

Data Manipulator - ActiveX

smar
First in Fieldbus

MAY / 06
Data
Manipulator
ActiveX
VERSION 8



USER'S MANUAL

Data Manipulator ActiveX





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DATA MANIPULATOR ACTIVEX

Introduction

The **Data Manipulator ActiveX** is included in the ProcessView installation, and it can be inserted into any container that has the capability to embed ActiveX objects, including GraphWorX, Visual Basic forms, Microsoft Word, and Microsoft Excel.

The basic purpose of the Data Manipulator ActiveX is to read data from a specified data manipulator and display the data during runtime mode. A **data manipulator**, which is intended for processing data stored in a connected database, manipulates data using a SQL *write* command or by executing a stored procedure. Every data manipulator is connected to particular database connection. Data manipulator objects are designed to manipulate database data and structure using stored procedures or simple SQL commands when the database server or engine does not support stored procedures. In comparison with data sources, a data manipulator should not return any cursor variables (row sets). Data manipulation actions are executed upon user request only (there is no polling mechanism).

The Data Manipulator ActiveX:

- Simplifies the GraphWorX VBA/VBScript interface to data manipulators.
- Eliminates any need for complex (VB) code for determining when a data manipulator has completed a stored procedure call or a SQL command.

NOTES

SQL queries in a data manipulator object should be used only for databases that do not support stored procedures (e.g. Excel, MS Jet). In all other cases, stored procedures/functions should be used to manipulate database data. The reason for this is that stored procedures offer wider functionality, and because they are precompiled on the server, execution is much faster. For information about configuring data manipulator tags, please refer to the Data Mining Configurator Help documentation.

Do's and Don'ts for Data Manipulators

Do not use:

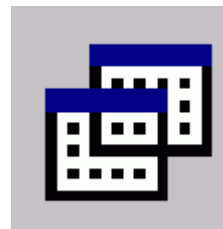
- Stored procedures in data manipulators with Microsoft Access databases.
- Spaces in stored procedures names.
- Data manipulator stored procedures to view data.

Do use:

- Stored procedures in data manipulators with Microsoft SQL and Oracle.
- SQL queries when connecting to Microsoft Excel or Microsoft Jet connections.
- Data manipulator stored procedures to manipulate data only.

Inserting the ActiveX Into a Display

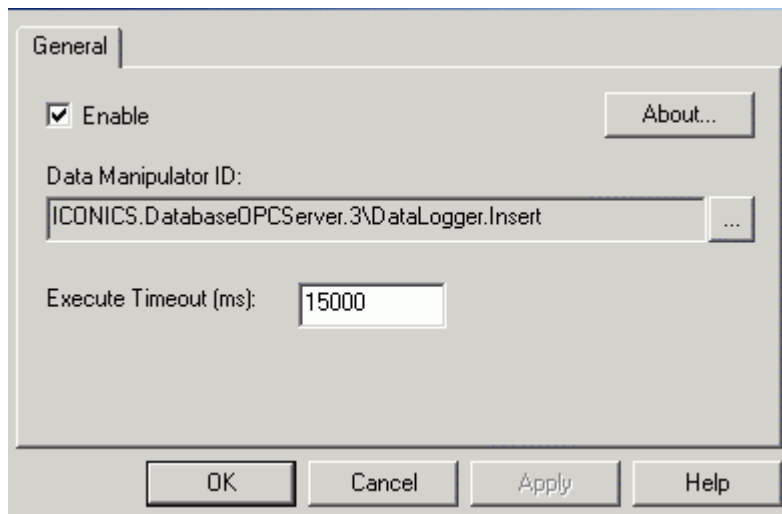
To insert the Data Manipulator ActiveX choose **Insert New Object** from the **Edit** menu in GraphWorX and choose the **SMAR DBOPCManipulator ActiveX** from the **Insert Object** dialog box. The **Data Manipulator ActiveX** will appear as shown below.



Data Manipulator ActiveX

Data Manipulator ActiveX Properties

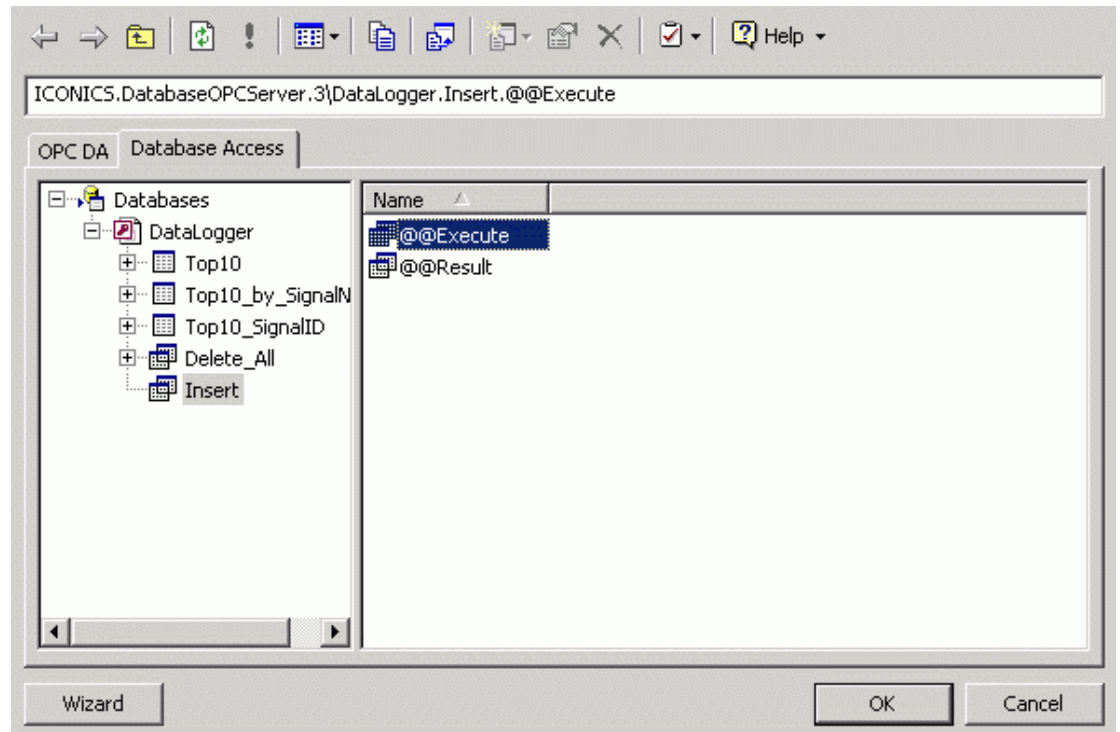
Double-clicking the Data Manipulator ActiveX opens the Data Manipulator ActiveX Properties dialog box, which consists of the General tab. The General tab of the Data Manipulator ActiveX Properties dialog box, shown below, allows you to connect to the desired data manipulator.



Data Manipulator ActiveX Properties: General Tab

Configure the following General tab settings:

- **Enable:** This check box must be checked in order to connect to data manipulators.
- **About:** Clicking the **About** button displays both technical support information and the About Box, which contains registration and serial number information as well as system resource information, such as memory and disk space available.
- **Execute Timeout:** Specifies the amount of time (in milliseconds) that the Data Manipulator ActiveX will wait for data updates from the connected data manipulator.
- **Data Manipulator ID:** To connect to a data manipulator, click the ... button. This opens the Unified Data Browser, which allows you to select a data manipulator tag, as shown in the figure below. Click **OK**. The tag is now displayed in the **Data Manipulator ID** field. For information about configuring data manipulators, please refer to the Data Mining Configurator Help documentation.

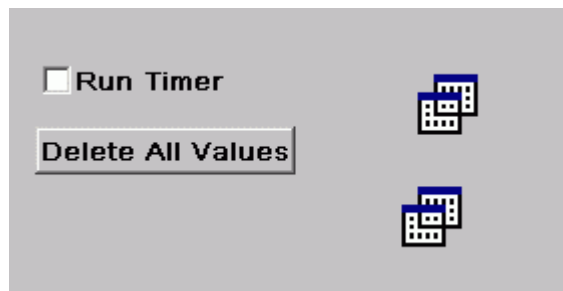


Selecting a Data Manipulator Tag From the Unified Data Browser

Using the Data Manipulator ActiveX in Displays

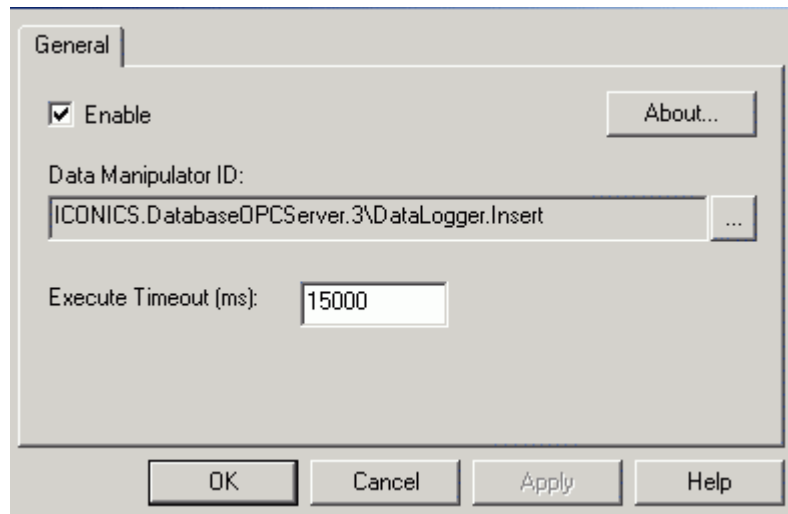
The Data Manipulator ActiveX is a runtime-only control that must be connected to some object in the display (e.g. a check box, button, or a radio button) that triggers the ActiveX.

1. Insert the Data Manipulator ActiveX into the display, as shown in the figure below.
2. Create an object that will be connected to the ActiveX. For example, the GraphWorX display below contains two Data Manipulator ActiveX controls. The first control is connected to the **Run Timer** check box, and the second control is connected to the **Delete All Values** button.



Data Manipulator ActiveX Connected to Display Objects

3. You must connect the Data Manipulator ActiveX to a preconfigured data manipulator tag from the General tab of the Data Manipulator ActiveX properties dialog box, as shown in the figure below. The tag name is displayed in the Data Manipulator ID field. (For information about configuring data manipulators, please refer to the Data Mining Configurator Help documentation.)

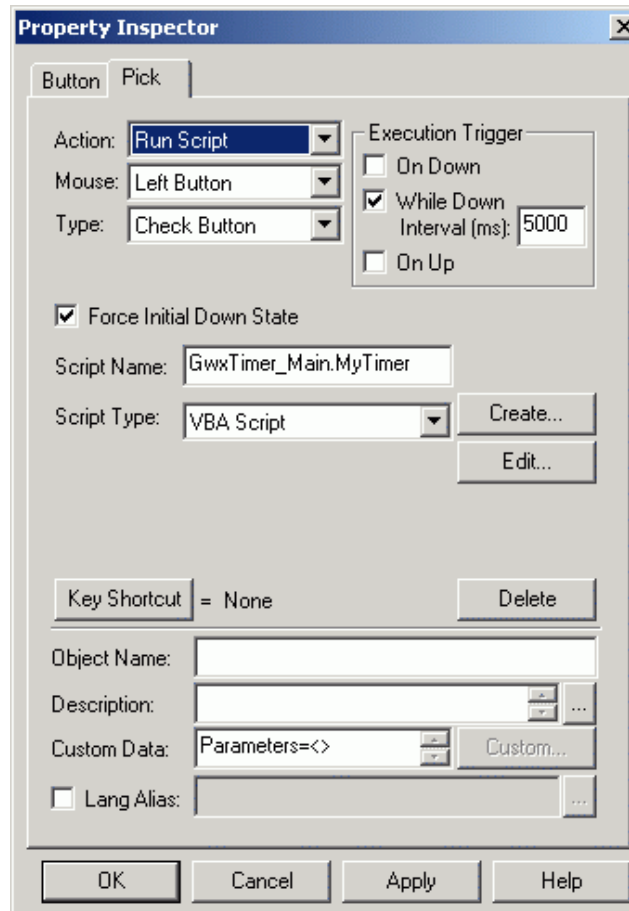


Data Manipulator ActiveX Properties: General Tab

4. Then you must link the Data Manipulator ActiveX to an object through scripting (e.g. a VBA script). For example, the Run Timer check box above contains a pick action that runs a script that triggers the Data Manipulator ActiveX, as shown in the figure below. In this case, the **Run Timer** check box will be used to execute the SQL command periodically.

NOTES

For information about pick actions, please refer to the GraphWorX Help documentation..



Script Used to Trigger Data Manipulator ActiveX

5. When you put the display into runtime mode and check the check box, the Data Manipulator ActiveX executes the SQL command as specified in the connected data manipulator tag. The **Delete All Values** button also triggers the Data Manipulator ActiveX through a script. This particular script deletes all entries in the database table, as shown in the script below:

```
Sub DeleteAll(o As GwxPick)
    Dim Proc As DBOPCManipulatorActiveX
    Dim out As Variant

    Set Proc=ThisDisplay.GetVisibleObjectFromName ("DataLogger_DeleteAll").GetOLEObject()

    out = Proc.Execute(Array(0))

End Sub
```

