

ASNA DataGate Studio Working with Connections

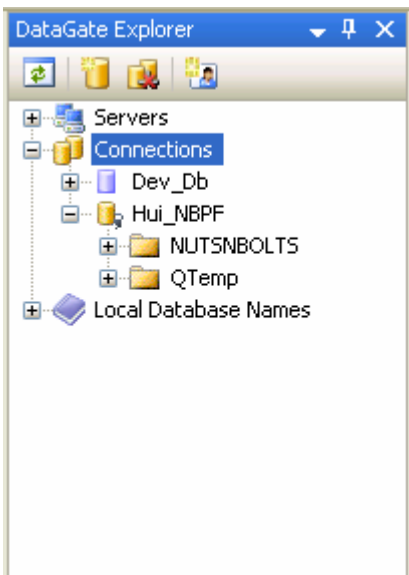
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Working with Database Connections

DataGate is a client/server-based database access platform. DataGate Studio is a DataGate client program that accesses local and network-based DataGate servers, providing a database management tool for administrators and developers. DataGate Studio accesses DataGate servers through database connections.

With DataGate Explorer, you can create, open, close, delete, and modify database connections. You can make database connections based on database names, or you can create connections on-the-fly using custom connection parameters.

DataGate Explorer displays the working set of database connections under the Connections node, as shown below. These connections are persisted between DataGate Studio sessions, so that the connection set in use at the time DataGate Studio was last closed is the same connection set the next time the program is started.



Once a database connection is created, you can open the database to browse its contents. You can perform many management operations using the connection from within DataGate Explorer. DataGate Explorer's toolbar contains buttons which allow you to close all connections, and refresh currently displayed connections.

New database connections can be created easily in DataGate Explorer with these commands.

- **Add New Connection Command.** This command creates either database name-based connections, or non-database name connections.
- **Clipboard Commands.** You can drag and drop, or copy and paste database name nodes from the list under Local Database Names onto the Connections node, to quickly create new connections based on database names.

Additionally, database connections can be changed using the **Modify Connection** command. Non-database name based connections can be renamed. Connections can be simply **deleted** without deleting an underlying database name, allowing you to concentrate on the management or development task at hand.

Connection Status

Connection nodes in DataGate Explorer display the status of the connection with the node's icon. If the connection has not been opened, or has been successfully closed, the icon is shown without an overlay image. If the connection is open, or has encountered an error, a small overlay image displays this status, as shown below.

Open Connection Icon



Closed Connection Icon

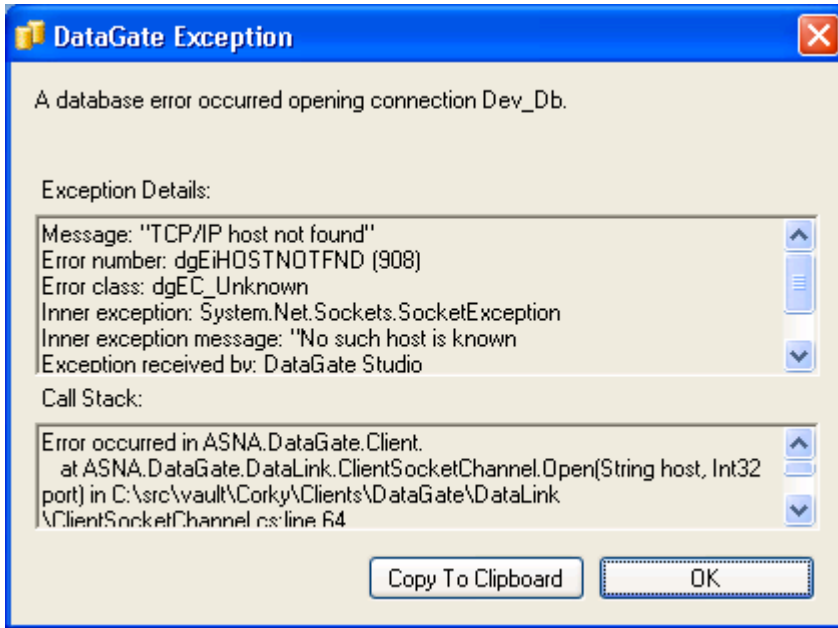


Error Connection Icon

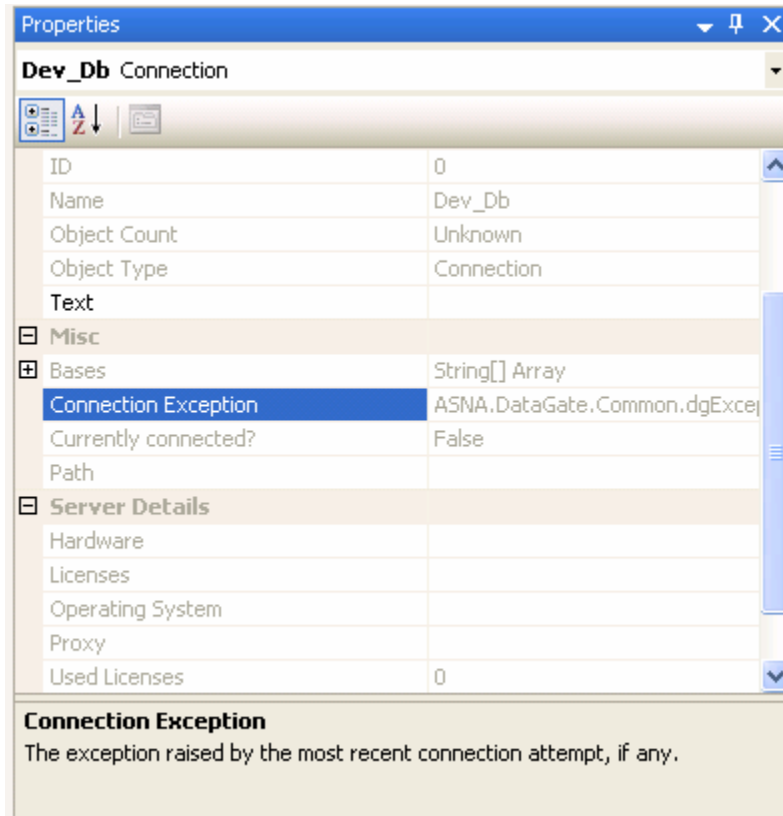


Connection Errors

A connection can encounter an error for several reasons. For example, network outages or incorrect connection parameters can cause a connection attempt to fail. When this occurs, the connection node will appear as the Error Connection Icon shown above. Additionally, DataGate Studio will generally show an exception message box at the point of failure, similar to that shown below.



The exception causing a connection error is also shown in the Properties window when the connection node is selected. You can view the **Connection Exception** property in the Properties window to see exception detail, shown below.



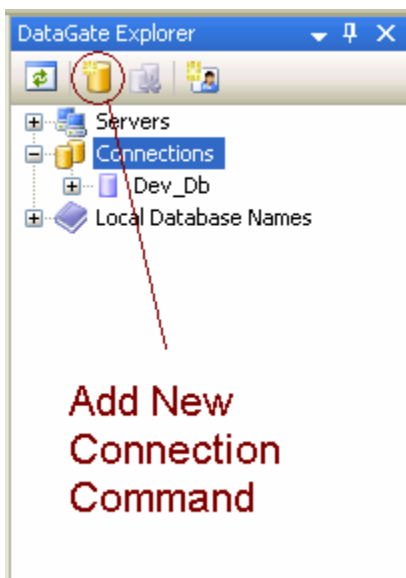
Creating New Database Connections

To perform most database management tasks in DataGate Explorer, you must first create a connection to the database. An open connection allows you to browse objects and their properties, view and edit data, import and export objects, create files and many other management tasks.

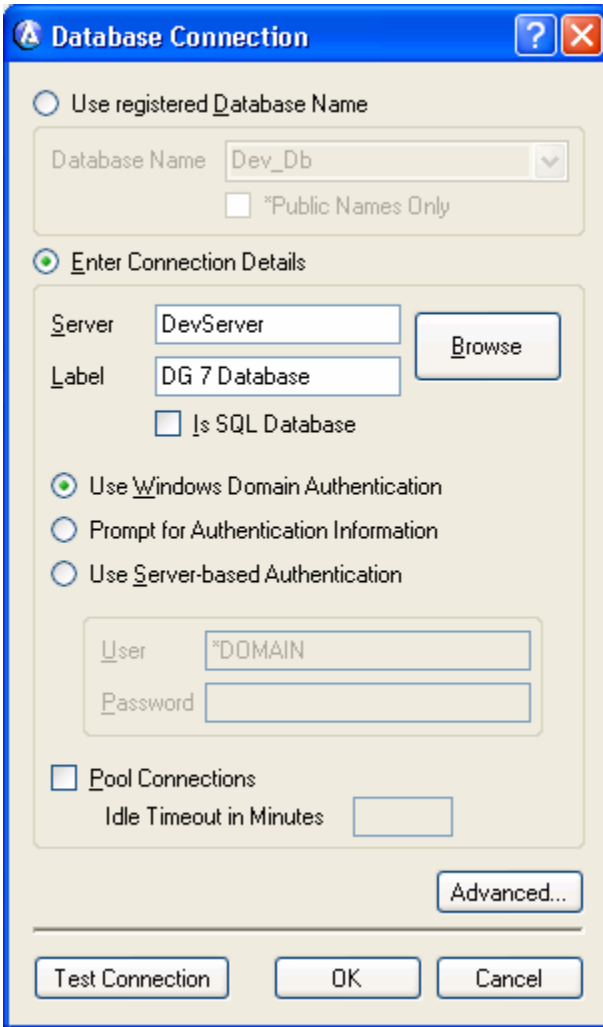
Note that in addition to the procedure detailed below, you can use clipboard commands to create connections based on database names.

To Create a New Database Connection

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.



2. Click the **Add New Connection** button on the toolbar at the top of DataGate Explorer window (or alternately, right-click the Connections node and select Add New Connection on the context menu). The New Database Name dialog is displayed, as shown below.



3. Select one of the two primary radio buttons: **“Use registered Database Name”** or **“Enter Connection Details”**. The edit controls on the form associated with your choice are enabled, and the other controls are disabled.
4. Select the parameters for the connection, as explained below.

Use Registered Database Name

This button allows you to select one of the database names registered on the local computer to use for the new connection. Database names are stored connection parameters associated with a string identifier. You can manage database names in DataGate Explorer in the Local Database Names list. To select a database name, use the following parameters on the dialog.

Database Name:

Select one of the database names listed in this drop down box (click the down arrow on the right, or the keyboard down arrow, to reveal your choices). The database names listed here can be filtered by checking or clearing the **“*Public Names Only”** checkbox.

***Public Names Only:**

Setting or clearing this checkbox updates the list of database names in the Database Name drop down box. When clear, the list displays all database names on the local computer, including the private and public database names. The public database names are prefixed with the “*Public/” string. When set, the list displays only the public database names, and without the “*Public/” prefix.

Enter Connection Details:

To enter connection details manually, rather than using a database name, select this radio button. This can be useful for quickly accessing a new database for an administrative task, rather than creating a database name for software development tasks. The parameters required for the connection are given below.

Server:

Enter the server that contains the actual database in which the database name entered above points to. Select the Browse button to the right to take you to a dialog box allowing you to **Select a Database** server and database label. Otherwise, enter any valid TCP/IP hostname or IP address that refers to the networked database server host.

Label:

Enter the label of the actual database in which the database name points to. Select the Browse button to the right to take you to a dialog box allowing you to Select a Database server and database label.

Is SQL Database:

To access a DataGate for SQL Server database server, set this checkbox. For non-SQL servers, clear the checkbox.

Authentication:

Select one of the three radio buttons to choose the authentication method for connecting to the DataGate server.

Use Windows Domain Authentication. Use the current Windows Domain user credentials to authenticate access to the server. Note that this method only works for Windows-based database servers, and only when both the client and server machines are members of the Windows Domain.

Prompt for Authentication Information. Upon each connection attempt, the DataGate client will raise a user/password dialog for the user to enter credentials for access to the server.

Use Server-based Authentication. In the provided text boxes, enter the user and password which should be used for every connection attempt to authenticate access to the server. Note in this case that DataGate saves encrypted user and password information on the local machine.

User:

Enter the name of a server user authorized to access the database. User name is enabled for editing only if Use Server-based Authentication is selected. Note that DataGate saves encrypted user and password information on the local machine when Use Server-based Authentication is selected.

Password:

Enter the password for the user name given above. Password is enabled for editing only if Use Server-based Authentication is selected. Note that DataGate saves encrypted user and password information on the local machine when Use Server-based Authentication is selected.

Pool Connections:

Select this option to enable database connection pooling. When database connection pooling is enabled, the communication to the server and to the server resources are kept in a special **'pool'**. The next time the application requires database services, one of the available connections in the **'pool'** is assigned to it. Thus, enabling Pool Connections results in faster database connections.

If connection pooling is not enabled, when a database and all its associated files are closed, the connection and server resources are ended (i.e., in the case of DataGate, the DataGate Job ends). When the same application needs the database services again, a new connection and corresponding job has to be established. This overhead wastes resources and slows down the application.

Idle Timeout in Minutes:

The **Idle Timeout in Minutes** field will become enabled when **Pool Connections** option is selected. You must specify an amount of time (in minutes) in which a connection will remain idle in the pool until it is closed and removed from the pool. The default value is 1 minute. Enter a time from 1 – 255 minutes.

You want to select a value that is long enough that permits the application to quickly open again, but not so long that many jobs are remaining idle.

Advanced Button:

Press this button to display the **Connection Properties dialog window (Advanced Connection Properties)**. This dialog allows you direct access to all connection properties.

Test Connection Button:

Press this to create a test connection to the database server after you have entered all connection details or selected the database name. At the end of the test, a message box will display the results.

OK Button:

Select **OK** to Add the new connection.

Cancel Button:

Select **Cancel** to abort the New Database Name dialog without adding the database name.

5. After clicking **OK**, the dialog will close and a new connection node will be added to the Connections node in DataGate Explorer.

Connection nodes are shown in DataGate Explorer using a color-coded icon. A yellow icon represents a non-database name-based connection. A purple icon represents a database name-based connection.

Note that non-database name-based connections are initially displayed with an identifier that represents a concatenation of server name, database label, and user name. You may however, rename the connection node to any other unique identifier, by first selecting the node, then selecting the Rename Object command on the DataGate menu. Database name-based connection nodes use the database name identifier for the connection name, and can only be renamed by **renaming the database name identifier**.

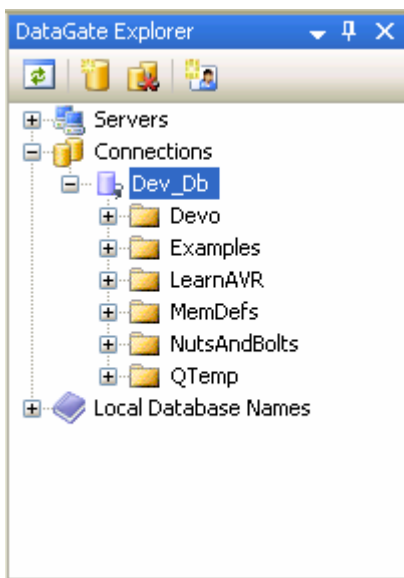
Opening and Closing Connections

Before management tasks can be performed with a DataGate Explorer connection, the connection must be opened. Likewise, when your tasks are accomplished, the connection can be closed to free database resources.

The current open status of a connection is displayed by the connection node's icon.

To Open a Connection

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.
2. Expand the Connections node to reveal the connections available.
3. Find the connection to open, and then click the Expand widget next to the node. DataGate Explorer will open the connection and if successful, display the database libraries, as shown below.

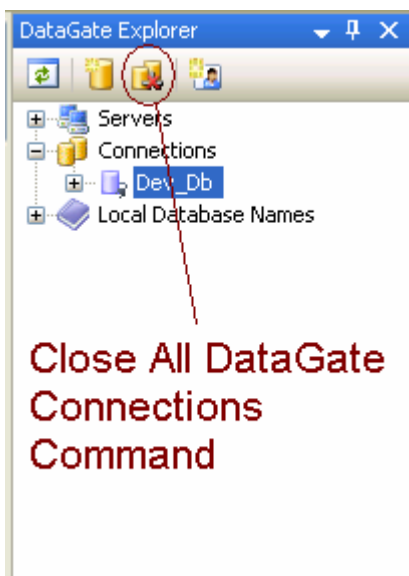


To Close a Connection

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.
2. Select the connection node to be closed, and right-click the node. The context menu for the connection node will display.
3. If the connection is open, the Close Connection command will be enabled on the menu. Select Close Connection to close the connection.

To Close All Connections

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.
2. Press the Close All DataGate Connections button on the DataGate Explorer toolbar, as shown below. Note that if no connections are currently open, this button is disabled.



Modifying Database Connections

To update the connection properties of a connection you use the Modify Connection command on the connection node's context menu. To rename a non-database name-based connection node, use the Rename Object command on the DataGate menu. Database name-based connections cannot be renamed.

Note that modifying an existing connection does not change an open connection's properties or status. To apply property changes to an open connection, you must close, and then reopen the connection.

To Modify an Existing Database Connection

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.
2. Select the connection node to modify under Connections. Right-click the node to display the context menu, and select Modify Connection. The Connection editing dialog will display, as shown below.

The screenshot shows the 'Database Connection' dialog box. It features a title bar with a question mark and a close button. The dialog is divided into two sections. The first section, 'Use registered Database Name', is selected with a radio button. It contains a 'Database Name' dropdown menu set to 'Dev_Db' and a checkbox for '*Public Names Only'. The second section, 'Enter Connection Details', is unselected. It includes a 'Server' text box with 'DevServer', a 'Label' text box with 'DG 7 Database', and a 'Browse' button. Below these is a checkbox for 'Is SQL Database'. There are three radio buttons for authentication: 'Use Windows Domain Authentication' (selected), 'Prompt for Authentication Information', and 'Use Server-based Authentication'. Underneath are 'User' and 'Password' text boxes, with 'User' containing '*DOMAIN'. At the bottom, there is a checkbox for 'Pool Connections' and an 'Idle Timeout in Minutes' text box. A button labeled 'Advanced...' is located to the right of the 'Pool Connections' section. At the very bottom of the dialog are three buttons: 'Test Connection', 'OK', and 'Cancel'.

3. Select one of the two primary radio buttons: "Use registered Database Name" or "Enter Connection Details". The edit controls on the form associated with your choice are enabled, and the other controls are disabled.
4. Select the parameters for the connection, as explained below.

Use Registered Database Name:

This button allows you to select one of the database names registered on the local computer to use for the new connection. Database names are stored connection parameters associated with a string identifier. You can manage database names in DataGate Explorer in the Local Database Names list. To select a database name, use the following parameters on the dialog.

Database Name:

Select one of the database names listed in this drop down box (click the down arrow on the right, or the keyboard down arrow, to reveal your choices). The database names listed here can be filtered by checking or clearing the "*Public Names Only" checkbox.

***Public Names Only:**

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Enter Connection Details:

To enter connection details manually, rather than using a database name, select this radio button. This can be useful for quickly accessing a new database for an administrative task, rather than creating a database name for software development tasks. The parameters required for the connection are given below.

Server:

Enter the server that contains the actual database in which the database name entered above points to. Select the Browse button to the right to take you to a dialog box allowing you to **Select a Database** server and database label. Otherwise, enter any valid TCP/IP hostname or IP address that refers to the networked database server host.

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- **Use Windows Domain Authentication.** Use the current Windows Domain user credentials to authenticate access to the server. Note that this method only works for Windows-based database servers, and only when both the client and server machines are members of the Windows Domain.
- **Prompt for Authentication Information.** Upon each connection attempt, the DataGate client will raise a user/password dialog for the user to enter credentials for access to the server.
- **Use Server-based Authentication.** In the provided text boxes, enter the user and password which should be used for every connection attempt to authenticate access to the server. Note in this case that DataGate saves encrypted user and password information on the local machine.

User:

Enter the name of a server user authorized to access the database. User name is enabled for editing only if Use Server-based Authentication is selected. Note that DataGate saves encrypted user and password information on the local machine when Use Server-based Authentication is selected.

Password:

Enter the password for the user name given above. Password is enabled for editing only if Use Server-based Authentication is selected. Note that DataGate saves encrypted user and password information on the local machine when Use Server-based Authentication is selected.

Pool Connections:

Select this option to enable database connection pooling. When database connection pooling is enabled, the communication to the server and to the server resources are kept in a special 'pool'. The next time the application requires database services, one of the available connections in the 'pool' is assigned to it. Thus, enabling Pool Connections results in faster database connections.

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You want to select a value that is long enough that permits the application to quickly open again, but not so long that many jobs are remaining idle.

Advanced Button:

Press this button to display the **Connection Properties dialog window (Advanced Connection Properties)**. This dialog allows you direct access to all connection properties.

Test Connection Button:

Press this to create a test connection to the database server after you have entered all connection details or selected the database name. At the end of the test, a message box will display the results.

OK Button:

Select **OK** to modify the connection.

Cancel Button:

Select **Cancel** to abort the dialog without modifying the connection.

5. After clicking OK, the dialog will close and the connection will be modified. You may click Cancel to discard your changes and close the dialog.

Connection nodes are shown in DataGate Explorer using a color-coded icon. A yellow icon represents a non-database name-based connection. A purple icon represents a database name-based connection.

Note that non-database name-based connections are initially displayed with an identifier that represents a concatenation of server name, database label, and user name. You may rename the connection node to any other unique identifier, by first selecting the node, then selecting the Rename Object command on the DataGate menu. Database name-based connection nodes use the database name identifier for the connection name, and can only be renamed by **renaming the database name identifier**.

Removing Database Connections

A database connection may be removed from the Connections collection when it is no longer needed. Note that removing a connection based on a database name does not remove the database name. To remove a database name, you must delete it from the Local Database Names collection.

To Delete a Database Connection

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.
2. Select the connection node to delete under the Connections node in DataGate Explorer.
3. Select the Delete command on the Edit menu. Alternatively, press the Del key or right-click the connection node and select the Delete command.
4. A message box appears, prompting you to confirm the delete operation.

Database Connection Clipboard Functions

As an option for quickly creating a database connection from a database name, you can use mouse drag-and-drop and Windows clipboard commands in DataGate Explorer.

To Create a Database Connection with Drag and Drop

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.
2. Expand the **Local Database Names** node to display the current database names. Select the database name to be used to create the connection.
3. Click and drag the database name node, and drop on the Connections node. The new connection node is created.

To Create a Database Connection with Copy and Paste Commands

1. Select **DataGate Explorer** from the DataGate menu. The DataGate Explorer tool window will display.
2. Expand the Local Database Names node to display the current database names. Select the database name to be used to create the connection.
3. Select the **Copy** command on the Edit menu. Alternatively, right-click the node and select the Copy command on the context menu, or press Ctrl-C on the keyboard.
4. Select the **Connections** node.
5. Select the **Paste** command on the Edit menu. Alternatively, press Ctrl-V on the keyboard. The new connection node is created.