The Data Encode plugin
PRINTED MANUAL

Data Encode plugin

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1   Introduction

With the "Data Encode" data filtration plugin, you can encode the values of given variables into a string of JSON, XML-RPC or CSV data. These are common formats widely used data processing applications. For instance, you can get a JSON string and then pass it to a web server or an MQTT broker using our data export modules.

2   System requirements

The following requirements must be met for "Data Encode" to be installed:

Operating system: Windows 2000 SP4 and above, including both x86 and x64 workstations and servers. A latest service pack for the corresponding OS is required.
Free disk space: Not less than 5 MB of free disk space is recommended.
Special access requirements: You should log on as a user with Administrator rights in order to install this module.

The main application (core) must be installed, for example, Advanced Serial Data Logger.

Notes for Microsoft Vista and above:

Since our software saves data to the registry and installs to the Program Files folder, the following requirements must be met:

1. You need Administrator rights to run and install our software
2. The shortcut icon of our software will be located on the desktop;
3. Windows Vista will ask for your confirmation to continue the installation.

NOTE: You can configure the user account only once in order not to see the above dialog box any more. Search Google for the solution of this problem.

3   Installing Data Encode

1. Close the main application (for example, Advanced Serial Data Logger) if it is running;
2. Copy the program to your hard drive;
3. Run the module installation file with a double click on the file name in Windows Explorer;
4. Follow the instructions of the installation software. Usually, it is enough just to click the "Next" button several times;
5. Start the main application. The name of the module will appear on the "Modules" tab of the "Settings" window if it is successfully installed.

If the module is compatible with the program, its name and version will be displayed in the module list. You can see examples of installed modules on fig.1-2. Some types of modules require additional configuration. To do it, just select a module from the list and click the "Setup" button next to the list. The configuration of the module is described below.

You can see some types of modules on the "Log file" tab. To configure such a module, you should select it from the "File type" list and click the "Advanced" button.
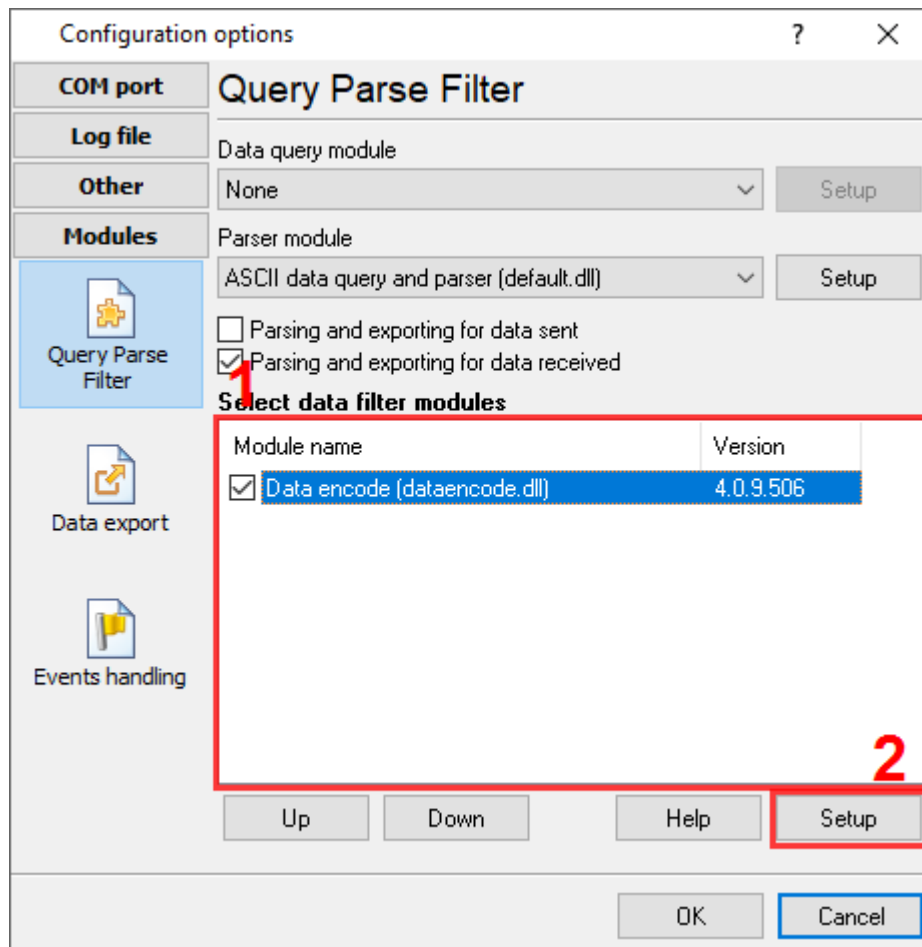
Fig.1. Example of installed module

4 Glossary

Main program – the main executable of the application. For example: Advanced Serial Data Logger and asdlog.exe. It allows creating several configuration. Each configuration may use many plugins.

Plug-in - the additional plugin module for the main program. The plugin module extend the functionality of the main program.

Parser – the plugin module that processes the data flow, singling out data packets from it, and then variables from data packets. These variables are used in data export modules after that.

Core - see "Main program".

5   Configuration

The configuration of the "Data Encode" module is very simple (Fig.1) and consists of just a handful of options.

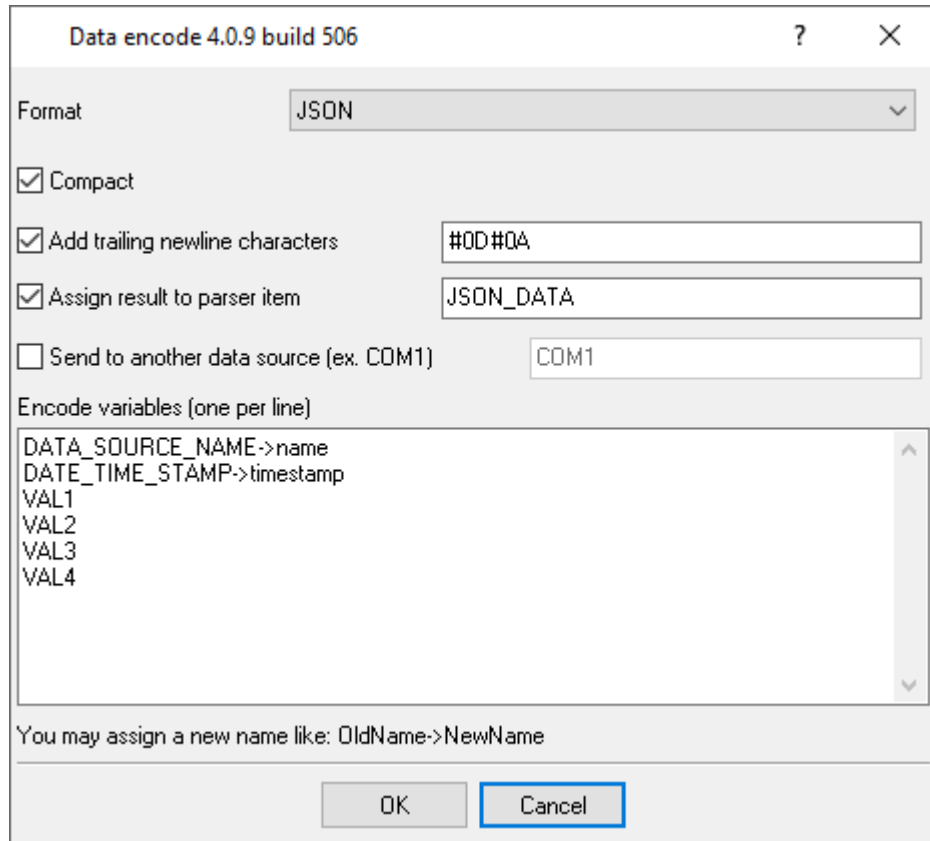**Fig.1. Configuration window**

Format – select the format of the string to be generated.

Example of a JSON string:

```
{
  "firstName": "John",
  "lastName": "Smith",
  "isAlive": true,
  "age": 27,
}
```

Example of a XML-RPC string:

```
<PutData>
    <value><i4>1404</i4></value>
    <value><string>Something here</string></value>
    <value><i4>1</i4></value>
</PutData>
```

Example of a CSV string:

```
"1997","Ford","E350"
```

Compact – removes all redundant space and newline characters from the target string. Those characters improve the readability of data but also increase the size of it.

Add trailing newline characters – by default, appends the ASCII CR (0x0D) and LF (0x0A) characters to every string.

Assign result to parser item – obtained data string will be stored in a variable with this name. You can then use the variable in other data filtration and export modules.

Send to another data source – when enabled, sends the result to the specified data source. Works similarly to the "Data redirect" module.

Encode variables – list the parameters to be encoded. If the list is empty, all variables from the data packet being processed will be encoded. Please specify one variable name per line.

Additionally, you can specify a new variable name using the "->" delimiter; the name will be used in the generated string.

Example:

VAR1->variable1
VAR2->variable2

6   Troubles?

6.1   Possible problems

No data for publication/exporting – no data is passed for exporting. Solution: configure the parser, make sure that one or more variables are declared in the parser.

Error on binding variable with name %s [%s] – the error usually occurs if data does not correspond to the specified format. For example, the date and time format does not correspond to the data.

Unable to disconnect from the database [%s] and **Unable to connect to a database [%s]** – it is impossible to connect/disconnect to/form the database. You should check the parameters of the database connection. The analysis of the additional information will help you locate the error.

Database access error [%s]. Stop operations with the database? – the message appears if an error occurs during an attempt to execute an SQL query if the second variant of reacting to errors is selected. The message implies a "Yes" or "No" answer. The analysis of the additional information will help you locate the error.

Unable to verify your SQL script [%s] – the message appears when an attempt to analyze your SQL query fails. Check if the syntax of your SQL query is correct.

Tested successfully – the message appears if your database connection is successfully tested. It requires no additional actions.

Database isn't used – the message appears if the module is temporarily disabled (the "Temporarily disabled" check box is selected) or the database name field is empty. Check the connection parameters.

Database isn't selected - the message appears if the database type is not selected. Check the connection parameters.

Database: %s – %s contains the database name. The message appears if the database connection is successful. Usually, you see it when you call the module for the first time. It requires no additional actions.

Invalid data block length (columns=%d,length=%d) – an internal application error. It means that the data sent by the parser is in an invalid format. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

The time of connection is not due yet (%d,%d) – the message appears during an attempt to connect to the database after the connection to it has been lost and the "Reconnect after" option is enabled. No additional actions are required.

Invalid procedure call. Bad arguments –an attempt to call the module using invalid parameters. Perhaps, you are using the module incompatible with the version of the Advanced Serial Data Logger kernel. Update the versions of both the kernel and the module.

Writing to the database is complete - the message appears if your queue of SQL queries is successfully executed. It requires no additional actions.

Writing to the database is complete with errors – the message appears if the executing your queue of SQL queries was interrupted by an error. It requires no additional actions.

Your SQL is empty. Please, specify some SQL text first – the message appears if you do not enter the text for your SQL query. Check if the options on the "SQL queue" tab are configured correctly.

Invalid temporary path – the path to the temporary file specified by you does not exist. Enter a new path in the "Temporary folder" field on the "Errors handling" tab.

%s, %d – will be replaced by additional information.