

Report Designer Component

Data Access Objects Subreport Sample Application

Overview

This module outlines how to create a report, using the Report Designer Component Automation Server that contains one subreport and has Data Access Objects (DAO) as a data source. This tutorial covers how to create a DSR using DAO as its data source, add a subreport (also using DAO as data source), bind DAO recordsets at runtime to both the main and subreport and preview the report.

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Microsoft's Data Access Object

DAO is the COM interface to the Jet database engine. It is primarily used to access ISAM (Indexed Sequential Access Method) databases and supports most common ISAM database techniques. This would be used for the Native Jet (MDB), or ISAM databases such as Btrieve, dBase, FoxPro, or Paradox. DAO 3.5 can be used as an interface with RDO (ODBC Direct) to access ODBC data sources; though it is limited in its abilities and functionality with ODBC.

The first thing to do is to reference the Microsoft DAO 3.51 Object Library. If it is not listed, go under Project, References, browse and find the DAO350.dll

Creating the DSR (CrystalReport1.dsr)

Start a new Standard project. You can Remove Form 1.

Go to Project | Add ActiveX Designer (Visual Basic5) or Project | More ActiveX Designers (Visual Basic6) and Select Crystal Report 6.0. This will bring up the Report Gallery Window (Figure 1).

This is similar to the Report Gallery found in Crystal Reports.

Figure 1

Select Standard Report. This will bring up the Choose Report Expert window (Figure 2)

Figure 2

The Create Report window allows you to choose either Project or Other data. Project Data refers to active data and will be chosen for any active data DSR.

Select Project. This will bring up the Select Data source window (Figure 3)

When the DSR is created using one of the methods in the Select Data Source window an "internal ttx" is generated from the SQL written by the method chosen. The method chosen to create the report does not bind the report to that method. IE: If the report is made by selecting DAO the report can still be passed a recordset created in RDO, CDO, ADO as long as the structure matches that of the report. If a recordset is not passed to the report then the report needs to be connected to the data source chosen in this process. If you created a report using ADO (ODBC) that connected to a SQL database via an ODBC connection then you would have to either pass the DSR a recordset or log on to the data source using LogOnServer or SetLogOnInfo.

Figure 3

For the purposes of this document connect to an access database with DAO. Select DAO and browse to the xtreme.mdb. Click "Next" to bring you to the Select Recordset window (Figure 4).

Here you can create the recordset to be used by the report. If there is any security, fill in the User name and Password. For the Recordset you can choose from a list of database object types (Tables, Views etc) or enter a SQL statement to select the tables and fields. The SQL would be used to select a stored procedure. You are only able to choose one Object as the purpose of Active Data is to return one recordset. If you wanted to include several tables in the Recordset then use the SQL options and enter in a SQL statement that uses and links the tables.

For the purposes of this document choose the Customer table Object.

Click "Finish" to bring you back to the Create Report Expert window (Figure 2). Here you can now add the Fields for the report as well as the other options offered by the tabs.

Add a couple of fields to the report and click "Finish" to bring up the Report Expert (Figure 5).

Figure 4

Use the Report Expert to choose if you want to add a form containing the Crystal Report Smart Viewer control (this is the preview window for the DSR file) and if you want that form to be set to be the Start Up form.

Leave both options as yes and click okay to complete the creation of the DSR.

Figure 5

Adding a Subreport to the DSR

Right-click on an empty area of the DSR form and select Insert | Subreport. Place the subreport on the report.

Name the Subreport Sub1 and click on Report Expert to bring you to the Create Report Expert (Figure 2).

Click Project to bring up the Choose SQL Table window (Figure 6).

Click the Log On Server button to bring up the Select Datasource window (Figure 3).

From here follow the steps you did for the main report but this time choose the Orders Table.

After you click Finish from the Select Recordset window (Figure 4) you will be brought back to the SQL Table window (Figure 6).

In the SQL Databases window select the bottom 2nd Database, click Add and click Done to bring you back to the Create Report Expert (Figure 2).

Add some fields click Finish and OK to bring you back to the DSR Form.

Adding Code to set the DAO Database object to the Recordset

When the Smart Viewer form is created the code is written automatically for previewing the report. We will add the code to pass the DAO Recordset to the Main and Subreport in the Form Load Event (highlighted in Blue).

In the General Declarations of the form add this code:

```
Dim Report As New CrystalReport1
```

```
Dim DAOCustomer As DAO.Recordset 'For Main Report
Dim DAOOrders As DAO.Recordset   'For Subreport
Dim DAODb As DAO.Database
Dim wrkJet As Workspace
```

Step 1: Setting the database and creating the recordset.

```
Private Sub Form_Load()

Dim CRSections As CRAXDRT.Sections
Dim CRSection As CRAXDRT.Section
Dim ReportObject As Object
Dim CRReportObjects As CRAXDRT.ReportObjects
Dim CRSubObj As CRAXDRT.SubreportObject
Dim CRSubreport As CRAXDRT.Report

'The DAOCustomer Recordset object is created and bound.
'Create Microsoft Jet Workspace
Set wrkJet = CreateWorkspace("", "admin", "", dbUseJet)

'set the location of the database here
Set DAODb = wrkJet.OpenDatabase("C:\crw6032\craze.mdb")

'code for creating recordset off Customer table.
Set DAOCustomer= DAODb.OpenRecordset("Customer")

'code for creating recordset off Orders table
Set DAOOrders = DAODb.OpenRecordset("Orders")

'The Datasource for the main report is set.
Report.Database.SetDatasource DAOCustomer

'Here are 2 methods to Set the DAO recordset to the
subreport. Each uses the SetDataSource method.. 'Comment
out the one you do not wish to test.

'Get the sections from the Main report
Set CRSections = Report.Sections
'Begin Method 1:

'This method analyzes the report until the Subreport is
found. Then the Subreport is opened and the 'SetDataSource
method of the Database object is used.
```

```
'Go through each section in the main report...
For Each CRSection In CRSections
    'get all the objects in this section...
    Set CRReportObjects = CRSection.ReportObjects
    'go through each object in the reportobjects for this
    section...
    For Each ReportObject In CRReportObjects
        'find the object which is the SubreportObject
        If ReportObject.Kind = crSubreportObject Then
            'Found a subreport, now get a hold of
            it
            Set CRSubObj = ReportObject
            'Open the subreport and treat it as any
            other report
            Set CRSubreport =
            CRSubObj.OpenSubreport
            'Bind the second recordset to the
            subreport
            CRSubreport.Database.SetDataSource
            DAOOrders
        End If
    Next ReportObject
Next CRSection
'End Method 1:

'Begin Method 2:
'Quick and Dirty method for setting the datasource for the
Subreport. This method accesses the subreport and the
OpenSubreport message from the Report Object directly. The
Subreport is seen as an object of the Report and will
appear in the drop down window when the "." is applied to
the end of Report.

'The Subreport is referred to as Subreport1 even though we
named it Sub 1 when creating it. The DSR is seeing it as an
object on it's form. If you highlight the Subreport on the
DSR form and look in the property window the Name of the
object is Subreport1 and can be changed through the
property window.
Set CRSubreport = Report.Subreport1.OpenSubreport
CRSubReport.Database.SetDataSource DAOOrders
'End Method 2:
'Set the Viewer's report Source to the Report and Preview.
This code already exists when the Viewer form is created.
CRViewer1.ReportSource = Report
```

```
CRViewer1.ViewReport
End Sub
```

Completing the Application:

Now that the basic application has been created, we must follow a series of steps to successfully generate reports.

1) Run the application. All the code is in the Form Load Event. The RDC has created most of the code for you. All you had to do was add the code to create and pass the recordset.

References

The following reference materials were used during the creation of this Tech Support document, or are recommended for further reading on subjects covered by the Topics of this Module Section.

For more information on using the Active Data Driver and DAO see the Crystal Reports 6.0 Technical Reference, Ch. 6, p. 92 (techref.pdf) "Working with Active Data" and Crystal Reports Developer's Manual.

The sample application DAOSampRDC.zip can be found on our website at <http://support.crystaldecisions.com/updates>.

Contacting Crystal Decisions for Technical Support

We recommend that you refer to the product documentation and that you visit our Technical Support web site for more resources.

Self-serve Support:

<http://support.crystaldecisions.com/>

Email Support:

<http://support.crystaldecisions.com/support/answers.asp>

Telephone Support:

<http://www.crystaldecisions.com/contact/support.asp>