SQL Anywhere Version 9.0 ASP.NET / ADO.NET Tutorial For Visual Studio .NET

iAnywhere Solutions,
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Overview

This tutorial is intended to give a brief understanding on how to use ASP.NET to access an Adaptive Server Anywhere 9.0 database using ADO.NET. For this tutorial Visual Studio .NET 2002 or 2003 can be used. Specifically, VB.NET will be the development tool. In this tutorial we will walk through all of the steps required to build a sample ASP.NET application to query the Adaptive Server Anywhere database and return the results into a list box all within the Browser.

Requirements:

- Visual Studio .NET (version 2002 or 2003)

- Adaptive Server Anywhere 9.0

- Microsoft IIS

Walkthrough

Start the Microsoft IIS Web Server

The default web site will need to be running on your local machine to start the Web site:

1. From the **Administrative Tools** menu on the Web server computer' **Start** menu, choose **Internet Information Services**.

2. Open the node for the current computer, and then open the node for Web Sites.

3. Select **Default Web Site** and in the toolbar click the **Start item** button.

Start the Adaptive Server Anywhere database

Typically you would want to create a service to automatically start up the Adaptive Server Anywhere database. However for our testing we will start the database manually. See the online help for more information about creating a service.

1) Go to a command prompt and locate the Adaptive Server Anywhere 9.0 install directory. (i.e. c:\program files\Sybase\SQL Anywhere 9.0)

2) Type: dbeng9 asademo.db

3) This will start up the Adaptive Server Anywhere sample database and engine.

Configuring the ODBC Administrator

Although the ADO.NET driver does not actually use the Adaptive Server Anywhere ODBC driver, it can use the information contained within the ODBC Administrator. As such the next step will be to create a **System** Data source. It is very important that a System data source is created and not a User data source.
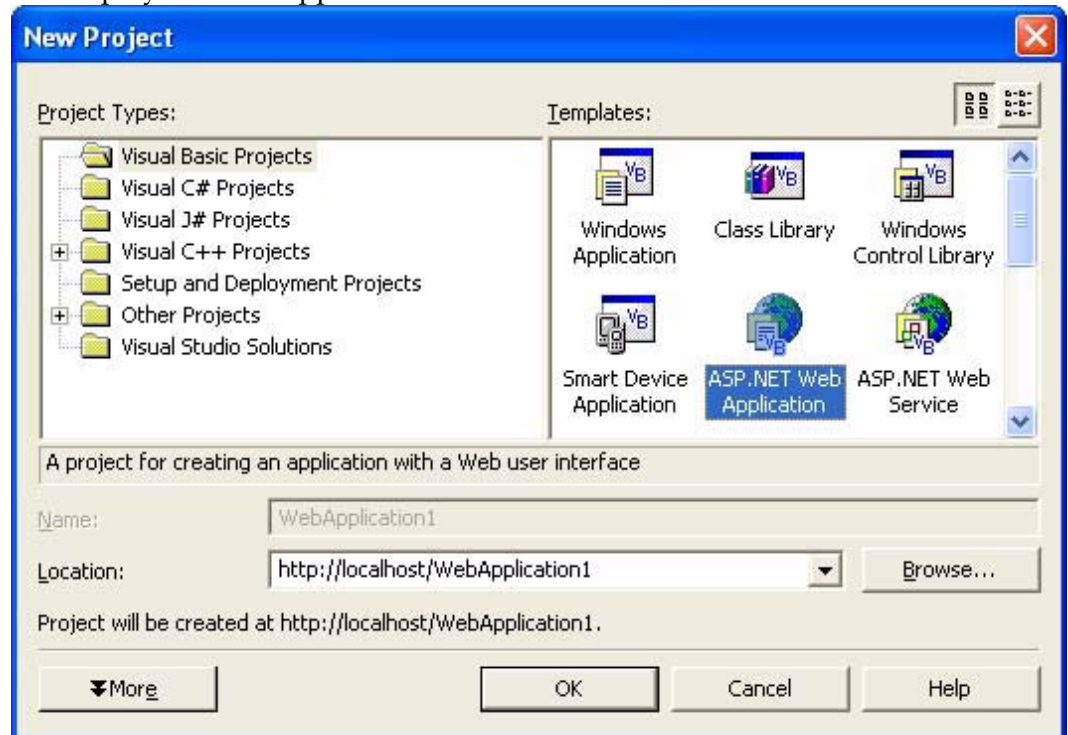
1) Open the ODBC Administrator (odbcad32.exe)

2) Click on the System DSN tab

3) Click on Add

4) Choose 'Adaptive Server Anywhere 9.0' and press Finish

5) For the Data source name type: WebSample

6) Click the Login tab and enter:

    a. User ID: dba

    b. Password: sql

7) Click the Database tab and enter the following: (NOTE: if you installed Adaptive Server Anywhere 9.0 to a non-default location the Database file may be different than below):

    a. Start line: dbeng9

    b. Database File: c:\program files\sybase\SQL Anywhere 9\asademo.db

8) Click on the ODBC tab and click 'Test Connection' to ensure that the settings are correct.

9) Click OK and close the ODBC Administrator.

Creating the Web Application

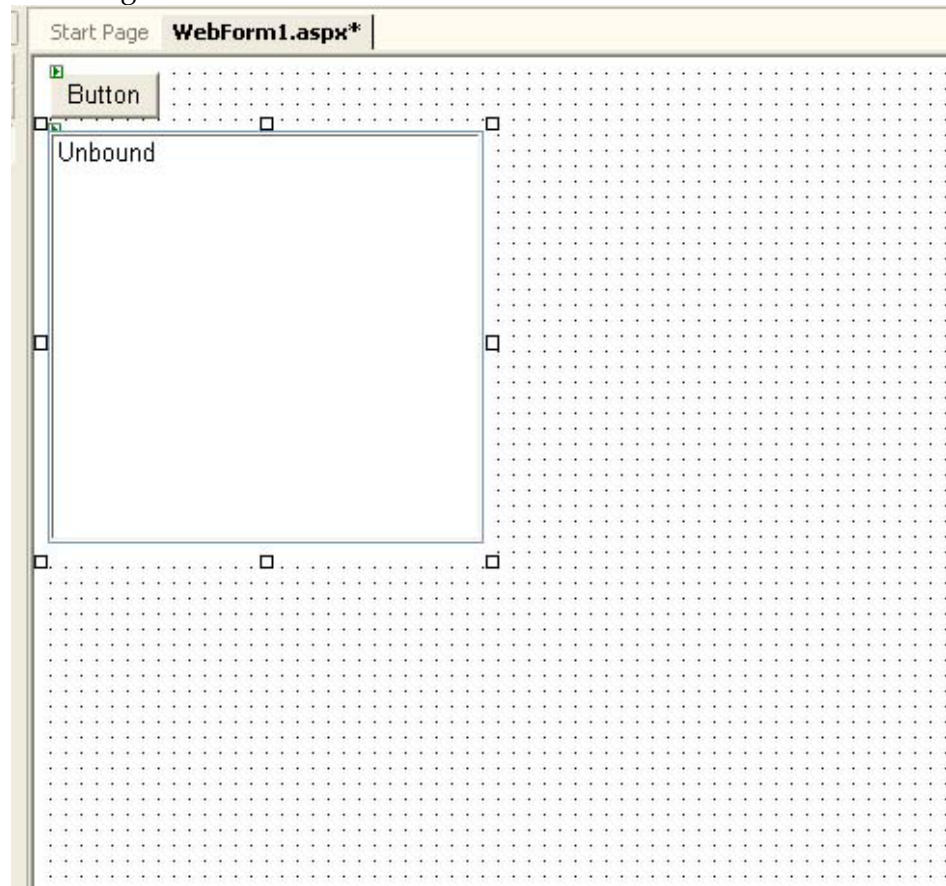The next step will be to use Visual Studio .NET to create the ASP.NET application.

1) Open Visual Studio .NET

2) Choose File | New | Project

3) As shown below, click on the 'Visual Basic Projects' folder and then choose the 'ASP.NET Web Application' template. In the Location enter it should point to http://location/WebApplication1. This is where VS.NET will deploy this web application.
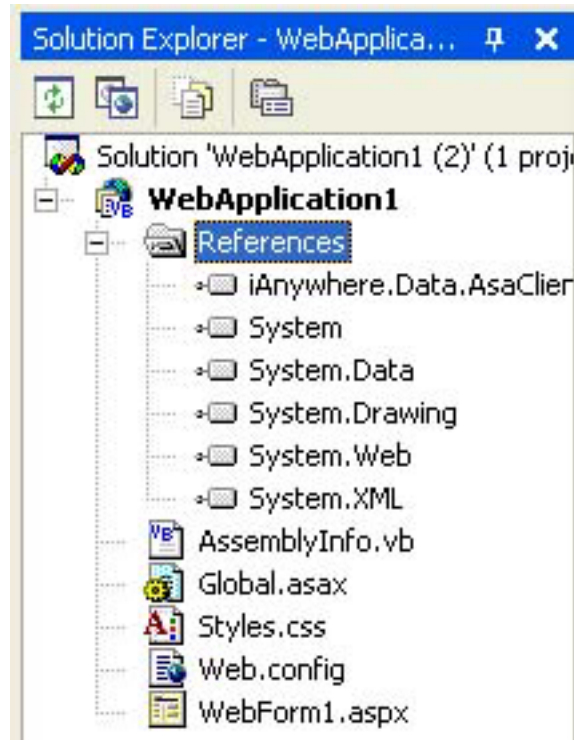

4) Click OK to have VS.NET create the template application. This will also create a directory called WebApplication1 within your MS IIS directory. Most likely c:\inetpub\wwwroot.

5) From the VS.NET choose View | Toolbox to ensure the toolbox is available to add objects to the grid layout.

6) Drag a button on to the grid and then drag a list box to the grid layout. Resize the list box to be a little larger than default such that it will look something like the

following:

7) Next we will need to add a resource reference to the iAnywhere ADO.NET provider. To do this, locate the Solution Explorer window (typically in top right section of VS.NET). Right click on References and choose 'Add Reference'

8) Click on the iAnywhere.Data.ASAClient component and choose Select and the press OK.

9) The Solution Explorer should now have a reference to the ASAClient resource and will look similar to the following:

10) Go back to the Grid Layout and Double Click on the Button to view the code and create a Button1_Click subroutine.

11) Add the following code to the subroutine:

```vb
Private Sub Button1_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button1.Click

Dim conn As New iAnywhere.Data.AsaClient.AsaConnection("Data
Source=WebSample;UID=DBA;PWD=SQL")

Try

conn.Open()

Dim cmd As New iAnywhere.Data.AsaClient.AsaCommand("select emp_lname
from employee", conn)

Dim reader As iAnywhere.Data.AsaClient.AsaDataReader

reader = cmd.ExecuteReader()

Do While reader.Read()

   ListBox1.Items.Add(reader.GetString(0))

Loop

reader.Close()

conn.Close()

Catch ex As iAnywhere.Data.AsaClient.AsaException

   ' Normally but error handling logic here

End Try

End Sub
```

12) If you review the code you will notice the first thing that happens is an ADO.NET connection is opened to the Adaptive Server Anywhere database using the parameters specified in the WebSample System data source. Next it executes the query "Select emp_lname from employee". The results from the query and then read in line-by-line and added to the list box. When there are no more rows the reader and the connection is closed. There is also some error handling in this code that will catch various errors. You may wish to add some custom logic to handle these errors.

Deploy and Test Web Application

Now that we have added the code to query the Adaptive Serve Anywhere database we need to deploy the Web application to the Microsoft IIS server and launch it. To do this:

1) From VS.NET choose Debug | Start Without Debugging. This will update the WebApplication1 directory with the new ASP.NET pages and open a browser pointing to http://location/WebApplication1
2) Once the Browser opens and shows the application, click on the Button.
3) This will execute the specified query and populate the list box. The results should look something like the following: