



Advanced Serial Data Logger

Trust in Confidence!

PRINTED MANUAL

Log Monitor & Export

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1 Introduction

1.1 About Log Monitor & Export

The term "log monitor" is a general term referring to different programs that all perform automated monitoring of various kinds, keeping track of changes to a file or file system. This is especially useful for administrators who have to stay on top of a large network consisting of databases, file systems, and many different programs running all at once. Even for single computer users, these monitoring programs can prove useful to provide a high level of control over an operating system's activities.

Our log monitor also comes with built-in notification or even scripting capabilities. That is, in the case that anything remarkable is found in any of the logs that the program is currently monitoring, it could simply send off an email to the human administrator, or even perform a predefined response. This saves administrators a lot of tedious labor in looking through many different logs, and frees their time for more important and complex administration tasks.

Key features of Log Monitor & Export:

- capability to monitor multiple log file at the same time. Each log may have fully different monitoring and exporting settings;
- allows monitor local and remote log files;
- real-time or schedules optimized monitoring;
- supports different log text or binary types;
- supports date/time stamping;
- allows archiving and pack log files;
- can send notification via email, ICQ and several other method;
- data export to ready-to-use Microsoft Excel, Microsoft Word (RTF) or Adobe PDF files;
- data export to most popular databases (MSSQL, Oracle, Interbase, etc.);
- simple, menu-driven step by step set-up - programming is not required to configure the software to collect data;
- many plug-in modules that extending program features;
- It supports various operating systems. The logger runs on all versions starting from Windows 2000, including 32 and 64-bit systems.

Unlike most other log monitoring applications, Log Monitor & Export can run as a service so that it starts as soon as the operating system starts and doesn't require a user to log in and run it. It will continue to run even as user logon and logoff the workstation.

It is extremely easy to use! The configuration process is fully menu-driven and has complete, context-sensitive, on-line help. You can easily customize all input to your exact specifications. Once you see how easy it is to use Log Monitor & Export, you will never again take data readings by hand!

Typical usage

A good example of a case wherein a monitoring program can save an administrator a lot of hassle is with a large file system open to many users. Keeping track of directory changes, new files, file name changes, and so on would be nearly impossible without using a specialized program designed to do so. By setting a few basic rules, for instance, restricting file types to particular folders, or restricting access to certain directories, an administrator can keep the entire system in tip-top shape.

Applications examples

- Data logging systems;
- Remote control systems;
- Alarm systems;
- Web or data servers monitoring.

Company home page: <http://www.aggssoft.com/>

Software home page: <http://www.aggssoft.com/log-monitor.htm>

1.2 Glossary

ASCII - An acronym for American Standard Code for Information Interchange. ASCII files are plain, unformatted text files that are understood by virtually any computer. Windows Notepad and virtually any word processor can read and create ASCII files. ASCII files usually have the ".TXT" extension (e.g., README.TXT).

Binary File - A file that contains data or program instructions written in ASCII and extended ASCII characters.

Bit - A binary digit in the binary numbering system. Its value can be 0 or 1. In an 8-bit character scheme, it takes 8 bits to make a byte (character) of data.

Bytes - A collection of eight bits that represent a character, letter or punctuation mark.

Cable - Transmission medium of copper wire or optical fiber wrapped in a protective cover.

Client/Server - A networking system in which one or more file servers (Server) provide services; such as network management, application, and centralized data storage for workstations (Clients).

PC - abbreviation for a Personal Computer.

Ports - is a connection point for a cable.

Protocol - is a formal description of a set of rules and conventions that govern how devices on a network exchange information.

2 License, Registration and technical support

2.1 License

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Registered customers are entitled to free updates during one year from the date of purchase. It means that for one year you can download and install the latest registered versions of Log Monitor & Export from our site. If you don't want to purchase an update, you can use the program forever; it will never expire, but you won't be able to use the latest version. If you purchased the software more than one year ago, you are no longer entitled to free upgrade and technical support; however, you can purchase an update to the latest version at a special, greatly discounted price, and this update will allow you to have free updates and technical support for another year. The type of the update license must match the type of your existing license.

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Should any term of these terms and conditions be declared void or unenforceable by any court of competent jurisdiction, such declaration shall have no effect on the remaining terms hereof.

If you do not agree to these conditions you should not install this software.

2.2 Limitations

The unlicensed program works in the trial mode. The program allows to test all features, but it limits the time and/or amount of processed data. The license key removes all limitations from the trial version. You may purchase a license key [here](#)⁴.

The trial version of our software has the following limitations:

- The trial period is limited to 21 days. After that time, the program stops working.
- The continuous program work time is limited to two hours. After that period the program shows a message and stops working;
- All data export modules can handle the first 100 records only;

2.3 How to acquire a license

The unlicensed program works in the trial mode. The license key removes all limitations from the trial version and allows you to use our technical support for one year.

If you want to buy a program through the Internet, visit the [order page](#) of our site. On this page, you can get the newest information about the registration process, and also find an order link. Please, follow the "Buy now" link, enter your personal information, and choose the most convenient payment method for you. Further, you will get a notification and follow the notes in it.

You may find more information about our policies, payment terms, payment methods, and frequently asked questions on our [web site](#).

2.4 Support

Technical questions	support@aggsoft.com
Common questions	info@aggsoft.com
Sales questions	sales@aggsoft.com

3 Installation

3.1 System requirements

Windows 2000 Professional - Windows 10 (2019), including x64 and x86 OS, Workstation, and Server OS.

It is necessary to have at least one working network interface (card) in your PC.

3.2 Installation process

If any beta-version was installed on your computer, remove it.

Quit of the working Log Monitor & Export on installation time.

Run an installation file.

By default, the installation wizard installs Log Monitor & Export to "C:\Programs Files\Log Monitor & Export" or "C:\Programs Files (x86)\Log Monitor & Export" the directory of your system disk, but you can change this path.

In the standard distributive of Log Monitor & Export are no additional modules files, which you can download from our [site](#).

4 Program use

4.1 Getting started

After you have successfully installed Log Monitor & Export, use the following simple steps to configure and run it.

Open the Log Monitor & Export program from the Start Menu.

At program run, you get into the main program window (fig. 1.1.1), main elements of which are the main menu, the data window, the program messages list, and the status bar.

- The data window shows incoming data before or after processing. You can configure the data view mode in the settings
- The drop-down box at the bottom shows all logged program info, warning, and error messages.
- The status bar shows the current state of the selected data source, errors on the data interface, and how many bytes were sent or received.
- The toolbar above the data window provides fast access to the configuration.
- The main menu above the toolbar allows you to edit the [program settings](#) ⁷ ("Options -> Program settings..."), manage configurations, open the current logfile from the "File" menu (fig. 1.1.2).

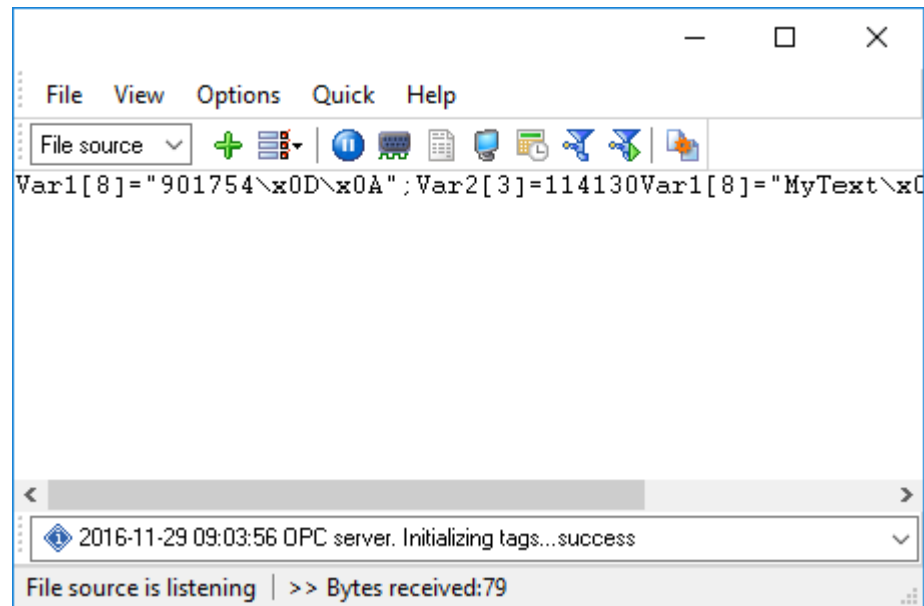


Fig. 1.1.1 Main program window

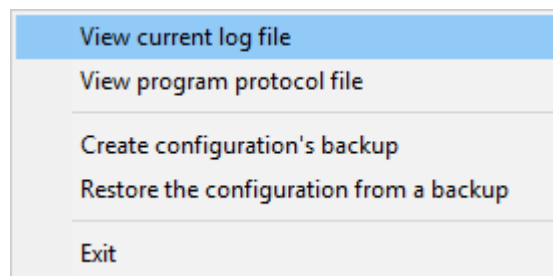


Fig. 1.1.2. "File" menu item

By default (after installation), the program has not any data sources configured. If the list of data sources on the toolbar is empty, then the program will ask you to add a new configuration. Otherwise, the program will fill in the list of data sources and try to start logging of data sources configured. Yes, of course, all your settings are being saved while exiting from the program and loaded during the program start.

Set-Up is as Easy as 1-2-3

Step 1. Configure one or more data sources.

Click the "Add configuration" button on the toolbar with a big green plus and choose log files. The "Files and folders" tab of the "Configuration options" dialog lets you configure your settings.

Step 2. Configure log file.

Select the "Log file" header in the configuration dialog window and enable logging.

Step 3. Define how you want log files data to be [parsed and translated](#)^[26].

The "Plug-in" button on the toolbar in the main window or "Modules" tab in the dialog window lets you specify how to parse, filter and format your data to fit the exact format required by your application. It also lets you pre-define automatic output strings to be sent to an external device.

Now, the program processes and exports data from one or multiple data sources.

4.2 Introduction

Log Monitor & Export can save data to a log file(s) without any changes (i.e., create raw binary log files) or write to log files depending on the parser module selected. In the first case, you can view the log file with any hex editor and use this data for further analysis and remaking. In the second case, you can view data with any text editor. You can find more information about log files in the "[Log rotation](#)"^[21] chapter.

You can watch the data in the data window ([fig. 1.1.1](#)^[5]). The data view is fully customizable. You can watch data in decimal, hexadecimal, or your format. How to customize data view you can read in the "[Data view](#)"^[17] chapter and how to customize program view you can read in the "[Window view](#)"^[33] chapter.

The data can be exported or transferred to one or more targets. The simplest way is to configure the log file rotation. However, it is small a part of all features of Log Monitor & Export. Log Monitor & Export has many [additional modules](#)^[26] (so-called plug-ins) that are appreciably extending possibilities of the logging software. You can download and install any module supported. Most modules are free of charge for our customers. How to install and configure modules you can read in the "[Modules](#)"^[26] chapter.

The program and their plug-ins generate many messages and write them to the list in the main window ([fig. 1.1.1](#)^[5]) and a protocol file that you can use for administration of the software. You can also configure types of system messages. More information about it you can read in the "[Protocol and errors handling](#)"^[37] chapter.

4.3 Data flow diagram

This diagram may help you to understand the flow of data within our software and a place of each module. The following chapters describe all plugin types.

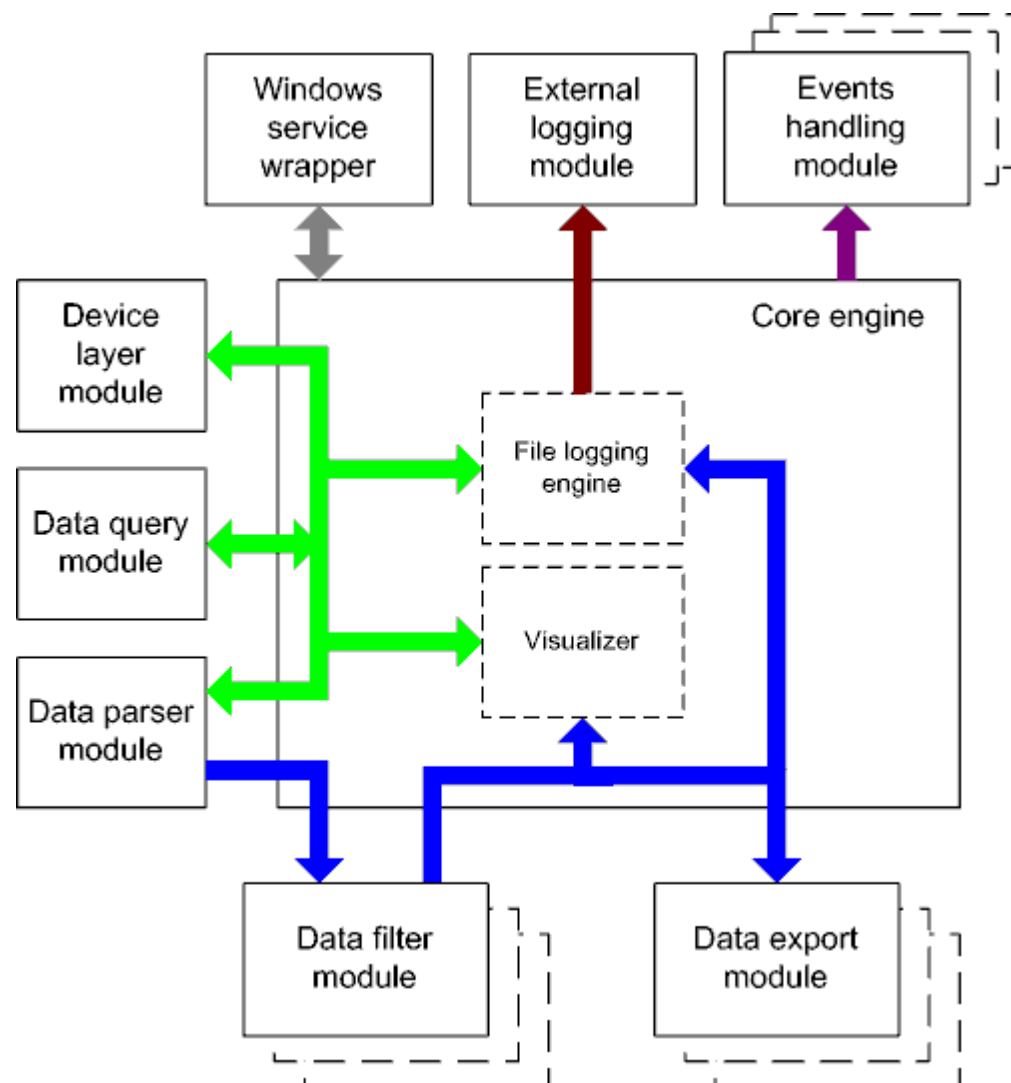


Fig. 1.2.1 Data flow diagram

History:

■ - The flow of binary data (RAW, unformatted data).

■ - The parsed data (formatted data). The data flow is separated into data packets and variables. Each data packet can be interpreted as a row, and each variable can be interpreted as a column.

Wires with other colors mark other relations with the unstructured data flow.

4.4 Work complete

The program saves all settings to the Windows registry when it stops working. All opened data sources will be automatically closed (unlocked, unallocated, or fried).

4.5 Useful advices

1. Look through hint helps on all window elements - it may help you to get a picture of this element's function.

2. You can change all program settings without restarting the program. To transfer settings to another computer, you can do the following:

1. Create a configuration backup from the "File" menu and restore it using the same menu.
2. Alternatively, export the registry node with all program settings. Start regedit.exe and export the following registry node:

on Windows x64

HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\AGG Software\Log Monitor & Export

on Windows x32

HKEY_LOCAL_MACHINE\SOFTWARE\AGG Software\Log Monitor & Export

3. On another computer import settings to the Windows registry.

Many main window elements have "hot" keys for quick access to its functions.

- Ctrl+S - analogs to click on "Start/Pause" button on the toolbar.
- Ctrl+C - analogs to click on "Clear" button on the toolbar.
- Ctrl+P - opens the window with the configuration settings.
- Ctrl+L - opens the window with the log file settings.
- Ctrl+W - allows you to configure the data view mode.
- Ctrl+R - shows the window with the program settings.
- Ctrl+E - shows the Windows 2000+ service settings.
- Ctrl+M - here you can configure data query plugins, data parser, and other plugins.

4. You can look at the summary statistic that contains summary about sent and received data, created files, etc. (View - Statistics)

5. You can save program settings to an INI file. It may help to install and use several copies of the program. You can make your choice from the "Options" menu.

6. The program window can display only the last 10 messages. The full program log file (if activated) you can open using the "File - View program protocol file" menu item.

4.6 Configuration

4.6.1 File settings

4.6.1.1 File data source

About log files

A log file is a file containing records about events in the chronological order.

Logging means the chronological recording of data with a varied (customizable) level of details about systems events (errors, warnings, messages). Usually, the data is saved to a file.

Examining the contents of an error log file after failures often makes it possible to understand what causes them. Old hardware and software systems use log files to save and store data.

Purpose

The program is used to monitor folders (directories) with log files or separate log files in real-time. Once the program detects new data in the log file, it can send notifications to the administrator or export and archive data from log files. The built-in script and filter tools allow you to single out only the events you are interested in from one or several log files. It considerably decreases the load on the administrator whose job is to maintain several web servers or data servers.

A good example of how to use the program is monitoring a computer where many users can create, copy, and edit a file. Log files allow you to track all changes, and the administrator can control all operations using the log file. With our program, the administrator can create event types that are to be detected (for example, deleting a file or creating a file with a certain name) and receive an immediate notification about this event as a desktop or e-mail message. The program becomes even more useful if you need to control several servers simultaneously.

How the program works

Once started, the program analyzes the list of folders specified in the configuration checking if these folders exist. If a folder exists, it is added to the scan list; otherwise, it is skipped. Once the data source is started, the file list is also filled with the initial file size values. Then the program is switched into one of the scan modes specified in the configuration:

1. "Simple" – simple scan mode. In this mode, the program analyzes the folders and subfolders specified in the configuration for changes in the file.
2. "Shell" – the shell mode uses operating system events when files and folders are created or modified.

If the program is configured to read data at startup, after the initial processing, it will read data from the files of the corresponding folders and subfolders and prepare this data for exporting, archiving or sending notifications.

The program monitors new files and folders and starts processing them in both modes. The program also monitors deleted files and folders and stops processing them.

If a file has just been created or the size of an existing file has changed, the program reads this data from the file and passes them on for further processing. The parameters specified in the configuration

are used to read data (see "File settings"). If there is a delay set in the configuration before reading the file and the file changes during this delay, the program delays reading the file for the time of the delay specified in the configuration. If the file changes again, the reading will be delayed and so on until the file stops changing. After the program reads the file, it performs one of the following three operations with it:

1. The file is deleted;
2. The file is cleared, i.e., the file size becomes equal to zero;
3. The file is not modified.

The program takes into account the file mask specified in the configuration, i.e., if "*.txt" is specified in the configuration, the program will scan and read data only from a text file – it will ignore all other files. The program also uses the minimum file size value from the configuration during the scanning process. If the file size is less than the specified value, the program does not read the file till the file size is equal to or larger than the specified value.

The program reads data from the file by blocks whose size is specified in the configuration. The larger the block is, the fewer times the program accesses the disk and the better the performance is, but the requirements to the computer performance are higher.

Select the "**Folders**" tab in the "Configuration options" window, and you will see the list of folders on the screen (fig. 2.6.1).

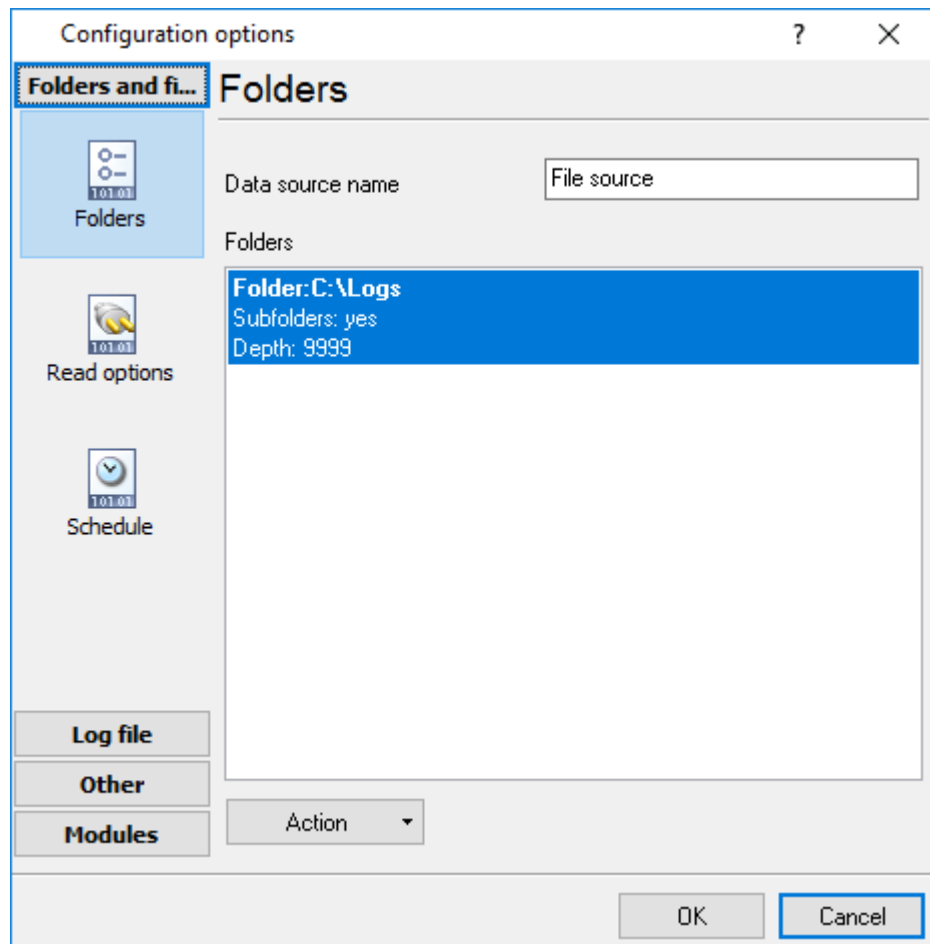


Fig. 2.6.1 Folders settings

Data source name – the field contains any name that will denote the operations performed with files. You will see this name in the drop-down list in the main window of the program. By default, it is Data source #XXX, where XXX is the number of the data source.

By default, the list of folders for scanning is empty. Click the "**Action**" button or right-click the empty list, and you will see the action menu (fig. 2.6.2).

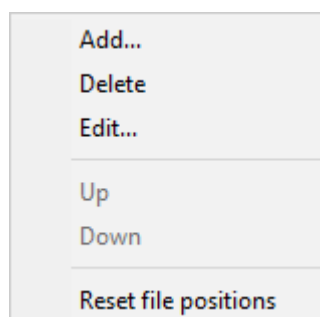


Fig. 2.6.2 Action menu

Add ... - the item allows you to add a new folder to the list. After you select this item, you will see the Folder Properties dialog box on the screen (fig. 2.6.3). Specify the folder properties, click the OK button and the folder will appear in the list. If you change your mind, click Cancel.

Delete - the item removes the selected folder. Before the deletion, the confirmation dialog box will be displayed on the screen when you will have to click Yes to remove the folder from the list or No to cancel the operation. The item is not available if the list is empty.

Edit ... - the item shows the "Folder properties" dialog box (fig. 2.6.3). Change the folder properties and click OK to save them. If you change your mind, click Cancel. The item is not available if the list is empty.

Up - the item moves the folder one position up. The item is not available when the list is empty or when the first folder is selected.

Down - the item moves the folder one position down. The item is not available when the list is empty or when the last folder is selected.

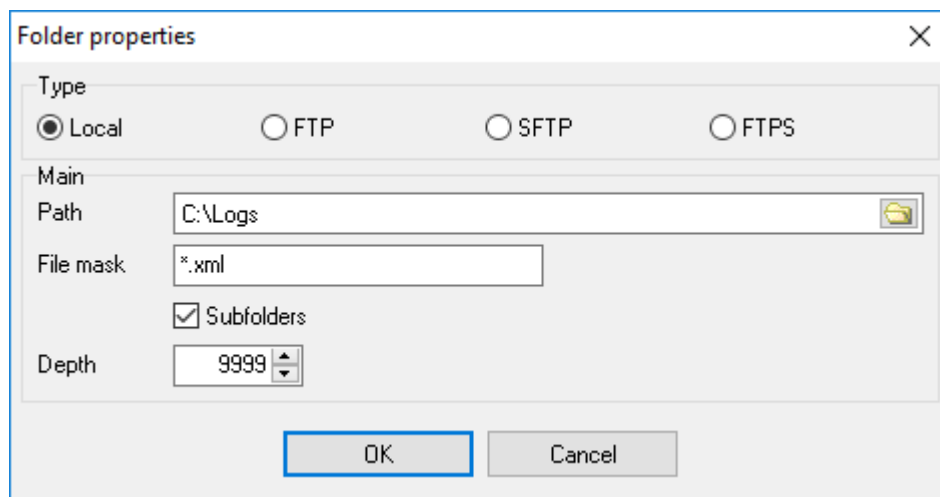


Fig. 2.6.3 Folder properties

Path - the field contains the path to the folder. You can select the folder from the list by pressing the button to the right. The default folder is the current one.

Subfolders - the checkbox enables/disables scanning subfolders. By default, subfolders are scanned.

Depth - the depth of scanning subfolders. 9999 by default.

Note: The scanning depth is counted from the specified path to the folder. For example:

C:\Files\Data\Test - source folder

C:\Files\Data\Test\Folder0 - level 1

C:\Files\Data\Test\Folder0\Folder1 - level 2

etc.

Note: If the specified folder does not exist, you will see an error message on the screen and you will not be able to save the folder properties, so it is recommended to select a folder from the list by clicking the button to the right from the Path field.

4.6.1.3 Files settings

Select the "**Read options**" tab in the "Configuration options" window, and you will see the file and scan settings on the screen (fig. 2.6.4).

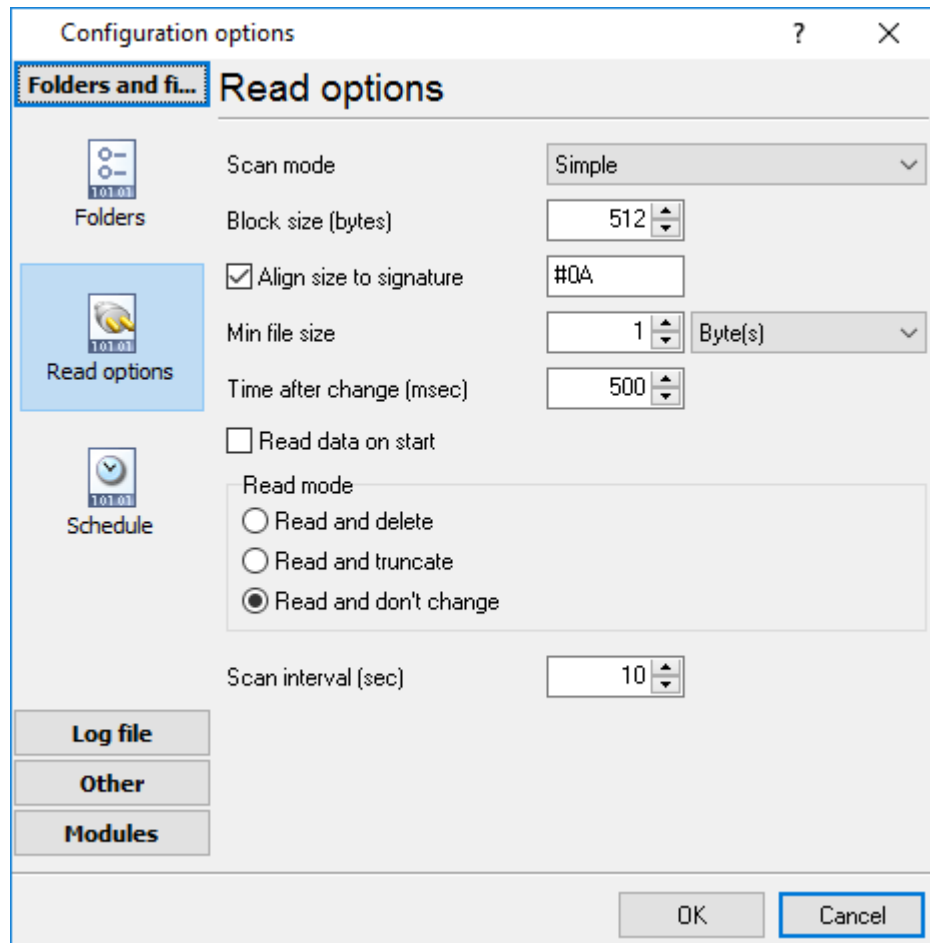


Fig. 2.6.4 Shell mode

Scan mode - the list allows you to select one of the scan modes: **Simple** or **Shell**. In the Simple mode, the program goes through files in the specified folders and subfolders and checks if the file size has changed. The Shell mode uses operating system events to check changes in the file size. The program monitors new files and folders and deleted files and folders in both modes. If the operating system does not support the Shell mode, only the Simple mode will be available in the list. The default mode is Shell.

Shell mode

File mask - the field contains the file mask used to scan files. The program processes only those files that match the mask. For example: *.* - all files are processed, *.txt - only text files are processed, *.exe - only executable files are processed. The default is *.*.

Block size (bytes) - the field contains the size of the block (in pixels) used to read data. If the size is too small, Data will be read multiple times from the file, which will result in a delay. If the size is too large, it may also result in a delay. Choose the optimal data block size. The default is 512 bytes.

Min file size - the field defines the minimum size of a file to be processed. There is a list to the right from this field. It contains measurement units: Byte(s), KByte(s) and MByte(s). If the size of the file is less than that specified in the field with the corresponding measurement unit, it is not processed. The default is 1 Byte(s).

Time after change (msec) - the field contains the delay before the file is read. If the file changes again during the delay, the reading will be delayed again and so on until the file stops changing. The default is 500 msec.

Read data on start - the checkbox allows the program to read data from the file and pass them to the kernel at the program startup. The above parameters are used to read data. It is disabled by default.

Read and delete - if the option is selected, the program will delete the file after the data is read. It is not selected by default.

Read and truncate - if the option is selected, the program will clear the file so that its size equals zero after the data is read. It is not selected by default.

Read and don't change - if this option is selected, the program will leave the file unchanged after the data is read. It is selected by default.

Simple mode

All parameters are the same as for the Shell mode except for the last option.

Scan interval (sec) - the field contains the scan interval value. The default is 30 sec.

Select the "**Schedule**" tab in the Configuration Options window, and you will see the schedule settings on the screen (fig. 2.6.5).

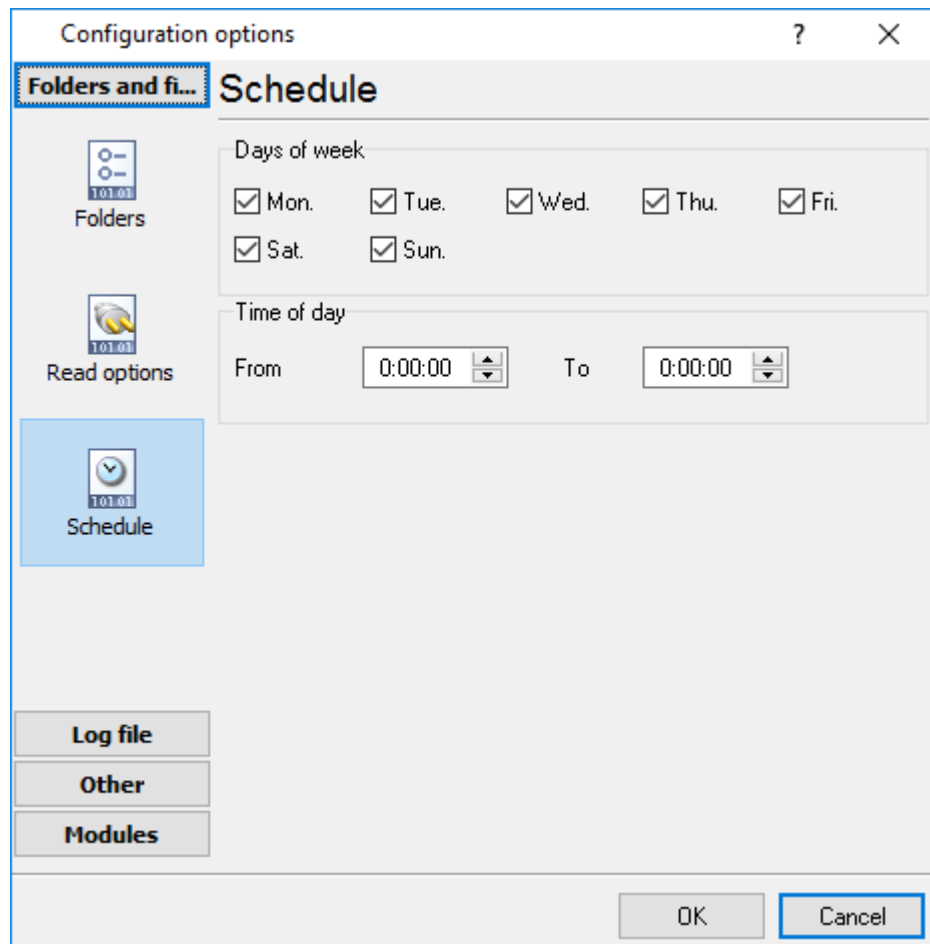


Fig. 2.6.5 Schedule

These options allow you to specify:

1. The days to scan on (the "**Days of week**" group);
2. The time when to scan (the "**Time of day**" group). If you specify the interval as 0:00:00-0:00:00, scanning will be done around the clock.

These options can be useful if, for example, you do not want to scan log files at weekends when the computer is off or when the administrator will not see notifications anyway.

4.6.2 Additional parameters

4.6.2.1 Data view change

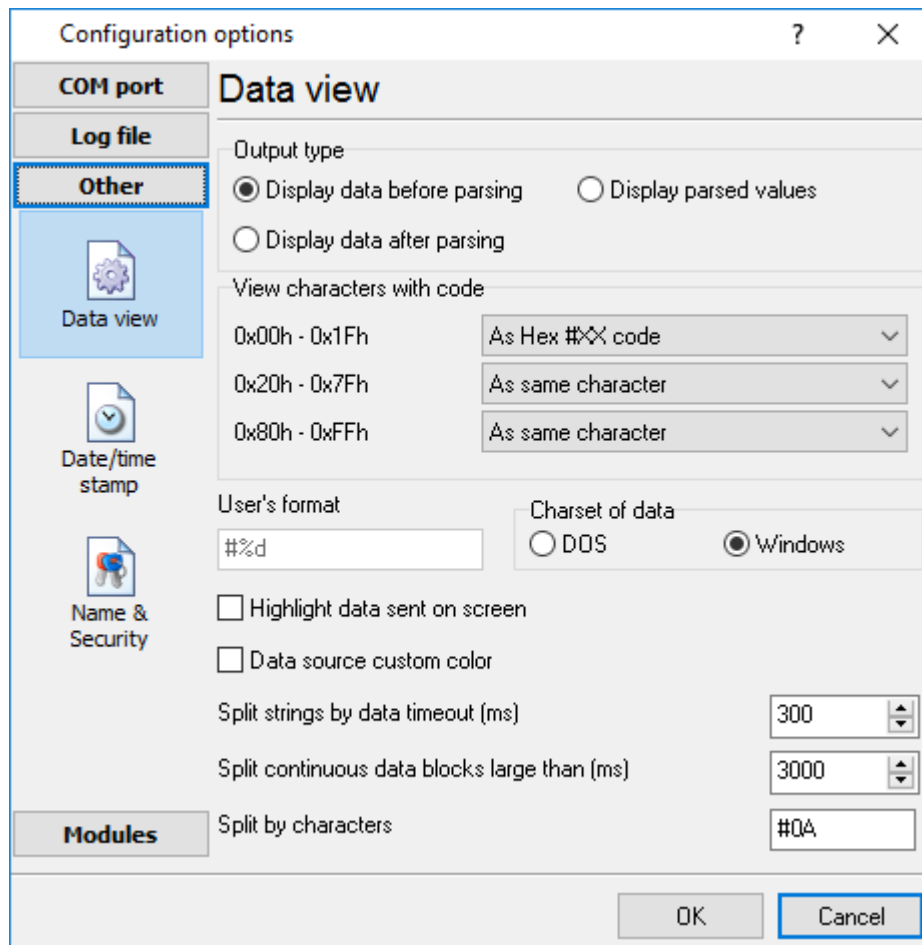


Fig. 3.1.1. Data view

Data view settings, that can be configured on the "Data view" tab:

1. **View characters with code** - the program can interpret and decode bytes as characters. You can select decoding mode for each range of character codes. If the range doesn't have the corresponding character, that's why these data can be displayed only in hexadecimal and decimal code.
2. You can set up the **user's format** to display a data byte. The directive `%d` shows to display a decimal code, the directive `%x` - hex code. You can set any framing characters before/after the user format.
3. **Highlight data sent on screen** - a string with sent data will be highlighted by the selected color.
4. **Character set** - allows you to define the character set of incoming data. Windows - Windows ANSI character set, DOS - OEM character set.
5. **Data source custom color** - if you've created several configurations then you can define a custom color for each data source that allows you to distinguish data flows on the "All data" page in the main window.

6. **Split strings by data timeout** - this option allows visually splitting data packets in the program window. Data packets that will be received after the specified interval will be shown on a new line. If this value is set to 0, then data packets will not be split.
7. **Split continuous data blocks large than** - this option allows visually splitting continuous data flow in the program window. The program will show data on a new line if continuous data is longer than the specified number of bytes.
8. **Split by characters** - this option allows to visually splitting continuous data flow in the program window using the specified symbols. For example (fig. 3.1.1), the program will use a character with the 0Ah hexadecimal code that is equal to the "LF" ASCII code.

4.6.2.2 Date/time configuration

This group of options (fig. 3.2.1) allows you to configure how timestamps appear in the log file and on the screen. You can configure the stamp format in the [program options](#)^[36].

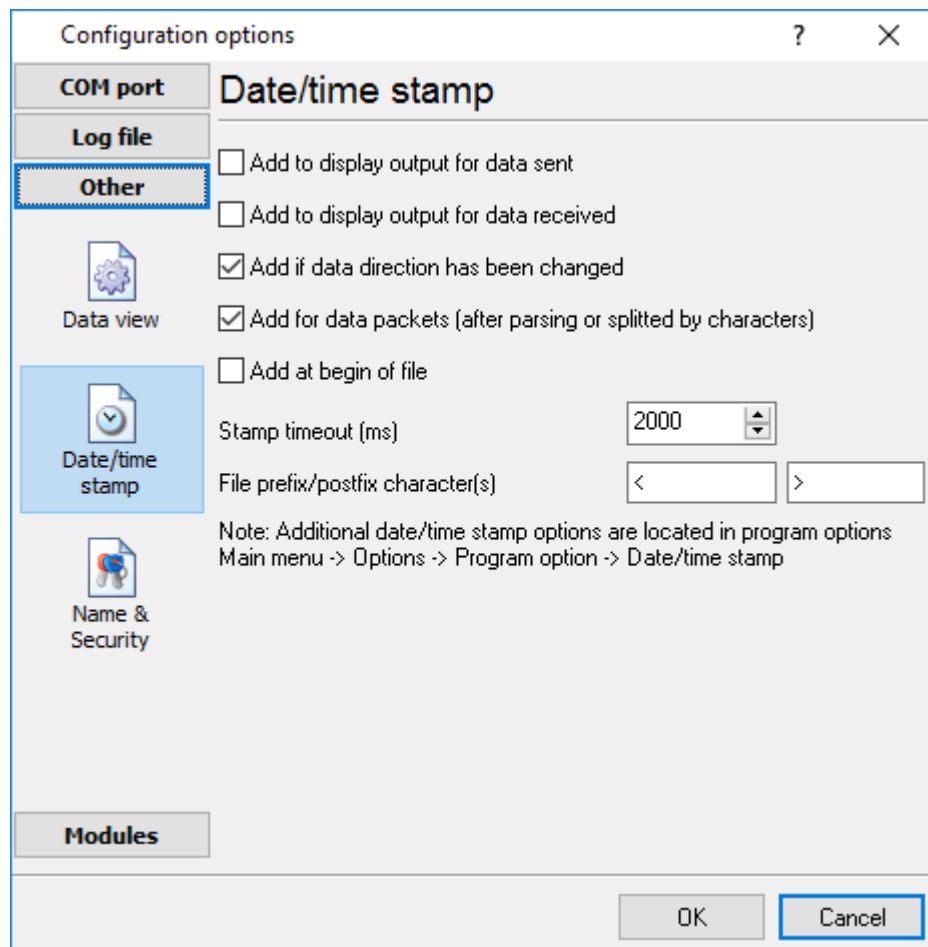


Fig. 3.2.1 Time stamp configuration

Add to display output for data sent - the time stamp will be added for the sent data displayed on the screen. The stamp will be added according to the timeout (if the data flow is uninterrupted) or when a data packet is sent.

Add to display output for data received - the same but for the received data.

Add if data direction has been changed - if the program is sending and receiving data, the time stamp will be also added when the data transfer direction changes (sending/receiving).

Add for data packets - if the data is displayed after it is processed, the stamp will be added to each processed data packet.

Add at begin of file - the stamp will be added at the beginning of every new log file.

Stamp timeout - if the data flow is uninterrupted, the stamp will be added regularly at the interval specified in milliseconds.

File prefix/postfix character(s) - the program will use these characters instead of those specified in the [program options](#)^[36] while writing data to a file. For example, it allows you to add the new line character or another sequence of characters before or after the stamp. Example: >#0D#0A

4.6.2.3 Name and security

This group of options (fig. 3.3.1) allows you to configure the following parameters:

Friendly name - this name will be added before the port number or the data source in the drop-down list in the main window of the program. It allows you to describe the data source.

Start logging automatically - if this option is enabled the program will start receiving and logging data automatically when it is launched.

The "Security" option group allows you to protect user operations in this particular configuration with a password. You can specify advanced security options applied to the entire program in the [program options](#)^[43].

Ask password before start and stop - the password will be required when the user clicks the "Start/Pause" button in the main window of the program.

Ask password before configuration edit - the password will be required when the user tries to open the Configuration options dialog box.

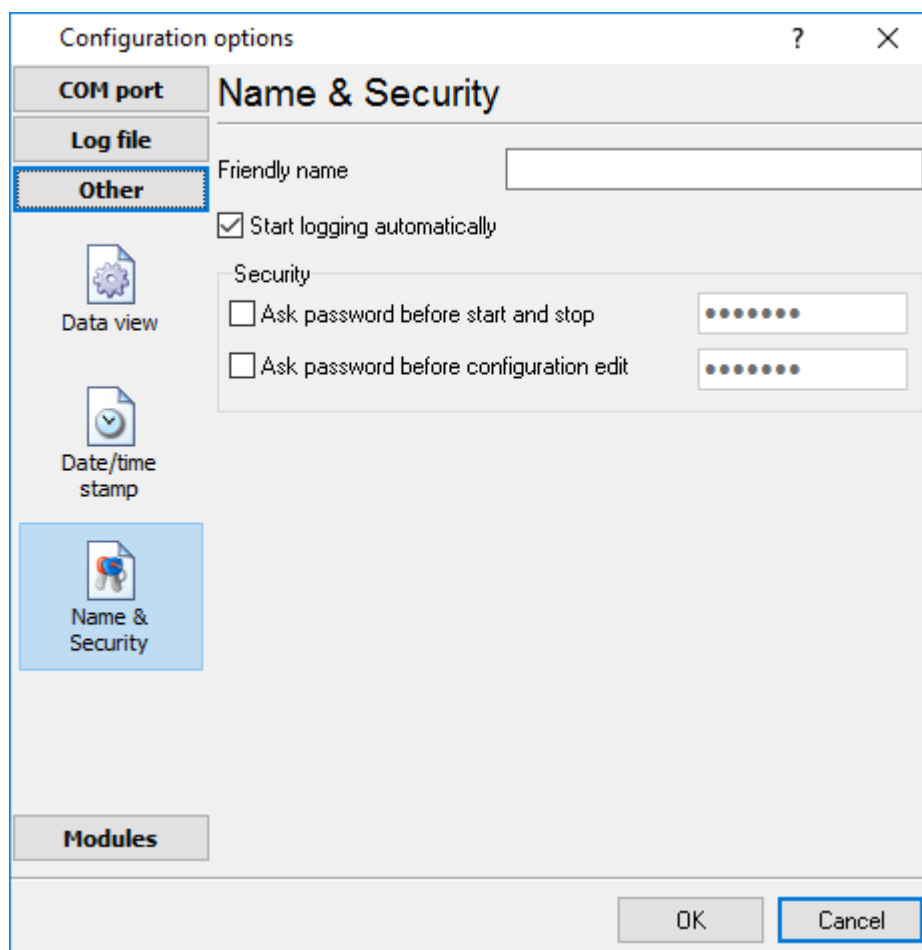


Fig. 3.3.1. Name and security

4.6.3 Log files

4.6.3.1 Log rotation

The main function of Log Monitor & Export is logging data to a file (so-called, log file). The "Log rotation" tab has a rich set of options for it. (fig. 4.1.1).

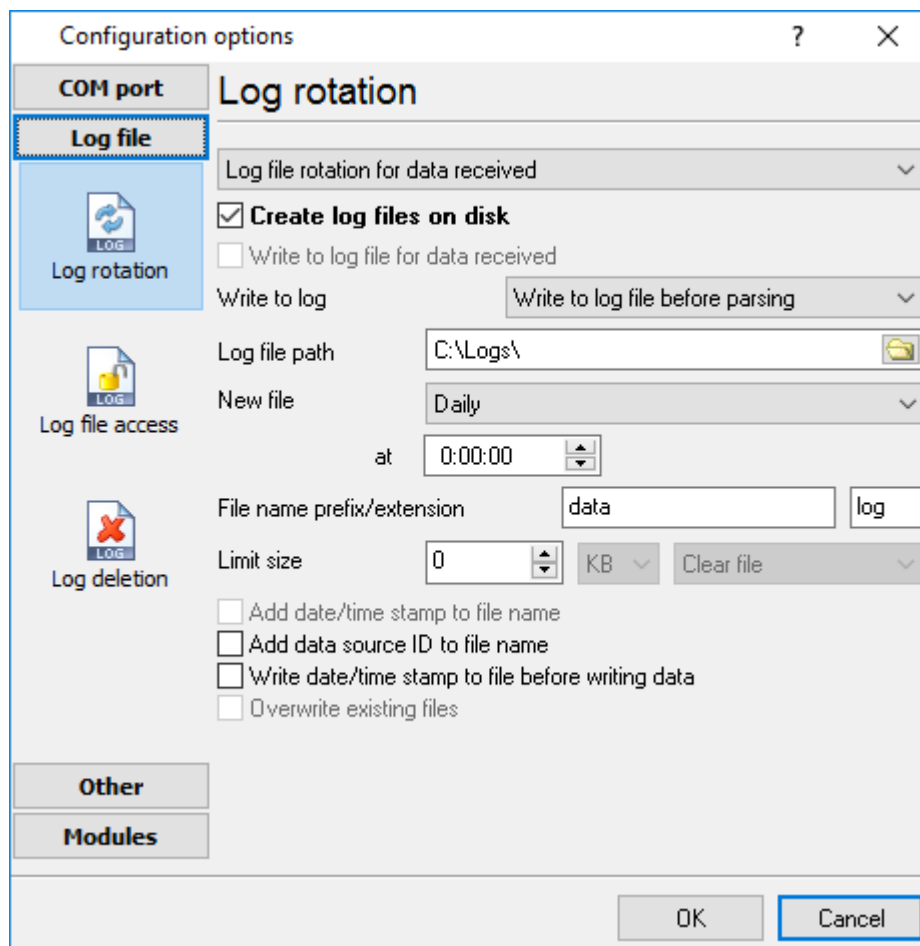


Fig. 4.1.1 Log-file forming modes

Set the "Create log file on disk" option to the checked state. Then you can set path to a folder, where files will be created with the help of a dialog window, which will be showed up after clicking a button with the "Folder" picture. You should select a necessary folder in the dialog window and click the "OK" button.

Log file path - the full path to a local or network folder, where the program will create new log files. The network path should be specified as: \\COMPUTER NAME\Folder\

Note: If the program works with network files, it greatly increases data flow through your network and decreases writing speed. Please, consider creating small log files. If your incoming data flow is fast, you may create log files locally. Later, you may sync a local folder with a remote folder using any 3rd party utility.

A log file name can be stamped with date and time. In this case, a new log file is created periodically. The format of a timestamp depends on the selected period. For instance, if the "**File name prefix**" field is set to "sample," the "**File extension**" field to "log," and the "**File name format**" option is "Daily," then each log file created will have the format "sampleYYYYMMDD.log". On March 21st, 2003, the log file will be "sample20030321.log". Please, note, that the final extension (after the final period), remains at the end of the file name.

Write to log - the option allows you to select when the program writes data to a log file. This feature is disabled in some loggers, and if the parser plugin is not available.

- **Before parsing** - the program saves all incoming data without any modifications. If an external device sends binary data, the logger will create binary files.
- **After parsing** - the program saves data after parsing. Generally, it is a parsed data packet.
- **After filtering** - the program saves data after all filter plugins. The logger saves the content of the "FULL_DATA_PACKET" variable. A filter plugin may transform or fully change the variable. If you do not use any filter plugin, then this mode works as the previous.
- **Screen content** - the program saves data to a log file as you see it in the main window. Generally, it is text content; therefore, the program creates a text log file.

The log rotation mode is defined by the following key parameters:

- **File name prefix** - the text string, which will be added at file name beginning. The prefix may contain special placeholders like {NAME}. If you create log files before parsing the NAME can be any date formatting values below. For example: "data{YYYY}_{MM}_{DD}" returns a prefix like "data2019_01_01". If you create log files after parsing or filtering, you may use any parser variable. Then the file name may depend on some value in your incoming data.
- **File name extension** - the text string, which will be a file extension (characters after the dot).

Limit size - the "Limit size" field specifies the maximum size in kilobytes of any log file. If you specify the zero file size, then the file size is not limited.

You may select from the following modes:

1. **Clear file** - if the log file size will exceed the limit specified, then the log file content will be deleted, and file filling will start from the beginning.
2. **Rename old** - if the log file size will exceed the limit specified, then the existing log file will be renamed.
3. **Shift (no threshold)** - the older data over the limit specified will be removed from the log file.
4. **Shift (with threshold)** - in this mode the program will wait when the file size will exceed the limit specified + the threshold value. After this, the older data over the limit specified will be removed from the log file.

If the program continuously works for a long time, it is possible that the log file will have a large size and this file will be inconvenient for looking and analyzing. Therefore, there is the possibility to create files in dependence with the time on a computer. You can select one variant predefined or set up a new one:

- **Daily** - the file will be created with a name containing a prefix, and date in format DDMMYYYY, where DD is two-digit day sign, MM is two-digit month sign, and YYYY is four digits of the current year. The filename extension will be added at the end of the file.
- **Monthly** - the file will be created with a name containing a prefix, and date in MMYYYY format. The filename extension will be added at the end of the file.

- **Each data packet in different file** - in this mode, the program splits data flow to a different file. In this mode you should configure the parser or the program will split a data by timeout about 300 milliseconds.
- **Don't create new file** - in this mode, the program will write all data to one file. It is recommended for a small data flow. Otherwise, your log file will be too big, and a performance of the program will fall down.
- **User's format** - a file will be created with a name containing a prefix and date in showed by you format (for example, DDMMYYYY). The filename extension will be added at the end of the file. The file may not contain format signs, then file name will be constant. You should not use characters, that the OS doesn't allow in a file name, such as "/", "\", ".", "?" and some others.
- **Weekly** - create a new file every week. The file name will contain a week number.
- **After data timeout** - the program will create a new file if the program didn't receive any data at the specified interval.
- **Hourly** - the file will be created with a name containing a prefix, and date in format YYYYMMDDHH, where HH is two-digit hour sign, DD is two-digit day sign, MM is two-digit month sign and YYYY is four digits of the current year. The filename extension will be added at the end of the file.
- **Constantly named file** - the current log file will have a constant name. When creating a new file, the existing log file will be saved using the new file name that will contain a date and time stamp.

Date and time formatting codes:

D - a day number (1-31).
 DD - a day number with a leading zero (01-31).
 DDD - a day of the week in the text form (Mon-Sat), according to the regional settings on this computer.
 DDDD - a day of the week in the full text form (Monday-Saturday), according to the regional settings on this computer.
 M - a month number (1-12).
 MM - a month with a leading zero (01-12).
 MMM - a month name in the text form (Jan-Dec), according to the regional settings on this computer.
 MMMM - the full month name (January- December).
 YY - last two digits of the year (00-99).
 YYYY - the full year number (0000-9999).
 H - the hour number (0-23).
 HH - the hour number with a leading zero (00-23).
 N - minutes (0-59)
 NN - minutes with a leading zero (00-59).
 S - seconds (0-59).
 SS - seconds with a leading zero (00-59).

Example: You want to create a log file every hour. It is desired that file name starts from "sample_log" and the file extension "txt".

Answer: set file prefix = sample_log_, file extension= txt (without dot!). In file name format show HHDDMMYYYY. Now the file will be created every hour. Naturally, you can set any formatting characters combination, described higher.

If you want to access to a log file while the program work, then you should configure [access mode settings](#)^[24] for the log file in the next chapter.

Add date/time stamp to file name - this option is available for modes #4 and #7 and allows adding date and time to the file name.

Add data source ID to file name - if this option is activated, then the program will append the data source name at the beginning of the file name, for example, COM1-sample20030321.log.

Write data/time stamp to file before writing data - if this option is activated, then the program will write a date/time stamp to a file before each data portion.

Overwrite existing files - this option is available for modes #4 and #7 and allows you to delete an existing log file before creating a new log file.

4.6.3.2 Log file access

During work can be such situations, when it is necessary to get access to a file with *current* data (current log file) from other applications (for example, for data processing). However, while you are accessing the current log file Log Monitor & Export can't write data to a log file and all data at this moment will be lost. We recommend using a temporary file for data storage. It is the safest way. (fig. 4.2.1).

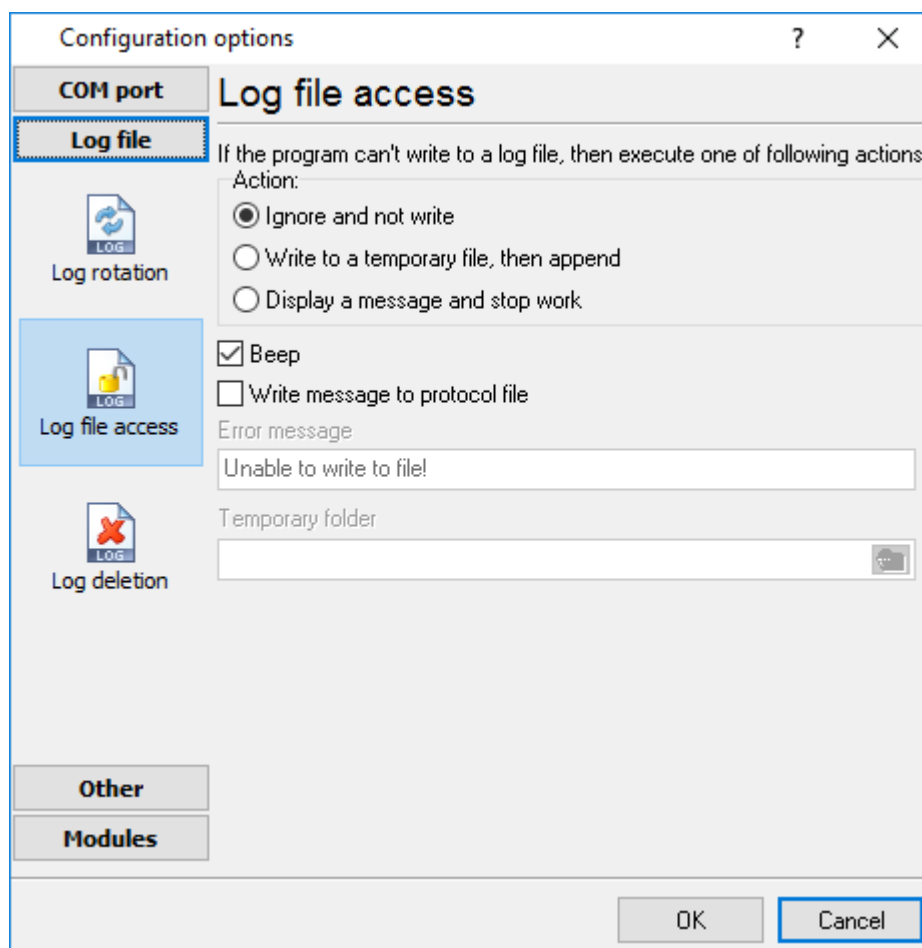


Fig. 4.2.1 File access mode.

You can select one from the following variants:

- **Ignore and not write** - in this mode, the program stop writing to a log file until it is locked. Therefore, data will be **lost**.
- **Write to a temporary file, then append** - a temporary file will be created, to which writing will be done. After access to the current file will be got, temporary file content will be added to the end of the main file. However, mind that if file has a timestamp in the name, there can be a situation when the program copies the content of a temporary file to a new log file, for the next time.
- **Display a message and stop work** - data will be lost until the dialog window is closed.

You can define your message text, which will be displayed at writing error to a log file. The sound signal can be on for an additional indication. You can also enable writing a message to a protocol file.

4.6.3.3 Log deletion

The deletion of files (fig. 4.3.1) will help you to avoid stuffing your hard disk with needless information. Log files can be deleted either depending on the time of storing or when the maximal number of files is exceeded.

When deleting files by the time of their storage, the files that were modified last time before the specified period are deleted.

When controlling the number of files, the files with the oldest modification dates are deleted first.

You can select both variants of file deletion. In that case, files will be deleted when either of the conditions is true.

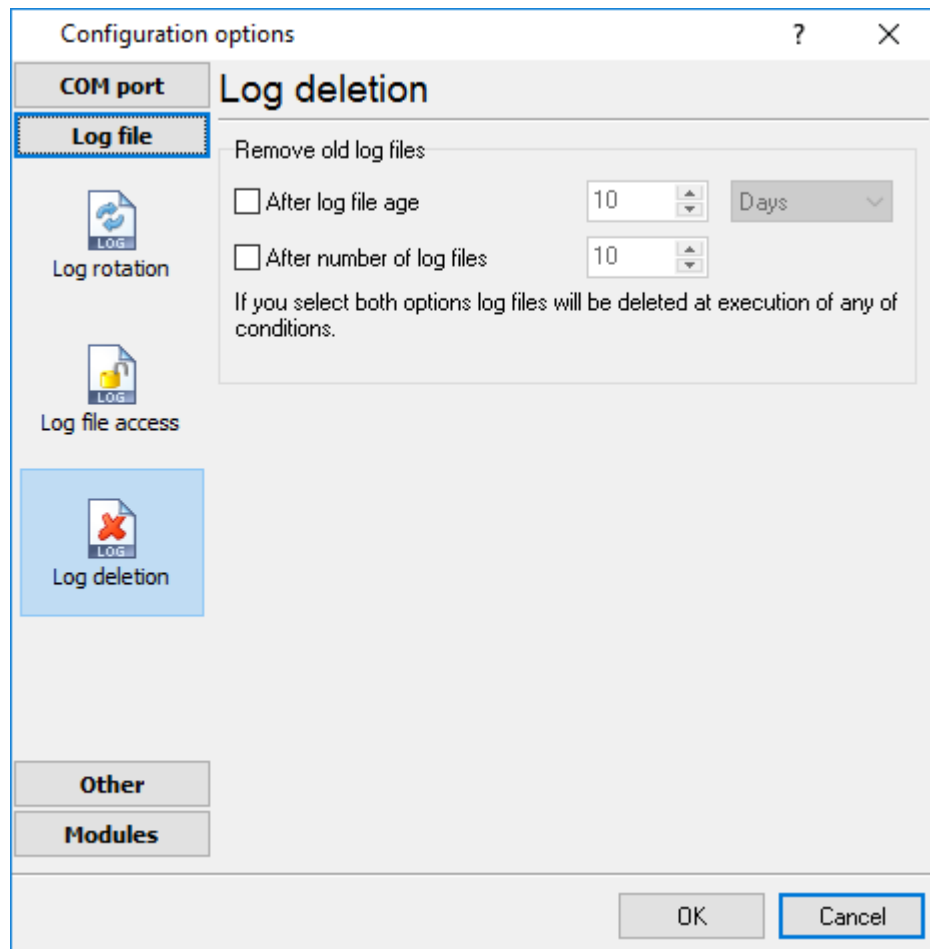


Fig. 4.3.1 Log deletion

4.6.4 Modules

4.6.4.1 Introduction & setup

To extend program functionality, we implemented plug-in modules. The module structure lets you to reduce your program size and purchase costs (you pay only functionality, which you need).

Log Monitor & Export supports a few types of modules (fig. 5.1.1 - 5.1.3):

- **Data parser** - the data parser allows you to parse, filter, and format data from your data sources. Some of the advanced features of the parser are the ability to work with raw binary or hex data.
- **Data filter** - data filters allow you to filter your data and modify a value of parser variables.
- **Data export** (fig.11) - Log Monitor & Export has many modules and method for passing data to other applications, for example, there are modules for various databases, file formats (CSV, XML), data interfaces (OPC, DDE, MQTT), and many others.
- **Events handling** (fig.12) - these plug-ins are used to handle events generated by the Log Monitor & Export software. Once an event occurs (for example, "Data source is opened" or "Configuration changed"), the plug-in creates a text message using the specified template,

sends a notification, does some actions, executes a program or a script, etc. The form of the notification or actions depends on the plug-in settings.

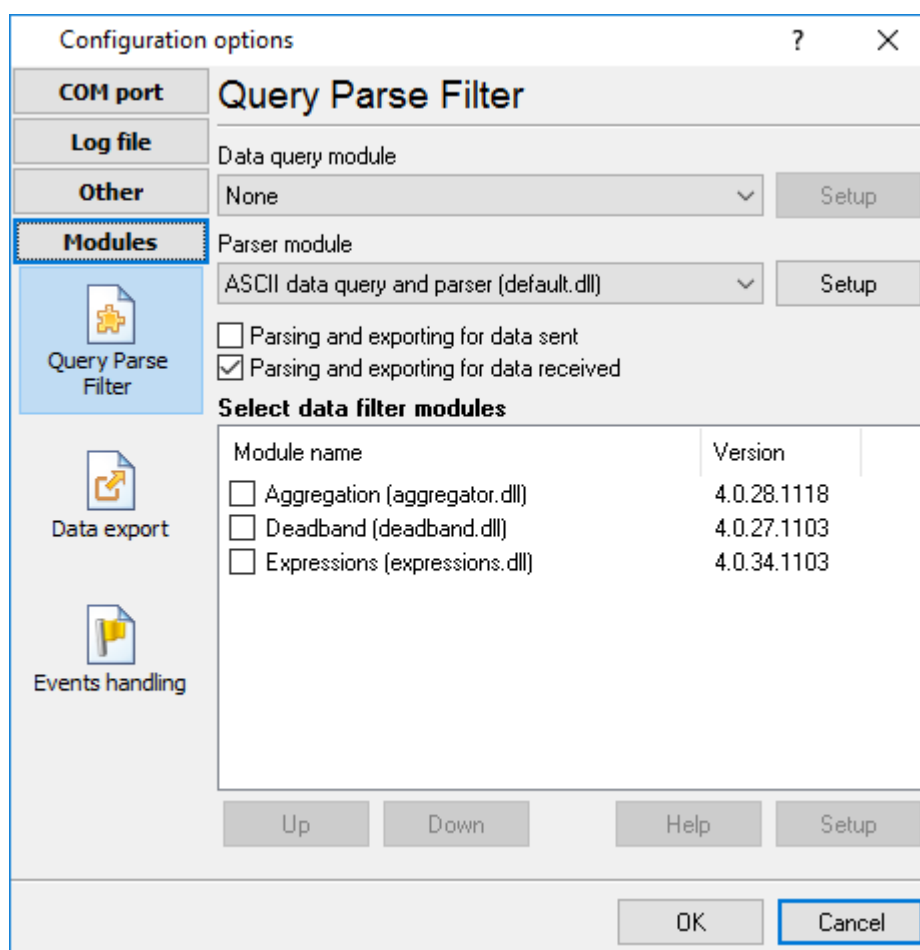


Fig. 5.1.1. Activating plug-ins

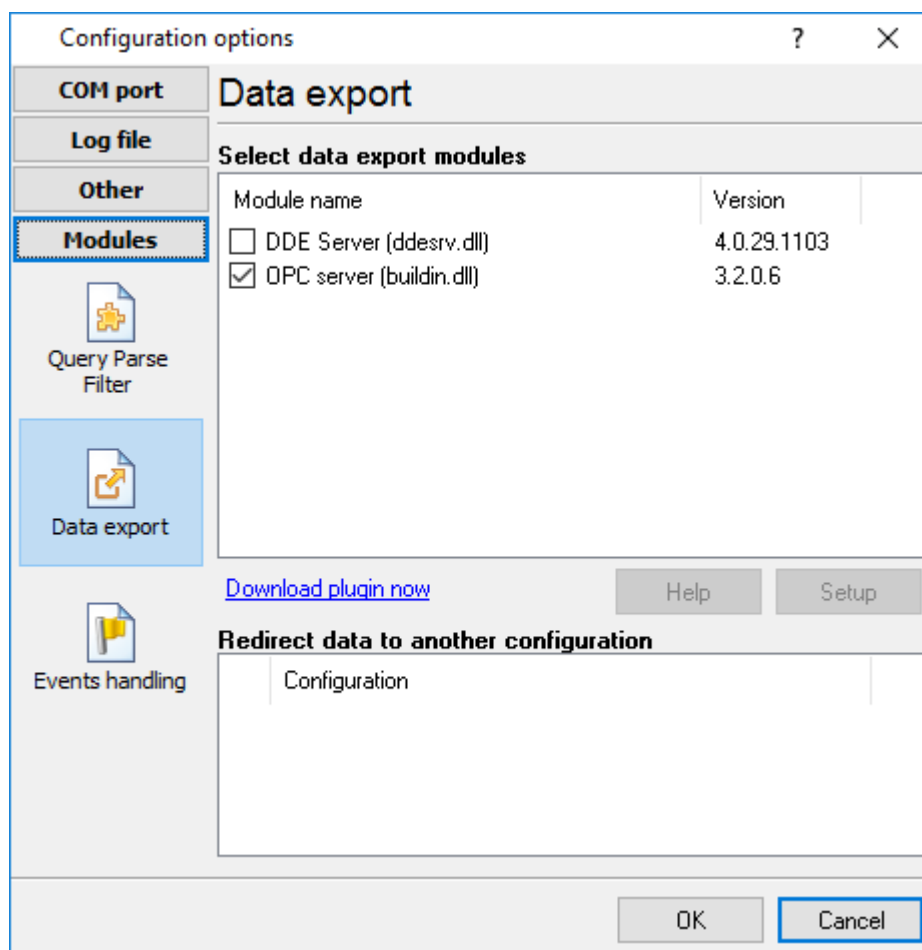


Fig. 5.1.2 Activating data export plug-ins

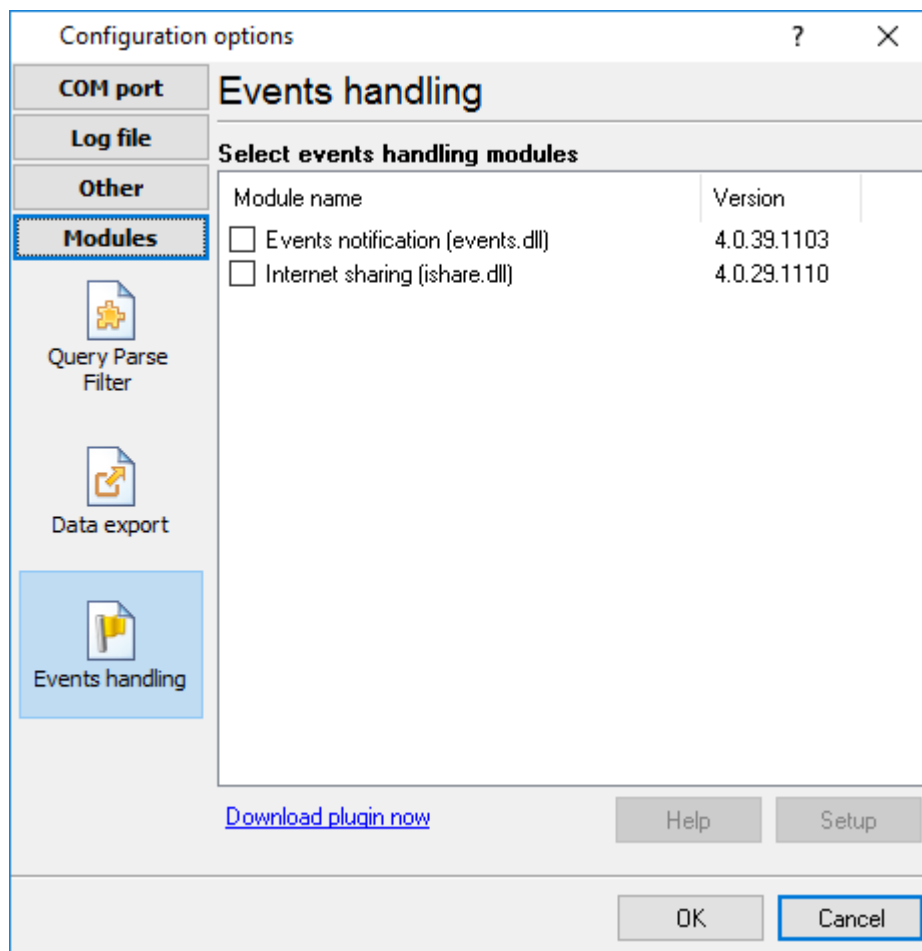


Fig. 5.1.3 Activating events handling plug-ins

Installation

You can easily install a new module. Usually, you should start the installation file and click the "Next" button for a few times. The installation wizard will detect a place of your Log Monitor & Export software and place a plug-in module and all distributive files to the "Plugins" folder, which is in the program folder (by default X:\Program Files\Log Monitor & Export\Plugins).

After the program restart, a module will be loaded and initialized. If the module is supported by our software, the module name will appear the modules list (Fig. 5.1.1-5.1.3). Most modules require additional settings. If you want to configure the plug-in module, click the "Setup" button near it. If you selected the module and the "Setup" button is not active, then the module doesn't have additional settings and can work without additional settings. Please, read a user's manual of the corresponding plug-in for additional information.

Configuration steps

1. Select and configure a query module. You may use a module of this type if you need to send some data to your device (for example, initialization strings or request strings).

2. Select and configure a parser module. This step is necessary because filter and export modules can use parsed data only. If you didn't select the parser module, then you can't configure the data filter and data export modules.
3. Activate and configure data export modules. You can select one or more modules simultaneously. The program will use selected modules simultaneously. Please, note, the program can't use the data export module, if you didn't configure the parser module.
4. Activate and configure event modules. You can select one or more modules simultaneously.

4.6.4.2 OPC server

Since the version 2.1.1 Log Monitor & Export has an internal OPC server. It means that any OPC compatible client application can get data from Log Monitor & Export without any additional software. To connect to the OPC server, you need the server ID and name (Fig. 5.2.1). Before using the OPC server on your computer, you should download and install the OPC Core Components Redistributable from www.opcfoundation.org (registration required).

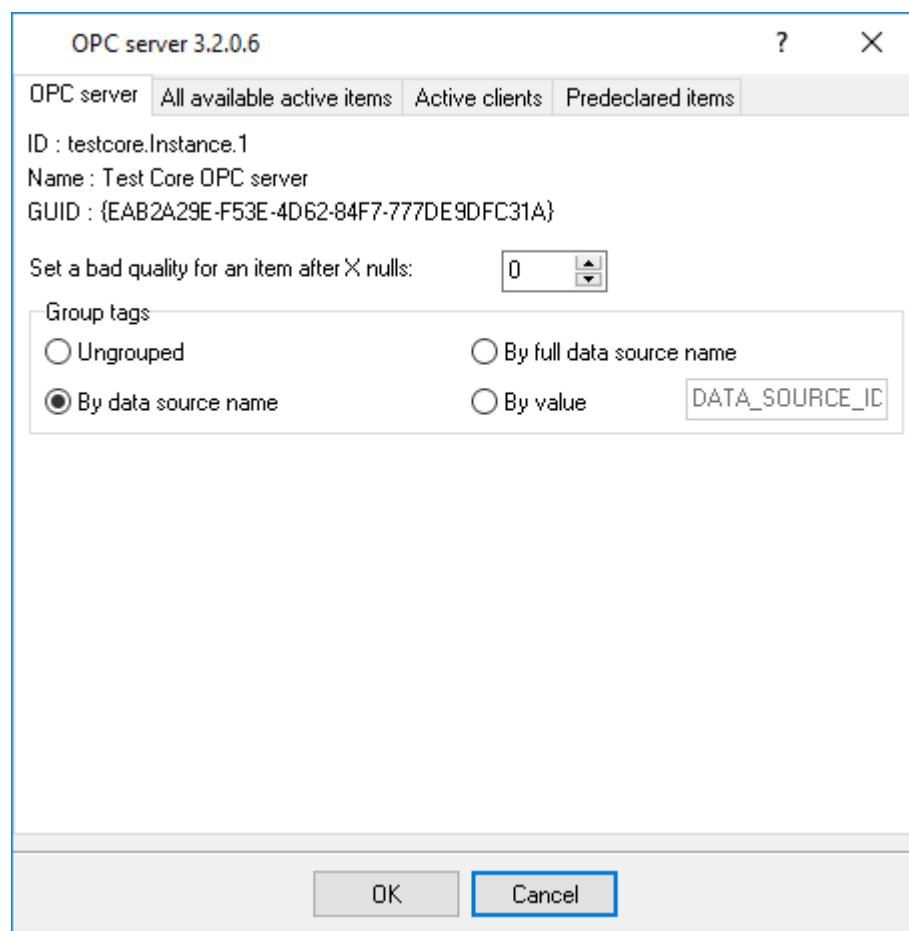


Fig. 5.2.1 OPC server parameters

Log Monitor & Export parses all incoming data to one or more variables, and an OPC client gets it (fig. 5.2.2). After connecting to the OPC server, you will get a list of all variables.

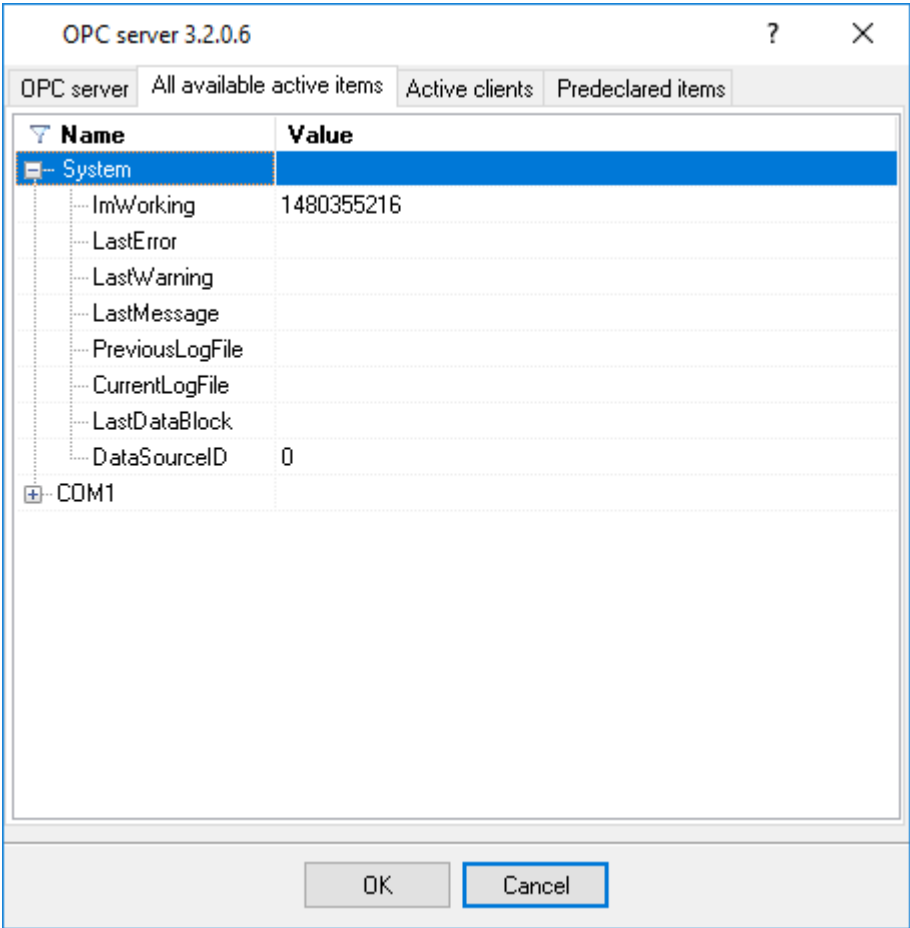


Fig. 5.2.2 OPC server active items

Clients activity is showed on the "Active clients" tab. The top node is client, below is a group of items and connected items. By double-clicking, you can get detailed information about each node.

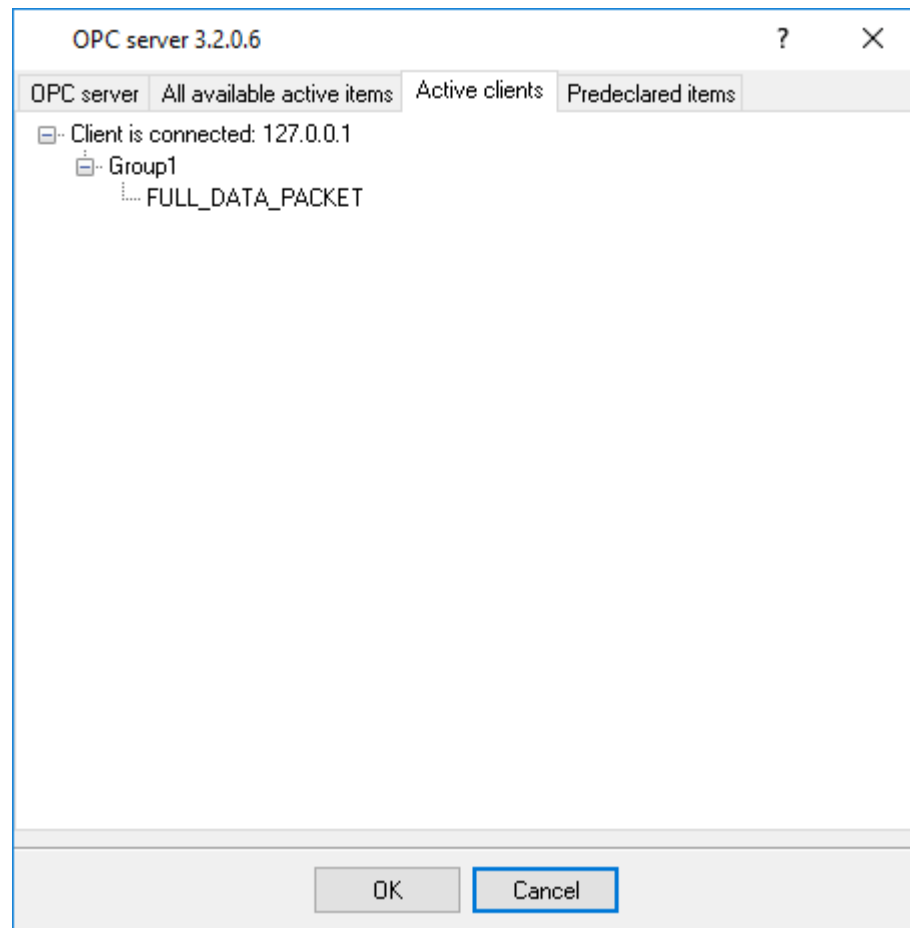


Fig. 5.2.3 OPC server clients

Log Monitor & Export creates new variables at "on-the-fly" mode. The Log Monitor & Export starts without any variables and gets it only after first data had been received. If your client OPC will connect to the OPC server before than data had been processed, then it will get an empty list of variables, and your OPC client should poll the OPC server for updating list of variables. If your OPC client doesn't allow it, then you can pre-define all variables (fig.5.2.4). In this case, the OPC server will create these variables with empty values, immediate after starting, and your OPC client will get these names while connecting.

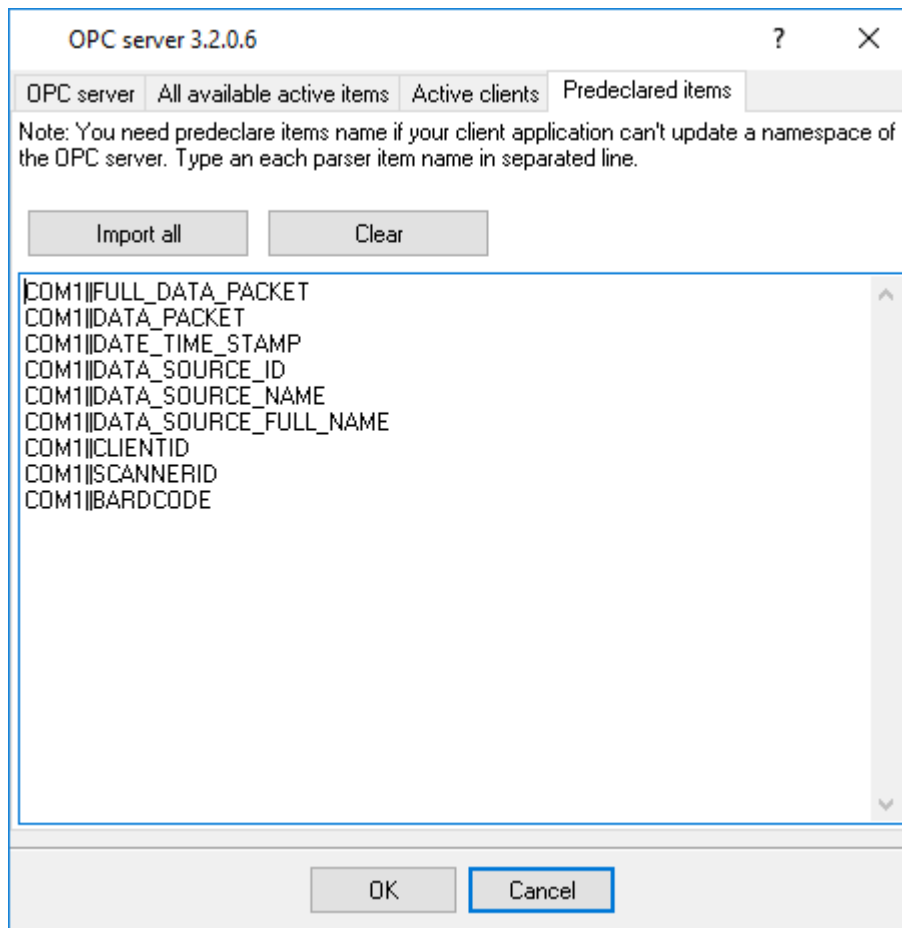


Fig. 5.2.4 OPC server pre-declaration

4.7 Program options

4.7.1 Window view

This tab in program options (fig. 6.1.1) allows you to customize the appearance of the main window of the program ([fig. 1.1.1](#)^{5b}). You can access this tab through the "Options -> Program options" menu item in the main window.

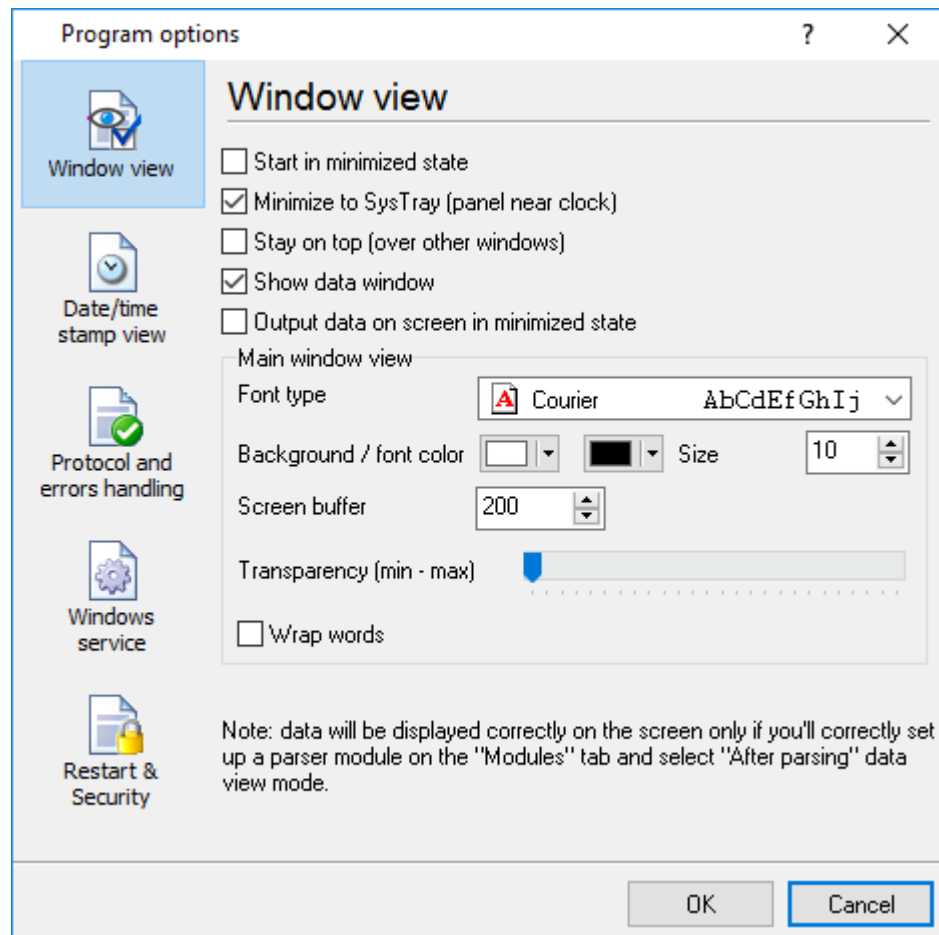


Fig. 6.1.1 Window view setting

You can set the following parameters:

- **Start in minimized state** - at start Log Monitor & Export will automatically minimize the program window to the taskbar or to the Systray (fig. 6.1.2).
- **Minimize to Systray** - while the main window of Log Monitor & Export minimizes, the program will automatically put its icon to the system panel near the clock.
- **Show data window** - if you specify this option, then the program will display all data in the main window. You may disable this option if you log data from many ports on a slow computer. It reduces the computer's CPU usage.
- **Output data on screen in minimized state** - if you'll enable this option, then the program will display processed data in minimized state. If you are logging many data sources on a slow computer, then you can decrease computer central processor load rate with disabling of this option.
- **Font type** - the data will be displayed with this font type in the main window. We recommend using mono-spaced fonts in this field, such as Terminal, Courier, or System.
- **Screen buffer** - when the number of lines in the main window exceeds the specified value, the program deletes old lines from the screen buffer.
- **Window view** - this option group lets you configure data window view mode (a font color, a font type, a background color).

- **Transparency** - in Windows 2000 and later lets you set the transparency of the main window. The most left position is the normal window view, and the most right position is maximum transparency.
- **Wrap words** - if you didn't configure a parser module or your data flow doesn't contain a blocks separator, then your data without this option enabled will be displayed as one long string in the data window.

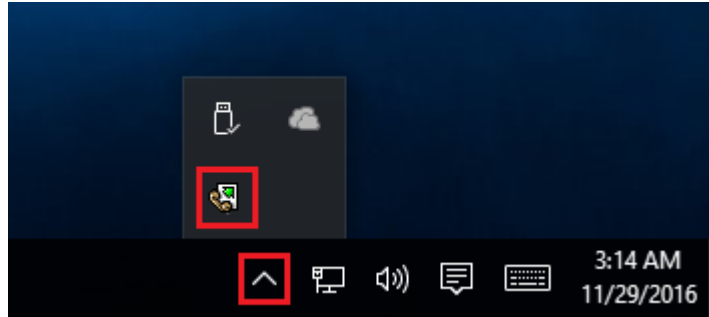


Fig. 6.1.2 Systray - panel near clock

4.7.2 Date/time stamp view

This group of options (fig. 6.2.1) allows configuring the format of date/time stamps that will be used in the main program window and log files.

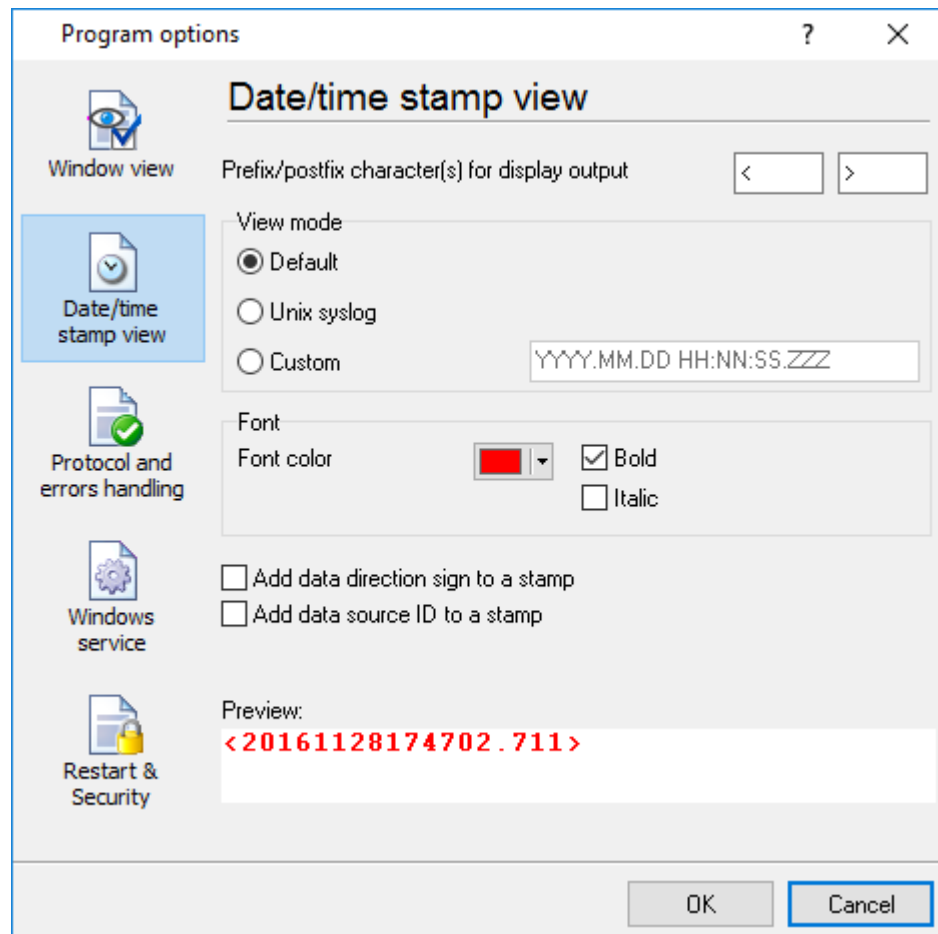


Fig. 6.2.1 Configuring data/stamp view

Prefix/Postfix characters for display output - these options allow you to define the beginning and ending characters of a date/time stamp that will be shown in the program window. When outputting data to a log file, the program uses [individual characters](#)^[18] for each configuration.

View mode - allows you to select the standard or define the custom format of the date/time stamp.

Font - this group allows you to define the color and font of date/time stamp.

Add data direction sign to a stamp - if this option is activated, then the program will append TX or RX to the end of the stamp.

Add data source ID to a stamp - if this option is activated then the program will data append data source ID at the beginning of the stamp, for example, COM1.

4.7.3 Protocol and errors handling

While the program is running, it may generate many messages about errors or events. All these messages are being registered in a protocol file. The protocol file may contain messages from the main program and all working plugins. On this tab, you can define the kind of messages, which you want to put a protocol file (fig. 6.3.1). Here you can set the maximum protocol file size and the formatting mode.

Usually, the protocol file is in the "AppData" folder and has the name of the program with the 'log' extension.

On Windows 7 and higher: c:\ProgramData\Log Monitor & Export\
On old OS: c:\Document and Settings\All Users\Log Monitor & Export\

You can also open the protocol file from the "File" menu in the main window.

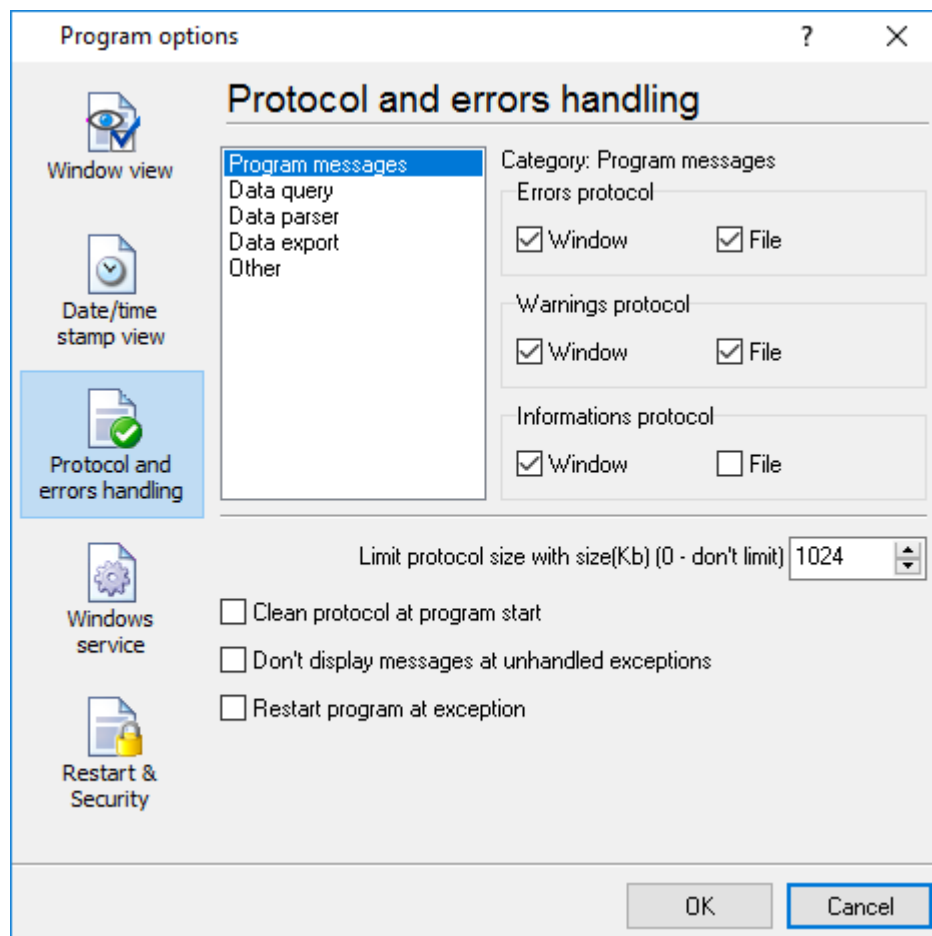


Fig. 6.3.1 Protocol settings

Log Monitor & Export works with three types of messages:

- **Information messages** - this type of messages informs you about current operations.
- **Warnings** - warns you about possible failures or errors. Immediately user reaction is not required.

- **Errors** - the program has detected an error which requires user attention.

There is the possibility to log the following events:

- **Program messages** - messages about start or stop of the program, etc.
- **Data query** - messages which are generated in a data query module.
- **Data parser** - messages from a data parser module.
- **Data export** - messages issued by a data export module.
- **Other** - other message types.

You can write each type of messages to a protocol file or/and to the list in the main window. Please, specify necessary options for each message type at "Window" and "File" fields.

If you don't want to allow growing a protocol file size to an unlimited size, then you can enable the "Clean protocol at program start" or limit protocol file size in the "Size" field.

Some exceptional (unhandled) messages may occur while the program is running. In most cases, these messages affect the program, and the safest way is to restart the program. Please, specify the "Restart program at exception" option and the program will be restarted automatically.

If you want to look all program messages, then you can disable the "Don't display messages at unhandled exceptions" checkbox, and the program will open the exception message window with detailed information.

4.7.4 Service mode on Windows 2000+

4.7.4.1 Configuration

Windows 2000+ services let you:

- Control service on local and remote computers, including remote computers with Windows 2000+ system.
- Setup actions on emergency service restore in case of failure, for example, auto service or computer restart (only on computers with Windows 2000 or later).
- Create for services other names and descriptions, to find them easier (only on computers with system Windows 2000 or later).
- Run service before user login (password input).
- Service can be configured on automatic start after operation system load.

Note 1: you must be logged in as an administrator to change the configuration or control the service in any way (start, stop, pause, continue).

Note 2: On Windows Vista and later you should start the program with elevated administrator privileges.

If you want to use the program as a service application, then, please, go to the "Options -> Program options -> Windows service" tab (fig. 6.4.1), then enable the "Use program as a service" checkbox. Later, please, specify the start-up type of the service. There are the following variants:

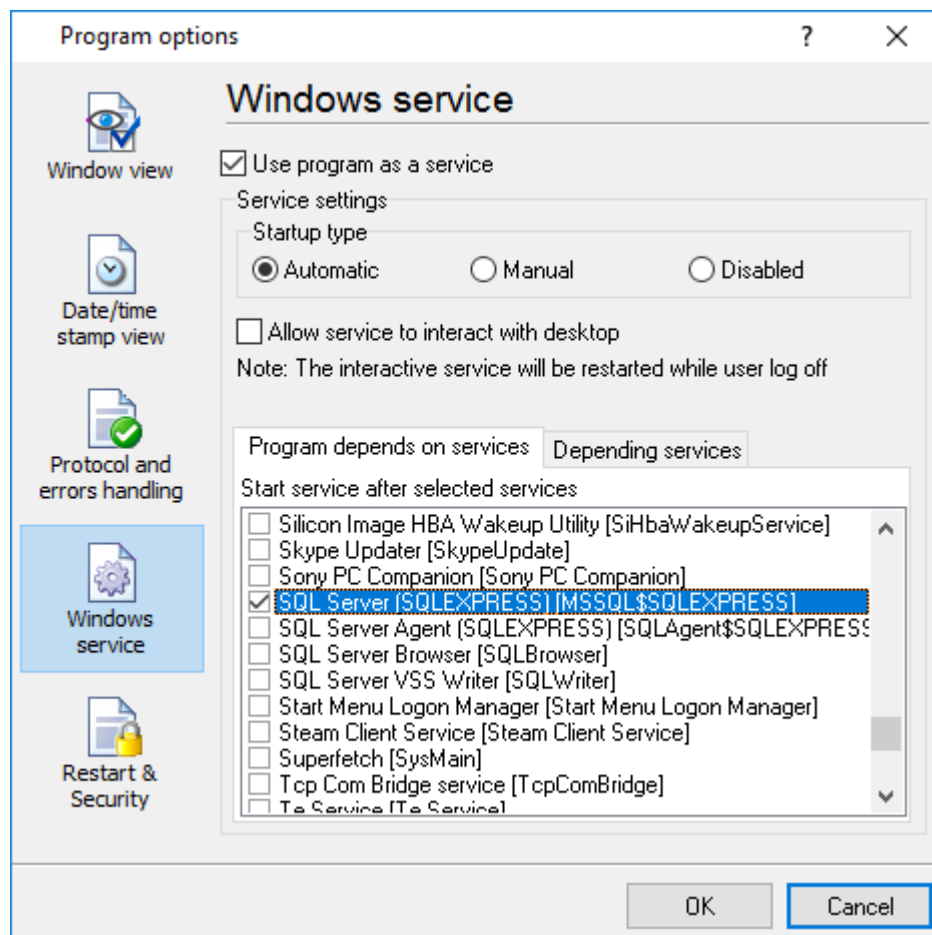


Fig. 6.4.1 Service settings

1. **Automatic** - the service starts automatically with Windows, before user login.
2. **Manual** - you can start the service application from the "Services" control panel (fig. 6.4.1).
3. **Disabled** - the service is disabled, and does not start at all.

If you want to change the program settings while the program works in the service mode, you can start a second instance of the program on your desktop, make the necessary changes, and restart the service with the new settings.

Old Windows versions (before Windows Vista) allows you to use the service in the interactive mode. In this case, the program places an icon in the system area (fig. 6.4.2).

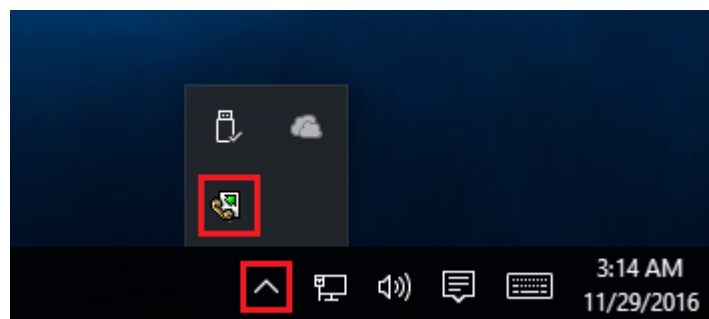


Fig. 6.4.2 Service icon in Systray

If the service should write data a database or use another service on your computer, they should be started before Log Monitor & Export. You can configure a list of these services on the "Program depends on services" tab (fig. 6.4.3).

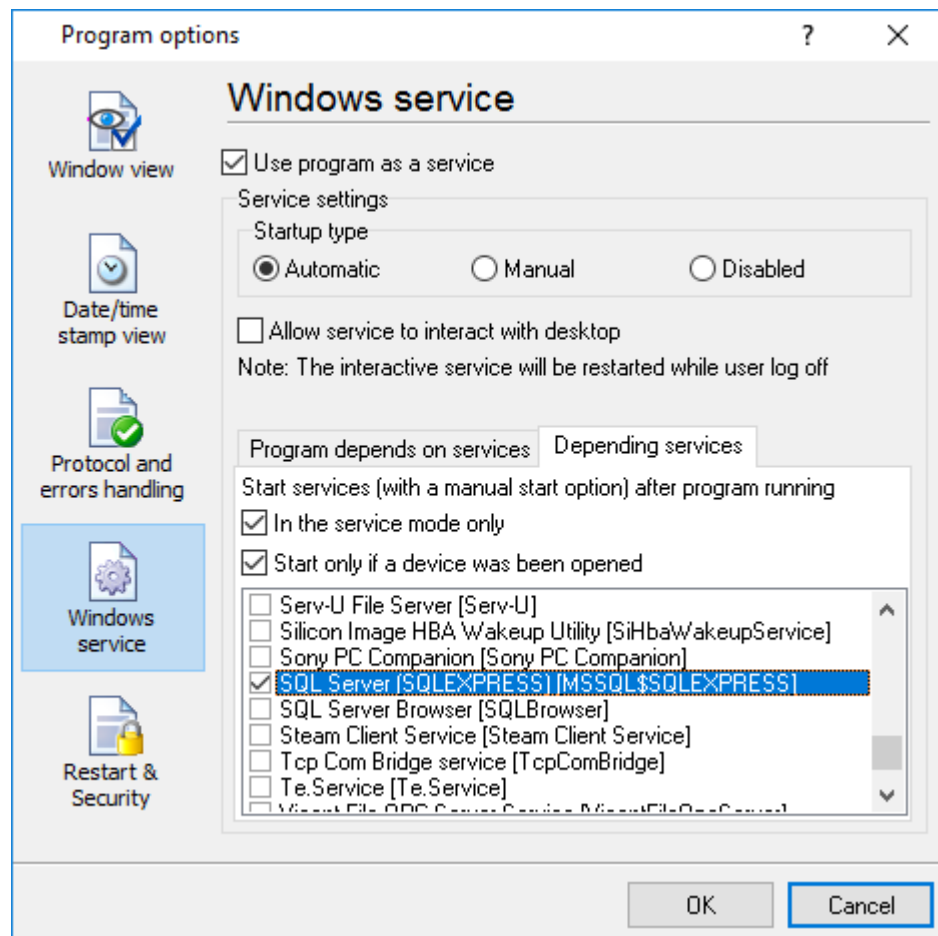


Fig. 6.4.3 Service settings #2

Sometimes, you may need to start Log Monitor & Export before starting other services. In this case, you should:

- Switch the start mode of a target service to "Manual."
- Start Log Monitor & Export.
- Select the necessary service on the "Depending services" tab.
- Select the mode when the logger will start the selected service.
- Restart Log Monitor & Export.

After you configured Log Monitor & Export to work in the service mode, you need to restart a computer or start the service manually from the "Services" control panel (fig. 6.4.4).

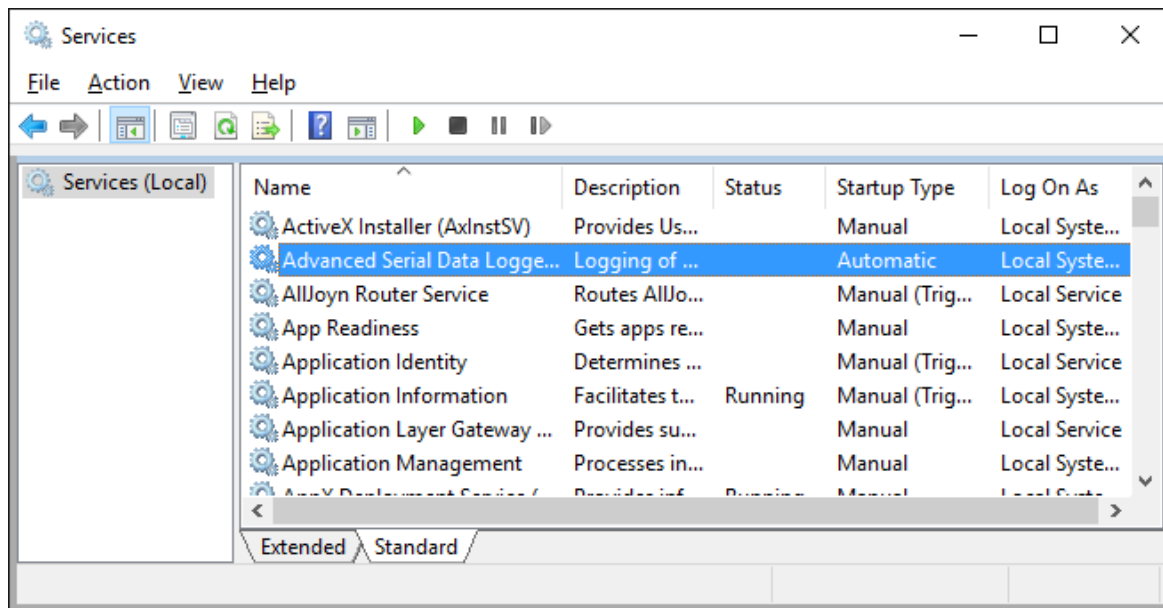
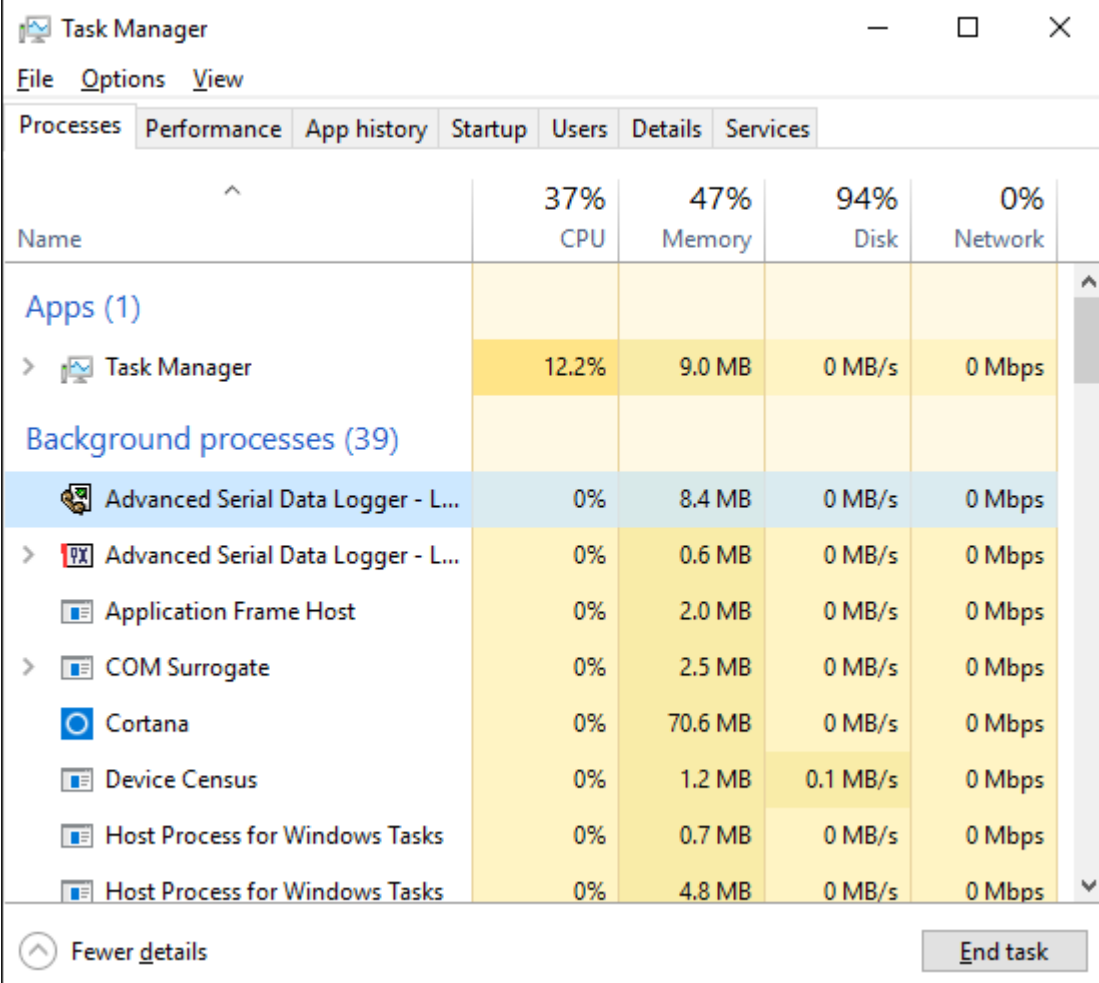


Fig. 6.4.4 Manual service run (in Windows 2000)

When the service is running, two processes should appear in the Task Manager: logmonitorsrv.exe and logmonitor.exe (fig. 6.4.5). The 'logmonitorsrv.exe' application implements an interface between the service manager and the Log Monitor & Export software. Unlike srvany.exe utility, our service stops safely.



The screenshot shows the Windows Task Manager window with the 'Performance' tab selected. The 'Processes' sub-tab is active, displaying a list of running applications and background processes. The table columns are Name, CPU, Memory, Disk, and Network. The 'Task Manager' process is highlighted in yellow. Below it, 'Background processes (39)' are listed, with 'Advanced Serial Data Logger - L...' highlighted in blue. Other visible processes include 'Application Frame Host', 'COM Surrogate', 'Cortana', 'Device Census', 'Host Process for Windows Tasks', and 'Host Process for Windows Tasks'.

Name	CPU	Memory	Disk	Network
Apps (1)				
Task Manager	12.2%	9.0 MB	0 MB/s	0 Mbps
Background processes (39)				
Advanced Serial Data Logger - L...	0%	8.4 MB	0 MB/s	0 Mbps
Advanced Serial Data Logger - L...	0%	0.6 MB	0 MB/s	0 Mbps
Application Frame Host	0%	2.0 MB	0 MB/s	0 Mbps
COM Surrogate	0%	2.5 MB	0 MB/s	0 Mbps
Cortana	0%	70.6 MB	0 MB/s	0 Mbps
Device Census	0%	1.2 MB	0.1 MB/s	0 Mbps
Host Process for Windows Tasks	0%	0.7 MB	0 MB/s	0 Mbps
Host Process for Windows Tasks	0%	4.8 MB	0 MB/s	0 Mbps

Fig. 6.4.5 Process list

If you want to configure the program as a service, then you must be logged with administrator rights. The service application can be controlled, stopped, or removed with the help of a command-line. Run logmonitorsrv.exe with the following parameters:

- /? - a short help.
- /I - install service for starting in then manual mode.
- /A - install service for starting in the automatic mode.
- /D - install service in the disabled state.
- /R - remove service from the computer.

4.7.4.2 Windows Vista+ notes

One of the ways Vista's security was improved was by separating system services and user applications into separate 'sessions'. Keeping the system services isolated helps to secure them better, but also makes any interactive interface unavailable to the user. That's where the Interactive Services Detection service comes in. When a service needs to interact with the user, Interactive Services Detection presents a dialog that will switch the user to the session where the service is

running so they can interact with the service. For an excellent, detailed description of this, see next paragraph.

Many sites recommend disabling this service, but doing so will result in you not being able to interact with any services that require your attention. This service is run manually by default, so there is little point to disabling it unless you don't want to be bothered by important information from the software you may be trying to run.

- **Display Name:** Interactive Services Detection
- **Service Name:** UI0Detect
- **Process Name:** UI0Detect.exe
- **Description:** Enables user notification of user input for interactive services, which enables access to dialogs created by interactive services when they appear. If this service is stopped, notifications of new interactive service dialogs will no longer function, and there may no longer be access to interactive service dialogs. If this service is disabled, both notifications of and access to new interactive service dialogs will no longer function.
- **Path to Executable:** %windir%\system32\UI0Detect.exe
- **Default Start-up:**
 - * Home Basic: Manual
 - * Home Premium: Manual
 - * Business: Manual
 - * Enterprise: Manual
 - * Ultimate: Manual

4.7.5 Restart & Security

Sometimes the program should be restarted. For example, if you've changed the program settings remotely and want to reload program automatically with the new settings. To do that, specify the time for restarting the program on the "Restart & Security" tab in program options "Options->Program options". Just specify the time of day, when the program should be being restarted.

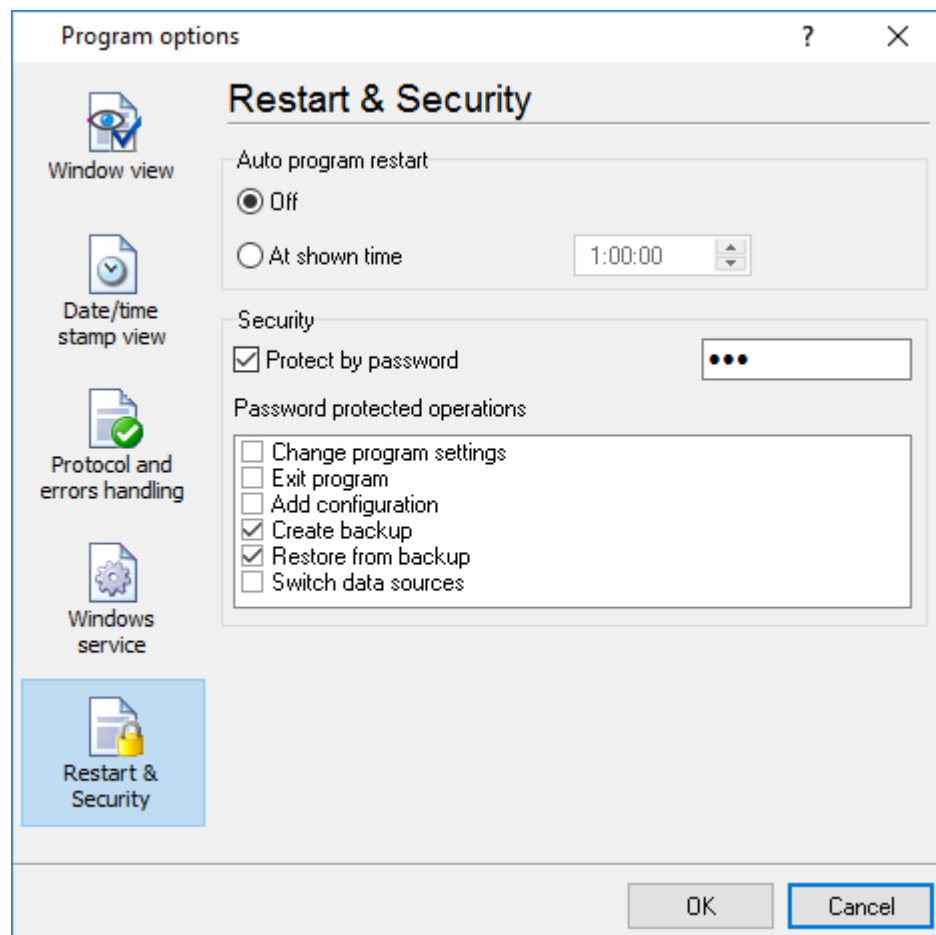


Fig. 6.5.1 Program restart settings

On this tab, you can also protect some actions with the program by a password. To do that, activate the "Protect by password" option, define a password and select protectable actions.

5 Having problems?

5.1 Program doesn't run or work

It is necessary to make sure in proper time installation on your computer, so as if you put clock after program installation, protection from use after trial period works.

Also, the program will not work, if you use a software debugger in your environment like WinDbg. In any other case, please, contact us on support@aggsoft.com.