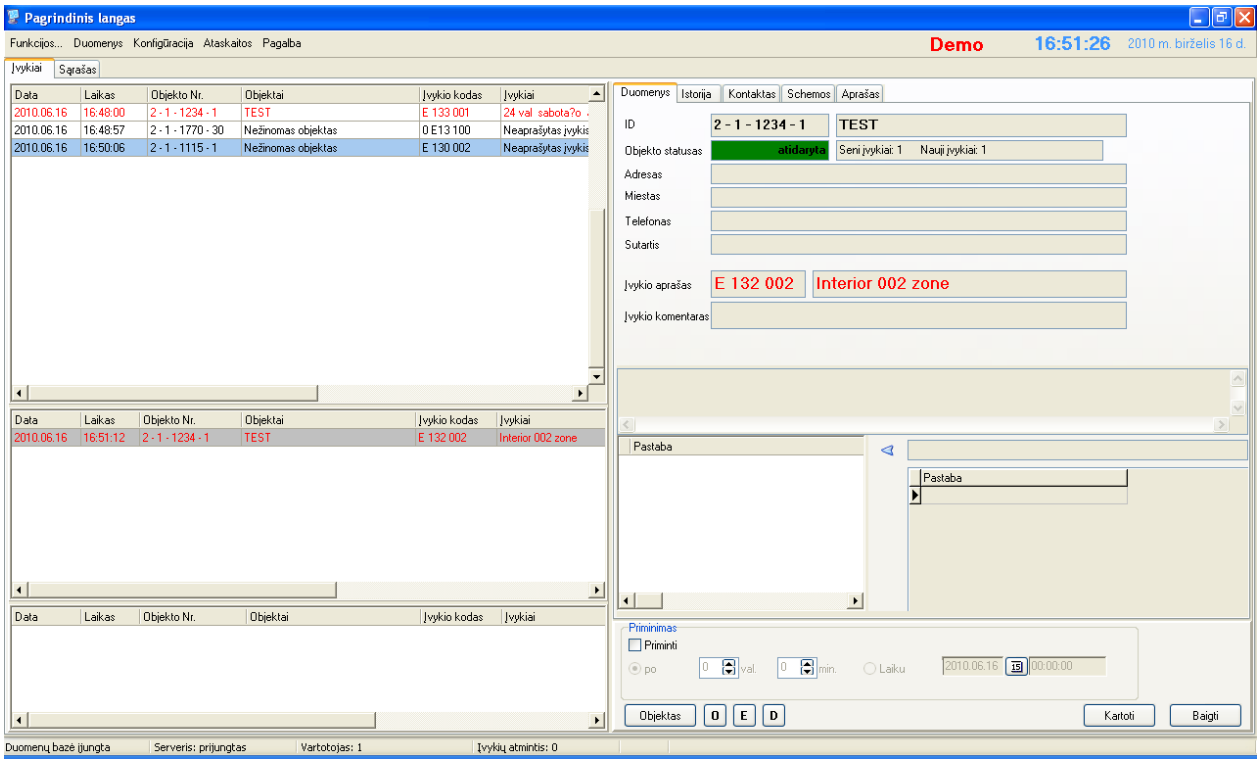
TRIKDIS



Centralized monitoring software

MONAS ms

(version **v2.35**)
Program installation and configuration

The purpose of the document
This document describes the installation and configuration process of program package *Monas MS v2.35*.

Content

1 The purpose of Monas MS

Program *Monas MS* is an applicable program package for display, processing and storage of messages received by centralized security and monitoring stations.

1.1 Computer and network requirements

Program package *Monas MS* may be installed in one computer or in several computers connected to a single network. In order to install *Monas MS* v2.35 computer must meet the following minimum requirements.

Operating system	
32 bit (for 2000 - 5000 objects)	64 bit (for > 5000 objects)
Processor frequency: ≥2 GHz	Processor: Intel I7 or better
Memory: 2-4 GB RAM	Memory: 6 GB RAM
Hard drive: 100 GB of free space	Hard drive: 100 GB of free space
Database: 150 GB of free space	Database : 500 GB of free space (20 000 objects ≈7 GB/month)
Windows XP, Win 7 and upper	Win7 and upper Windows Server 2008 Hardware Raid (several parallel discs)

Note:
Computer parameters may be lower if a separate Monas MS client workplace is being installed in a network. Meeting OS Win XP installation requirements is sufficient.

To use the program in a monitoring station the following must be foreseen:

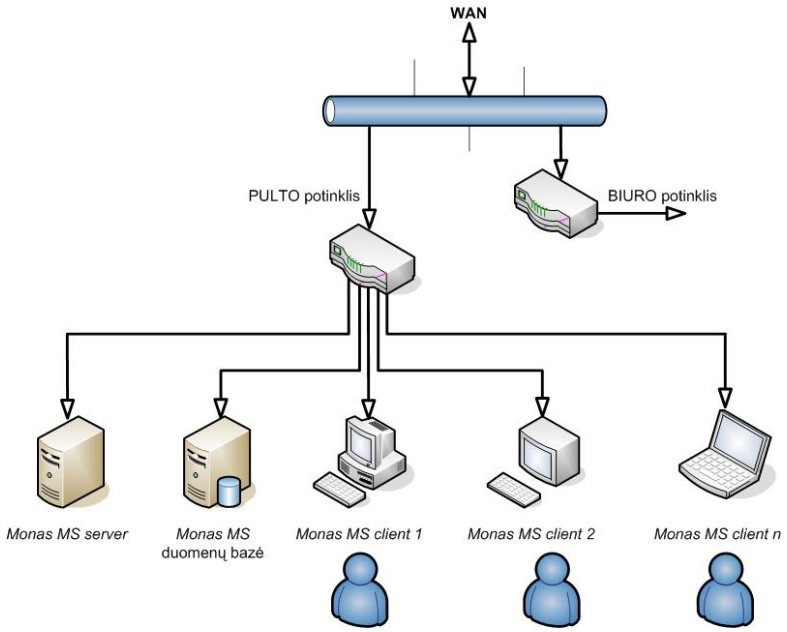
1) Adequate number of serial ports RS232 in the computer to which *Monas MS server* is being installed to connect required equipment. The use of USB or other artifices is not recommended. If necessary, use ports that are inserted into the computer motherboard;
2) Color display monitors: at least 21", 1920x1080 resolution;
3) At least one audio speaker for audio signals;
4) Standby power supply source to ensure continuous monitoring station operation for at least 1-2 hours.

Computer in an Ethernet network:
Computers must operate in a single network in order to install *Monas MS* in several workplaces.

1) Network speed should be sufficient for handling massive data traffic (not less than 10 Mbit/sec.). If necessary, create a separate centralized monitoring station subnetwork and block unauthorised access into its operation;
2) An external connection to the server must be secured, router configured and necessary ports forwarded if electronic Google map is used;
3) An external connection to car's Garmin navigation using connection equipment A1 TRAX must be secured, router configured and necessary ports forwarded if connection with fast reaction group is used;
4) An external connection to operator's SMS center must be secured, router configured and necessary ports forwarded or a local SMS modem with chosen operator's SIM card set up if SMS communication with the clients is carried out;

5) The program should be installed on a computer with OS Win7 or newer with enabled IIS (Internet Information Service) v7+ and ASP.NET setting, router configured so that data flow via port 3800 is directed to a computer with installed Monas MS WEB if remote WEB workplace will be installed and used;

Recommended network structure for *Monas MS* installation is displayed in the picture below. Two separate subnetworks (station and office) are projected in order to avoid unauthorised access into the operation of the monitoring station.



All data receiving equipment is connected to the computer with installed *Monas MS server*. *Monas MS server* and database can be installed on the same computer. Powerful servers may be used for big stations (projected tens of thousands of secured objects). It is recommended to store and save data in a separate backup server. It is advisable to install *Monas MS client* administrator workplace in the same computer for convenient connection.

Other *Monas MS client* workplaces should be installed to separate computers depending on tasks to be performed in the station.

2 Program installation

Note:

DotNet Framework 4.0 must be installed, that Monas Ms would work properly. Usually win8 and upper versions already have this program.

Main software suite is comprised of database *Monas.Net Database* working in MS SQL Server 2008 R2 database management system and programs *Monas MS server* and *Monas MS client*. Secure access USB key is used to set program operation parameters. Sentinel driver is necessary to ensure its functioning. These programs are installed in the order listed below:

1) Database Monas.Database;

2) Monas MS server;

3) Monas MS client;

4) Sentinel driver;

Station icon appears on the desktop after *Monas MS server* is finished. This part of the program is necessary to determine the port for connection with mobile crews when NAV program module is used.

Program module *Monas MS WEB* is installed additionally in order to ensure remote installer connection to the program.

All other program options are indicated in the secure access key and do not require additional program installation.

Note:

Real computer IP address (local 127.0.0.1 or external, e.g. 192.168.X.X) is indicated when Monas MS is being installed on one computer.

Firstly, network is configured and IP addresses of the devices are set when the program is being installed on a network. Real computer IP addresses are indicated during program installation and configuration.

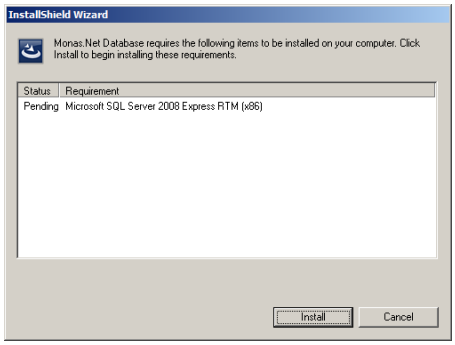
2.1 Database installation

Note:

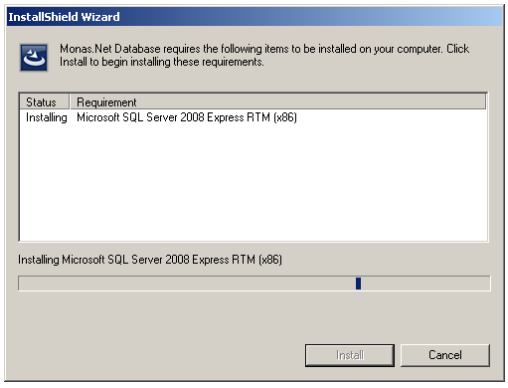
It is very important to set your region parameters, before database installation (in control panel – clock, language, region):

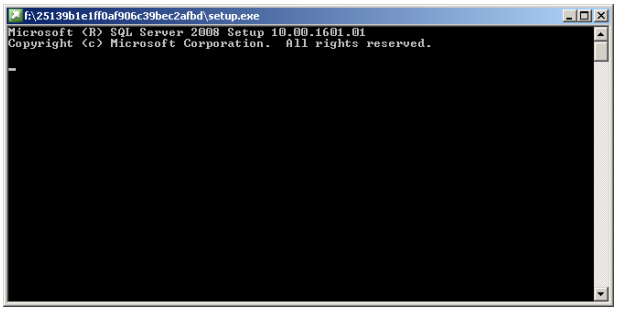
1. Location
2. Language for non-unicode programs
3. Date separator "." (2016.01.01 arba 01.01.2016)

1. Open subdirectory *Database* in *Monas MS* v2.35 *install* directory. Double-click on the program installation file *setup.exe*.



3. InstallShield Wizard window will open. Click ***Install***.

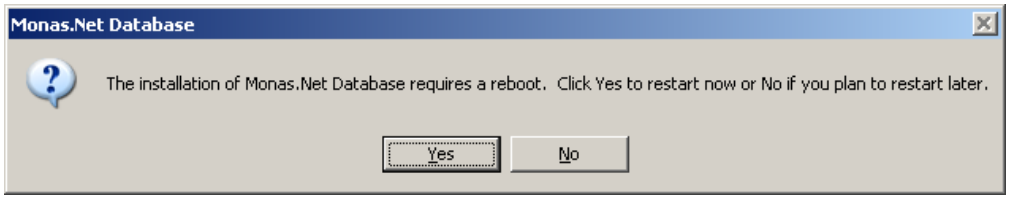




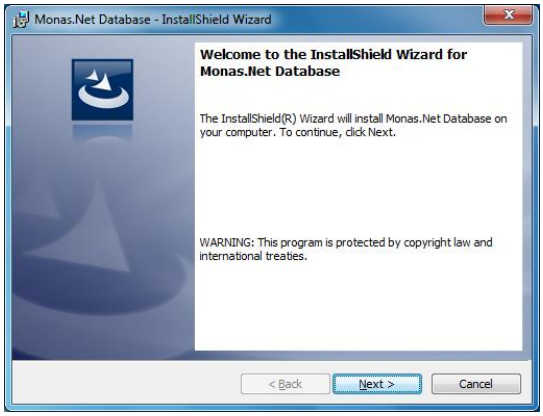
Note:

Do not close the operating system window when it pops up now or at a later stage. Wait until it closes by itself. It might take several minutes.

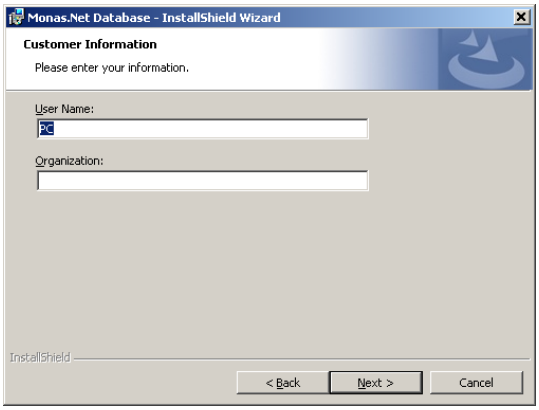
4. A prompt message asking to reboot the computer will pop up. Click ***Yes***.

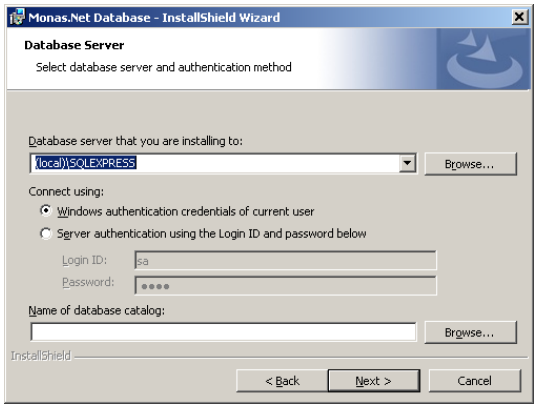


5. *Database* installation wizard window will open after the reboot. Click ***Next***.

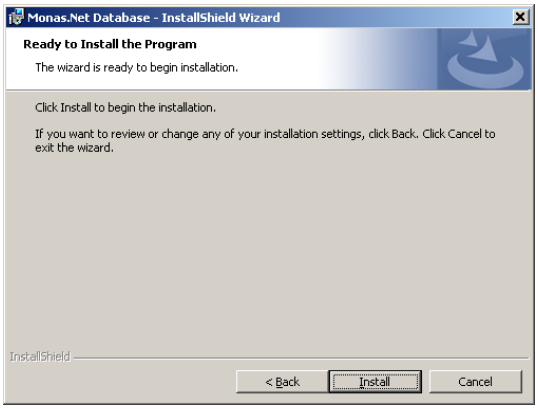


6. *Database* user information window will open. Click ***Next***.





7. *Database* server window will open. Click ***Next*** and then click ***Install.***



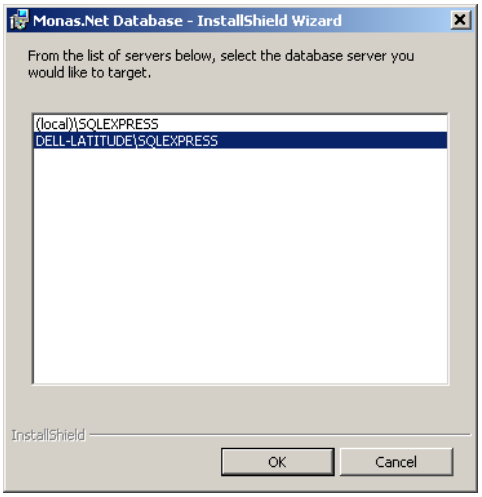
Note:

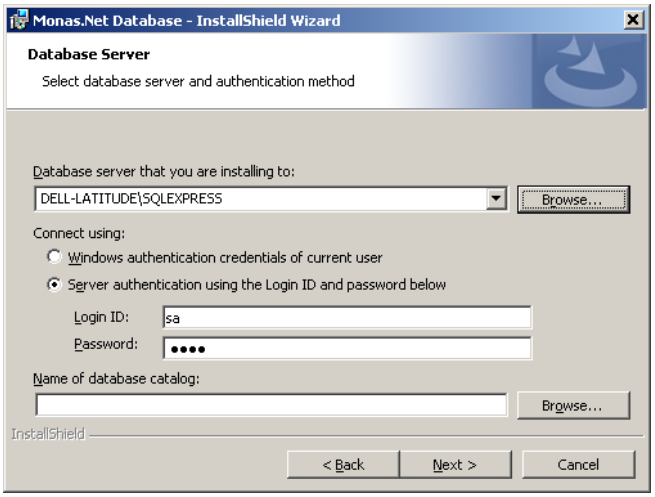
Specify the location for database installation if installation error is displayed. Different computers have differently named directories.

In order to do so:

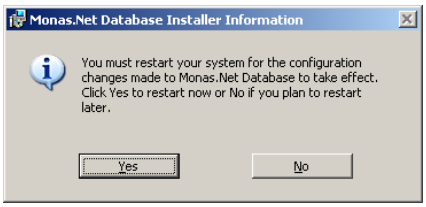
1. Specify the database. Click ***Browse...*** and select a different location for installation.

If installation does not start, select *Server authentication using the Login ID and password below*, specify the Login ID - ***sa*** and password – ***root.*** Click ***Next***.

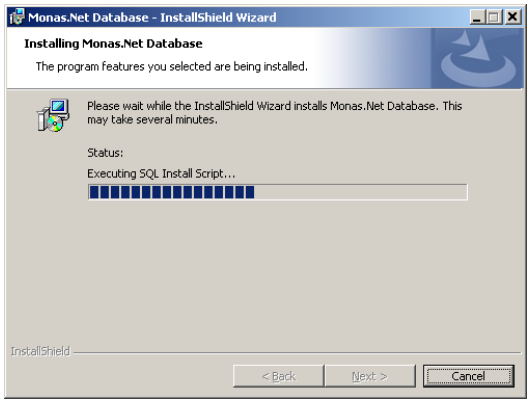


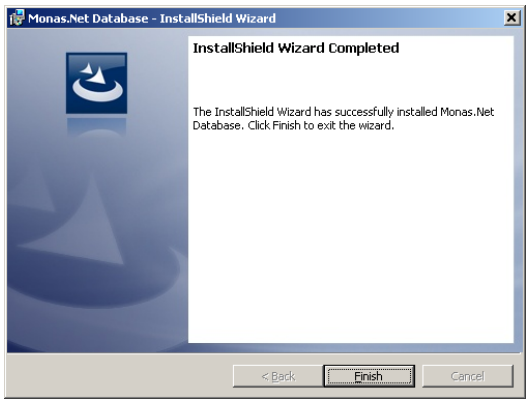


2. A prompt asking to reboot the computer will pop up. Click ***Yes***.



3. Computer will restart and installation process will continue automatically. Installation progress in displayed in *Database* installation window.

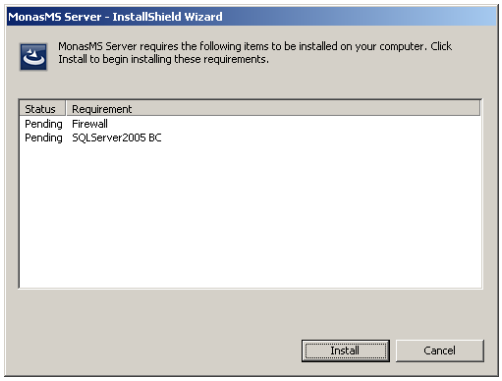




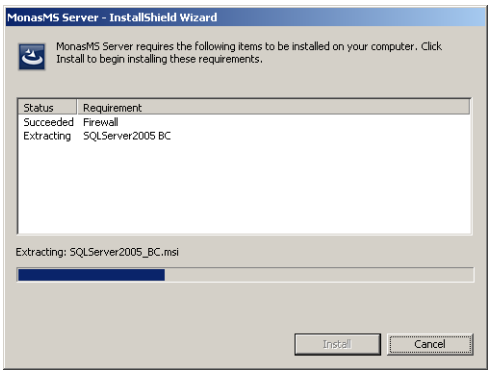
4. Click ***Finish*** to finish the installation process.

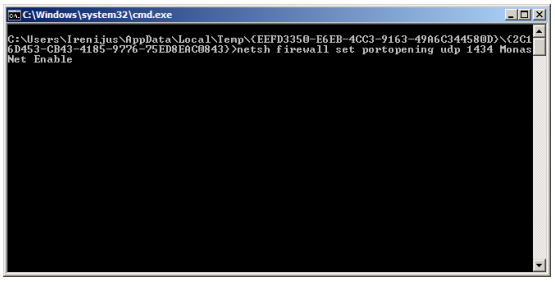
2.2 Monas MS server installation

1. Open subdirectory v2.35 in *Monas MS v2.35 install* directory. Double-click on the program installation file *Monas MS server setup.exe* .

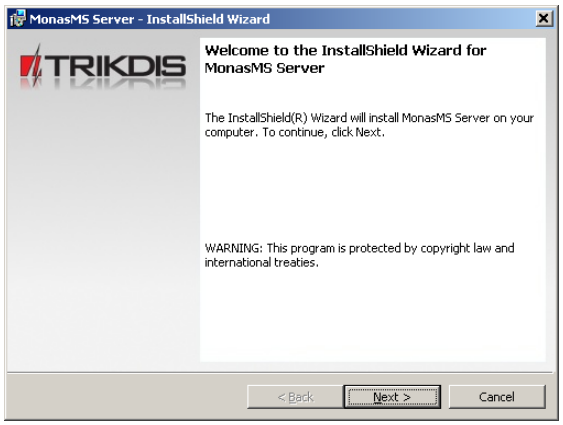


2. *InstallShield Wizard* window will open. Click ***Install***.

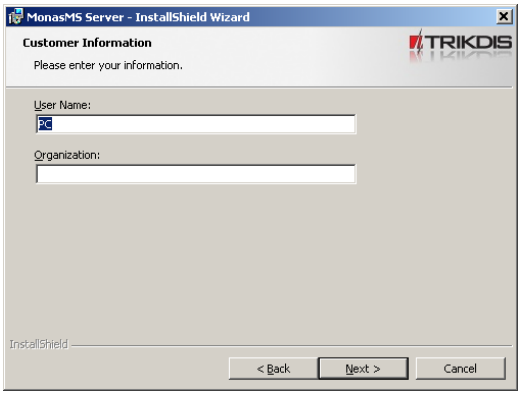


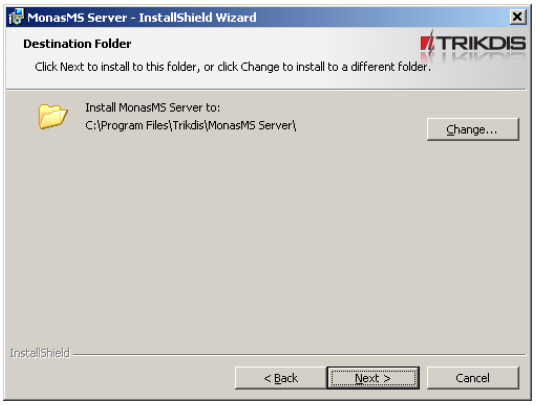


3. Do not close the operating system window when it pops up. Wait until it closes by itself. It might take several minutes.
4. *Monas MS server* installation wizard window will open. Click ***Next***.

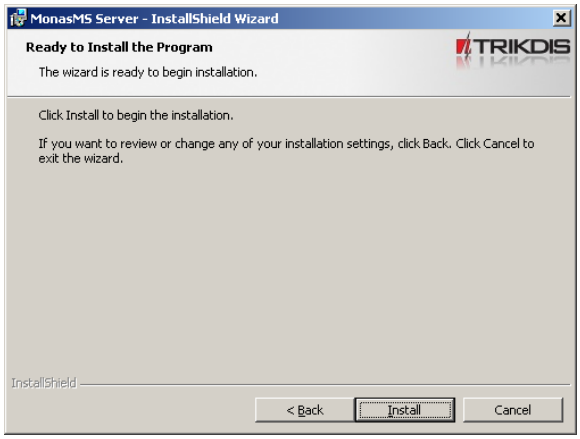


5. *Monas MS server* user information window will open. Click ***Next***.

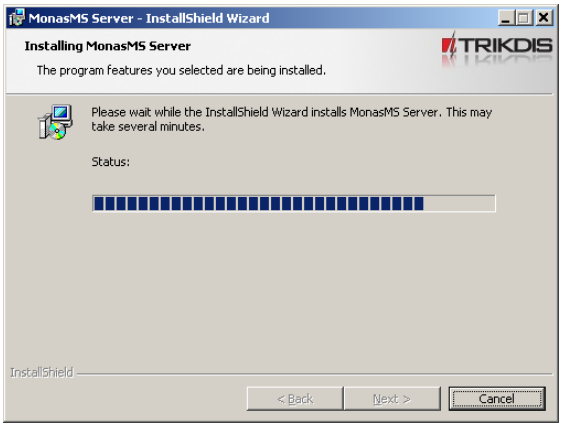


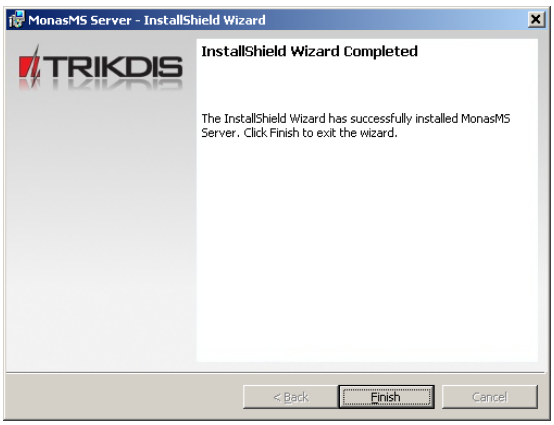


6. *Monas MS server* installation destination window will open. Click ***Next***. Click ***Change*** to choose a different installation location.



7. Click ***Install***.
8. Installation progress is displayed in *Monas MS server* installation window.



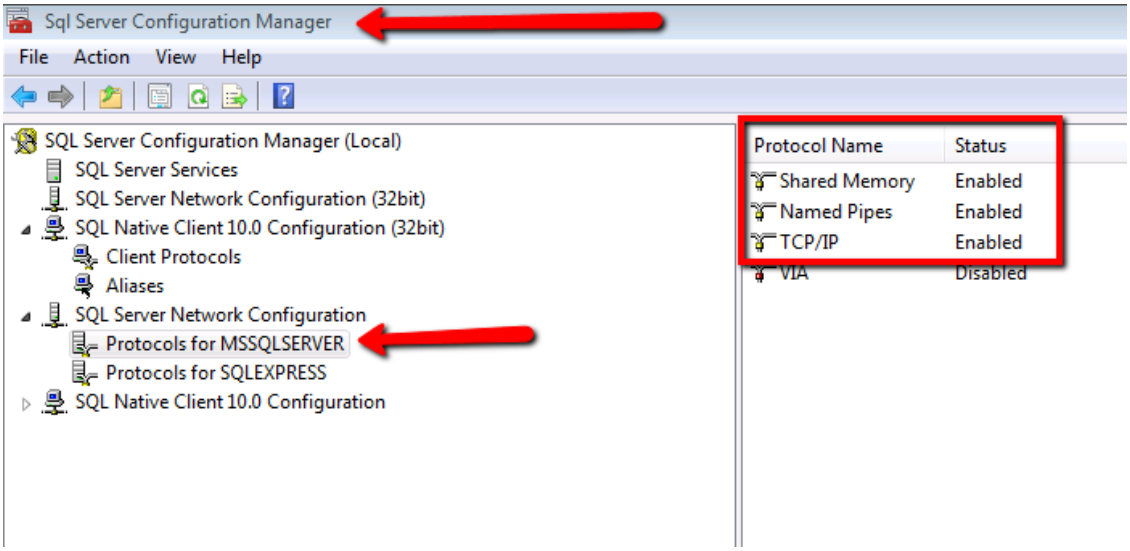


9. Click ***Finish*** to finish the installation process.

2.2.1 If Monas MS server was installed manually

If Monas MS server was installed manually, use steps below configure SQL:

1. Open SQL Server Configuration Manager;
2. Switch to the SQL Server Network Configuration | Protocols for SQLEXPRESS;
3. Double-click the TCP/IP protocol;
4. Select the Yes value in the Enabled field;
5. Switch to the IP Addresses tab;
6. Find the ipall section;
7. Clear the TCP Dynamic Ports field in that section;
8. Specify the 1433 value in the TCP Port field;
9. Restart your server and try to connect to your server using just its IP address.



Note:

More information how to connect from another computer see:
https://technet.microsoft.com/en-us/library/ms345343(v=sql.110).aspx
And three ports must be opened:

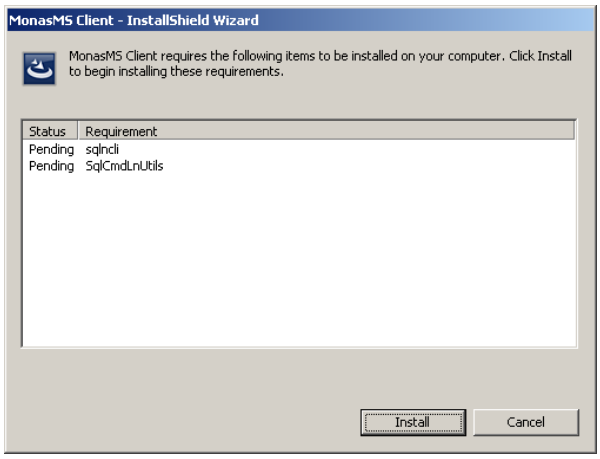
1. *SQL port (default 1433);*
2. *Monas MS port (default 8766);*
3. *Time synchronization port (37).*

2.3 Monas MS client installation

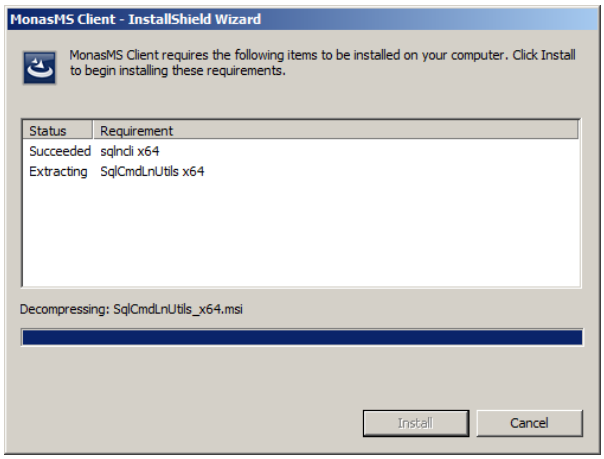
Note:

Please ensure that you are installing Monas MS client version consisted with Monas MS server version.

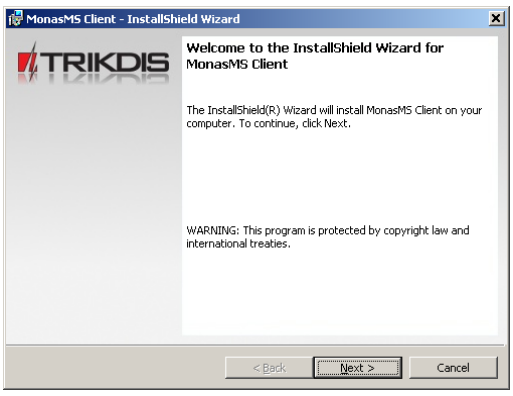
1. *Monas MS client* can be installed on any computer in a network. Open subdirectory v2.35 in *Monas MS* v2.35 install directory. Double-click on the program installation file *Monas MS client setup.exe* .

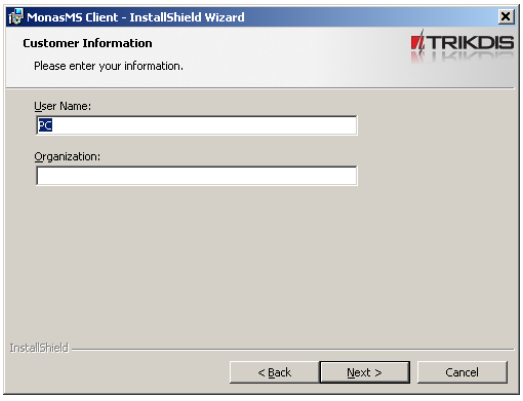


2. *InstallShield Wizard* window will open. Click ***Install***.

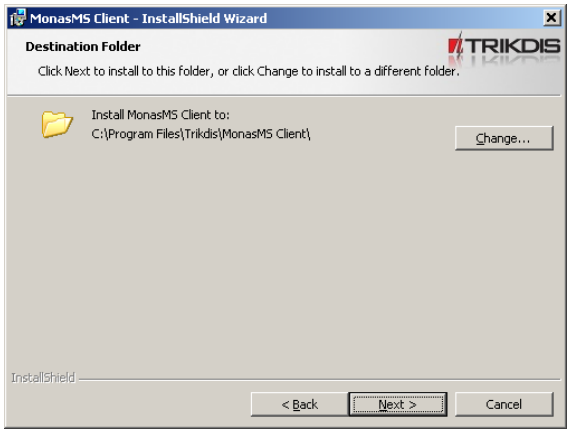


3. *Monas MS client* installation wizard window will open. Click ***Next***.

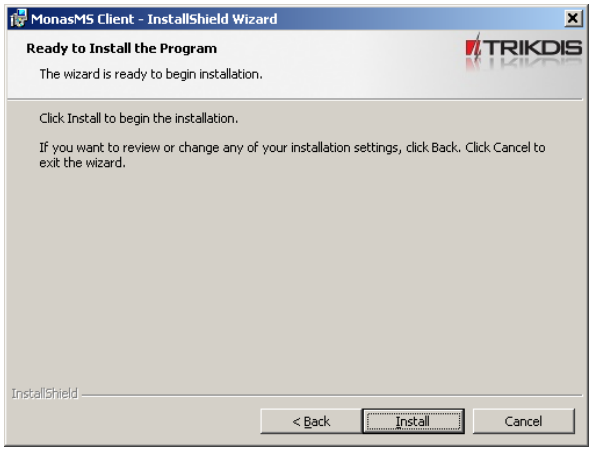




4. *Monas MS client* user information window will open. Click ***Next***.



5. *Monas MS client* installation destination window will open. Click ***Next***. Click ***Change*** to choose a different installation location.

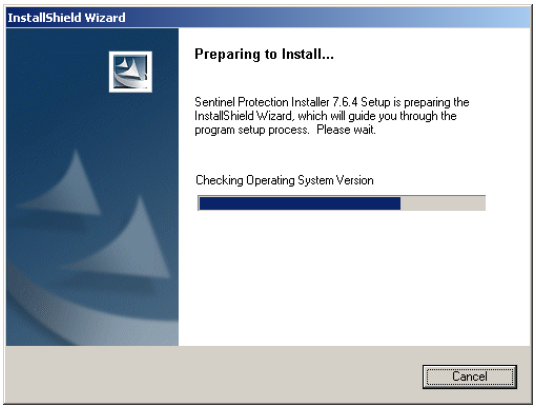


6. Click ***Install***.
7. Installation progress is displayed in *Monas MS client* installation window.
8. Click ***Finish*** *to* finish *Monas MS client* installation process.

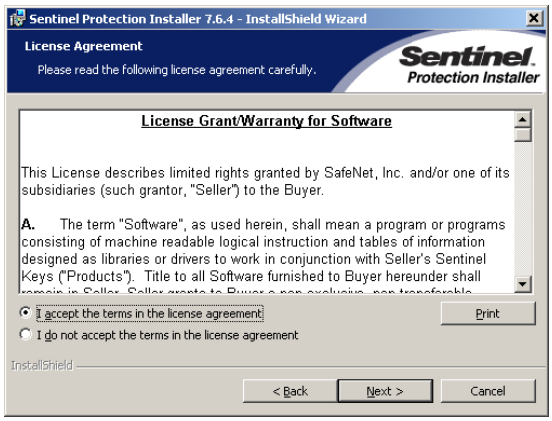
2.4 Security key driver installation.

Monas MS program options are indicated in secure access USB key.
DEMO version of the program able to support two workplaces and description and monitoring of up to 30 objects will run if access key is not used (or not inserted). SMS, MAPS, NAV and WEB program modules may not be used.
Access key is inserted into the computer USB port with installed *Monas MS server*. **Sentinel driver must be installed on the computer.**

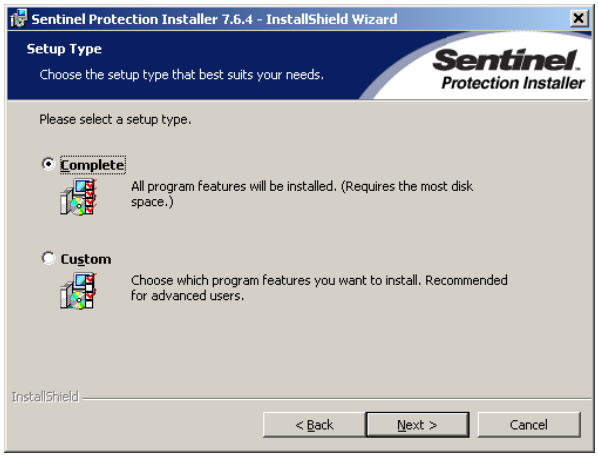
1. Open subdirectory Sentinel in *Monas MS* v2.35 install directory. Double-click on the driver installation file *SentinelProtectionInstaller*.



2. Program installation wizard window will open. Click ***Next***.



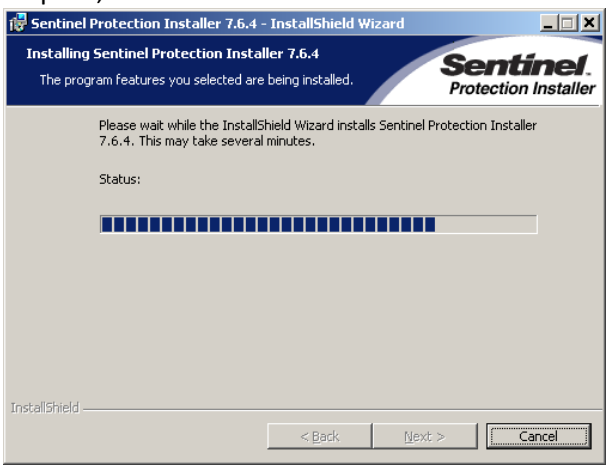
3. Select *I accept the terms in the license agreement* and click ***Next***.



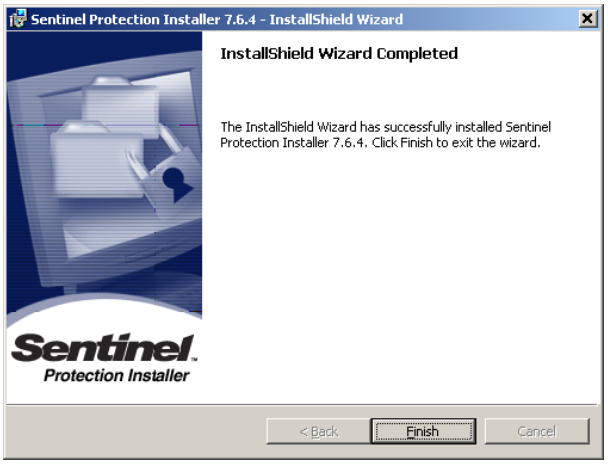
4. Select Complete and click ***Next***.

5. Click ***Install***.

6. When the note window opens, click ***Yes.***



7. Installation progress is displayed in the program installation window.



8. Click ***Finish*** to finish the installation process.

Monas MS icons displayed on the desktop:

 to open *Monas MS server* and the database;

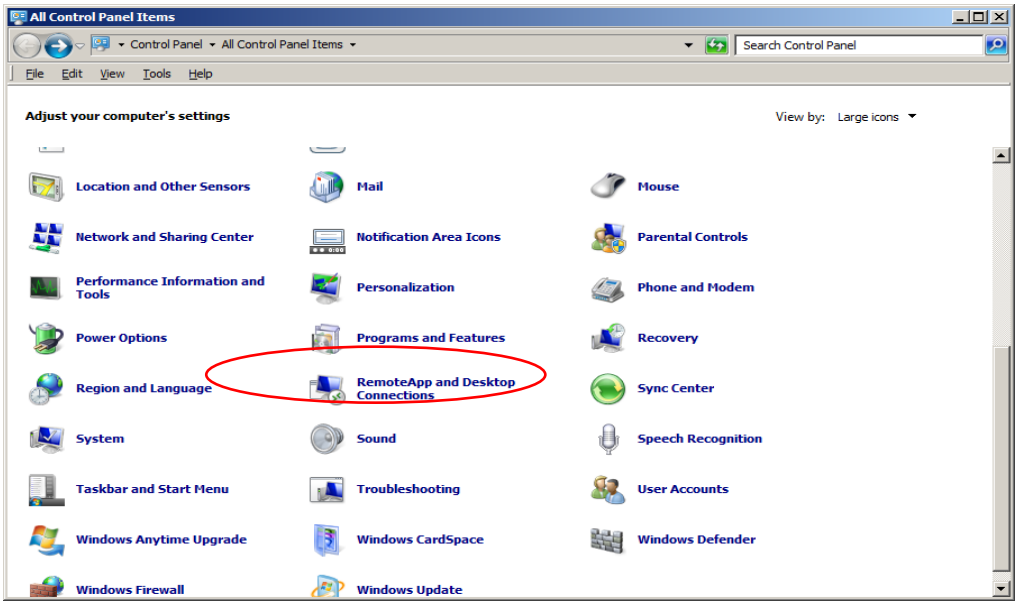
 to open *Monas MS client*;

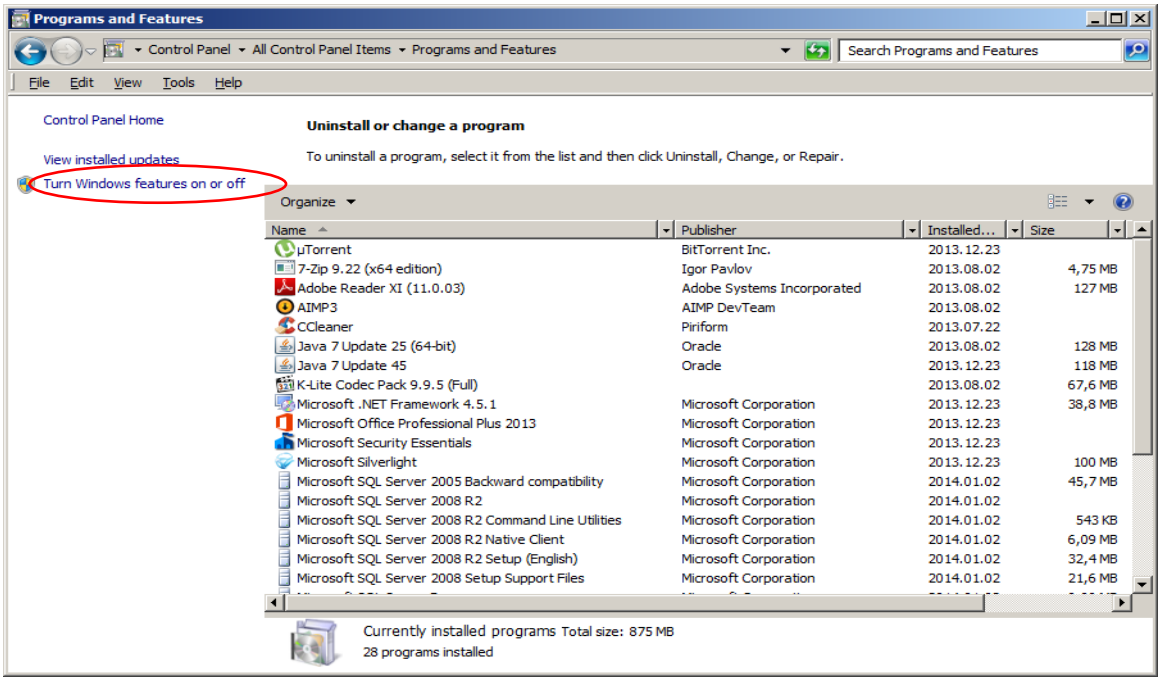
 to set NAV connection port of the program module;

2.5 *Monas MS WEB* installation.

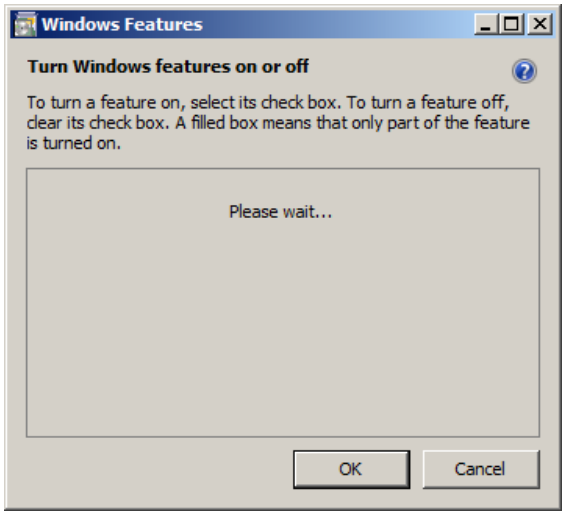
IIS (Internet Information Service) v7 with ASP.NET setting must be enabled and router configured so that data flow via port 3800 is directed to this computer before installing *Monas MS WEB.*
In order to do so:

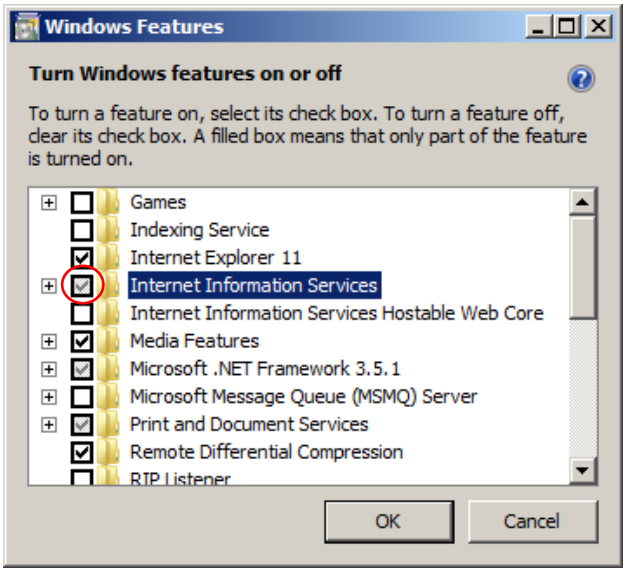
1. Open *Control Panel* and select *Programs and Features* (in OS Win7).



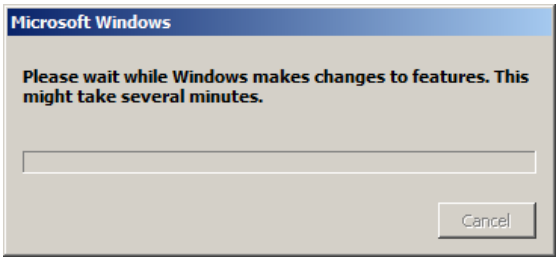


2. In a new window click on *Turn Windows features on or off* and select *Internet Information Services*.



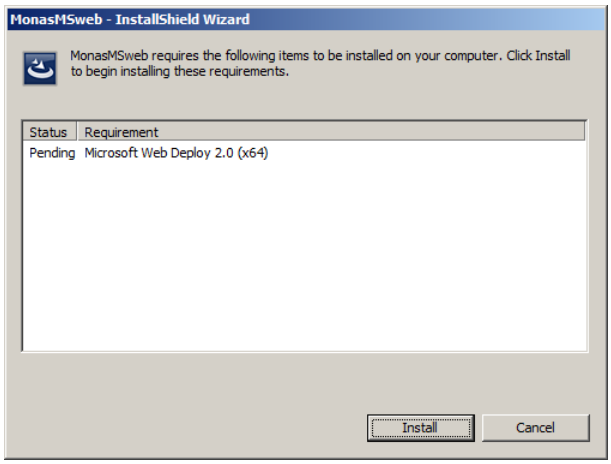


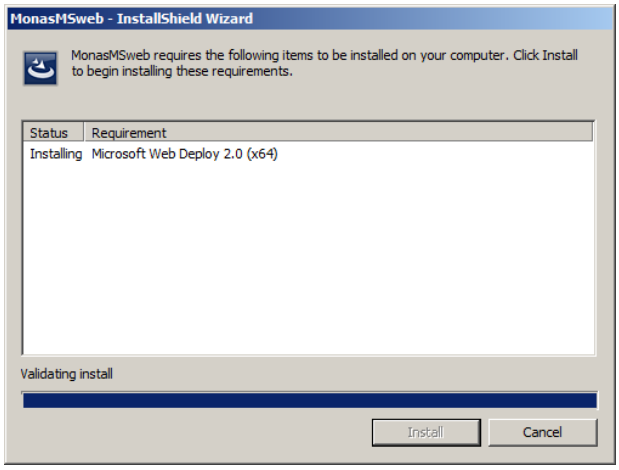
3. Click ***OK***.

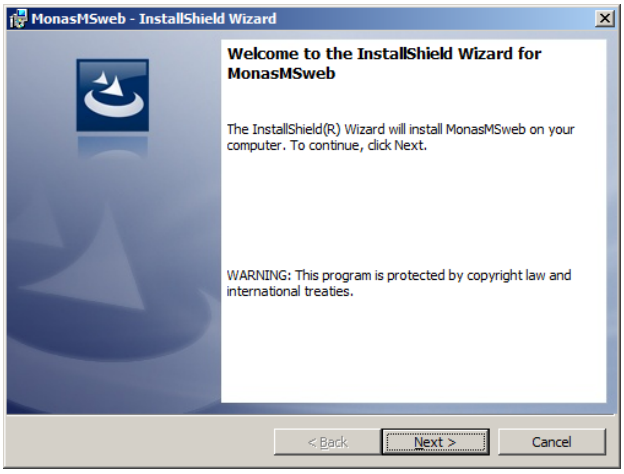


4. Settings can be checked using the command *Control Panel → Administrative Tool → IIS Manager → Help → About IIS* (to check IIS version) and *Control Panel → Administrative Tool → IIS Manager → Export Server Package* (to check whether options are ticked).

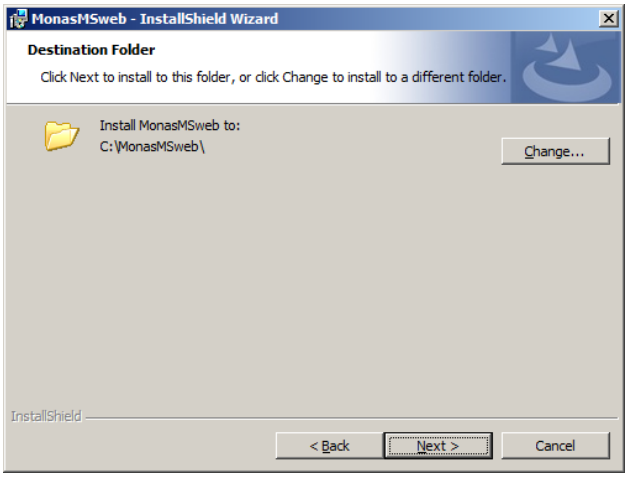
5. Open subdirectory v2.35 in *Monas MS* v2.35 install directory after OS parameters are set. Double-click on the installation file *Monas MS WEB*.
6. Click ***Install***.



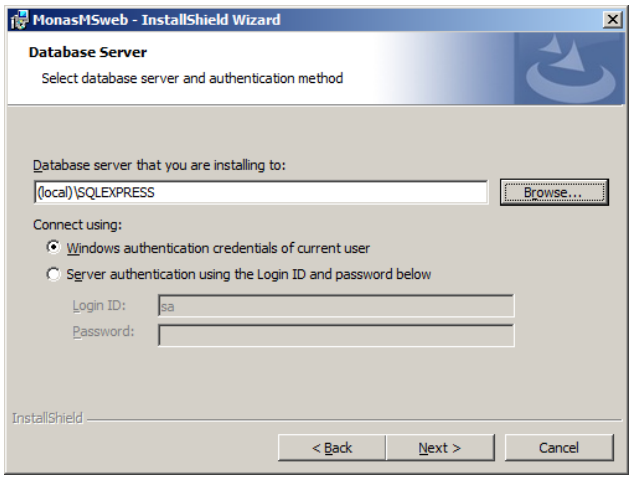




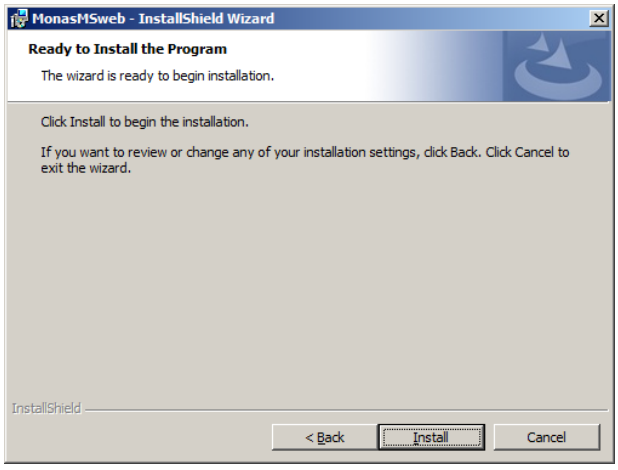
7. A new window will open. Click ***Next***.



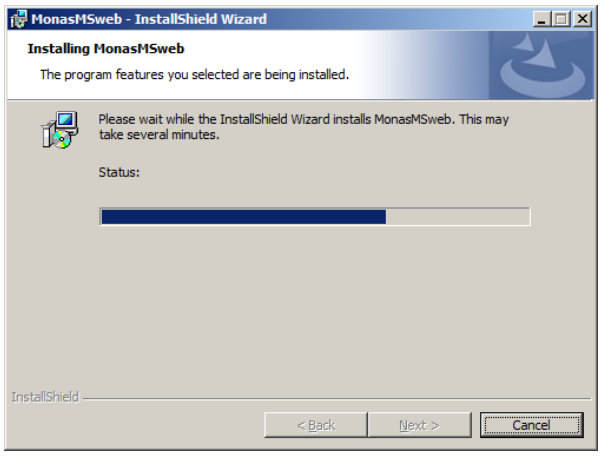
8. *Monas MS WEB* installation destination window will open. Click ***Next***. Click ***Change*** to choose a different installation location.

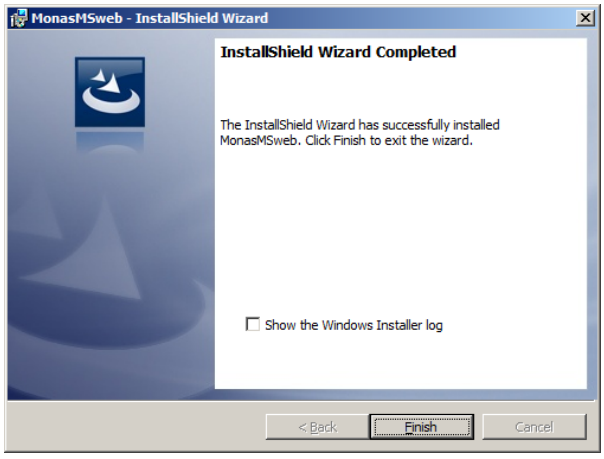


9. *Monas MS WEB* installation window Database Server will open. Click ***Browse...*** and put database connection information.
10. Click ***Next***.



11. A new window will open. Click ***Install***.
12. Installation progress is displayed in *Monas MS WEB* installation window.





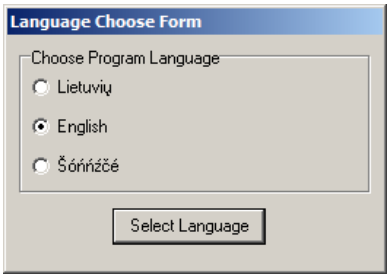
13. Click ***Finish*** to finish Monas MS WEB installation process.

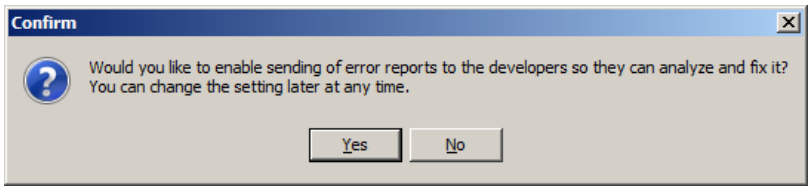
3 Starting and closing the program

Monas MS should be started in accordance to the procedure laid down: program *Monas MS server* is started first, then – *Monas MS Client* programs. Program *Monas MS server* might be set to start automatically upon computer startup during the installation process. In such case, *Monas MS client* may be started upon computer startup.
Program is closed in reversed order: all *Monas MS client* programs are closed first to be followed by *Monas MS server*.

3.1 Starting *Monas MS* for the first time

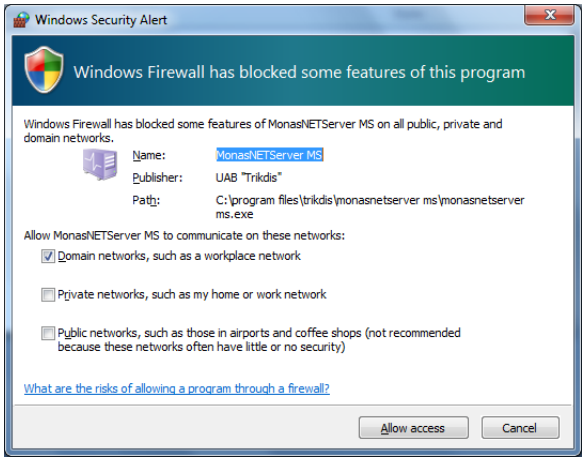
Double-click on *Monas MS server* desktop icon  . A prompt asking to select the program language will pop up. Select the language and click ***Select Language***.



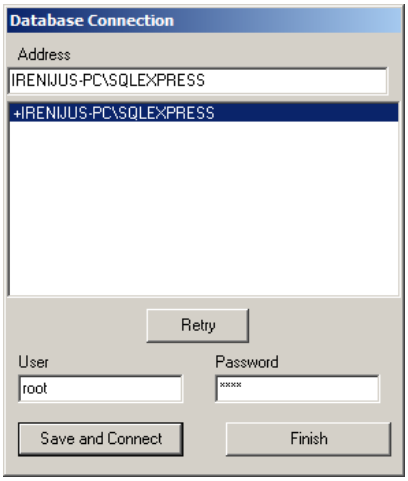


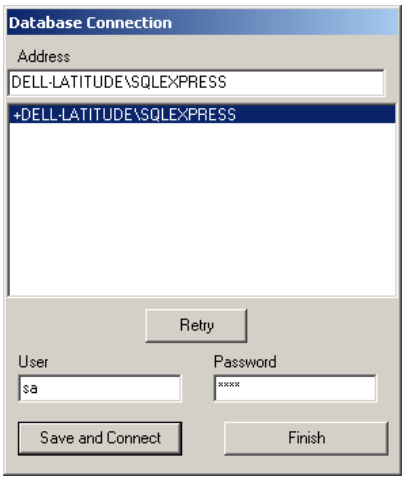
Note:
If you wish error reports to be sent to program developers click ***Yes****.*

Windows Firewall window will open. Allow *Monas MS server* to share data with other programs. Select *Domain networks, such as a workplace network* (or specify the network) and click ***Allow access***.

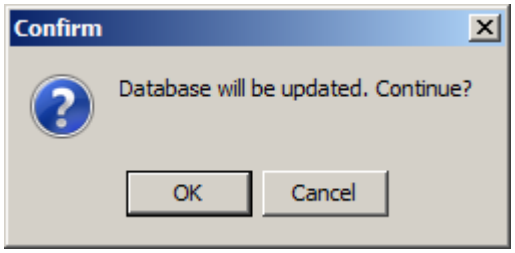


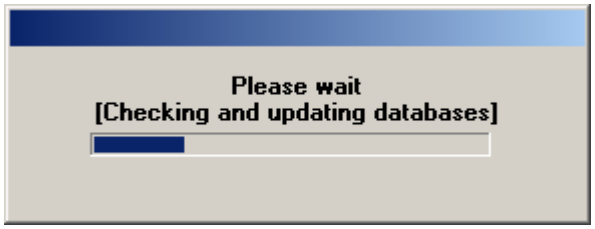
Database Connection window will open. Select destination address *...(local)\SQLEXPRESS*, in the box ***User*** put in ***root*** and in ***Password*** – put in ***root.*** If a different destination address is used, put in ***sa*** in the box ***User*** and ***root*** in the box ***Password***. Click ***Save and Connect***.





A prompt asking to update the database may pop up if the database version is different from the version used by *Monas MS server.* Click ***OK***.



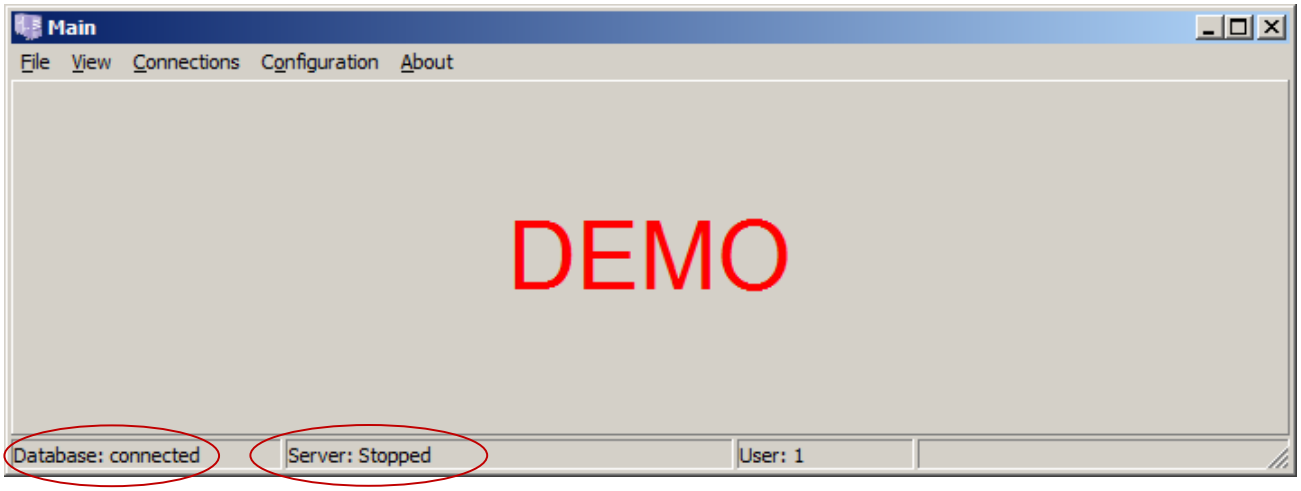


Progress is displayed in the installation window.

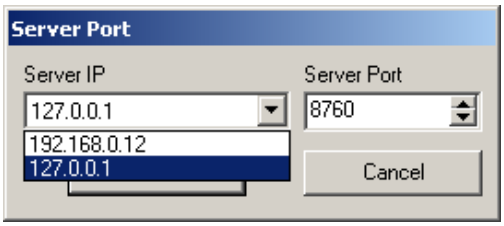
Active program icon will appear in the taskbar. Move the mouse on the active program icon. Right-click on it to reveal options *Show/Stop*. Select *Show*. A new window will open. Put in the short program administrator name and the password.

Short name [1] and password [adm].
Click ***OK***. Main *Monas MS server* program window will open.

It is important that server and database are running. Start parameters are displayed in the status bar at the bottom of the main window.



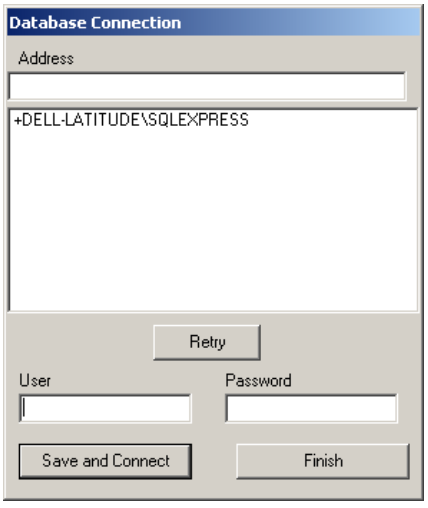
If server is not running, select the command *Connections → Server → Set Port* and put in the IP address ***(Server IP)*** and used port ***(Server Port)*** of the computer with installed *Monas MS server.*

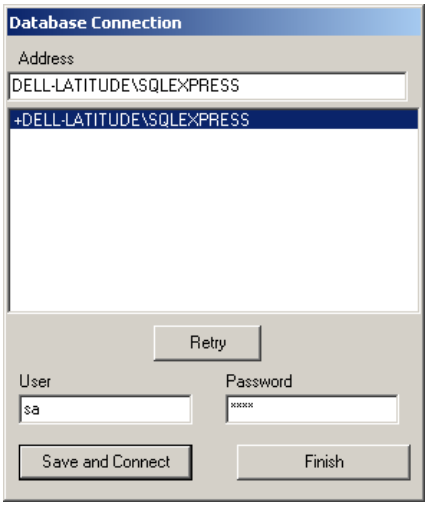


Note:
Address 127.0.0.1 is used when the program works in only one computer, external IP address is used in all other cases. Port 8760.
Another port may be chosen. It is important that the same port is specified in both server and client programs.

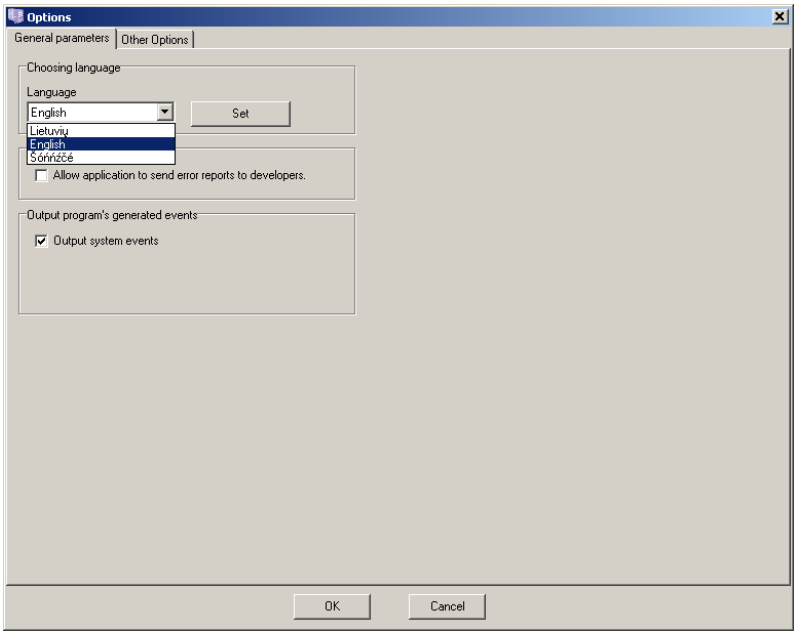
Open the server by using the command *Connections → Server → Start Server.*

Use command *Connections → Database* to connect to a database or to select a different one. A new window will open. Select the database specified during the installation, put in the user name and the password.

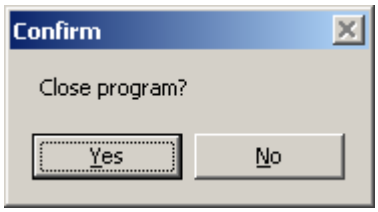




Select the working language of *Monas MS server.* Prompt the language selection window by using the command *Configuration → General Parameters,* select the desired language and click ***Set***.



Close *Monas MS server* using the command *File →Close*.



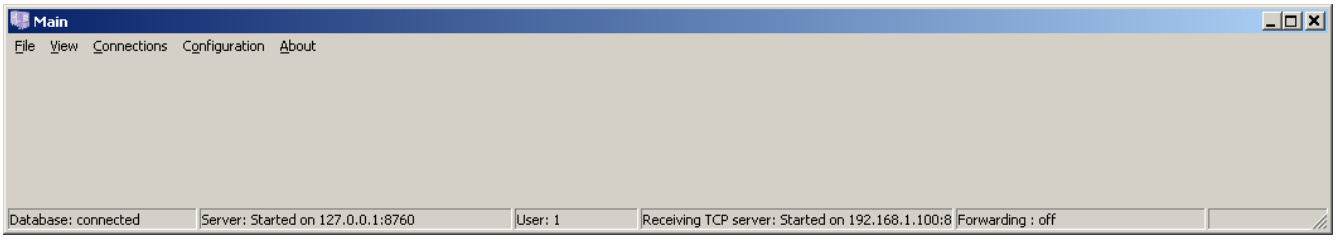
Click ***Yes***.

Insert the access key into the USB port of the computer with installed *Monas MS server.*
Start *Monas MS server* as described above.

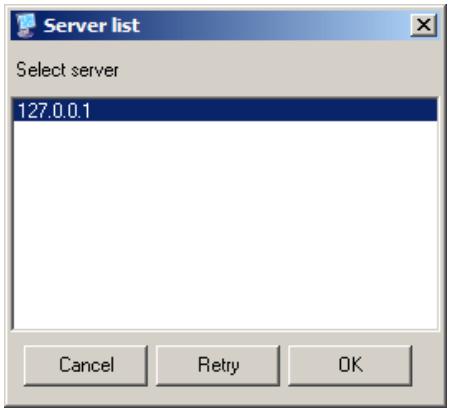
Notes:

1. Note DEMO will disappear and options selected in access key will be activated once access key is inserted and Monas MS server restarted.

*2. A prompt asking to update the database may pop up if the database version is different from the version used by Monas MS server. Click **Yes**.*



Double-click on *Monas MS client icon*. In a new window specify the IP address of the computer with installed *Monas MS server.* Click ***OK***.



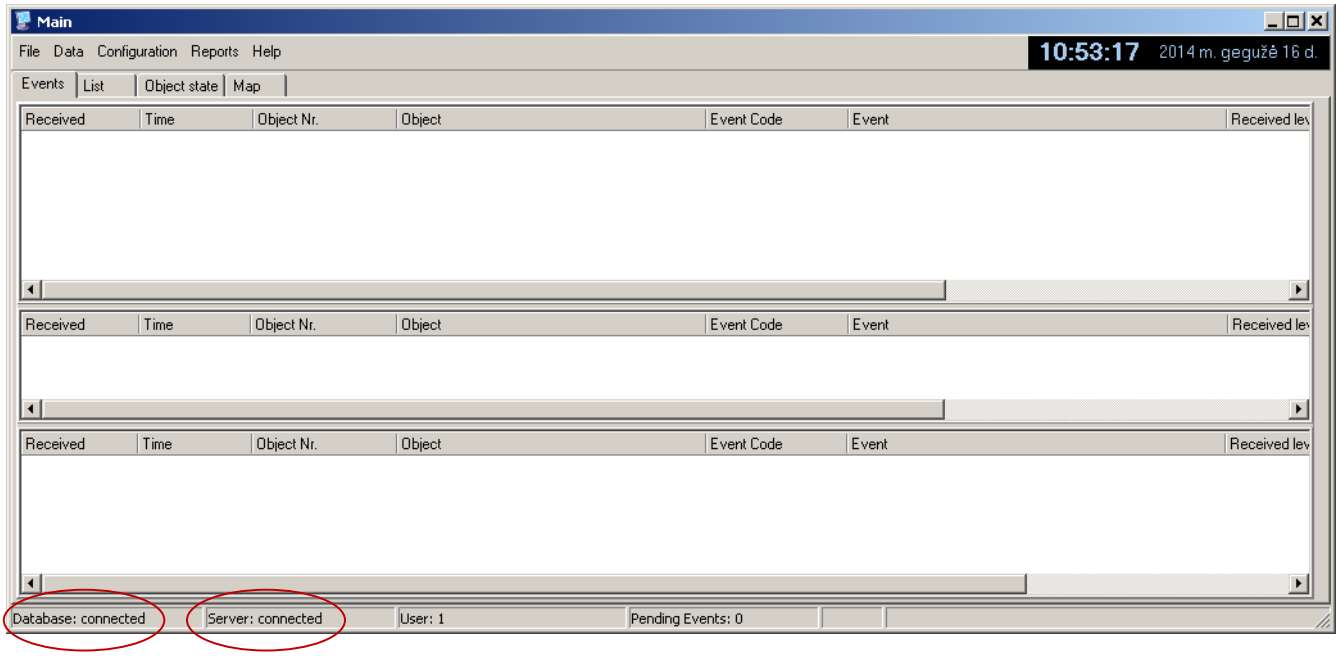
Note:

IP address should be specified according to the configuration of the computer network.

A new window will open. Put in the short program administrator name and the password.

Factory settings:
short name – [administrator] and password [admin].
or
short name - [1] and password [adm].

Click ***OK***. Main *Monas MS client* program window will open.

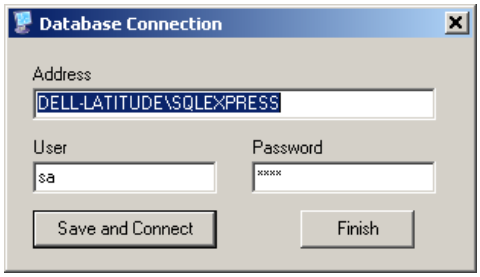


It is important that server and database are running. Start parameters are displayed in the status bar at the bottom of the window. If the database is not running, it can be started using the command *Configuration* →

Database. A new window will open. Specify the used database, and put in **the user name and the password used for database**.

Note:

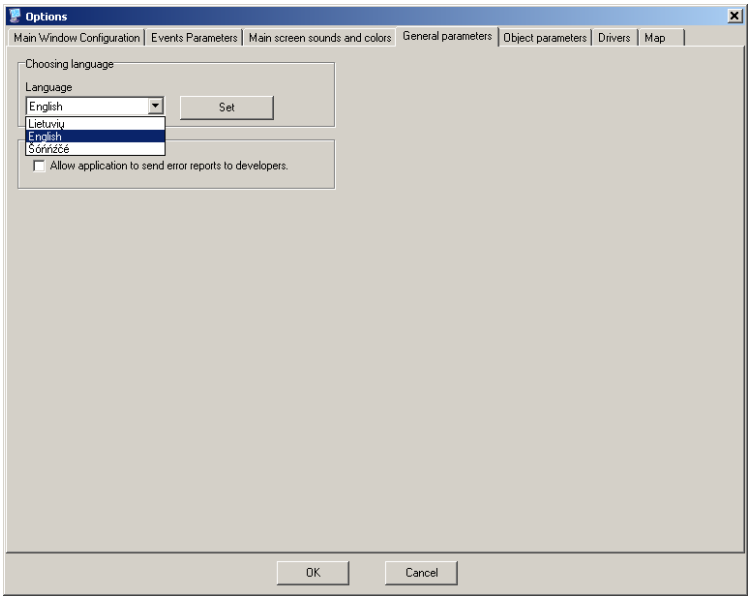
As address not only domain name can be used, but also SQL database full IP address.



Factory settings:
user - [root] and password [root]
or
user - [sa] and password [root]

Click ***Save and Connect*** to open the database.

Select the working language of *Monas MS client*. If you want to change the working language, use the command *Configuration → Options → General Parameters*, select the desired language and click ***Set***.



Restart *Monas MS client*. Language settings will have changed.

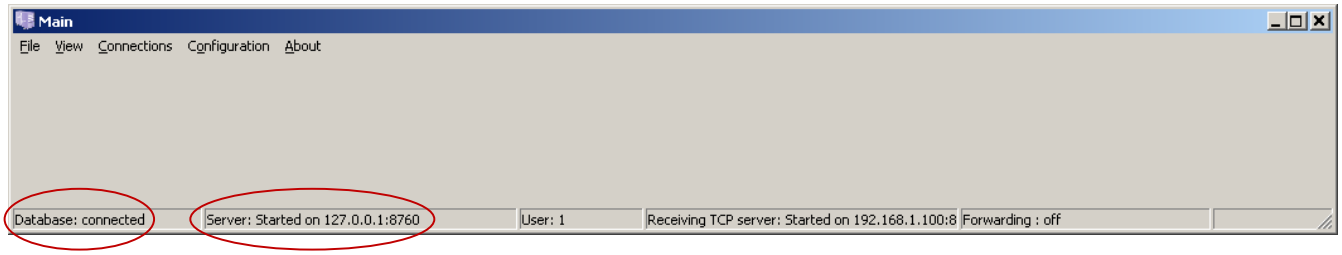
3.2 Starting *Monas MS server* the next time

Double-click on the icon. Active program icon will appear in the taskbar and *Monas MS server* will start. Start *Monas MS client* if program settings do not have to be changed.

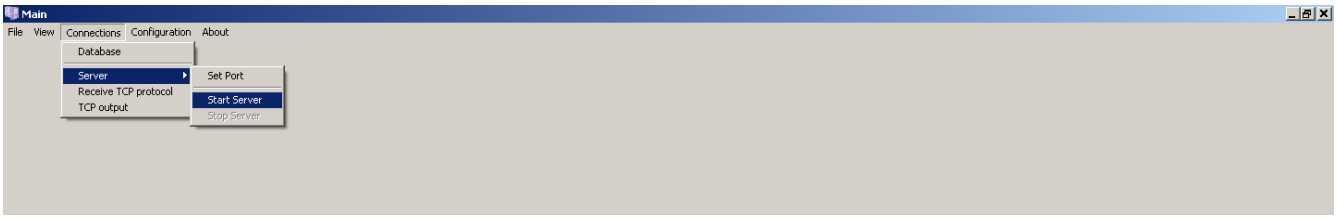
If *Monas MS server* program settings need to be changed, move the mouse on the active program icon. Right-click to reveal option *Show/Stop*. Select *Show*. A new window will open. Put in the short administrator name and the password.

Factory settings:
short name - [1] and password [adm].

Click ***OK***. Main *Monas MS server* program window will open.



It is important that server and database are running. Start parameters are displayed in the status bar at the bottom of the main window. If server is not running, open it by using the command *Connections* → *Server* → *Start Server.*



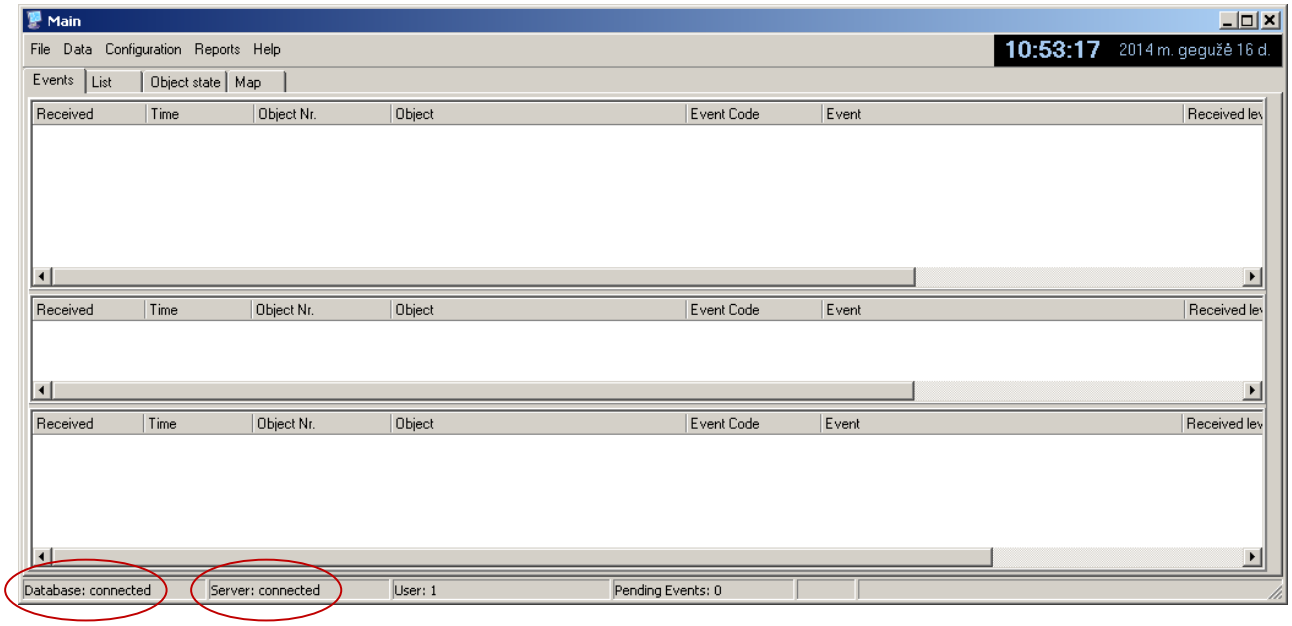
3.3 Starting *Monas MS client* the next time

This program can be installed either on the same computer as the server or on a different one.

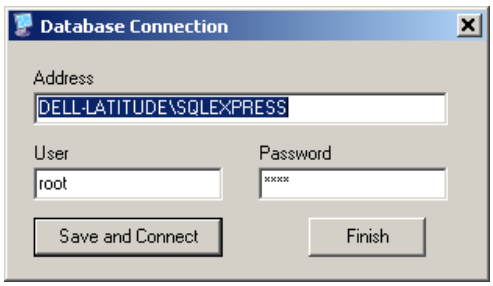
Double-click on the icon. A new window will open. Put in the short program user name and the password.

Factory settings:
short name - [1] and password [adm].

Click ***OK***. Main *Monas MS client* program window will open.



In is important that server and database are running. Start parameters are displayed in the status bar at the bottom of the main window. If the database is not running, it can be started by using the command *Configuration → Database*. A new window will open. Select the database in use, put in the user name and the password.

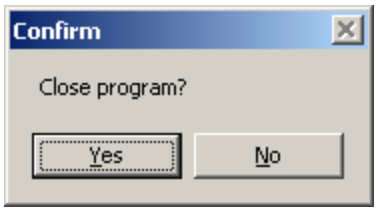


Factory settings:
user - [root] and password [root].

Click ***Save and Connect*** and the database will start.

3.4 Closing Monas MS client

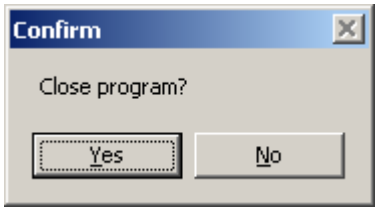
Program is closed using the command *File → Close*.



Click ***Yes*** to close the program.

3.5 Closing Monas MS server

Move the mouse on the active program icon. Right-click to reveal option *Show/Stop*. Select *Stop*.

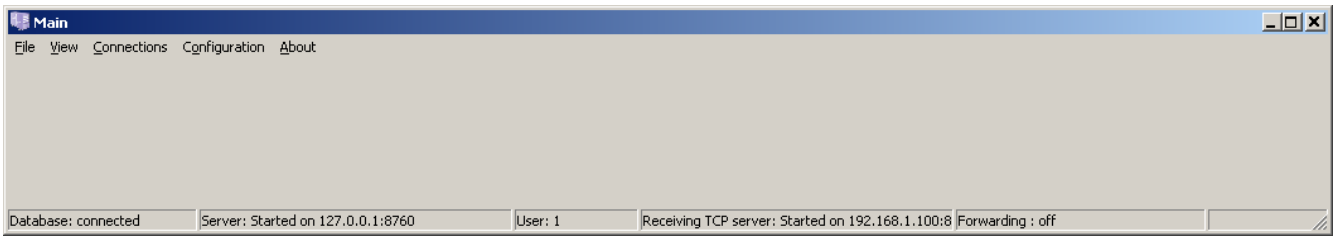


Click ***Yes*** and program will close.

If nothing happens after selecting *Stop,* select *Show*. A new window will open. Put in the short program administrator name and the password. Try to close the program again.

4 Monas MS server configuration

Program configuration is carried out once *Monas MS server* is started in order to ensure the correct interaction between the parts of the program.

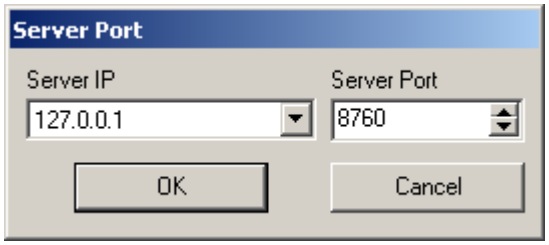


Database and server configuration and connection

It is important that server and database are running. Start parameters are displayed in the status bar at the bottom of the main window. Detailed start process is described in section "Starting *Monas MS* for the first time".

If database is not running, it can be started by using the command *Configuration → Database*.

If *Monas MS server* is not running, it can be started by using the command *Connections → Server → Start Server.* Command *Connections → Server → Set Port* will open the window that displays *Monas MS server* installation IP address and port.



Note:

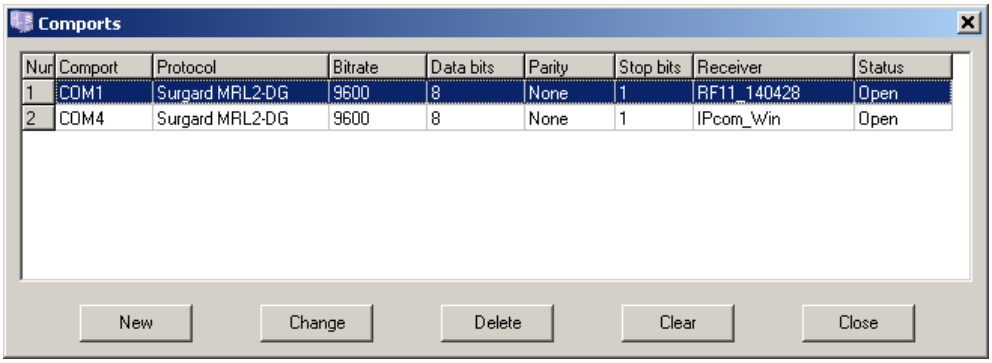
Addresses specified in the picture are most commonly used when Monas MS is installed on one computer.

Same actions are performed when *Monas MS* is to be installed on several computers working in one network. Real IP addresses of network devices are specified.

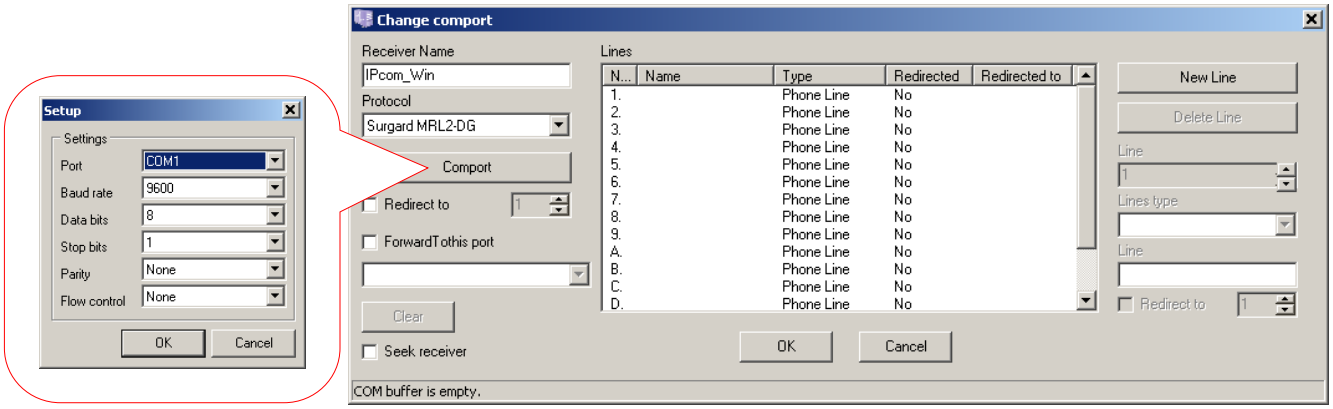
4.1 Connection and configuration of data receivers

Messages from receivers are received via consistent COM (RS232) ports or through the local network using TCP protocol. The latter option must be activated using the secure access key.

Open the port window using the command *Configuration → COM Ports* and specify parameters of the necessary COM (RS232) ports. Click ***New*** to enter a new port, ***Change*** to change its parameters, ***Delete*** to delete a port from the list and ***Clean*** to clear messages stored in that port.

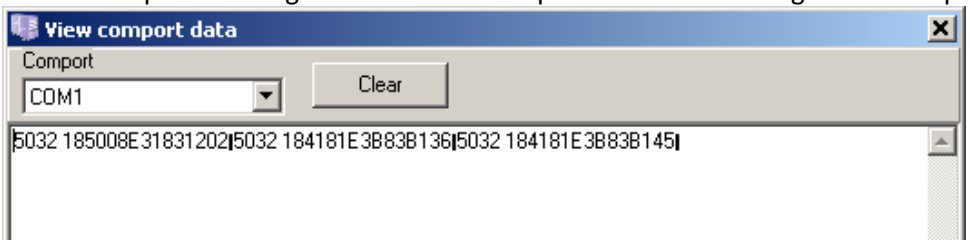


In the window *Change port* specify the name of the receiver, the protocol used for connection with the computer, select a port and its settings, enter the lines, specify their types and names and select *Follow Receiver*.
Please note the protocol used by the receiver for connection with a computer and the port settings. Program allows using different protocols for separate ports. Enter all lines.
Select *Radio Line* if the connection between the receiver and the computer is carried out in Surgard MLR2-DG protocol and radio security system RAS-2M messages are being transmitted. This will allow the display of the events in the screen correctly. *Phone Line* is selected in all other cases.
In specific cases messages received through one line have to be forwarded to another one by changing the line number. It can be done by choosing the desired line, ticking *Forward to* and indicating the number of that line. Received messages will be displayed in the screen under another line number.

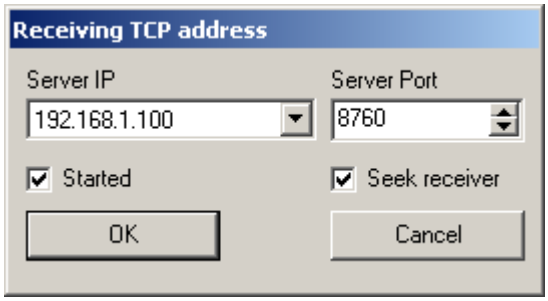


Note:
Information on possible message forwarding to other devices is laid out in other documents.

Connection with receiving devices may be checked by following the command *Data → COM port data.* Choose the desired port. Messages received via that port and data exchange will be displayed in real time.



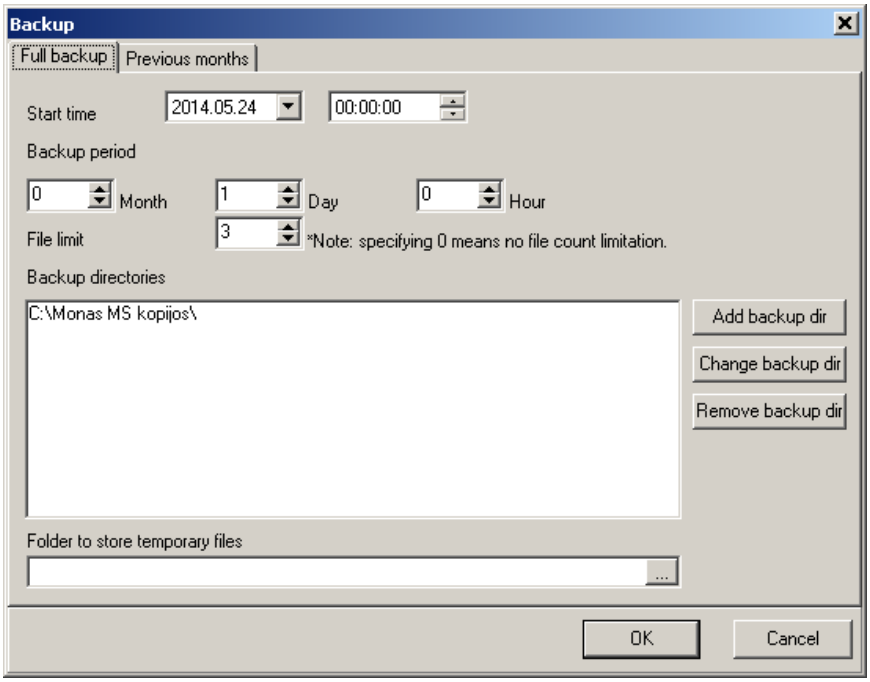
Open the settings window using the command *Connections → Receive TCP protocol* if messages are received using the TCP protocol. In the settings window specify the IP address and the port of the device the data is received from, select *Open* and *Follow Receiver.*



5 Creation and segmentation of automatic database backup schedule

5.1 Schedule creation

Database backup schedule is created by using the command *Configuration → Database* in program *Monas MS server.*



Information on when and how often databases are created (object slips, current and last month messages) and where they are stored is displayed in tab *Full backup.* Copies may be stored in several locations. File limit is also specified.

Select when the first database copy will be created in the box *Start time*.

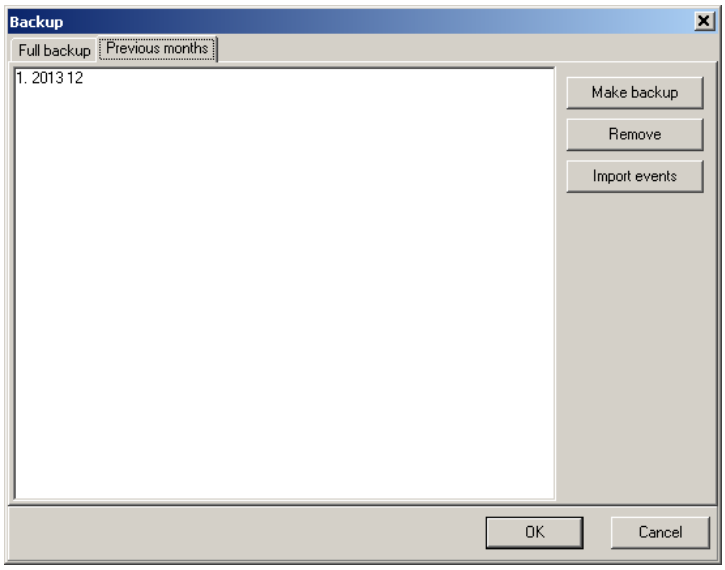
Select the frequency and periodicity of how often database copies will be created in the boxes *Backup period, Month, Day, Hour.* Time is shown according to the set periodicity, that is, the next copy creation date will be later than now (time is reset upon reopening the *Backup copy* window) in the box *Start time*.

The number of the latest copies to be stored in the specified directories and the older ones to be deleted is set in the box *File limit.* 0 means that all data copies will be stored.

Locations for storing created database copies are shown in the box *Backup directories.* Database copies may be stored in several locations.

Because a not archived database file can not be very large when database copies are created, the location of a directory where temporary files are stored is specified in the box *File to store temporary files.* Temporary files are deleted once a database copy is created.

Received event files are displayed in tab *Previous months.*



Created database copies have an extension .mnr and their names YYYYMMDD_HH:mm:ss.mnr refer to the date and time when the file was created. All data in relation to the objects and event descriptions, received and processed events, archived (processed) events of the current month, archived events of the last month and settings of the ports used by *Monas MS server* are stored in the file.
Click ***Make backup*** to create a selected month events database copy and save into a data logger. Copied files will have an extension .mnb.
Monthly data can be deleted from the SQL server in order to clear up the space and save resources. Click ***Remove*** to delete events in a selected month (it is recommended to make a copy prior to this). Deleted data will not be available in *Reports*.
Old events that are deleted from the database can be uploaded and rewatched if their copy is on the disc (extension .mnb). Click ***Import events*** and select the desired .mnb file to upload the events. Uploaded events can be found in *Reports*. Response comments are uploaded together with the events.

5.2 Segmentation of received messages

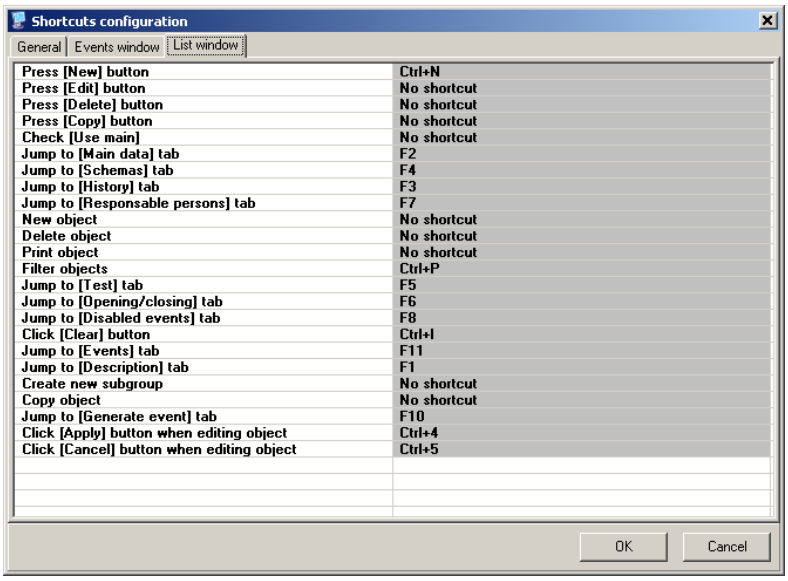
Automatic segmentation of received messages is carried out in order to reduce the database space and make the creation of reports faster, therefore, messages older than two months are moved to separate databases stored in different files. Segmentation is carried out on the first half of the first day of the month. If necessary, segmented messages can be stored in both, a database and in a separate data logger. Segmented messages in the database can be used for creating reports, or those stored in a data logger for restoring a failed database.
Databases of event segmented last month are displayed in window *Previous months*. Event segmentation is carried out on the last day of every month at 23:59:59, all messages received that month are moved to a new database.
For example:

October events will be segmented and moved to a separate database on the 30th of November at 23:59:59. A note 2011 10 will be displayed in this table on the 1st of December at 00:00:00 (depending on the length of segmentation, time may be 00:00:15). Months displayed in this window refer to the available data for report creation.

6 Monas MS client configuration

6.1 Key controls

Monas MS client is controlled by using menu bar commands or/and keyboard shortcuts.
Command *File* → *Log out…* allows one operator to finish the shift and the other to start one.
Command *File* → *Clear…* deletes messages from the top processed messages window.
Command *File* → *Users…* is used to set program user access and options.
Command *File* → *Close* is used to close *Monas MS client*.
Command *Data* → is used for creating databases on secured objects.
Command *Configuration* → *Options* is used to set desired main window properties.
Command *Configuration* → *Archive* is used to move data from received messages window to processed messages window.
Command *Configuration* → *Unlock* is used when moving received messages to processed messages window is not allowed.
Command *Configuration* → *Shortcuts* is used to create a key combination for a selected action from the list.

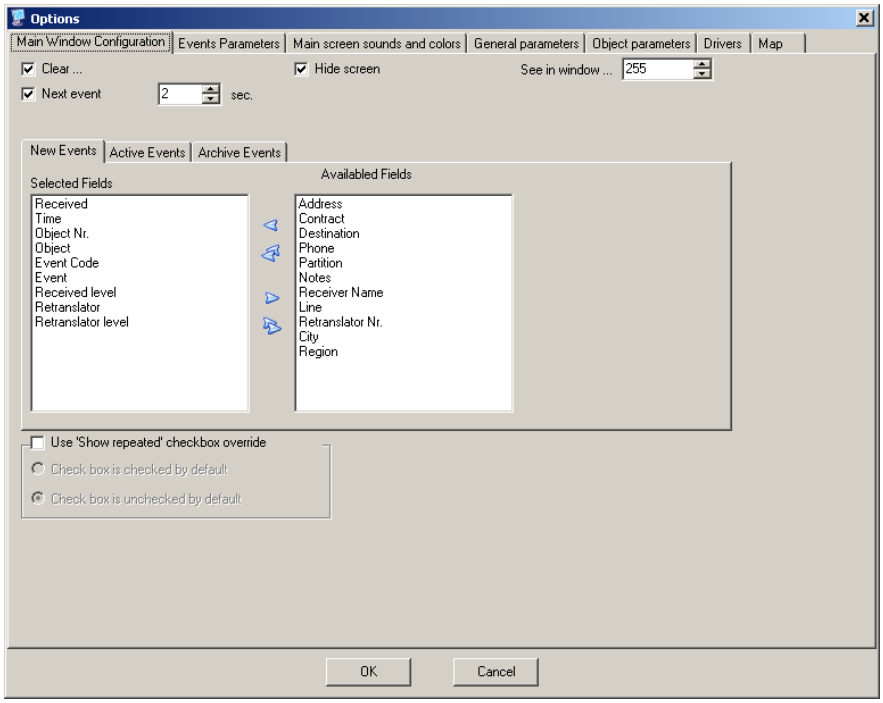


Choose the action and press a desired key combination on the keyboard.
Select the desired combination and click ***Enter*** in order to delete it.

Commands *Configuration* → *Database* and *Configuration* → *TCP server* allows to change the database and server addresses. These commands are used when the existing network configuration is being changed or new workplaces are installed.
Command *Configuration* → *Receiver time setting* is used to set the time on radio receiver RI-4010VT which works using Monas2 protocol.
Command *Reports* → is used to create event reports.
Command *Help* → *About* displays brief information on the program version: name of the program, version, date of creation, developers and main functions.

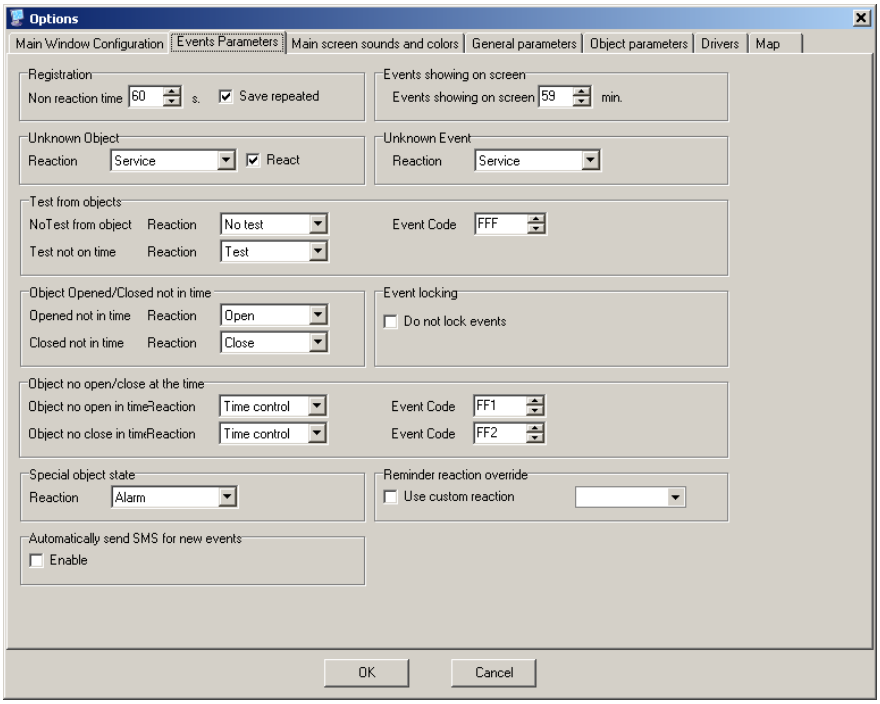
6.2 Setting main window properties

Properties of the main window of *Monas MS client* are set by using the command *Configuration → Options.*
Choose the working language in tab *General Parameters.*
Specify the information that will be seen once a new message arrives (left tab) concerning active events in the window (mid tab) and on processed events (right tab) in tab *Main Window Configuration.*



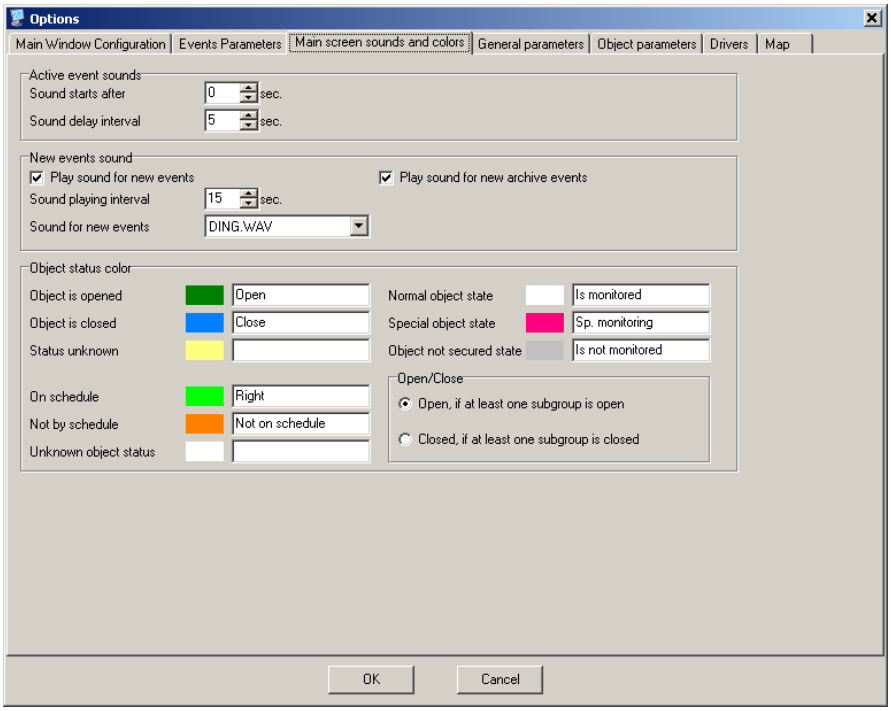
Tick *Clear* to disable the display of events in the top window on the program startup.
Box *Next event* refers to time after which a new message window will be opened.
Tick *Hide screen* to close the message window. If ticked, message window is minimised and operation sees the entire width of the screen once there are no processed messages. If unticked, an empty message window taking up half of the screen will be displayed.
Set the number of messages to be displayed on the screen in the box *See in window…* Other messages can be checked using the report properties.

Some message codes and responses are displayed in tab *Event Parameters*. Settings of this tab normally are not changed.



Tick *Unknown Object – React* to display all received objects (including not described ones) on the screen. Untick to display only described objects.
Some program responses and used message codes can be changed in this tab.

Sound properties, color indications and notes of the monitoring schedule are set in tab *Main screen sounds and colors.*

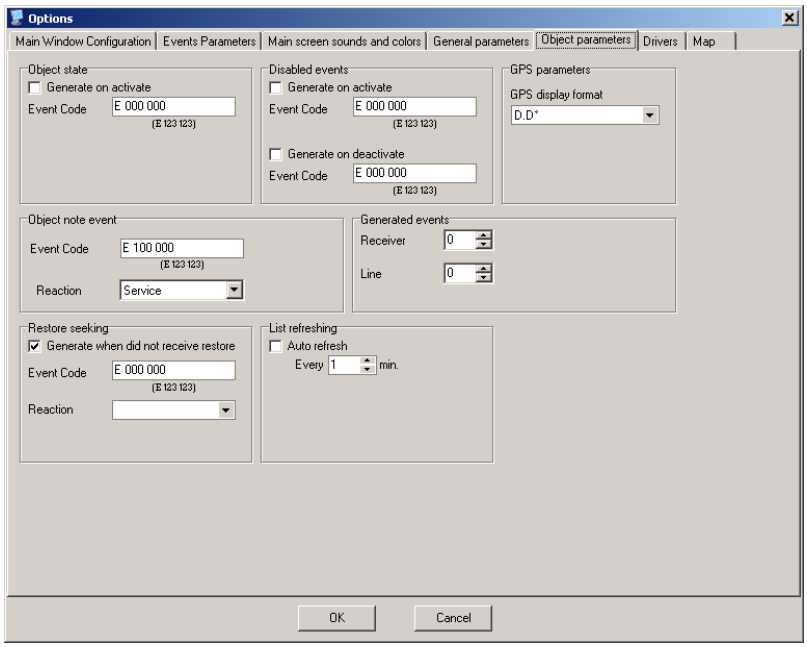


Set the time after which a signal will be heard following a received message in the box *Sound starts after.* It is recommended to set it to 0 sec. Signal intervals can be set in the window *Sound delay interval.*

Select the signal for new events, its intervals and the melody in the section *New events sound.* It is recommended to keep the factory settings.
Colours and notes of the monitoring status and starting and closing schedules can be set in the section *Object status color.*

7 Setting monitoring properties

Properties of *Monas MS client* responses can be set using the command *Configuration → Options*.
Event codes that will be formed when secured object status is changed to special or back or when unimportant events are entered are set in the tab *Object parameters.*
Tick the formation of desired messages and specify the even codes. Recommended event codes are presented in the table below.



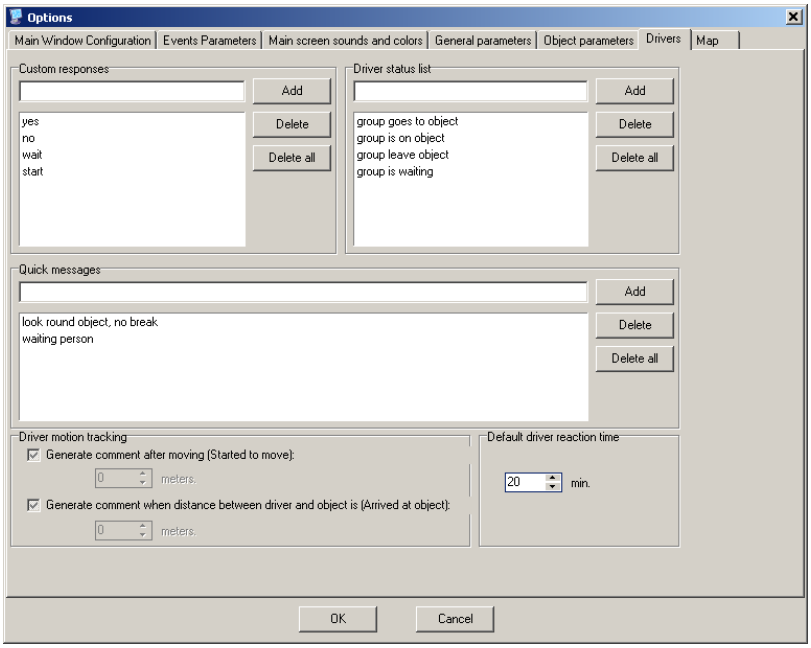
Event description	Event code	Note
Object status (secured/not secured/special security)	E B01 000	Message is formed once the monitoring status is changed.
Temporarily unimportant events: upon activation upon restoration	 E B02 000 R B02 000	Messages are formed once object event monitoring is changed.
Object comment	E B03 000	Message is formed when a new object comment is entered.
Waiting for restoration	E B04 000	Message is formed if event restoration message is not received within the time period specified in the object comment.
Note: *Messages are formed using the receiver and line codes displayed in this table.*		

Event codes used in the object comments need to be described.

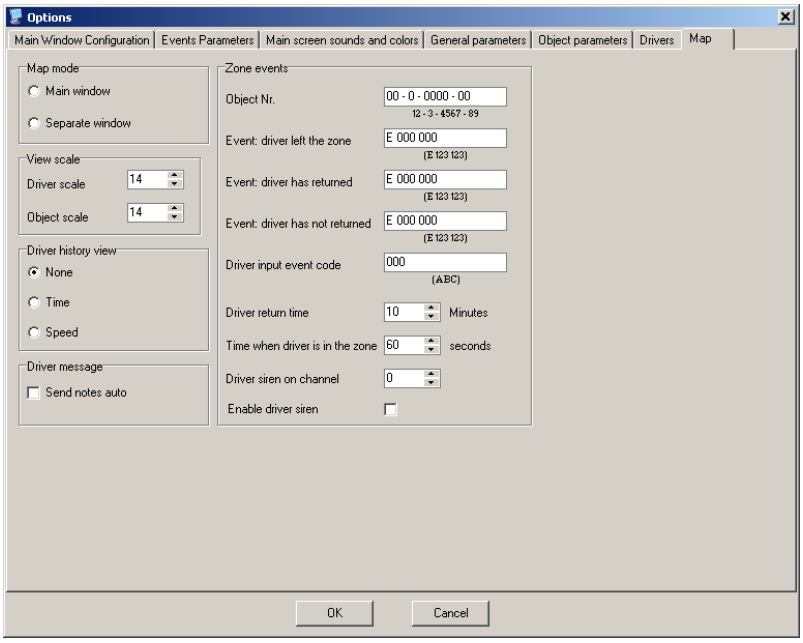
Set the automatic update of the objects list using the setting *List refreshing.* If ticked and the time period is specified, list of the objects in the tab ***List*** of the main *Monas MS client* window will be updated periodically. Click ***Refresh*** to update the list manually.

8 Setting crew and object monitoring properties

These sections are displayed and filled in only if program modules MAPS and NAV are used.
Possible responses, fast message texts and other control parameters are set in the tab *Drivers.*
Possible reaction statuses are set in the box *Driver status list,* possible station operator's responses and directions in the box *Custom responses.*
Set possible crew responses in the box *Quick messages.*



Setting *Generate comment after moving (Started to move)* indicates the distance from the starting point that the crew has to make in order to record the moving and form the note *Started to move*.
Setting *Generate comment when distance between driver and object is (Arrived at object)* indicated the distance to meters between the car and the object in order to record the arrival at the object and form the note *Arrived at object*.
Setting *Default driver reaction time* defines the crew response time. A more detailed description on the crew response times can be found in the object comment section *Driver reaction time*. Value of this setting is used if there are no entries in the indicated section.
Some moving and showing settings can be set in the tab ***Map***. Event codes that will be formed once the mobile crew enters the set ground area can be found in the same tab.
Choose the map showing mode. If box *Separate window* is ticked, the map will be opened in a separate window and lists of the objects will be in the main one.
Set the view scale between 1 and 21. 1 means that the view will be from far away (high), 21 – very close. It is a Google Maps parameter. Crew scale is used when a crew is selected in the map, object scale when the object is selected.



Specify the event codes. Recommended event codes are shown in the table below. Codes are applied to all crews. Once crew returns to the deployment location an event with a comment including crew IMEI and/or its name is formed.

Event description	Event code	Note
Crew left the zone	E B05 000	
Crew returned to the zone	R B05 000	
Crew did not return in time	E BF3 000	
Event in Aplicom input		
upon activation	E BF4	
upon restoration	R BF4	

Note:
Object number is not used in the program.

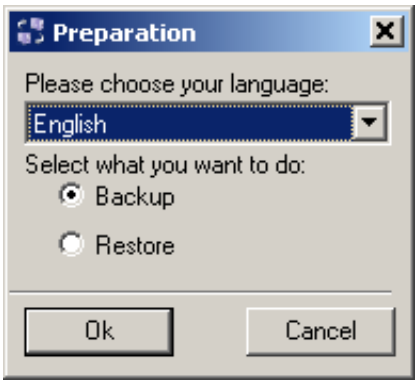
9 Database backup and backup copy upload

Database stores data in relation to objects and event descriptions, received messages and *Monas MS server* port settings.
It will not be difficult to ensure fast program operation restoration in the event of a computer failure or when installing new equipment if automatic database copy schedule is created and copies are stored in a data logger. This section describes how to create a database copy manually and how to transfer available data into a new database.

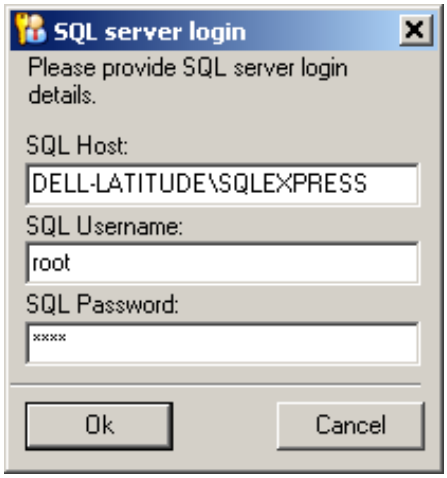
9.1 Database backup

Database backup is performed using database creation/restoration program Database backup which can be found by following *Start Menu → Programs → Trikdis → Monas MS server.*

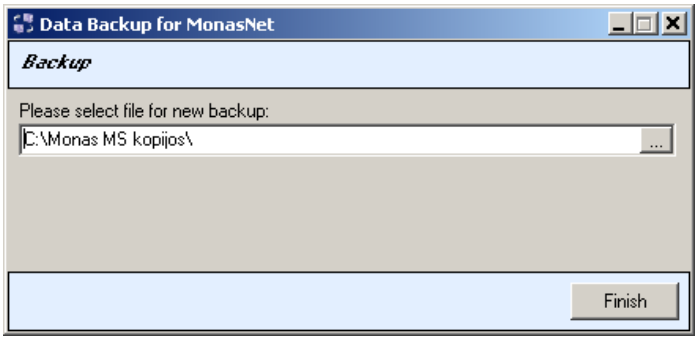
1. Once Database backup is running it can be chosen whether to create a database copy (*Backup*) or to restore the database from a copy (*Restore*).



Select Backup or Restore and click ***OK.*** Put in MS SQL server login details.

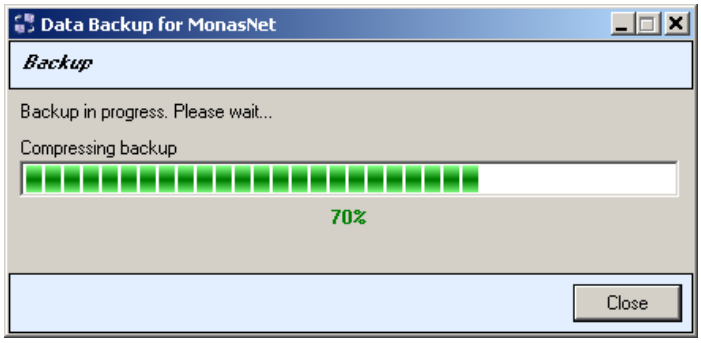


2. Click ***OK*** and select location for the backup file.



3. Click ***Finish*** to create a database copy.

Backup progress is displayed in the new window.

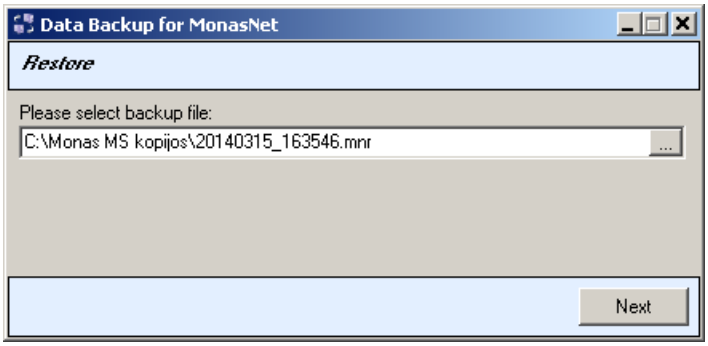


4. Once database backup is finished, file with an extension .mnr and name YYYYMMDD_HH:mm:ss.mnr will be created. File will contain this data: all data in relation to objects and event descriptions received and processed messages, last month events and *Monas MS server* port settings.

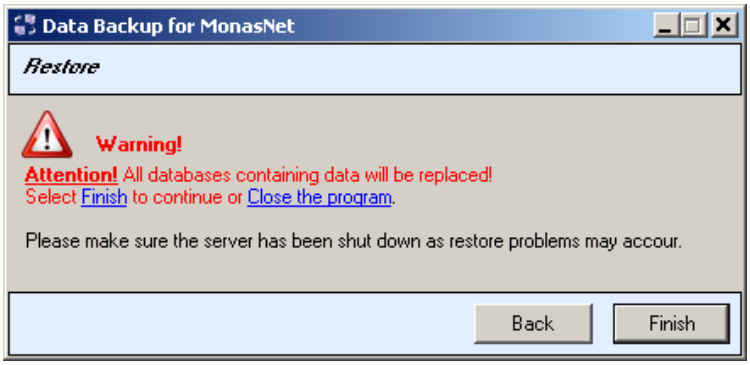
9.2 Backup copy upload

5. Choose Restore and click ***OK***. Select a data copy file to be uploaded. Only files (with extension .mnr) created using Database Backup program or *Monas MS server* database copy module may be selected.

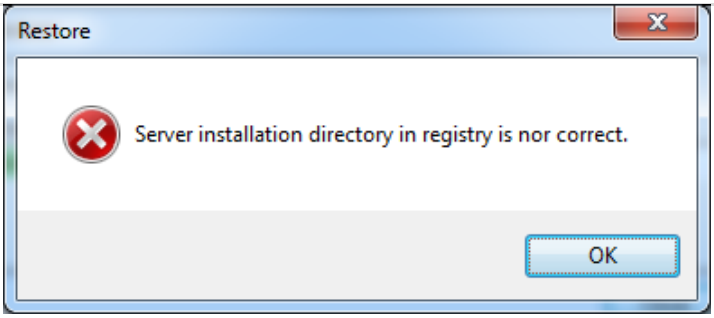
Note:
Monas MS server and Monas MS client programs must be closed during the data upload.



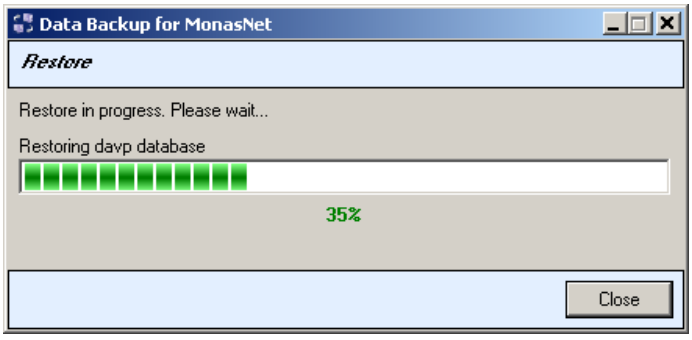
6. Click ***Next***. A message will pop up warning that the present data will overwrite existing *Monas MS* database. Click ***Finish*** to save.



Note:
A message might appear during the upload warning that Monas MS server installation was not found and COM port settings will not be uploaded. Upload will continue upon clicking OK, however, COM port settings file will not be uploaded.



7. Upload progress is displayed in the new window.



8. Once data backup is finished click ***Close***.