

Accessing Oracle 11g from Microsoft SSIS Using DataDirect Connect for ADO.NET

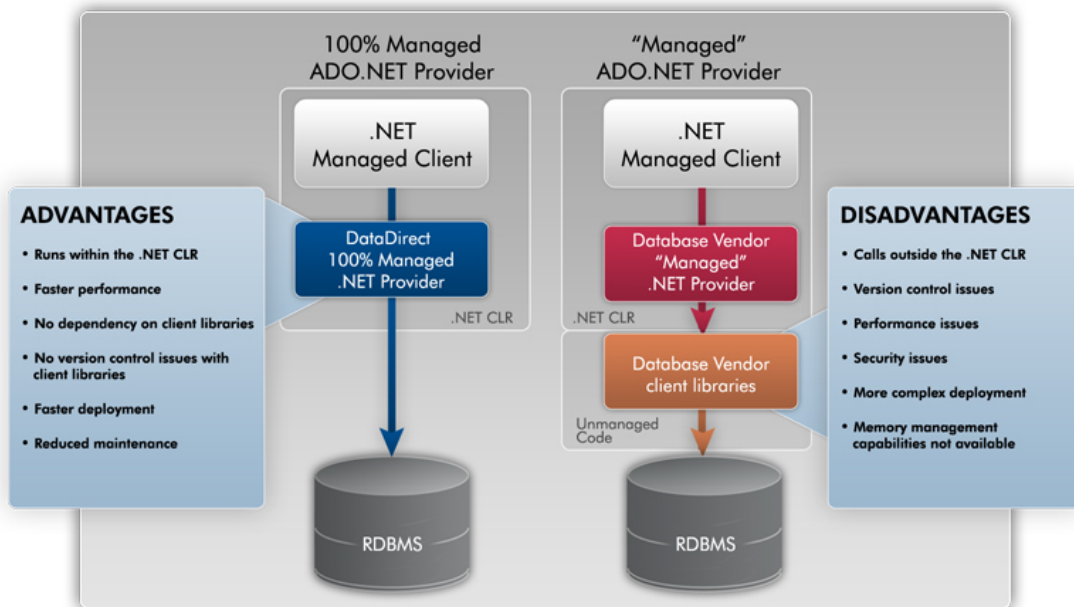
This article explains how easy it is to connect to an Oracle 11g server from Microsoft SQL Server 2008 Integration Services (SSIS) by using the [DataDirect Connect for ADO.NET](#) data provider.

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Choosing the Right Oracle Data Provider for SSIS

SSIS provides a solid foundation for constructing enterprise-level data integration and transformation solutions. It can interact with data in a wide variety of formats and layouts. SSIS offers a rich graphical user interface, which often eliminates the need to write copious application logic. In fact, many integration projects can be performed without writing a single line of code.

DataDirect's 100% managed code architecture makes it an ideal data provider to use with SSIS packages, which run as managed code. This means there's no need to install, configure, or maintain any additional client-side software such as Oracle's client libraries. All interaction with the database is handled within the CLR (Common Language Runtime), leading to better performance, security, and reliability as shown below.



Comparison of DataDirect 100% Managed Data Providers with Database Vendor Data Providers

Installing DataDirect Connect *for* ADO.NET and Testing Connectivity

In this simple example, we'll show how to extract information from the EMP table in the 'SCOTT' schema in an Oracle database, and write it into a text file. To keep things simple, we'll use Oracle's basic scott/tiger login even though DataDirect Connect *for* ADO.NET supports more sophisticated security technologies such as Kerberos and NTLM. In addition, we'll use only the most basic SSIS workflow capabilities.

1. Install DataDirect Connect *for* ADO.NET

Note: This article was written using version 3.2. If you are using a newer version, you can follow these same steps as well.

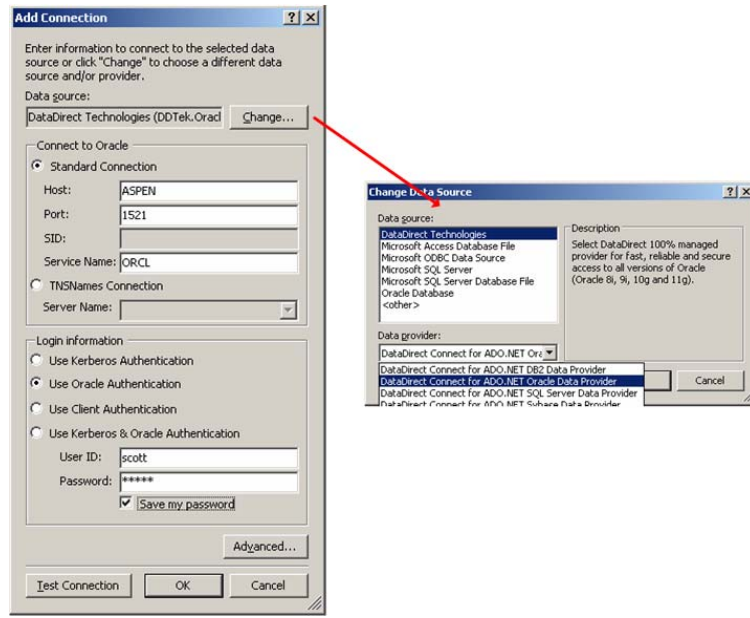
Make sure you have administrative privileges on this computer. In addition, before installing the DataDirect product, make sure you're running one of the following operating systems:

- Windows Server 2008 (all Editions)
- Windows Vista (all Editions)
- Windows XP Home Edition and Professional
- Windows Server 2003 (all Editions)
- Windows 2000

DataDirect Connect *for* ADO.NET supports the 32- and 64-bit versions of these operating systems.

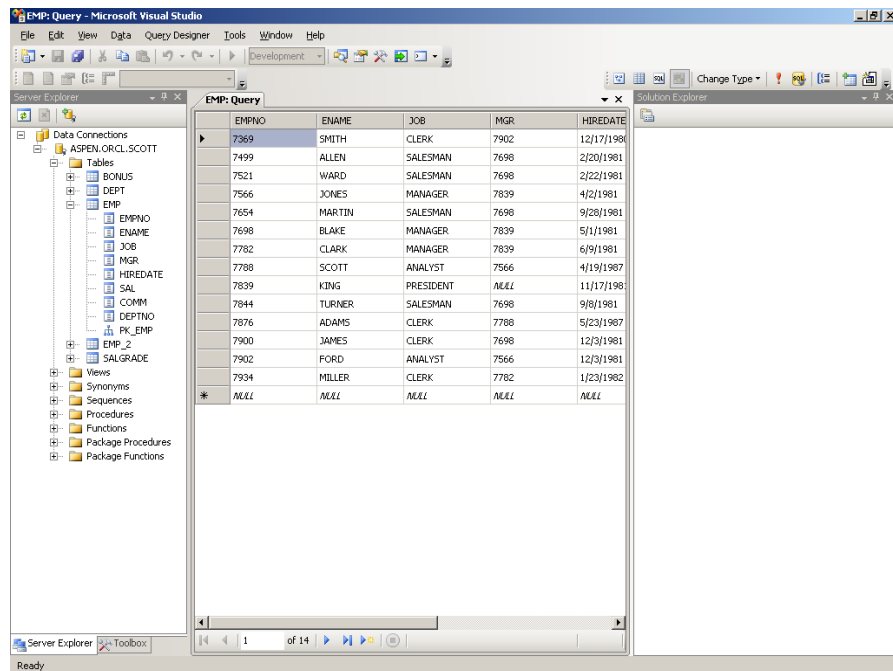
If you install DataDirect Connect *for* ADO.NET before SQL Server and/or Visual Studio, you'll also need to run the Visual Studio Provider Integration Tool, located on the DataDirect Connect *for* ADO.NET menu. This utility updates registry and other settings to enable Visual Studio to take full advantage of DataDirect Connect *for* ADO.NET's capabilities.

2. Launch Visual Studio. This is where you create and manage SSIS projects.
3. Test connectivity to Oracle by creating a connection and then retrieving data:
 - a. Make sure the Server Explorer is visible (**View -> Server Explorer**)
 - b. On the **Tools** menu, choose the **Connect to Database** option.
 - c. Fill in details about your Oracle connection. Make sure to select the **DataDirect Connect *for* ADO.NET Oracle Data Provider**.



Note that one of the benefits of DataDirect Connect for ADO.NET is that there's no need to install a tnsnames.ora file on the client.

4. Once you've finished entering your connection details, click on the **Test Connection** button to make sure that everything works. After you receive a message that a connection has been established, click **OK** to save the connection.
5. Expand the **Tables** entry of your new connection. Right click on the **EMP** table, and choose the **Retrieve Data** option. This should bring back a number of rows from this table. You have many other options here as well; simply right-click on any database object to get a full list.

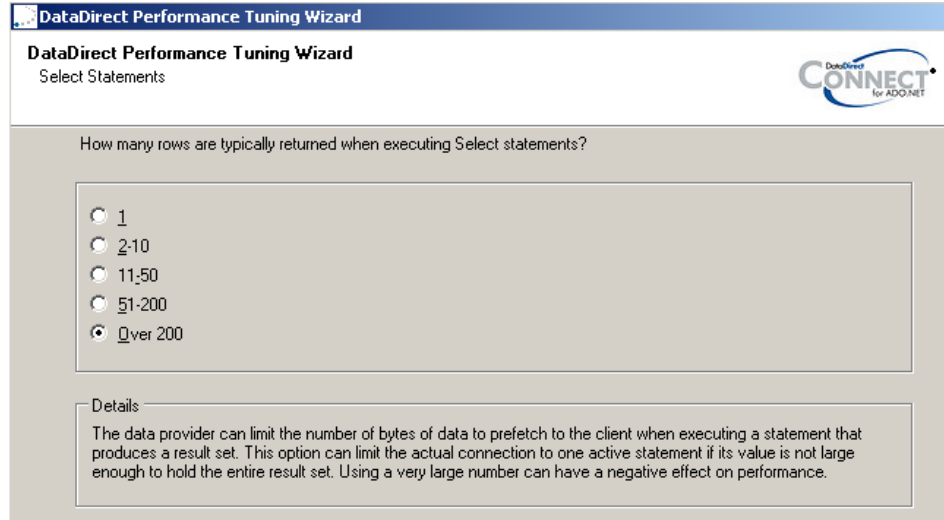


Configuring for Optimal Performance

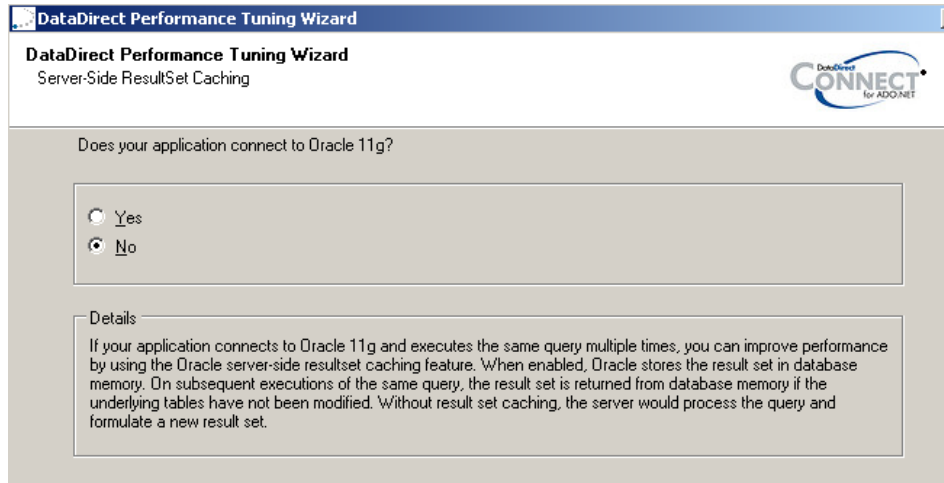
Coming up with optimal configuration settings for connecting to a powerful database such as Oracle can be daunting. To make things easier, DataDirect Connect *for* ADO.NET offers a helpful Performance Tuning Wizard.

1. To access the Wizard, select the **Tools -> DataDirect Technologies -> Run DataDirect Performance Tuning Wizard** menu option.

This launches the wizard, which will ask a series of more than two dozen performance-related questions, two of which are shown below.

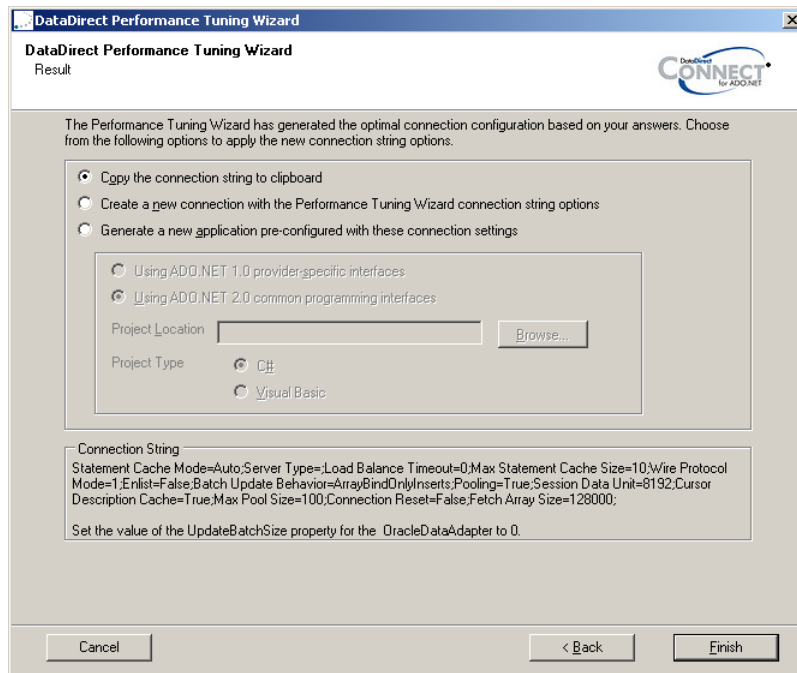


The screenshot shows the 'DataDirect Performance Tuning Wizard' dialog box with the title 'Select Statements'. The question is 'How many rows are typically returned when executing Select statements?'. The options are radio buttons for '1', '2-10', '11-50', '51-200', and 'Over 200'. The 'Over 200' option is selected. A 'Details' section below explains that the data provider can limit the number of bytes of data to prefetch to the client, and that using a very large number can have a negative effect on performance.



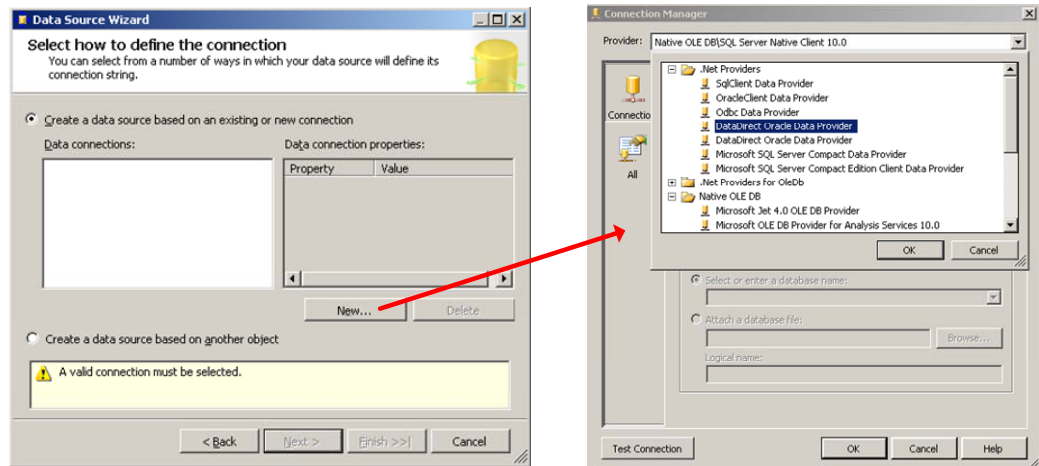
The screenshot shows the 'DataDirect Performance Tuning Wizard' dialog box with the title 'Server-Side ResultSet Caching'. The question is 'Does your application connect to Oracle 11g?'. The options are radio buttons for 'Yes' and 'No'. The 'No' option is selected. A 'Details' section below explains that if the application connects to Oracle 11g and executes the same query multiple times, performance can be improved by using the Oracle server-side resultset caching feature. When enabled, Oracle stores the result set in database memory, and on subsequent executions of the same query, the result set is returned from database memory if the underlying tables have not been modified. Without result set caching, the server would process the query and formulate a new result set.

Once you reach final page of the wizard, DataDirect Connect for ADO.NET will generate the ideal configuration based on the answers you gave as shown below.

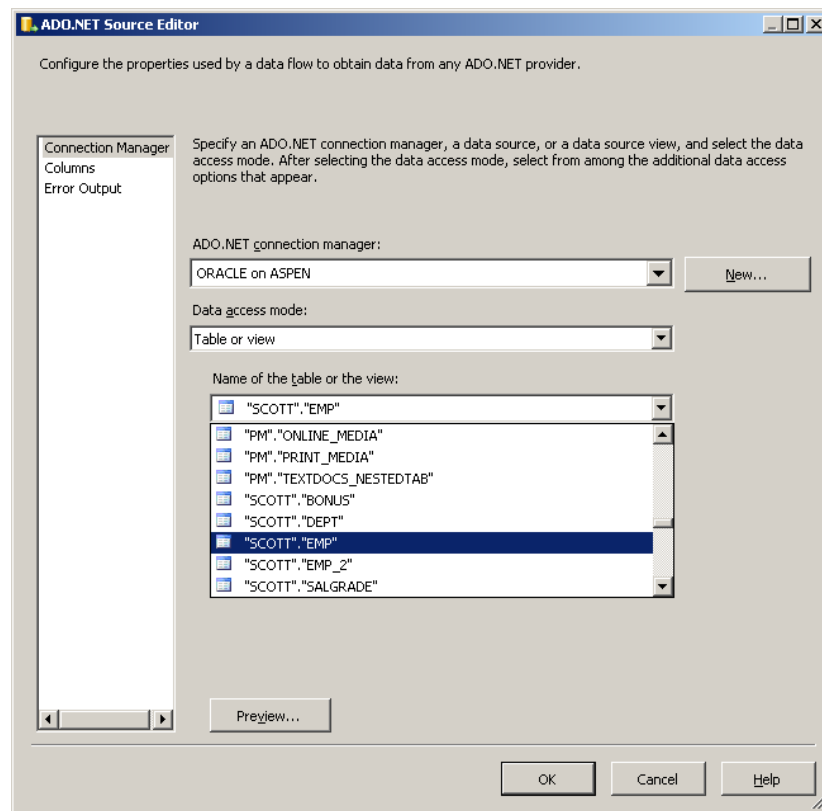


Creating an SSIS Project and Connecting to Oracle

1. Create a new project, using the **Integration Services Project** template.
2. Make sure the Solution Explorer is visible (**View -> Solution Explorer**)
3. Right-click on **Data Sources** and choose the **New Data Source** option.
4. Click the **New** button in the Data Source Wizard, then select the **Data Direct Oracle Data Provider** from the **.Net Providers** folder as shown below.



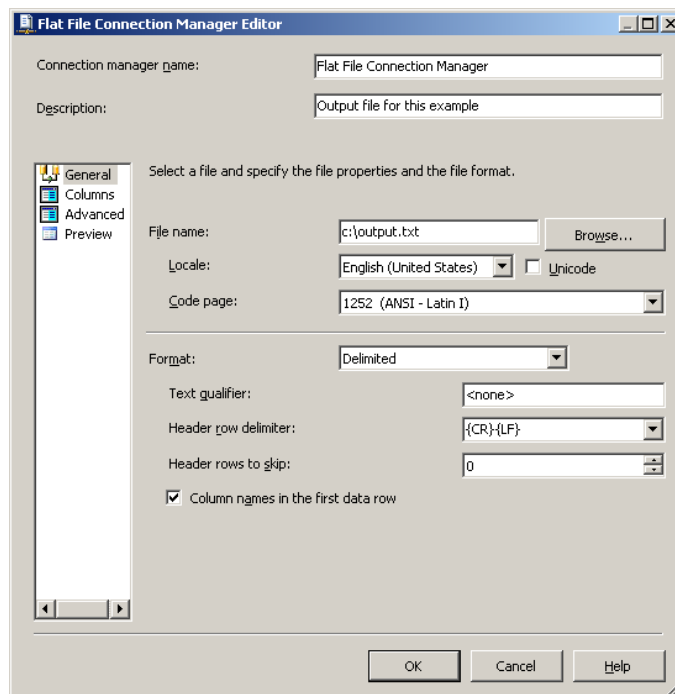
5. Fill in the details about your connection, just as you did when testing the connection in a previous step. Test the connection to make sure your settings were entered correctly.
6. Provide a meaningful name for your connection, and finish the Data Source Wizard.
7. Click on the **Control Flow** tab.
8. Right click in the **Connection Managers** section of the screen, and choose the **New Connection for Data Source...** option.
9. Select the connection you created in step 5 above.
10. Switch to the **Data Flow** tab, and click on the link in the middle of the screen.
11. Click on the **ADO NET Source** from the **Data Flow Sources** section of the toolbox, and drag it into the middle of the screen.
12. Double-click on the **ADO NET** source. This brings up a dialog box where we'll select the **EMP** table from Oracle.
13. Select the connection manager you created earlier.
14. Choose the **Table or View** data access mode, and select the **"SCOTT"."EMP"** entry. Depending on whether you saved your security settings earlier, this may require a fresh login to the Oracle database.



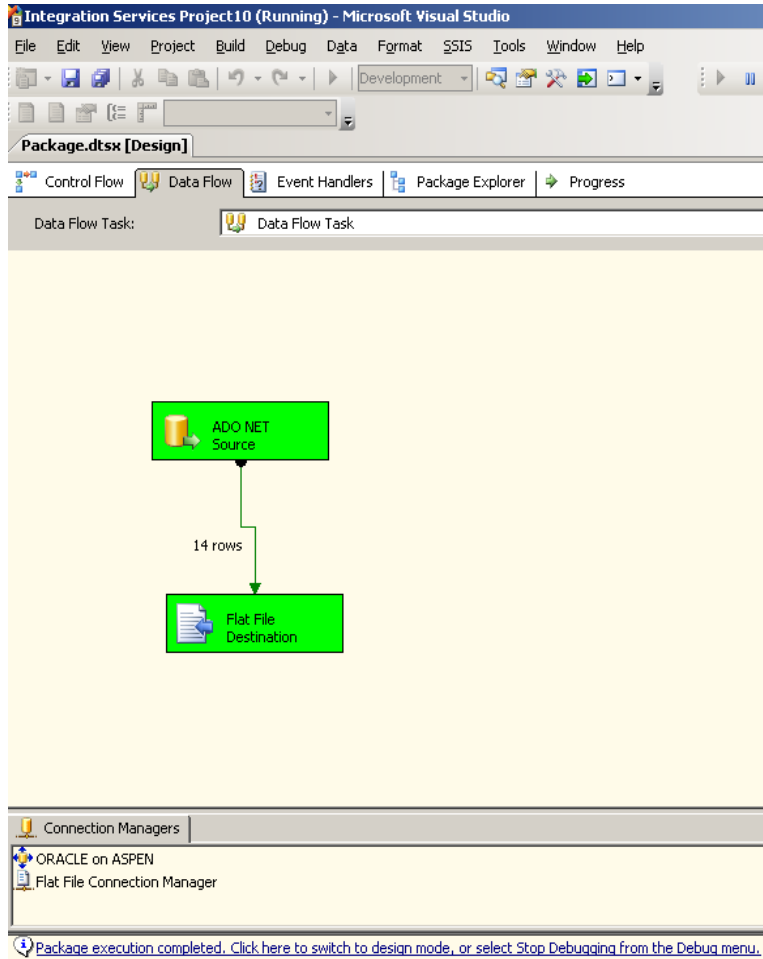
15. Once you've connected to the database, click **Preview** to get a sneak peek at your data.
16. Click **OK** to finish saving your preferred table settings.

Extracting Data into a Text File

1. Click on the **Flat File Destination** from the **Data Flow Destinations** section of the toolbox, and drag it into the middle of the screen.
2. Click on the **ADO NET Source** graphic, and drag a green line to the **Flat File Destination**. This connects Oracle with the flat file.
3. Double-click on the **Flat File Destination** and configure your desired output settings, including file name, directory, and column mappings.



4. You can now test your project by clicking on the green **Start Debugging** icon at the top of the screen. If everything is configured correctly, you should receive a message stating that the project ran successfully as shown below.



You should also now have a text file containing Oracle data as shown below.

```

output - Notepad
File Edit Format View Help
EMPNO, ENAME, JOB, MGR, HIREDATE, SAL, COMM, DEPTNO
7369, SMITH, CLERK, 7902, 1980-12-17 00:00:00, 800.00, , 20
7499, ALLEN, SALESMAN, 7698, 1981-02-20 00:00:00, 1600.00, 300.00, 30
7521, WARD, SALESMAN, 7698, 1981-02-22 00:00:00, 1250.00, 500.00, 30
7566, JONES, MANAGER, 7839, 1981-04-02 00:00:00, 2975.00, , 20
7654, MARTIN, SALESMAN, 7698, 1981-09-28 00:00:00, 1250.00, 1400.00, 30
7698, BLAKE, MANAGER, 7839, 1981-05-01 00:00:00, 2850.00, , 30
7782, CLARK, MANAGER, 7839, 1981-06-09 00:00:00, 2450.00, , 10
7788, SCOTT, ANALYST, 7566, 1987-04-19 00:00:00, 3000.00, , 20
7839, KING, PRESIDENT, , 1981-11-17 00:00:00, 5000.00, , 10
7844, TURNER, SALESMAN, 7698, 1981-09-08 00:00:00, 1500.00, .00, 30
7876, ADAMS, CLERK, 7788, 1987-05-23 00:00:00, 1100.00, , 20
7900, JAMES, CLERK, 7698, 1981-12-03 00:00:00, 950.00, , 30
7902, FORD, ANALYST, 7566, 1981-12-03 00:00:00, 3000.00, , 20
7934, MILLER, CLERK, 7782, 1982-01-23 00:00:00, 1300.00, , 10

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Ready to try DataDirect Connect for ADO.NET with SSIS? [Download a trial today](#) or call **1-800-876-3101** to speak with an account executive.

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