# Connect to an Oracle Database from within Visual Basic 6 (Part 1)

## Preface

This is one in a series of useful articles I am writing about programming. The audience is beginner to intermediate level programmers.

One of the things I am most frequently asked about is using Visual Basic 6 to connect to an Oracle database.

One reason for this is that most of the examples you see in books or the Internet deal with either Access, which we fondly consider the native database of Visual Basic 6, or SQLServer, which of course is a Microsoft product, and something you would expect to see as a target database in the majority of books and Internet sites.

The purpose of this article is to show you that it's relatively easy to connect to an Oracle Database---and just about everything you know about connecting to an Access database is equally applicable to an Oracle database.

## DAO or ADO?

You can connect to an Oracle database using DAO, but it's a bit more complicated, and since ADO is the latest and greatest Database technology (except for ADO.Net which runs with Visual Basic.Net), let's jump right to ADO.

In terms of ADO, you have two choices--use the ADO Data Control or use ADO objects. This article will deal with using the ADO Data Control. My next article will deal with using ADO Objects to achieve the same functionality.

## Use the ADO Data Control to connect to an Oracle Database

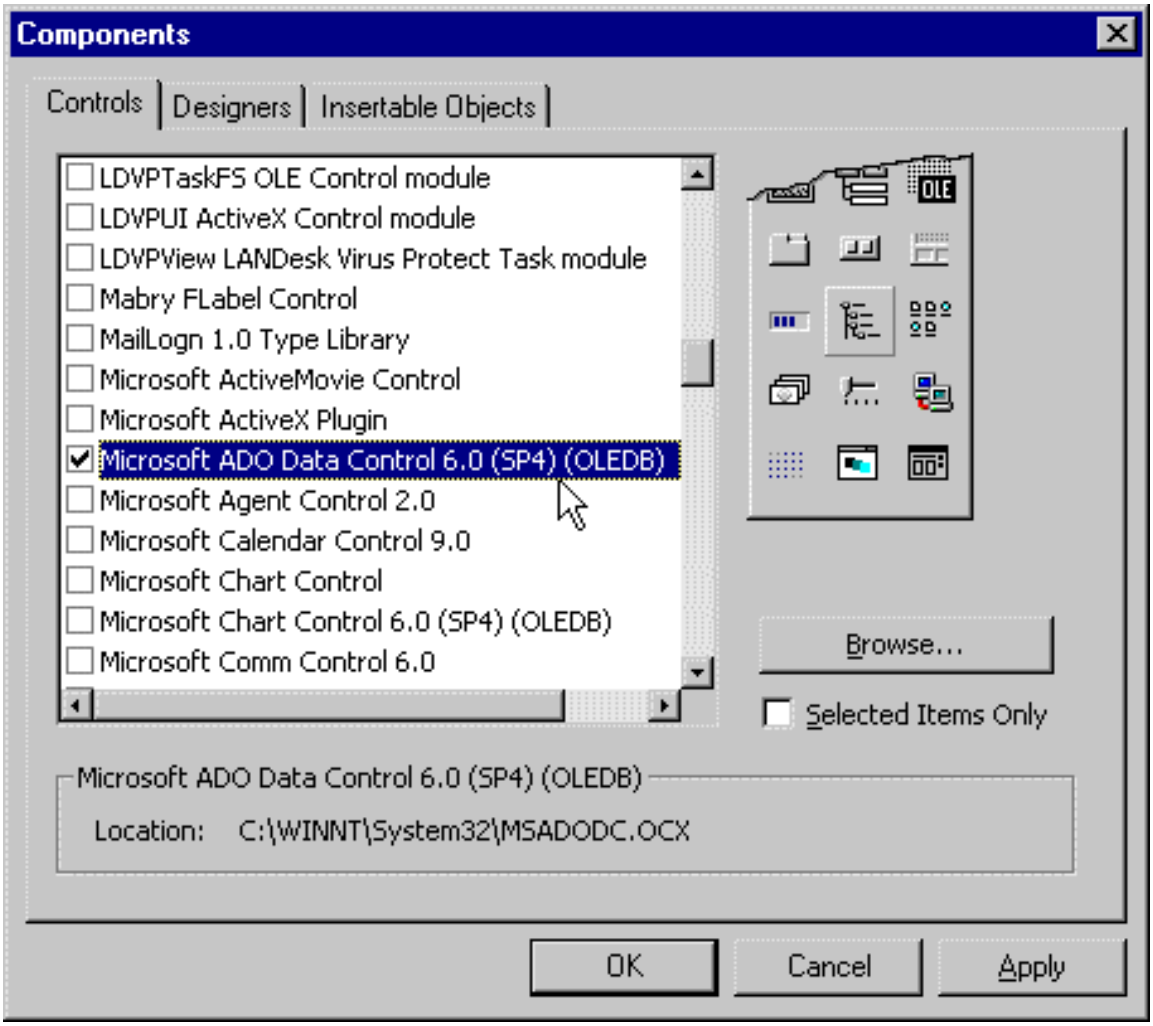
Connecting to an Oracle database is painless. Ordinarily, if you want to connect to either an Access or SQLServer Database, the ADO Data Control can be expected to guide you through the process. With Oracle, you need to do a little bit more on your own, and this involves

1. Having something called a TNSNames file installed on your PC
2. Knowing the Host Name of the database to which you wish to connect as defined in your TNSNAMES file

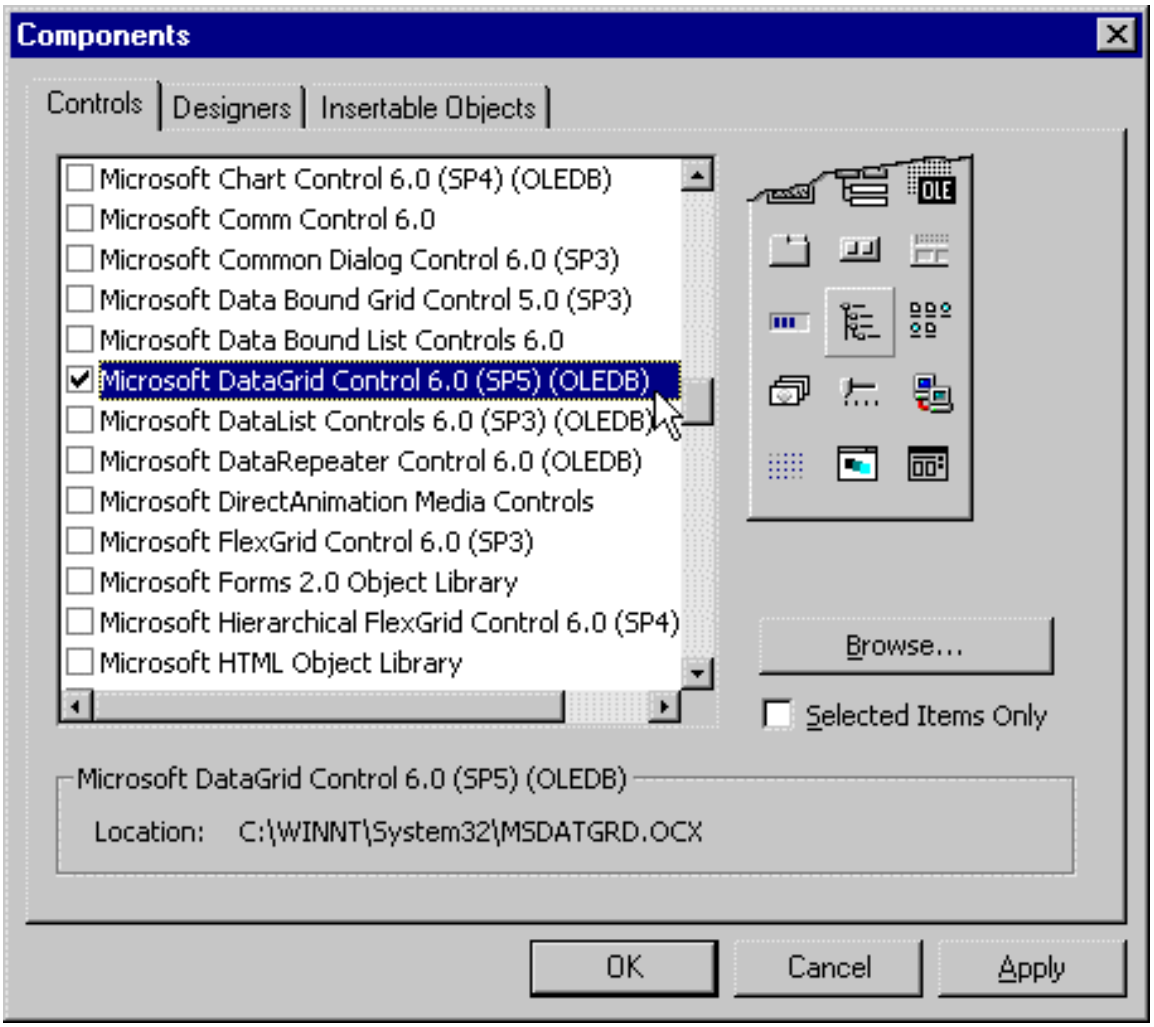
The TNSNAMES file is crucial to making your connection. The good news is that if your PC is running any kind of Oracle client program or utility (such as SQLPlus, which is its interactive SQL Query tool), you already have a TNSNAMES file in your path. You just need to find it, locate it, and determine what your Host Name is (if you have any doubt about doing so, consult either your local Network people or your Oracle DBA).

Now, with your Host Name in hand, connecting to your Oracle database is a piece of cake.

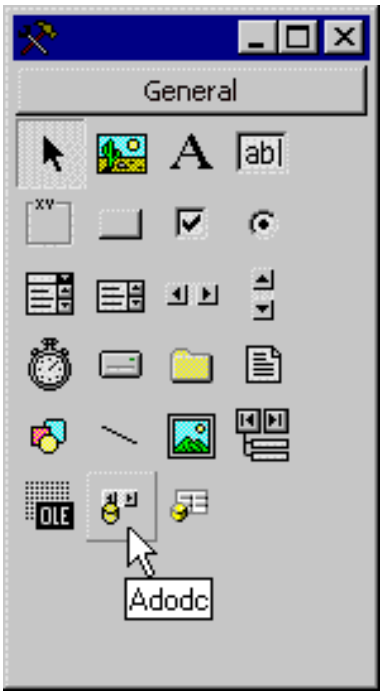
First, let's add the ADO Data Control to the Visual Basic Toolbox by selecting Project-Components from the Visual Basic Menu Bar, then selecting Microsoft ADO Data Control 6.00 (be sure it has OLEDB at the end of the name) and clicking the OK Button.



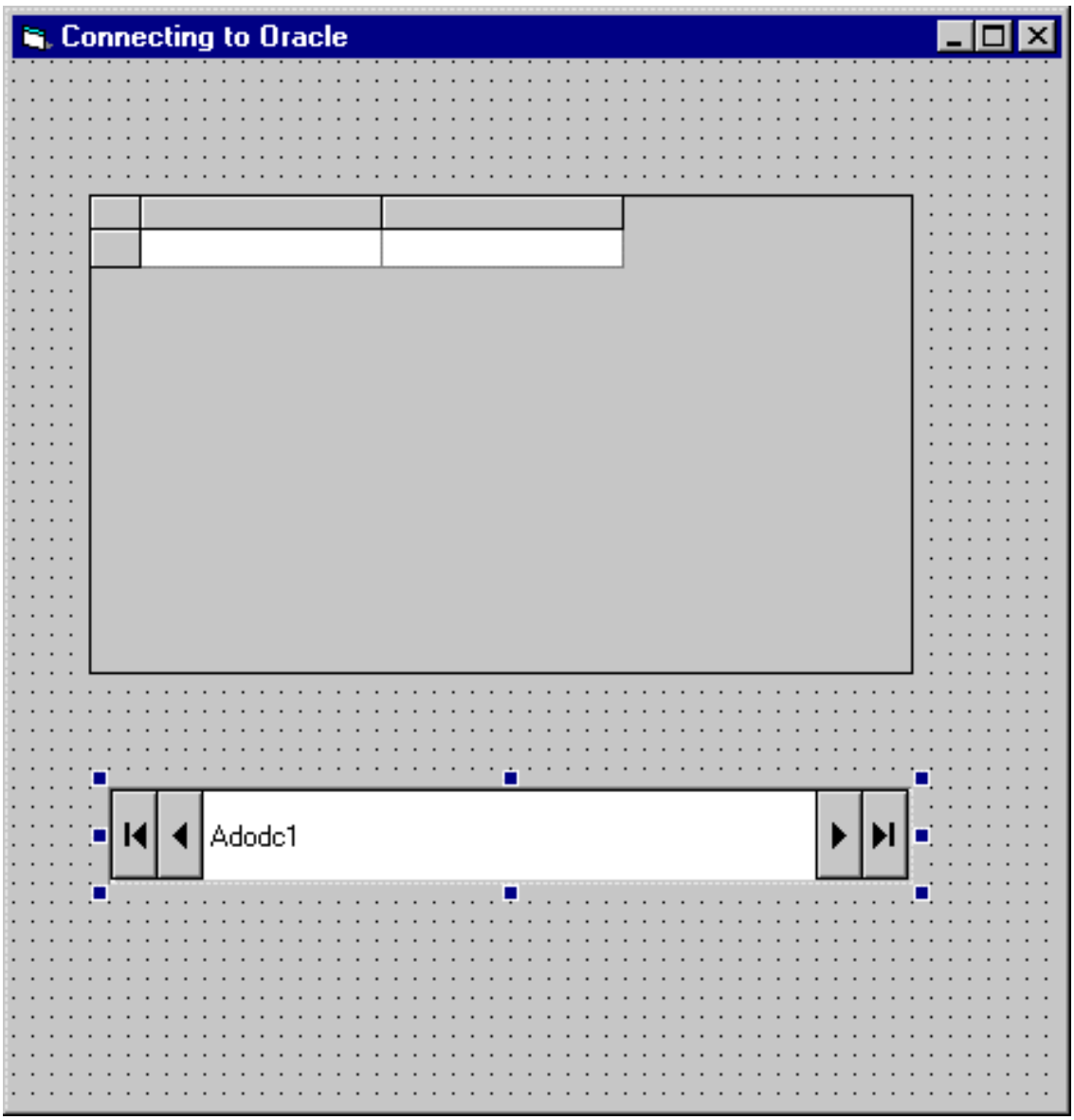

For this demonstration, we'll be using populating a Data Grid with the data from the Employees table in an Oracle table I've built. We need to add the Data Grid to the Visual Basic Toolbox first, and we do that just the way we added the ADO Data Control by selecting Project-Components from the Visual Basic Menu Bar. An important point here---you must use the OLEDB version of the DataGrid in conjunction with the ADO Data Control---as you can see in the screen shot below, this DataGrid has the word OLEDB after it in the selection list. DON'T select the Data Bound Grid Control 5.0---that grid can only be used with the DAO Data Control.




As you can see, both the ADO Data Control and the DataGrid Control have been added to the Visual Basic Toolbox.



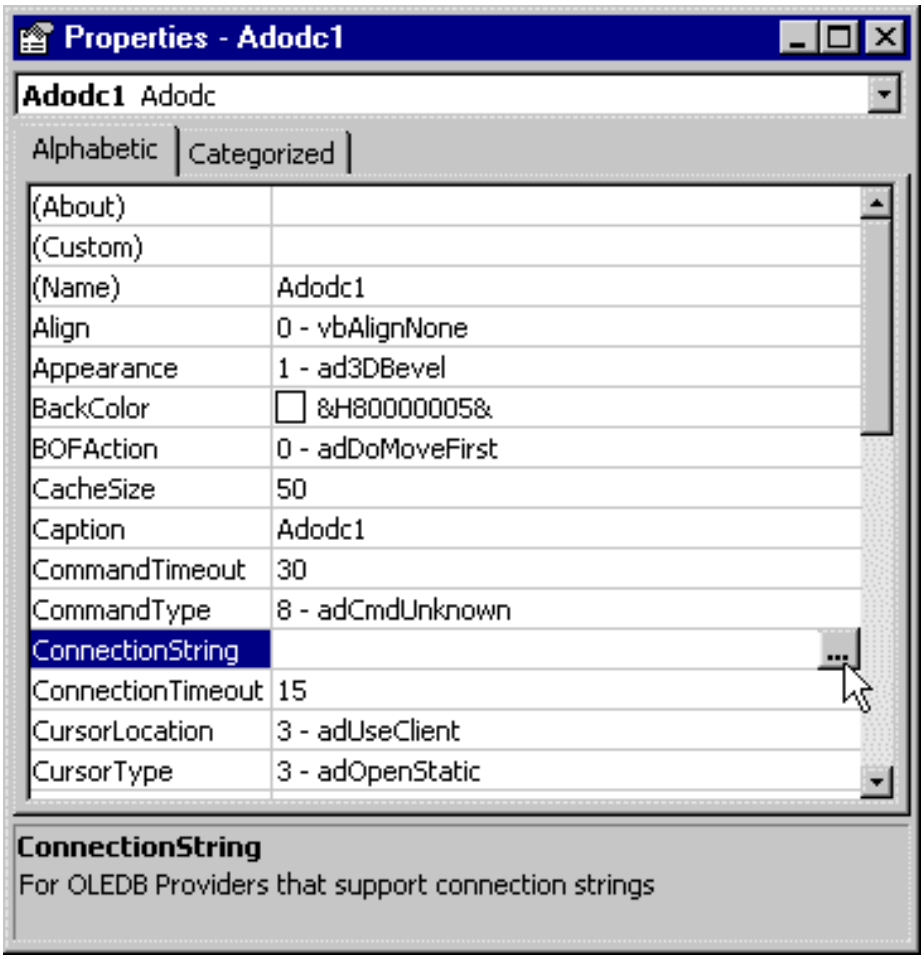
With both controls in your Toolbox, now it's time to add them to your form.



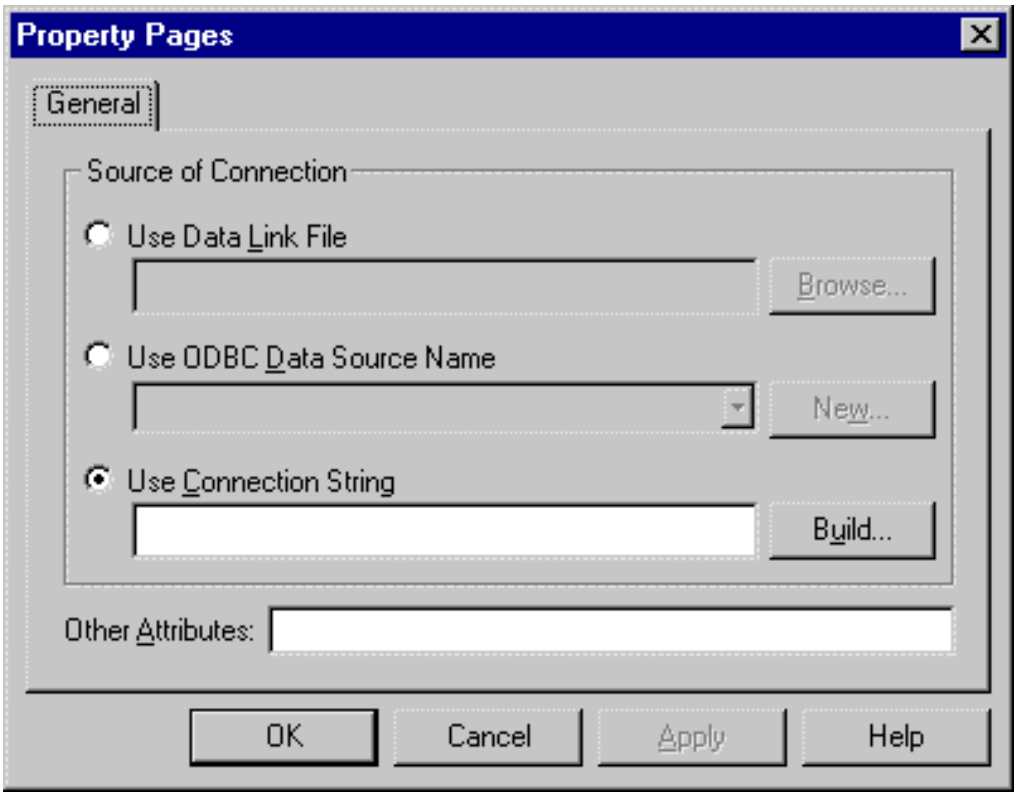

# Adjusting the ADO Data Control Properties to achieve your Oracle Connection

## The Connection Property

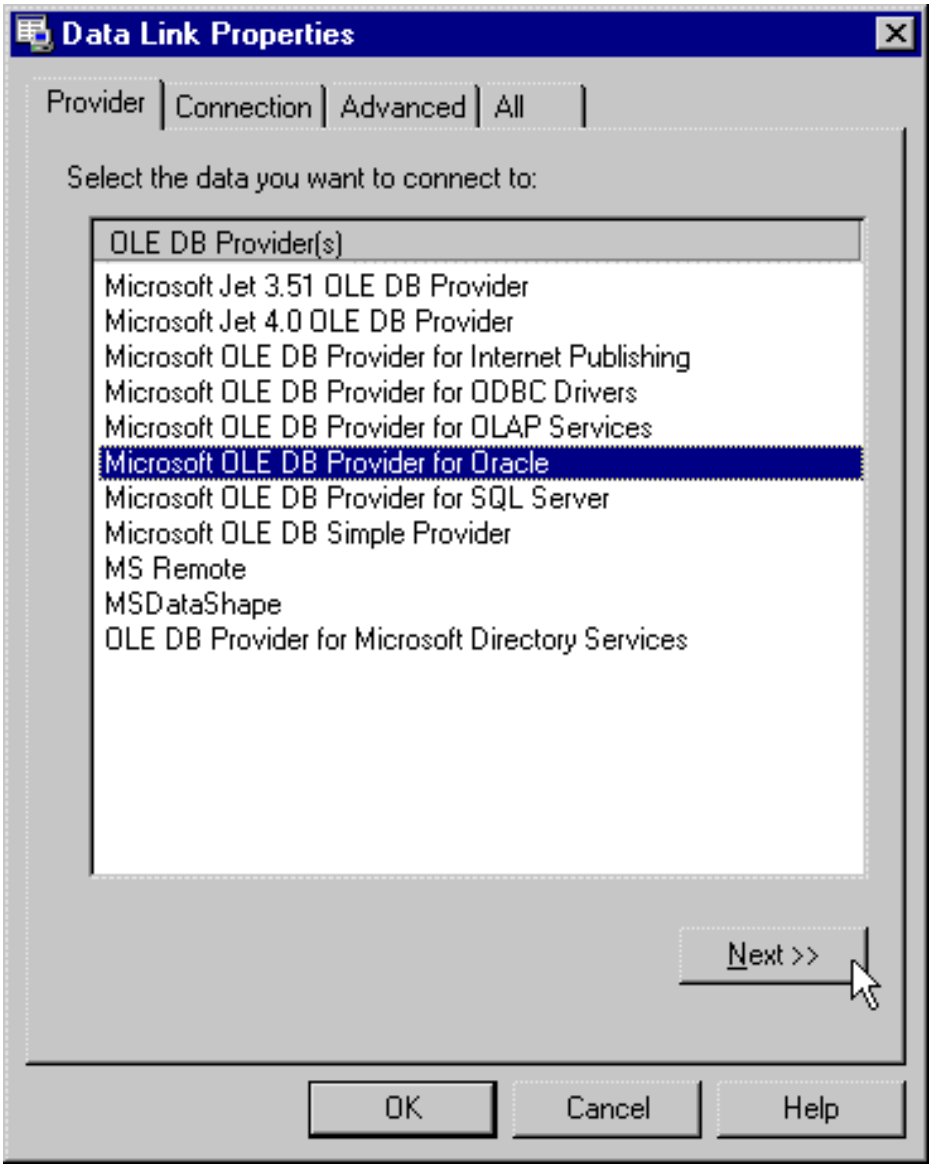
Bring up the Properties window for your ADO Data Control and select the Connection Property--this is the key to achieving the connection. The three dots (ellipsis) indicates that a window will open for you when you click on it.




This is a Property Page for the Connection Property. Click on the Build button to start 'building' the Connection String...

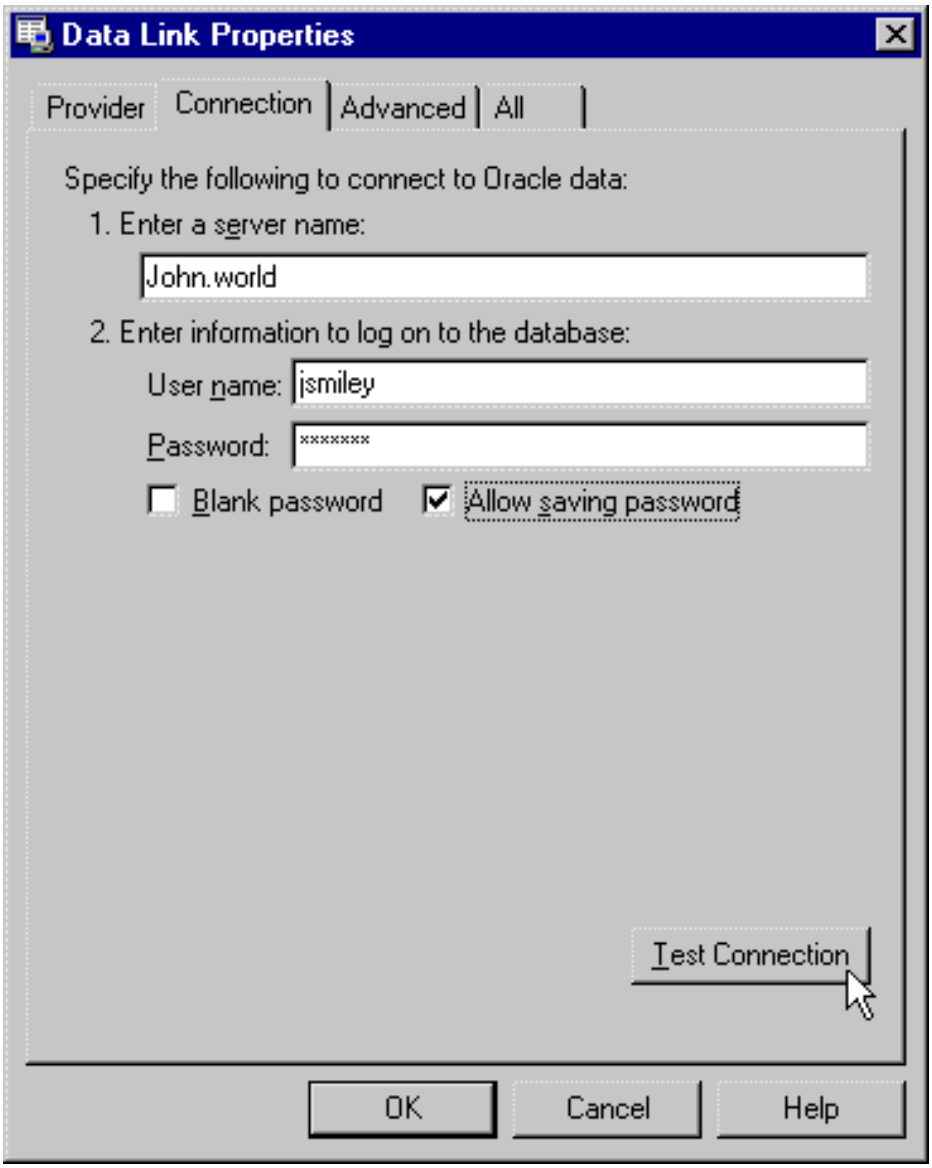


and this window will appear, asking you to select the Provider for your database. For Oracle, you want to select the Microsoft OLE DB Provider for Oracle. Do so, then click on the Next button...

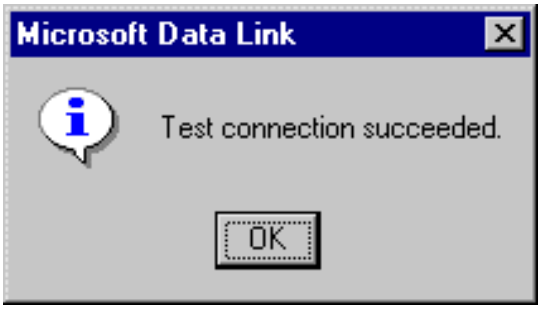



The Oracle Connection requires that you designate a Server name, a User Name, and a Password. The Server name is the name of your Host File as designated in the TNSNAMES file I mentioned earlier. In my instance, it is called 'John.World' (frequently Oracle Host Names end with .world). My User name is 'jsmiley' and my password is (well, that's a secret). Notice how I have checked 'Allow saving password'---this eliminates a nasty popup dialog box prompting you for a password from appearing when you execute the program containing this connection.

Enter your own Host Name, User name and Password for your Oracle database. Be sure to test the connection by clicking on the 'Test Connection' button...



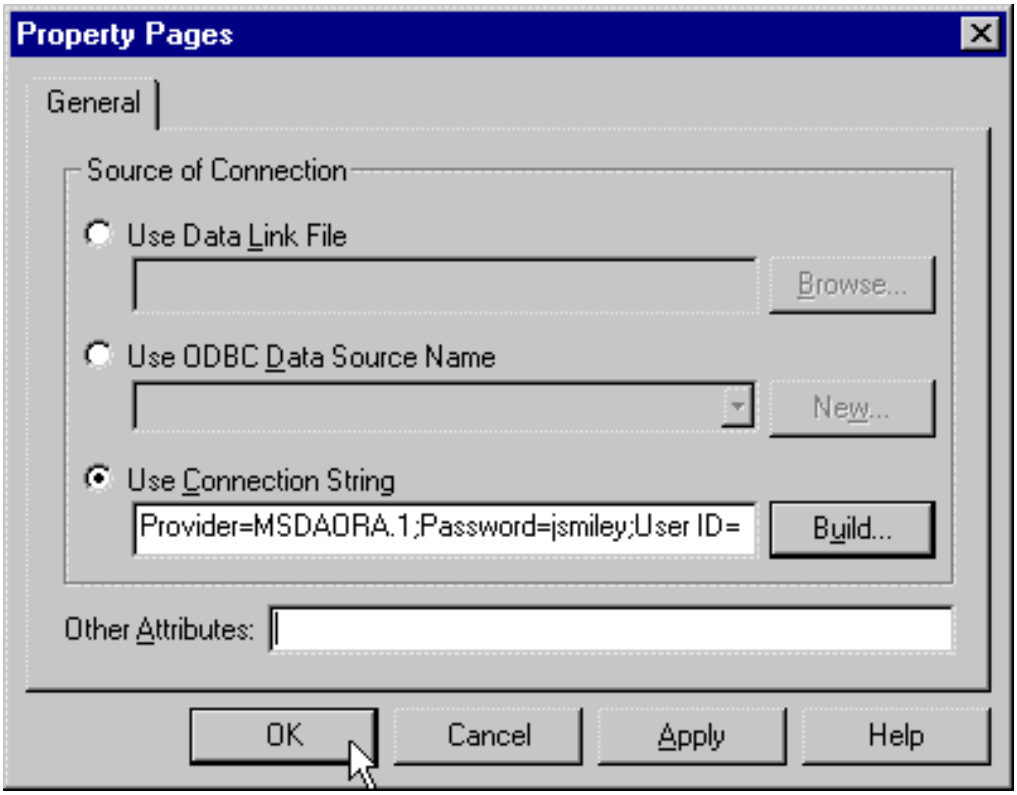

If the information you supply is correct, you should see this dialog box appear...




If the information you supply is incorrect, you'll receive this sad message :(


If that happens, check with your Oracle Database Administrator to verify the name of your Host File, your User Name and Password.

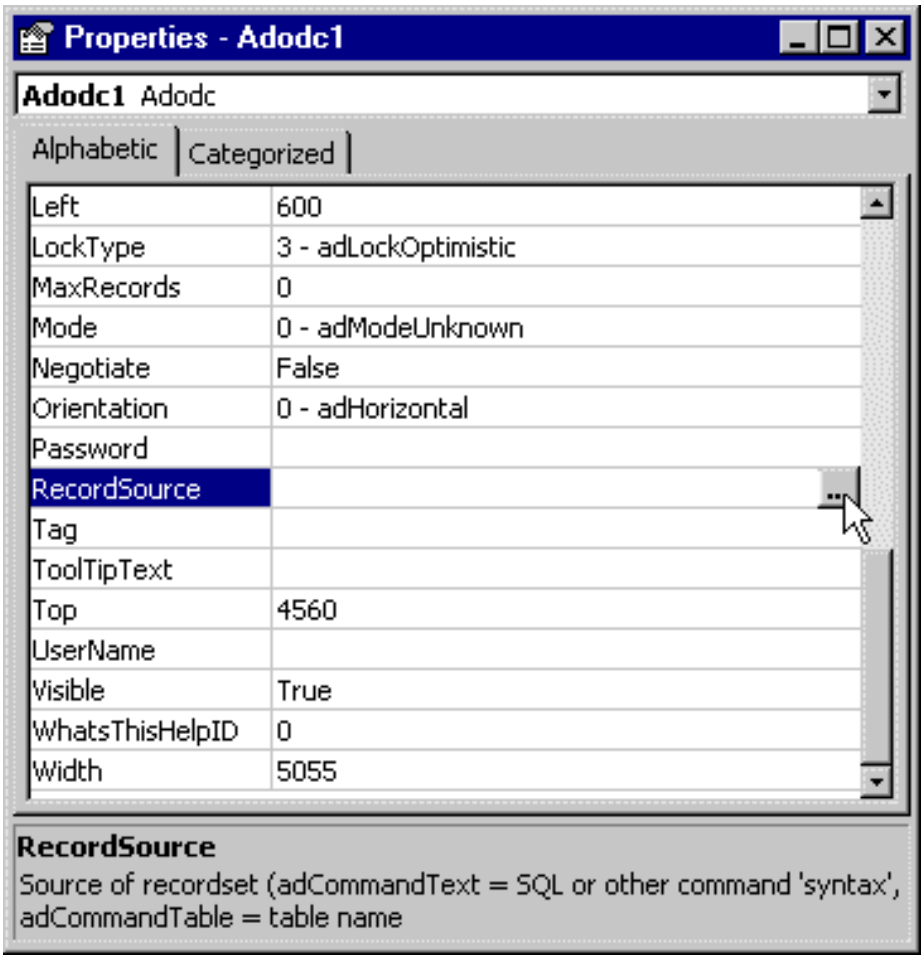
If your connection test proves successful, click on the OK button and you should notice that the Connection String Property of your Data Control has been filled in for you.



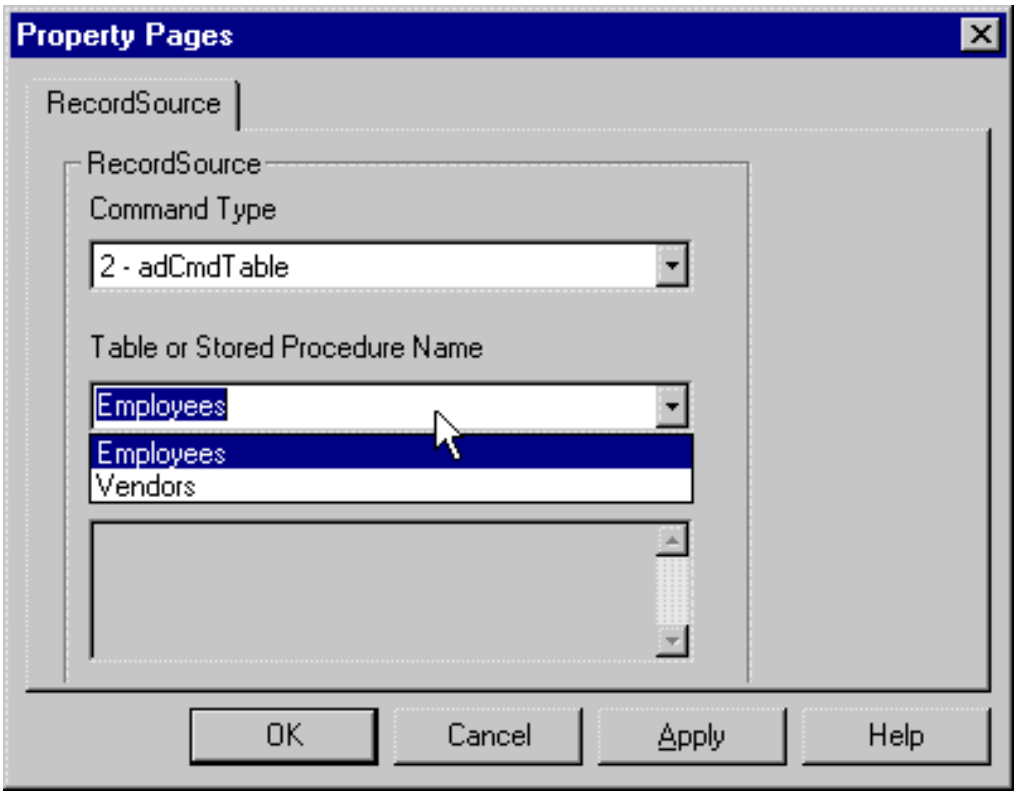

When we discuss using ADO Objects to achieve your connection, the Connection String value that you see here will be used in code.

## The Recordsource Property

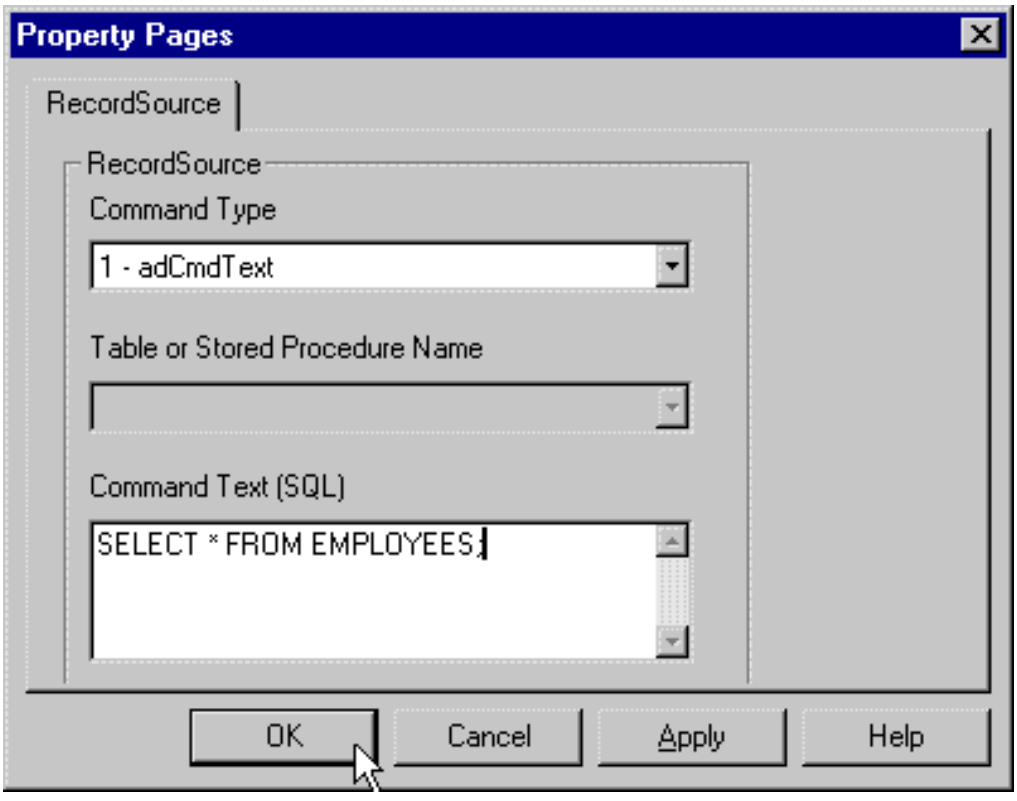
Now that you've verified your Connection, you've done the work necessary to open your Oracle Database---now you need to tell Visual Basic the exact information you require. This could be a table name, or it could be a recordset built by a SQL Statement. Regardless, you need to provide some information to Visual Basic in the RecordSource property of the ADO Data Control. Select the RecordSource Property. Again, the three dots (ellipsis) indicates that a window will open up when you click on it...




The easiest type of connection to achieve is one where you specify a table name, and you start that process by selecting adCmdTable in the **Command Type** dropdown listbox. When you do so, a list of tables for your database will appear in the **Table or Stored Procedure Name** dropdown listbox. My Oracle database contains two tables, Employees and Vendors. I'll select Employees.

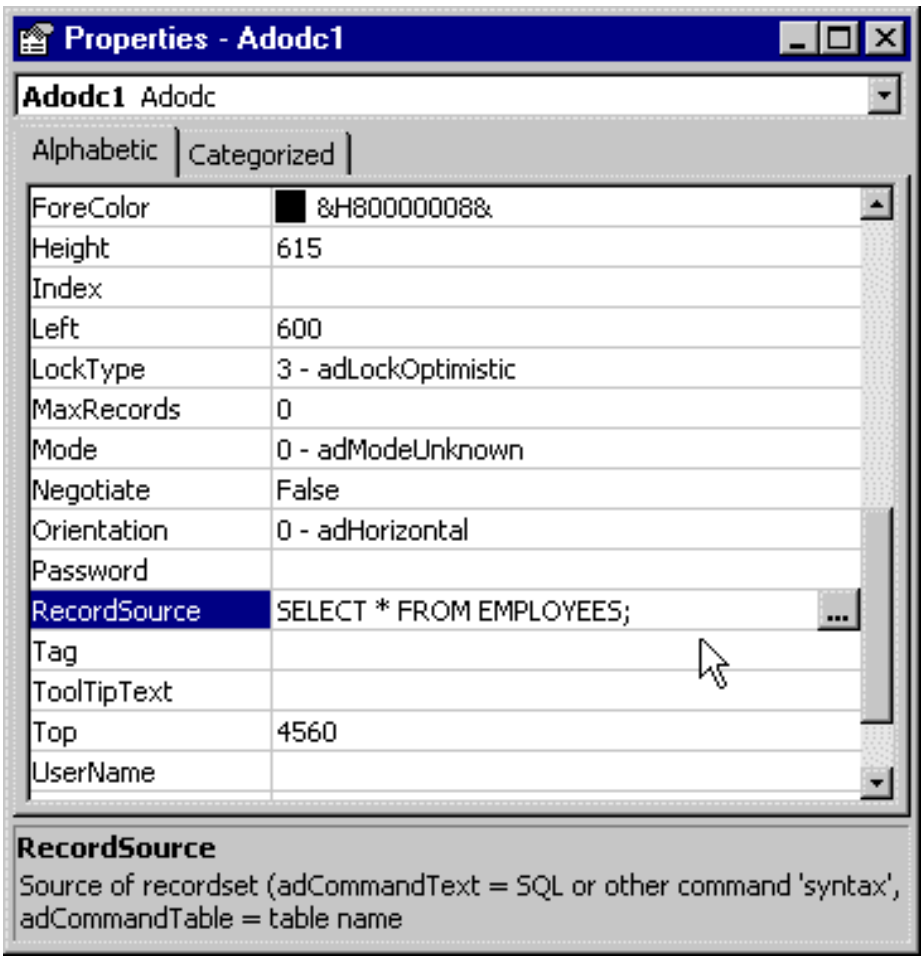



You could also choose to build your connection using a SQL statement instead of a single table name. SQL statements allow you to build a recordset with information from more than one table (for more information, read Database Design for Mere Mortals). To specify a SQL statement instead of a table name, specify **adCmdtText** as the **Command Type** and enter your SQL Statement into the **Command Text** Textbox...



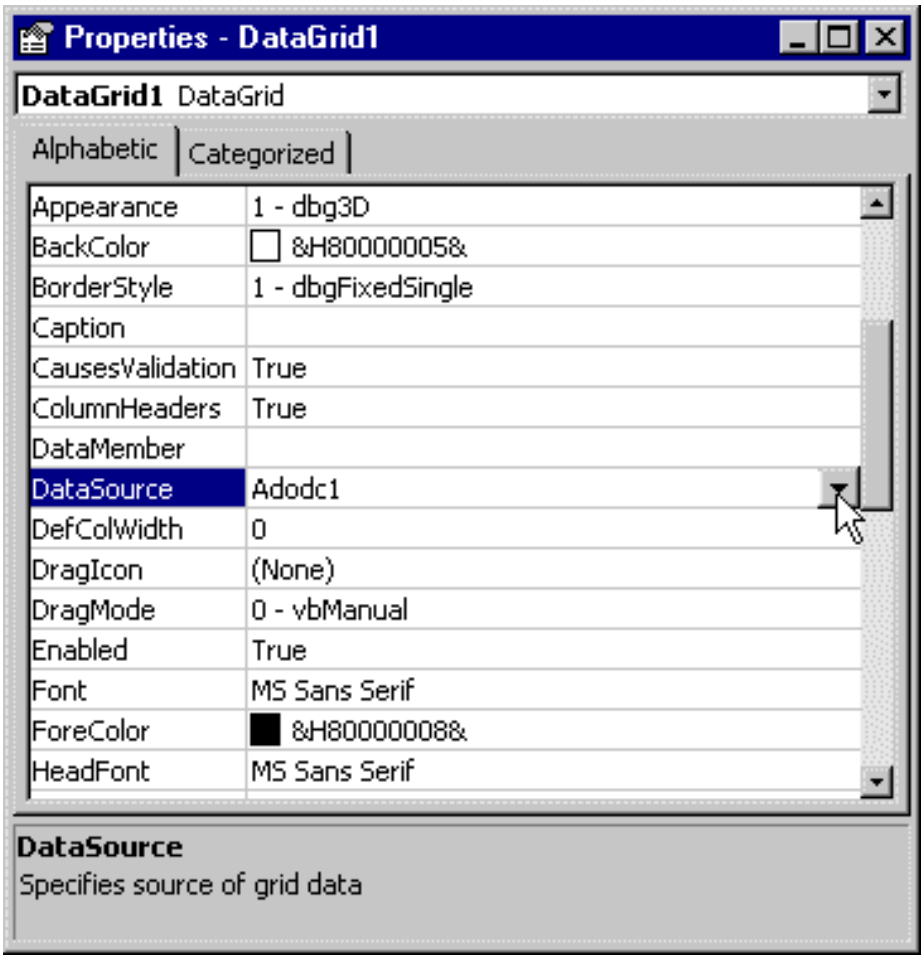

Either way, click on the OK button, and you should see that the RecordSource property of your Data

Control now has a value...




## Binding the ADO Data Control to the DataGrid

The final piece of the puzzle is to bind the ADO Data Control to another control capable of displaying the data from our Oracle table. For demonstration purposes, nothing could be easier than the DataGrid. Bring up its Property window, and select the ADO Data Control for its DataSource property...




Now run the program, and see the magic--the DataGrid is now populated with the data present in the Employees table of your Oracle database. By the way, the data you are viewing is resident on an Oracle database several thousand miles from my location.