

# **DataLogger Server Plug-in Help**

© 2011 Kepware Technologies

# Table of Contents

Table of Contents .....	2
DataLogger Server Plug-in Help .....	4
Overview .....	4
Initial Setup Considerations .....	6
System Requirements .....	6
SQL Authentication .....	6
Windows Authentication .....	13
CSV Import/Export .....	14
Narrow vs. Wide Table Format .....	15
Setting Up a DataLogger Configuration .....	17
DataLogger Dialogs .....	26
Setting Up a DSN .....	26
Add Server Item/Modify Server Item .....	27
Map Item Fields .....	28
Modify Column Definition .....	30
Add/Modify Trigger - General Properties .....	30
Trigger - Start/Stop Event Expression .....	32
Trigger - Absolute .....	34
Trigger - Summary .....	35
System Tags .....	37
Error Descriptions .....	38
Event log is full .....	38
Failed to add item '<item>' on log group '<log group>' .....	38
Failed to create table for unknown reason .....	39
Failed to create the data table for log group '<log group>'. (Reason '<reason>') .....	39
Failed to create table name '<table>' for log group '<log group>' on DSN '<DSN>' (Reason '<reason>') .....	39
Failed to create the data table for log group '<log group>'. (Memory Exception) .....	39
Failed to save DataLogger configuration .....	40
Invalid XML document '<reason>' .....	40
Log group '<log group>' contains no server items! .....	40
Log group '<log group>' exceeds the item count of '<count>' for the MySQL DSN using the 'Wide' table format .....	40
Log group '<log group>' failed to validate table '<table name>'. Reason: '<reason>' .....	40
Log group '<log group>' has requested creation of at least one TIMESTAMP column for table '<table>' .....	41
Required schema file '<file>' not found .....	41
The DataLogger runtime failed to initialize. Reason: '<reason>' .....	41
The data map for log group '<log group>' is empty. Did you choose 'use existing table' without linking the columns in the configurator? .....	41

The query failed because the data source is not appendable. Please double check the user permissions.....	42
Unable to back up project file to '<filename>'. The save operation has been aborted.....	42
Unable to connect to data source '<source>'.....	42
Unable to connect to data source '<source>' (Memory Exception).....	42
Unable to connect to data source '<source>' (Reason: '<reason>').....	43
Unable to load configuration. Reason: '<reason>'.....	43
Unable to open recordset on log group '<log group>'. (Memory Exception).....	43
Unable to open recordset on log group '<log group>'. (Reason: '<reason>').....	43
Unable to query recordset on Log Group '<log group>' (Memory Exception).....	44
Unable to query recordset on Log Group '<log group>'. (Reason: '<reason>').....	44
Unable to validate table '<table>' (Memory Exception).....	44
Unable to validate table '<table>' (Reason: '<reason>').....	44
Unknown error while executing query in table '<table>' for log group '<log group>'.....	44
Index.....	46

## DataLogger Server Plug-in Help

---

Help version 1.056



### CONTENTS

[Overview](#)

[Initial Setup Considerations](#)

[Setting Up a DataLogger Configuration](#)

[DataLogger Dialogs](#)

[System Tags](#)

[Error Descriptions](#)

All company and product names mentioned herein are the trademarks or registered trademarks of their respective owners.

### Overview

---

DataLogger is an application that logs data from an OPC server to any ODBC-compliant database. DataLogger's tight integration with the OPC server provides substantial, unique benefits such as simple installation, high-efficiency performance and easy browsing of tags in the OPC browse space.

### Feature Highlights

- Support for any ODBC-compliant database management system.
- User-friendly installation and configuration. If a Database Source (DSN) is defined prior to launching DataLogger, users can have an active logging configuration in fewer than ten mouse clicks.
- Drag and drop support for adding OPC data items.
- Support for dynamically created tags.
- Flexible triggering. Data logging can be enabled at absolute times or when an expression is true (such as, when Tag X's quality=bad). When enabled, logging can be triggered based on data change and/or static/time interval and/or transition from a start condition to a stop condition.
- An OPC server Simulator driver is included.
- Two-hour demo for evaluation.

### Runtime Performance Features

- Runs as a System Service.
- Scalability through support of multiple concurrent logging processes (threads).
- Supports both automatic table creation and the ability to append data to an existing table.
- Data is logged directly from the local item list, no reliance on external OPC servers.
- Error recovery: Auto reconnect if a DSN connection is lost.
- Optional automatic configuration backup (most recent copy of configuration file is saved).

- `_System Tags` allow for optional runtime control from OPC client applications; Enable/Disable logging as well as monitor logging status.

## Initial Setup Considerations

---

The following topics should be reviewed before the first DataLogger Configuration is created.

### [System Requirements](#)

### [SQL Authentication](#)

### [Windows Authentication](#)

### [CSV Import/Export](#)

### [Narrow vs Wide Table Format](#)

## System Requirements

---

### Software Requirements

The following Microsoft Windows operating systems are supported:

- Windows Server 2008\*
- Windows Vista Business/Ultimate\*
- Windows Server 2003 SP2\*
- Windows XP SP2\*
- Windows 2000 SP4

\*When installed on a 64 bit operating system, the application will run in a subsystem of Windows called WOW64 (Windows-on-Windows 64 bit). WOW64 is included on all 64 bit versions of Windows and is designed to make differences between the operating systems transparent to the user.

### DBMS & ODBC Drivers

DataLogger supports the following ODBC drivers. The ODBC driver for the Database Management System being used must be installed on the PC that is running the OPC server.

- SQL Native Client (necessary for SQL Server 2005).
- SQL Server ODBC Driver (compatible with pre-SQL Server 2005).
- MyODBC driver 3.51 (for MySQL).
- Microsoft Access 4.0 ODBC Driver.
- Linked Excel table support provided through the Microsoft Access 4.0 ODBC Driver.

**Note 1:** Although DataLogger supplies TimeStamp values with a resolution to 1 thousandth of a second, certain databases are not capable of displaying a Date Format to the resolution of below 1 second.

**Note 2:** Some databases do not support millisecond resolution. For more information on a specific database, refer to the product's vendor.

### Hardware Requirements

The following hardware is required at a minimum:

- 2.0 GHz Processor
- 1 GB installed RAM
- 180 MB available disk space
- Ethernet Card

## SQL Authentication

---

Click on the links below in order to jump to that section in the SQL Authentication setup.

### [Setting Up SQL Authentication](#)

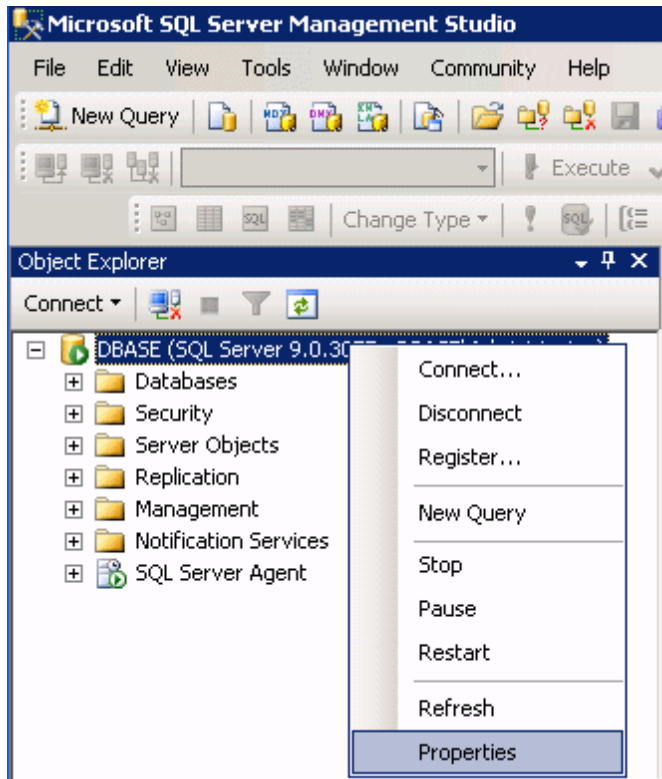
### [Running as a System Service](#)

### [Connecting Remotely as a System Service](#)

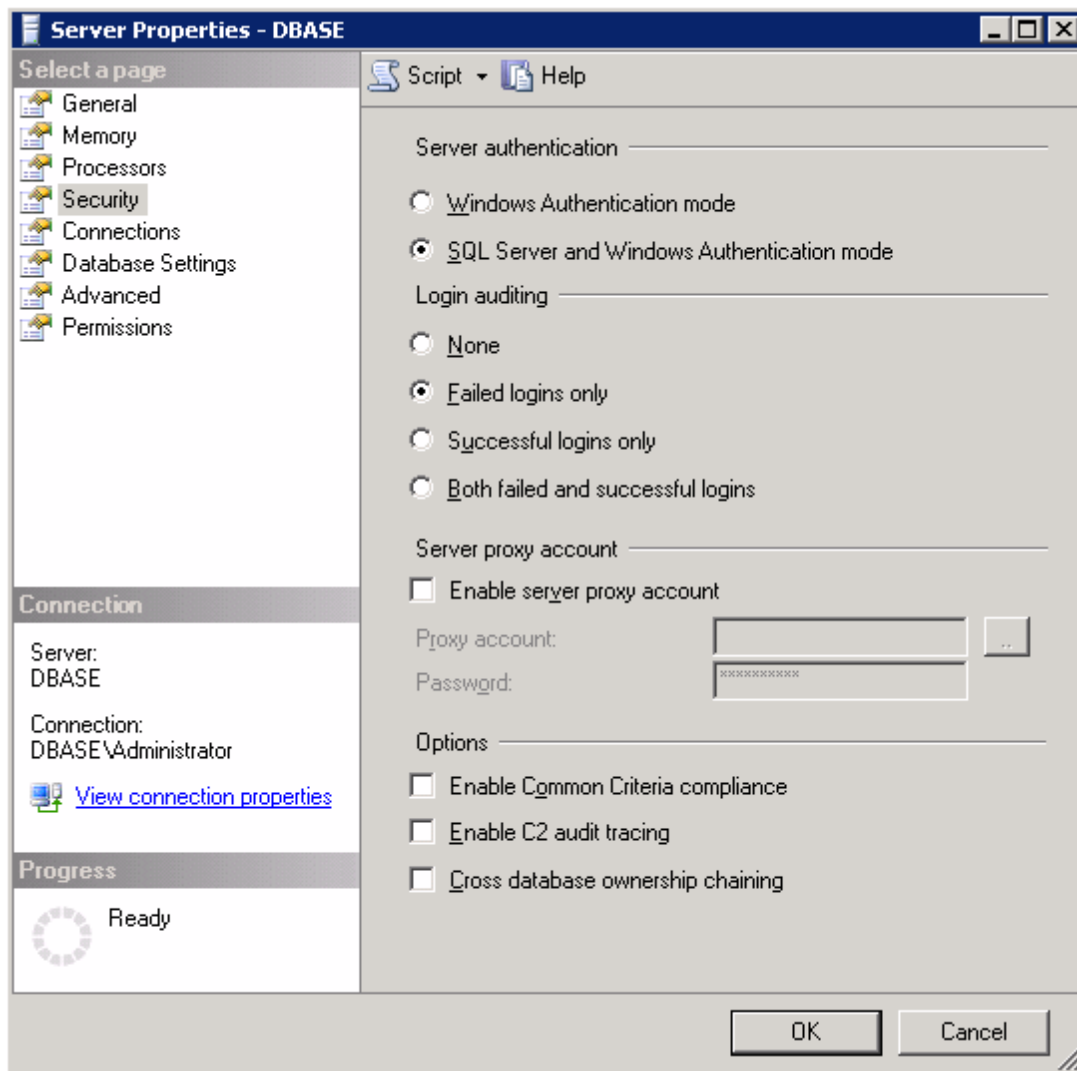
### Setting up SQL Authentication

The following instructions contain information on setting up an SQL authentication. This process usually only has to be done when the application is running as a System Service and is attempting to connect remotely to SQL server.

1. In the SQL manager, right-click on the SQL server icon and then open the SQL Server properties.

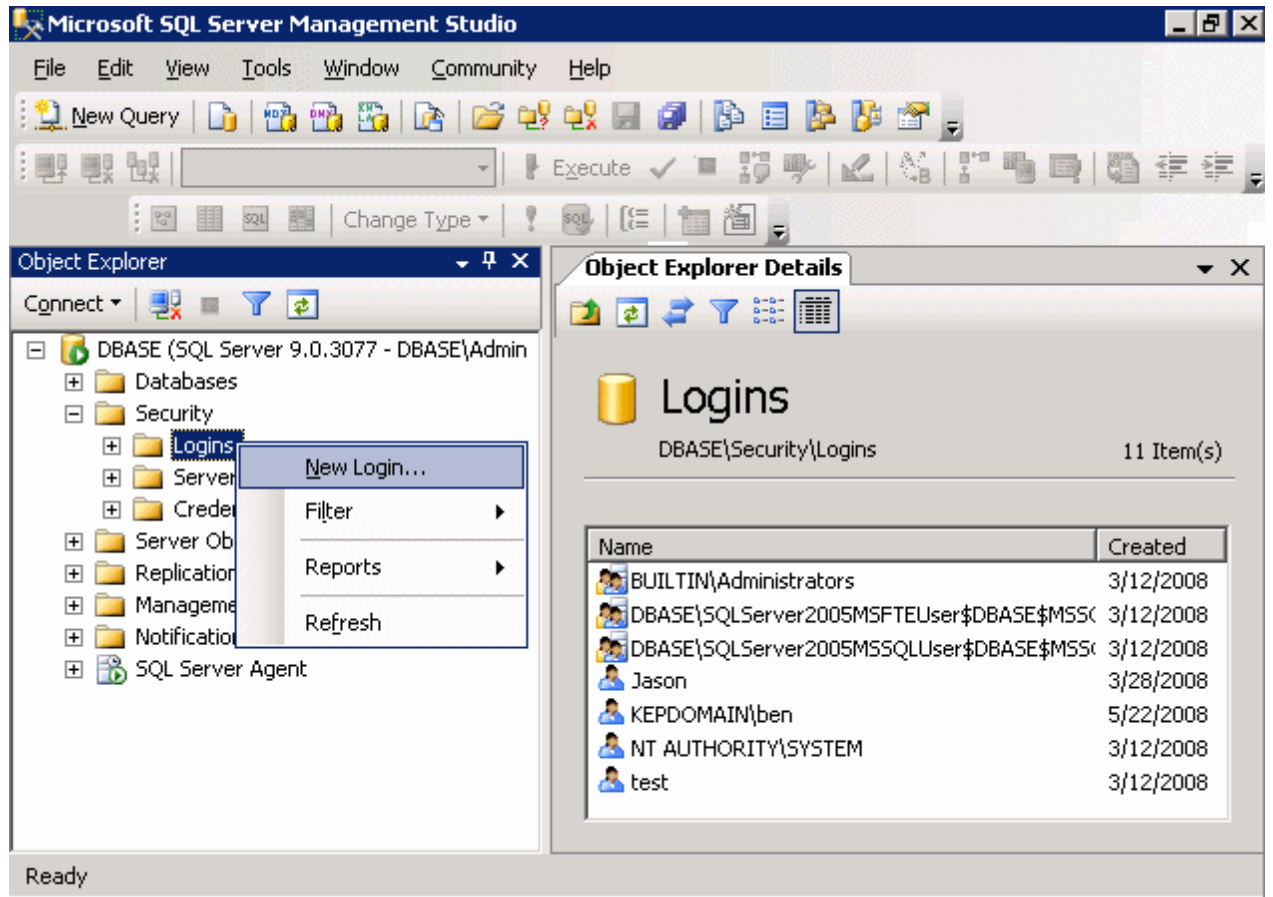


2. Select the **Security** page and choose the mixed authentication mode (**SQL Server and Windows Authentication mode** radio button).

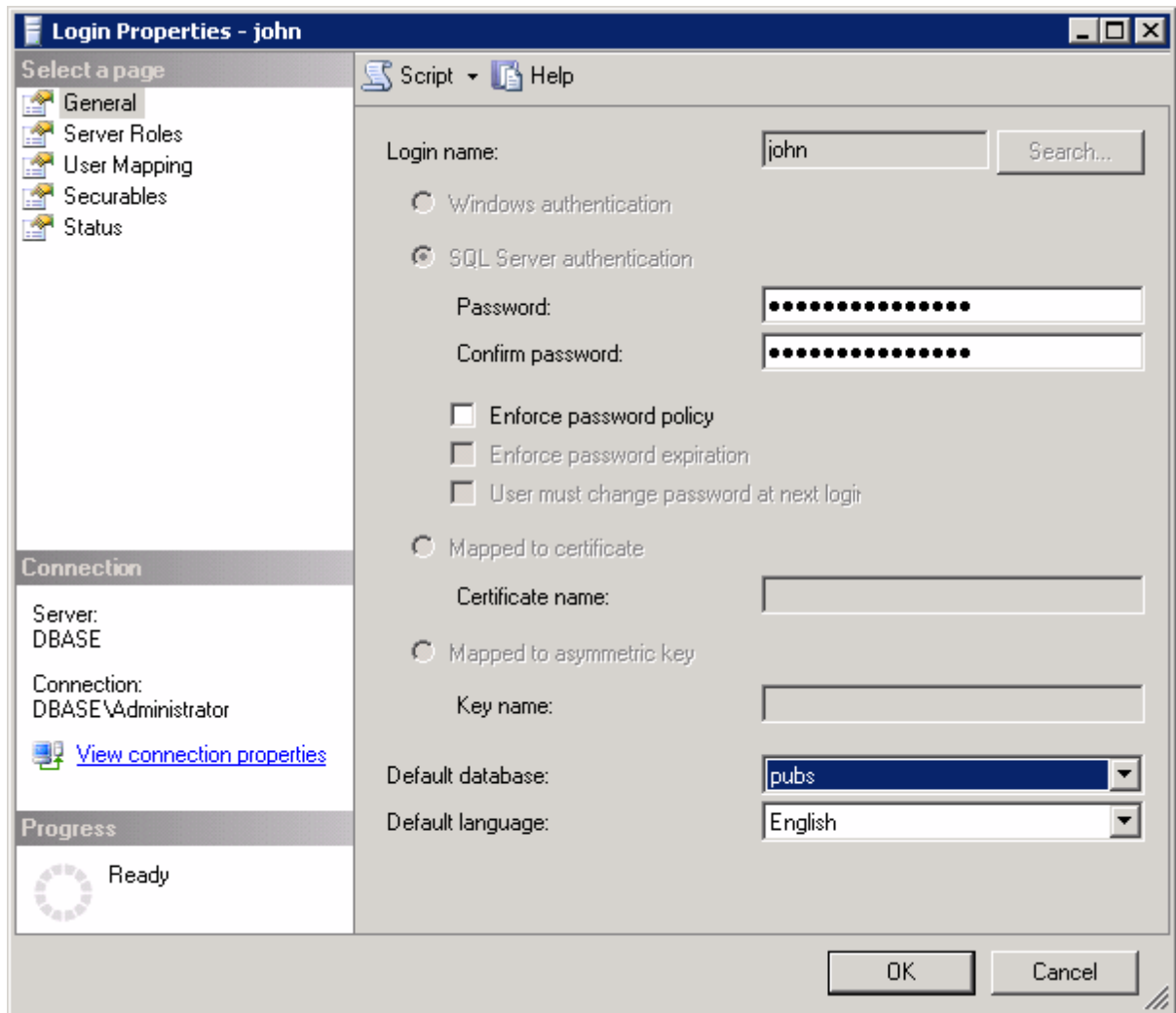


3. Proceed to the tree menu and right-click on the security folder. Click **Logins | New user**.
4. Create and define a user's privileges.

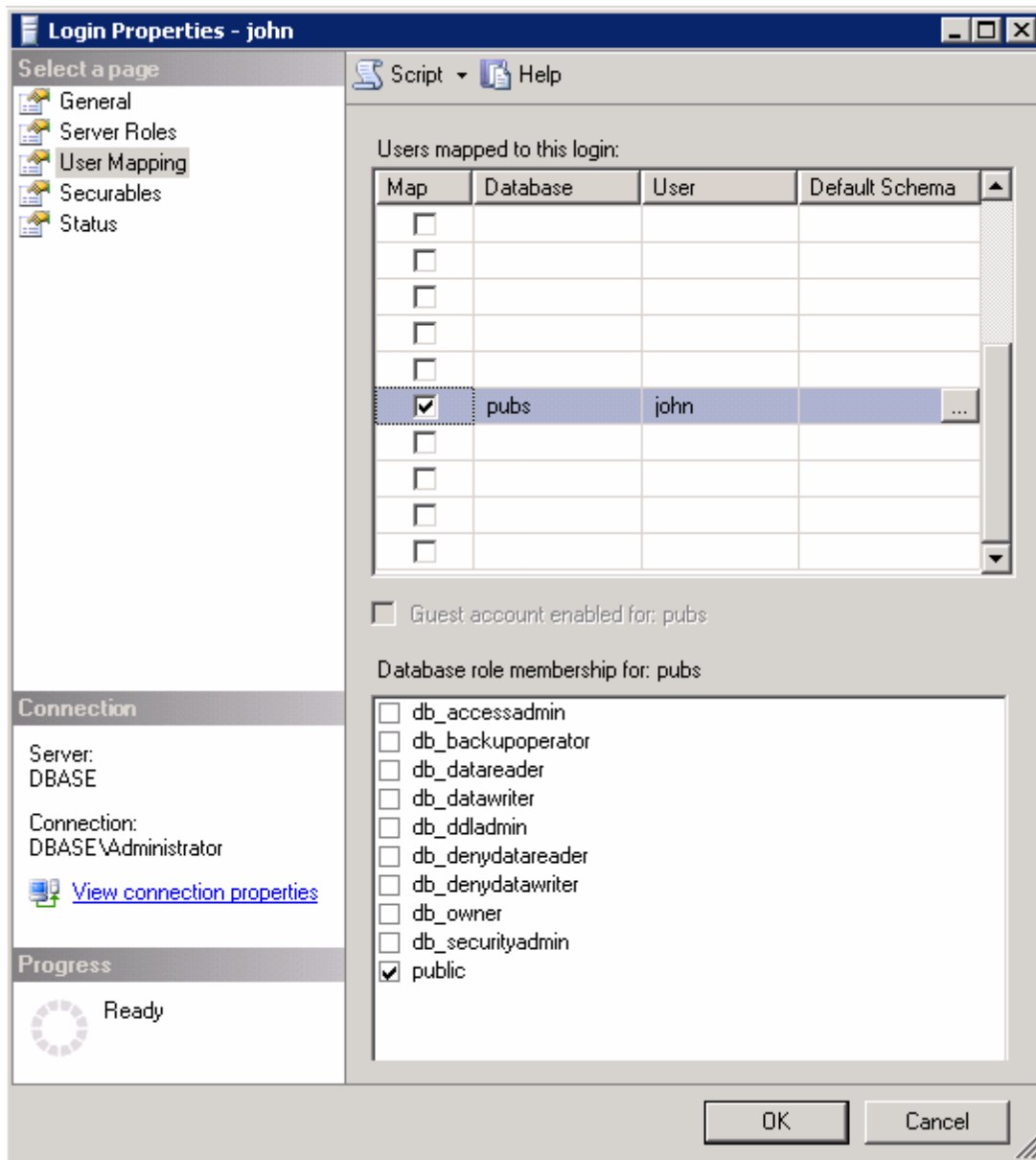




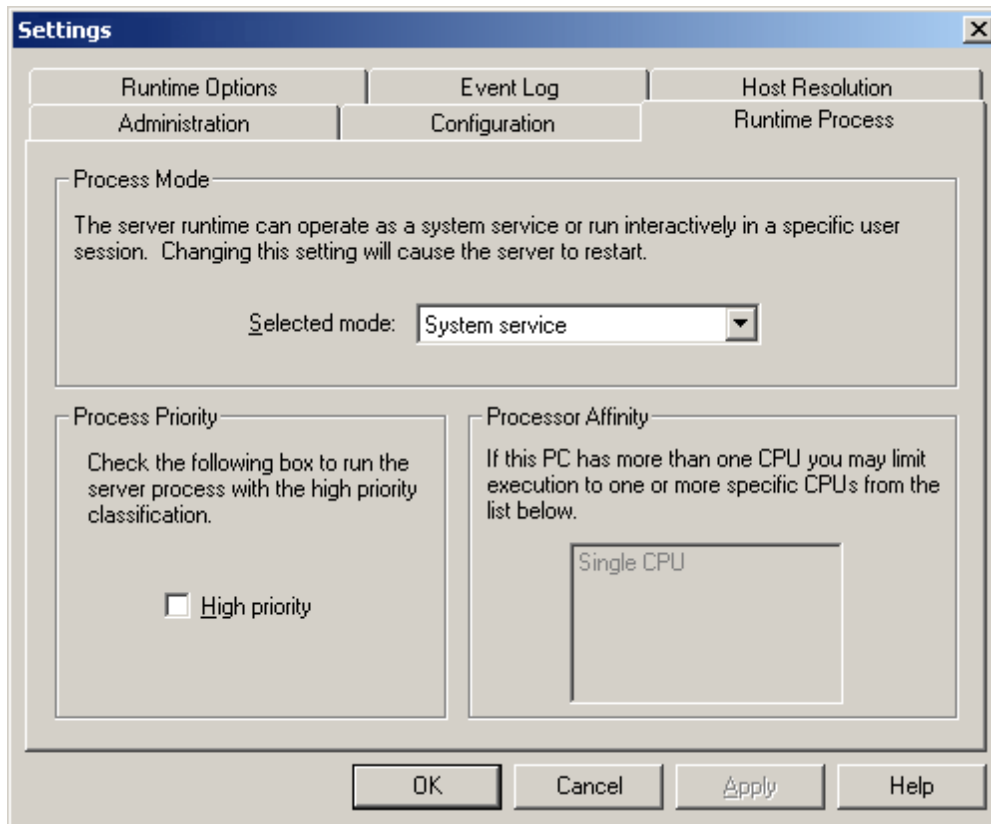
5. Under the **General** page, a user name and password must be defined.



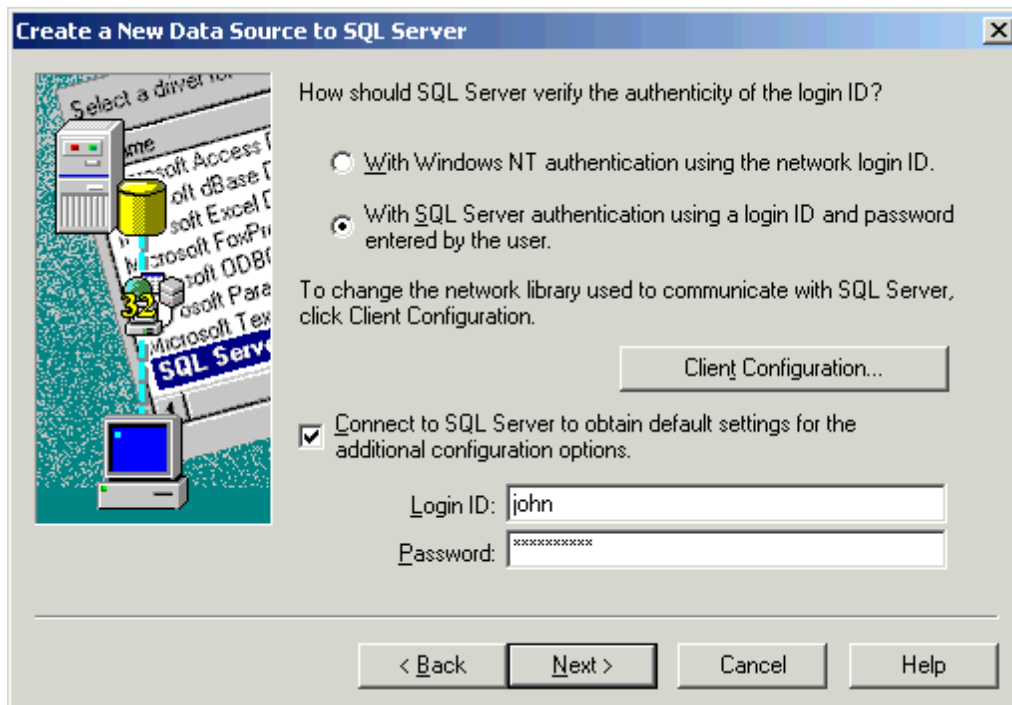
- Next, click on the **User Mapping** tab and select the database to which the user will connect. Then select a role for the database that has been selected. In this example, **Public** is used.



- Next, right-click on the **Administration** menu located in the System Tray. Then, select **Settings...** and click **Runtime Process**.
- In **Selected Mode**, select **System Service**.
- Click **OK**.



10. When the DSN is configured, users will go through a series of DSN setup dialogs. In **Create a New Data Source to SQL Server**, check **With SQL Server authentication using...** and **Connect to SQL Server to obtain...** and then enter the user's Login ID and password (that have been defined in the SQL Server).



### Running as a System Service

Normally, an OPC server that only supports stand alone program operation is forced to shut down when its host machine experiences a user login or logout. This server, however, can continue to supply OPC data across user login sessions by running as a System Service. The ability to run as a System Service is crucial for many applications where the server must provide data to OPC clients via DCOM. For these applications, the loss of a DCOM connection cannot be tolerated.

**Note:** For more information on running as a System Service, refer to the server's help documentation.

### Connecting Remotely as a System Service

This ODBC communications application supports running as a service under supported Microsoft Windows operating systems. For operating system (OS) requirements, refer to the server's help documentation.

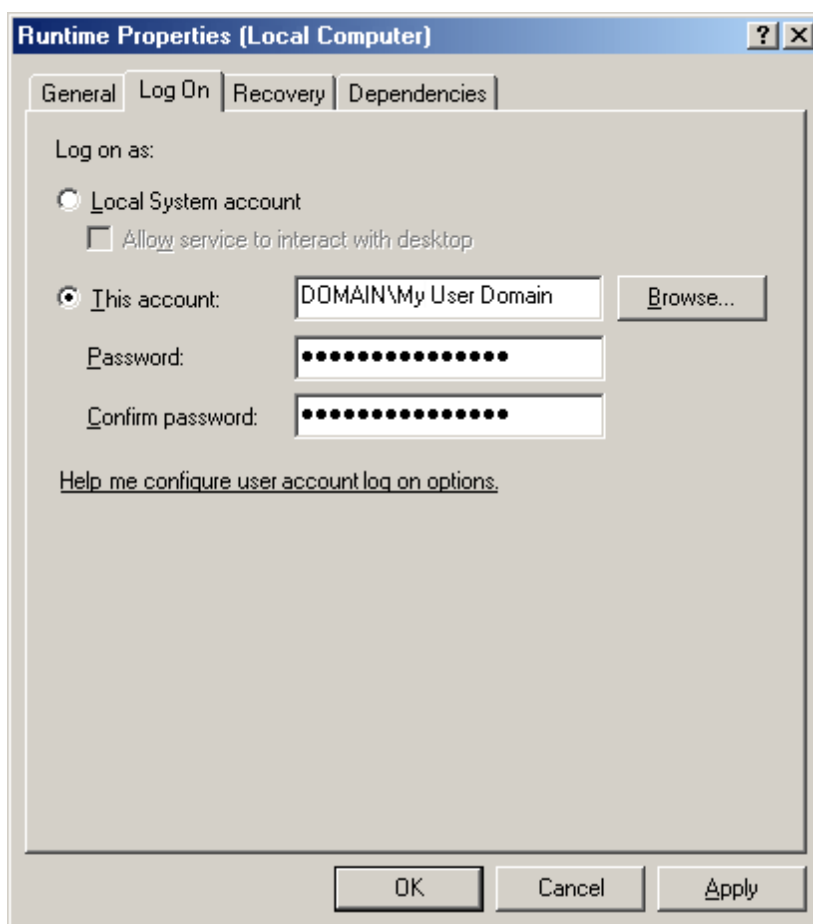
### Windows Authentication

Windows Authentication allows the application to authenticate with the SQL server using Windows credentials. It requires that both the application and the SQL server be located on the same domain.

When the application is running in Interactive Mode, the Windows credentials of the user that launched the application will be used during authentication. In most cases, this is the current logged-in user. As long as the user is part of the domain, and the SQL server is configured for Windows Authentication, it will pass authentication.

When the application is running in System Service Mode, the NT AUTHORITY\SYSTEM account will be used during authentication. This is a local account that fails Windows authentication. Users that require Windows Authentication in System Service Mode should refer to the instructions below.

1. To start, open the **Windows Service Configuration Manager**. Then, locate the Runtime service.
2. Right-click on the service and then select **Properties**.
3. Click **Log On**.



4. Next, select **This account**. Enter the domain name and password used for Windows Authentication.
5. Restart the service.

**Note:** The procedure described above may restrict the application's permissions if the domain account does not have administrative privileges on the system. If the account cannot be given administrative privileges, SQL Authentication should be used instead.

## CSV Import/Export

The Data Logger Plug-In supports the import and export of server items in a Comma Separated Variable (CSV) file. Parameters that are not defined in the CSV file will be assigned appropriate default values. To jump to a specific section, select a link from the list below.

### [Exporting a Data Logger Server Item List](#)

### [Importing a CSV file into the Server](#)

### [Using Other Characters as the Delimiter](#)

**Note:** For information on specifying which character to use as the variable (comma or semicolon), refer to "Options - General" in the server help file.

## Creating a Template

The easiest way to create an import CSV file is to create a template. For more information, refer to the instructions below.

1. To start, browse to a Log Group's **Data Map** tab. Then, add a server item to the **Server Item List**.
2. Next, click **Export CSV...** and save the CSV file.
3. Use this template in a spreadsheet application that supports CSV files, and then modify the file as desired.

**Note:** Users can save the CSV file to disk, and then re-import it into the same log group or a different log group.

**Note:** Microsoft Excel is an excellent tool for editing large groups of tags outside the server. Once a template CSV file has been exported, it can be loaded directly into Excel for editing.

## Exporting a Data Logger Server Item List

Exporting a server item list will generate a .CSV text file that contains a list of server items and their associated parameters. Column names must be exactly the same as those listed; however, columns may be in any order. Required columns are listed in bold print.

Column Names	Values
<b>Item ID</b>	The fully-qualified name of the server item. The maximum length of the field is 256 characters.
Numeric ID	A numeric alias or identifier for the server item. The valid range is 0 to 2147483647. The default setting is 0.
Data Type	The server item's data type. The default setting is Default.
Deadband Type	The type of deadband used to filter updates from the server item. Options include None, Absolute, and Percent.
Deadband	The deadband value. The value must be a positive, real number.
Range Low	The lower range of a percent deadband. The value may be any real number, but must be less than the high range value.
Range High	The higher range of a percent deadband. The value may be any real number, but must be greater than the low range value.

**See Also:** [Add Server Item/Modify Server Item](#)

## Importing a CSV File into the Server

Once the file has been edited, it can be re-imported into the server by clicking **File | Import CSV**.

**Note:** This option is only available when the Data Map tab is selected.

## Using Other Characters as the Delimiter

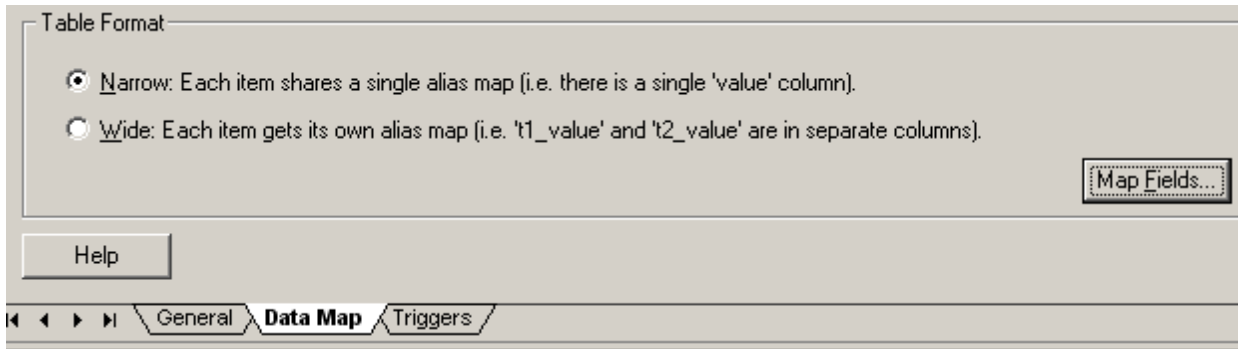
When utilizing a CSV file that does not use a comma or semi-colon delimiter, do one of the following:

1. Save the project in XML. Then, perform mass configuration on the XML file instead of using CSV.
2. Perform a search-and-replace on the delimiter in the CSV file and then replace the delimiter with a comma or semicolon. The delimiter being used by the server (either comma or semi-colon) must be set to the replacement character.

**Note:** For more information, refer to "Options - General" in the server help file.

**Narrow vs. Wide Table Format**

DataLogger can map fields in either the **Narrow Format** or **Wide Format**. Users must specify which format will be used for each database table that is logged into. The setting is reached through the [Data Map Tab](#).



**Narrow and Wide Format Examples**

The following example shows the narrow and wide formats, with three server items that need to be logged.

- Ch\_1.Dev\_1.Temp
- Ch\_1.Dev\_1.Pos
- Ch\_1.Dev\_1.Speed

**Narrow Format Examples**

The two tables below show the three server items being logged using the Narrow Format. All three server items have been logged into five columns. The table below shows the narrow format with a static time interval (meaning every x seconds or minutes).\*

**Narrow Format with Data Logged on Static Interval**

Name	Numeric ID	Value	Quality	Time
Ch_1.Dev_1.Temp	1000000	38	192	2007 02 16 13:44:26.832
Ch_1.Dev_1.Pos	1000001	22	192	2007 02 16 13:44:26.832
Ch_1.Dev_1.Speed	1000002	103	192	2007 02 16 13:44:26.832

In the table below, the same three server items are being logged using the narrow format; however, data is logged on data change. In this example, Ch\_1.Dev\_1.Temp has changed value, so it is the only row that is logged.

**Narrow Format with Data Logged on Data Change\***

Name	Numeric ID	Value	Quality	Time
Ch_1.Dev_1.Temp	1000000	38	192	2007 02 16 13:38:02.142

\*There was a temperature change (item 1). The other two items did not change.

**Wide Format Example**

The next example demonstrates Wide Format. When wide format is selected, four columns are logged for each server item. The four columns are: \_VALUE, \_NUMERICID, \_TIMESTAMP and \_QUALITY.

In this example, there are three server items: Ch\_1.Dev\_1.Temp, Ch\_1.Dev\_1.Pos, and Ch\_1.Dev\_1.Speed. In wide format, this would result in up to twelve columns. Columns can be unmapped in the [Map Item Fields](#) dialog so that only necessary columns are logged. In the examples below, the \_NUMERICID column has been unmapped for each server item.

Ch\_1.Dev\_1.Temp\_VALUE  
 Ch\_1.Dev\_1.Temp\_TIMESTAMP  
 Ch\_1.Dev\_1.Temp\_QUALITY  
 Ch\_1.Dev\_1.Pos\_VALUE  
 Ch\_1.Dev\_1.Pos\_TIMESTAMP  
 Ch\_1.Dev\_1.Pos\_QUALITY  
 Ch\_1.Dev\_1.Speed\_VALUE  
 Ch\_1.Dev\_1.Speed\_TIMESTAMP  
 Ch\_1.Dev\_1.Speed\_QUALITY

#### Wide Format

Ch_1.Dev_1.Temp_VALUE	Ch_1.Dev_1.Temp_TIMESTAMP	Ch.1.Dev_1.Temp_QUALITY	Ch_1.Dev_1.Pos
38	2007 02 16 13:44:26.832	192	22

**Note:** Only a portion is shown due to the width of the sample table. With the wide format, all fields are logged each time data is logged. In this example, nine columns would be logged every time DataLogger inserted data into the database table. If data was being logged on a static interval, nine columns would be logged every x milliseconds. If data was being logged on data change, nine columns would be logged every time any of the fields had a data change.

**Note:** For more information on the options available to log data on static intervals, data change, or on transition from a start condition to a stop condition, refer to [Add/Modify Trigger - General Properties](#).



## Setting Up a DataLogger Configuration

A DataLogger configuration defines how data will be extracted from an OPC server project and logged into a database. There is one DataLogger configuration for each OPC server project. Within a DataLogger configuration there are one or more log groups. A log group is a "data pipeline" between the OPC server project and a database table. A log group defines the following:

- A DSN connection to the database
- The server items (OPC server tags, etc.) that will be logged to the database
- The format and name of the table within the database
- The trigger(s) that govern when data will be logged (at a specific time, on data change, etc.)

**Note:** Select a link from the list below in order to jump to that section in the DataLogger Configuration setup.

[General Tab](#)

[Timestamp Properties](#)

[Choosing Server Items from Data Map Tab](#)

[Defining the Database Table](#)

[Triggers Tab](#)

[Defining a Trigger](#)

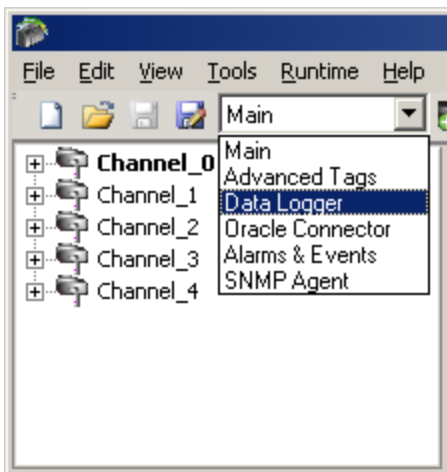
[Saving Changes/Organizing Log Groups](#)

[Adding, Copying, and Removing Log Groups](#)

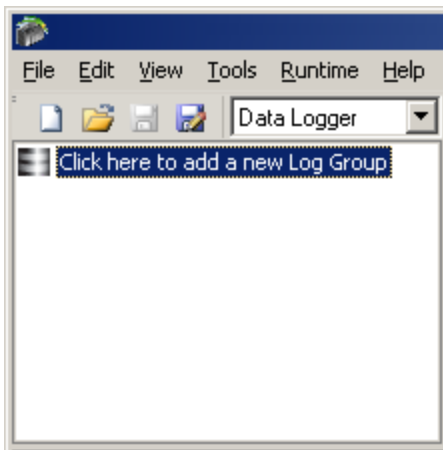
### DataLogger Configuration: A Walk-Through

For information on setting up a DataLogger configuration, refer to the instructions below.

1. Start the OPC server and then open the OPC project.
2. Next, use the drop-down menu to select **Data Logger**. Alternatively, click **View | DataLogger**.



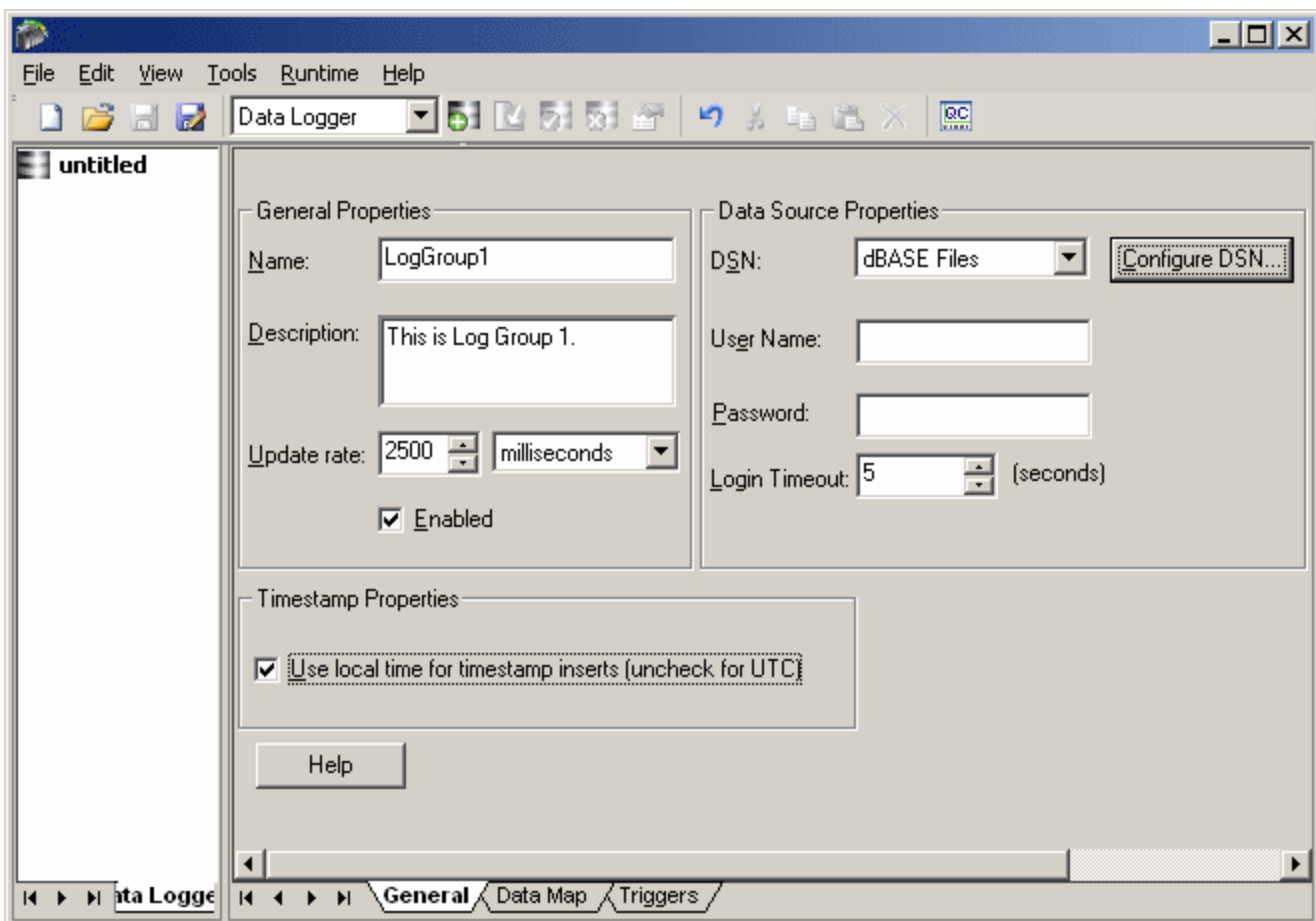
3. If this is the first time a DataLogger configuration has been created for the server project, the following screen will be displayed. To begin, click on "Click here to add a new Log Group."



**Note:** The main DataLogger window has three tabs: [General Tab](#), [Data Map Tab](#) and [Triggers Tab](#).

### General Tab

1. When the main DataLogger screen is first displayed, the left pane will display one log group with the default name "Untitled," and the right will display the General tab.



2. Complete the fields under **General Properties**.

Field	Description
Name	Enter a name for the log group being created. The maximum length is 256 characters. It cannot include a period or double quote, and also cannot begin with an underscore.

Description	Enter a longer, descriptive name. Maximum length is 4096 characters.
Update Rate	This field controls the update rate for data coming from the OPC server to the log group. The default setting is 100 milliseconds. The range for each unit is as follows:  Milliseconds: 10-4294967295 Seconds: 1-4294967 Minutes: 1-71582 Hour: 1-1193 Days: 1-49  For more information, refer to <a href="#">Add/Modify Trigger - General Properties</a> .
Enabled	By default, this field is checked. When checked, the DataLogger configuration is enabled.

3. Next, configure a DSN connection to the database.

Field	Description
DSN	Choose the DSN for the database from the <b>DSN</b> drop-down list. If the DSN is not listed, it must be configured. Click the <b>Configure DSN</b> button and refer to <a href="#">Data Source Setup</a> . Once a DSN has been configured, it will then be displayed as a choice in the <b>DSN</b> drop-down list.
User Name	The <b>User Name</b> and <b>Password</b> settings are required only if the data source requires it.
Password	<b>Note:</b> Some data sources Windows NT Authentication to be used to gain access to the data source. If the data source is set up to use Windows NT Authentication, the data source will ignore the User Name and Password under the data source settings page and will use the network Login ID. <b>See Also:</b> <a href="#">SQL Authentication</a> .
Login Timeout	This setting defines how long, in seconds, the server will wait for a response when attempting to connect to the DSN. At the end of that time, the connection attempt will time-out. The default is 5 seconds. The possible range is 1 to 99999 seconds.

**Timestamp Properties**

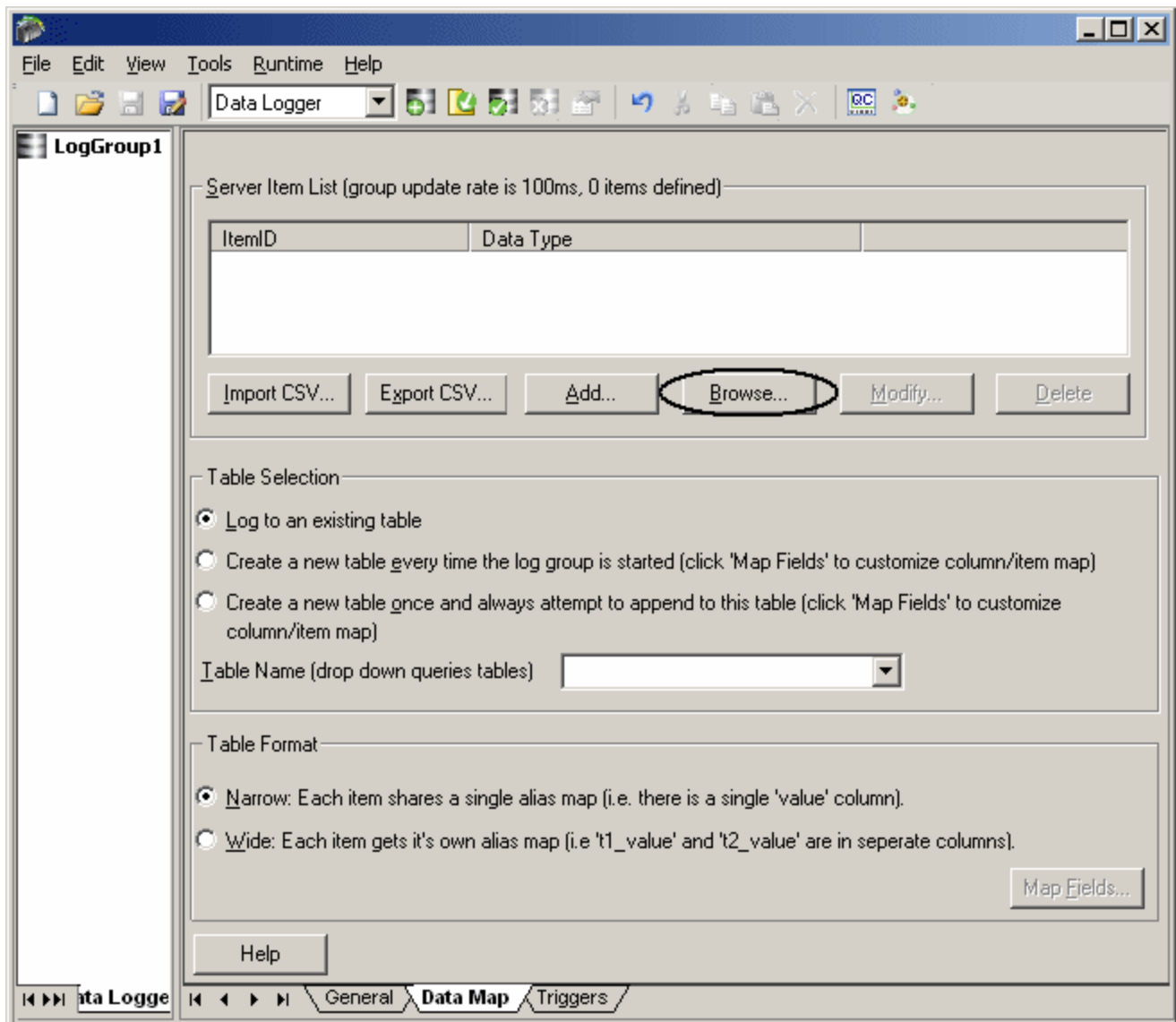
The last setting located at the bottom of the General tab is Timestamp Properties. Click **Use local time for timestamp inserts (uncheck for UTC)** to have DataLogger use the local time in timestamp values. In order to set the timestamp values in UTC (Universal Time Coordinated), this checkbox should be unchecked.

Click on the **Data Map** tab to continue.

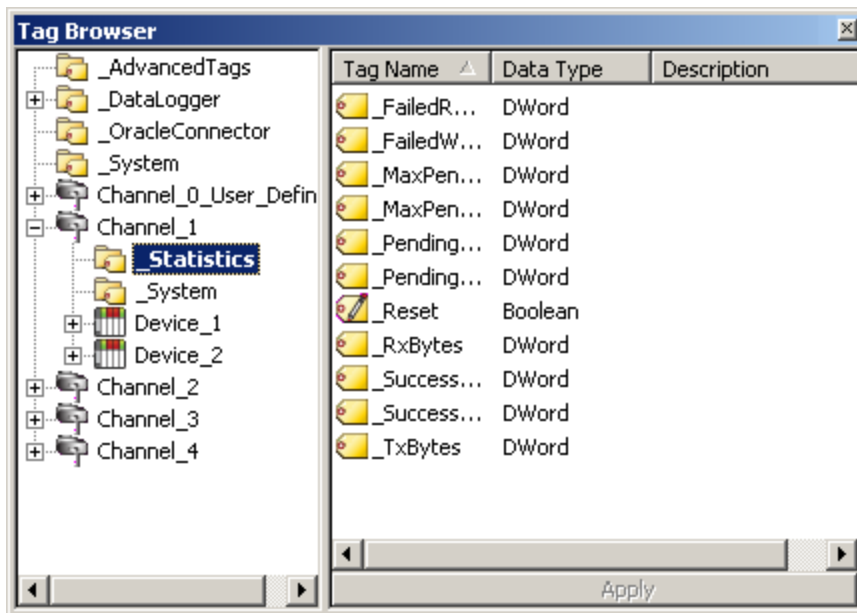
**Choosing Server Items from Data Map Tab**

1. Click the **Data Map** tab. The **Server Item List** window will be blank when it is first displayed.
2. To add an item, click the **Browse** button. To import server items from a CSV file, click **Import CSV**.

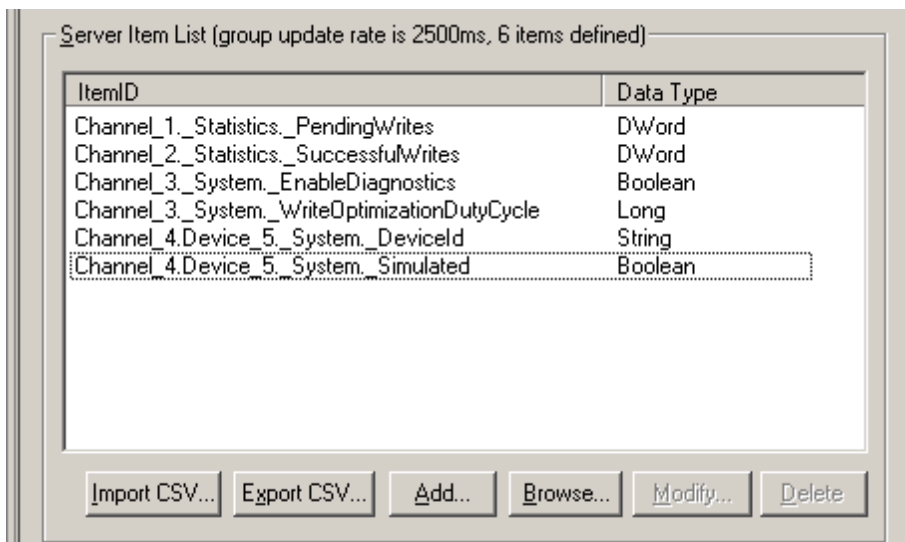
**Note:** To add a dynamically created tag as a server item, click **Add**.



3. Navigate through the OPC server project to the server item(s) that will be logged. To select multiple items, use CTRL-click or SHIFT-click. After the selections have been made, click **OK**.



- Repeat the previous steps to add more server items. As server items are chosen to log, they will be added to the **Server Item List**.



- To add a dynamically created tag as a server item, click **Add**.
- To modify a server item in the Server Item List, click **Modify**.
- Next, choose the database table.

### Defining the Database Table

- Choose an option under **Table Selection**.

Parameter	Description
Log to an existing table	Select this option to log data to an existing table. Use the <b>Table Name</b> drop-down list to choose the table to use, then click the <b>Map Fields</b> button. <b>See Also:</b> <a href="#">Map Item Fields</a> .
Create a new table every time the log group is enabled	Select this option to generate a new table in the database each time the OPC server enters runtime. Type a name for the table in the <b>Table Name</b> field. The first time this log group is enabled, the table will be created. The next time the log group is enabled, another table will be created with the name "tablename0". For example, a table named "Baseline" will be created the first time the log group is enabled. The next time the log group is enabled, a table named Baseline0 will be created, then Baseline1, Baseline2, and so on.  To customize the mapping of server items to database columns, click <b>Map Fields</b> . For more information, refer to <a href="#">Map Item Fields</a> .
Create a new table once and always attempt to append to this table	Select this option to generate a new table in the database the first time this log group is enabled. Data will be logged to that same table each time the OPC server enters runtime thereafter. Type a name for the table in the Table Name field. The first time this log group is enabled, the table will be created. The next time the log group is enabled and every subsequent time, the data will be appended to that same table.  To customize the mapping of server items to database columns, click <b>Map Fields</b> . For more information, refer to <a href="#">Map Item Fields</a> .

**Note 1:** These settings can be switched at any time during the life of the log group. The switch will take effect when the log group modifications are saved with the [Apply Changes button](#).

**Note 2:** When using DataLogger to create tables, the maximum length of table names is 256 characters. In practice, however, the maximum will depend upon the database being used and ODBC driver limits. Often the maximum will be 64 or 128 characters. Furthermore, table names should consist of letters and numbers only. Using non-alphanumeric characters can cause an error in the table creation. If non-alphanumeric characters must be used in the table name, consult with the database and ODBC driver specifications for table naming restrictions.

- Choose either **Narrow Format** or **Wide Format**. For a more detailed description of the narrow and wide formats, refer to [Narrow vs Wide Table Format](#).

Format	Description
Narrow Format	Each row will include 5 columns: Name, Numeric ID, Value, Quality, and Time.
Wide Format	Each row will include Numeric ID, Value, Time, and Quality for every server item.

- Click on the **Triggers** tab to continue.

### Triggers Tab

A log group can have one or more triggers. Each trigger is defined by two major parameters: when and how.

- When will the trigger be true?

- **Always triggered:** The trigger will always be true as long as the OPC server is in runtime. For example, the trigger will not have a false state, except for when the OPC server is inactive.
- **Absolute:** The trigger will be true only for certain days and hours. For example, from Monday to Friday, 8 AM to 5 PM.
- **Expression:** The trigger will be true when conditions in an expression are true. For example, a trigger can be defined to be true when the value of tag XYZ is greater than 100.

2. When the trigger is true, how will data be logged?

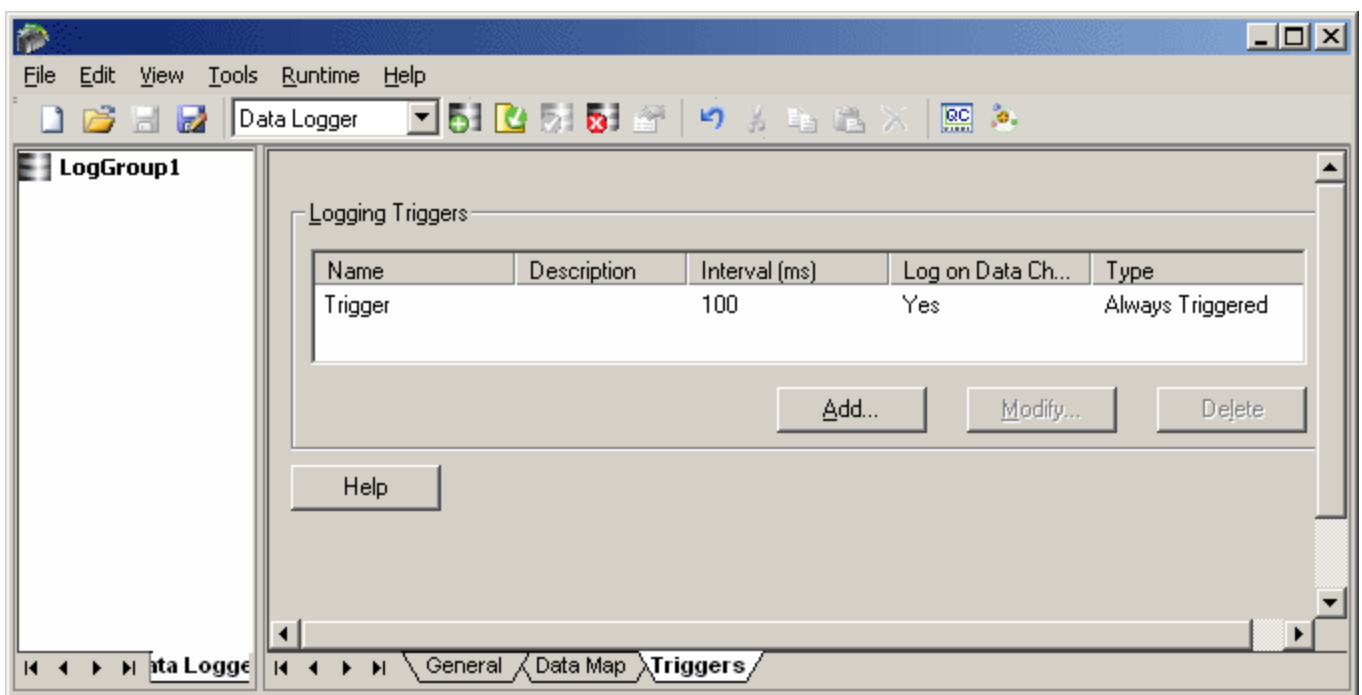
While a trigger is true, data will be logged (or inserted into a database table) in one or more of the following ways.

- **Log on Static Interval:** Data is logged at regular intervals; for example, every 500 ms.
- **Log on Data Change:** Data is logged only when the value of server item changes (such as an item in the Server Item List on the [Data Map Tab](#)). For example, if the log group has 4 server items and the trigger is set to log on data change, then data will be logged only when there is a change in at least one of those 4 server items.
- **Log once when trigger start condition is met:** Data is logged whenever the trigger goes from false to true.
- **Log once when trigger stop condition is met:** Data is logged whenever the trigger goes from true to false.

**Note:** The format of the data being logged depends whether the narrow or wide format is chosen for the log group.

### Defining a Trigger

When the Triggers tab is first displayed, the Logging Triggers will show one trigger: Default. In this example, one default trigger has already been created.



- To modify the default trigger, click **Modify**.
- To add another trigger, click **Add**. This will invoke the **Add Trigger: General** dialog.
- The Add and Modify dialogs are the first in a series of dialogs that will lead users through the trigger-definition process. For more information, refer to [Add/Modify Trigger - General Properties](#).

**Note:** Each trigger dialog has a **Help** button, which provides dialog-specific instructions and information.

**Modify Trigger: General**

General Properties

Name: Line014-Trigger

Description: Trigger for Line 14

Type: Always Triggered

Triggered Behavior

Log on Static Interval: 500 milliseconds

Log on Data Change

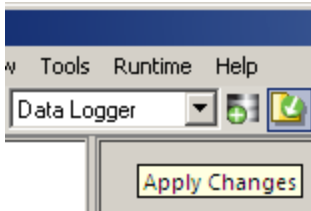
Log once when trigger start condition is met

Log once when trigger stop condition is met

< Back   Next >   Cancel   Help

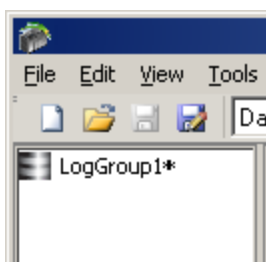
### Saving Changes/Organizing Log Groups

When a log group has been defined, click the **Apply Changes** icon to save the log group. When a new log group is added (or when changes are made to an existing log group) the changes need to be applied. If this is not done, the system will prompt users to apply changes when exiting the configuration.



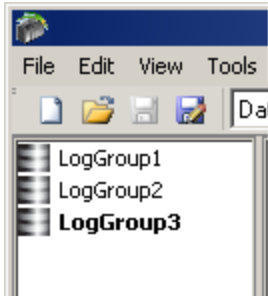
### Left Pane

Log group(s) for the current configuration are displayed in the left pane. In the first example shown below, there is a new log group and it has not been saved yet, as indicated by the asterisk (\*).




In the next example, there are three log groups in the configuration. The second one has been modified but not saved yet.

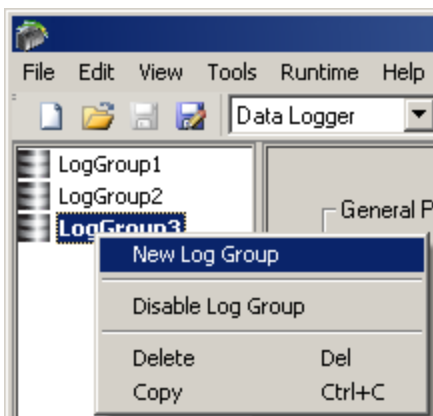




### Adding, Copying, and Removing Log Groups

There are three ways to add a new log group: right-click in the Log Group pane and select **Add Log Group**, click **Edit/Add Log Group Configuration** or click the **Add Log Group** icon .

- To make a copy of an existing log group, right-click on the log group and select **Copy Log Group**.
- To remove (delete) a log group, right-click on the log group and select **Remove Log Group**.



## DataLogger Dialogs

Click on a link below for more information on a particular DataLogger dialog.

### [Setting Up a DSN](#)

#### [Add Server Item/Modify Server Item](#)

#### [Map Item Fields](#)

#### [Modify Column Definition](#)

#### [Add/Modify Trigger - General Properties](#)

#### [Trigger - Start/Stop Event Expression](#)

#### [Trigger - Absolute](#)

#### [Trigger - Summary](#)

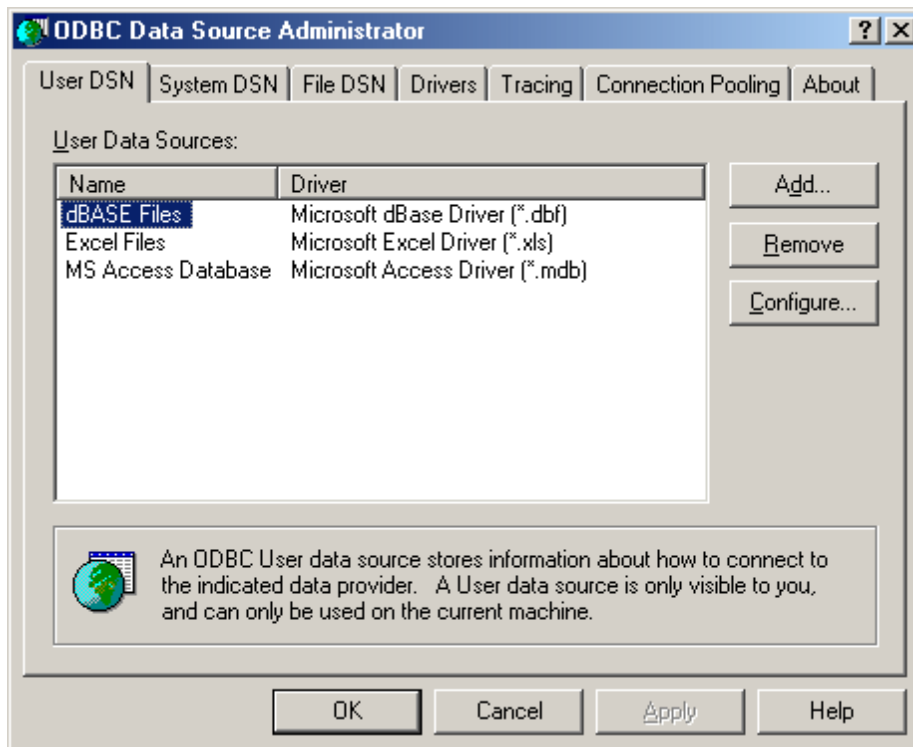
## Setting Up a DSN

Before any DSN connection to a database can be used, it must be configured. After it has been configured, the DSN will be displayed in the drop-down list for the **DSN** field.

**Important:** It is required that the 64 bit version of the Microsoft® ODBC Data Source Administrator be used when configuring a DSN on a 64 bit operating system. This is because the 64 bit version is used by this product's configuration utility.

**Note:** The ODBC driver(s) for the Database Management System being used must be installed on the PC that is running the OPC server. For a list of supported ODBC drivers, refer to [System Requirements](#).

1. On the [General Tab](#), click **Configure DSN** in order to display the **Microsoft® ODBC Data Source Administrator** dialog.



2. Choose either the **User DSN** tab or **System DSN** tab.

**Note:** For further help with the Microsoft® ODBC Data Source Administrator dialog, click **Help**.

3. Next, click **Add**.

4. In the **Create New Data Source** dialog, scroll down the list of drivers to locate the driver for the specific database.
5. Select the driver and then click **Finish**.
6. Continue through the wizard and complete the dialogs that are displayed. The dialogs and fields will vary according to the database being connected.
7. The final dialog of the DSN Wizard may include a **Test** button for the Data Source. Whether or not a **Test** button is displayed depends upon the DSN being configured. If so, click the button to verify that the DSN setup is functional.

## Add Server Item/Modify Server Item

The screenshot shows the 'Add Server Item' dialog box. It has a title bar with the text 'Add Server Item' and a close button. The dialog is divided into two sections: 'General' and 'Deadband'. The 'General' section contains three fields: 'Item ID' with a text box and a browse button (...), 'Numeric ID' with a text box containing '0', and 'Data Type' with a dropdown menu set to 'Default'. The 'Deadband' section contains three fields: 'Deadband type' with a dropdown menu set to 'None', 'Deadband' with a text box containing '0', and 'Range' with two text boxes containing '0' and 'up to' between them. At the bottom are 'OK', 'Cancel', and 'Help' buttons.

Descriptions of the parameters are as follows:

- **Item ID:** This parameter specifies the full name of the server item. Use the Browse (...) button to search the OPC server project for an item. In order to add a server item dynamically, enter the full name. If an existing server item was chosen and **Modify** was selected, the Item ID field will display the ID of the server item being modified. The maximum length of the **Item ID** field is 256 characters.
- **Numeric ID:** This parameter specifies a numeric alias or identifier for the server item. The valid range is 0 to 2147483647. The default setting is 0.
- **Data Type:** This parameter specifies the item's data type. The data type can be chosen from the drop-down list.
- **Deadband Type:** This parameter specifies the item's deadband type. Options include None, Absolute, and Percent. The default setting is None. Descriptions are as follows:
  - **None:** No deadband is used.
  - **Absolute:** If the difference between two consecutive item data updates is more than the amount specified in the Value field, the update is valid and can produce events. Otherwise, the update is ignored.
  - **Percent:** This option is similar to Absolute except that the Value field is a percentage of the specified range. For example, if the Value is 10 (10%) and the expected range is 0 to 10, the Absolute deadband would be +/- 1.
- **Deadband:** This parameter specifies the deadband value. Any positive number is supported. If the Deadband Type is set to None, this parameter will be greyed out. The default value is 0.

- **Range:** This parameter specifies the deadband's range. It is only enabled when Percent is the chosen deadband type. The default value is 0.

The screenshot shows the 'Modify Server Item' dialog box with the following settings:

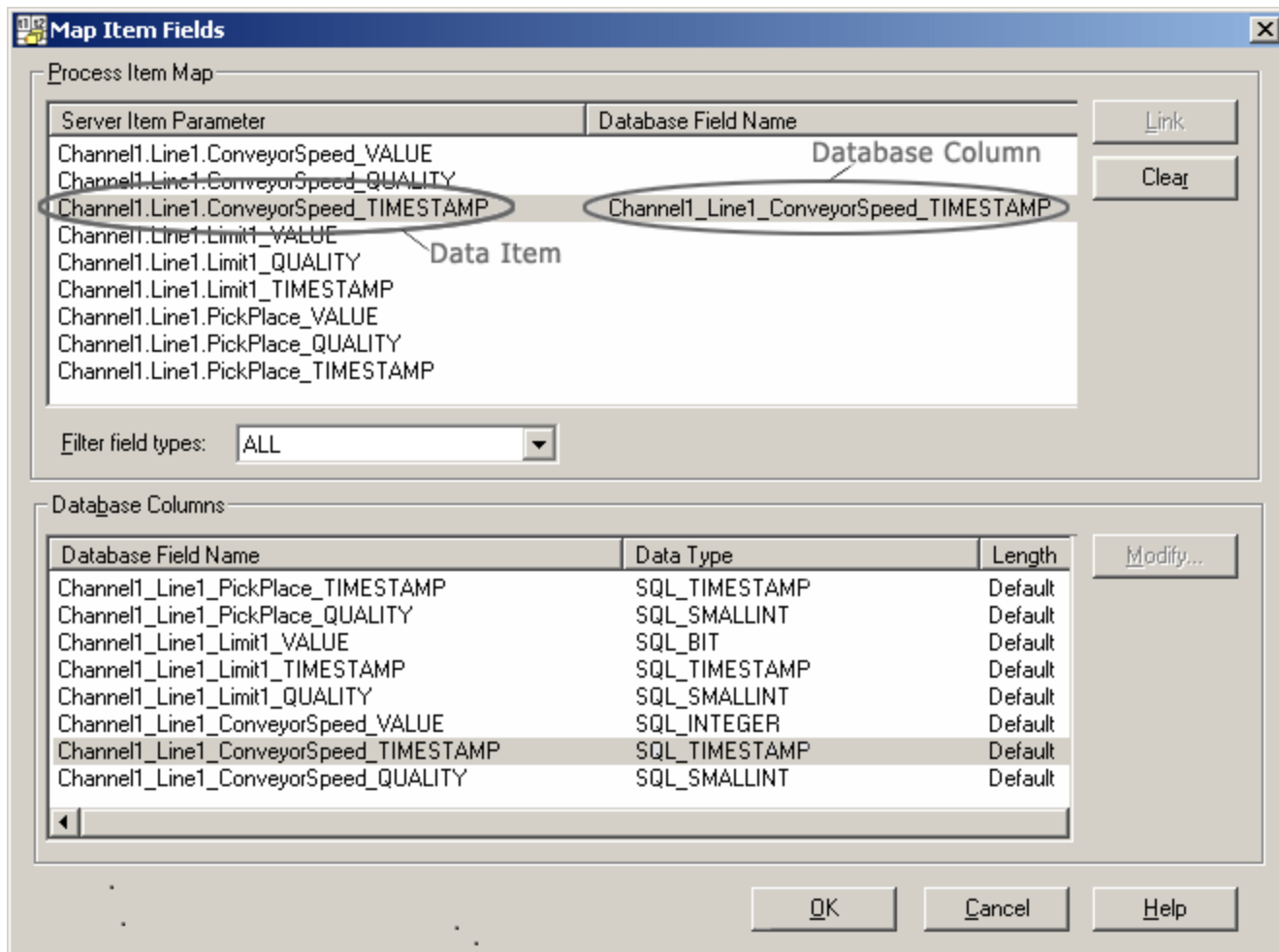
- General:**
  - Item ID: System.Date.Year
  - Numeric ID: 0
  - Data Type: Default
- Deadband:**
  - Deadband type: None
  - Deadband: 0
  - Range: 0 up to 0

See Also: [Map Item Fields](#)

## Map Item Fields

The Map Item Field dialog is used to map server items to columns in the database table. It shows the server items in the top half of the screen and the database table's columns in the bottom half. How it works depends on whether DataLogger is creating a new table in the database or if the table already exists. To invoke the Map Item Field dialog, click [Data Map Tab](#) | **Map Fields**.

- If DataLogger is creating a new table, then the item-to-column mappings will be done automatically by DataLogger. Although users do not need to map the item fields, they can customize the columns. For more information, refer to [To Modify a Database Column](#).
- If DataLogger is using a table that already exists, then the **Map Item Fields** dialog must be used to map the server items to database columns. For example, the screen below shows a configuration that has nine server items and one server item mapped to a database column. The server item Channel1.Line1.ConveyorSpeed\_TIMESTAMP has been mapped to the database column Channel1\_Line1\_ConveyorSpeed\_TIMESTAMP.



### To Map a Server Item

1. Click on the **Server Item**.
2. Click on the corresponding column.
3. Click **Link**. The database column name will then be displayed to the right of the server item.

### To Change the Mapping

1. Click on the **Server Item**.
2. Click **Clear** in order to clear the field name.
3. Select the correct column.
4. Click **Link**. The database column name will then be displayed to the right of the server item.

### To Modify a Database Column

When mapping server items to a new table, use the **Modify** button to change column parameters. For example, to change the default name for a column from "\_NAME" to "\_Line4v88," users would select the item and then click **Modify**. The invoked [Modify Column Definition](#) dialog is used to change the default values for column name, data type and length.

**Note 1:** The Item ID name, **Server Item Parameter** and **Database Field Name** fields have a maximum size of 256 characters as imposed by DataLogger. In practice, however, the maximum usable length will also depend upon the limits of the database and ODBC driver being used. Often the maximum name length for a database column will be 64 or 128 characters.

**Note 2:** When data is being logged in the Wide format, the **Server Item Parameter** and **Database Field Name** values consist of the channel, device and group(s) names appended to the front of the Item ID name. This in effect further limits the usable name length of the Item ID. **See Also:** [Narrow vs Wide Table Format](#).

## Modify Column Definition

Table columns and parameters are automatically assigned default values. The **Modify Column Definition** dialog is used to change the column name, data type and length.

## Add/Modify Trigger - General Properties

### Adding a New Trigger

Field	Description
<b>Name</b>	Enter a name for the trigger. Maximum length is 256 characters and cannot include a period or double quote, and cannot begin with an underscore.
<b>Description</b>	Enter a description of the trigger. Maximum length is 4096 characters.

<b>Type</b>	<b>Always Triggered</b>	Trigger will be always true; that is, it will have no false state except for when the Log Group is inactive.
	<b>Absolute</b>	Trigger will be true during an absolute time of day only. The <a href="#">Absolute</a> dialog will be displayed when <b>Next</b> is clicked.
	<b>Expression</b>	Trigger will be true or false depending upon a conditional expression. For example, it is true when the value of tag "x" is greater than 100; otherwise, it is false. The <a href="#">Add Trigger: Event Expression</a> dialog will be displayed when <b>Next</b> is clicked.
<b>Triggered Behavior</b>	<b>Log on Static Interval</b>	Data will be logged on a static interval (time based). The default setting is checked. The default value is 500 milliseconds. The range for each unit is as follows:  Milliseconds: 10-4294967295 Seconds: 1-4294967 Minutes: 1-71582 Hour: 1-1193 Days: 1-49  For more information, refer to "Update Rate" below.
	<b>Log on Data Change</b>	Data will be logged only when there is a data change. The default setting is checked. For more information, refer to "Update Rate" below.
	<b>Log once when trigger start condition is met</b>	This setting only applies to Absolute and Expression triggers. Data will be logged once when the Absolute or Expression conditions transition from false to true. For example, if an Absolute trigger is set to log on Tuesday, the log group will log once at the start of Tuesday.
	<b>Log once when trigger stop condition is met</b>	This setting only applies to Absolute and Expression triggers. Data will be logged once when the Absolute or Expression conditions transition from true to false. For example, if an Absolute trigger is set to log on Tuesday, the log group will log once at the end of Tuesday.

### Update Rate

The log group's [Update Rate](#), which is entered on the [General Tab](#), sets the update rate for data coming from the OPC server to the log group. The default setting is 100 milliseconds. The range for each unit is as follows:

Milliseconds: 10-4294967295  
 Seconds: 1-4294967  
 Minutes: 1-71582  
 Hour: 1-1193  
 Days: 1-49

The update rate will affect Static Interval, Data Change, and Trigger Start To Stop selections in the following two ways:

- The update rate should be set to a value less than the Static Interval value, so that the log group's server items are updated more frequently than the static interval.
- Since the update rate determines when the server item changes are processed by DataLogger, the lower the update rate, the more frequently data changes will be received and processed by DataLogger.

### Timestamp Values

DataLogger maintains two timestamp values for each OPC server item in a log group.

- One timestamp is updated each time the OPC server scans the controller address, regardless of whether the value has changed since the last scan. As such, this timestamp reflects the "freshness" of the value. This will be the timestamp value that is logged to the database if the insertion was triggered by a static-interval trigger (that is, when **Log on Static Interval** is checked).
- The other timestamp is updated each time DataLogger has detected a data-value change. If the value of the server item has not changed, the timestamp is not updated. This will be the timestamp value that is logged to the database if the insertion was triggered by a change in the data value (that is, when **Log on Data Change** is checked).

### Modifying General Properties

To invoke the **Modify Trigger - General Properties** dialog, click an existing trigger on the [Triggers](#) tab and then select **Modify**. The fields in the dialog are the same as those displayed when adding a new trigger, except that the field values will reflect the existing trigger information. For individual field definitions, see the descriptions above.

**Modify Trigger: General**

General Properties

Name: Line014-Trigger

Description: Trigger for Line 14 West

Type: Expression

Triggered Behavior

Log on Static Interval: 500 milliseconds

Log on Data Change

Log once when trigger start condition is met

Log once when trigger stop condition is met

< Back   Next >   Cancel   Help

## Trigger - Start/Stop Event Expression

Click a link from the following list in order to jump to the Trigger Start/Stop topic.

[Overview](#)

[Start Condition](#)

[Stop Condition](#)

### Overview of Start and Stop Conditions

The Event Expression dialog is used to define start and stop conditions for expression triggers. Note the following:

- An event expression trigger can only include one start condition and one stop condition. In order to have the log group be triggered by multiple expressions, users must create multiple event expression triggers.
- At least one start condition is required for an event expression. A stop condition is optional unless the trigger behavior 'Log once when trigger stop condition is met' is selected.
- The log group will be triggered when the start condition becomes true. The log group will then remain triggered regardless of subsequent changes to the start expression state.
- If there is a stop condition, the log group will become not-triggered when the stop condition is true. If there is no stop condition, the log group will remain triggered until the OPC server runtime stops.
- If the start and stop conditions are both true, then the log group is not triggered. While the start condition is true, the stop condition will control whether or not the log group is triggered.
- Log groups are not triggered while the stop condition is true.
- If the trigger behavior 'Log once when trigger stop condition is met' is selected and the trigger item transitions from a start condition to a stop condition, then the log group is in triggered state.

### Start Condition





Parameter	Description
Item ID	Enter the ID of the server item that will control this condition. The server item can be one that has been <a href="#">selected to be logged</a> , or it can be an item that is not being logged. To search for the server item, click the ...button to browse and select an Item ID.
Data Type	Select the applicable data type.
Update Rate	The log group's global <a href="#">update rate</a> is set on the General tab; however, this field is used to set a different update rate for the server item defined in the <b>Item ID</b> field. The default setting is 1000 milliseconds. <b>Note:</b> The value in this field can be different from the value in <b>Update Rate</b> on the <a href="#">Stop Condition tab</a> .
Start Condition*	Use the drop-down list to select the <b>Condition</b> . If applicable, enter the conditional value in the <b>Data</b> field.

**\*Examples**

1. If **Condition** is set to "Item value is equal to OPC TRUE (-1)," the condition will be true if the server item in the **Item ID** field becomes true. For this condition, leave the **Data field blank as it is not necessary**. **Note that this assumes that the value in Data TypeData Type is Boolean; if any other data type is entered in** , then the server item value must be -1 in order to make this condition true.
2. If **Condition** is set to "Item data set to bad quality," the condition will be true if the server item in the **Item ID** field goes to quality=bad. For this condition, leave the **Data** field blank as it is not necessary.
3. If **Condition** is set to "Item data set not equal to a specific value" and the **Data** field value is 144, then the condition will be true if the server item in the Item ID field is not equal to 144 (it could be higher or lower).
4. If **Condition** is set to "Item data set less than a specific value" and the **Data** field value is 144, then the condition will be true if the server item in the Item ID field is less than 144.
5. If **Condition** is set to "Item data has not changed over a certain time period (ms)" and the **Data** field value is 15000 (15,000 milliseconds), then the condition will be true if the tag in the **Item ID** field has not changed value for 15 seconds.

**Stop Condition**

Parameter	Description
Item ID	Enter the ID of the server item that will control this condition. The server item can be one that has been <a href="#">selected to be logged</a> , or it can be an item that is not being logged. To search for the server item, click the ... button to browse and select an Item ID.
Data Type	Select the applicable data type.
Update Rate	The log group's global <a href="#">update rate</a> is set on the General tab; however, this field is used to set a different update rate for the server item defined in the <b>Item ID</b> field. The default setting is 1000. <b>Note:</b> The value in this field can be different from the value in <b>Update Rate</b> on the <a href="#">Start Condition tab</a> .
Stop Condition*	Use the drop-down list to select the <b>Condition</b> . If applicable, enter the conditional value in the <b>Data</b> field.

#### \*Examples

1. If **Condition** is set to "Item data set less than a specific value" and the **Data** field value is 144, then the condition will be true if the server item in the **Item ID** field is less than 144.
2. If **Condition** is set to "Item data has not changed over a certain time period (ms)" and the **Data** field value is 15000 (15,000 milliseconds), then the condition will be true if the tag in the **Item ID** field has not changed value for 15 seconds.
3. If **Condition** is set to "Item data set to bad quality," the condition will be true if the server item in the **Item ID** field goes to quality=bad. For this condition, leave the **Data** field blank as it is not necessary.

#### Trigger - Absolute

**Add Trigger: Absolute**

Day(s) of the week

- Sunday
- Monday
- Tuesday
- Wednesday
- Thursday
- Friday
- Saturday

Absolute Time

Start logging at: 08:00:00 AM

Stop logging at: 05:00:00 PM

Duration: 09 hr, 00 min, 00 sec

< Back   Next >   Cancel   Help

1. Select one or more days in the Day(s) of the Week column.
2. Click on the **Start logging at** field and enter the start time (hours, minutes or seconds). Then, enter either AM or PM.
3. Click on the **Stop logging at** field and set the stop time.
4. The total duration per day is displayed in the **Duration** field.

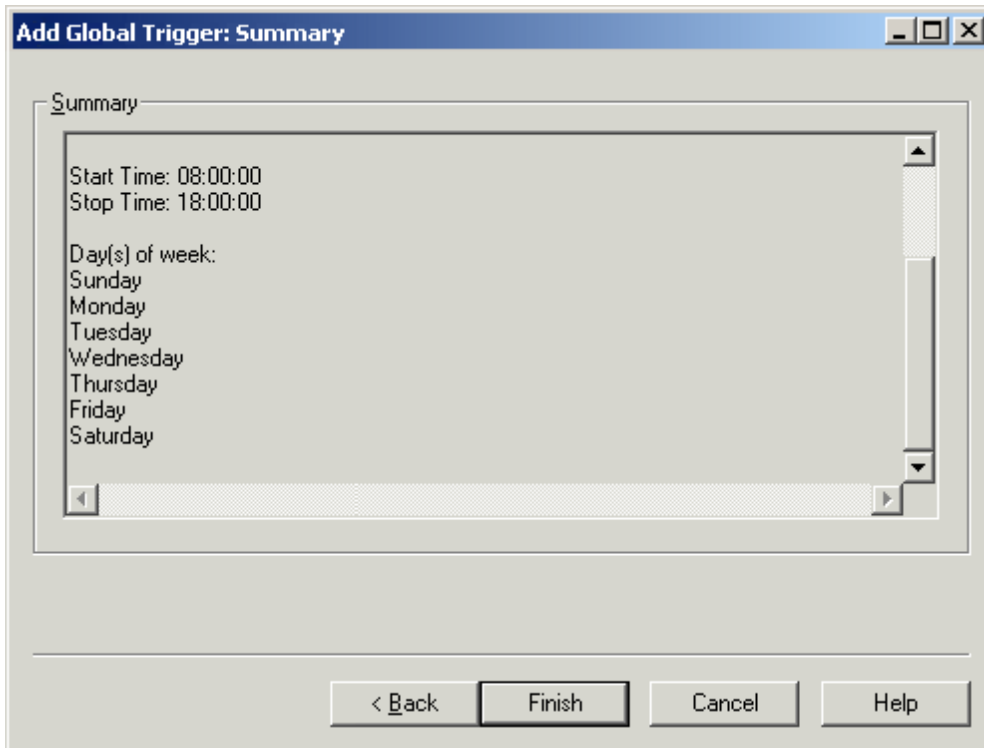
**Note 1:** The **Start logging at** and **Stop logging at** fields control the logging time for the days selected in the Days column. In the example shown above, the trigger would be true from Sunday through Saturday, from 8:00:00 AM to 5:00:00 PM.

**Note 2:** Overlapping midnight (meaning, overlapping from one day to the next) requires that two triggers be created, because this dialog defines the duration **per day**. For example, in order to start logging at 9 PM on Friday and stop at 3 AM on Saturday, then one trigger would be created with **Friday** checked and **Start logging at** set to 9:00:00 PM and **Stop logging at** set to 11:59:59 PM. Another trigger would have to be created with **Saturday** checked and **Start logging at** set to 12:00:00 AM and **Stop logging at** set to 3:00:00 AM.

### Trigger - Summary

---

Review the details and click **Finish**. Alternatively, use the **Back** key to make changes.



## System Tags

### DataLogger (Root)

Tag	Access	Description
_TriggeredGroupCount	Read Only	Number of log groups that are currently triggered. (A log group is <i>triggered</i> when at least one of its triggers is true.)
_NonTriggeredGroupCount	Read Only	Number of log groups that are not currently triggered.
_EnabledGroupCount	Read Only	Number of log groups that are currently enabled, whether they were enabled at Runtime or via the <code>_Enabled</code> system tag.
_DisabledGroupCount	Read Only	Number of log groups that are not currently enabled.

### DataLogger.<log group name>

Tag	Access	Description
_Description	Read Only	Configured description of the log group
_Enabled	Read/Write	The log group is evaluating server items and processing triggers. (When a log group is enabled, it may or may not be triggered.)
_Error	Read Only	The log group is in an error state (for example, failed to connect to the database).
_LogDataBit	Read/Write	When set True, all server items are logged. The <code>_LogDataBit</code> tag is reset to False automatically.
_NoError	Read Only	The log group is not in an error state.
_SessionInsertionCountHi	Read Only	The upper 32 bits of the insertion count. <i>Insertion count</i> is the number of data insertions since the log group was last enabled.
_SessionInsertionCountLo	Read Only	The lower 32 bits of the insertion count.
_Time-ToOpenRecordsetMS	Read Only	Time it took to initially open a connection to the database, in milliseconds.
_Triggered	Read Only	The log group is triggered, that is, at least one of the log group's triggers is true. When a log group is triggered, the trigger(s) that are true will insert data on static interval and/or on data change and/or on transition from a start condition to a stop condition, as determined by the settings on the <a href="#">Add/Modify Trigger - General Properties</a> dialog.

## Error Descriptions

---

The following error/warning messages may be generated in the Event Log, which is displayed in the lower pane of the OPC server. The messages below are listed in alphabetical order. Click on a message below to view a description of the error message.

### [Event log is full](#)

[Failed to add item '<item>' on log group '<log group>'](#)

[Failed to create table for unknown reason](#)

[Failed to create table name '<table>' for log group '<log group>' on DSN '<DSN>'](#)

[Failed to create the data table for log group '<log group>'. \(Memory Exception\)](#)

[Failed to create the data table for log group '<log group>'. \(Reason '<reason>'\)](#)

[Failed to save DataLogger configuration](#)

[Invalid XML document '<reason>'](#)

[Log group '<log group>' contains no server items](#)

[Log group '<log group>' exceeds the item count of '<count>' for the MySQL DSN using the 'Wide' table format](#)

[Log group '<log group>' failed to validate table '<table name>'. Reason: '<reason>'](#)

[Log group '<log group>' has requested creation of at least one TIMESTAMP column for table '<table>'](#)

[Required schema file '<file>' not found](#)

[The DataLogger runtime failed to initialize. Reason: '<reason>'](#)

[The data map for log group '<log group>' is empty. Did you choose 'use existing table' without linking the columns in the configurator?](#)

[The query failed because the data source is not appendable. Please double check the user permissions](#)

[Unable to back up project file to '<filename>'. The save operation has been aborted](#)

[Unable to connect to data source '<source>'](#)

[Unable to connect to data source '<source>' \(Memory Exception\)](#)

[Unable to connect to data source '<source>' \(Reason: '<reason>'\)](#)

[Unable to load configuration. Reason: '<reason>'](#)

[Unable to open recordset on log group '<log group>'. \(Memory Exception\)](#)

[Unable to open recordset on log group '<log group>'. \(Reason: '<reason>'\)](#)

[Unable to query recordset on Log Group '<log group>' \(Memory Exception\)](#)

[Unable to query recordset on Log Group '<log group>'. \(Reason: '<reason>'\)](#)

[Unable to validate table '<table>' \(Memory Exception\)](#)

[Unable to validate table '<table>' \(Reason: '<reason>'\)](#)

[Unknown error while executing query in table '<table>' for log group '<log group>'](#)

### **Event log is full**

---

#### **Error Type:**

Warning/Runtime

#### **Possible Cause:**

The event log is full.

#### **Solution:**

Refer to the OPC Server Help documentation topic "Server Options" | "Event Log Options."

### **Failed to add item '<item>' on log group '<log group>'**

---

#### **Error Type:**

Warning/Runtime

#### **Possible Cause:**

DataLogger failed to add a reference to the server item shown; thus, it will be unable to receive data change or update notifications for that item.

#### **Solution:**

Check the server item and verify that it is a valid static or dynamic address.

---

**Failed to create table for unknown reason**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

An unknown failure occurred while generating the table. This is generally due to an ODBC driver error.

**Solution:**

Verify the DSN settings and consult the ODBC driver documentation and/or create a table manually.

**See Also:**

[Defining the Database Table](#)

[Setting up a DSN](#)

---

**Failed to create the data table for log group '<log group>'. (Reason '<reason>')**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to create a table because of the reason provided by the ODBC driver.

**Solution:**

Verify the DSN settings and consult the ODBC driver documentation and/or create a table manually.

**See Also:**

[Defining the Database Table](#)

[Setting up a DSN](#)

---

**Failed to create table name '<table>' for log group '<log group>' on DSN '<DSN>' (Reason '<reason>')**

---

**Error Type:**

Warning/Runtime

**Possible Cause:**

DataLogger was unable to create a table for the reason given.

**Solution:**

Verify the DSN settings and consult the ODBC driver documentation and/or select create a table manually.

**See Also:**

[Defining the Database Table](#)

[Setting up a DSN](#)

---

**Failed to create the data table for log group '<log group>'. (Memory Exception)**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to create a table because of a memory exception.

**Solution:**

Verify the DSN settings and consult the ODBC driver documentation and/or create a table manually.

**See Also:**

[Defining the Database Table](#)

[Setting up a DSN](#)

---

## Failed to save DataLogger configuration

---

**Error Type:**

Warning/Configurator

**Possible Cause:**

DataLogger was unable to apply changes to the DataLogger configuration for the reason given.

**Solution:**

Load the project backup from the \Project Backups folder (write the backup over the current project) then attempt to remake the changes. Save the changes. If the save causes another error message, contact Technical Support.

---

## Invalid XML document '<reason>'

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger configuration file is invalid for the reason given. The configuration file is either corrupt or it failed schema validation. For example, the user may have manually modified the file or has found a way to cause DataLogger to save the XML file in an invalid format.

**Solution:**

Check the configuration file (\project\_name.opf.dlplugin) and the schema file (\schemas\dlplugin.xsd).

---

## Log group '<log group>' contains no server items!

---

**Error Type:**

Warning/Runtime

**Possible Cause:**

DataLogger has detected a log group with no server items. There is, therefore, no data to log.

**Solution:**

Open the log group and check the Server Item List on the Data Map tab.

**See Also:**

[Data Map Tab](#)

---

## Log group '<log group>' exceeds the item count of '<count>' for the MySQL DSN using the 'Wide' table format

---

**Error Type:**

Warning/Runtime

**Possible Cause:**

Logging activity will be rejected until this count is reduced – The MySQL ODBC driver.

**Solution:**

Use a different DBMS or use multiple log groups (logging to multiple tables) to 'break up' the total number of items to be logged.

**See Also:**

[Narrow vs Wide Table Format](#)

---

## Log group '<log group>' failed to validate table '<table name>'. Reason: '<reason>'

---

**Error Type:**

Serious/Runtime

DataLogger rejected the table format because it does not match the configured data map. There are two possible causes:



**Possible Cause #1:**

On the Data Map tab for this log group, "Log to an existing table" was selected as the Table Selection option. The table was identified in the Table Name field. This error message indicates that the table does not exist.

**Solution #1:**

Create the table using the database management system.

**Possible Cause #2:**

On the Data Map tab for this log group, "Create a new table once and always attempt to append" was selected as the Table Selection option, but the table's columns do not match the configured data mapping.

**Solution #2:**

1. Delete the existing table, then let DataLogger create a new table once and append to it thereafter.
2. On the Data Map tab, click **Map Fields** and delete the server items for which there are no corresponding database columns.

**See Also:**

[Map Item Fields](#)

[Data Map Tab](#)

[Defining the Database Table](#)

---

**Log group '<log group>' has requested creation of at least one TIMESTAMP column for table '<table>'**

---

**Error Type:**

Warning/Runtime

**Possible Cause:**

The DSN type is Microsoft SQL, which does not support this use of the TIMESTAMP type.

**Solution:**

DataLogger runtime will convert TIMESTAMP columns to DATETIME columns when creating tables. The user should map only DATETIME columns if using Microsoft SQL Server.

---

**Required schema file '<file>' not found**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger schema file (\schemas\dlplugin.xsd) is missing. This file is required regardless of whether the OPC server project is saved as an .opf or .xml file.

**Solution:**

Check the \schemas folder.

---

**The DataLogger runtime failed to initialize. Reason: '<reason>'**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

The DataLogger runtime was unable to initialize for the reason given.

**Solution:**

User should try to load the server configuration backup. The last saved configuration file (*project\_name.opf.dlplugin.bak*) is saved in the \Project Backups folder on the PC on which the OPC server is running.

---

**The data map for log group '<log group>' is empty. Did you choose 'use existing table' without linking the columns in the configurator?**

---

**Error Type:**

Warning/Runtime

**Possible Cause:**

DataLogger detected an empty data map.

**Solution:**

Check the log group's Data Map tab settings and (either select one of the automatic table-creation options or map the server items.

**See Also:**

[Data Map Tab](#)  
[Map Item Fields](#)

---

**The query failed because the data source is not appendable. Please double check the user permissions**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

The database table is not appendable.

**Solution:**

Often the user must explicitly set an 'append' permission on the table using the database software.

---

**Unable to back up project file to '<filename>'. The save operation has been aborted**

---

**Error Type:**

Warning/Configurator

**Possible Cause:**

DataLogger automatically generates a backup of the last saved configuration. The last saved configuration file (*project\_name.opf.dlplugin.bak*) is saved in the Project Backups folder. This error indicates that the attempt to save the file failed and that an OS-defined reason is available.

**Solution:**

Check the Project Backups folder. If a copy of the last saved configuration file (\*.bak) is there, send the file to Technical Support.

**Notes:**

1. To enable the automatic backup feature for both the OPC server project and the DataLogger configuration, click **Tools | Options** in the OPC Server. Then, select the General tab and select the "Always backup the last saved project prior to overwriting the file with new changes" checkbox.

2. The Project Backups folder is on the PC that is running the OPC server. Typically, the path is C:\Program Files\OPC server name\Project Backups.

---

**Unable to connect to data source '<source>'**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger is unable to connect to the data source and is unable to determine the cause of the connection failure.

**Solution:**

Verify the DSN settings and consult the ODBC driver documentation.

**See Also:**

[Setting Up a DSN](#)

---

**Unable to connect to data source '<source>' (Memory Exception)**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

The ODBC driver was unable to make the connection because of a memory exception.

**Solution:**

Use a different DSN with a different ODBC source.

**See Also:**

[Setting Up a DSN](#)

---

**Unable to connect to data source '<source>' (Reason: '<reason>')**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to connect to the data source because of the reason provided by the ODBC driver.

**Solution:**

If the database is on a remote computer, double-check the user permissions and verify that the network connection is active.

---

**Unable to load configuration. Reason: '<reason>'**

---

**Error Type:**

Warning/Runtime

**Possible Cause:**

DataLogger was unable to load the DataLogger configuration for the reason given.

**Solution:**

1. Load the configuration backup file (*project\_name.opf.dlplugin.bak*), which is saved in the Project Backups folder on the PC that is running the OPC server. Typically the path is C:\Program Files\OPC server\Project Backups.
2. Write the backup file over the current project.
3. Attempt to make the changes again and then save the changes. If the save causes another error message, contact Technical Support.

**Note:**

To enable the automatic backup feature for both the OPC server project and the DataLogger configuration, click **Tools | Options** in the OPC Server. Then, select the General tab and click the "Always backup the last saved project prior to overwriting the file with new changes" checkbox.

---

**Unable to open recordset on log group '<log group>'. (Memory Exception)**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to create the mechanism that would allow it to perform an insertion because of a memory exception.

**Solution:**

If the database is on a remote computer, double-check the user permissions and verify that the network connection is active.

---

**Unable to open recordset on log group '<log group>'. (Reason: '<reason>')**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to create the mechanism that would allow it to perform an insertion because of the reason provided by the ODBC driver.

**Solution:**

If the database is on a remote computer, double-check the user permissions and verify that the network connection is active.

**Unable to query recordset on Log Group '<log group>' (Memory Exception)**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to perform the insertion because of a memory exception.

**Solution:**

Use a different DSN with a different ODBC source.

**See Also:**

[Setting Up a DSN](#)

**Unable to query recordset on Log Group '<log group>'. (Reason: '<reason>')**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger is unable to perform an insertion because of the reason provided by the ODBC driver.

**Solution:**

Use a different DSN with a different ODBC source.

**See Also:**

[Setting Up a DSN](#)

**Unable to validate table '<table>' (Memory Exception)**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to validate the table format because the ODBC driver encountered a memory exception while opening the table.

**Solution:**

If the database is on a remote computer, double-check the user permissions and verify that the network connection is active.

**Unable to validate table '<table>' (Reason: '<reason>')**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger was unable to validate the table format because the ODBC driver failed to open the table (and provided an error string).

**Solution:**

If the database is on a remote computer, double-check the user permissions and verify that the network connection is active.

**Unknown error while executing query in table '<table>' for log group '<log group>'**

---

**Error Type:**

Serious/Runtime

**Possible Cause:**

DataLogger encountered an unknown error while executing an insertion on the opened recordset.

**Solution:**

If the database is on a remote computer, double-check the user permissions and verify that the network connection is active.

# Index

## A

Add Server Item/Modify Server Item.....	27
Add/Modify Trigger - General Properties.....	30

## C

Configurator: Data Map Tab.....	19
Configurator: General Tab.....	18
Configurator: Triggers Tab.....	22

## D

DataLogger Dialogs.....	26
DSN Connection.....	18, 26

## E

Error Descriptions.....	38
Event log is full.....	38

## F

Failed to add item '<item>' on log group '<log group>'.....	38
Failed to create table for unknown reason.....	39
Failed to create table name '<table>' for log group '<log group>' on DSN '<DSN>'.....	39
Failed to create the data table for log group '<log group>'. (Memory Exception).....	39
Failed to create the data table for log group '<log group>'. (Reason '<reason>').....	39
Failed to save DataLogger configuration.....	40

**I**

Initial Setup Considerations.....	6
Invalid XML document '<reason>'.....	40

**L**

Log group '<log group>' contains no server items!.....	40
Log group '<log group>' exceeds the item count of '<count>' for the MySQL DSN using.....	40
Log group '<log group>' failed to validate table '<table name>'. Reason: '<reason>'.....	40
Log group '<log group>' has requested creation of at least one TIMESTAMP column.....	41

**M**

Map Item Fields.....	28
Modify Column Definition.....	30

**N**

Narrow vs Wide Table Format.....	15
----------------------------------	----

**O**

Overview.....	4
---------------	---

**R**

Required schema file '<file>' not found.....	41
--	----

**S**

Setting Up a Data Logger Configuration.....	17
---	----

Setting Up a DSN.....	26
SQL Authentication.....	6
System Requirements.....	6
System Tags.....	37

## T

The data map for log group '<log group>' is empty. Did you choose 'use existing table'.....	41
The DataLogger runtime failed to initialize. Reason: '<reason>'.....	41
The query failed because the data source is not appendable. Please double check the user permissions.....	42
Timestamps - UTC or local.....	19
Trigger - Start/Stop Event Expression.....	32
Trigger - Summary.....	35
Triggers - Absolute.....	34
Triggers: Conditional.....	33

## U

Unable to back up project file to '<filename>'. The save operation has been aborted.....	42
Unable to connect to data source '<source>'.....	42
Unable to connect to data source '<source>' (Memory Exception).....	42
Unable to connect to data source '<source>' (Reason: '<reason>').....	43
Unable to load configuration. Reason: '<reason>'.....	43
Unable to open recordset on log group '<log group>'. (Memory Exception).....	43
Unable to open recordset on log group '<log group>'. (Reason: '<reason>').....	43
Unable to query recordset on Log Group '<log group>' (Memory Exception).....	44
Unable to query recordset on Log Group '<log group>'. (Reason: '<reason>').....	44
Unable to validate table '<table>' (Memory Exception).....	44
Unable to validate table '<table>' (Reason: '<reason>').....	44
Unknown error while executing query in table '<table>' for log group '<log group>'.....	44

## W

Windows Authentication.....	13
-----------------------------	----