

AN004: SETUP AND
USAGE OF D3
TIMESTAMP SENSORS
WITH MYSQL
DATABASE



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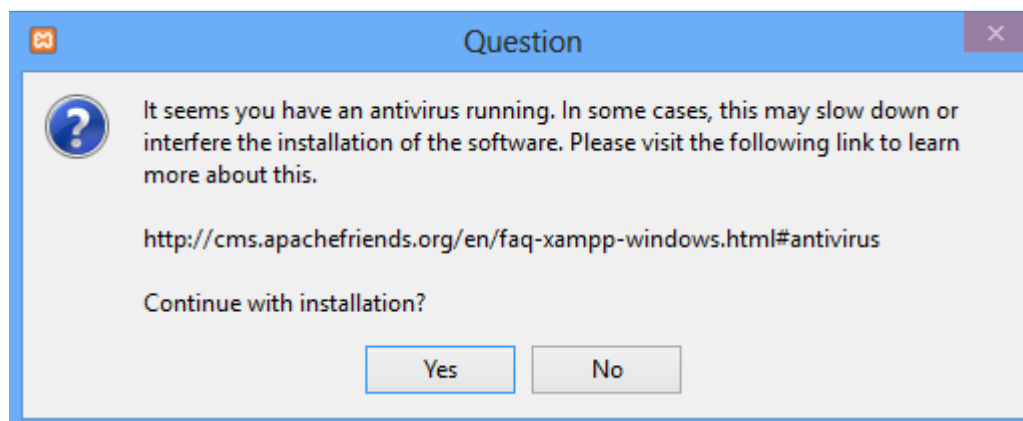
PREPARING MYSQL DATABASE FOR USING IT TOGETHER WITH A SENS MAX EQUIPMENT

STEP 1: MySQL

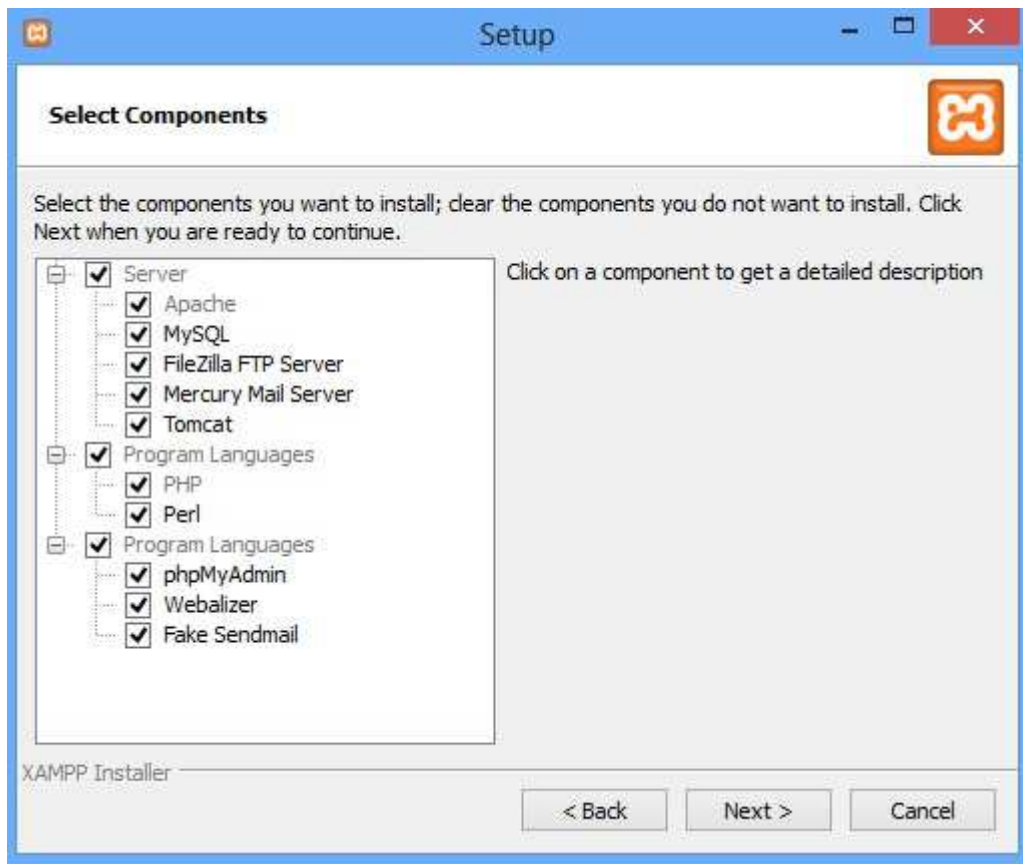
SensMax software system is based on MySQL databases, that is why you should install the proper environment where to integrate the SensMax database.

The easiest solution is to download a package with all necessary tools included. It is recommended to download **XAMPP** platform. **XAMPP** is a free and open source cross-platform web server solution stack package and you can download the installation file from its official web page: <https://www.apachefriends.org/download.html>

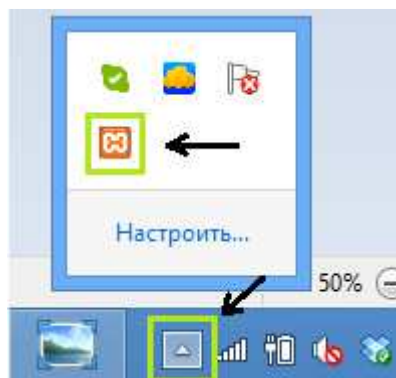
After download is finish run the installation file, if firewall warning will appear choose option to allow in home or private networks. Afterwards will appear the following question:



Press “Yes” to continue the installation. Select all the components from the list:

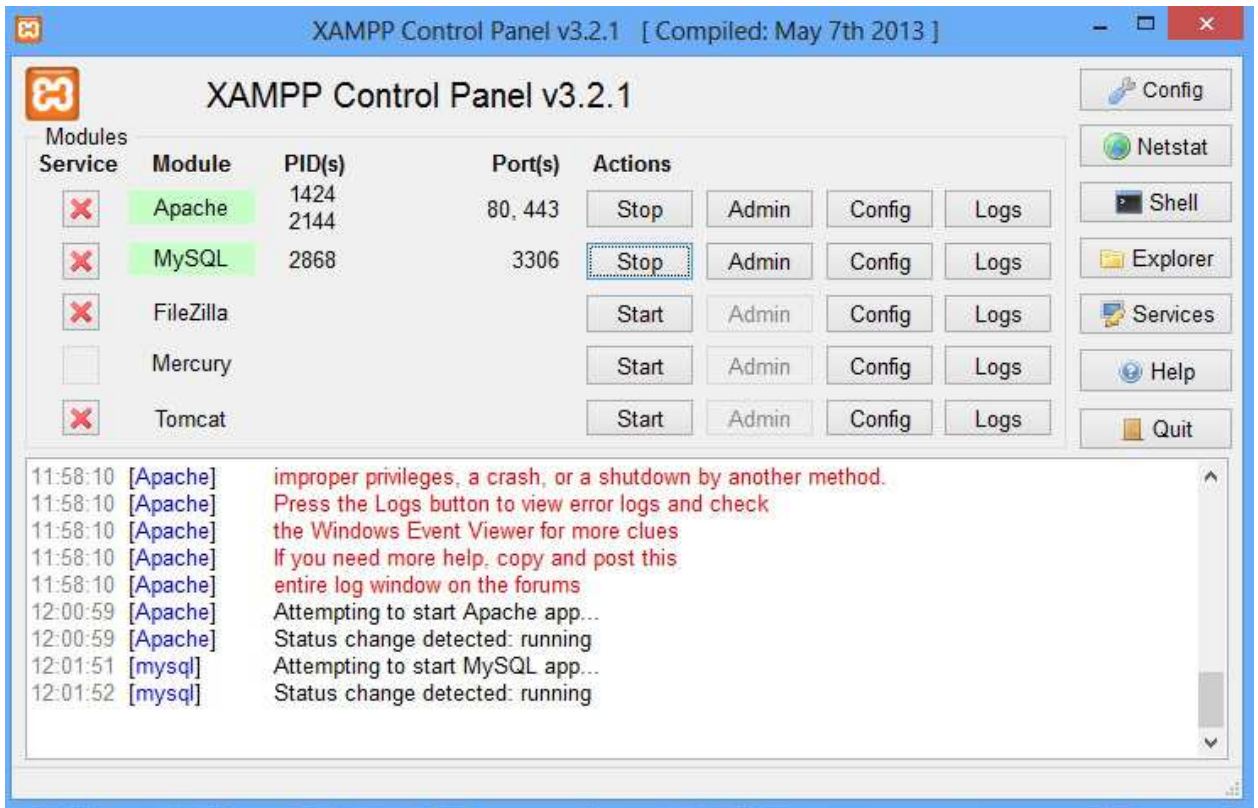


After installation is complete, launch XAMPP control panel as it is shown on the following screenshot:



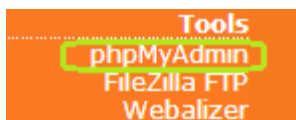
Now you need to launch Apache and MySQL modules, to do so you should click on “Start” button for each of the modules. **WARNING:** if you have got Skype installed on your PC and it is active Apache server will not start due to busy port, to bypass this situation, please close Skype and start Apache, then run Skype again, this will allow you to use both applications together.

If both modules have started successfully, then you will see the following information in XAMPP control panel:



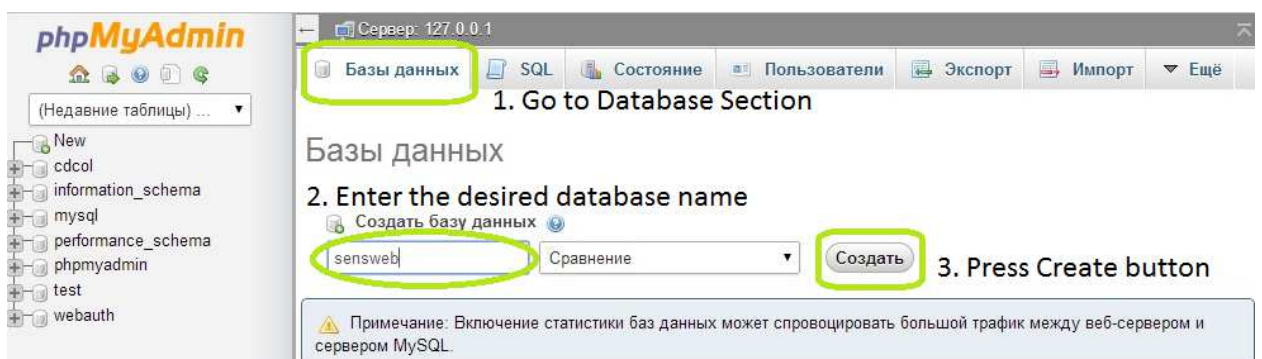
STEP 2: Creating Database

Now we will create new database to implement a SensMax counting system structure in it. To proceed, please, open your web browser and type in address bar **localhost** and press enter. If everything is fine you will see the following starting window:

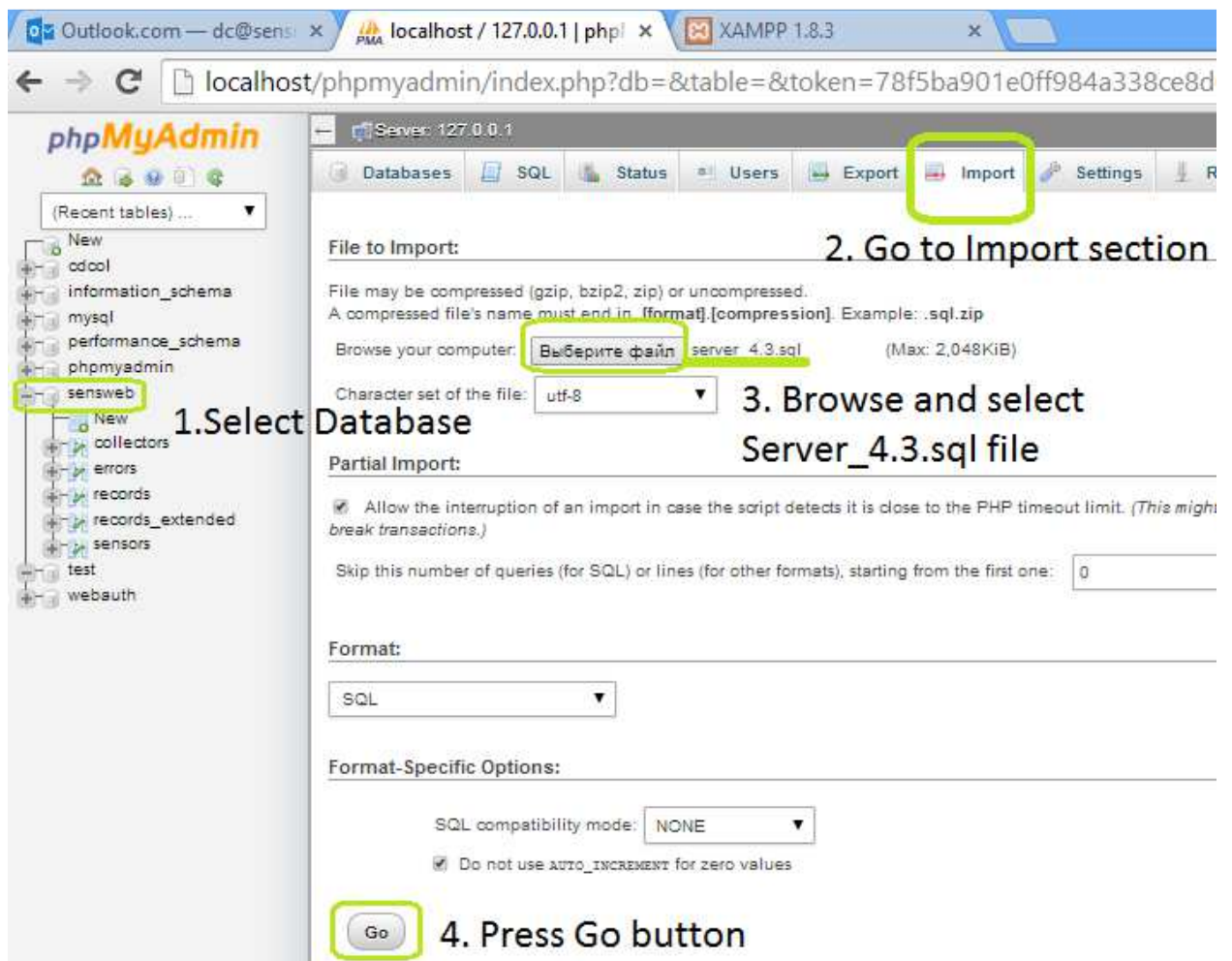


Select the communication language and you will proceed to XAMPP interface, where you should select **phpMyAdmin** in a tools section in the lower left corner.

Click on Database section in the menu. To create new database enter its name (e.g. **sensweb**) and click Create database as it is shown in a picture below:



After that you will see, that new database was added to the list of databases from the left side. Select the database by clicking on it and go to the import section to implement the structure of SensMax database. Please import the specially prepared sql script file (**Server_4.3.sql**) to start using SensMax database:



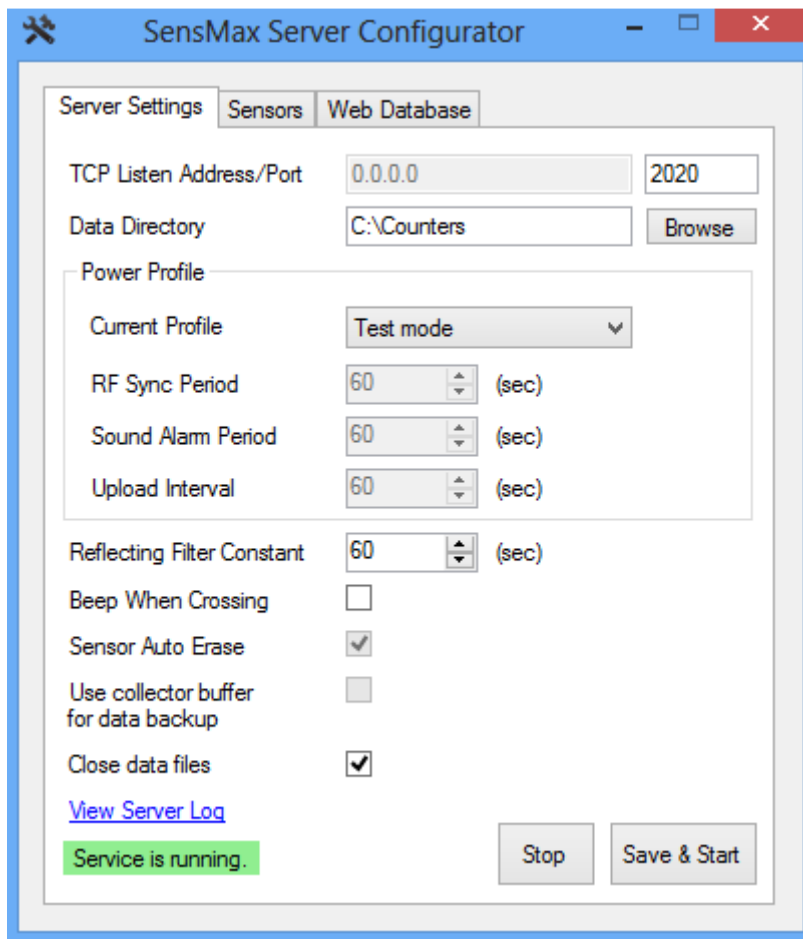
When import will be completed you will be able to see five database tables appeared in **sensweb** database.

CONFIGURING SENSMAX HARDWARE FOR WORK WITH MYSQL DATABASE

STEP 1: Server

To receive data from SensMax sensors into created MySQL database you need to install SensMax server v4.3.

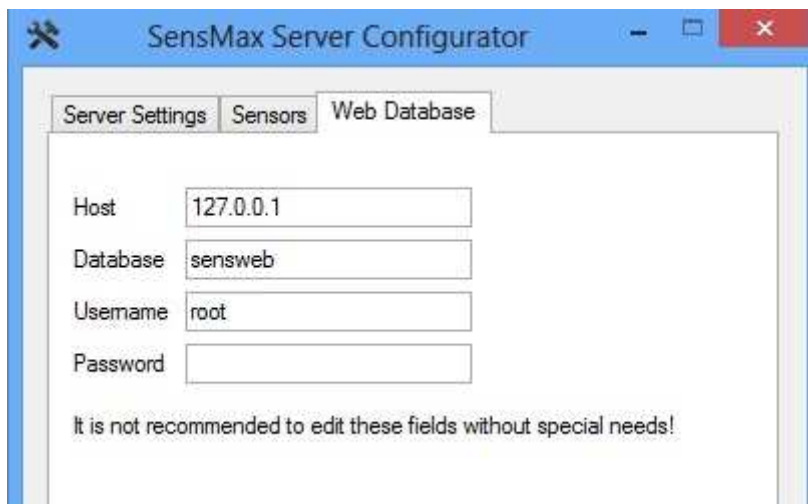
Install the SensMax Server software on the computer with XAMPP installed on it. After installation, launch server configurator (right click -> Run As Administrator):



Indicate the directory for counter data base storage (C:\Counters).

Press "Stop" button and then go Web Database section.

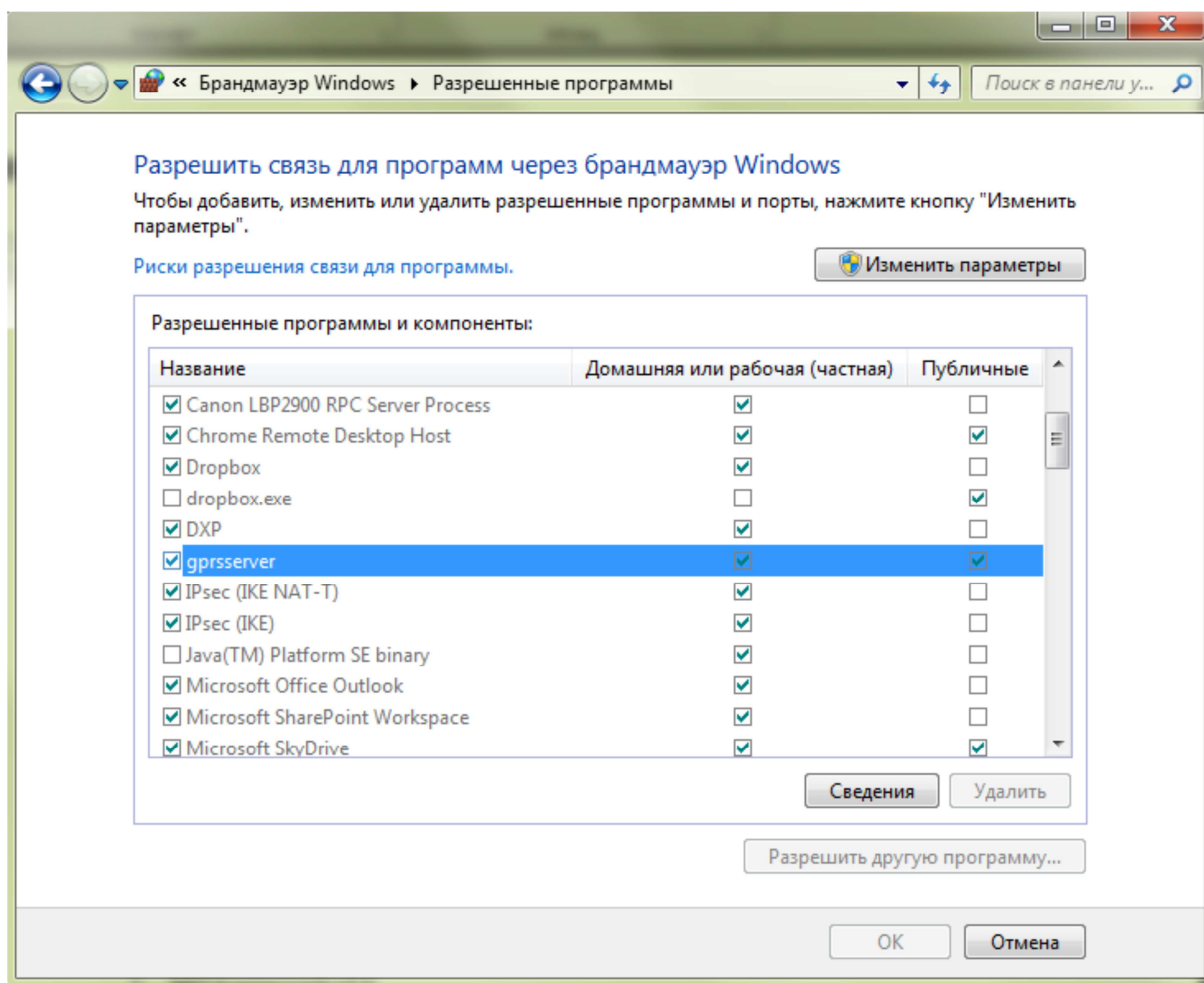
Here enter the following settings:



To apply them press "Save and Start" button.

If everything is correct, the server will be launched: **Service is running.**

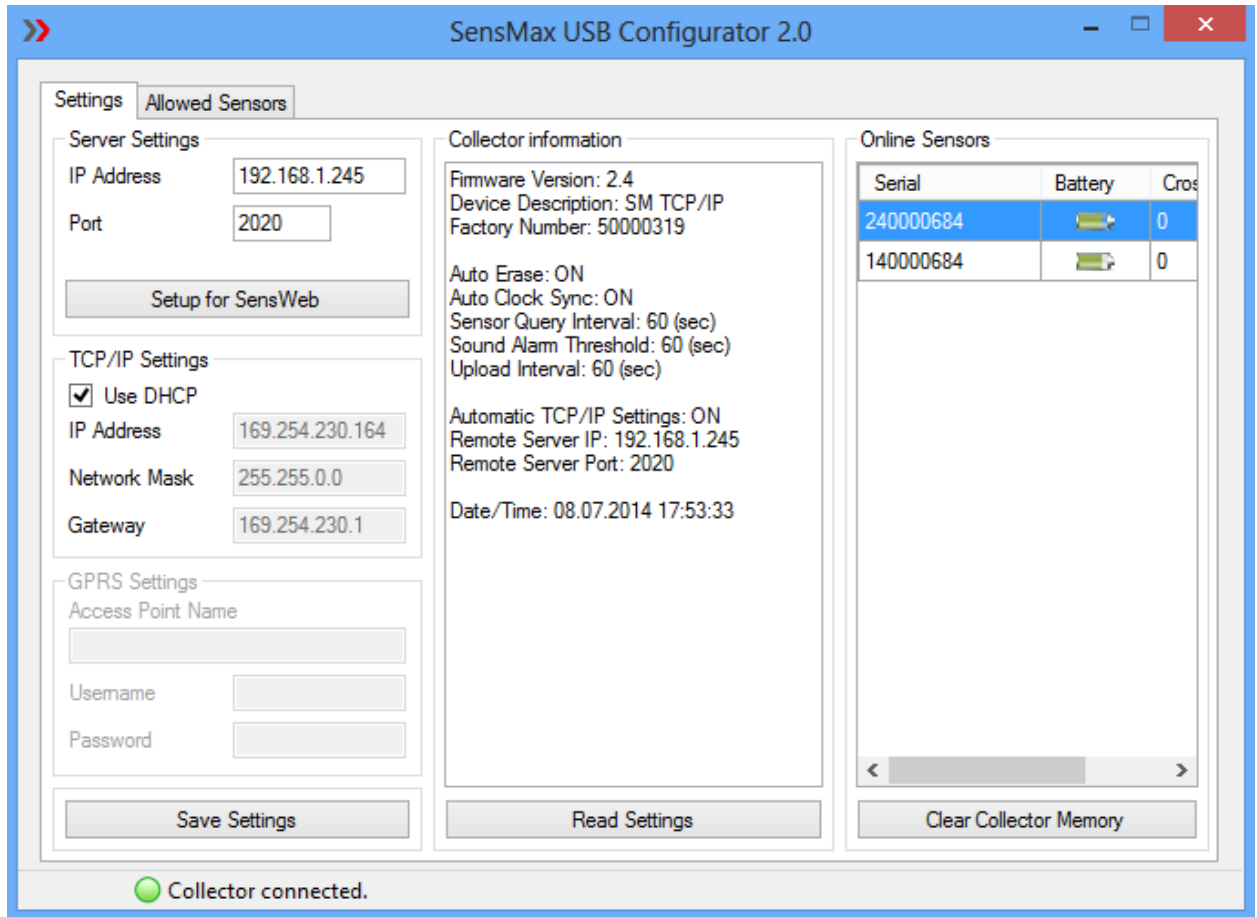
Please add SensMax Server to Windows Firewall exceptions:



For more detailed information on Server, see "SensMax Hardware Manual", section "SensMax Server".

STEP 2: Data collector

When used for the first time, the data collector has to be configured for the work with installed server. Please connect collector to the USB port and start the “SensMax USB configurator” software. Press “Read Setting” button:



Server Settings

- IP Address - server IP address (address of the computer, on which server is installed)
- Port - Server port (default 2020)

TCP/IP Settings

- IP Address - collector's IP address
- Network Mask
- Gateway

Please customize the settings and press “Save Setting” button. Now power supply and RJ45 cable can be connected to the collector.

For more detailed information on data collectors, see the document “SensMax Hardware Manual”, section “SensMax Pro TCPIP Data Collector”.

STEP 3: Link Sensors and Collector together

The necessary action is to link sensor and data collector together. The link is necessary, to ensure, that the collector will be working only with particular sensors. For linking, perform following actions:

- 1.** Insert batteries into the sensor – the one with serial number (do not close the case cover)
- 2.** Connect collector to USB or to power supply
- 3.** Press the button on the collector (Radio Link indicator will start flashing)
- 4.** Press the button inside sensor

For more detailed information about counters and installation ways please read “SensMax Hardware Manual”.

VIEWING D3 STATISTIC DATA WITH TIMESTAMPS IN MYSQL DATABASE

Viewing Statistic:

To start monitoring your statistic in MySQL database you should select **sensweb** database that was created in AN001 section and select the **records_extended** database table to view statistic data:

| | id | serial | sensor | type | battery | date |
|--------------------------|----|-----------|--------|------|---------|---------------------|
| <input type="checkbox"/> | 26 | 140000684 | 0 | 0 | 1 | 2014-07-08 09:47:48 |
| <input type="checkbox"/> | 27 | 140000684 | 0 | 0 | 1 | 2014-07-08 09:47:48 |
| <input type="checkbox"/> | 28 | 140000684 | 0 | 0 | 1 | 2014-07-08 12:45:15 |
| <input type="checkbox"/> | 29 | 140000684 | 0 | 0 | 1 | 2014-07-08 12:45:12 |
| <input type="checkbox"/> | 30 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:50:56 |
| <input type="checkbox"/> | 31 | 140000684 | 0 | 0 | 1 | 2014-07-08 12:50:53 |
| <input type="checkbox"/> | 32 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:50:50 |
| <input type="checkbox"/> | 33 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:50:50 |
| <input type="checkbox"/> | 34 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:50:47 |
| <input type="checkbox"/> | 35 | 140000684 | 0 | 0 | 1 | 2014-07-08 12:50:45 |
| <input type="checkbox"/> | 36 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:50:44 |
| <input type="checkbox"/> | 37 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:50:44 |
| <input type="checkbox"/> | 38 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:51:12 |
| <input type="checkbox"/> | 39 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:51:09 |
| <input type="checkbox"/> | 40 | 240000684 | 0 | 0 | 1 | 2014-07-08 12:51:06 |

Column **Serial** shows you the serial number of the counter from which you have received data, please notice as D3 counters are bidirectional each direction will have its own serial number. **E.G.** you have D3 counter with serial number **040000684**, but in fact you will receive data from:

140000684 – DirB (IN direction by default)

240000684 – DirA (OUT direction by default)

Column **Sensor** is not in use in current moment

Type shows you the type of crossing:

0 – Stands for a visitor period)

1 – Stands for a sensor blocking (when sensors do not see each other for a long period)

Battery shows you a level of charge, 1 is charged, 0 is discharged.

In **Date** column you will be able to find the precise date and time when crossing had been made.