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Visual Basic 6.0

Accessing Databases using ADO

By: J. Brandon George

The intended reader of this document is for someone whom has been working with VB for at least 6 months – 1+ years What we shall do is take you through setting up your VB 6.0 IDE to develop Database applications while using the ADO 2.5 reference library. We'll do this while taking you learn the basic ADO command's by using real code example's as we go along.

Setting up VB 6.0 to use ADO 2.5:

First let's open a blank project. You should of course have a form named Form1 in it. Next you need to go to Project->References-> and scroll until you find MS ADO 2.5 (Microsoft ActiveX Data Objects 2.5), as shown below:

Once you have selected ADO 2.5 and pressed ok, you have successfully made a reference to the ADO 2.5 library. Now you're ready to start developing database applications using ADO 2.5!

Using ADO 2.5:

Before we start using ADO in our project you first need to make a simple Access Database and call it DB1.mdb. Create a Table in it called table, and then create two fields, one tid (set this as primary key and AutoNumber) and a field called info. You'll need to add at least two row's to the table. Save the database in the root of your project folder, so that you and the code can find it easily.

Next let's add a form, and call it frmDE1. On the form you will have one label (label1) one text field (text1) and a total of six buttons. (cmdAdd, cmdDel, cmdUpdate, cmdEdit, cmdNext, and cmdBefore)

It should look something like this:

Note: Once you have all of the buttons, text fields and Label's you can cut and paste from the source code at the bottom of this article (where it says frmDE1.frm source code). The button names and text fields have to be named what I called them in order for the source code to work. You may change them as you see fit; just know you are going to have to change the code as well!

Now let's start programming for VB and ADO. Once you've created the Database DB1



and the form frmDE1, you are going to need to add a new module to your project – in the example project, it is named ModADO. The source code is also provided for this within this article (under ModADO.bas Source Code).

Once you have created your module put at the top of it Option Explicit.  
Next type in the code:

```
Public Conn1 As New ADODB.Connection
```

What this does is create a new ADO connection, named Conn1, to a database. You will use Conn1 as your connection every time you open a connection to your DB1.mdb database from within your project.

The next thing we want to do is to declare an ADO recordset.  
So type the code:

```
Public Rs1 As New ADODB.Recordset
```

This stores the current recordset you are working with within your VB project.

So far we have declared an ADO database connection, and an ADO Database recordset.

These will be used throughout your project as far as opening and closing the database, and updating, adding, deleting, and moving through the current recordset.

Next, we declare Public strings for our connection information storage to our Database in our ModADO module.

So insert this code:

```
Public StringCnn As String  
Public AccessCnn As String
```

What the above code does is declares two different strings that will store our connection information for connecting to our database.

Next insert the code:

```
Public Function OpenDB()
```

```
AccessCnn = "DRIVER={Microsoft Access Driver (*.mdb)};" & "DBQ=db1.mdb;" &  
"DefaultDir=" & App.Path + "\" & ";" & "UID=admin;PWD=;"
```

```
StringCnn = "Provider=Microsoft.Jet.OLEDB.4.0; Data Source=" & App.Path &
```

```
"\db1.mdb;Persist Security Info=False;"
```

```
Conn1.ConnectionString = AccessCnn  
Conn1.Open
```

```
Rs1.Open "SELECT * FROM [table]", StringCnn, adOpenStatic, adLockBatchOptimistic,  
adCmdText  
End Function
```

The above code uses the Conn1, defined as an ADODB connection, and RS1, that we defined as an ADO recordset.

Notice we supply a connection string, the location of the database within the connection string. We later use a SQL Select statement to get a recordset from within our database. This gives us some data to start to work with.

Next insert the code:

```
Public Function CloseDB()  
    On Error Resume Next  
  
    Rs1.Close  
    Conn1.Close  
End Function
```

This code closes the database connection and clears the recordset. This is done anytime we need a new recordset, or the application is closed.

Next insert the code:

```
Public Function UpdateDB()  
    ' this is the update db function. This is used when you add or edit a record  
    Rs1!info = frmDE1.Text1.Text  
    ' the rs1!info refer's to the info field in the selected recordset  
    Rs1.UpdateBatch adAffectCurrent  
  
End Function
```

The above code will update the Data that we are working with. We use this when we edit, or add a new record to the database.

Next insert the code:

```
Public Function AddDB()  
    ' this is called to add a new row to the redorcset so you can add a new row.
```

```
Rs1.AddNew
End Function
```

This code will tell the Recordset Rs1 to add a new line to the table so that we can add new data to it. After this function is used, the UpdateDB will be used “push” our new data to the database.

Next insert the code:

```
Public Function DeleteDB(DeleteField As String, DeleteValue As String)
    Rs1.Delete adAffectCurrent
    Rs1.UpdateBatch
End Function
```

The above code is the last function in our ModADO module and is used to delete a row from the database.

Review:

To review, once you have created the Form (frmDE1) and the Module (ModADO) and the Database (db1.mdb), you can cut and paste the code listed below and put it in the ModADO module and the form frmDE1.

Have fun playing around with it - you may find yourself building some complex VB / Database applications ever made. Well - maybe you intend to do that right away!

Source Code:

FrmDE1.frm: (Source code behind the form)

```
Private Sub cmdAdd_Click()
    cmdUpdate.Visible = True
```

```
    Text1.Text = ""
    ModADO.AddDB
    Text1.SetFocus
```

```
    cmdDel.Visible = False
    cmdedit.Visible = False
    cmdAdd.Visible = False
```

```
End Sub
```

```
Private Sub cmdBefore_Click()  
On Error Resume Next  
ModADO.Rs1.MovePrevious  
Text1.Text = ModADO.Rs1!info
```

```
End Sub
```

```
Private Sub cmdDel_Click()
```

```
ModADO.DeleteDB "info", Text1.Text  
MsgBox "" & Text1.Text & " has been deleted from the database", vbCritical, "Deleted"  
ModADO.Rs1.MoveFirst  
Text1.Text = ModADO.Rs1!info
```

```
End Sub
```

```
Private Sub cmdedit_Click()
```

```
cmdAdd.Visible = False  
cmdedit.Visible = False  
cmdDel.Visible = False
```

```
cmdUpdate.Visible = True
```

```
End Sub
```

```
Private Sub cmdNext_Click()
```

```
On Error Resume Next  
ModADO.Rs1.MoveNext  
Text1.Text = ModADO.Rs1!info
```

```
End Sub
```

```
Private Sub cmdSearch_Click()
```

```
frmSearch.Show
```

```
End Sub
```

```
Private Sub cmdUpdate_Click()
```

```
On Error Resume Next  
cmdUpdate.Visible = False
```

```
ModADO.Rs1!info = Text1.Text  
ModADO.UpdateDB
```

```
cmdAdd.Visible = True
cmdedit.Visible = True
cmdDel.Visible = True
```

```
End Sub
```

```
Private Sub Form_Load()
cmdUpdate.Visible = False
ModADO.OpenDB
Text1.Text = ModADO.Rs1!info
```

```
End Sub
```

```
Private Sub Form_Terminate()
ModADO.CloseDB
End
```

```
End Sub
```

ModADO.bas:

ModADO.bas contains the code for all the code needed to connect to our Database, db1.mdb.

Option Explicit

```
*****
'* Make sure that you have the ADO 2.5 referenced
*****
```

```
'Microsoft ActiveX Data Object Library 2.x
```

```
Public Conn1 As New ADODB.Connection
```

```
' above is the Connection used to connect to the Database
```

```
' below is the Record Set
```

```
Public Rs1 As New ADODB.Recordset
```

```
'Database Connection Strings
```

```
Public StringCnn As String
Public AccessCnn As String
```

```
Public Function UpdateDB()
    ' this is the update db function. This is used when you add or edit a record
    Rs1!info = frmDE1.Text1.Text
    ' the rs1!info refer's to the info field in the selected recordset
    Rs1.UpdateBatch adAffectCurrent
```

```
End Function
```

```
Public Function AddDB()
    ' this is called to add a new row to the redorcset so you can add a new row.
```

```
    Rs1.AddNew
End Function
```

```
Public Function DeleteDB(DeleteField As String, DeleteValue As String)
    Rs1.Delete adAffectCurrent
    Rs1.UpdateBatch
End Function
```

```
Public Function OpenDB()
```

```
AccessCnn = "DRIVER={Microsoft Access Driver (*.mdb)};" & "DBQ=db1.mdb;" &
"DefaultDir=" & App.Path + "\" & ";" & "UID=admin;PWD=;"
```

```
StringCnn = "Provider=Microsoft.Jet.OLEDB.4.0; Data Source=" & App.Path &
"\db1.mdb;Persist Security Info=False;"
```

```
Conn1.ConnectionString = AccessCnn
Conn1.Open
```

```
Rs1.Open "SELECT * FROM [table]", StringCnn, adOpenStatic, adLockBatchOptimistic,
adCmdText
End Function
```

```
Public Function CloseDB()
    On Error Resume Next
```

```
    Rs1.Close
    Conn1.Close
End Function
```

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