# How to Create an Oracle ODBC Connection to the Enterprise Data Warehouse (EDW)

## Connecting to the EDW Oracle Database

An ODBC (Open Database Connectivity) connection allows authorized users to access data in the Enterprise Data Warehouse (EDW) Oracle database using the ODBC enabled software of their choice. In short, ODBC is a module of system software that enables the flow of data between report generation software (e.g. MS Access) and a database (e.g. Oracle). ODBC enabled software includes, but is not limited to, MS Access, MS Excel, SAS-PC, and Crystal Reports.

The steps required to create an ODBC connection to the Oracle database on which the EDW exists are outlined below. To connect to the EDW Oracle database using ODBC you will need to:

1. Request and receive authorization to directly access the EDW. Once this authorization is granted, you will be given a personal id (usually your netid) and password to access the database.
2. Install the Oracle client on your PC.
3. Create an Oracle ODBC data source specific to the EDW Oracle database.
4. Test the ODBC data source connection.

This document concentrates on **step #3**. Other documents which discuss the remaining steps are available on the AITS website.

**NOTE:** Software that uses procedural programming language (e.g. standard SAS) rather than object oriented programming (e.g. MS Access, Crystal Reports) does not need to use a data source (step #3), since the required parameters for ODBC access will be coded directly into the program itself.

## Requesting Access to the EDW Oracle Database

Access to the EDW Oracle database is given out on a case-by-case basis. The production database that you will need access to is

**DSPROD01** (ending with "zero, one")

Visit the AITS website at https://www.aits.uillinois.edu/services/reports_and_data/ for more information on the procedure for gaining access.

## Installing the Oracle Client on a Workstation

The Oracle client software needs to be installed on any workstation that will be used to directly access the EDW Oracle database. Details for installation can be found at: https://www.aits.uillinois.edu/UserFiles/Servers/Server_474/File/DS/ODBC/How%20To%20Install%20Oracle%2012c%20client.pdf.

If you do not have administrative access to your workstation, you may need to contact your department's network administrator to install the client. Creating the ODBC Connection Once the client has been installed, follow these steps to create an ODBC connection to the EDW: (If you are creating a 32-bit ODBC connection in 64-bit Windows please see the section "ODBC Data Connections: 64-bit vs. 32-bit" later in this document.)

1. Select the **Control Panel** option from the Windows *Start* menu.
2. Click the **Administrative Tools** control panel.
3. Double-click the **Data Sources (ODBC).**
4. The *ODBC Data Source Administrator* window opens.
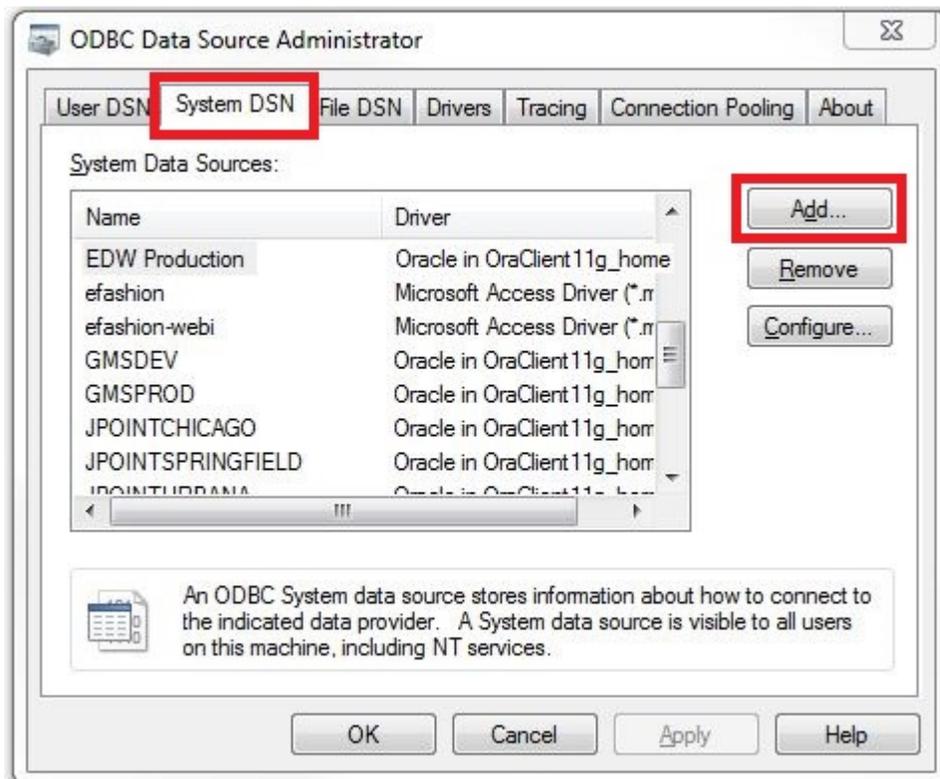


5. Select the *System DSN* tab.
6. Click the **Add** button.
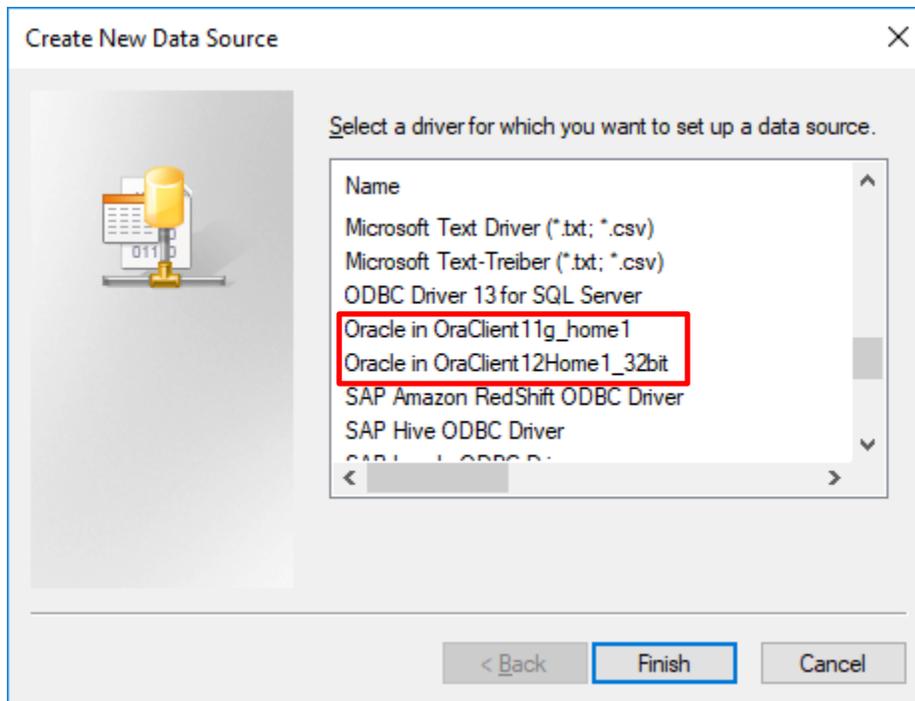
7. Click the name of the Oracle driver. If the Oracle client was installed in a non-default directory, the name may be different from Oracle ODBC Driver. If no Oracle entry is visible, then it is likely that the Oracle client was incorrectly installed.  Both version 11g or version 12 will work (Oracle does not officially support 11g clients connecting to 12c databases.  Upgrading to Oracle 12c is highly recommended).
8. Click the Finish button.
9. Enter values for the following parameters in the Oracle ODBC Driver Configuration window:
    a.   Data Source Name: EDW – Production
    b.   Description: EDW – Enterprise Data Warehouse Production
    c.   TNS Service Name: DSPROD01
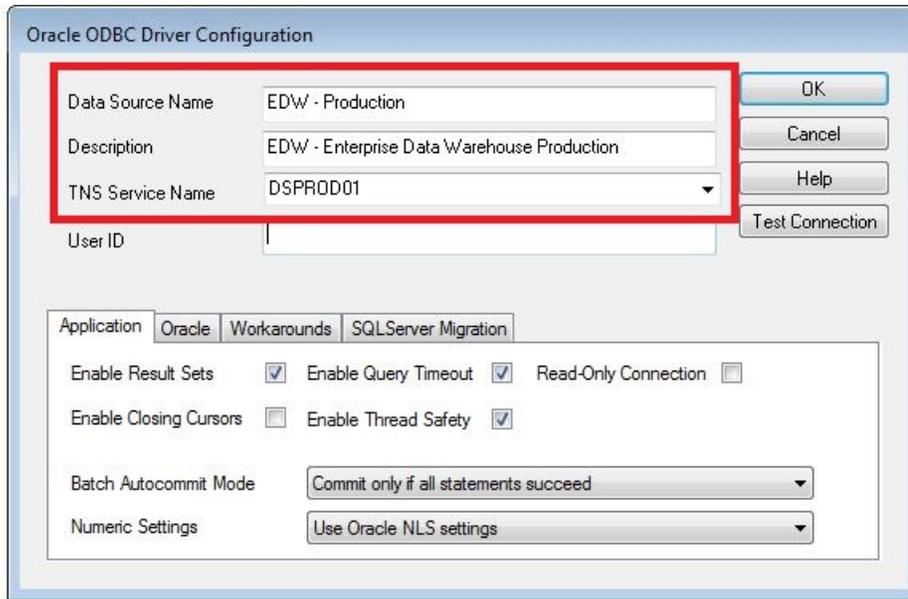
10. Test the Oracle ODBC Connection
    a.   Click the *Test Connection* button in the *Oracle ODBC Driver Configuration* window.
    b.   Enter your username and password and click *OK.*
    c.   The *Testing Connection* window will open.
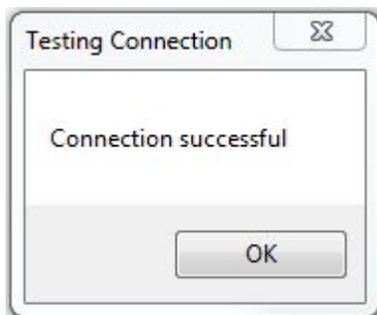


    d.   Click *OK* to close the *Testing Connection* Window
        (Note: You could also start the reporting tool of choice and see if you can connect.
        You will have successfully connected when you are presented with a list of available
        database tables (in programs such as MS Access or Crystal Reports).)
11. Click **OK** to close the *Oracle ODBC Driver Configuration* window.
12. Click **OK** to close the ODBC Data Source Administrator window.

## Windows ODBC Data Connections: 64 bit vs 32 bit

Many Windows applications are 32-bit architecture. If you use these applications on a system with 64-bit Windows, you will need to create 32-bit ODBC dataset connections. Microsoft Windows has independent utilities and drivers for 32-bit and 64-bit ODBC connections. You will find the 32-bit ODBC Administration utility at

C:\Windows\SysWOW64\odbcad32.exe. Confirm with your application whether the 32-bit or the 64-bit Oracle client is required.

# Troubleshooting

The following lists some common error messages and possible solutions:

**Oracle Login/Password error:**
o   Check to see if you have entered the correct Oracle logon and password.
o   Check to insure that you have been granted access to the EDW Oracle database.
o   If you have both the authority and logon-id, you may want to have your password reset in  case you have entered it incorrectly.

**Oracle TNS timeout error:**
o   The Oracle service name in step 5 in the *Oracle ODBC Driver Configuration* window may be  incorrectly entered.
o   The Oracle client may not be installed correctly.
o   The campus firewall may be preventing access.

**The Oracle driver is not available:**
o   If the driver is not listed in the *Drivers* tab of the *ODBC Data Source Administrator* window, then the Oracle client has not been installed or failed to install properly.  In that case you will  need to install or reinstall the Oracle client.

**ODBC Timeout error**
o   Although this error can have several causes, the two most likely causes are 1) the query requires more time to retrieve data than permitted by a time limit set in the report generation  program, or 2) server problems may be slowing down the retrieval of data.