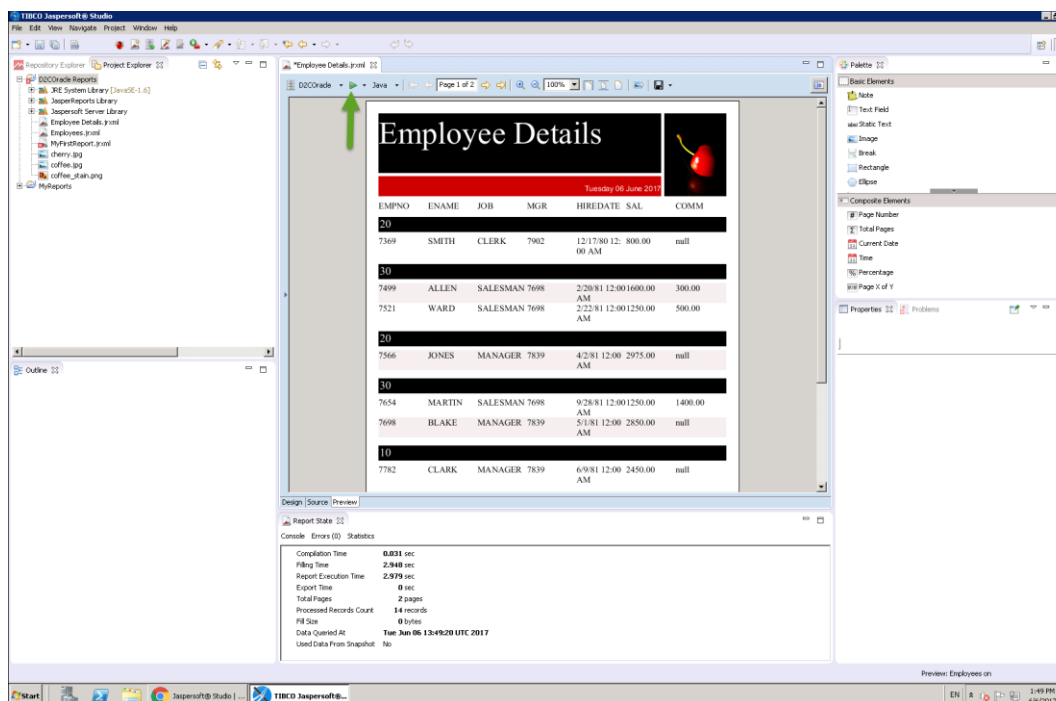
8. Design your report – as you selected the fields during the report wizard, they will automatically be added to the report. In the panel on the left you will have the fields available for your report and in the panels on the right you will have various properties for your report. By dragging and dropping fields from the “Outline” panel onto your report design canvas, you can modify your report.



9. Select the “Preview” Tab at the bottom of the Main Report window.



10. To run your report, click on the green arrow at the top of the Report Window



11. Don't forget to save your report!

Thank you!