Database Setup in IRI Workbench

Two types of database connectivity are required by the IRI Workbench. They are:

- Microsoft Open Database Connectivity (ODBC) for data movement between the database and IRI software

- Java Database Connectivity (JDBC) for visual browsing of, and SQL access to, the tables

ODBC

Open Database Connectivity (ODBC), an industry-standard application programming interface (API), is used in SortCL to access data in a heterogeneous environment of relational and nonrelational database management systems (RDBMS and DBMS). Using the ODBC process in SortCL, you can address rows in tables along with records in flat files at the same time. Both input- and output-level support of connected database sources is provided. All Workbench dialogs and wizards that support tables, including Import ODBC Schema, Metadata Discovery, and ODBC table selection, and all CoSort command line programs that support tables, including sortcl.exe and odbc2ddf.exe, require ODBC.

Go to Connect to a Database with ODBC for more information.

JDBC

Java Database Connectivity (JDBC) is an API used for database-independent connectivity between the Java programming language and a wide range of databases and other tabular data sources, such as flat files or spreadsheets. Although it is similar to ODBC, JDBC is designed specifically for Java programs, while ODBC is a language-independent application.

JDBC connection support is provided through the optional Eclipse Data Tools Platform (DTP) that is included in **CoSort** Workbench. DTP includes the Data Source Explorer that enables you to view your connection profiles and visually explore your data.

For complete information about the connection-management functionality in the DTP, search for ***Data Tools Platform*** by clicking **Help** in the top menu bar, and then selecting **Search**.

Go to Connect to a Database with JDBC for more information.

Data Connection Registry

Use the Data Connection Registry in IRI Preferences to map the ODBC connections to JDBC connections. This allows IRI Workbench to populate information from whichever connection it needs for a particular task.

Go to Data Connection Registry for more information.

Connect to a Database with ODBC

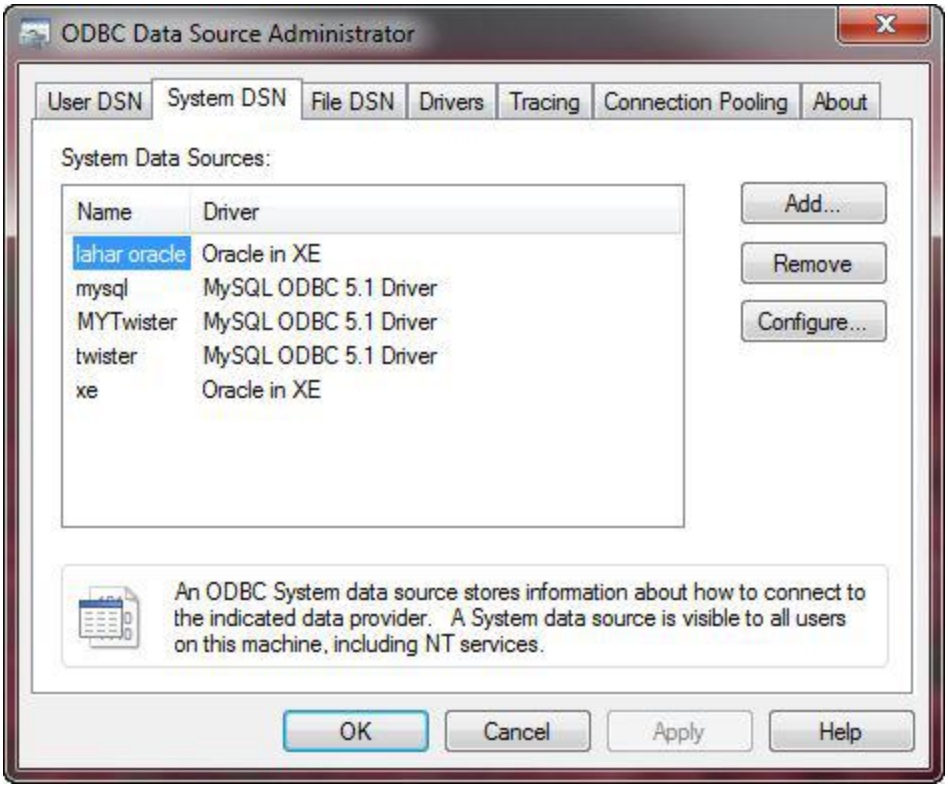
Use the ODBC Data Source Administrator in Windows to set up connections to your databases. A 64-bit Microsoft Windows version has the following versions of the ODBC Data Source Administrator tool (odbcad32.exe):

- The 32-bit version of the Odbcad32.exe file is located in the %systemdrive%\Windows\SysWoW64 folder.

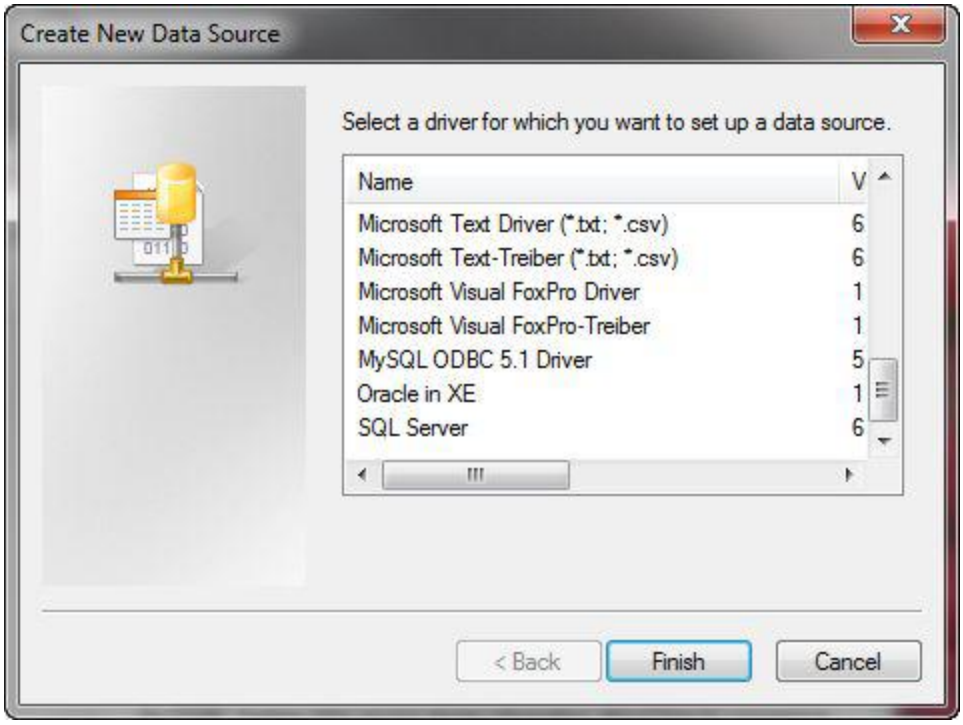
- The 64-bit version of the Odbcad32.exe file is located in the %systemdrive%\Windows\System32 folder.

NOTE: The 64-bit ODBC Administrator tool can be invoked from Control Panel to manage user DSNs and system DSNs that are used by 64-bit processes. On a 64-bit operating system, the 32-bit ODBC Administrator tool is used for Windows 64 (WOW64) processes. You must directly invoke the 32-bit ODBC Administrator tool from the SysWoW64 folder. You can use the 32-bit ODBC Administrator tool to manage user DSNs and system DSNs that are used by WOW64 processes.

1. Open the ODBC Data Source Administrator, and then click the **System DSN** tab.



2. Click **Add**.
   The Create New Data Source driver selection page opens.

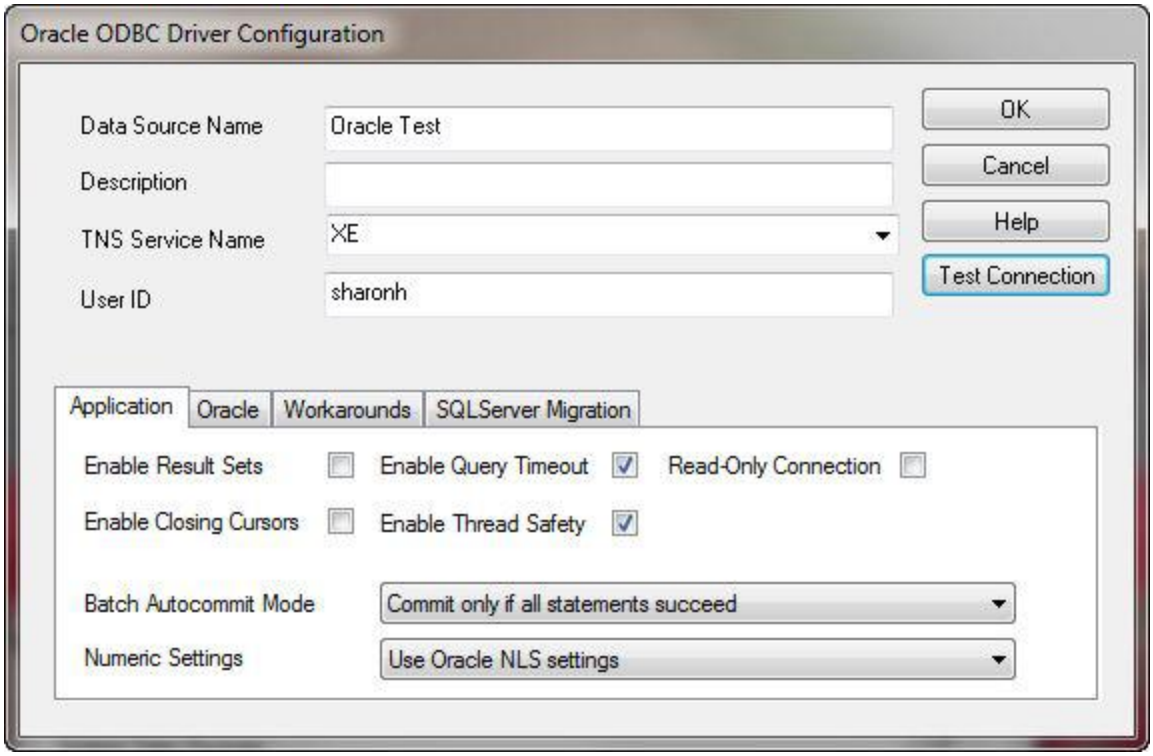


3. Select the appropriate driver for the database to which you are connecting, and click **Finish**.

   The connection page opens for the database you selected. This example provides an Oracle connection.

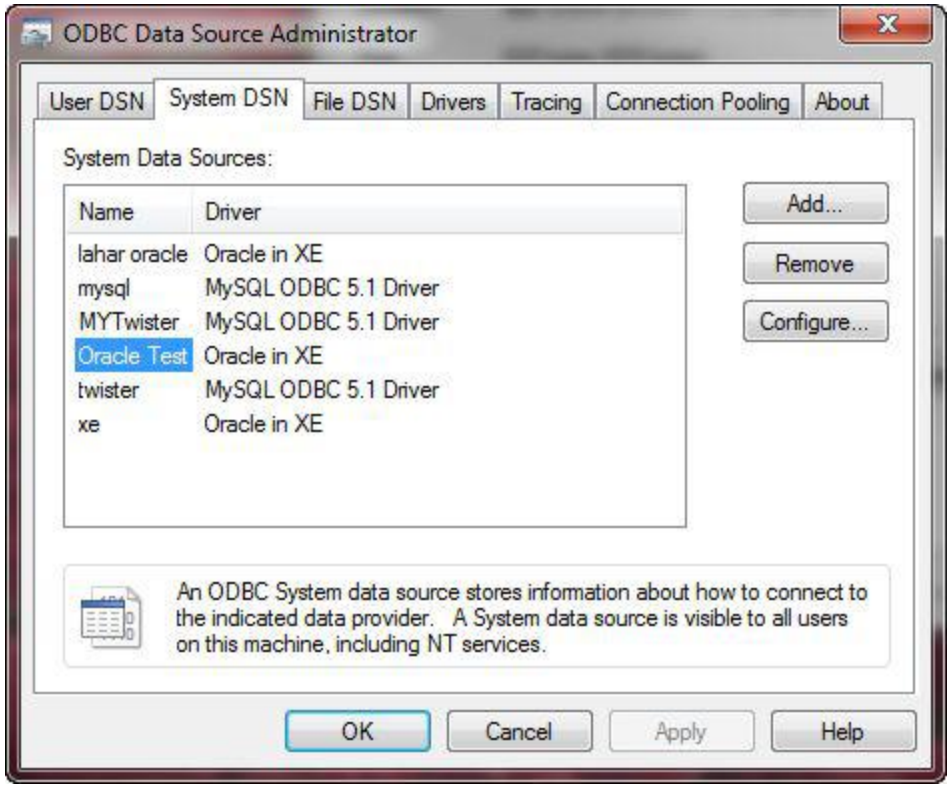
4. Complete each field. For this Oracle example, do the following:

   - In the Data Source Name field, type the name for this ODBC data source.
   - In the TNS Service Name field, type the name of your Oracle service. This name is specified in the tnsnames.ora file defined for your Oracle client.
   - In the User ID field, type the username that you use to log into the Oracle database.
   - The Oracle ODBC Driver Configuration page will be similar to the following:



   - Click **Test Connection**, type the password, and then click **OK**. Your connection should be successful. If it is not, check your specifications and contact your DBA.

5. When you are done completing the configuration page for your specific database, click **OK**. The ODBC Data Source Administrator will now show your new connection on the **System DSN** tab.



6. Click **OK**.

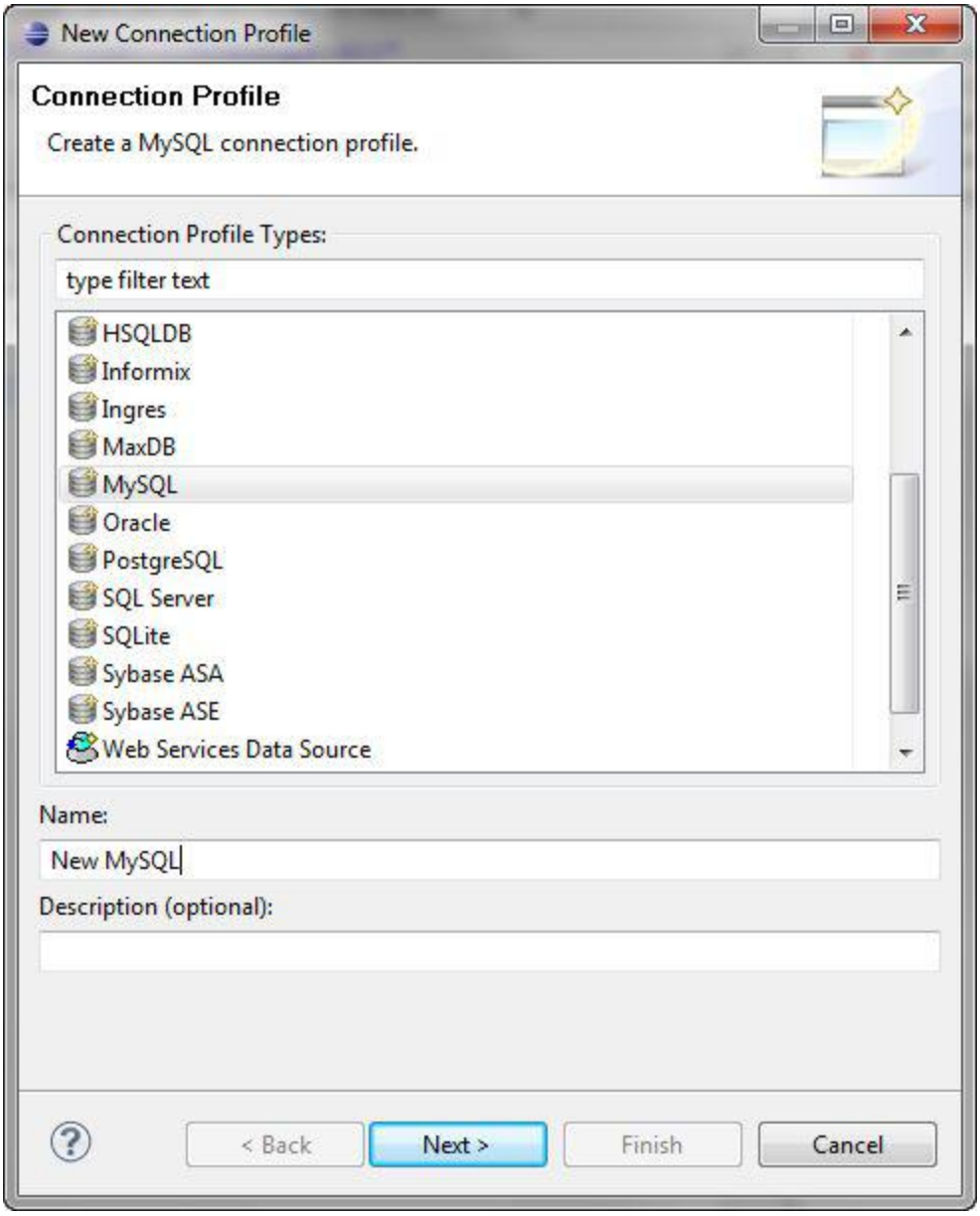
NOTE: For additional database information, contact your system or database administrator (DBA).

Connect to a Database with JDBC

Use the New Connection Profile wizard to connect to a database using Java Database Connectivity (JDBC). If you need assistance on any page of the wizard, click the help button for detailed help.

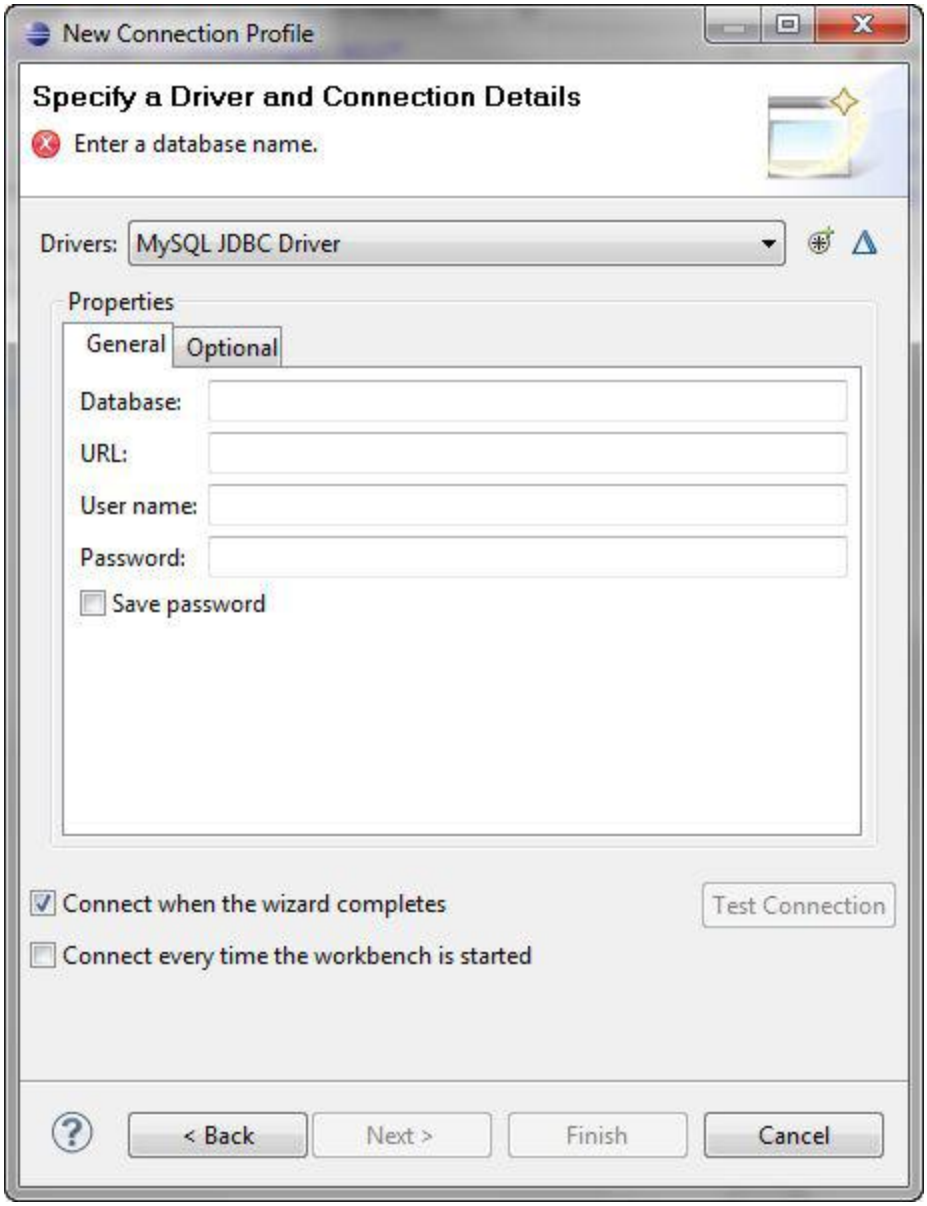
1. Open the DTP Data Source Explorer by clicking **Window** on the top menu bar, and then selecting **Show View** > **Data Management** > **Data Source Explorer,** and then click **OK**.

2. Click the new connection profile icon  to create a connection profile.
   The Connection Profile wizard opens.

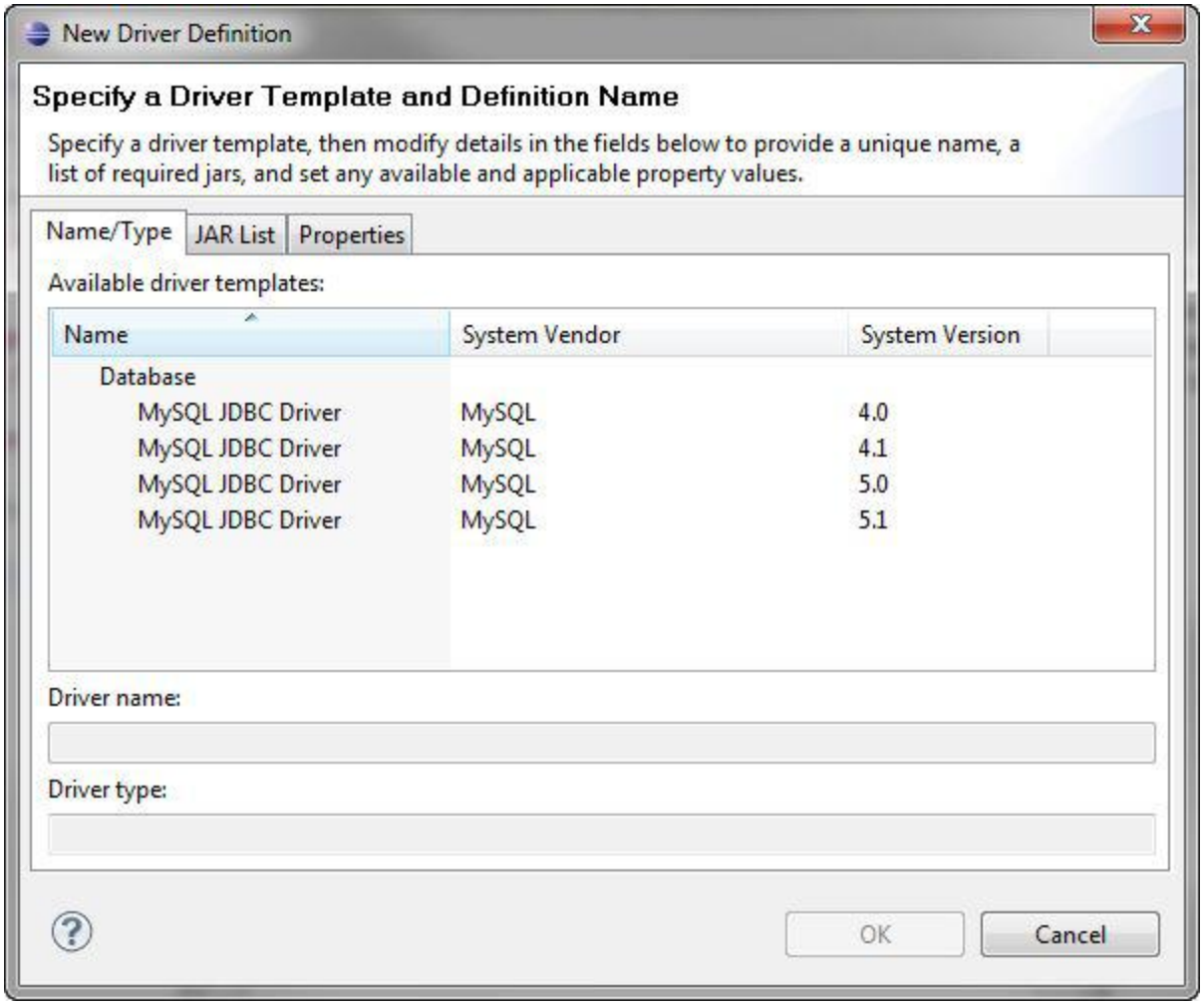


3. Select the type of connection you are creating, such as MySQL.

4. Complete the fields on this page, and then click **Next**.
   The New Connection Profile wizard opens at the Specify a Driver and Connection Details page.



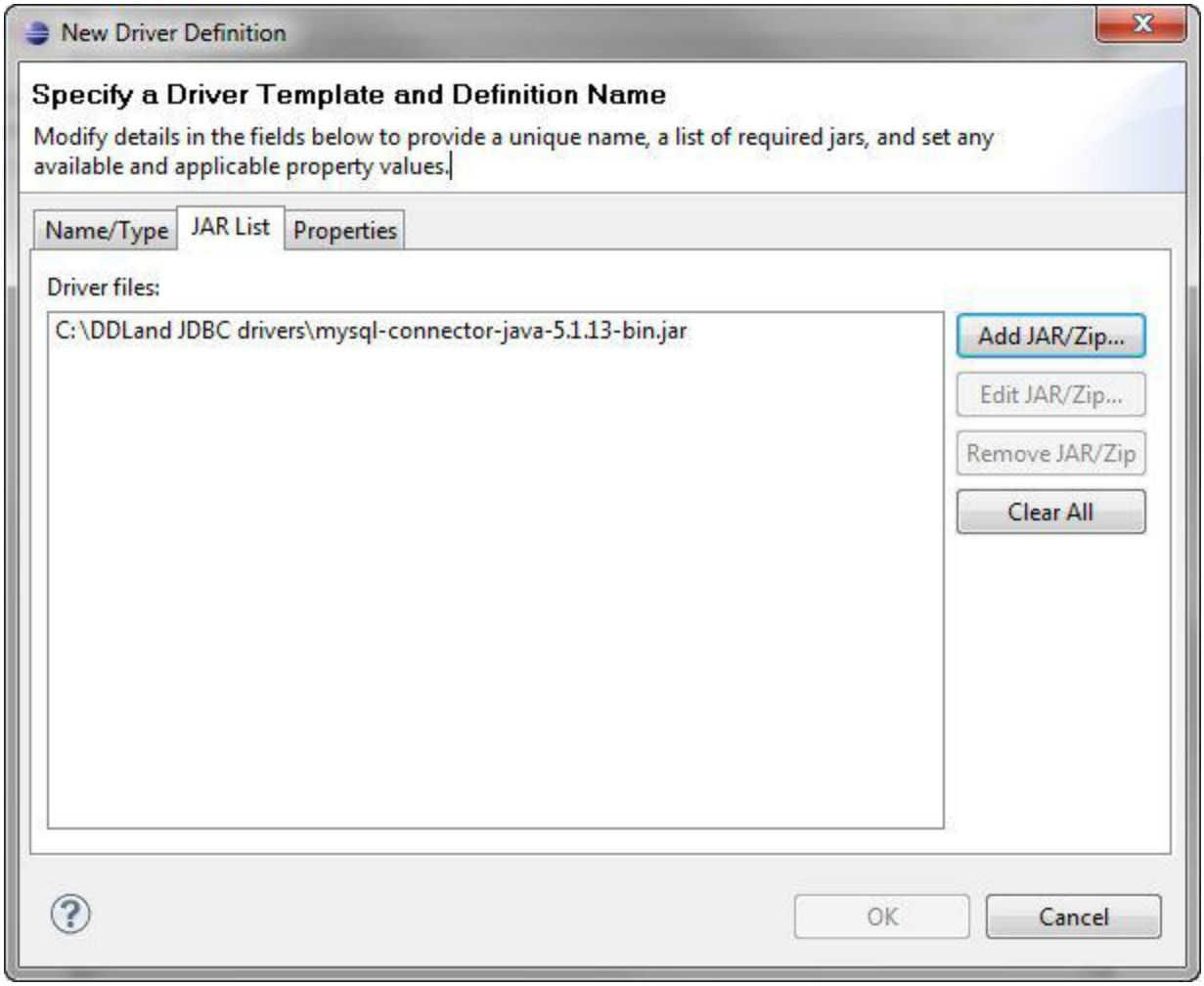
5. In the **Drivers** field, click the new driver definition icon  to add a new driver to the connection profile.
   The New Driver Definition page opens.



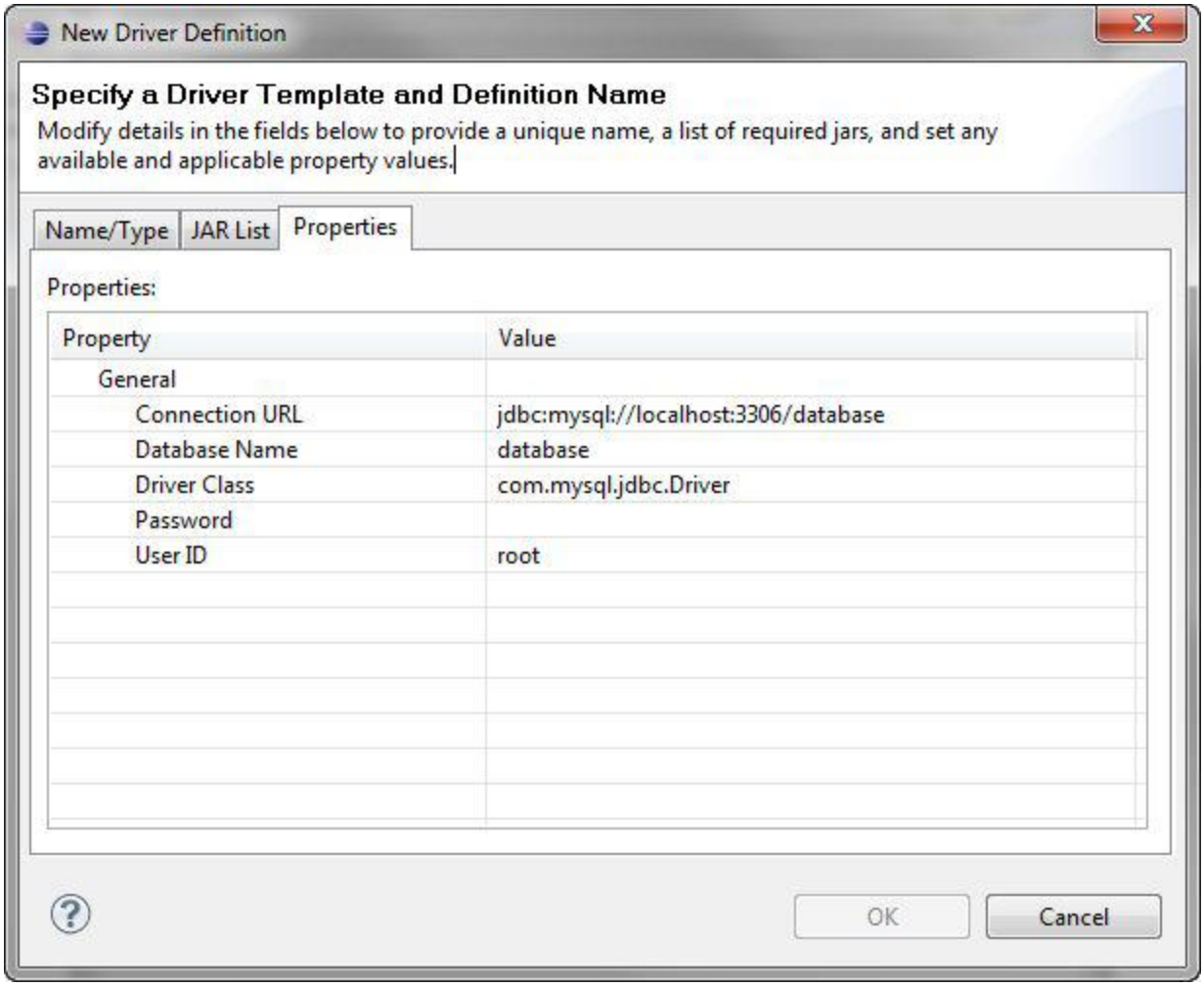
6. Complete the fields on the **Name/Type** tab. Click the help button for detailed help with this page.

7. Select the **Jar List** tab. You must include the complete path to the JAR or ZIP file associated with the driver. If you do not have the required JAR file, go to the web site for the database you are using and download the file.

NOTE: If a JAR file is shown without a complete path (used as a place holder), remove the file and replace it with the complete path and file name.



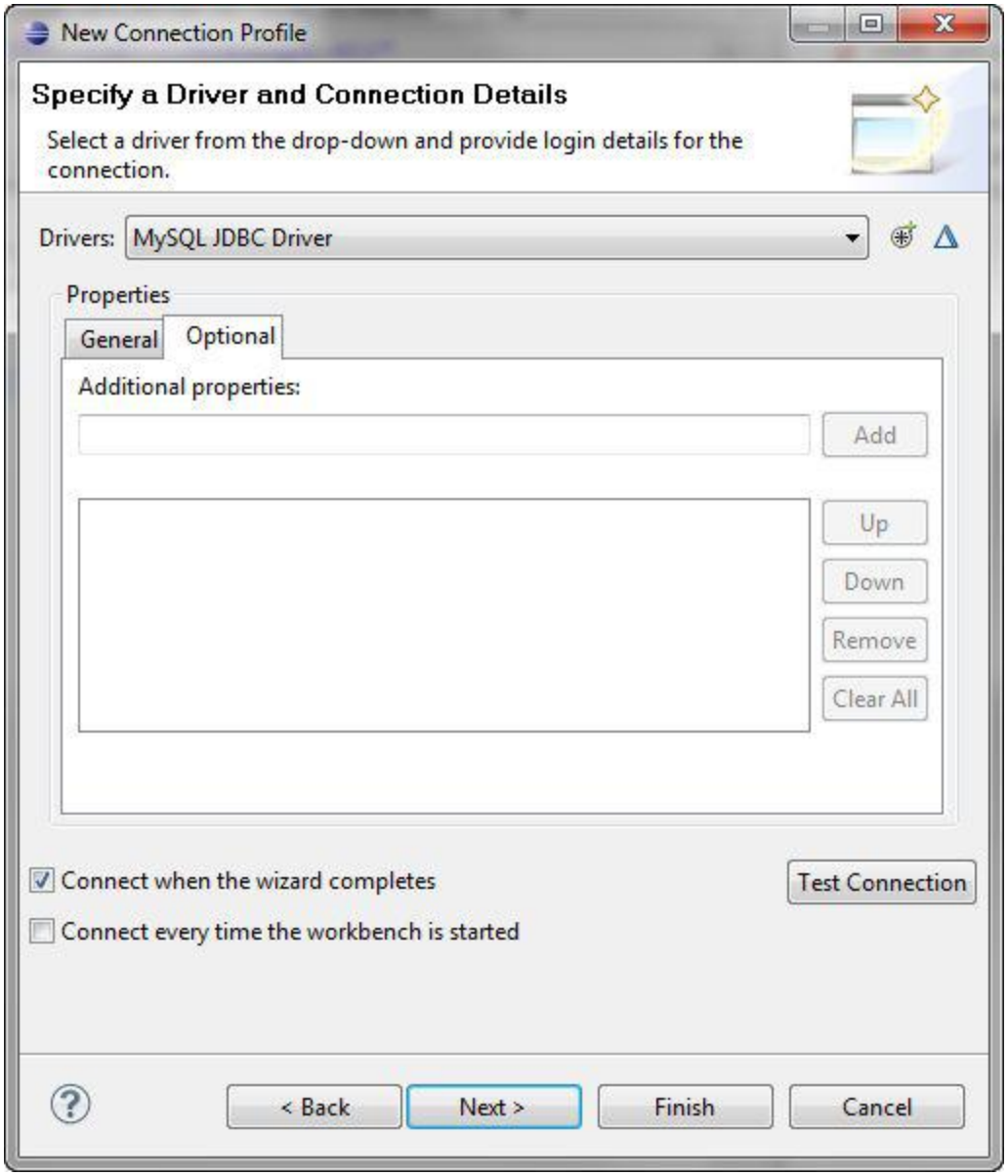
8. Select the **Properties** tab and modify the default properties for the driver definition template. Options vary based on the type of server.



9. Click **OK**.
   You are now back to the New Connection Profile page, on the General tab.

10. You have completed the information in the Drivers field, so now you must complete the fields in the Properties section on the General tab.

11. Select the **Optional** tab to include additional connection properties.
    The Optional tab opens showing the Additional properties field.

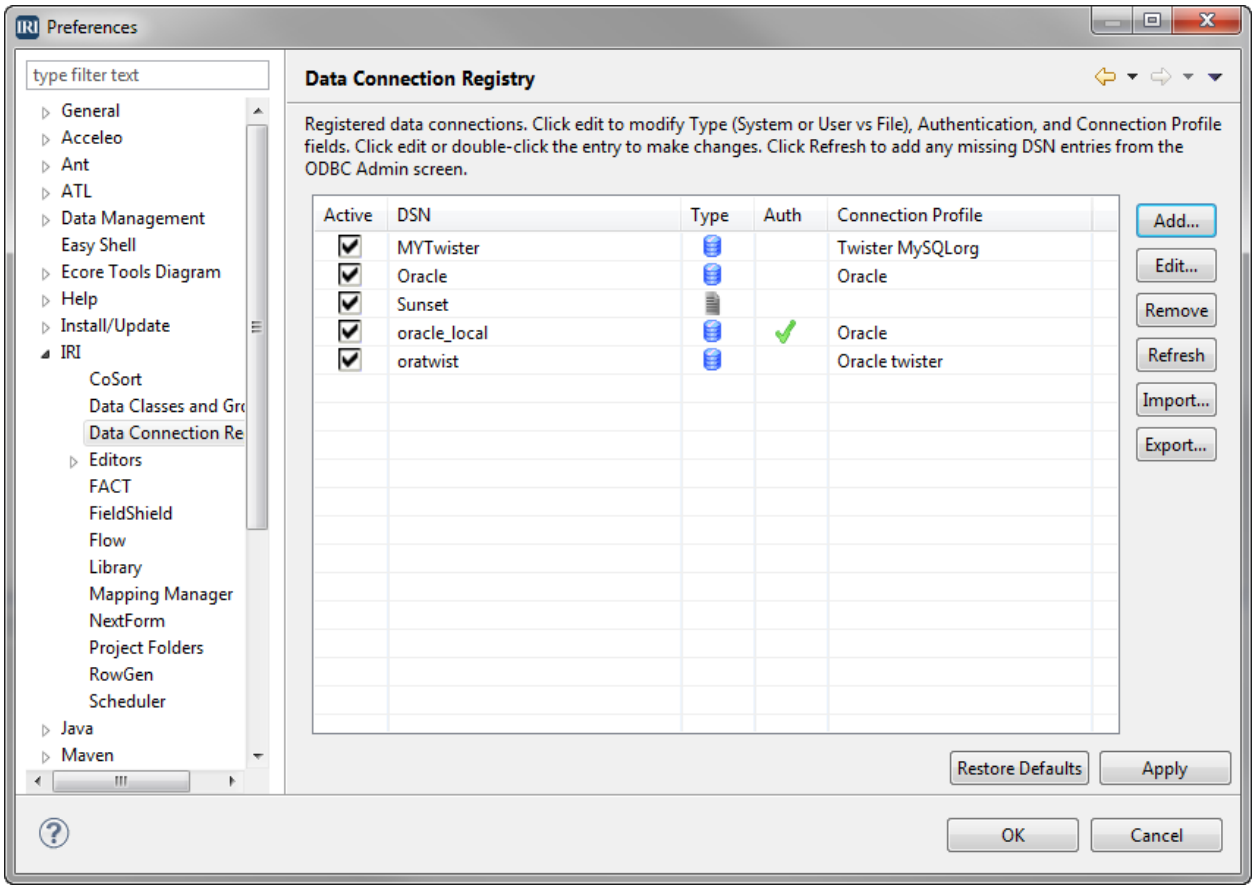


12. When you are done adding properties, click **Test Connection** to ping the server and verify that the connection profile is working.

13. Click **Finish** to complete your new connection profile.

Data Connection Registry

Use the Data Connection Registry to view, add, remove, and modify your database connections. The page displays all your registered connections and specific information about each. You can also import or export the data connection registry.

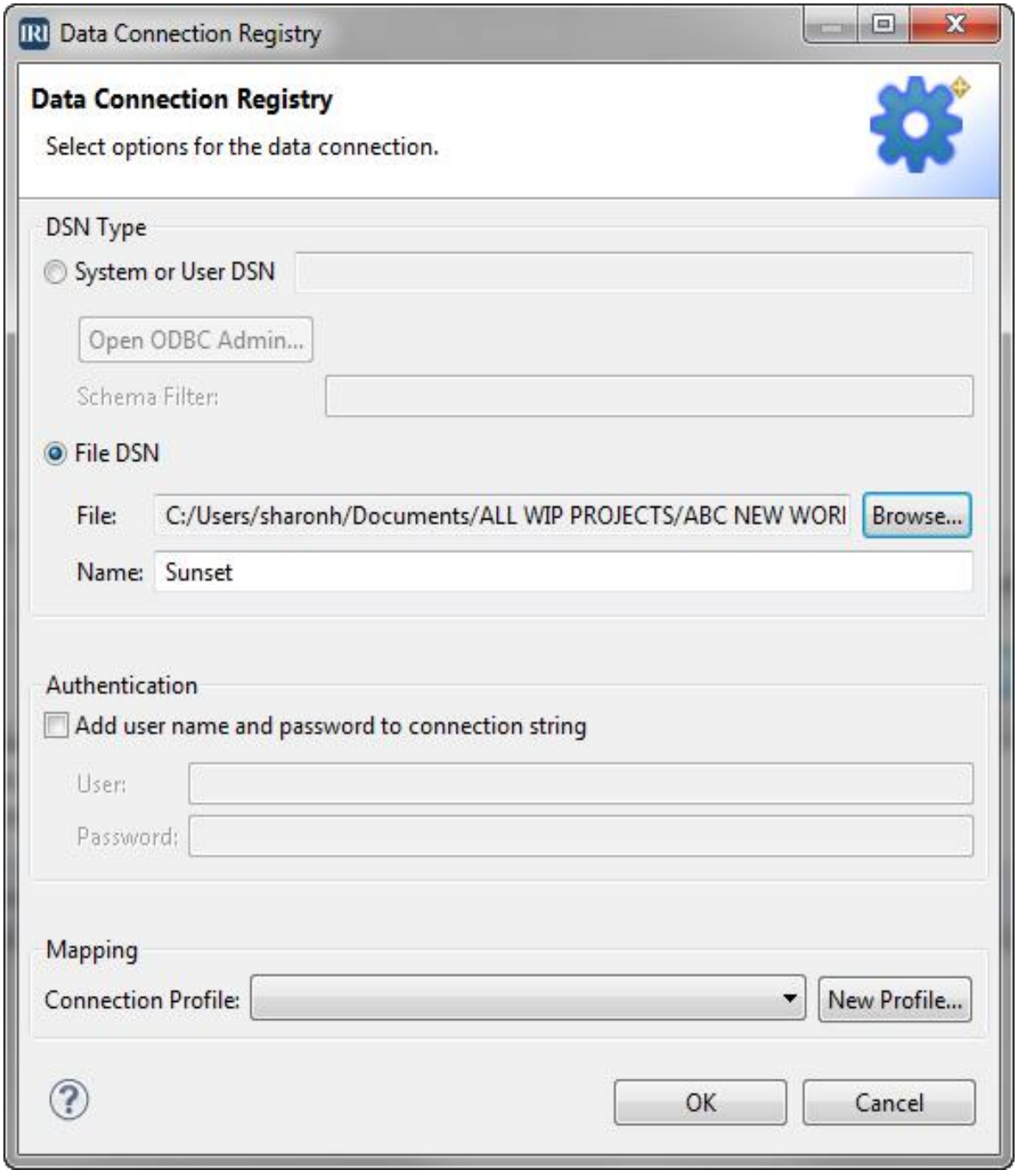


While the **DSN** column on the page lists all DSNs listed in ODBC Admin screen under System and User, the **Active** box shows that those DSNs should be visible in DSN combo boxes in IRI Workbench.

A green check mark displays in the **Auth** column if you saved, on this preference page, the authentication of any ODBC connection that does not store the user name and password for you.

Referring to the JDBC connection you've made in the Data Tools Platform (DTP) plug-in in the Workbench (shown in the Data Source Explorer windows), the **Connection Profile** column provides the mapping information for the specific data source.

The **Add** and **Edit** buttons open the Data Connection Registry dialog to add new connections to the registry, or to modify existing connections:



This dialog provides four options for data connections:

- **DSN Type** – Add a new system or user data source via the ODBC Data Source Administrator, which opens when you click the button in this section. Complete the ODBC Data Source Administrator session to add a new connection. The new system or user data source is automatically included in the Data Connection Registry. Use the

Schema Filter field to filter schema to any ODBC or system DSN. For example, if your schema is SALES, only the tables in the SALES schema are shown.

- **File DSN** – Use the browse option to locate and select a *file*.dsn. The path and file name display in the **File** field, and the name of the *file*.dsn is in the **Name** field. Note that to create a file DSN connection, you must first create the file which includes the connection information and a .dsn extension. While a system or user DSN is automatically included in the Data Connection Registry, you must add a file DSN because the system cannot automatically locate the file that defines the DSN.
- **Authentication** – Add authentication for any ODBC connection by adding the username and password. When a connection has authentication added, a green check mark displays in the **Auth** column on the Data Connection Registry.
- **Mapping** – To map your specified data source, select a connection profile from the list in the Mapping section. Or, create a new connection profile that contains the connection property information for a data source in your enterprise. Mapping your data connections to the Data Tools Platform (DTP) is required. If the connection is not mapped, you are prompted to do so while using a job wizard.

To remove a connection from the registry list, select that connection, and then click **Remove**. To import or export your entire data connection registry in an XML-formatted document, use the corresponding **Import** and **Export** buttons on the Data Connection Registry preferences page. The following is a piece of the XML file of the exported data connection registry shown in the screens above.

```
<?xml version="1.0" encoding="UTF-8" standalone="true"?>
- <connMap>
  - <info>
    + <entry>
    - <entry>
        <key>Oracle</key>
      - <value>
          <active>true</active>
          <authorization/>
          <dsnName>Oracle</dsnName>
          <dtpName>Oracle</dtpName>
          <fileDsnPath/>
        </value>
      </entry>
    - <entry>
        <key>Sunset</key>
      - <value>
          <active>true</active>
          <authorization/>
          <dsnName>Sunset</dsnName>
          <dtpName>Oracle</dtpName>
          <fileDsnPath>C:/Users/sharonh/Documents/ALL WIP PROJECTS/ABC NEW WORK/Blog/Sunset.dsn</fileDsnPath>
        </value>
      </entry>
```

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