Using EViews OLEDB driver

The new EViews OLEDB driver provides an easy way to read data stored in EViews Databases (EDB) and EViews workfiles (WF1) and use them in external programs.

Features / Limitations
Supports reading multiple series objects (both numeric and alpha). Also supports reading single vectors (including string vectors), matrices (including symmetric matrices), scalars, and strings.

Does not support write mode.

Installation
The EViews OLEDB driver is automatically installed and registered when you install EViews. To manually register the driver, call RegSvr32.exe followed by the path to the "EViewsOleDbProvider.dll", located in the EViews program directory.

Reading in Series Objects
Both numeric series and alpha series objects can be read. Multiple series objects that have the same frequency can be grouped as a single database "table" with each column representing one series object. Series observations can also be filtered using the "@smpl" keyword followed by a start and end date range. If "@smpl" is not specified, then all available rows are returned.

For example, the following VB.NET example groups series x, y, and z from EViews workfile "mydata.wf1" into a single table.

```
Dim conn As OleDbConnection = Nothing
Try
    Dim cs As String = "Provider=EViewsOleDbProvider.EViewsProv;" & _
                       "Path=c:\mydata.wf1;Include ID Series=False"
    conn = New OleDbConnection(cs)
    conn.Open()

    Dim adpt As New OleDbDataAdapter("x y z", conn)
    Dim ds As New DataSet
    adpt.Fill(ds)
    TextBox1.Text = ds.GetXml()

Catch ex As Exception
    TextBox1.Text = ex.ToString

Finally
    If conn IsNot Nothing Then
        If conn.State = ConnectionState.Open Then
            conn.Close()
        End If
    End If
End Try
```

@DATE, @ENDDATE
In addition to the standard series objects, @DATE and @ENDDATE can be specified to return the associated date (or end date) associated with each observation (e.g. "@date x y z"). By default, @DATE is always returned as the first column when reading series objects. This can be overridden by using the "Include ID Series=False" parameter in the connection string.

@STRDATE("*format*"), @STRENDDATE("*format*")
To return the @DATE (and/or @ENDDATE) values as strings instead of dates (or numeric), use @STRDATE (and/or @STRENDDATE) with a specific format string. For example, to return the @DATE value as year first, followed by month, date, and the time, use the following syntax:

```
Dim adpt As New OleDbDataAdapter("@strdate(""yyyy-MM-DD hm:MI AM"") x y z", conn)
```

See the EViews Command Reference entry for "Series::setformat" for examples of allowed date formats.

@SMPL
To filter series observations to specific rows, use the @SMPL keyword at the end of the command string to specify a start and end date range. The following example specifies the command to only return those rows between the years 1995 and 2000:

```
Dim adpt As New OleDbDataAdapter("@date x y z @smpl 1995 2000", conn)
```

Not specifying @SMPL (or specifying "@smpl @all") returns all available rows from the datasource.

WILDCARDS (*)
When selecting multiple series objects, you can specify a wildcard in the name. The following returns all series objects whose name begins with "gdp":

```
Dim adpt As New OleDbDataAdapter("@date gdp* @smpl @all", conn)
```

Reading in Non-Series Objects
Vectors, matrices, scalars, and strings can be read as well. However, these non-series objects may not be grouped together and must be read one at a time. Series specific keywords such as @DATE, @ENDDATE, @STRDATE, @STRENDDATE and @SMPL may not be used when retrieving these objects. The following command string retrieves the vector named "vec1" as a single column table:

```
Dim adpt As New OleDbDataAdapter("vec1", conn)
```

Reading Schema Information
The EViews OLEDB driver provides schema information (available pages, objects) in two ways.

First, the standard OLEDB schema methods are supported. For example, to get a list of available objects (called "tables" in OLEDB terms):

```
Dim conn As OleDbConnection = Nothing
Try
    Dim cs As String = "Provider=EViewsOleDbProvider.EViewsProv;" & _
                    "Path=c:\mydata.wf1;Include ID Series=False"
```

```vb
        conn = New OleDbConnection(cs)
        conn.Open()

        'display list of objects here...
        Dim dt As DataTable = conn.GetSchema("Tables")
        TextBox1.Text = ""
        For i As Integer = 0 To dt.Rows.Count - 1
            TextBox1.Text = TextBox1.Text & dt.Rows(i)("TABLE_NAME") & " " & _
                                            dt.Rows(i)("TABLE_TYPE") & vbCrLf
        Next

    Catch ex As Exception
        TextBox1.Text = ex.ToString

    Finally
        If conn IsNot Nothing Then
            If conn.State = ConnectionState.Open Then
                conn.Close()
            End If
        End If
    End Try
```

Second, we support returning meta information from a command string that begins with the text literal "<meta>" followed by a simple SELECT/WHERE clause. For example, the following retrieves columns NAME and TYPE for any objects whose name starts with "gdp".

```vb
    Dim conn As OleDbConnection = Nothing
    Try
        Dim cs As String = "Provider=EViewsOleDbProvider.EViewsProv;" & _
                            "Path=c:\mydata.wf1;Include ID Series=False"
        conn = New OleDbConnection(cs)
        conn.Open()

        Dim adpt As New OleDbDataAdapter("<meta> select name,type " & _
                                         "where name matches ""gdp*""", conn)
        Dim ds As New DataSet
        adpt.Fill(ds)
        TextBox1.Text = ds.GetXml()

    Catch ex As Exception
        TextBox1.Text = ex.ToString

    Finally
        If conn IsNot Nothing Then
            If conn.State = ConnectionState.Open Then
                conn.Close()
            End If
        End If
    End Try
```

Fields that can be retrieved include name, type, freq, start, end, last_update, description, and label. These fields can also be specified in the where condition. Please refer to the "EViews Databases / Querying the Database" section in the "EViews Users Guide" for more details on writing proper field expressions.

Connection String Parameters

PROVIDER
This required parameter should always point to "EViewsOleDbProvider.EViewsProv" to use the latest version of our driver.

> Provider=EViewsOleDbProvider.EViewsProv

PATH
Required for file-based database types (such as EDB or WF1 files), this parameter points to the file being read:

> Path=d:\all.wf1

INITIAL CATALOG
Only used when reading workfiles, this optional parameter specifies which page of the workfile to look at. If not set, the OLEDB driver will read from the first page.

> Initial Catalog=Page1

MAX OBJECTS
This optional parameter specifies an upper limit to the number of object names that should be returned when querying. (Microsoft Excel has problems when displaying more than 4000 objects in its OLEDB popup wizard). The default value is 4000. Set to zero to read the entire list of objects.

> Max Objects=0

MAX ROWS
This optional parameter limits the number of rows (or observations) to return. Defaults to 1 million rows. Set to zero to read all available rows.

> Max Rows=1000000

OBJECT TYPES
This optional parameter limits the type of objects to return. Valid values include: all, series, or vector. This is most useful when using a command that contains a wildcard that could possibly match against both series and vector/matrix objects which would result in an error. Specifying the object type in the command string restricts the OLEDB driver to looking at either only series/alpha objects ("series") or vector/matrix/scalar/string objects ("vector"). If this optional parameter is not specified then "all" is the default value.

> Object Types=series

INCLUDE ID SERIES
This optional parameter specifies whether or not to automatically include the ID series when reading series objects. This value defaults to True but is ignored when reading a non-series object.

> Include ID Series=False

TIMEOUT
This optional parameter limits the number of milliseconds to wait for a response from the database. Defaults to 10000 msecs (10 secs). Set to zero to wait indefinitely. Useful when connecting to external database servers.

    Timeout=10000

TYPE
This optional parameter sets the specific type of database to connect to. Defaults to "Type=Auto". Allowed values include:
    Auto
    E (for EViews Database)
    W (for EViews Workfile)
    Basics (or C)
    DataStream (or N)
    DDS (or Z)
    DRIBase (or B)
    DRIPro (or D)
    EcoWin (or O)
    Economy (or Y)
    FactSet (or S)
    Fame (or F)
    Fred (or X)
    Give (or G)
    Haver (or H)
    Matlab (or M)
    Rats (or R)
    Rats-P (or L)
    TSD (or A)
    TSP (or T)

SERVER
This parameter is required for some database types. Specifies the hostname of the server to connect to.

    Server=myhostname

USERNAME
This parameter is required for some database types. Specifies the username to use to login to remote server.

    Username=myuid

PASSWORD
This parameter is required for some database types. Specifies the password to use to login to remote server.

    Password=mypwd