How To: Create a Crystal Report from ADO.NET Dataset using Visual Basic .NET

See also:
http://support.businessobjects.com/communityCS/TechnicalPapers/rtm_reporting offadonetdatasets.pdf
http://www.businessobjects.com/products/dev_zone/net_walkthroughs.asp
http://www.tek-tips.com/gfaqs.cfm/pid/796/fid/3940

Introduction:

Crystal Report of Visual Studio .NET is the standard reporting tool for Visual Studio .NET. You can host reports on web and windows platform and can publish reports as Report Web services on the web server. It is based on framework of Crystal Report 8.0 and uses open and flexible architecture, with standards like XML, to allow porting reports over the web. Using crystal report expert you can choose report layouts, display charts, calculate summaries, subtotals as grouped data as well as conditionally format text and rotate text objects.

Although Crystal Reports for Visual Studio .NET supports variety of data source like ADO recordset, CDO recordset, DAO recordset, MS Excel workbook, this walkthrough endeavor to explain How to report off ADO.NET DataSet using Visual Basic .NET.

As you all know DataSet is the core component of distributed application and is explicitly designed for data access independent of any data source. Dataset can be created from variety of sources. Whatever the source is, before reporting off ADO.NET DataSet you must perform the following task:

> - **Generate an object for the DataSet.**
> - **Connect report to DataSet Object.**
> - **Push data into DataSet Object.**
> - **Bind report to Windows Forms Viewer to display report with actual data at runtime.**

Requirements:

- ✓ Visual Studio .NET 2002
- ✓ .NET Framework 1.0
- ✓ SQL Server 2000 with Northwind database

Generating an Object for the DataSet

Object for ADO.NET is a collection of dataset classes created in memory.

To create a dataset object from Northwind database in SQL Server, using ADO.NET DataSet Designer.

1. In the **Solution Explorer**, right-click the project name, point to **Add**, and click **Add New Item**.
2. In the Categories area of the Add New Item dialog box, expand the folder and select **Data**.
3. In the Templates area, select **Dataset**.
4. Accept the default name **Dataset1.xsd**.
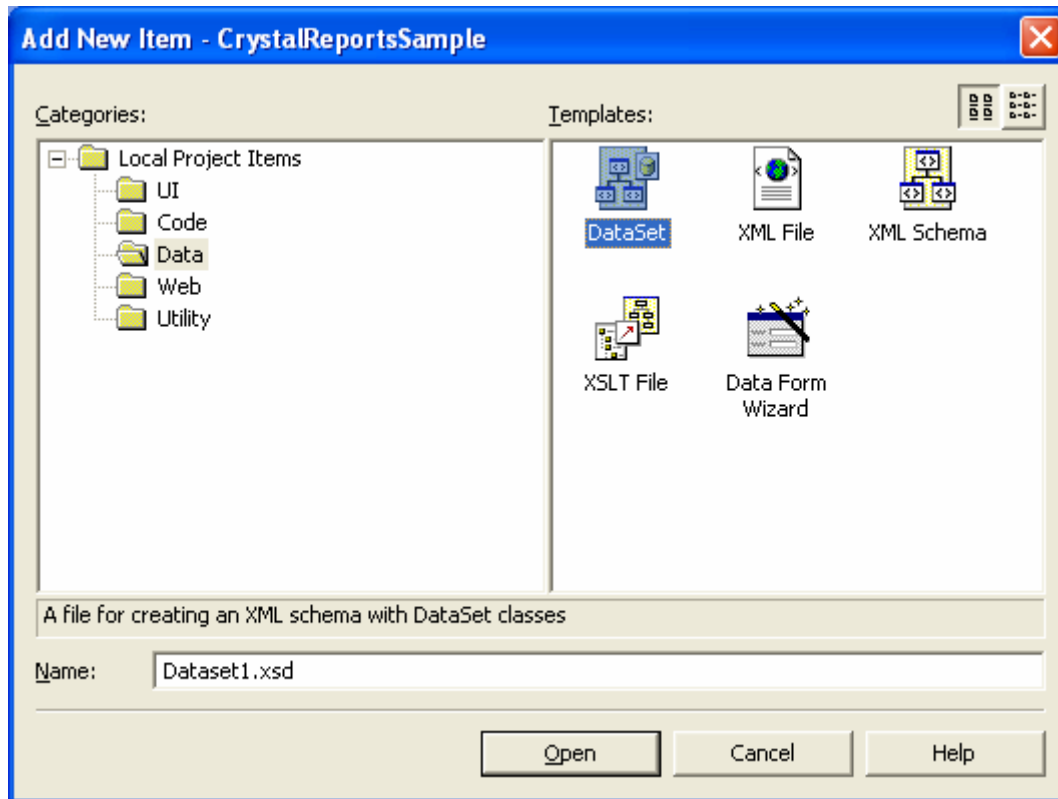
This creates a new schema file that will be used to generate a strongly typed dataset. The schema file will be displayed in ADO.NET Dataset designer.

5. In the **Solutions Explorer,** click on **Dataset1.xsd** file, if now already the active view.
6. From the **Server Explore,** on the right connect to SQL Server and drill down to Northwind Database.
7. Highlight the Table Customers (or stored procedure if desired) and drag and drop it on the Interface of Dataset1.xsd. Dataset1.xsd should now be displayed in the Dataset tab as under
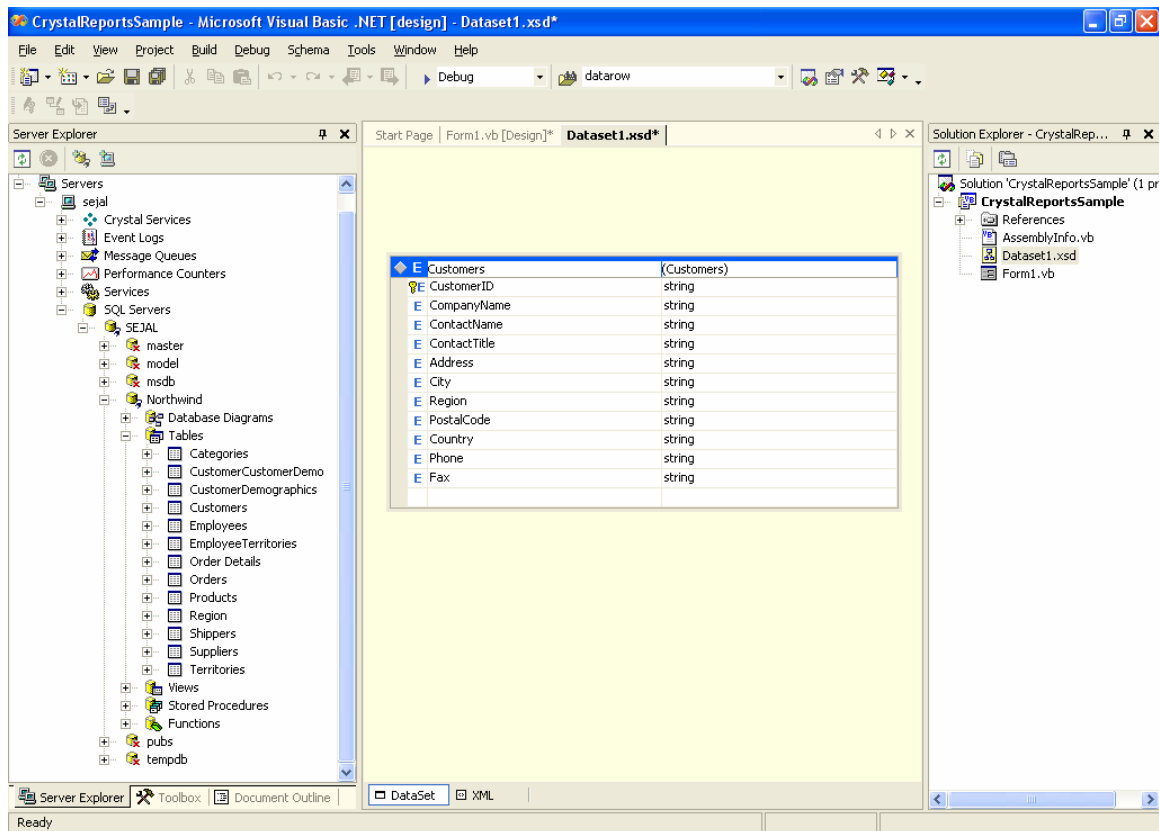
This creates a dataset object and contains only a description of the database based on the schema in Dataset1.xsd. It does not contain the actual data.

## Connecting Report to an ADO.NET Dataset Object

From ADO.NET Dataset Object you can add tables to Crystal Report using Database Expert in Crystal Report Designer.

To create a new report and connect it to Dataset object which contains description for Customers table in Northwind database

1. In the Visual Studio .NET **Solution Explorer**, right-click your project to display the shortcut menu.
2. Point to **Add** and click **Add New Item**.
3. In the Add New Item dialog box, select **Crystal Report** from the Templates area. Click **Open**.
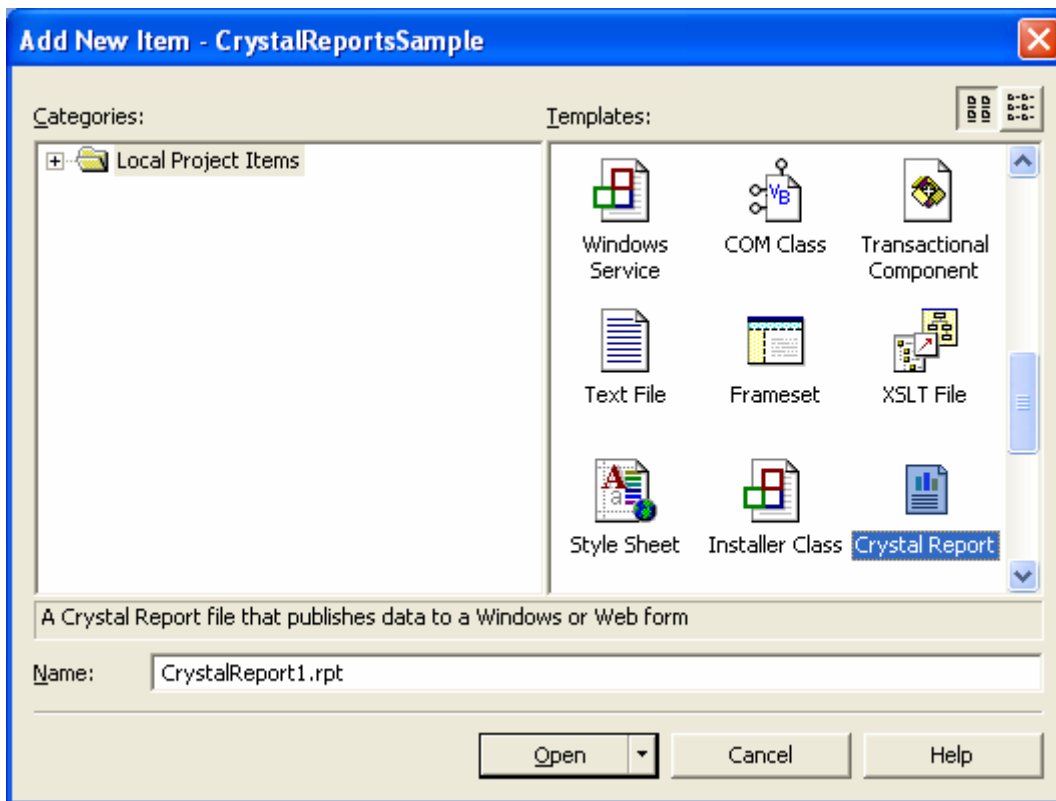
4. **Crystal Report Gallery** will be displayed, as shown below
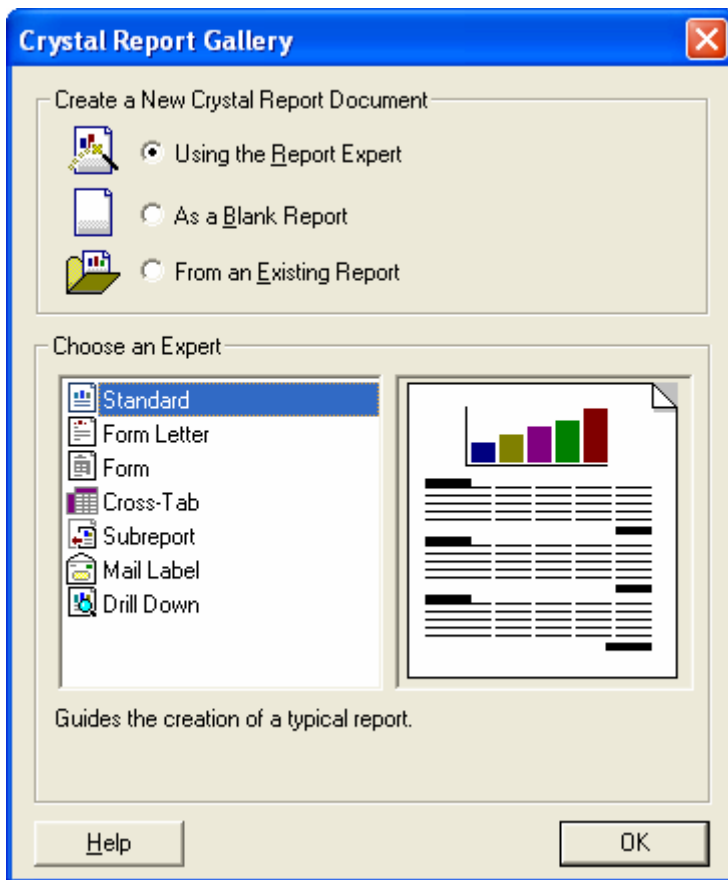
5. You can choose from any of the options provided in Crystal Report Gallery. But for the purpose of this walkthrough choose **As a Blank Report** and click **OK.**
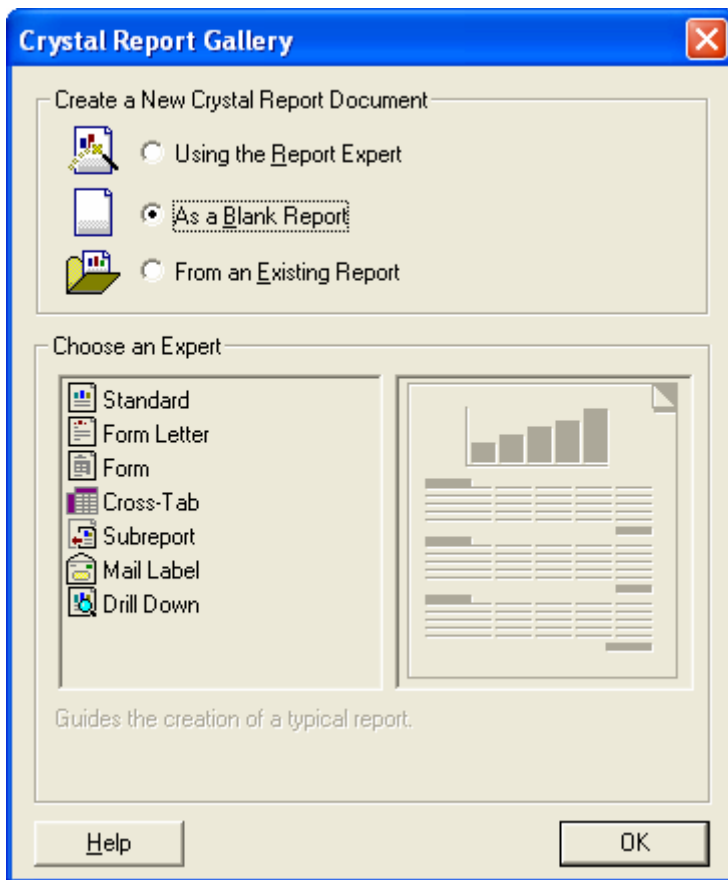
6. On **File** menu, click **Save** to save the report.
7. Right click in the Report Designer, point to **Database,** and click **Add/Remove** Database.
8. You'll be presented with **Database Expert** wizard.
9. In the Database Expert wizard, expand the **Project Data** folder, expand the **ADO.NET Datasets** folder and select the dataset object as shown below
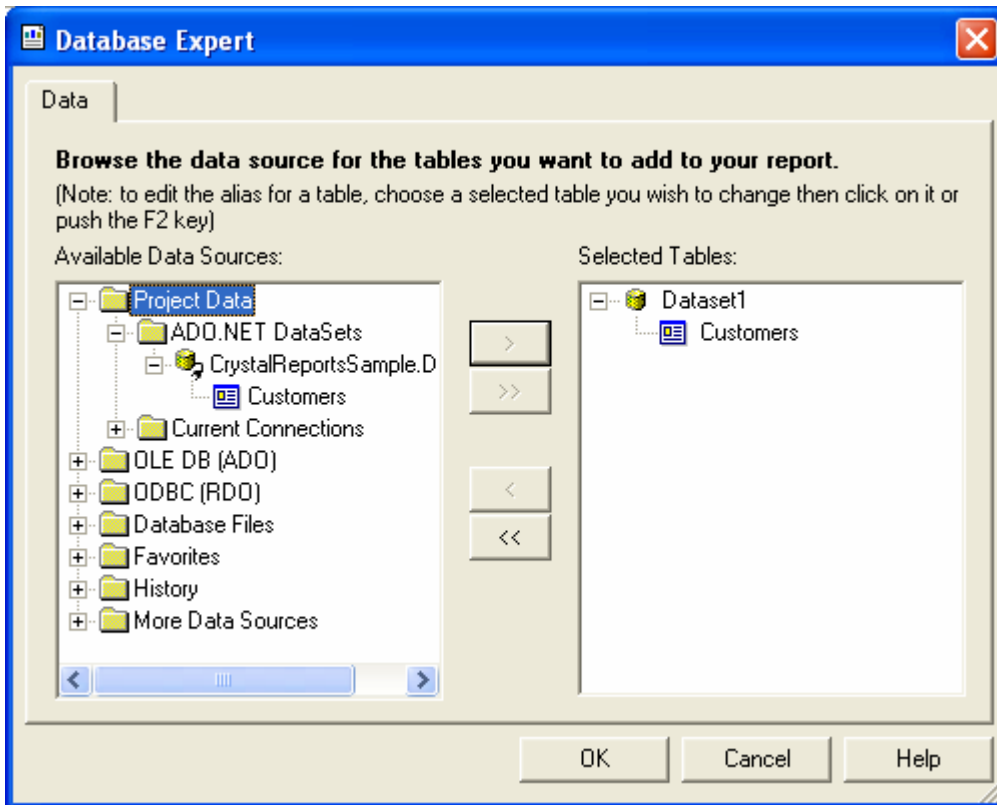
10. If you now drill down **Database Fields** node, in the **Field Explorer**, you can view Customers table and all its fields
11. Drag and drop the fields onto the report and format them as required.

Pushing data into DataSet object and binding report to Windows Forms Viewer

In order to display actual data in the report, you should fill the dataset object with the data before you bind the report to Windows Forms Viewer. You should do this in the corresponding source file for Windows Form.

1. Drag and drop **CrystalReportViewer** control on Form1 and set the **DisplayGroupTree** property to **False**, as shown below
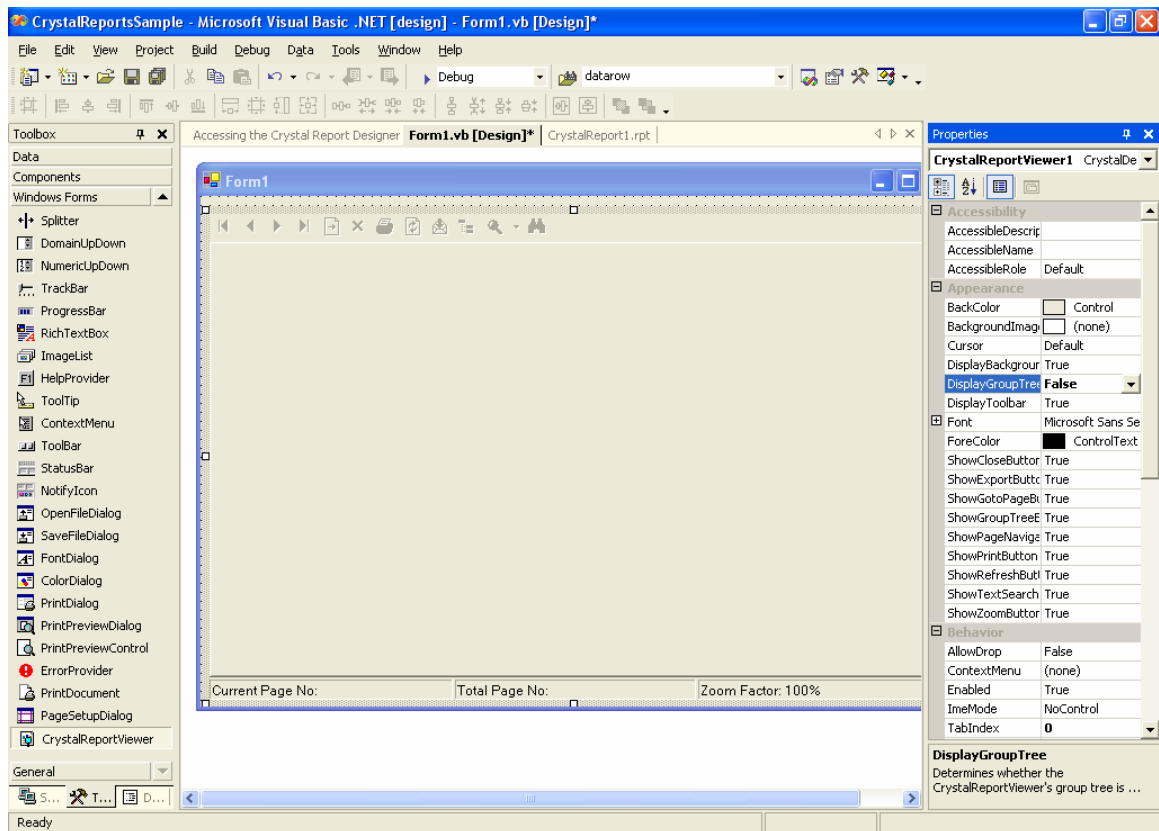
2. Accept the default name as **CrystalReportViewer1**.
3. Open **Form1** code editor and add the following code on **Load** event of **Form1.**

```vb
Private Sub Form1_Load(ByVal sender As System.Object, ByVal e As System.EventArgs)
Handles MyBase.Load
    Dim rpt As New CrystalReport1() 'The report you created.
    Dim myConnection As SqlConnection
    Dim MyCommand As New SqlCommand()
    Dim myDA As New SqlDataAdapter()
    Dim myDS As New Dataset1() 'The DataSet you created.

    Try

    myConnection = New SqlConnection("Data Source=localhost;Integrated Security=SSPI;" & _
                        "Initial Catalog=northwind;")
    MyCommand.Connection = myConnection
    MyCommand.CommandText = "SELECT * FROM Customers"
    MyCommand.CommandType = CommandType.Text
    myDA.SelectCommand = MyCommand

    myDA.Fill(myDS, "Customers")
    rpt.SetDataSource(myDS)
    CrystalReportViewer1.ReportSource = rpt

    Catch Excep As Exception
```

```
        MessageBox.Show(Excep.Message, "Error", MessageBoxButtons.OK,
MessageBoxIcon.Error)
    End Try
End Sub
```

Troubleshooting

Add reference to **SqlClient** namespace. **Imports System.Data.SqlClient**

Check connection to your server.

References

http://msdn.microsoft.com/library/default.asp?url=/library/en-us/crystlmn/html/crconincorporatingreportsintoapplications.asp