

## **Talking to Allbase/SQL**

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This paper is intended for the shop that is moving toward Client/Server development. The main focus of this paper is to eliminate the frustration of trying to install the M.B. Foster ODBCLink/SE driver. We will show you how to install the ODBC driver and use Microsoft Access or Visual Basic to access a relational database (Allbase/SQL) on your HP 9000 computer system.

ODBCLink/SE is an implementation of Microsoft's Open Database Connectivity (ODBC) interface that enables Microsoft Windows based applications and tools to access IMAGE/SQL on the HP 3000 and Allbase/SQL on both the HP 3000 and HP 9000 computer systems, in a Client/Server environment.

I will not rewrite the ODBCLink/SE manual, but will attempt to give you the nuts and bolts that you need to quickly install the ODBC driver and have your Allbase/SQL databases talking to Microsoft Windows application and tools.

We'll start by showing you how to print a copy of the ODBCLink/SE reference manual. Using your favorite Web Browser type in the following URL:

<http://jazz.external.hp.com/papers/odbc>

Follow the instructions on the web document for printing instructions.

Now that you have a copy of the reference manual, you can follow along with me and highlight the next few topics as I cover them.

First we want to prepare the server. There are three steps to preparing the server:

1. Verify the software version numbers
2. How to start and stop the listener
3. Gather information about your environment

## Verifying the software version number

Verifying the software on your HP 9000, type in the following

```
$ sqlver
```

```
Checking AB-RUN (Runtime).  
AB-RUN: No missing files.
```

```
Checking AB-DEV (Development).  
AB-DEV: No missing files.
```

```
Checking AB-NET (Net).  
AB-NET: No missing files.
```

```
*****  
This Pass => A.G2.02  
*****
```

```
0 missing files.  
$
```

Note the message “This Pass A.G2.02” is the version of Allbase/SQL that I’m running. You must be version A.G2.00 or higher for the ODBC driver to work.

## How to start and stop the Listener

Next we want to start the Listener. To start the Listener type:

```
/usr/bin/odbcse/odbcInse server          for a 9.x server  
/opt/allbase/bin/odbcse/odbcInse server  for a 10.x or higher server
```

How can you verify that the Listener is running, type?:

```
$ ps -ef | grep odbclnse  
ronald 2051 1455 6 18:28:40 tty1 0:00 grep odbclnse  
root 1956 1 0 15:17:03 tty1 0:00 /opt/allbase/bin/odbcse  
/odbclnse server  
  
$
```

The first line shows the results of the grep command and the second line is the one that is verifying that the ODBC Listener is running.

How do you stop the Listener, type?:

```
/usr/bin/odbcse/odbcInse stop          for a 9.x server  
or
```

```
/opt/allbase/bin/odbcse/odbc1nse stop for a 10.x or higher server
```

The above STOP command will prevent any new connections but will not affect connections that were active when the command was issued.

Now that the Server is running we need to gather some information that is needed for configuring the Client.

### **Gathering information about your environment**

The first piece of information needed is the host or node name of your system, or its IP address. We can get both pieces of information by typing in the following:

```
$ hostname
```

```
ronbox
```

Now that you know the host name, you can use the host name to get the IP address, by typing:

```
$ nslookup ronbox  
Using /etc/hosts on: ronbox
```

```
Looking up FILES  
Name: ronbox  
Address: 156.153.205.131
```

```
$
```

The second piece of information is the absolute pathname of the DBEnvironment. It will look like this:

```
/home/ronald/PartsDBE
```

The last piece of information needed is the login name and password. It is the one that you use when you want to access the database environment interactively. In my example the user login is “ronald” and the password is “moore”.

We are now ready to install the ODBC software on the Client.

## Configuring the Client (Installing ODBC)

First we need to download a file from the UNIX Server to your PC.

It is very important to note that you cannot download the driver from an HP 3000 MPE server. I tried that and there is a version problem using the MPE driver.

To do this we need a directory to store the file, so type in the following at a command prompt on you PC:

```
C:\> MD ODBCSE32
C:\> CD ODBCSE32
```

We are going to use FTP to transfer the file to our PC, so type:

```
FTP RONBOX
or
FTP 156.153.205.131
```

```
ftp> binary
ftp> get /usr/bin/odbcse/odbccl32 odbccl32.exe for a 9.x server
or
ftp> get /opt/allbase/bin/odbcse/odbccl32 odbccl32.exe for a 10.x or higher server
```

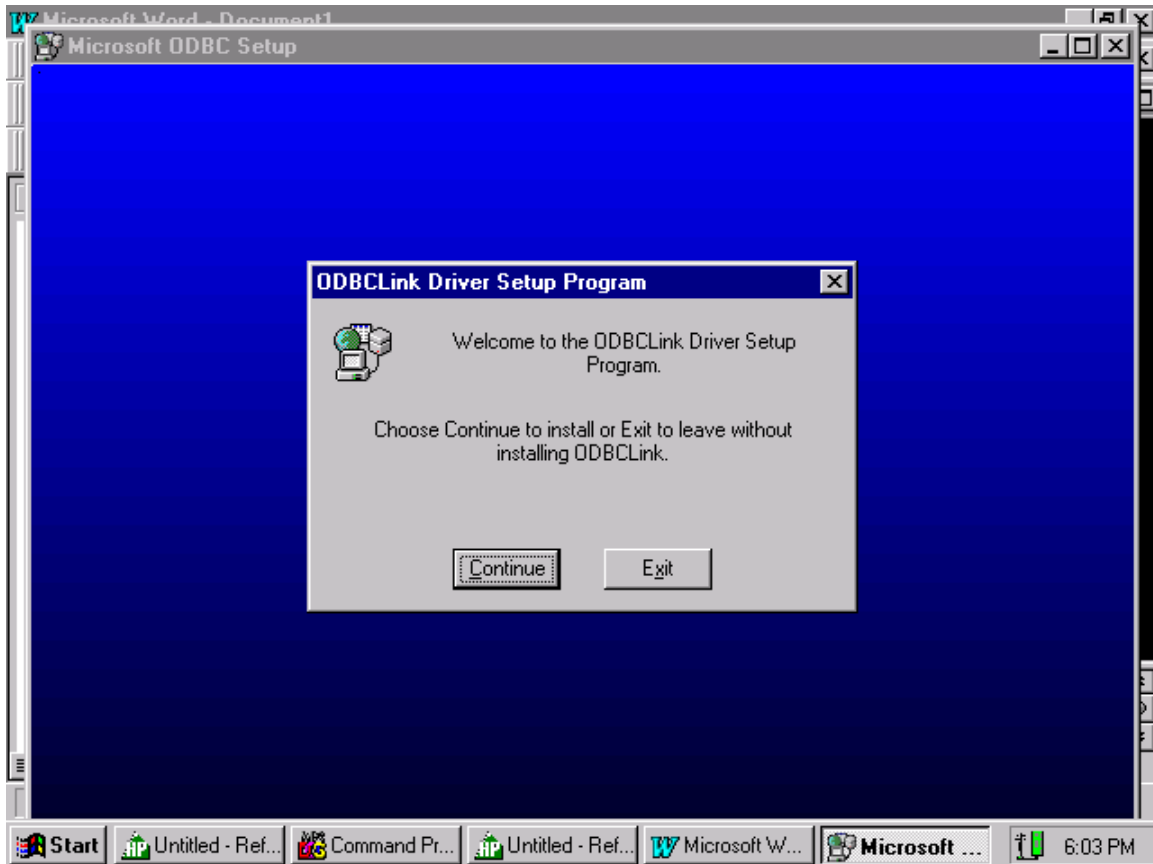
Now that we have the file on the PC we need to extract or explode the file. This one file will create a bunch of files in the ODBCSE32 directory. To explode the file type:

```
C:\ODBCSE32> INFSETUP WNT if you are on an NT Client
Or
C:\ODBCSE32> INFSETUP W95 if you are on a Windows 95 Client
Or
C:\ODBCSE32> INFSETUP W98 if you are on a Windows 98 Client
```

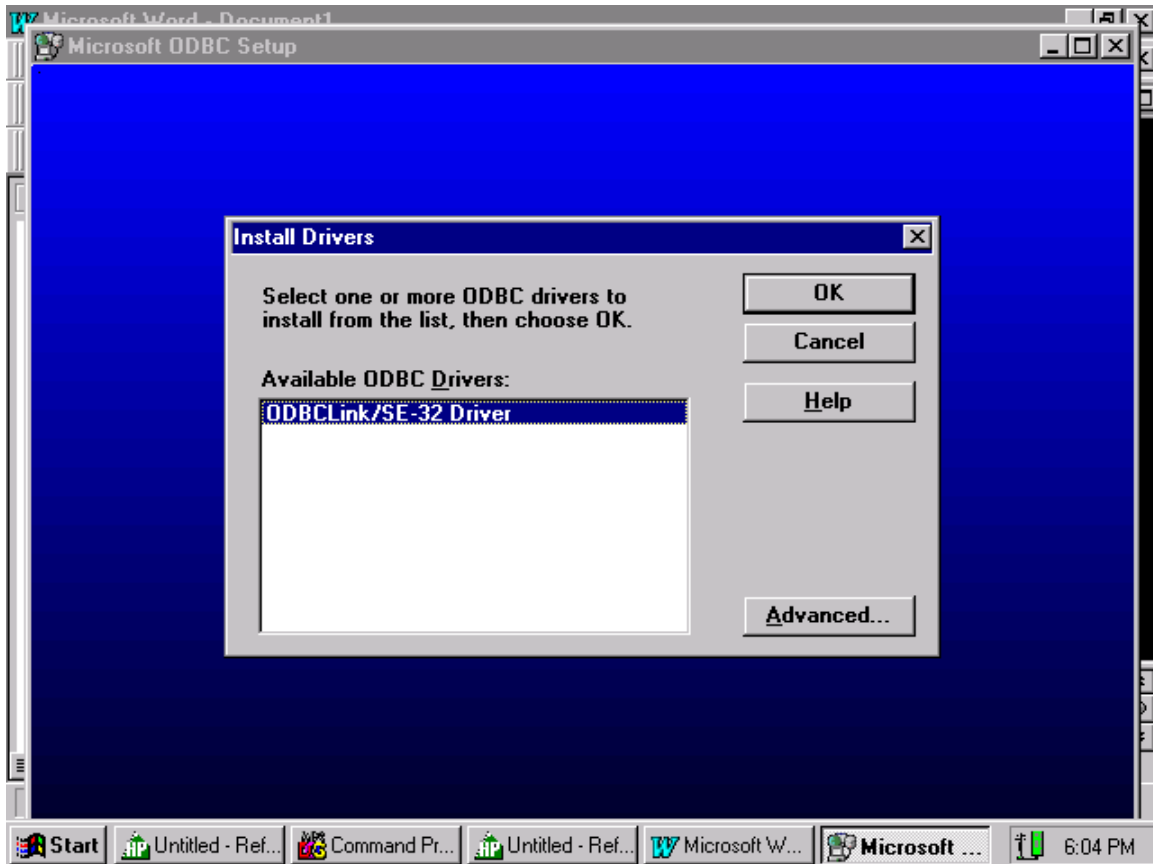
Follow the above with the setup command, by typing:

```
C:\ODBCSE32> SETUP.EXE
```

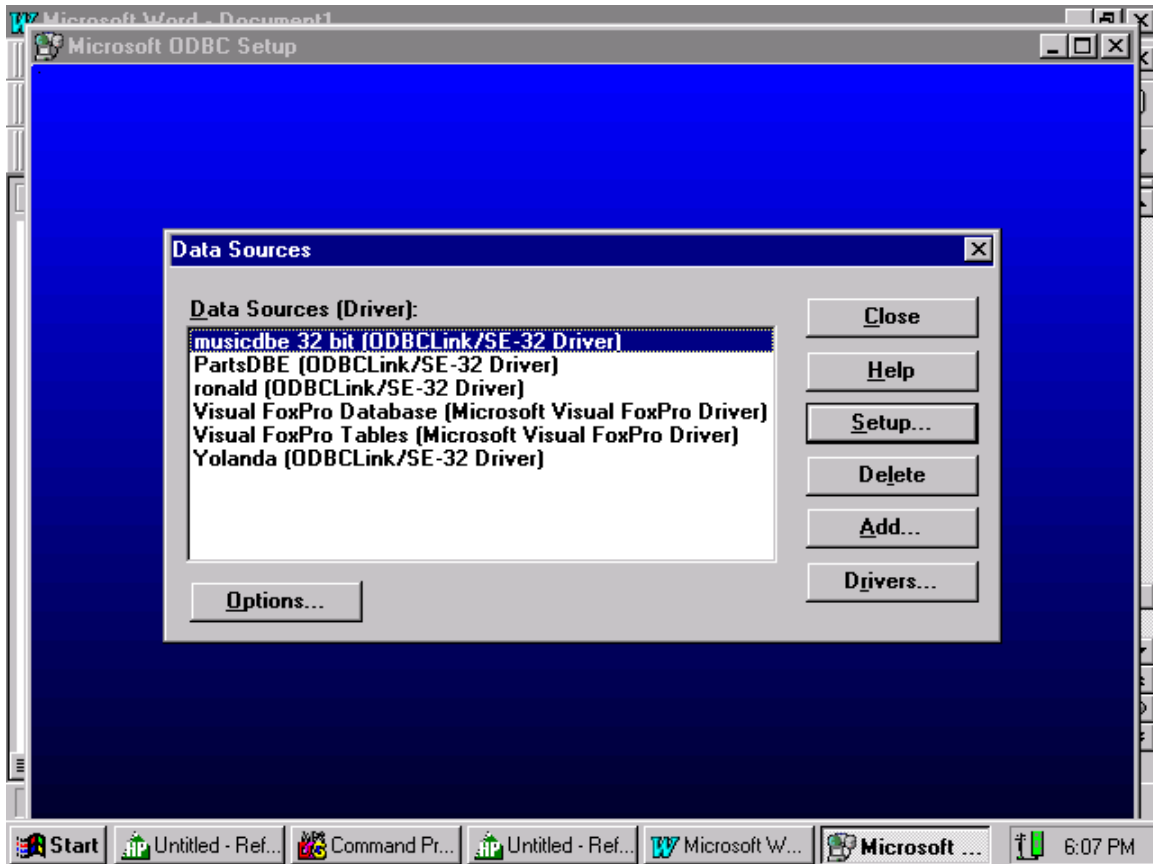
You will get the following screen.



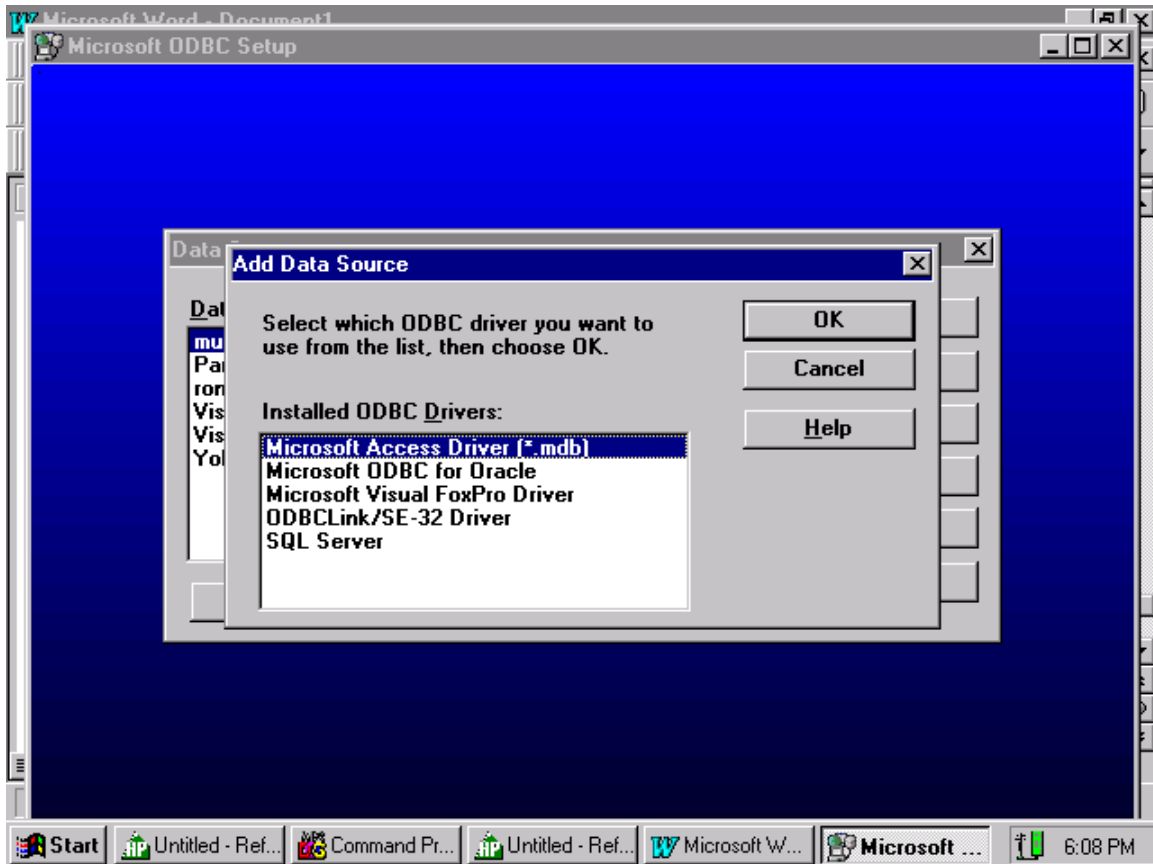
Click on “Continue” . This will take you to the next screen and allow you to create a data source needed to connect to the database environment. Let’s go to the next screen.



This screen is used to define the driver that will be installed. Be sure to highlight “ODBCLink/SE – 32 Driver”, then click on “OK”. That will take you to the next screen.

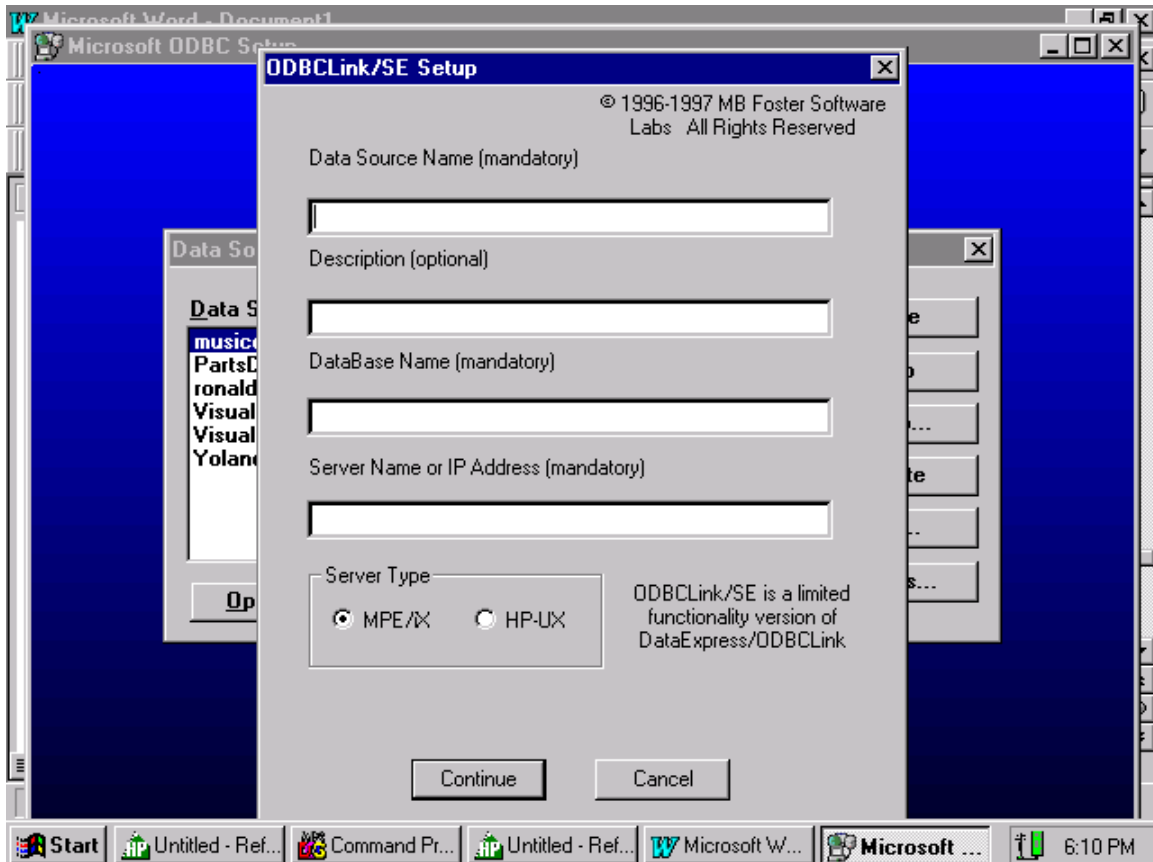


We are going to define the Data Source that will be used to connect you to an environment. This display shows the name of Data Sources that are currently defined on this Client. Click on the “Add...” button to go to the next screen where you will define your Data Source.



This screen is used to select the bits that will be used for your driver. We want to use the bits from M.B. Foster. Select “ODBCLink/SE – 32 Driver” and click on “OK” to go to the next screen.





On this screen we use the information that we gathered earlier. Fill in the boxes using the information gathered for example:

**Data Source Name** - This is the name that you will use to identify the connection that you want to make to a particular environment. I use the name of my database environment in this field. Note that this field is mandatory.

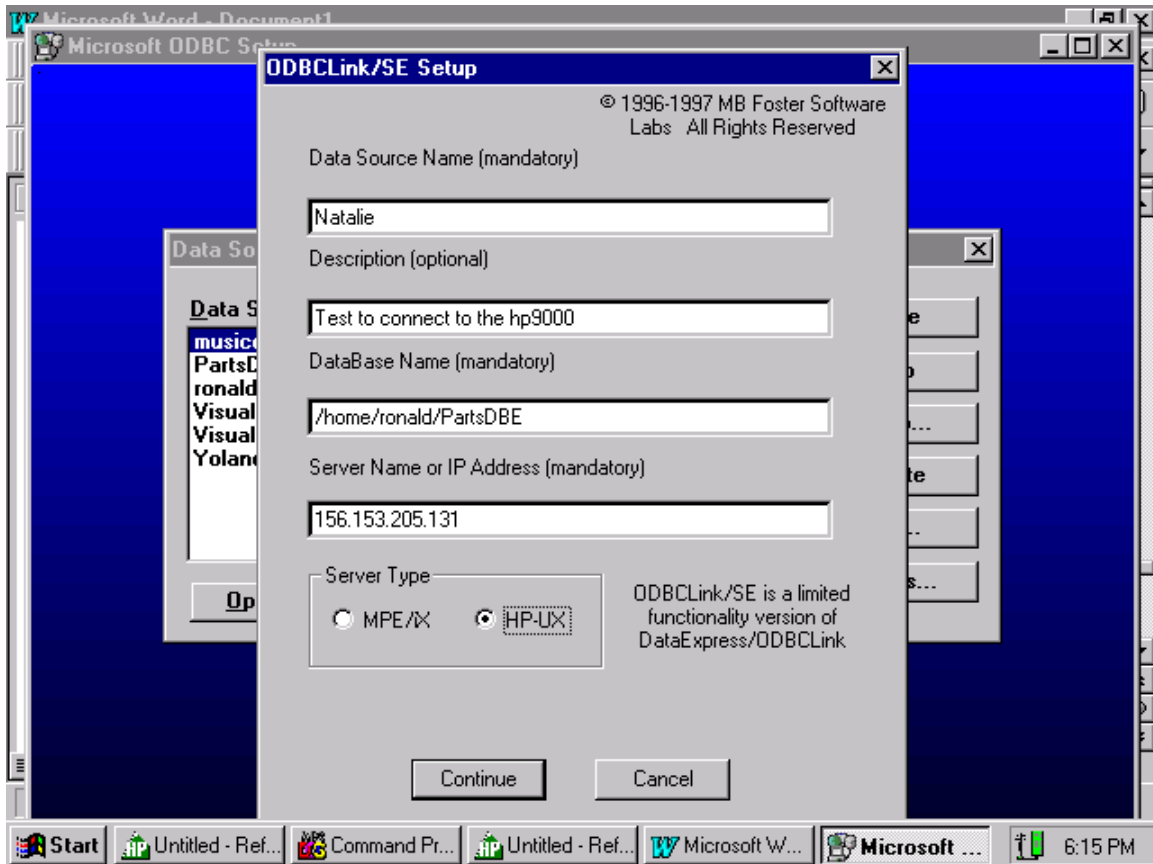
**Description** – This is where you can use English like text to define your environment.

**Database Name** – This is the absolute path for the database environment. In my example the absolute path was: /home/ronald/PartsDBE. Note this field is mandatory.

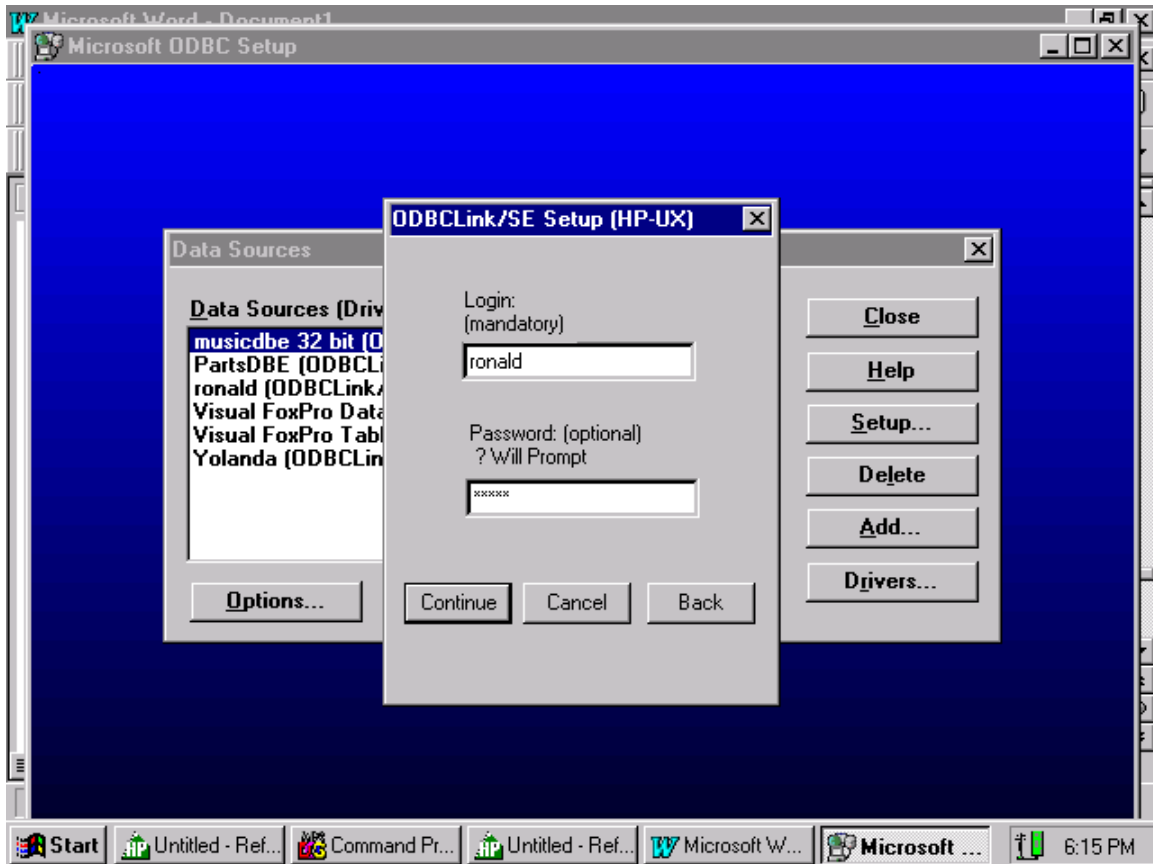
**Server Name or IP Address** – Here you enter the IP Address for the Server where the database Environment is stored. Or you can use the hostname for the Server. I like using the IP Address.

**Server Type** – Be sure to click in the box for HP-UX.

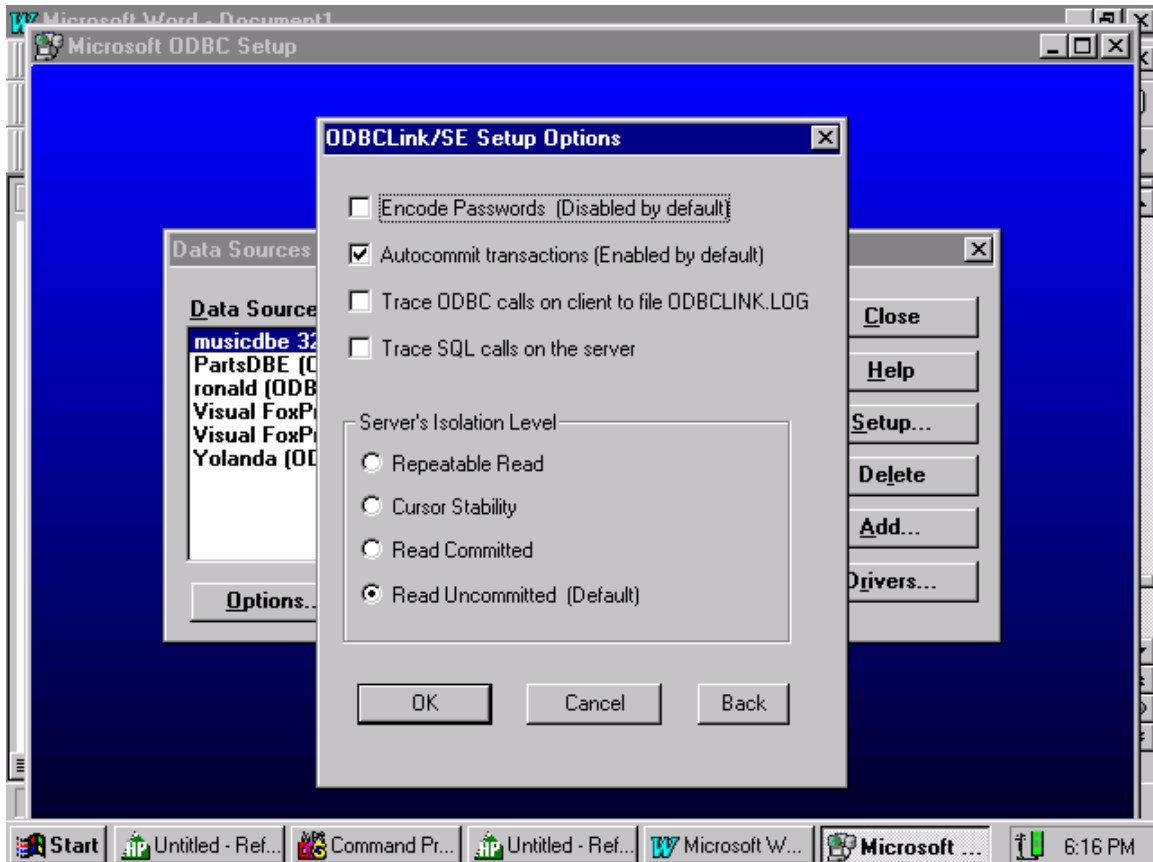
Fill in the information and click on “Continue”.



Here is an example of how the completed fields could look.

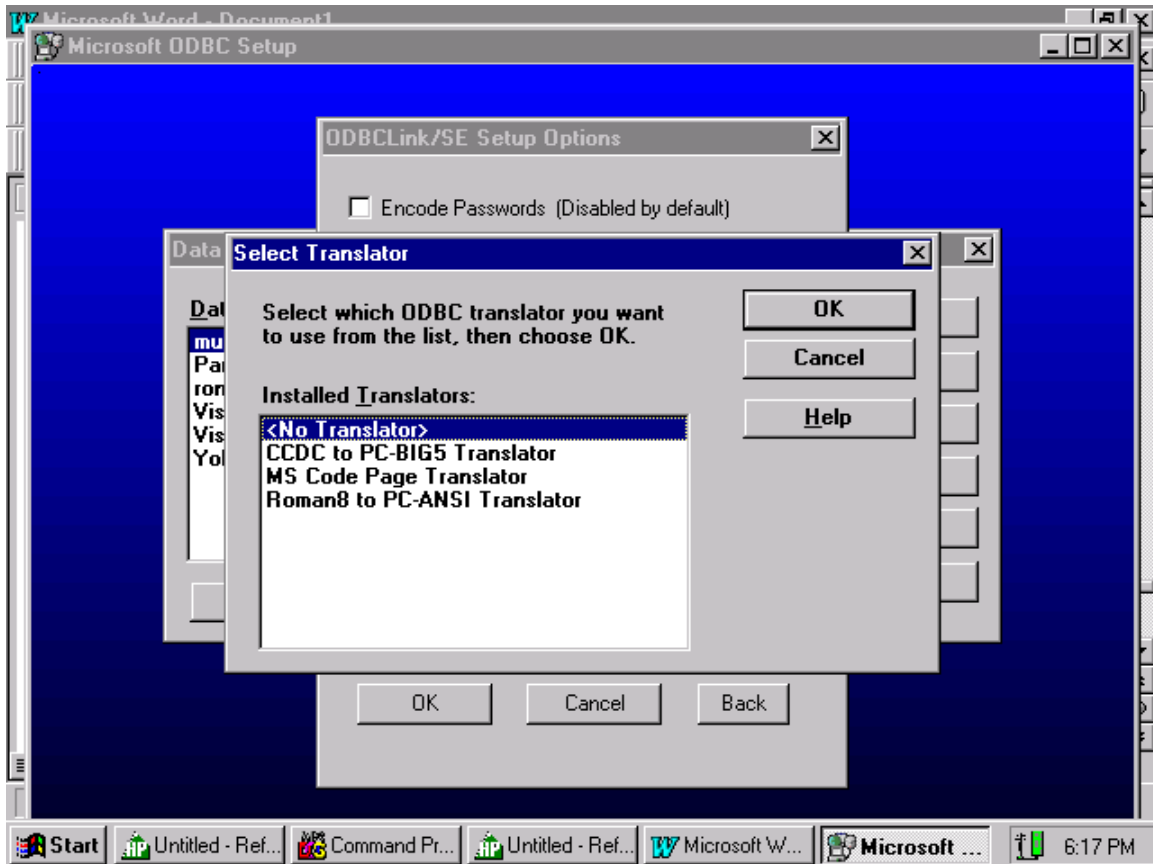


On this screen we enter login information. Enter the user name and password, then click on the “Continue” button to go to the next screen.

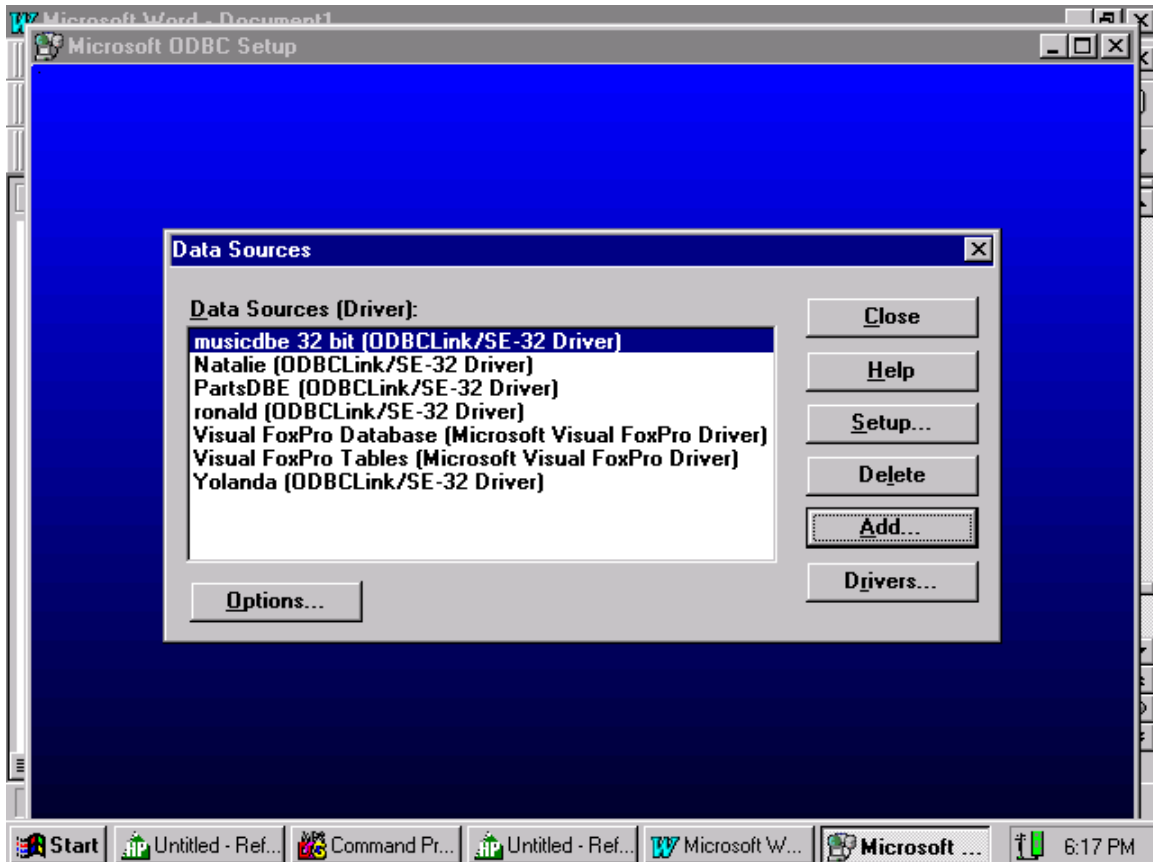


We will take the defaults on this screen. There is one important thing to note about this screen, the “Server’s Isolation Level”. The Isolation Level is how you define the locking strategy for your application. If you are only doing reads to the database use the “Read Uncommitted” Isolation Level. This will improve performance.

Click on “OK” to go to the next screen.



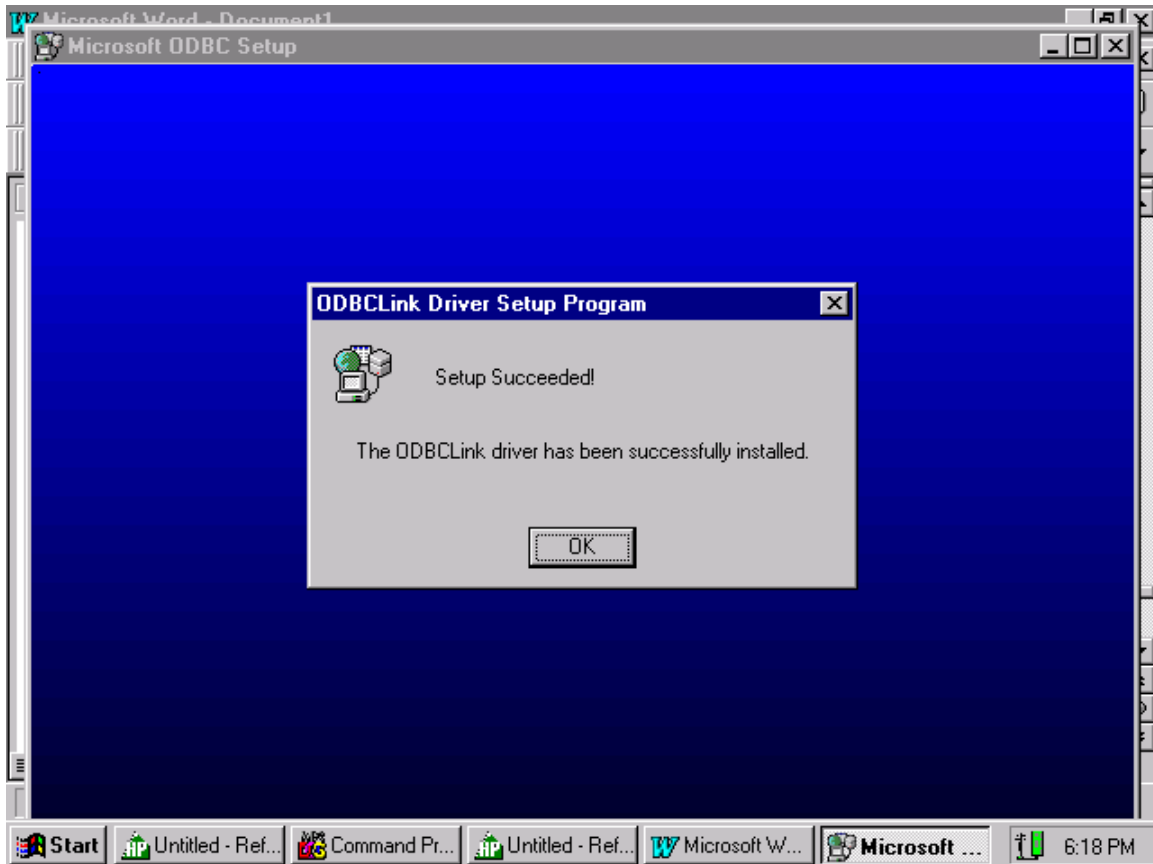
We are not doing any translating, so we can take the defaults here. Click on “OK” to go to the next screen.



You should see your Data Source added to the list of Data Source names. Click “Close” to go to the next screen.

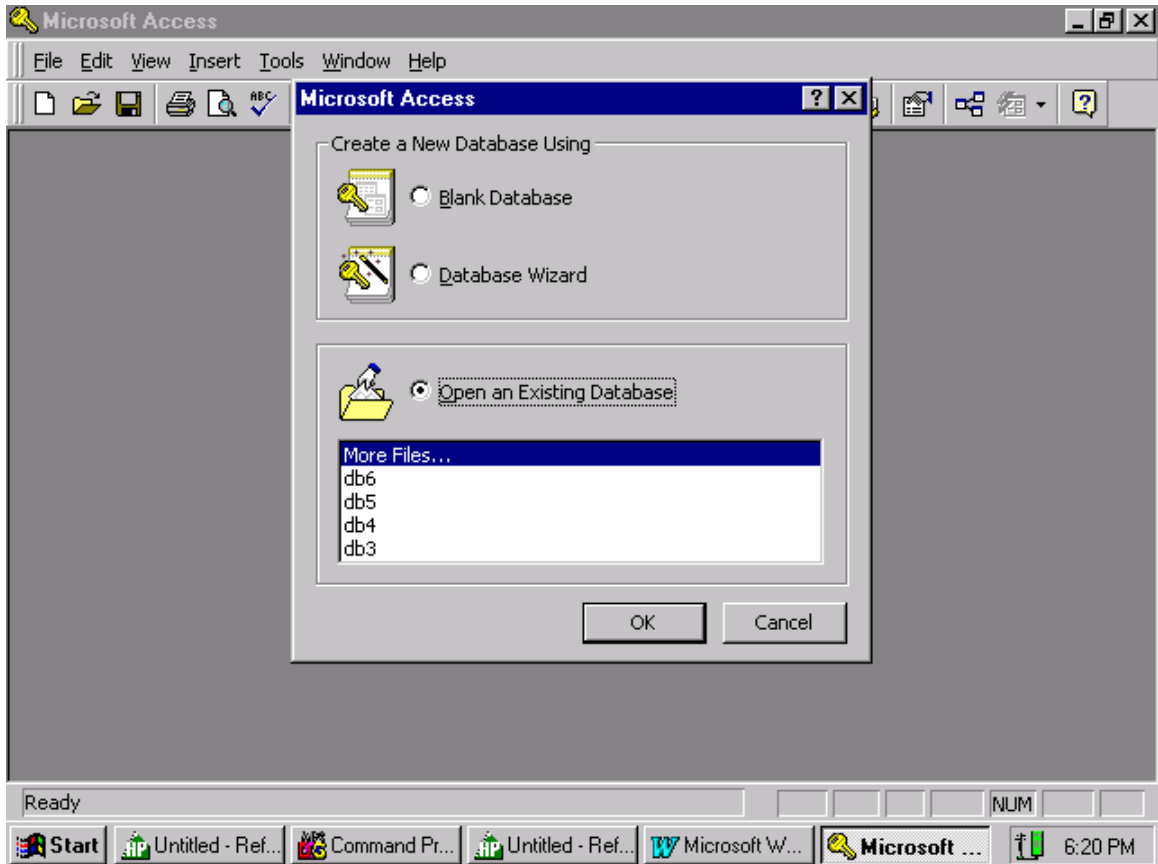
Note. If you want to modify a Data Source, you re-run the setup program again, but this time, rather than clicking on the “Add...” button, you highlight your Data Source and click on “Setup”.

Let’s click on “Close” to go to the next screen.



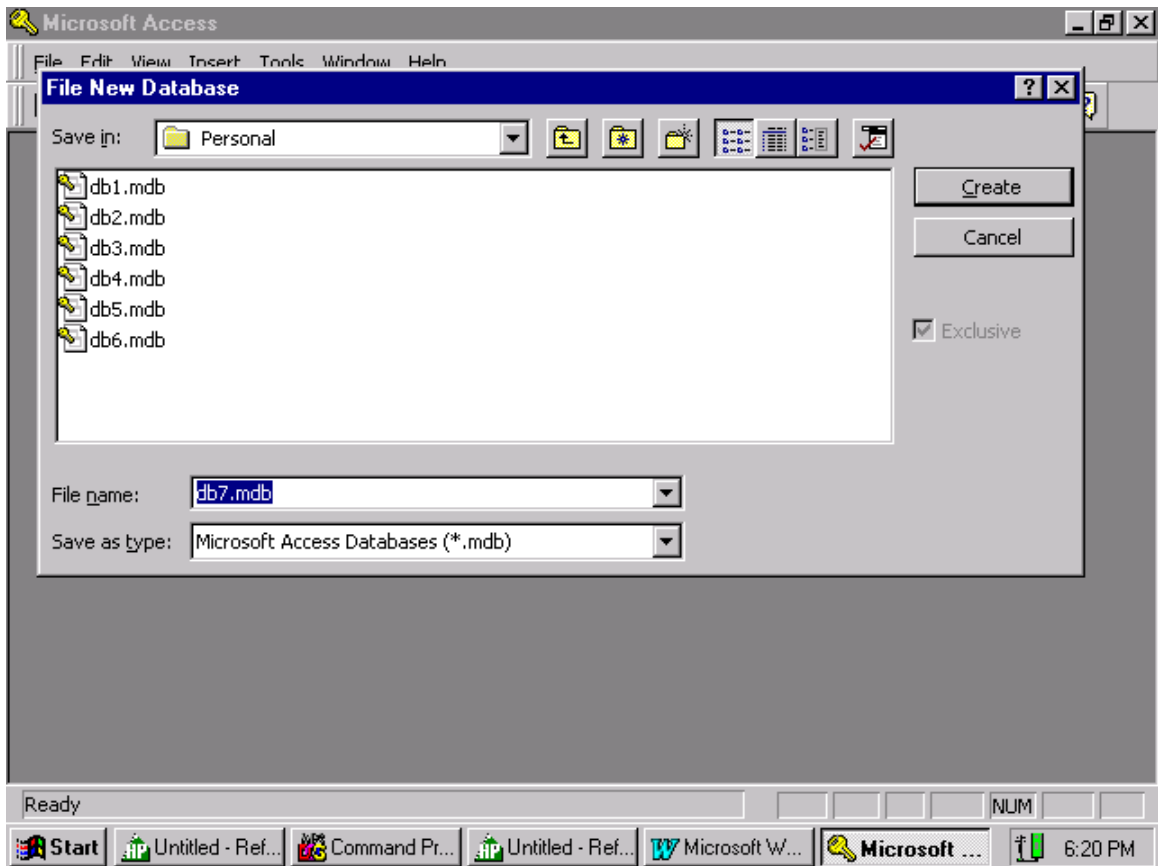
You have successfully configured your Data Source, click on “OK” to terminate this process. We can now run Microsoft Access or Visual Basic to talk to our Allbase/SQL database environment, without having to write a program.

Let's start Microsoft Access.

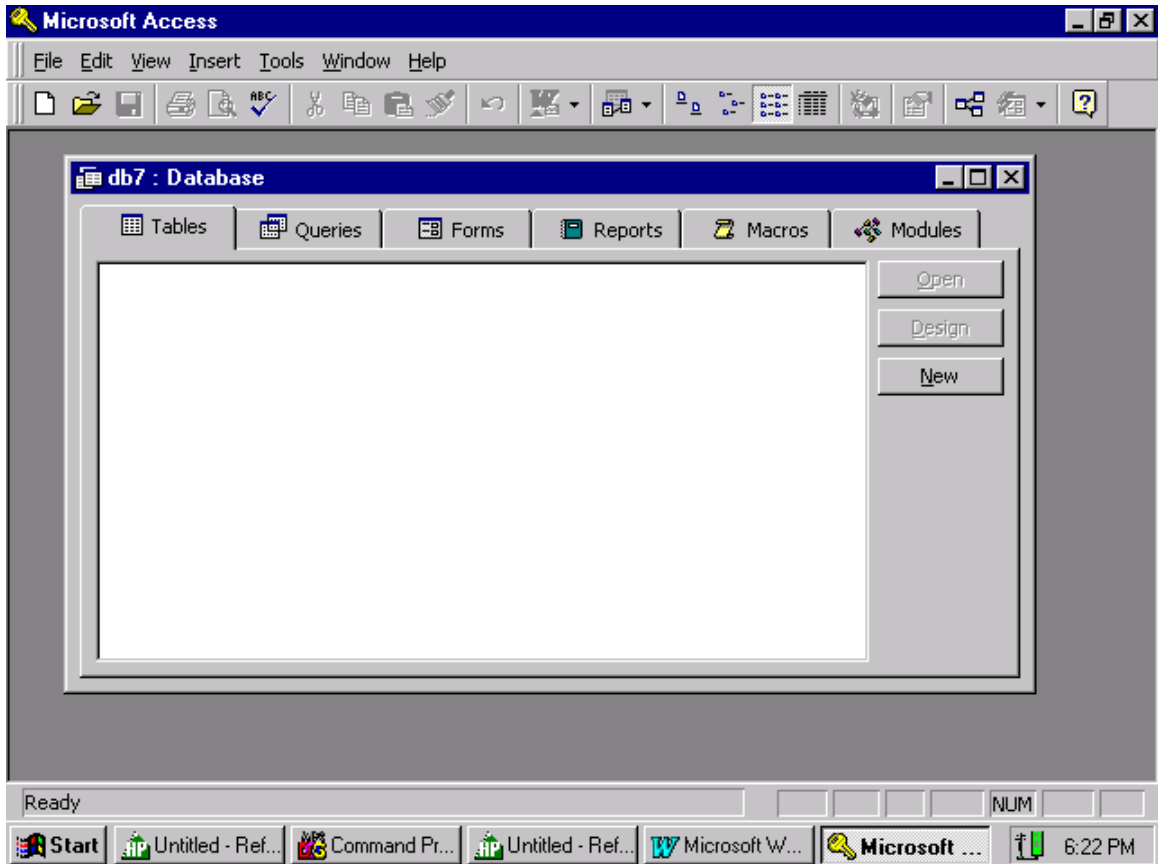


This is the first screen that you get when you start Microsoft Access. Click on “blank” and then “OK” to go to the next screen.

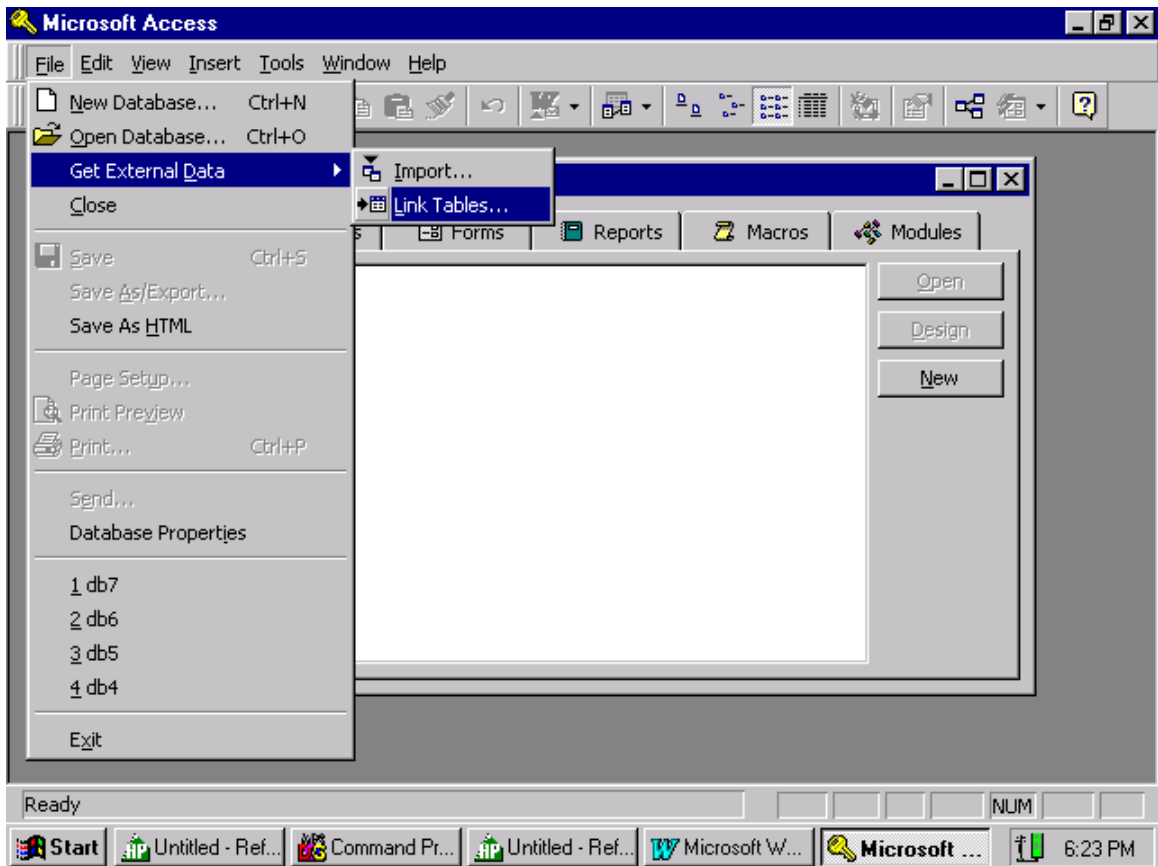




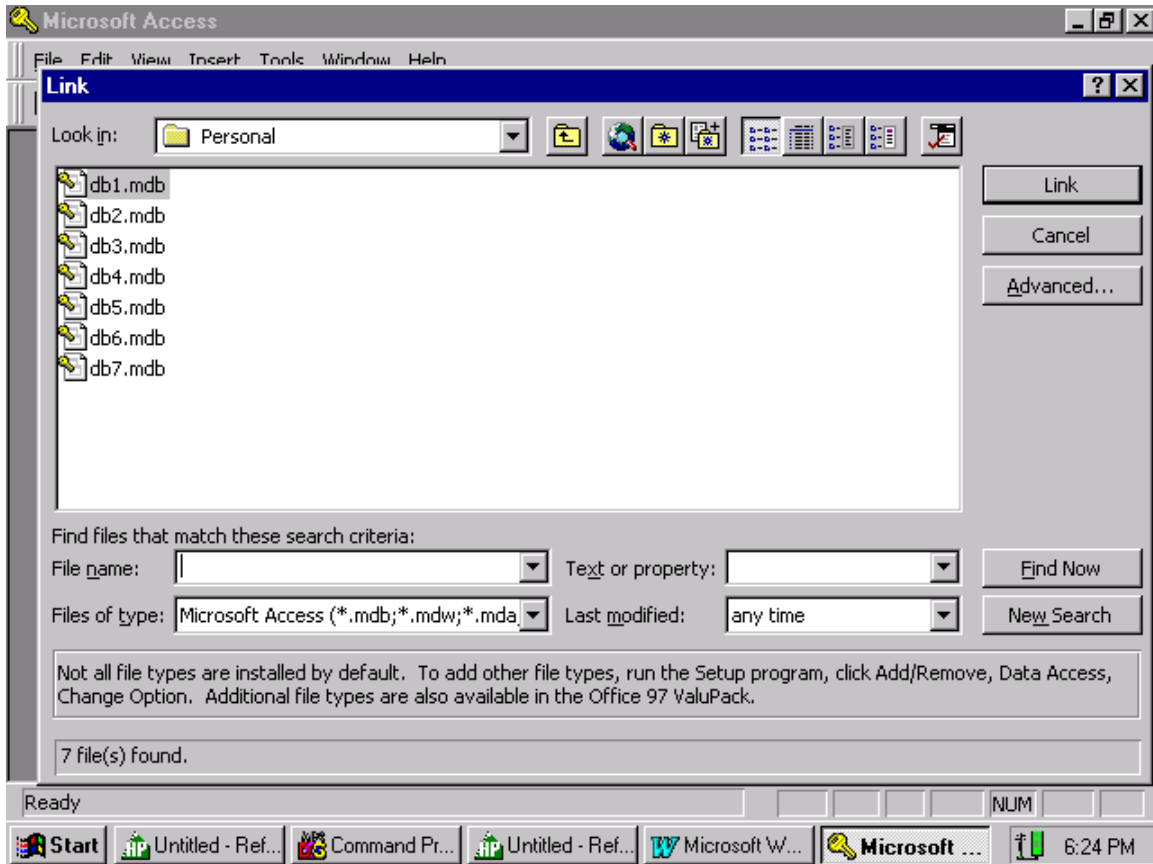
Click on “Create” to create a blank database. Let’s take the default database name.



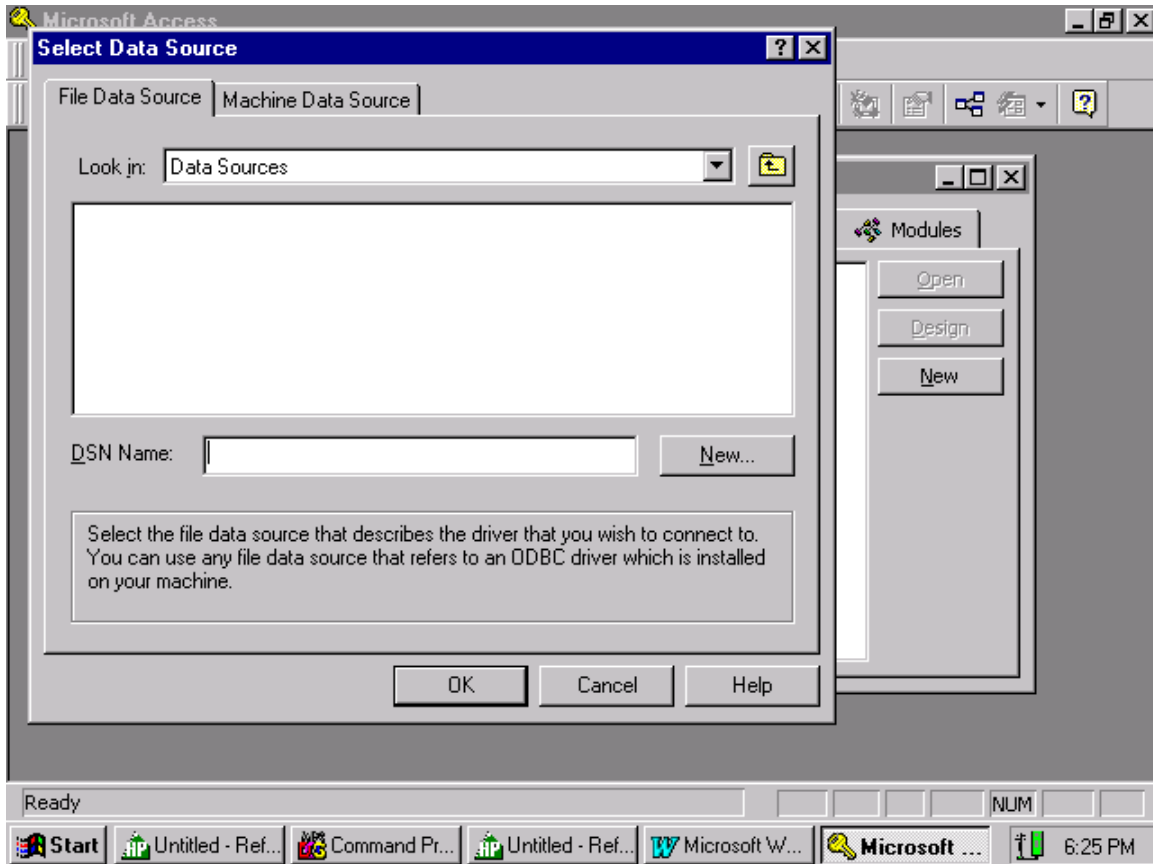
On this screen you define where the database is located. Our database is on the HP 9000 Server. We use the “File” command to define our database. We will click on “File” then “Get External Data” followed by “Link Tables”. The next slide will illustrate the above.



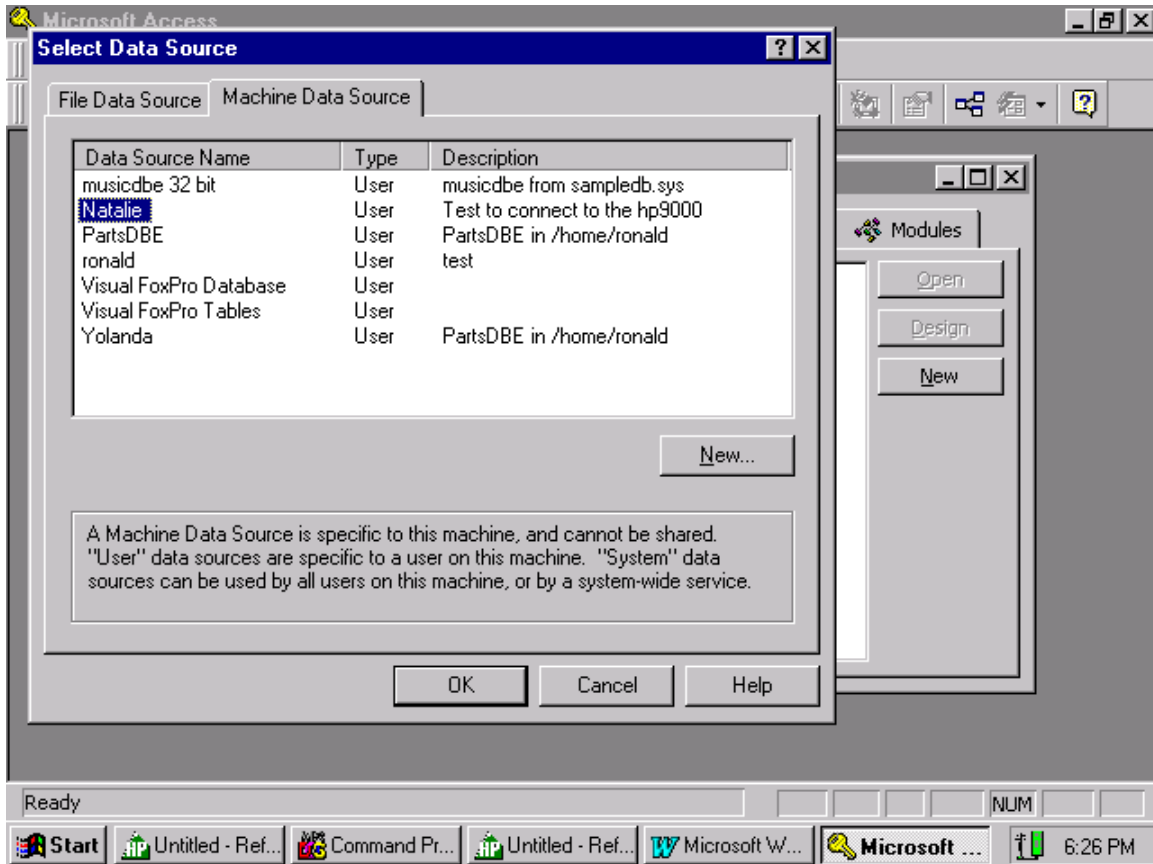
This is how we link the database on the Server to Microsoft Access. Do the above.



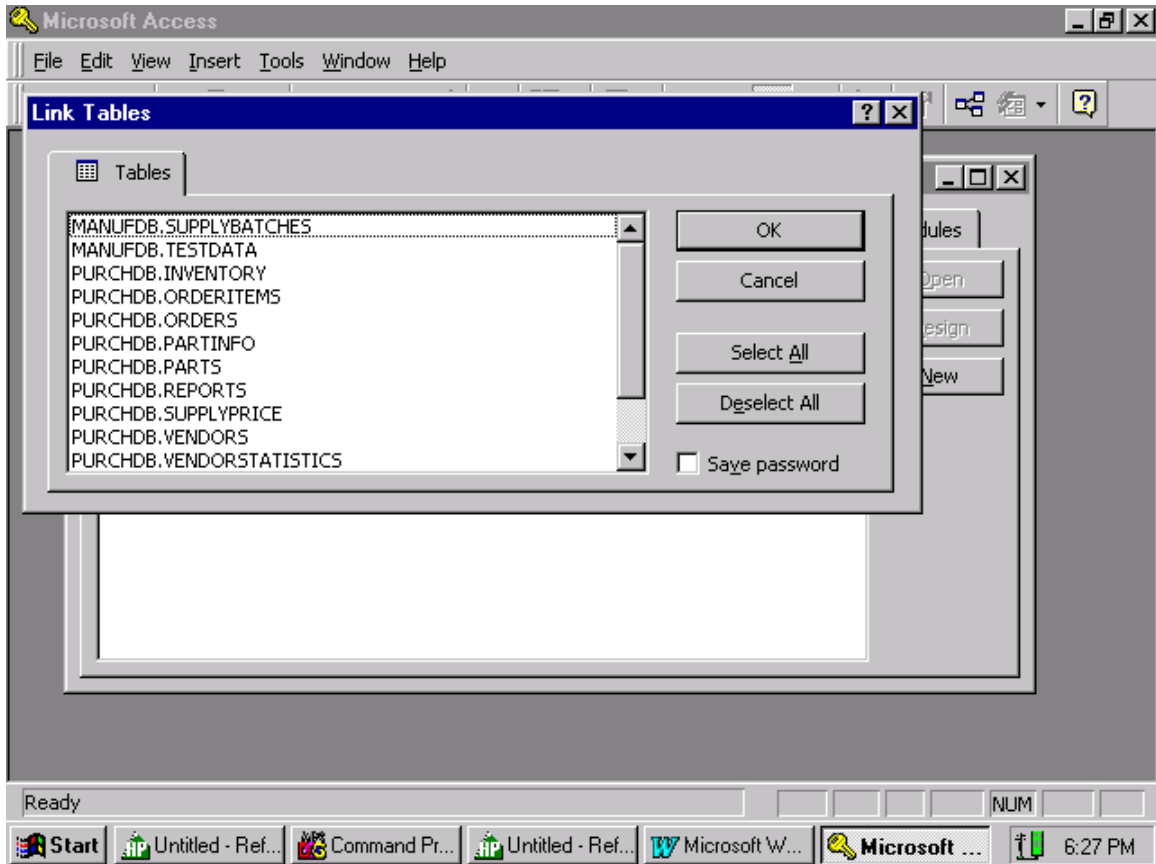
This is the screen that you get when you are linking Microsoft Access to a database on the Server. Click on the down arrow for “Files of type:” and highlight **ODBC** this informs Access that the database is on the Server and that you want to use ODBC to communicate with the database.



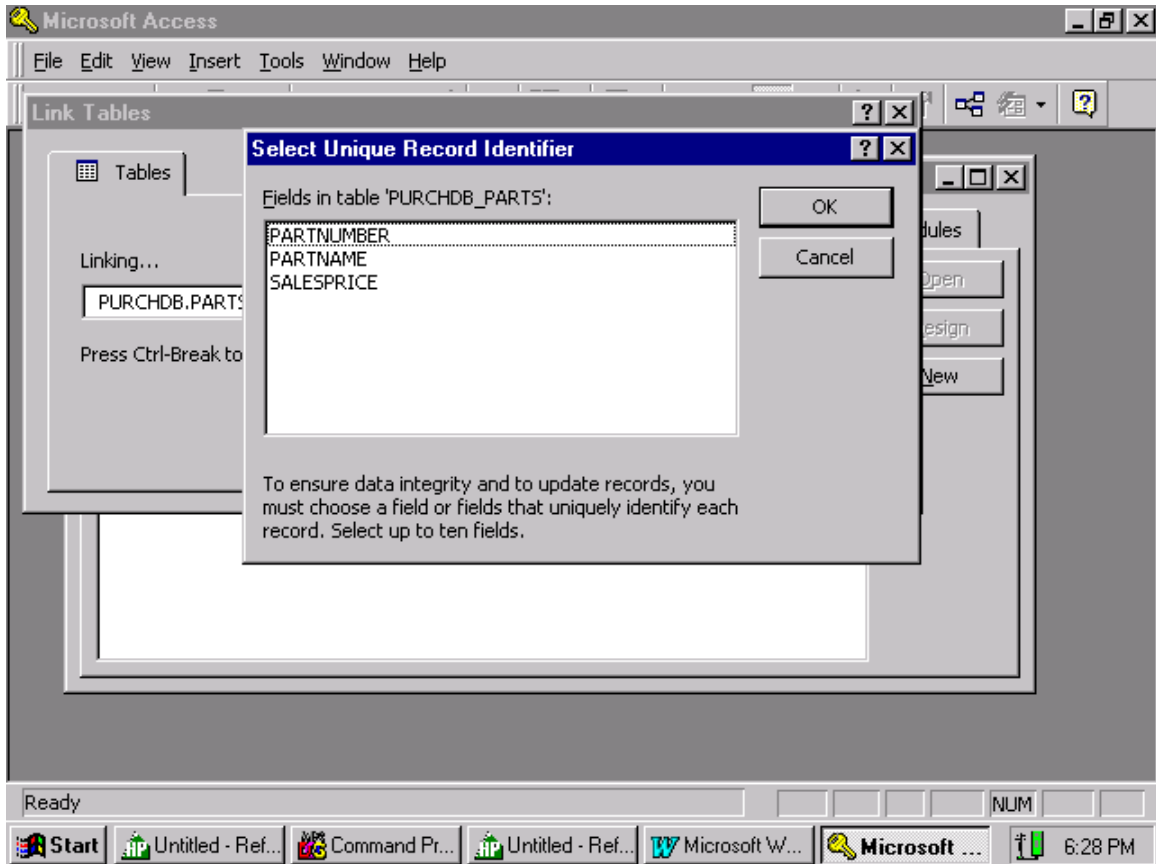
Since our Data Source is on the Server, we need to click on the “**Machine Data Source**” tab to define our Data Source.



After you click on “**Machine Data Source**” this screen is displayed. Highlight your Data Source name then click “**OK**”.

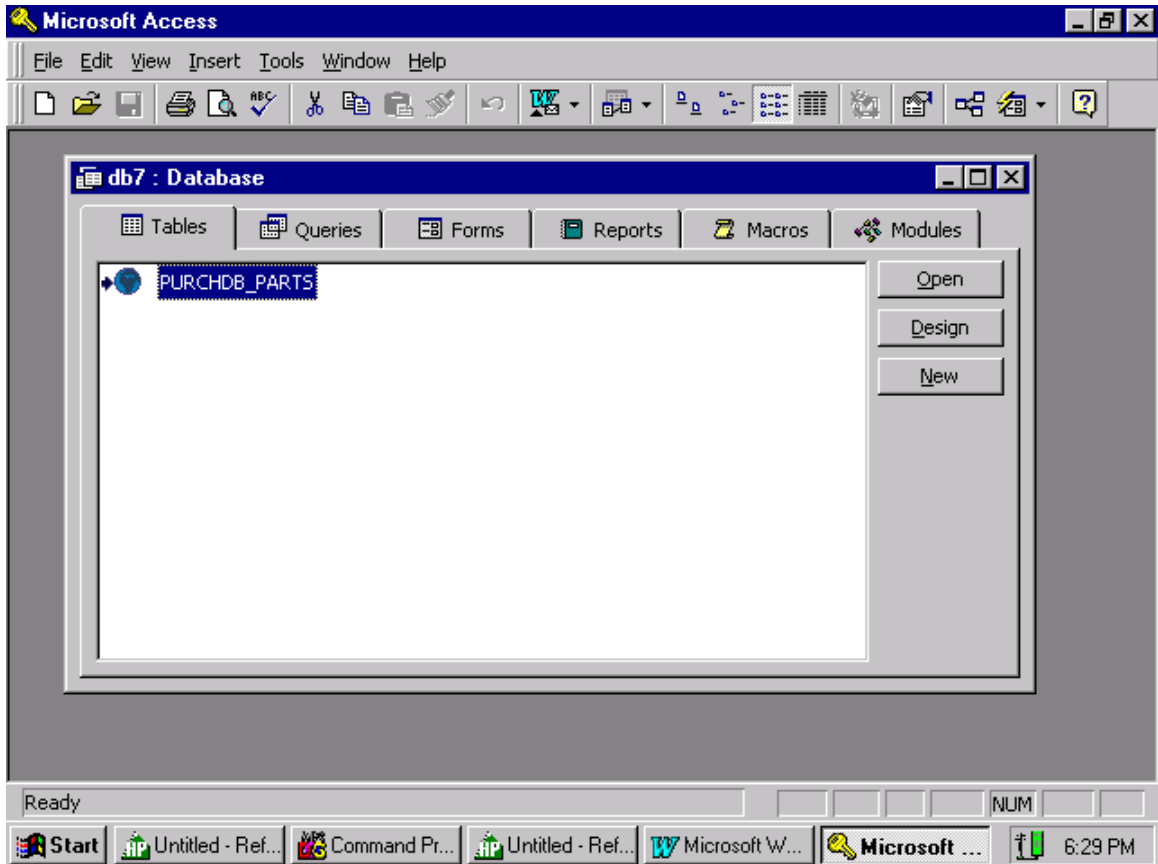


Now you are connected to the Server and the database defined in your Data Source. Microsoft Access displays all the tables in the database environment. Select a table and click "OK". I clicked on the Parts table. The name in front of Parts is the OWNER name. The OWNER and DATABASE name are synonymous. Microsoft Access does a good job in qualifying a table name with the OWNER name. This is a bug in Visual Basic 6.0, I'll show you how to work around this problem.

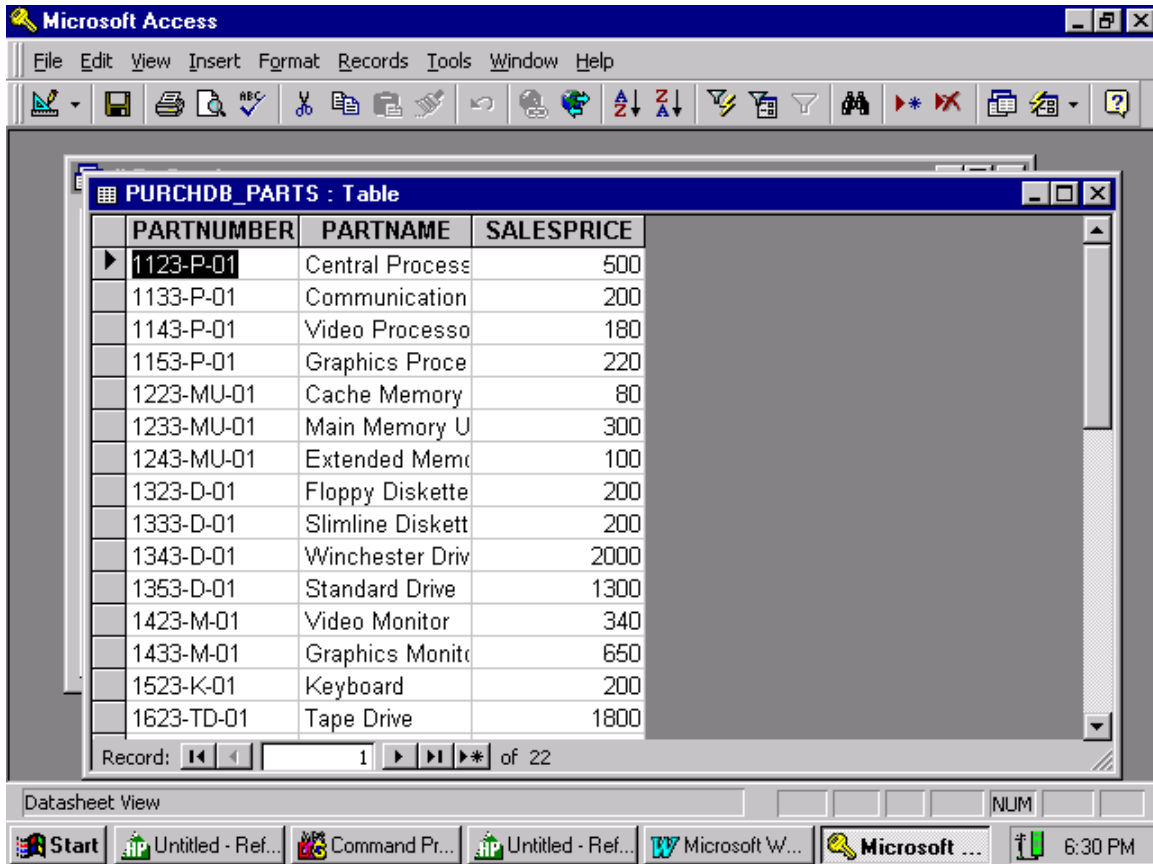


Access wants you to select a unique field for the table. A unique field is typically a key field. PARTNUMBER is a key field in the table PARTS. Highlight a column name and click "OK". I clicked on PARTNUMBER.





We have defined the table that we want to use in Microsoft Access and we have identified the key field for the table. Click on “Open” to display the data in the table.



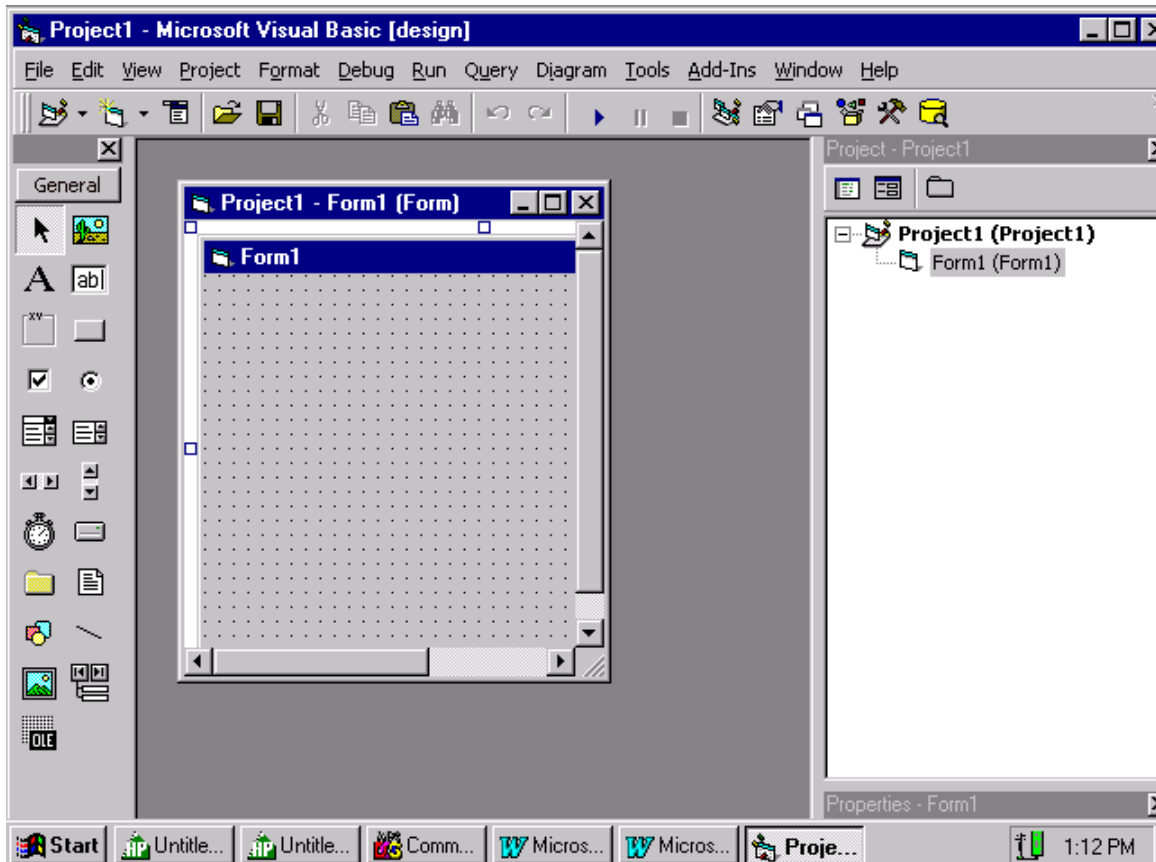
Whahla!!!! We are talking to an Allbase/SQL database using Microsoft Access through an ODBC driver. This is as far as we will go, showing you how to talk to Allbase/SQL.

Next, let's talk to our Allbase/SQL database using Microsoft Visual Basic.

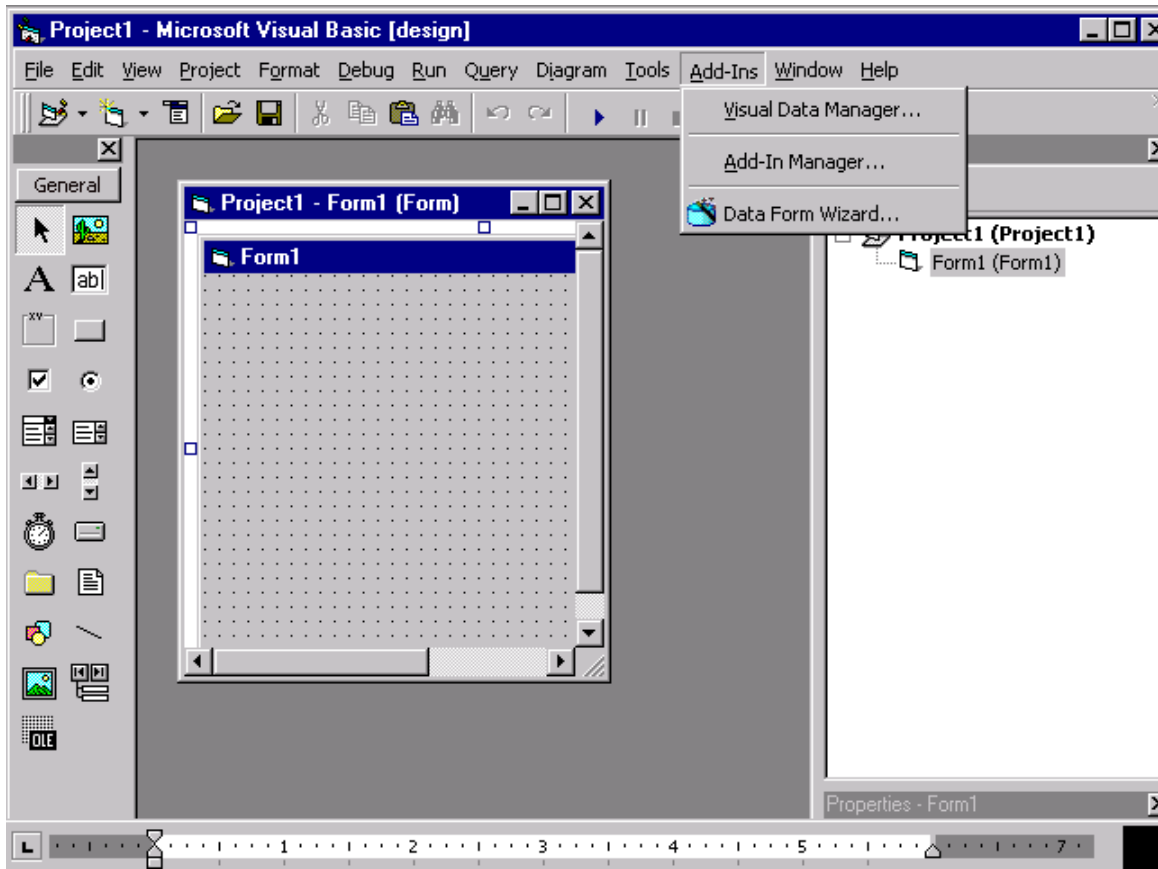
This section will cover how to talk to Allbase/SQL using Visual Basic. This is the first screen that you will see when you start Visual Basic.



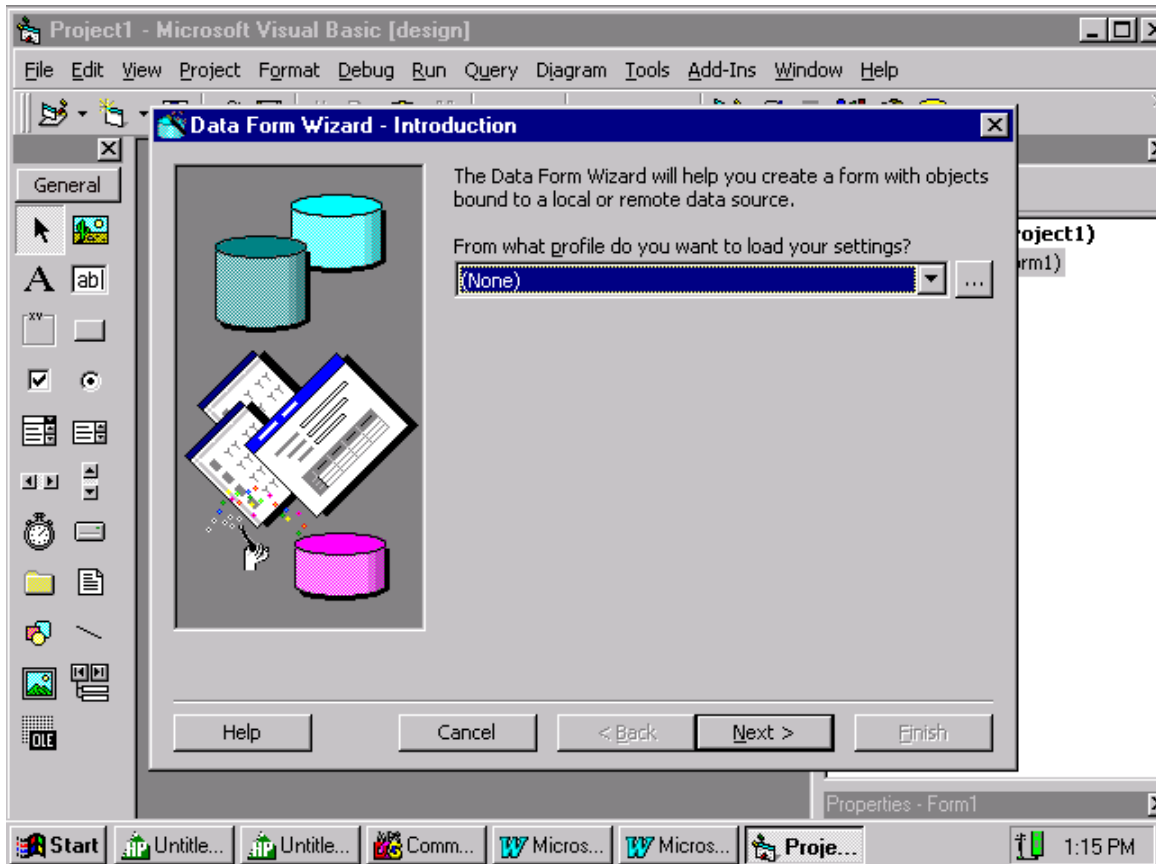
Click on “Open” to start a new project.



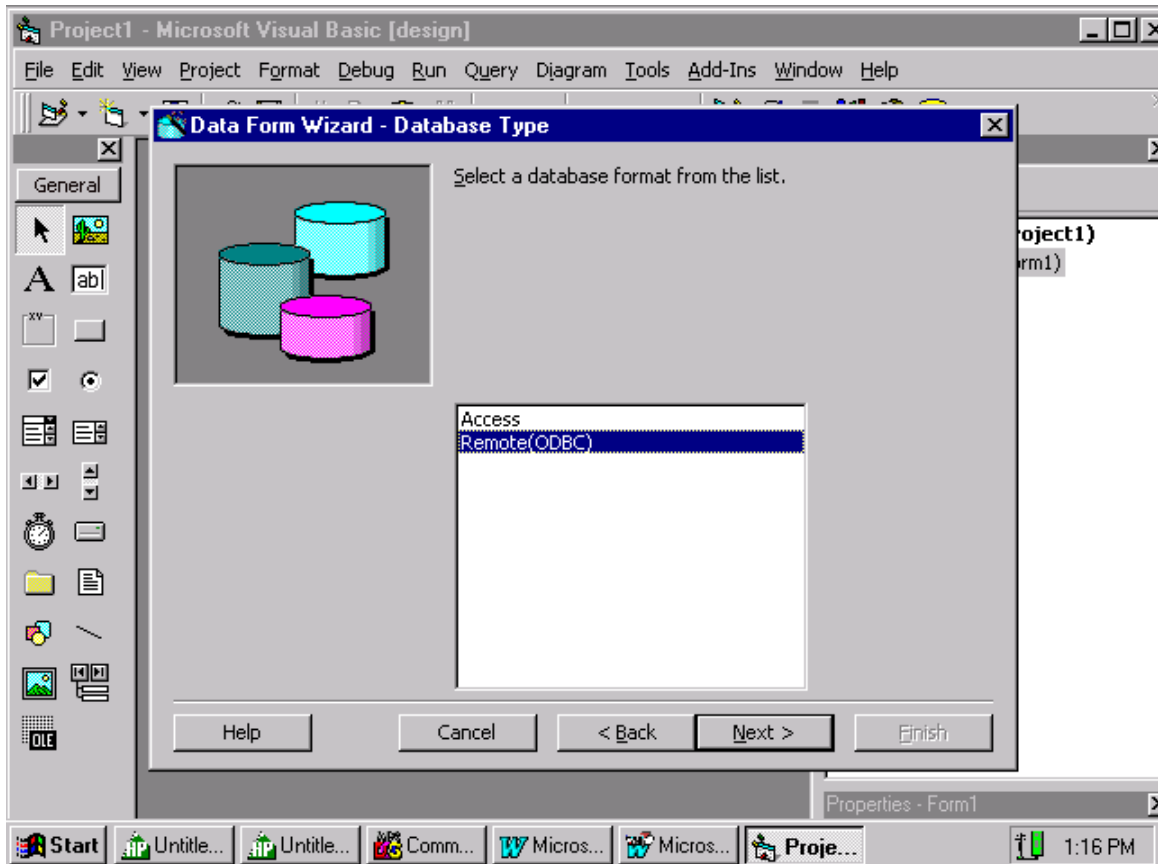
We are going to use the “Data Form Wizard” to create a form for a table in our Allbase/SQL database. We have to go to “Add-Ins” to add the “Data Form Wizard” to Visual Basics. Click on “Add-ins” and go to “Add-In Manager...” and click. Find “Data Form Wizard” and double click on “Data Form Wizard”. Make sure that the word “LOADED” appears next to “Data Form Wizard”. Now click on “OK”. That will load the “Data Form Wizard” in to the Add-In list.



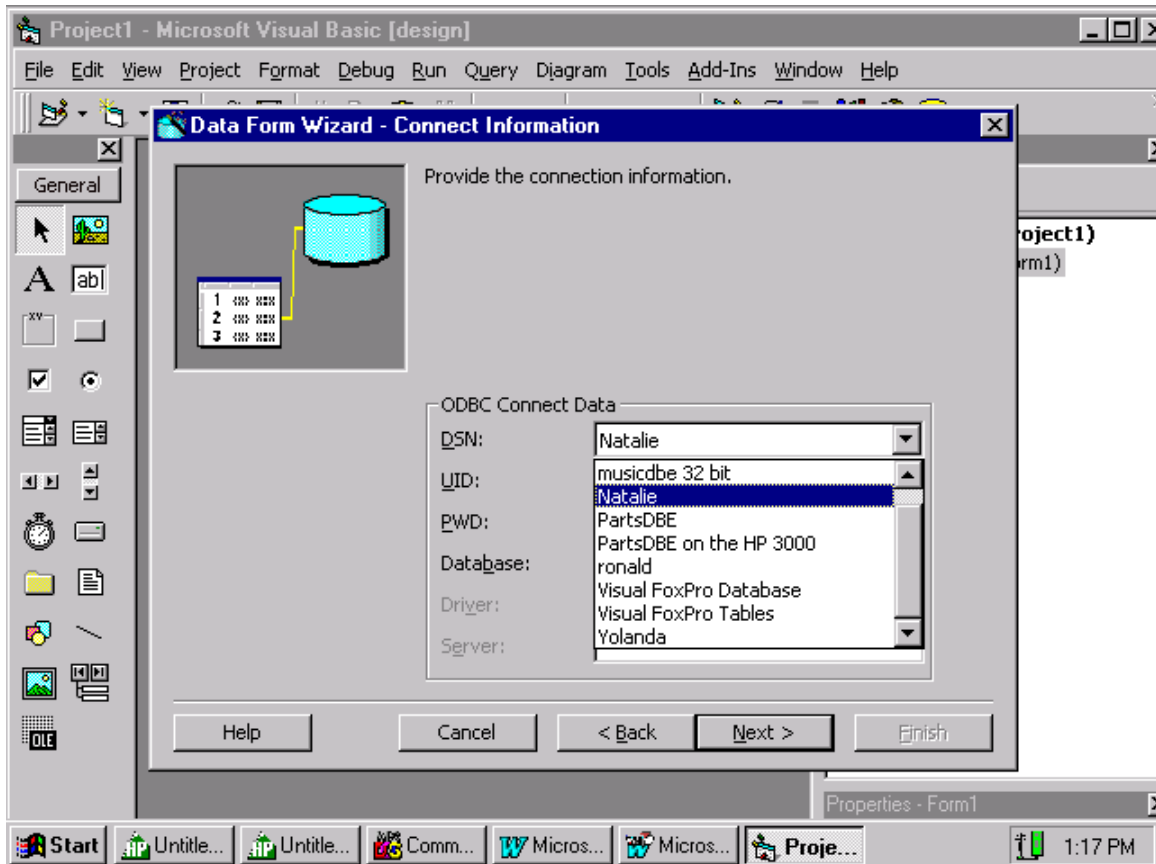
Now that the “Data Form Wizard” has been added to the Add-Ins list, we can click on “**Data Form Wizard**” to have the Forms Wizard create a standard form for us.



We can give the form a name, but we'll take the default names. Our intent is not to teach you how to become experts in Microsoft tools, but how to access Allbase/SQL. Click on "Next".

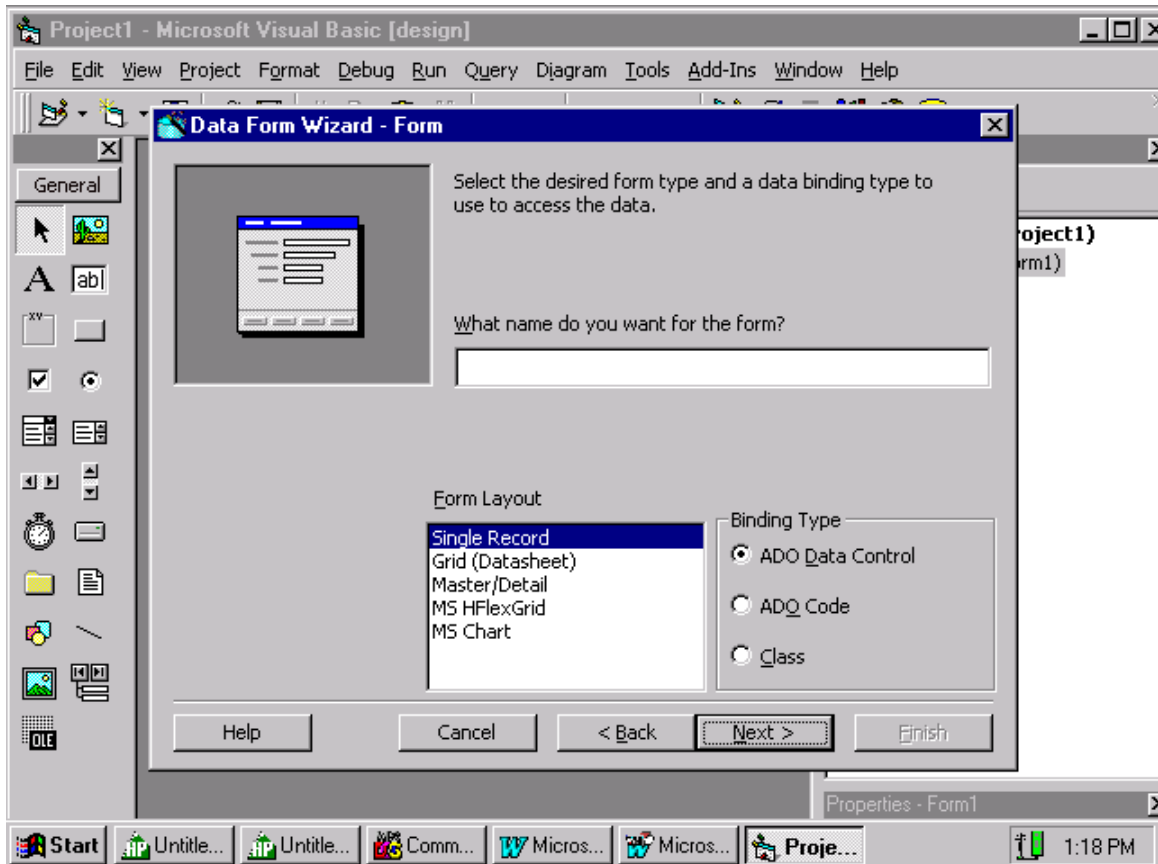


Highlight Remote(ODBC) and click on “Next”.

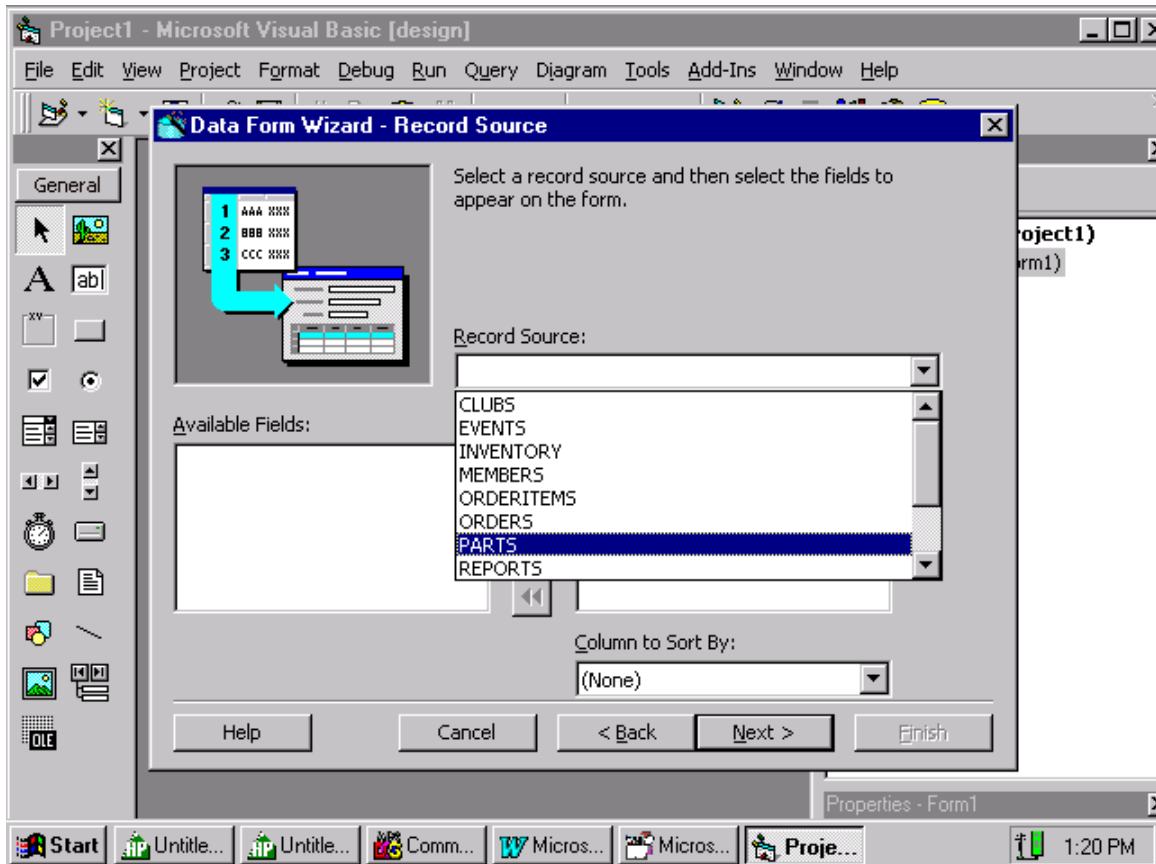


Click on the down arrow for “**DSN:**” and highlight your data source, then click on “**Next**”.

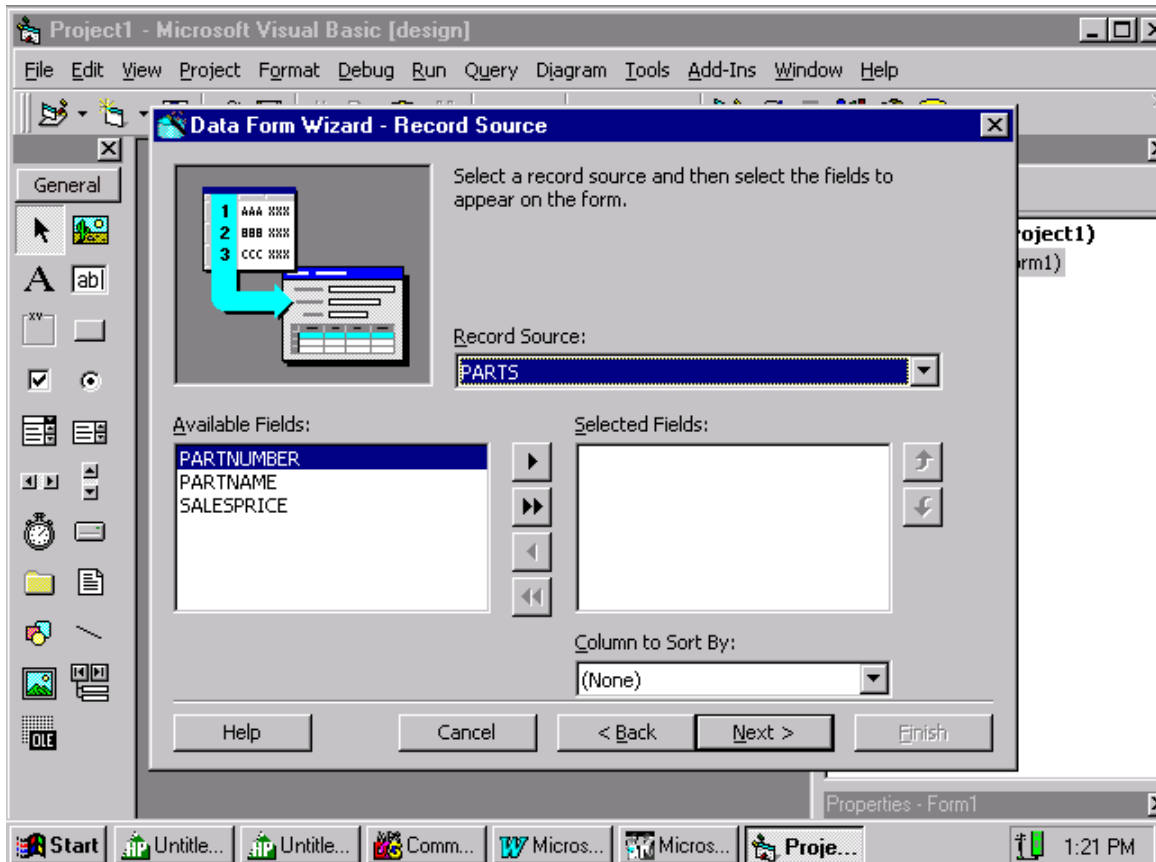




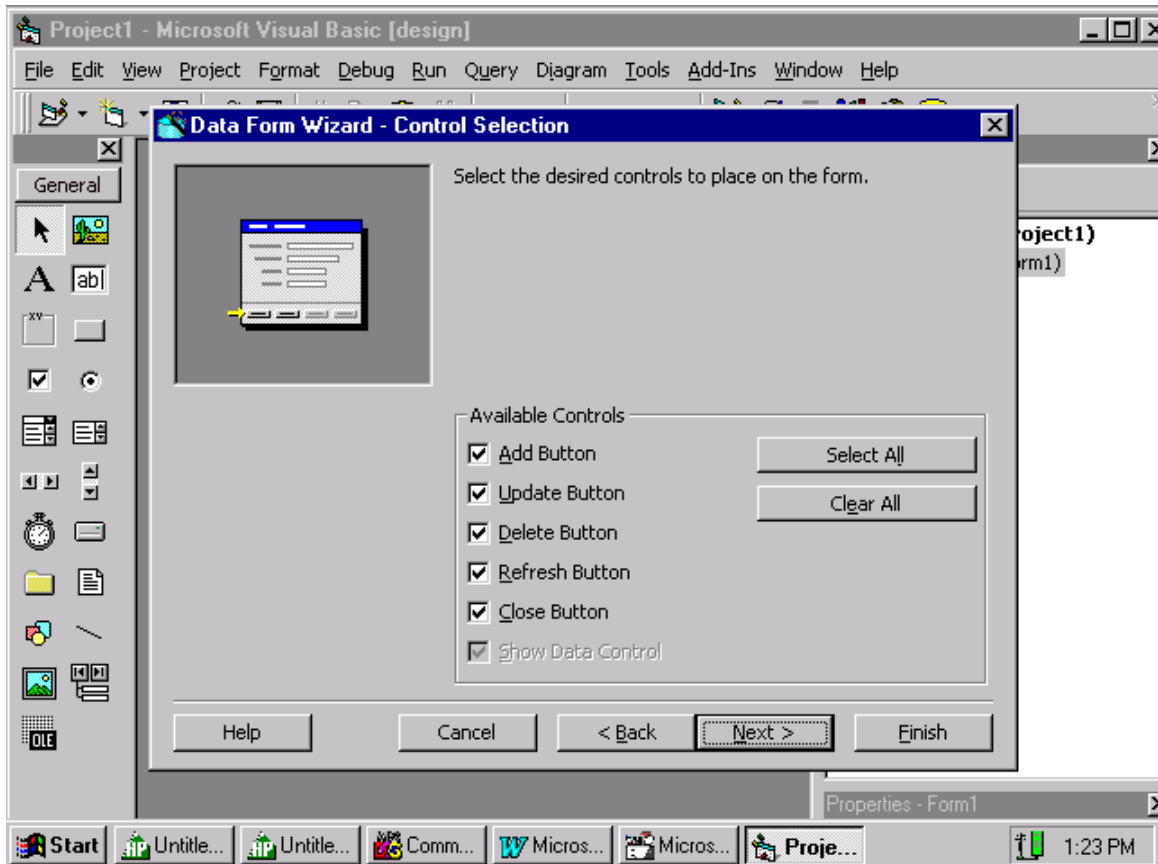
Take the defaults. Click on “Next”.



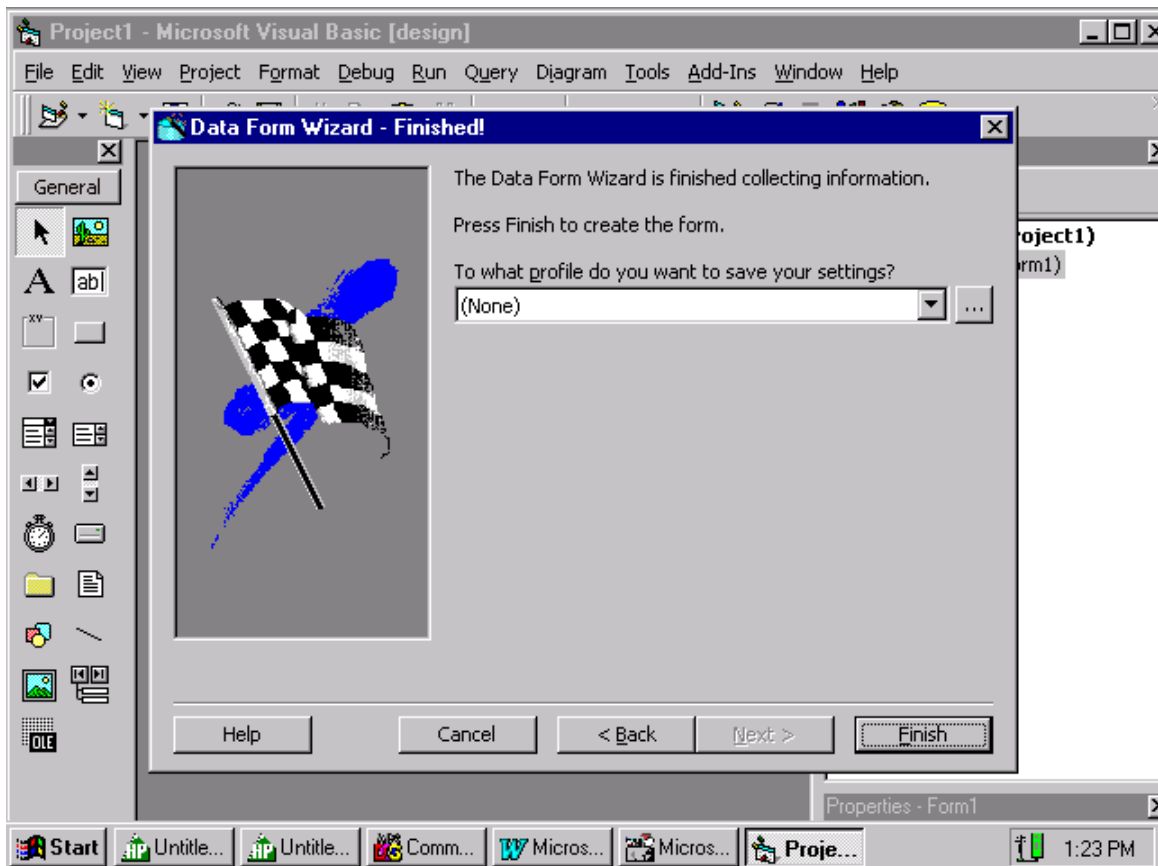
Click on the down arrow for “**Record Source**”, highlight “**PARTS**” and click “**Next**”.



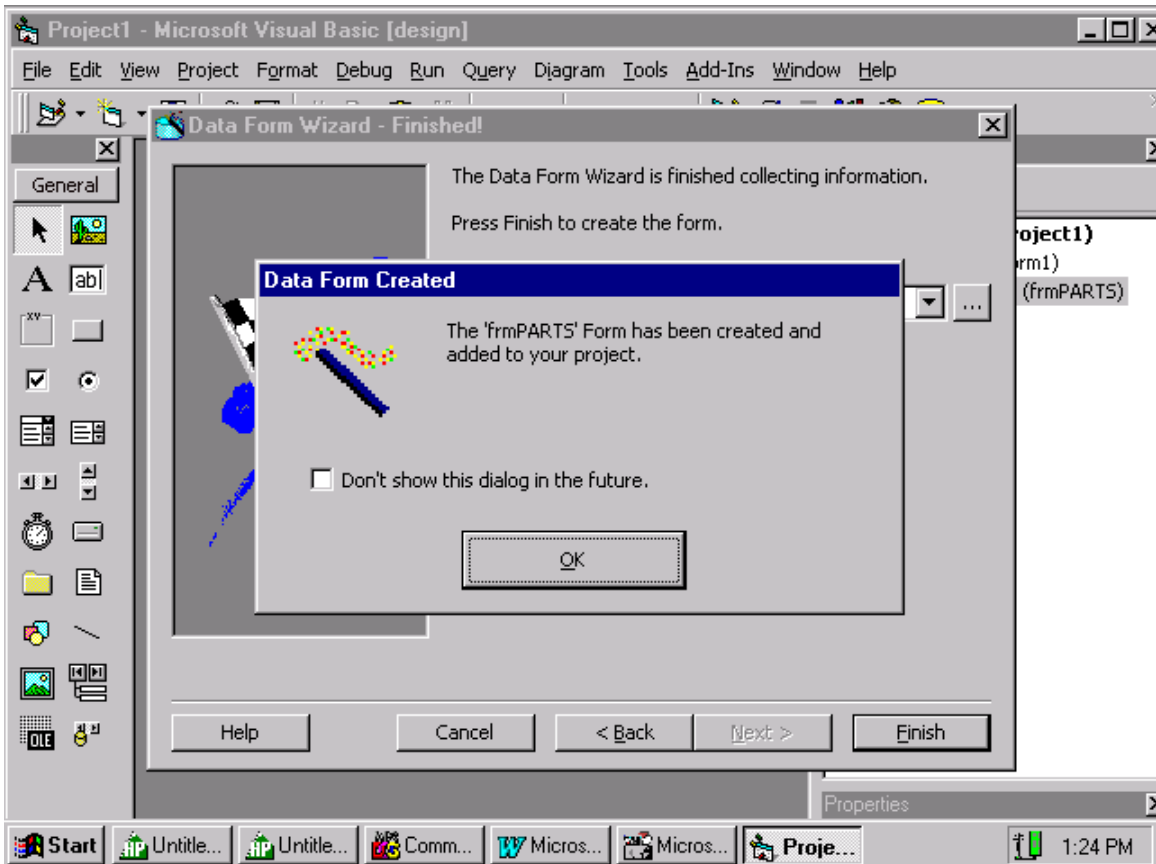
Click on the double ">>" to move all columns from the "Available Fields" to the "Selected Fields" area, then click on "Next".



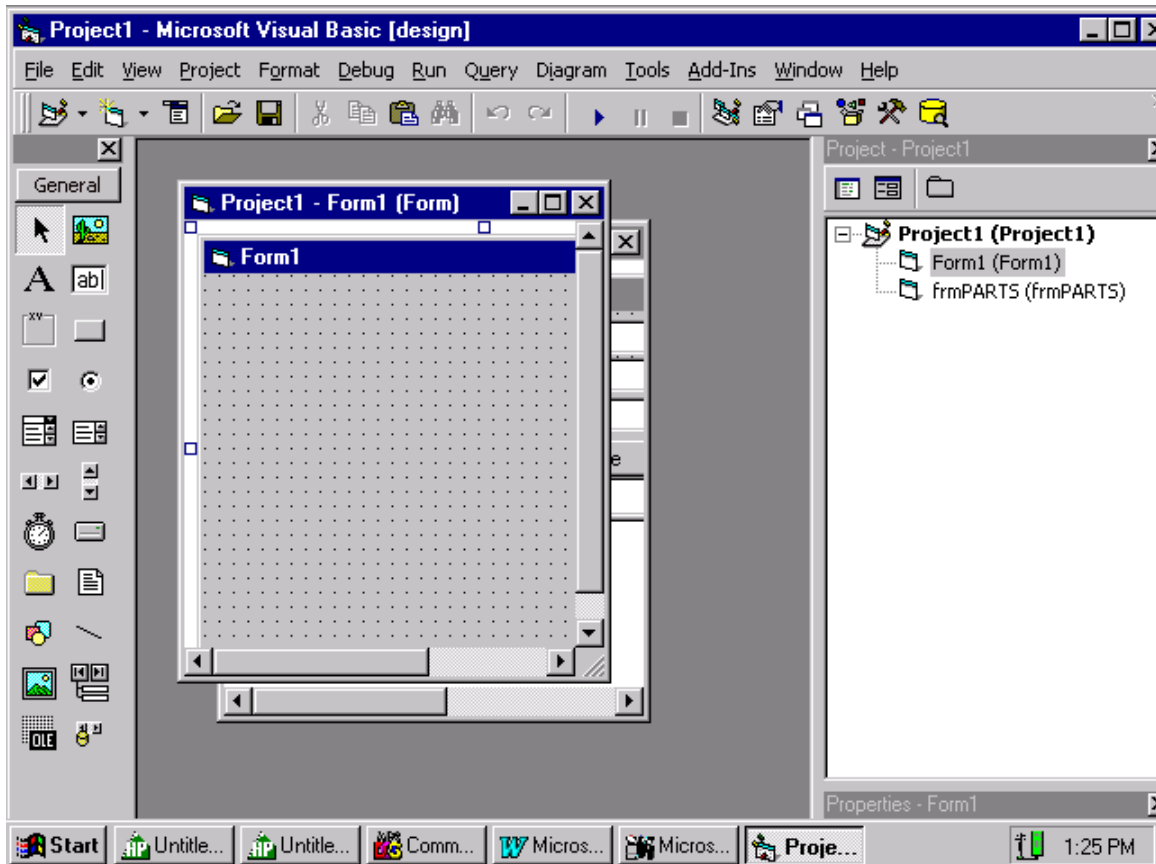
Take the defaults and click on “Next”.



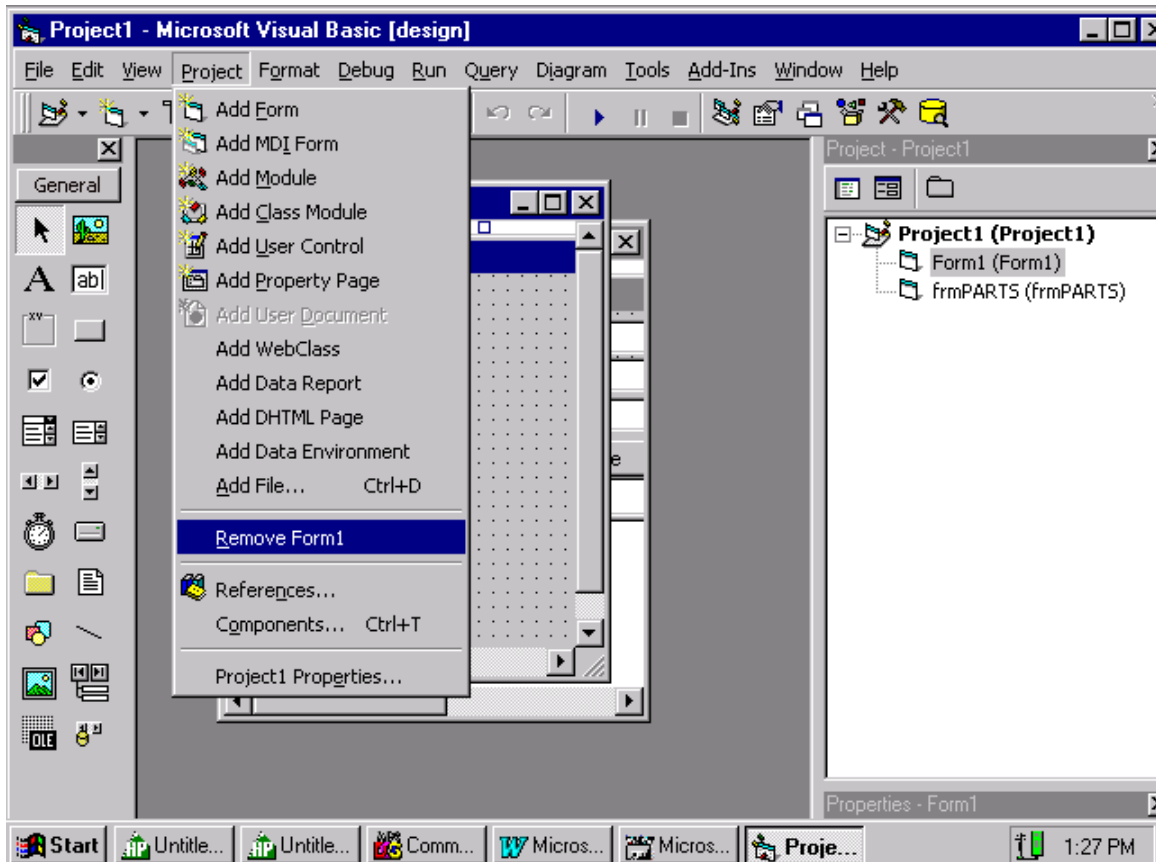
Click on **“Finish”**.



Click on "OK".

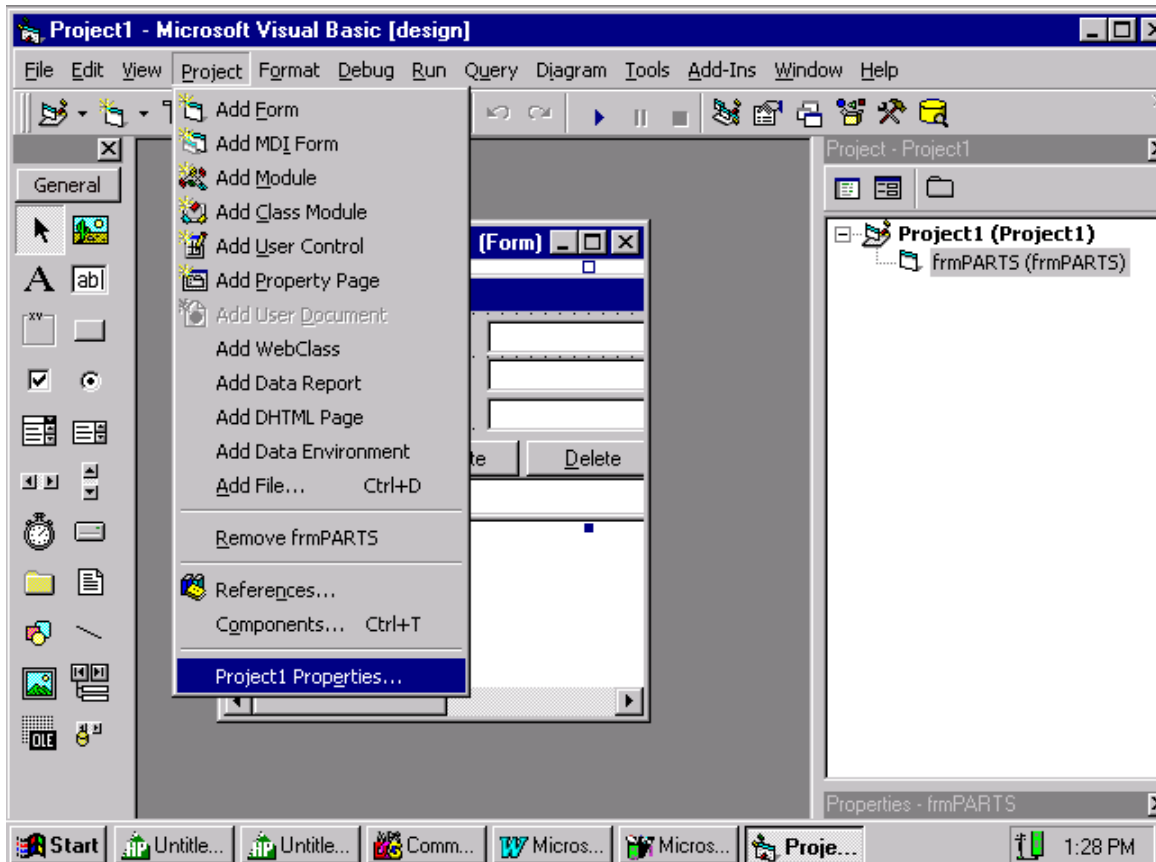


We want to get rid of **“Form1”**. Go to **“Project”** on the tool’s bar and select **“Remove Form1”**

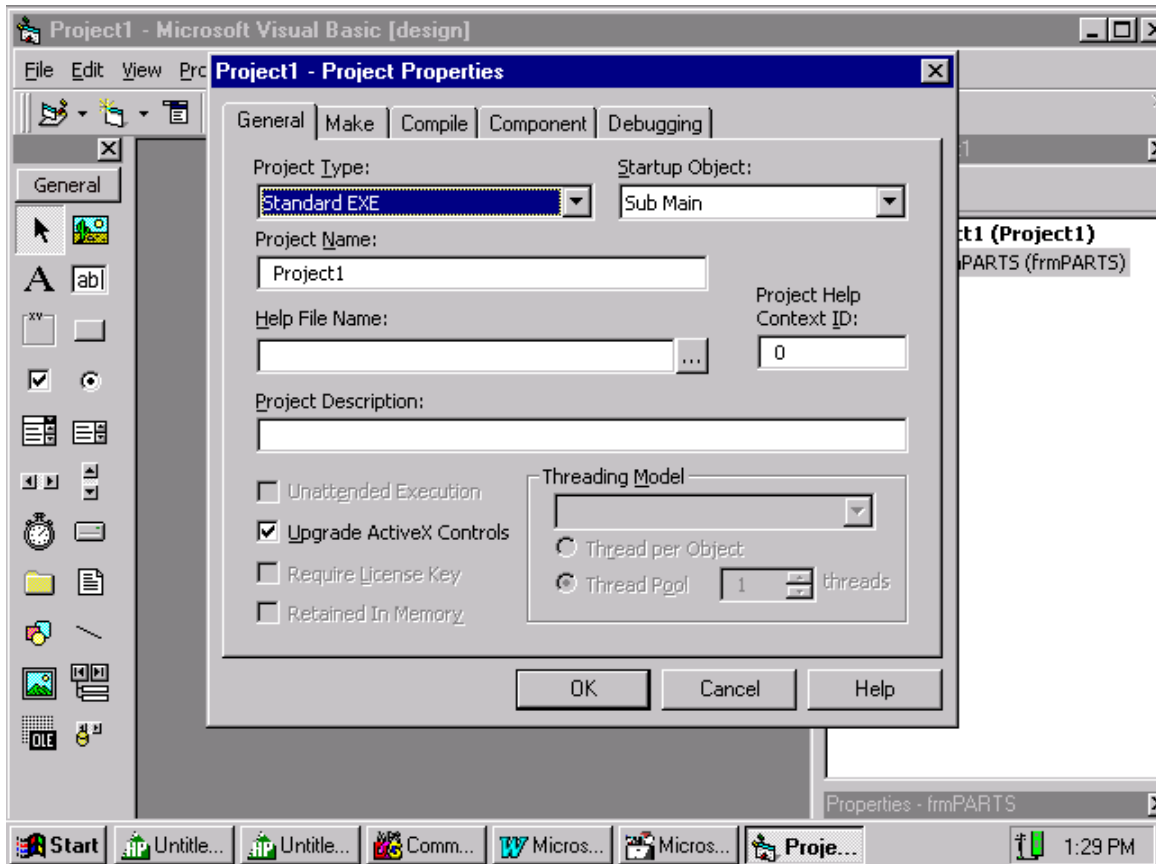


We are using the “**Form Wizard**” to create our form. This is why we want to delete Form1. Now we want to make the form that was created by the “**Form Wizard**” our first form in the project. Go to “**Project**” and click on “**Project1 Properties**”.

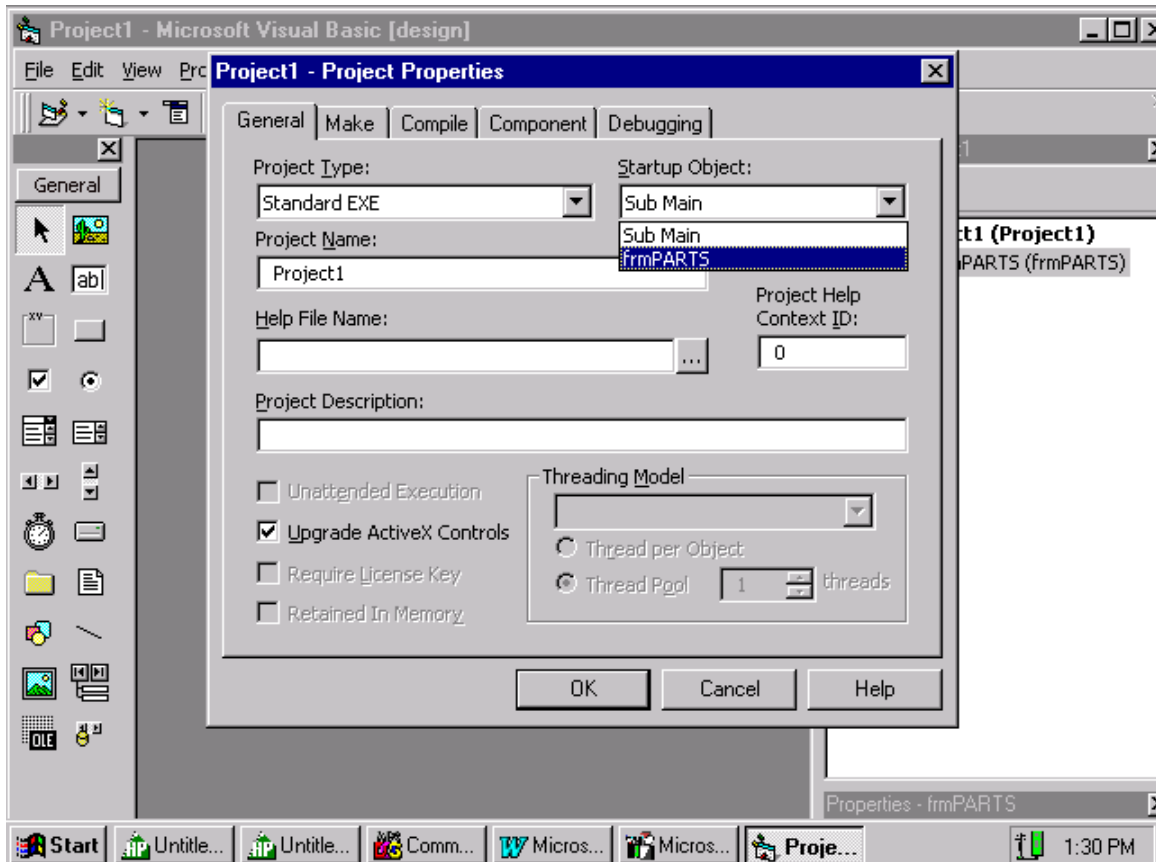




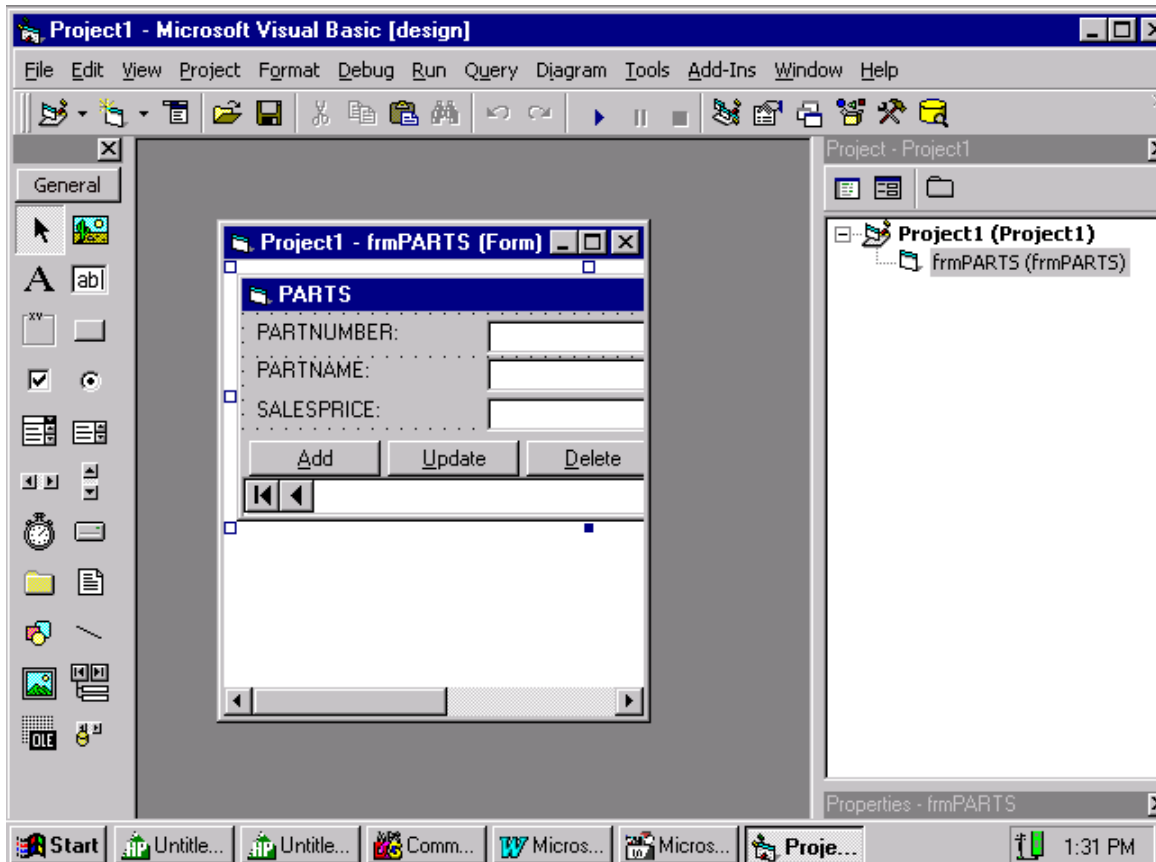
When you click on “**Project1 Properties...**” Visual Basic will allow you to specify what form you want to be the startup form.



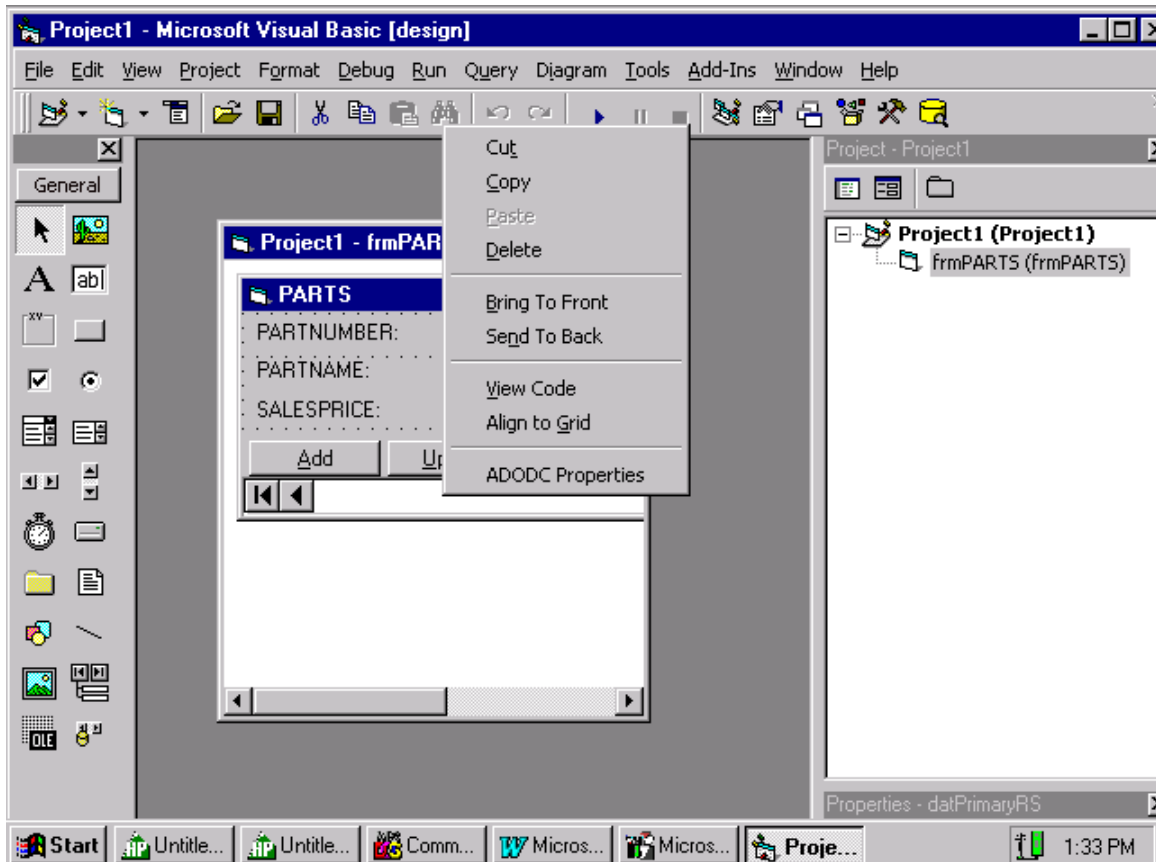
Click on the arrow for “**Startup Object**” and select “PARTS(frmPARTS)” as your startup object. Now click on “**OK**”.



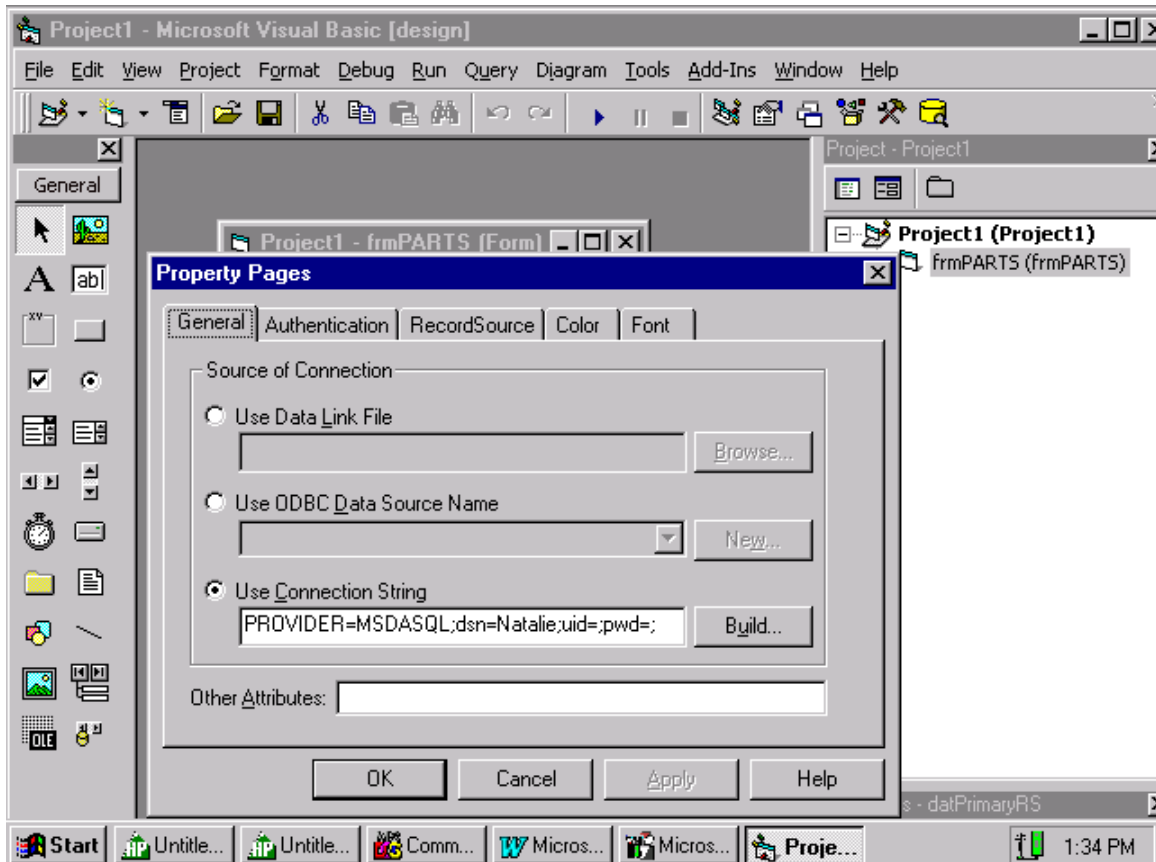
Now that we have made “**frmPARTS**” our startup object, click on “**OK**” to go to the next screen.



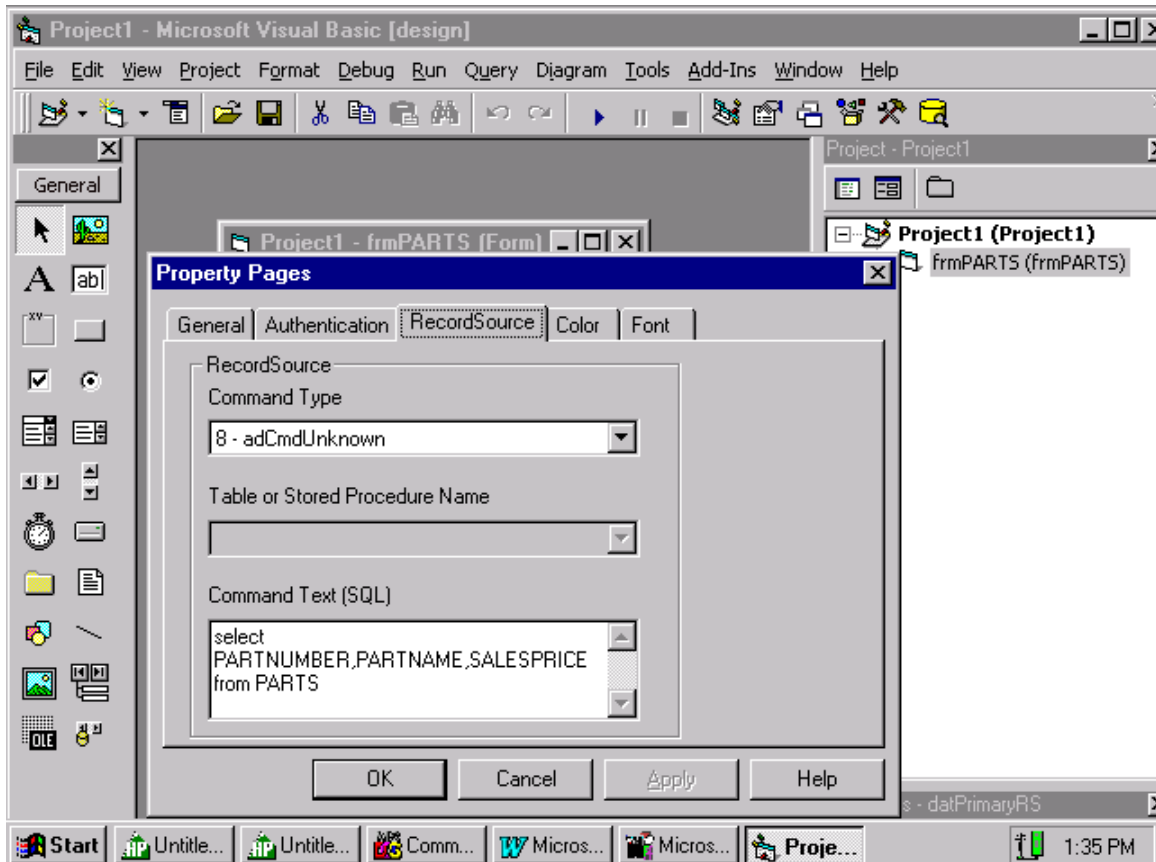
Now, all we have to do is run the Project to see data in the form, but there is a bug in VB6.0. We have to go into the properties of the “data control” by right clicking on the white space under the “Update” key and select “ADODC Properties”.



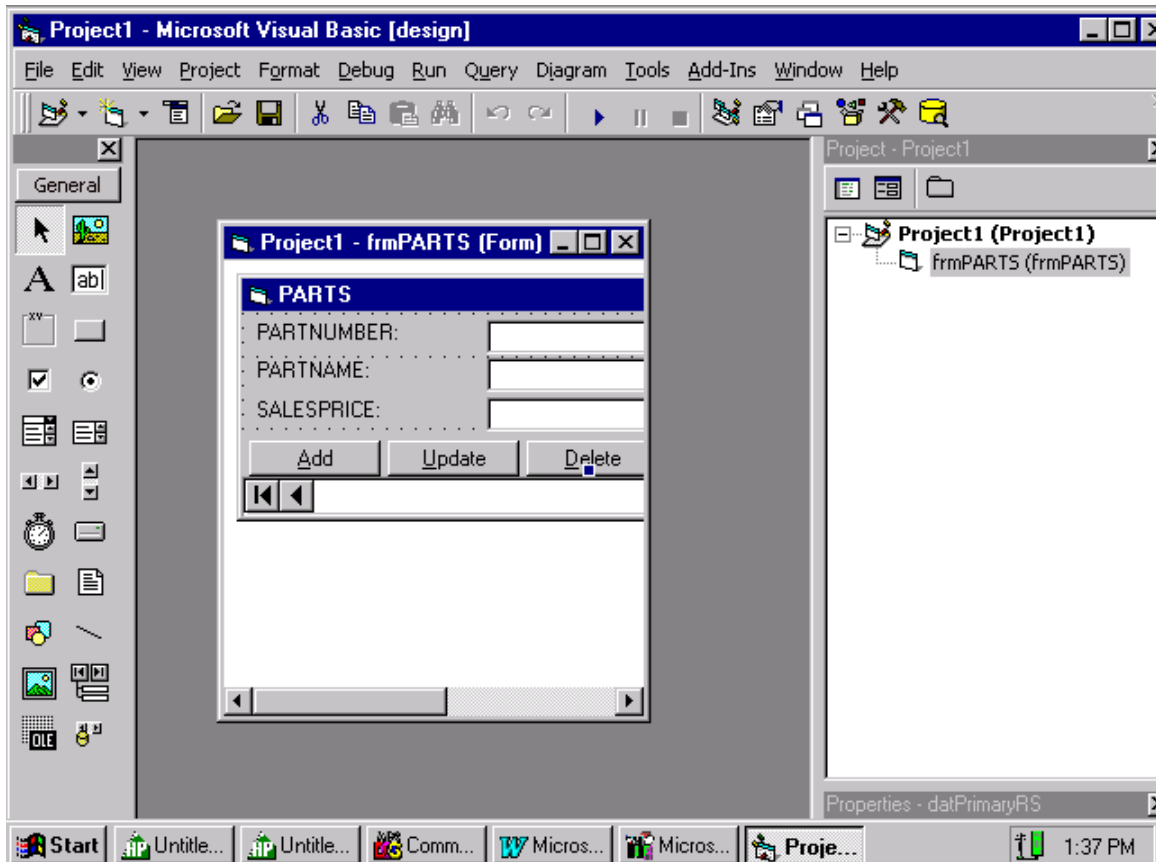
Clicking on the “**ADODC Properties**” allows you to change the properties of the “data controls” for the form. The bug in Visual Basic is that VB does not qualify the tables. Remember in Microsoft Access, the table name was qualified with the **OWNER’s** name. Going into the “**ADODC Properties**” allows you a change to qualify the table by pre-pending the **OWNER’s** name to a table name.




Click on “**Record Source**” to see the “**select statement**” for the data query for this form. It is in the “select statement” where we want to qualify the table name.

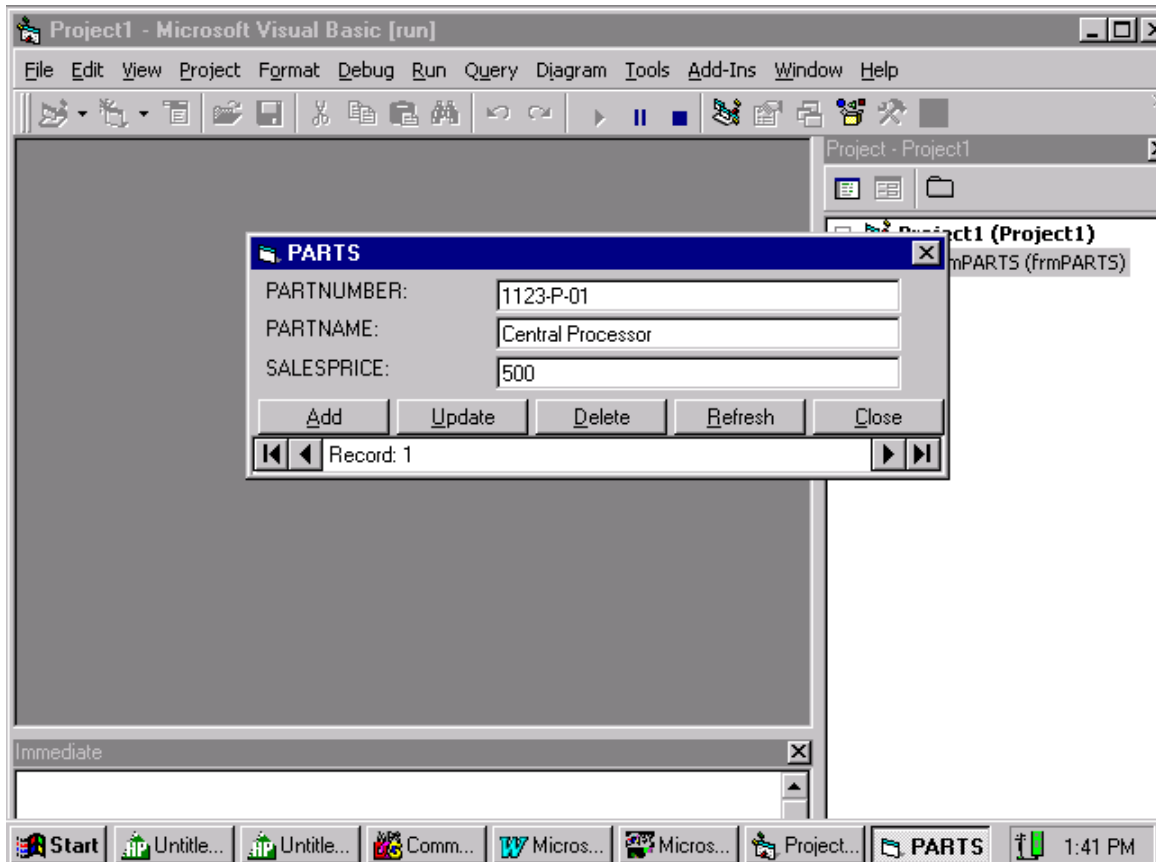


The table “**PARTS**” needs to be qualified. Insert the **OWNER**’s name of “**Purchdb.**” In front of “**PARTS**”. Be sure to put the “dot” between the **OWNER**’s name and the table name. Then click on Ok.



Now we can run the form. Click on the > symbol, it is the ninth icon from the left on the tools bar. The > symbol is like the “**play**” symbol on the tape deck on your boom box. The symbol next to the > symbol is ||, which is the “**pause**” button. The next button is the  which is the “**stop**” button.





When we run the program, our form is displayed with data from the PARTS table. The controls at the bottom of the form allow you to scroll through the records in the table. The <| button takes you to the first record in the table. The >| button takes you to the last record in the table. The < button takes you to the previous record and the > takes you to the next record in the table.

We have reached our goal. We can access an Allbase/SQL database table on an HP 9000 Server through an ODBCLink/SE driver using a Data Source.

Now you can let your imagination flow and start creating Client/Server applications.

That's all folks!