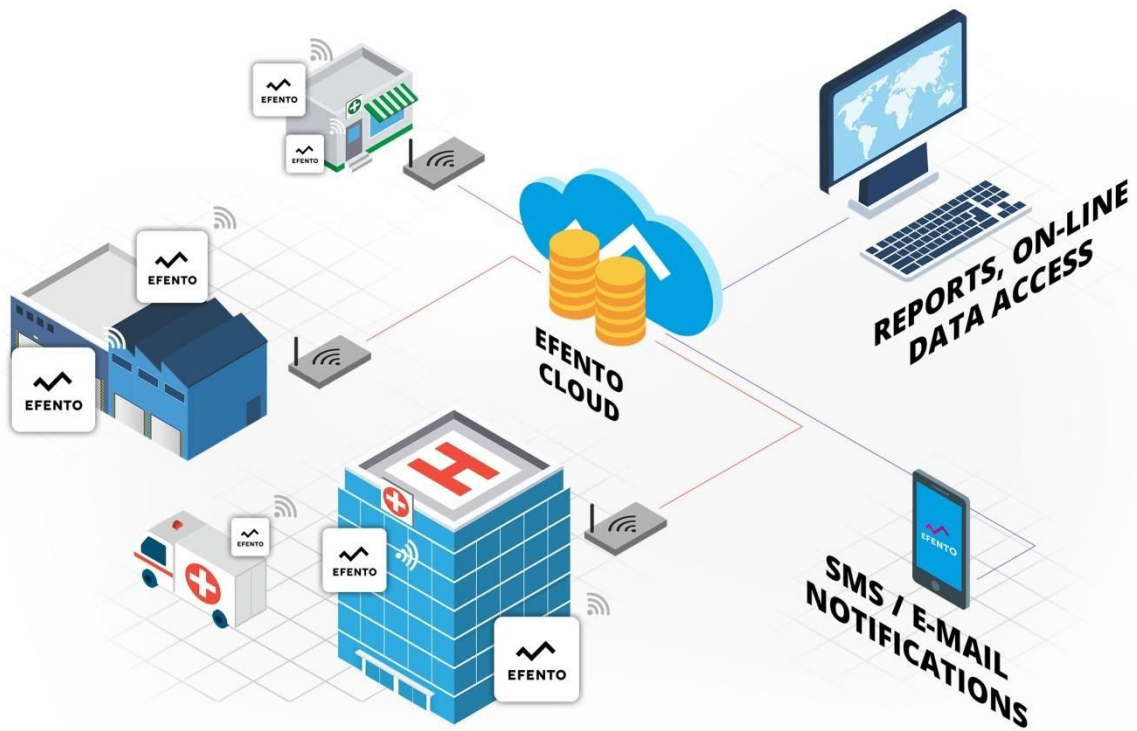


Efento Cloud

User Manual



Ver. 1.6.



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1. Registration and logging in Efento Cloud

Using Efento Cloud system requires creating an account. In order to register and account go to cloud.efento.io and click on Register button. You will be asked to insert data required in registration process (username, name, surname, e-mail address, password) and also to accept the terms of use of Efento Cloud platform. A message containing activation link will be sent on the e-mail address you have inscribed. After filling every required field, click on *Register* and then open activation link on your e-mail box. After you have clicked on the activation link, your account should be activated and you should be able to log in.

Users that already have an registered, active account, may skip above described steps and log in by inserting their e-mail address / username and password on cloud.efento.io.

2. Registration of Organization

Organization allows you to share measurement data from sensors with many other users. Additionally, as a part of Organization, you can create a structure of localizations which will allow you to organize your sensors. Users with access to your Organization can be given a specific permissions to view and modify individual localizations. Organization has its own unique key, that allows you to assign sensors to it. It can be done by inserting Organization key in to Efento Gateway configuration. Efento Gateway is a device that sends measurements from wireless sensors to Efento Cloud. All mentioned features will be described in detail later in this manual.

If you have registered in Efento Cloud and you are not a member of any Organization, you will be asked to create a new one and to choose its name and abbreviation. After you insert this data, you will be able to fully manage your Organization, invite new members and configure sensors connected with your Organization. If a user has been invited to an already existing Organization, then he will be automatically assigned to it after registration process.

3. Configuration of Efento Gateway

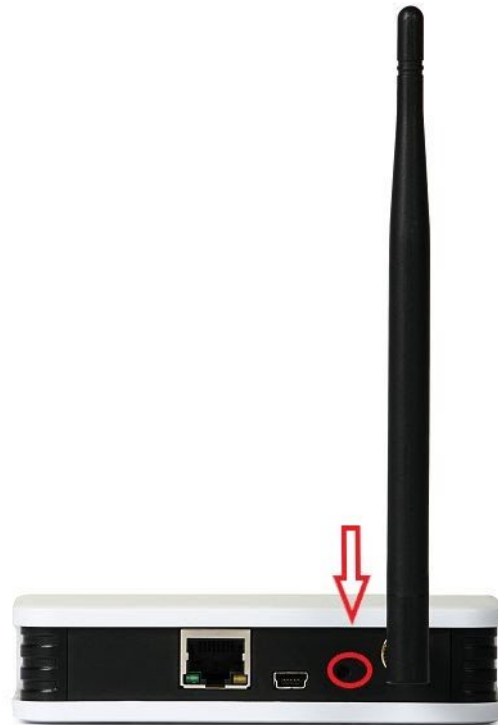
Efento Gateway is a network device, that downloads data from wireless sensors that are in its range and send it to Efento Cloud. The device may be powered by USB power supply (5V, 1A) or by PoE (802.3af).

3.1. Configuration of network settings

First thing you need to do in order to send data from sensors to Efento Cloud platform, is to configure Efento Gateway settings. To do this, connect the Efento Gateway to power supply with USB cable and to the computer by Ethernet cable. After setting the connection, choose the IP address from subnet 192.168.120.0/24 (e.g. 192.168.120.2, subnet mask 255.255.255.0) and set it on the network card, to which Efento Gateway is connected. Next open an Internet browser on your computer and go to address 192.168.120.89 (default Efento Gateway address).

Configure the Efento Gateway, so that it has Internet access. In *Configuration* section configure all network connection settings (IP address of the Efento Gateway, IP address of network gateway, subnet mask, DNS address). Apply all changes by clicking *Save*. Efento Gateway supports DHCP. If you chose option *ON* next to DHCP, then all network configuration of Efento Gateway will be downloaded from router (Do not forget to turn on the DHCP on router!). After finishing this part of configuration, unplug the Efento Gateway from computer and connect it to the network with Ethernet cable. Efento Gateway can be powered by PoE (Power over Ethernet). If you have a switch / router / injector that supports PoE technology (802.3af), then you can plug in only Ethernet cable, which will set up a connection to network and will also work as a power supply. Otherwise, you also have to plug in a USB power supply (5V, 1A).

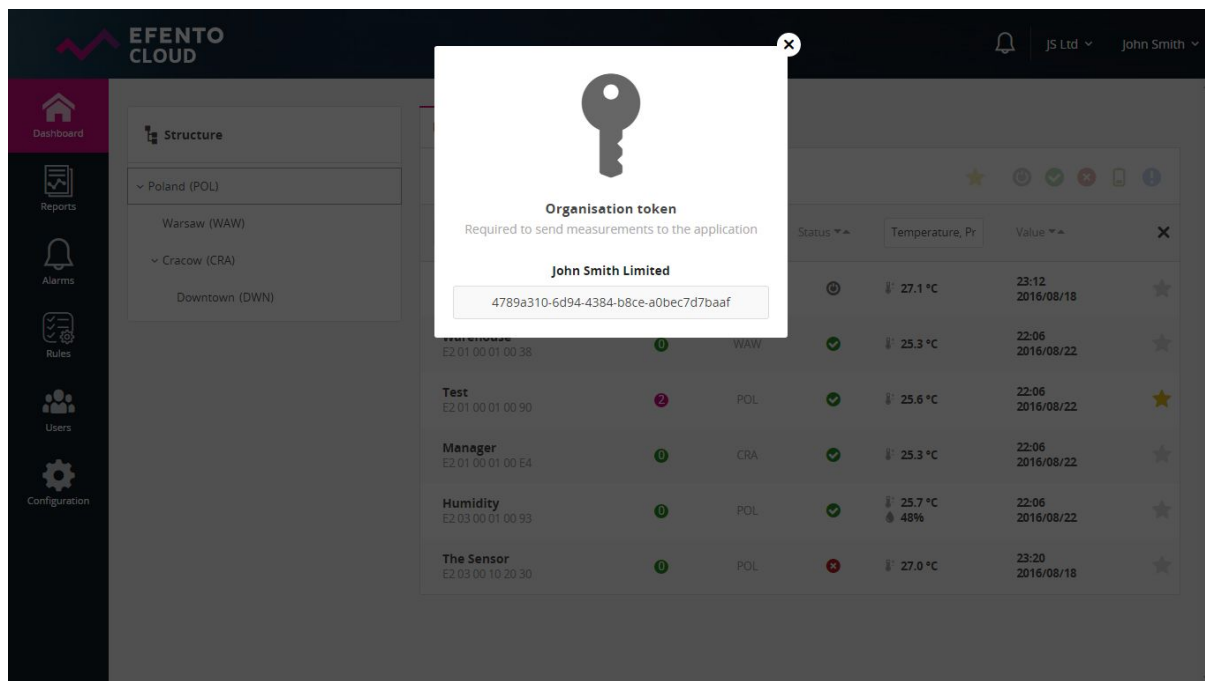
You can also configure Efento Gateway through Efento Logger mobile application for Android. Launch the Efento Logger mobile application and press the button on the back of the Efento Gateway twice (the button must be pressed with a pin). After completing this operation, the gateway will switch to configuration mode, indicated by a fast flashing blue LED. The gateway will appear in the list of available devices in Efento Logger application. Select it from the list and key in the password that is on the Gateway enclosure (the default password is admin). The application will connect to the gateway and you will have access to all the settings.



3.2. Organisation token

Organisation token is a unique number assigned to your Organisation. After inserting the token in Efento Gateway configuration, all measurement data from all sensors within its range will be automatically send to your Organisation account in Efento Cloud. One Organisation token can be inscribed in many Efento Gateway devices, located in areas far away from each other. Thanks to that, measurement data can be send to your Organisation account from many places away from each other, even hundreds of kilometres.

You can find your Organisation token after signing in on your account in Efento Cloud. Place cursor over the name of your Organization, in the upper right corner of the page, and then click the *Organisation token*.



Organisation token should be inscribed in field *Key* on Efento Gateway configuration page. After inscribing the token, measurements from all sensors within Efento Gateway range will be automatically send to Efento Cloud platform and assigned to your Organisation. If you have inscribed the token, go to **cloud.efento.io**, then to menu *Configuration* and check if there are serial numbers of sensors within Gateway range in section *New Sensors*. A list of sensors that are within Efento Gateway range can be checked on its configuration page in section *Sensors*.

4. Dashboard - preview of sensors added to Efento Cloud platform

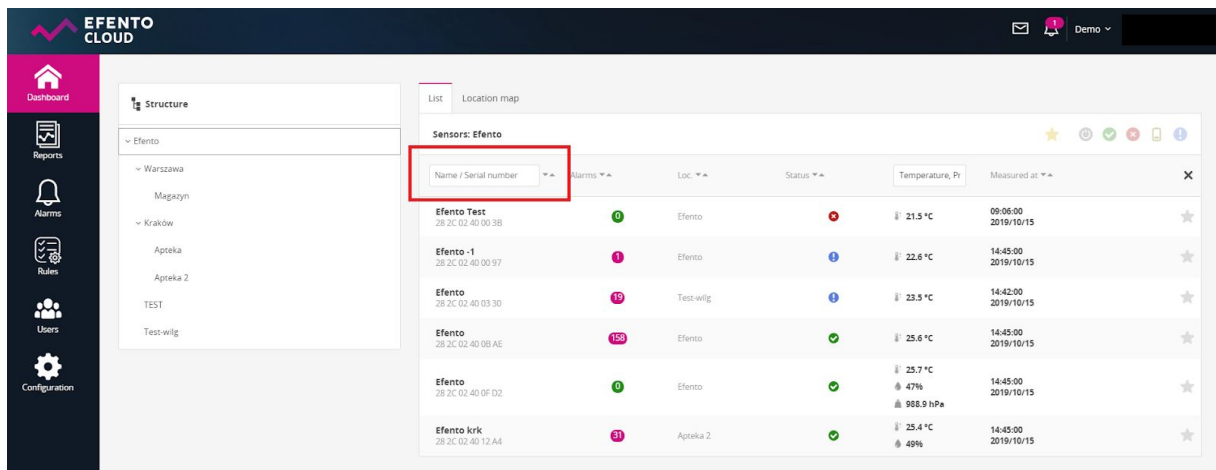
Menu *Dashboard* presents measurements and other important information about all sensors added to your Organisation in Efento Cloud. You will find there: current sensors measurements with date and time of the measurement, the number of alarm occurrence, the localization of sensor in your Organisation structure. In column *Alarms*, you can see the number of unconfirmed alarms for each sensor (active alarms and those waiting to be confirmed). *Dashboard* can be used only to view information, without the ability to modify any settings. That is why every user in your Organisation can access it, no matter what role he/she has (Analyst / Manager / Admin). Additionally you can give users access only to selected localization. As a result of that, *Dashboard* will show information about sensors from localization, to which a user has at least permissions of Analyst.

4.1. Filtration of displayed information

Data displayed in *Dashboard* can be filtered, so that you can easily find information you need. The first method of filtration is based on location. In section *Structure*, on the left side of *Dashboard*, choose the location you are interested in and the list of sensors will show only sensors from that location. The next methods described in this manual works only on sensors from selected location.

The second method of filtration is searching the sensor by name or by its serial number. There is a field called *Name / Serial number* in the header of list which presents information about sensors. Insert in that field a serial number or name of a sensor which you wish to find and the list will only show the information you are interested in. If a couple of sensors have similar name / serial number then typing in a part of it will filter the list, leaving only sensors that include inscribed phrase. In order to remove all filters and get back to default sorting, click cross mark on the right side of list's header.

Sensors can be also sorted by any value from the list. To do that click arrows symbol next to selected value (Name / Serial number; Alarms; Loc.; Status; Value). You can also choose the type of sensor's measurement (temperature / humidity / pressure), to, for example, display only sensors measuring humidity. To do that, click the header of the last column on the list and mark what values you are looking for.

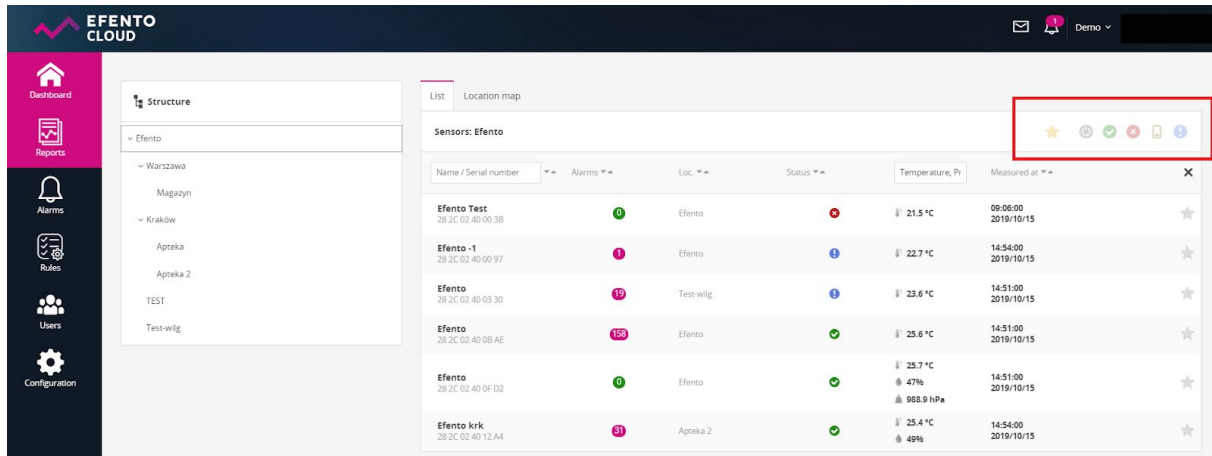


Name / Serial number	Alarms	Loc.	Status	Temperature, P	Measured at
Efento Test 28 2C 02 40 00 38	0	Efento	+	21.5 °C	09:06:00 2019/10/15
Efento -1 28 2C 02 40 00 97	1	Efento	!	22.6 °C	14:45:00 2019/10/15
Efento 28 2C 02 40 03 30	19	Test-wilg.	!	23.5 °C	14:42:00 2019/10/15
Efento 28 2C 02 40 08 AE	150	Efento	✓	25.6 °C	14:45:00 2019/10/15
Efento 28 2C 02 40 0F 02	0	Efento	✓	25.7 °C 47% 988.9 hPa	14:45:00 2019/10/15
Efento krk 28 2C 02 40 12 A4	31	Apteka 2	✓	25.4 °C 49%	14:45:00 2019/10/15

The fourth method of sensor list filtration depends on sensor's status: Disabled, Working, Lost, Warning, Low battery level. The filtration can be enabled by clicking the selected status icon in the right upper corner of the list. It is possible to choose more than one status to display. By default all sensors are being displayed regardless of their status.

Another way of filtering the list is marking selected sensors with a star, by clicking the star icon on the right side of the list. After marking selected sensors it is possible to

filter the list, leaving only starred sensors. From the bar above the list click star icon and the list will only display starred sensors.

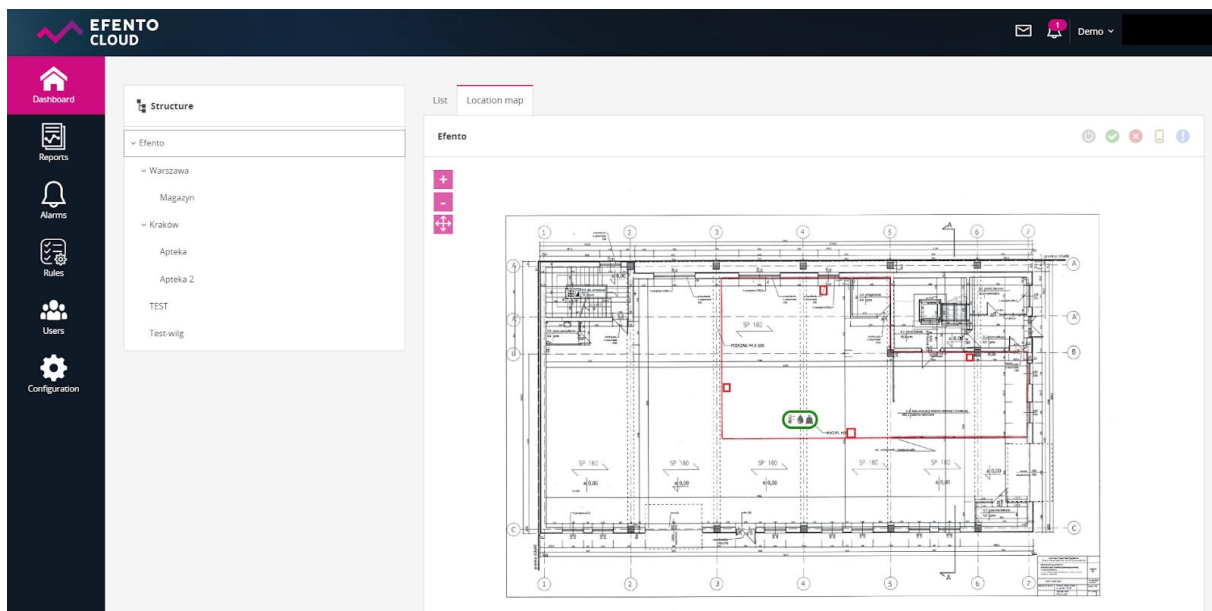


The screenshot shows the 'List' tab of the 'Sensors: Efento' section. A red box highlights the filter icons (star, plus, minus, etc.) above the sensor list table. The table displays sensor data including Name / Serial number, Alarms, Loc., Status, Temperature, and Measured at.

Name / Serial number	Alarms	Loc.	Status	Temperature, Pr	Measured at
Efento Test 28 2C 02 40 00 3B	0	Efento	●	21.5 °C	09:06:00 2019/10/15
Efento -1 28 2C 02 40 00 97	1	Efento	●	22.7 °C	14:34:00 2019/10/15
Efento 28 2C 02 40 03 30	15	Test-wilg	●	23.6 °C	14:51:00 2019/10/15
Efento 28 2C 02 40 0B AE	150	Efento	●	25.6 °C	14:51:00 2019/10/15
Efento 28 2C 02 40 0F D2	0	Efento	●	25.7 °C 47% 988.9 hPa	14:51:00 2019/10/15
Efento krk 28 2C 02 40 12 A4	31	Apteka 2	●	25.4 °C 49%	14:54:00 2019/10/15

4.2. Location map

Location map allows you to upload a map or a plan of a building. After uploading a map or a plan you can arrange sensors on it, in order to project their real locus and to simplify monitoring their status. Location map can be uploaded by any user with permissions of Administrator or Manager. The platform allows you to upload one map for each location. Sensors preview along with their location on the map can be accessed in *Dashboard* menu in tab *Location map*. The map will display current sensors statuses and their measurements. After clicking the sensor on the map you will be able to see its detailed data. The map can be freely moved (by grabbing it with a cursor and moving it) and also zoomed in / out with "+" and "-" buttons. The map can be also viewed in full-screen mode after clicking the full-screen button located under the "+" and "-" buttons.

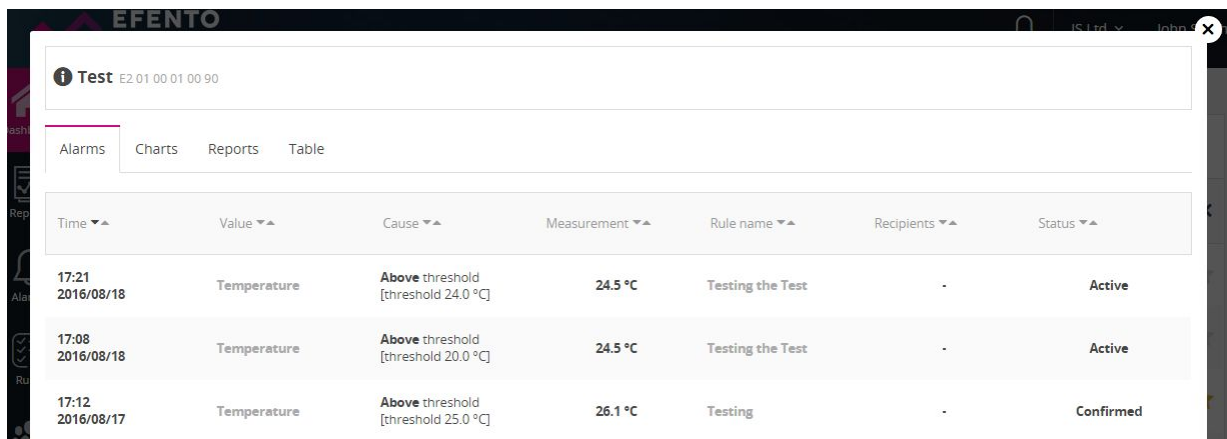


The screenshot shows the 'Location map' tab. The map displays a building floor plan with sensor locations marked by colored dots and labels. The interface includes a sidebar with navigation options and a top bar with user information.

4.3. Preview of detailed sensor's data

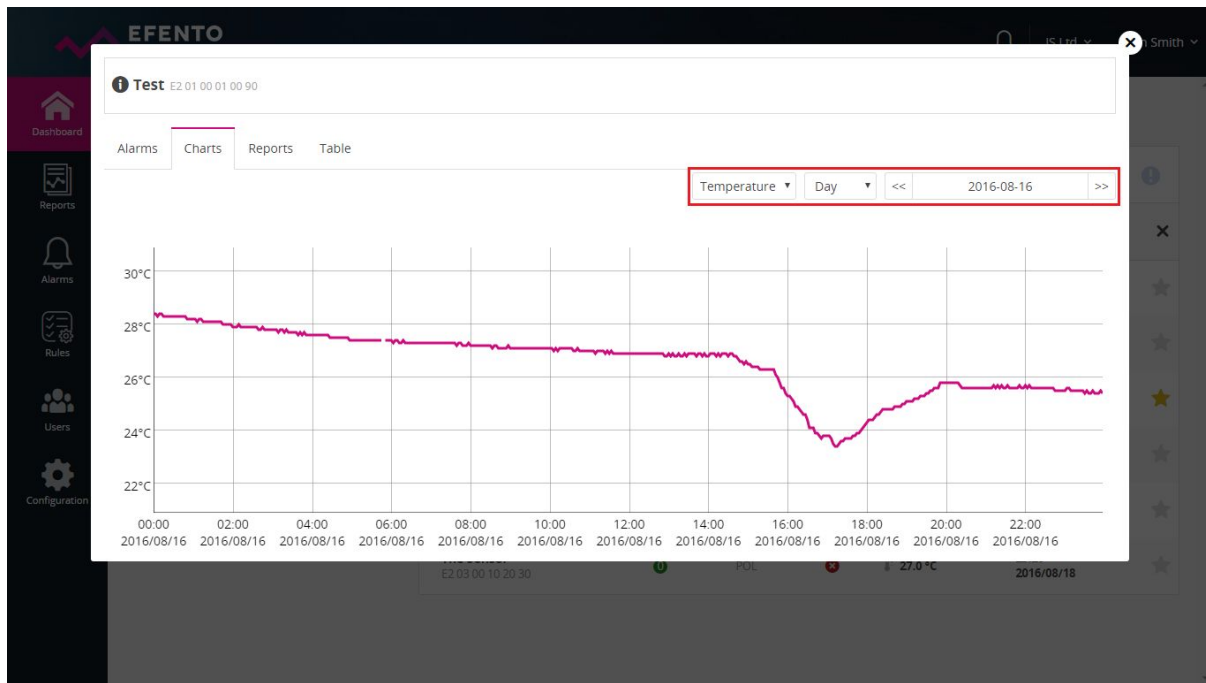
After clicking the sensor on the list in *Dashboard* menu or on a *Location map* you will be able to browse detailed information about the selected sensor such as alarm occurrence with date and time of the occurrence and measurement data in a form of a chart or table. You will also be able to export sensor's measurements from any time period in a form of PDF or CSV report.

The *Alarm* tab contains a list of occurrence of all kinds of alarms (detailed alarms description can be found in chapter 6. *The configuration of alarm rules*). You will find there detailed information about date and time of alarm occurrence and also the reason of alarm initiation including the name of alarm rule. If sensor has got back to its safe state then user can confirm the alarm was seen. After confirming the alarm, the notifications about it will not be displayed again in the platform.

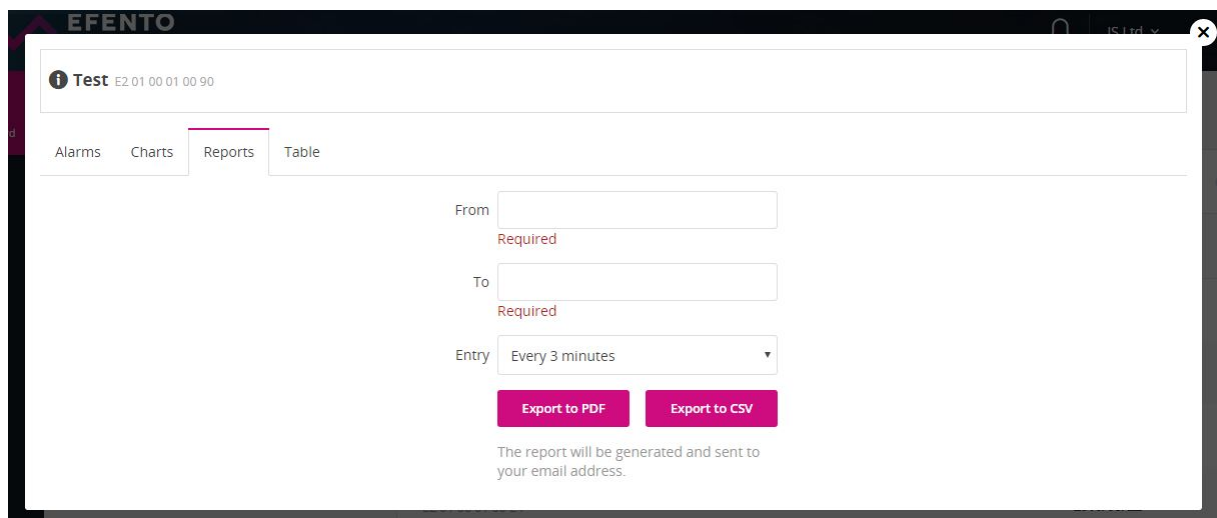


Time ▼▲	Value ▼▲	Cause ▼▲	Measurement ▼▲	Rule name ▼▲	Recipients ▼▲	Status ▼▲
17:21 2016/08/18	Temperature	Above threshold [threshold 24.0 °C]	24.5 °C	Testing the Test	-	Active
17:08 2016/08/18	Temperature	Above threshold [threshold 20.0 °C]	24.5 °C	Testing the Test	-	Active
17:12 2016/08/17	Temperature	Above threshold [threshold 25.0 °C]	26.1 °C	Testing	-	Confirmed

The *Charts* tab contains a chart with measurements in time. Depending on the physical values measured by the sensor it can be a chart with temperature, humidity or pressure. In the right upper corner of the chart you can choose what value should be presented on the chart, set the presented timeline (Day / Week / Month) and also choose the time period from which you wish to display data. The chart can be freely zoomed in by selecting the area you are interested in with a cursor. To return to default scale click the *Zoom out* button in the right upper corner of the chart.



The *Report* tab allows you to generate reports with measurements from any period of time. To generate the report choose the date of first and last measurement that should be included in the report and set the measurements density (3 / 15 / 30 / 60 minutes). The report will cover all data sent to the platform by the selected sensor including the list of events (violation of alarm threshold, connection lost, etc.) in previously selected time period and measurements density. After clicking *Export to PDF* or *Export to CSV* button the report will be automatically generated and send to your e-mail address within a few minutes.

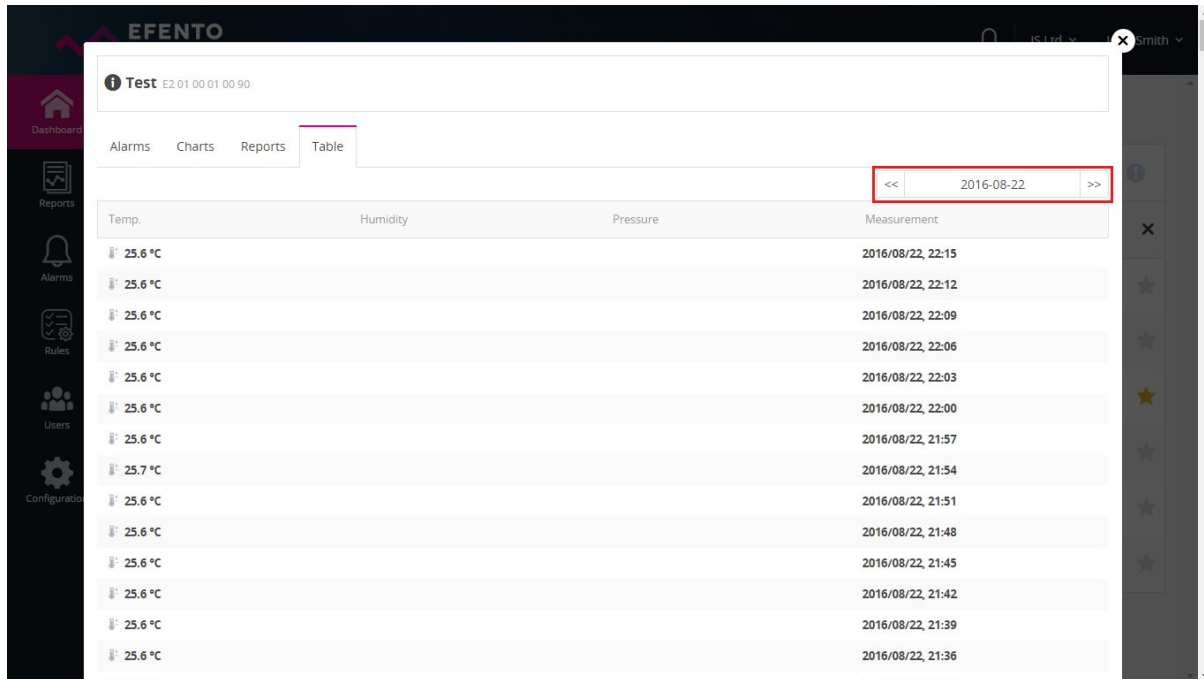


The screenshot shows the "Reports" tab in the Efento Cloud interface. The window title is "Test E2 01 00 01 00 90". The "Reports" tab is selected. The form contains the following fields and controls:

- From:** A text input field with a red "Required" label below it.
- To:** A text input field with a red "Required" label below it.
- Entry:** A dropdown menu currently set to "Every 3 minutes".
- Export to PDF:** A blue button.
- Export to CSV:** A blue button.
- Message:** Below the buttons, a message states: "The report will be generated and sent to your email address."

The *Table* tab contains a table with all measurements sent by selected sensor including date and time of those measurements. The table allows you to easily access data in need of finding a certain measurement. The date from which you want

to browse measurements can be selected from the calendar in the right upper corner of the table.



The screenshot shows the Efento Cloud interface. A modal window titled "Test E2 01 00 01 00 90" is open, displaying a table with four columns: Temp., Humidity, Pressure, and Measurement. The "Table" tab is selected. In the top right corner of the table, there is a date selector showing "2016-08-22" with navigation arrows "<<" and ">>". The table contains 15 rows of temperature data, all showing 25.6 °C except for one row showing 25.7 °C. The measurement timestamps range from 2016/08/22, 21:36 to 2016/08/22, 22:15.

Temp.	Humidity	Pressure	Measurement
25.6 °C			2016/08/22, 22:15
25.6 °C			2016/08/22, 22:12
25.6 °C			2016/08/22, 22:09
25.6 °C			2016/08/22, 22:06
25.6 °C			2016/08/22, 22:03
25.6 °C			2016/08/22, 22:00
25.6 °C			2016/08/22, 21:57
25.7 °C			2016/08/22, 21:54
25.6 °C			2016/08/22, 21:51
25.6 °C			2016/08/22, 21:48
25.6 °C			2016/08/22, 21:45
25.6 °C			2016/08/22, 21:42
25.6 °C			2016/08/22, 21:39
25.6 °C			2016/08/22, 21:36

5. Users management

Each user that is assigned to your Organisation, can be granted one of three different levels of permissions: Administrator, Manager or Analyst. Additionally the permissions are granted for specific location. For example the user can be an Administrator in one location and an Analyst in the other one, which allows you to divide permissions and duties between different users for different locations. In Efento Cloud platform permission levels are called roles.

By creating a new Organisation you automatically get a role of Administrator to all its locations. When you invite new users to your Organisation you can grant them any level of permissions to selected locations.

Each group of permissions have access to different platform functions, as presented in the table below:

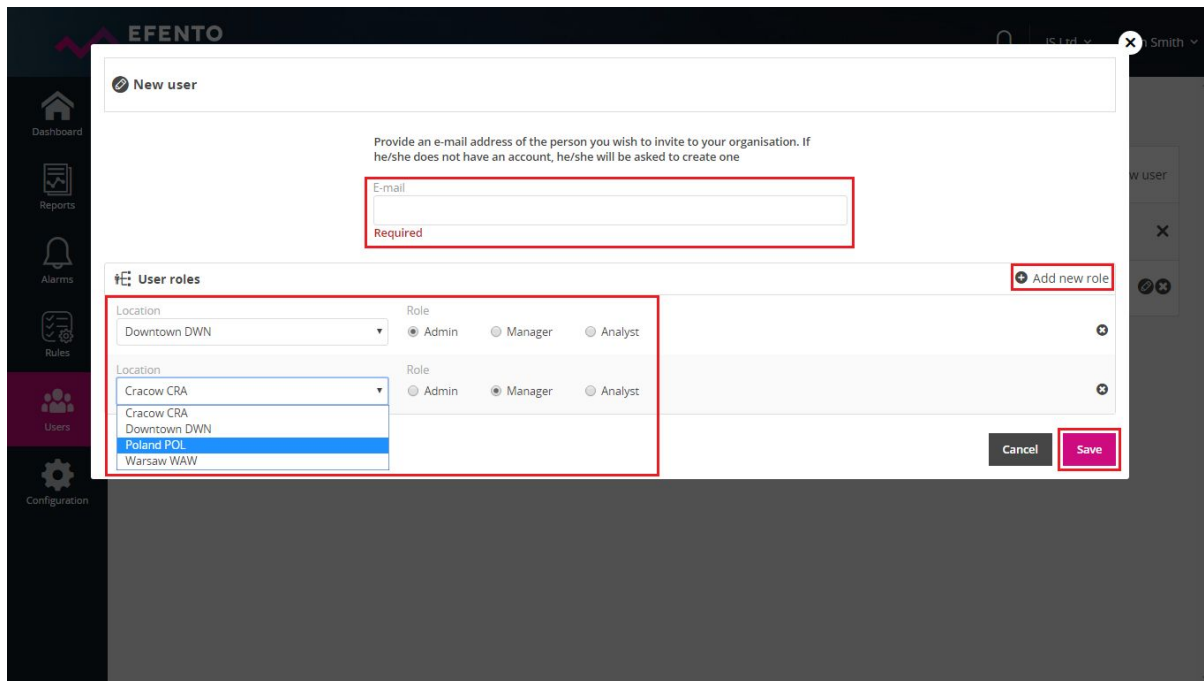
	Administrator	Manager	Analyst
Dashboard preview	✓	✓	✓
Report generation	✓	✓	✓



Alarm preview	✓	✓	✓
Configuring automatic reports	✓	✓	✗
Configuring alarm rules	✓	✓	✗
Configuring sensors, structures and location maps	✓	✓	✗
Permissions editing, adding and deleting users	✓	✗	✗
System logs preveiw	✓	✗	✗
Managing the Organisation's account	✓	✗	✗

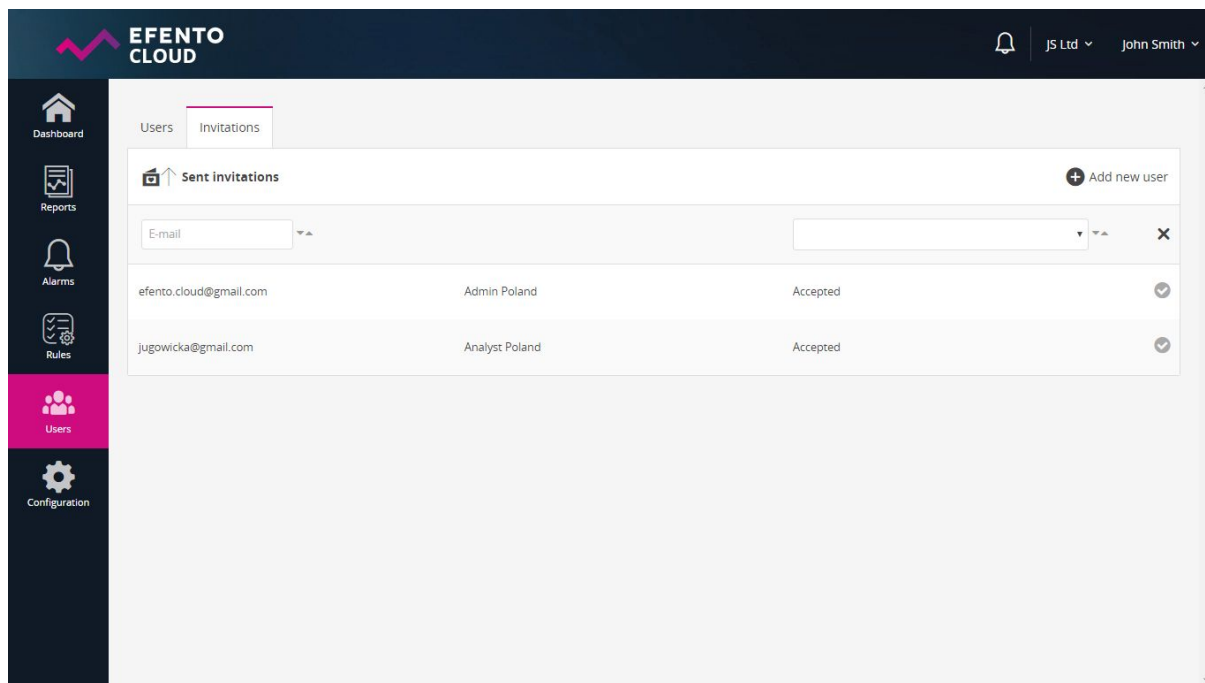
5.1. Adding new users to your Organisation

Adding new users is done by invitations, which can be send only by user with administrator role. In menu *Users* click *Add new user* button. You will see a window which allows you to send invitations to your organisation. You must type in new user's e-mail address and choose his role which will be given to him after accepting the invitation. Roles can be different for different locations. After saving the changes, the new user will receive an e-mail with invitation to your Organisation. After opening the activation link, new user will be redirected to Efento Cloud website. If user does not already have an account in the platform, before joining your Organisation he will have to create one. If the new user has not accepted your invitation yet, you can dismiss it by clicking *Cancel* icon next to the invitation.



You can invite any number of users to your Organisation and give them any permissions. Remember that administrator permissions allows the user to access configuration of sensors, users, alarm rules and to edit your Organisation's account, therefore you should not give them to unauthorized persons.

In *Invitations* tab there is a list of generated invitations with their current status: Sending (the invitation is being send), Waiting (the invitation awaits to be accepted), Error (sending the invitation has failed - e.g. wrong e-mail address has been entered), Accepted (the invitation has been accepted by the user and he is now a member of your Organisation). You can filter the invitations by e-mail address to which the invitation has been sent or by its status. If the invitations has not yet been accepted then you can dismiss it by clicking cross icon next to it. If you have cancelled the invitation then even if the user click on the activation link in the e-mail, he will not be able to join your Organisation.

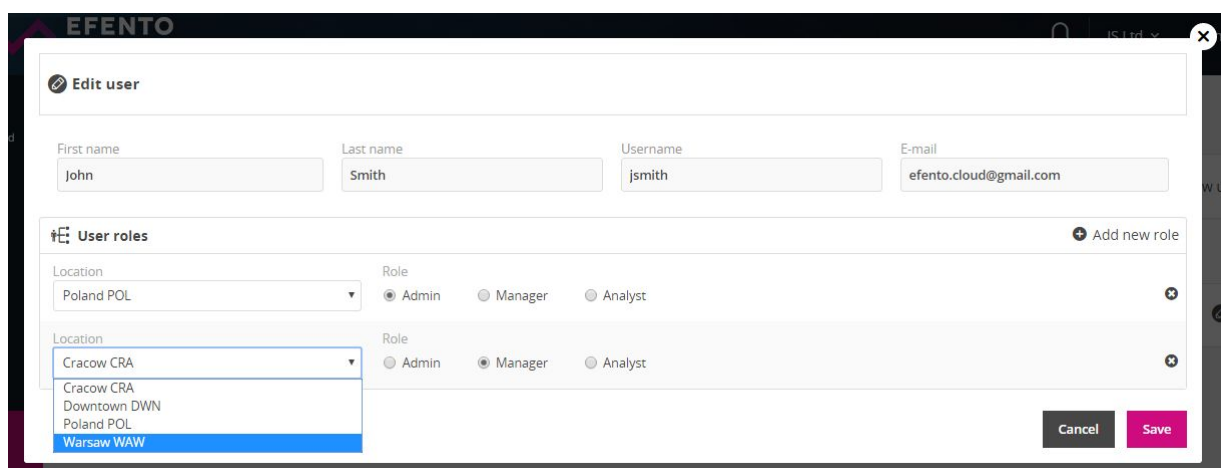


5.2. Editing user's permissions and deleting users

Adding and editing users can be done in *Users* menu by users with role of an Administrator.

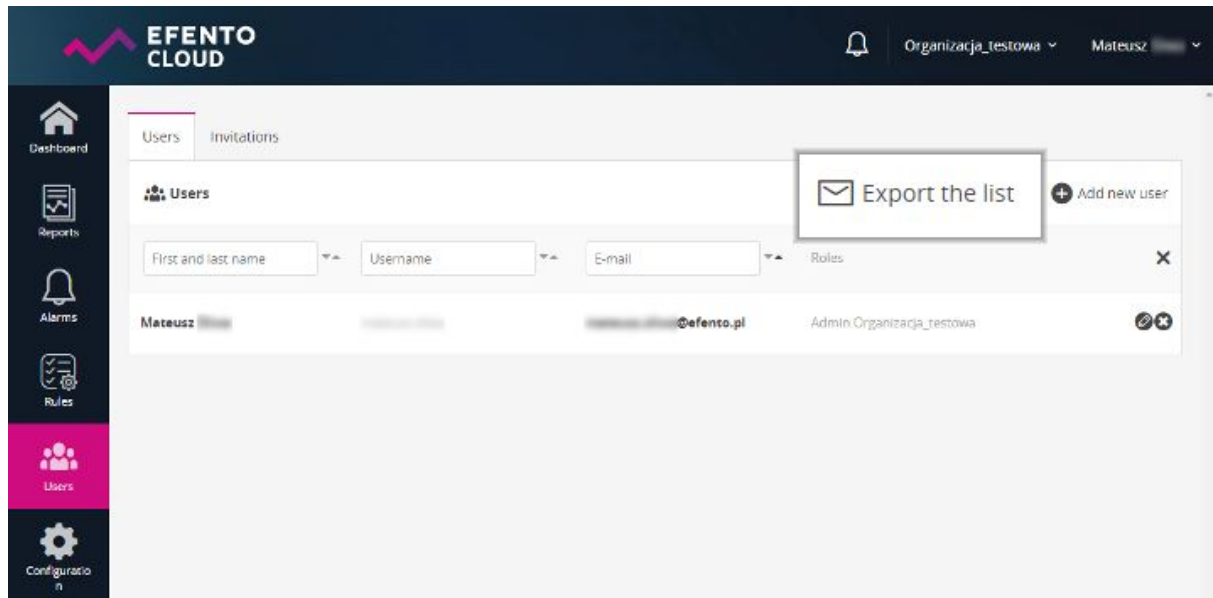
Editing user's permissions can be done after clicking the pencil icon next to user's name. The editing possibilities include changing user's roles in particular locations of your Organisation.

You can also delete users added to your Organisation by clicking cross icon next to their names on the list in *Users* menu. The user's account will not be deleted entirely, he will only lose the access to your Organisation. Only a user can completely delete his account from the platform (see *10.1 Changing username, language and password / deleting the account*).



5.3. Export list of users

Export the users list, when you click the *Export the list* button, a list of alarms in the PDF file will be generated and sent to your e-mail.



Users listing for Organizacja_testowa

#	User	Username	E-mail	Roles
1	Mateusz		@efento.pl	Admin Organizacja_testowa

6. Configuration of the alarm rules

Alarm rule is a formula that defines what events in Efento Cloud should initiate the alarm. The rule consist of impulse, condition and action, e.g.: if the temperature (impulse) increase above 10 degrees (condition) then the platform will send text message notification to selected recipients (action). The rules can be configured as you wish - e.g. sending notifications to different recipients depending on temperature level; violation of thresholds will be only registered in the platform (without sending a notification) etc.. You can define any number of alarm rules and assign sensors to each of them.

Alarm rules can be configured in *Rules* menu by users with permissions of Administrator or Manager.

6.1. Types of alarm rules

In the Efento Cloud platform you can configure a few different types of rules depending on the impulse that initiate the alarm. These are:

- Violation of threshold (depending on physical value measured by the sensor e.g. temperature, humidity and pressure);
- Low battery level - if the sensor's battery is low then the platform will inform you about it. After initiation of low battery alarm the sensor will work for about 21 days;
- Connection lost - a situation in which the sensor does not send measurements to the platform for 15 minutes.

6.2. Configuration of the alarm rules

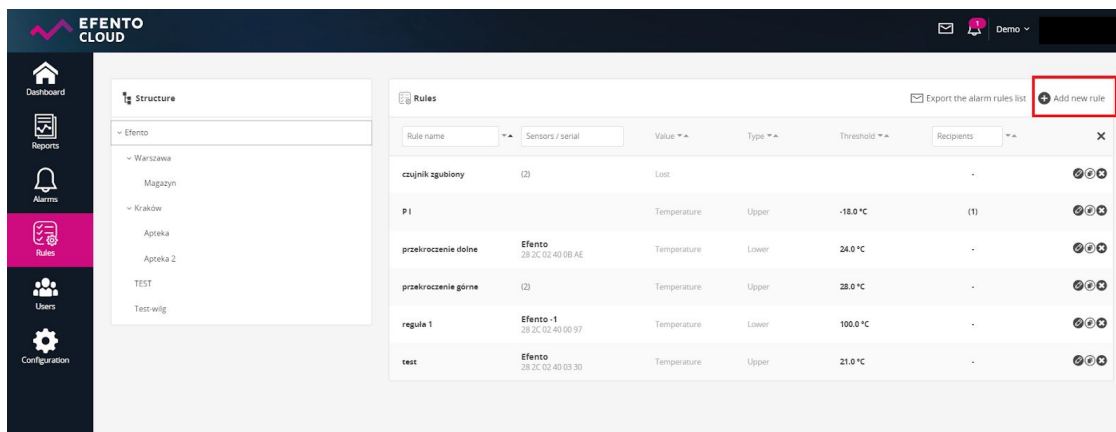
In order to add a new alarm rule go to *Rules* menu and click *Add new rule* button in the right upper corner. The first field you need to fill is the rule's name, which can be maximum 20 characters long. Next choose what type of event should initiate the alarm. If you have chosen option temperature / humidity / pressure, then you also have to choose whether the alarm should be initiated after exceeding the upper threshold (the value increase above selected threshold) - option *Upper* or after exceeding the lower threshold (the value decrease below selected threshold) - option *Lower* and key in the threshold value in selected field. In case of alarm rules that cover low battery level or connection lost you do not need to fill any additional fields.

When creating an alarm rule, the user can enter in the "Alarm delation" field the time in minutes after the alert will be on. For example: If the temperature exceeds the defined range and will stay out of this range for number of minutes defined in the field "Alarm delation" the alarm will be on. In the second case when the temperature

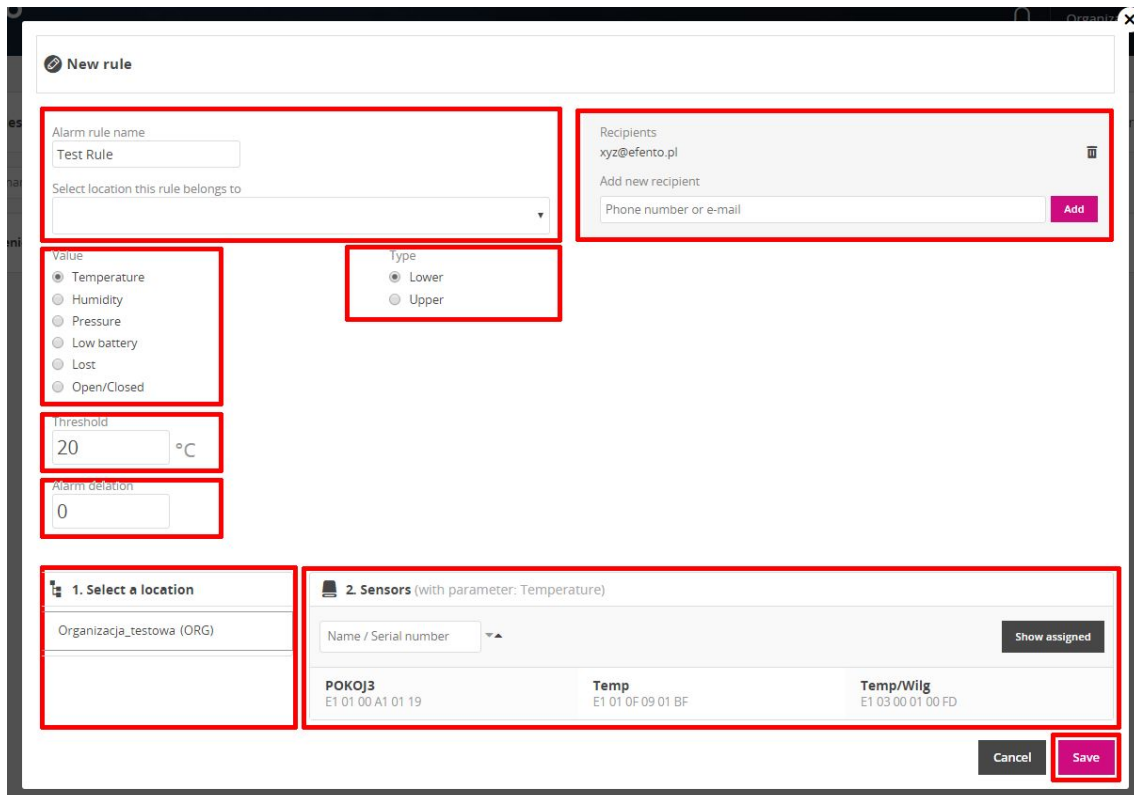
returns to safe range the alarm will not turn on. If the user wants the alarm to be triggered immediately, the value in “Alarm delatation” field should be set to “0”.

On the right side of the configuration window there is a notification's recipients adding panel. You can add e-mail addresses and telephone numbers. Not adding any recipient will result in displaying the notifications only in Efento Cloud platform. After keying in the e-mail address / telephone number apply the changes with *Add* button. You can type in any number of recipients. The e-mail notifications are free of charge, but if you would like to receive text message notifications, then it is necessary to have the Efento platform text message balance topped up (the description of topping up the balance is in chapter 11. *Charging the text message balance*).

The last step of configuring the alarm rule is choosing the location and sensors it should cover. In order to do that from the drop-down list below the rule's name field choose a location to which the rule should be assigned. Then, in order to find a specific sensor, in section 1. *Select a location* you can browse the subordinate locations of the location you have previously chosen. Next from the field 2. *Sensors*, choose the sensors that should be assigned to the alarm rule. Selected sensors will be marked with a check symbol on the right side of their name. After selecting the sensors you can verify which ones you have chosen by clicking *Show assigned* button - the list will only display selected sensors. In order to apply the changes click *Save*. From this moment the rule is active until its removal. The alarm rule can be edited anytime by clicking it on the rules list.



Rule name	Sensors / serial	Value	Type	Threshold	Recipients
czujnik zgubiony	(2)	Lost			
P1		Temperature	Upper	-18.0 °C	(1)
przekroczenie dolne	Efento 28 2C 02 40 0B AE	Temperature	Lower	24.0 °C	-
przekroczenie gorne	(2)	Temperature	Upper	28.0 °C	-
regula 1	Efento -1 28 2C 02 40 00 97	Temperature	Lower	100.0 °C	-
test	Efento 28 2C 02 40 03 30	Temperature	Upper	21.0 °C	-



New rule

Alarm rule name
Test Rule

Select location this rule belongs to

Value
☒ Temperature
☐ Humidity
☐ Pressure
☐ Low battery
☐ Lost
☐ Open/Closed

Type
☒ Lower
☐ Upper

Threshold
20 °C

Alarm duration
0

1. Select a location
Organizacja_testowa (ORG)

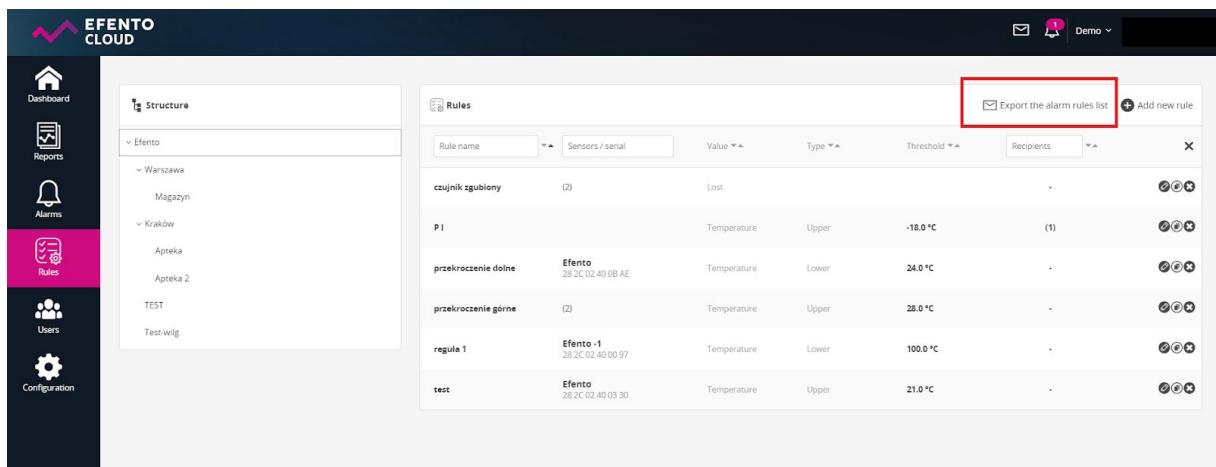
2. Sensors (with parameter: Temperature)

Name / Serial number	Temp	Temp/Wilg
POKOJ3 E1 01 00 A1 01 19	E1 01 0F 09 01 BF	E1 03 00 01 00 FD

Cancel Save

6.3. Export list of alarm rules

Export the alarm rules list, when you click *Export the alarm rules list* button, a list of alarms in the PDF file will be generated and sent to your e-mail.



EFENTO CLOUD

Dashboard Reports Alarms **Rules** Users Configuration

Structure

- ↳ Efento
 - ↳ Warszawa
 - Magazyn
 - ↳ Kraków
 - Apteka
 - Apteka 2
 - TEST
 - Test-wilg

Rules

Rule name	Sensors / serial	Value	Type	Threshold	Recipients
czujnik zgubiony	(2)	Lost			
PI		Temperature	Upper	-18.0 °C	(1)
przekroczenie dolne	Efento 28 2C 02 40 0B AE	Temperature	Lower	24.0 °C	
przekroczenie górne	(2)	Temperature	Upper	28.0 °C	
regula 1	Efento -1 28 2C 02 40 00 97	Temperature	Lower	100.0 °C	
test	Efento 28 2C 02 40 03 30	Temperature	Upper	21.0 °C	

Export the alarm rules list Add new rule



Alarm rules listing for Demo

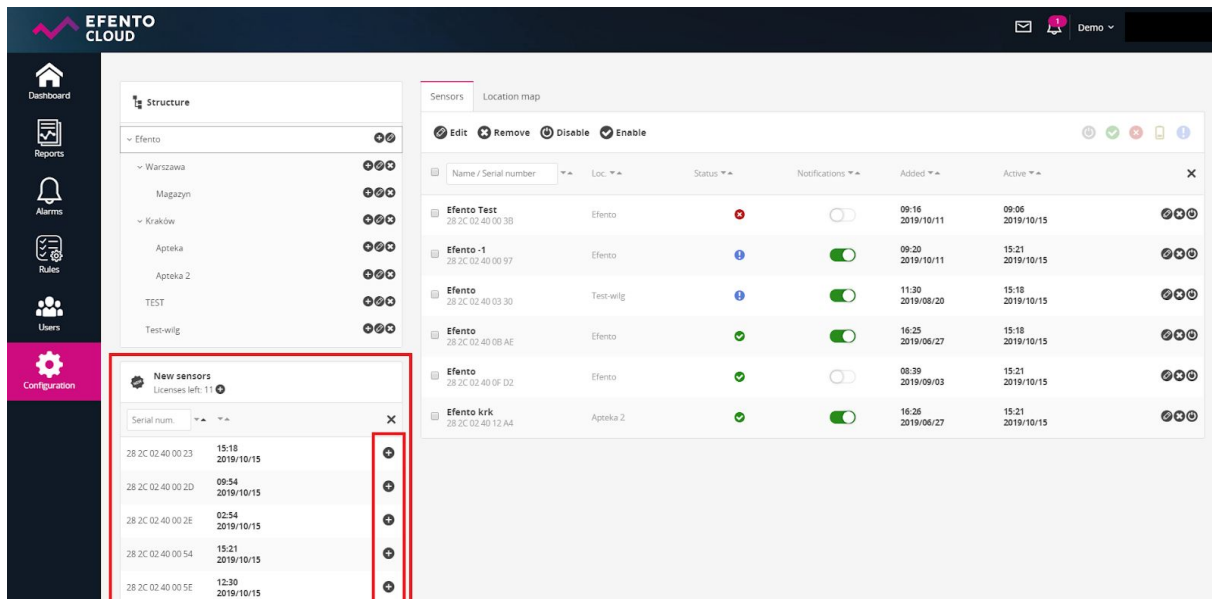
#	Rule name	Sensors	Value	Type	Threshold	Mobile recipients	E-mail recipients
1	czujnik zgubiony	Efento, Efento irk	Lost	---	0.0		
2	P I		Temperature	Upper	-18.0°C		slawomir.swiderski@grycan.pl
3	przekroczenie dolne	Efento	Temperature	Lower	24.0°C		
4	przekroczenie górne	Efento, Efento irk	Temperature	Upper	28.0°C		
5	regula 1	Efento -1	Temperature	Lower	100.0°C		
6	test	Efento	Temperature	Upper	21.0°C		

7. Configuration

In the *Configuration* menu you can add new sensors to the platform, configure their settings and manage locations. Only users with permissions of a Administrator or Manager have access to this menu.

7.1. Adding sensors

To start saving measurements from sensors in the Efento Cloud platform and be able to take full advantage of its functions (SMS notifications, automatic reports, etc.), you must activate the sensor in the platform. This is done by adding a Cloud Key to the organization. This is a unique number, which you can enter in the platform to add a specific number of sensors. To add Cloud Key to your organization go to the Configuration menu. There, in the *New Sensors* section, the Free licenses field is visible. To add sensors it is necessary to have free licenses. Click the "+" button next to the *Free licenses* field and enter the license key. After adding the license key, you can add any sensor you wish until you exceed the number of free licenses. Click on the sensor you want to add, and then enter any sensor name (by default, all sensors are called *Efento*), which will be assigned to the sensor and displayed on the platform along with its serial number. It is also necessary to choose the location to which the sensor will be assigned. After doing so, click Save. If you want to change the sensor name or move it to another location, you can do it at any time. The description of these activities is described later in this chapter.



The screenshot shows the Efento Cloud interface. On the left is a sidebar with navigation icons for Dashboard, Reports, Alarms, Rules, and Users. The main area is divided into two panels. The left panel shows a 'Structure' tree with locations like Warszawa, Kraków, and Test-wilg. The right panel shows a 'Sensors' table with columns for Name / Serial number, Loc., Status, Notifications, Added, and Active. Below the table is a 'New sensors' dialog box with a search bar and a list of available sensors. A red box highlights the 'Replace' button for the selected sensor.

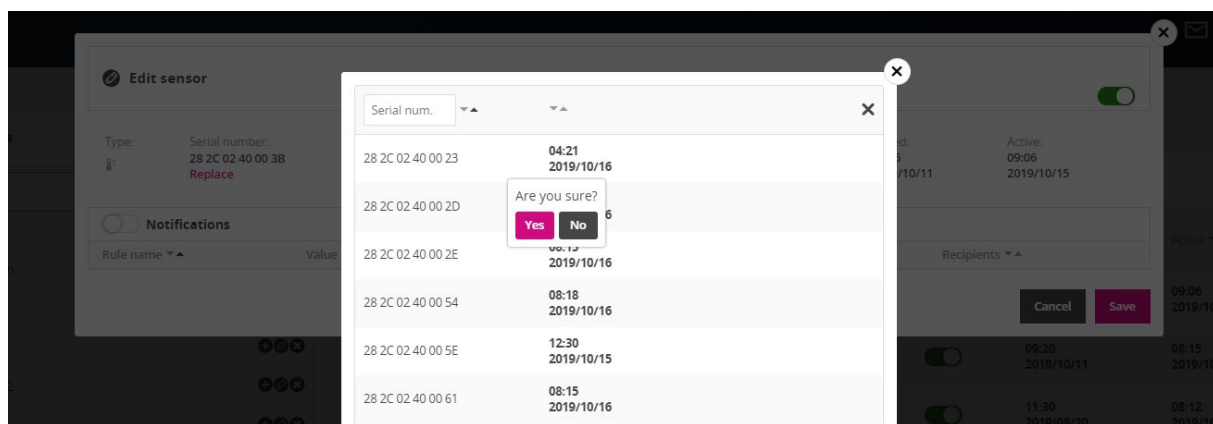
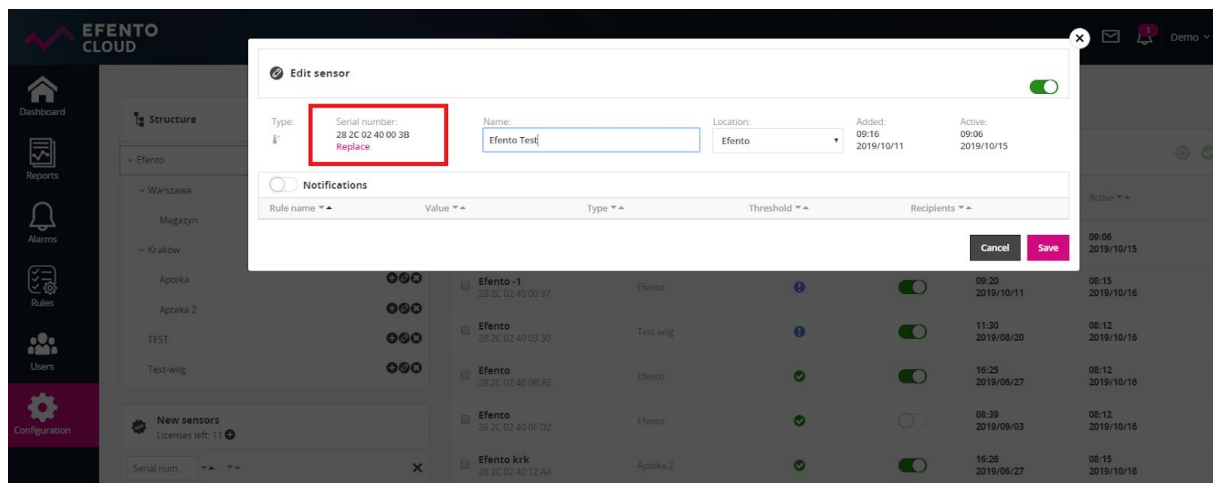
Name / Serial number	Loc.	Status	Notifications	Added	Active
Efento Test 28.2C.02.40.00.3B	Efento	Red dot	Off	09-16 2019/10/11	09-06 2019/10/15
Efento-1 28.2C.02.40.00.97	Efento	Blue dot	On	09-20 2019/10/11	15-21 2019/10/15
Efento 28.2C.02.40.03.30	Test-wilg	Blue dot	On	11-30 2019/08/20	15-18 2019/10/15
Efento 28.2C.02.40.08.AE	Efento	Green dot	On	16-25 2019/06/27	15-18 2019/10/15
Efento 28.2C.02.40.0F.D2	Efento	Green dot	Off	08-39 2019/09/03	15-21 2019/10/15
Efento krk 28.2C.02.40.12.A4	Apteka 2	Green dot	On	16-26 2019/06/27	15-21 2019/10/15

7.2.Swapping sensors

Thanks to the sensor changing function, the user can freely replace the sensors without losing data and maintaining the continuity of existing measurements, e.g. in the case of periodic calibration of the sensor. To replace the sensor, select the Configuration menu. From the sensors added to the organisation, select the one you want to replace and then click Replace. From the list that appears, select the sensor that will be used to replace it. A confirmation message will appear. Accept the changes by clicking Yes.

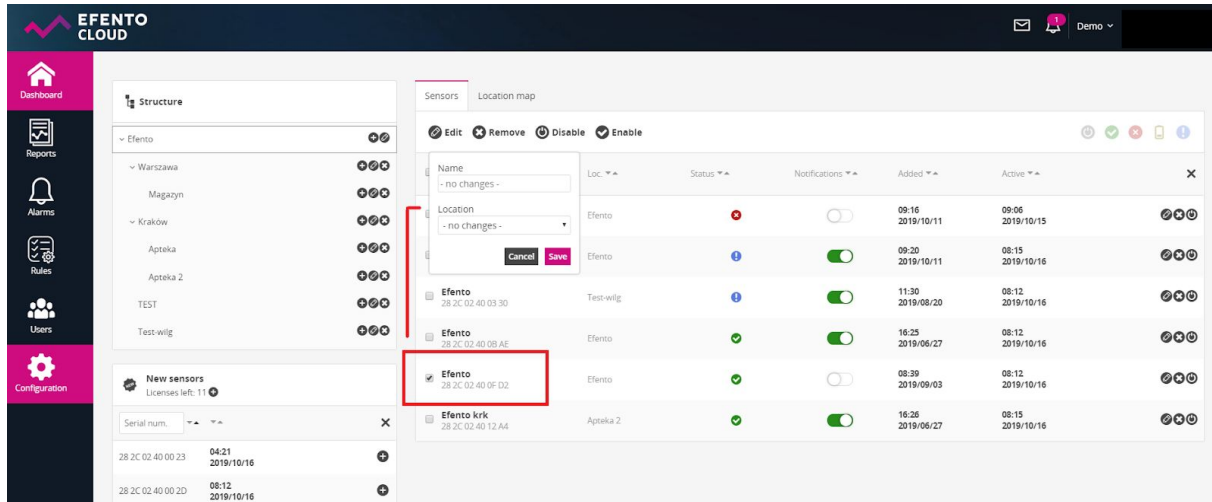
Measurement data and configuration (alarm rules, automatic reports) of the swapped sensor are preserved and the measurement sent by the new sensor are being saved in the platform. Information on sensors swapping is saved in the system logs.

Replacement of the sensors does not require the purchase of an additional license.



7.3. Editing sensor's name and location

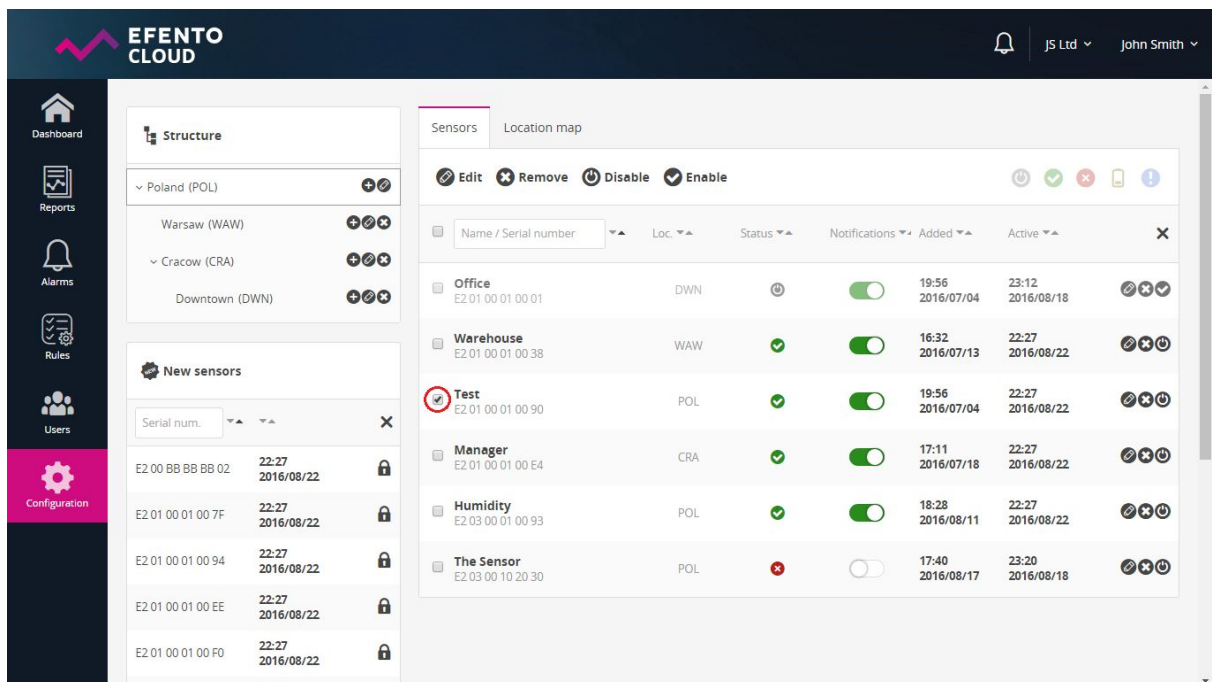
To change sensor's name and/or location click it on the list. In the upper part of the editing window change sensor's name and/or location and save the changes with **Save** button. You can also edit several sensors at once by marking the checkboxes on the left side of their names and then by clicking *Edit* button above the list. In the pop-up window type in new sensors' name, choose their new location and save the changes with **Save** button. All selected sensors will be given the same name and will be transferred to the chosen location.



The screenshot shows the Efento Cloud interface. On the left is a sidebar with navigation icons: Dashboard, Reports, Alarms, Rules, Users, and Configuration. The main area is divided into two panels. The left panel shows a 'Structure' tree with locations: Efento, Warszawa, Magazyn, Kraków, Apteka, Apteka 2, TEST, and Test-wilg. The right panel shows a 'Sensors' list with columns: Name, Loc., Status, Notifications, Added, and Active. A modal window is open for editing a sensor, showing fields for Name and Location. A red box highlights the 'Efento' sensor in the list, which has a status of 'DWN' (Disabled).

7.4. Disabling and enabling the sensors

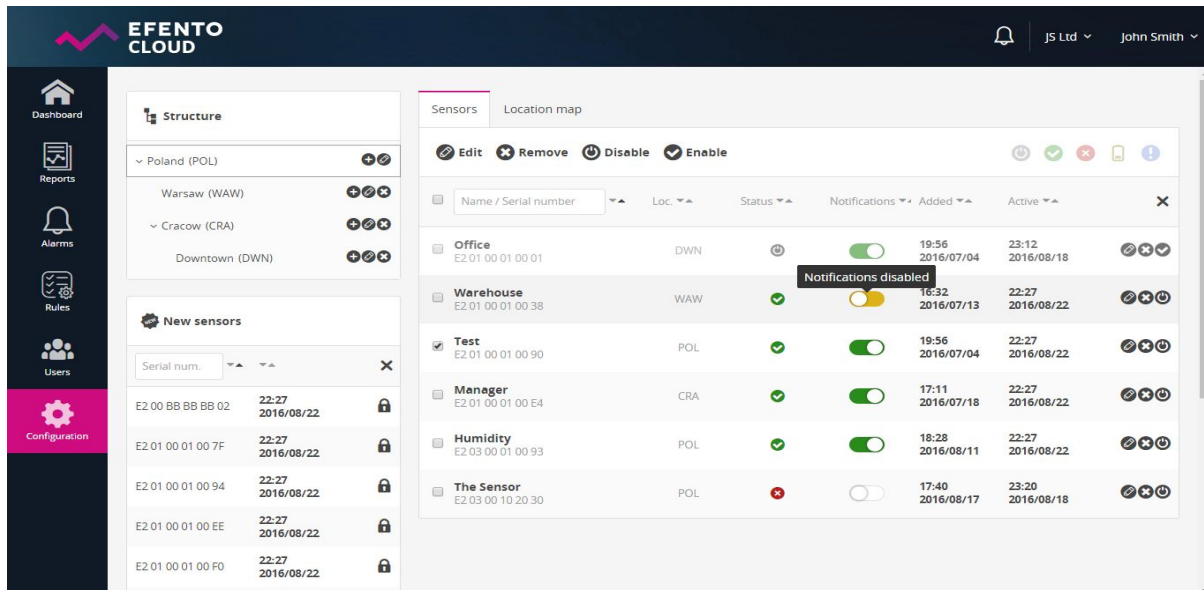
If you disable a sensor, its measurements will not be saved in the platform and in case of alarm rules violation the notifications about that sensor will not be displayed. In order to disable a sensor click the *Disable* button on the right side of the sensors list. To enable disabled sensor click *Enable* button, which is located in the same place. If you wish to enable / disable several sensors at once, mark the checkboxes next to their names and then click *Enable* or *Disable* button above the list.



The screenshot shows the Efento Cloud interface with the 'Sensors' list. The left sidebar is the same as in the previous screenshot. The main area shows a 'Structure' tree with locations: Poland (POL), Warsaw (WAW), Cracow (CRA), and Downtown (DWN). The 'Sensors' list has columns: Name / Serial number, Loc., Status, Notifications, Added, and Active. The list contains several sensors, including 'Office', 'Warehouse', 'Test', 'Manager', 'Humidity', and 'The Sensor'. The 'Test' sensor is highlighted with a red circle and has a status of 'DWN' (Disabled). The 'The Sensor' sensor has a status of 'DWN' (Disabled) and a red 'X' icon.

7.5. Turning the sensor's alarms off

Turning the sensor's alarm off cause the sensor, which is assigned to any rule, to not display information about the event described in this rule and to not initiate the alarm. To turn the alarm off click the slider located next to sensor's name in column *Alarms*. If the alarms of selected sensor have been turned off then the slider is yellow. If the sensor has not been assigned to any rule then this feature will be disabled (the slider will be white).



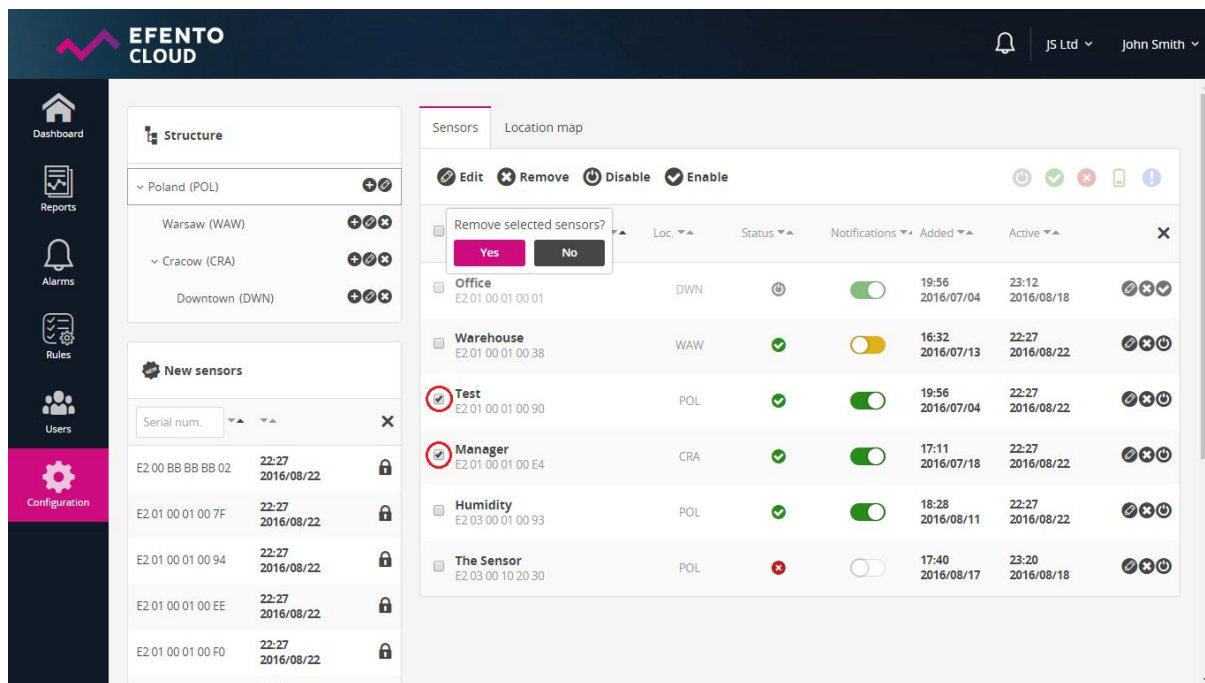
The screenshot shows the Efento Cloud interface with the 'Sensors' tab selected. The left sidebar contains navigation icons for Dashboard, Reports, Alarms, Rules, Users, and Configuration. The main content area displays a list of sensors under the 'Structure' section. The 'Office' sensor (E2 01 00 01 00 01) is highlighted, and its 'Alarms' slider is turned off, indicated by a yellow slider and a tooltip that says 'Notifications disabled'. Other sensors listed include 'Warehouse', 'Test', 'Manager', 'Humidity', and 'The Sensor'.

Name / Serial number	Loc.	Status	Notifications	Added	Active	
Office E2 01 00 01 00 01	DWN	⏻	🔴	19:56 2016/07/04	23:12 2016/08/18	⚙️ ⚡ ⏻
Warehouse E2 01 00 01 00 38	WAW	✅	🟡	16:32 2016/07/13	22:27 2016/08/22	⚙️ ⚡ ⏻
Test E2 01 00 01 00 90	POL	✅	🟢	19:56 2016/07/04	22:27 2016/08/22	⚙️ ⚡ ⏻
Manager E2 01 00 01 00 E4	CRA	✅	🟢	17:11 2016/07/18	22:27 2016/08/22	⚙️ ⚡ ⏻
Humidity E2 03 00 01 00 93	POL	✅	🟢	18:28 2016/08/11	22:27 2016/08/22	⚙️ ⚡ ⏻
The Sensor E2 03 00 10 20 30	POL	❌	⚪	17:40 2016/08/17	23:20 2016/08/18	⚙️ ⚡ ⏻

7.6. Removing the sensor

Removing the sensor causes it complete removal from Efento Cloud platform. All measurements send by this sensor will also be deleted. To remove a sensor click "X" button located on the right side of the sensor's name on the list and confirm the removal. In order to remove several sensors at once mark their checkboxes on the list and then click *Remove* button above the list.

It is impossible to restore removed sensor's measurements, but you can again add the sensor to the platform the same way you add a new sensor (see chapter 7.1. *Adding sensors*).



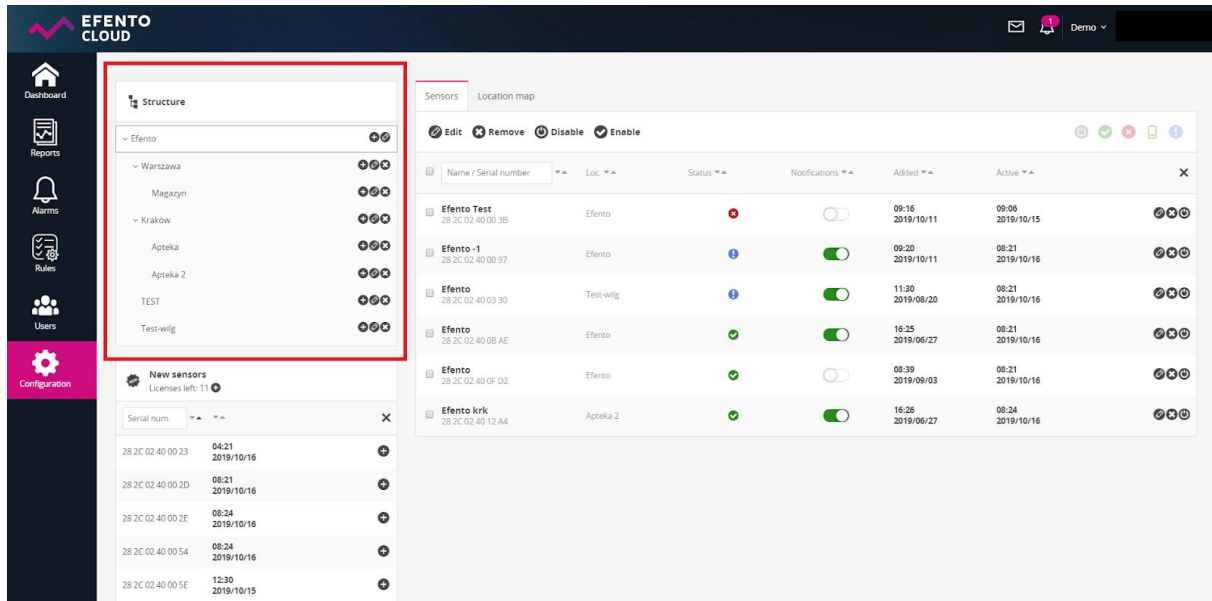
7.7. Creating and managing locations

Efento Cloud allows you to easily organize and manage locations and sensors assigned to them. Thanks to the platform you can create a projection of your Organisation's structure in a form of a tree and assign sensor to its branches. The way you group the sensors is unlimited, you can use geographic distribution (e.g. Country -> Districts -> Cities -> Objects), function distribution (e.g. Type of object -> City -> Exact location) or any other depending on your needs. Additionally, the users assigned to your Organisation, can be granted specific permissions to different locations. Locations greatly simplify system administration and give full control over user access.

The configuration of locations is done in *Configuration* menu in section *Structure*, which can be accessed only by users with a role of Admin or Manager. You will find there a tree of already created locations whose root is impossible to remove main location. By default its name is the abbreviation of your Organisation's name and its abbreviation is TOP, however it is possible to change both of them.

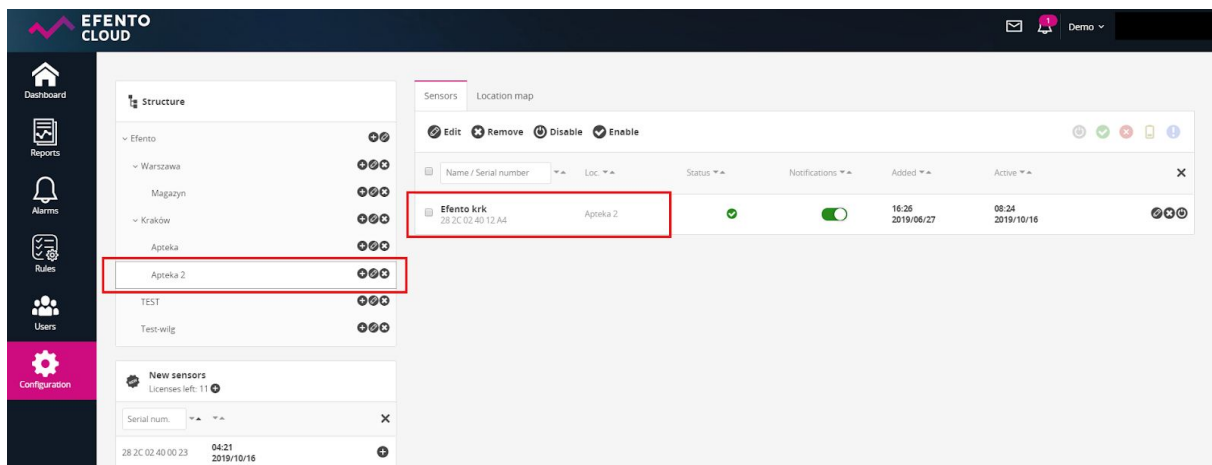
To add a new location click on plus icon located next to an existing location's name and then enter new location's name and abbreviation. In order to change location's position in the tree, hover your cursor over the left side of the location's name, grab it with the left mouse button and move the location to the selected place in hierarchy. If you want to relocate a location and make it subordinate to other one, then the super ordinate location must have at least one subordinate location. In order to delete a location click delete icon on the right side of its name. Deleting a location results in deleting its subordinate locations too. All sensors from deleted location will be moved

to section *New sensors*. The sensor's measurements will not be deleted but all the rules and automatic reports assigned to deleted location will be deleted.



The screenshot shows the Efento Cloud interface. On the left, the 'Structure' menu is expanded, showing a hierarchy: Efento > Warszawa > Magazyn > Krakow > Apteka > Apteka 2 > TEST > Test-wilg. The 'Apteka 2' location is highlighted with a red box. Below the Structure menu, the 'New sensors' section shows a list of sensors with columns for Serial num., Name, Location, Status, Notifications, Added, and Active. The 'Efento krk' sensor is highlighted with a red box. The main panel shows the 'Sensors' tab with a table of sensors. The table has columns for Name / Serial number, Loc., Status, Notifications, Added, and Active. The 'Efento krk' sensor is highlighted with a red box.

Name / Serial number	Loc.	Status	Notifications	Added	Active
Efento Test 28 2C 02 40 00 3B	Efento	Red dot	Off	09:16 2019/10/11	09:06 2019/10/15
Efento -1 28 2C 02 40 00 97	Efento	Blue dot	On	09:20 2019/10/11	08:21 2019/10/16
Efento 28 2C 02 40 03 30	Test-wilg	Blue dot	On	11:30 2019/08/20	08:21 2019/10/16
Efento 28 2C 02 40 0B AE	Efento	Green dot	On	16:25 2019/06/27	08:21 2019/10/16
Efento 28 2C 02 40 0F 02	Efento	Green dot	Off	08:39 2019/09/03	08:21 2019/10/16
Efento krk 28 2C 02 40 12 A4	Apteka 2	Green dot	On	16:26 2019/06/27	08:24 2019/10/16

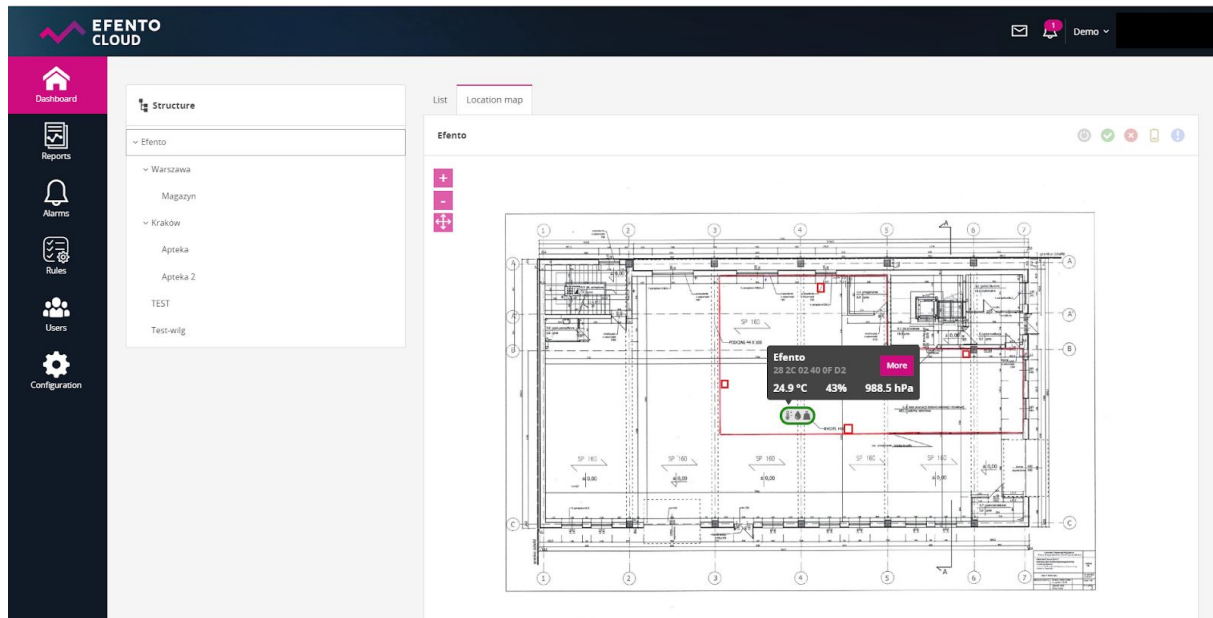


The screenshot shows the Efento Cloud interface with the 'Location map' tab selected. The 'Structure' menu on the left is expanded, and 'Apteka 2' is highlighted with a red box. The 'New sensors' section below it shows a list of sensors, with 'Efento krk' highlighted with a red box. The main panel shows the 'Location map' tab, which is currently blank. The 'Efento krk' sensor is highlighted with a red box.

7.8. Location map

To each location you can add a map or a building plan. In *Configuration* menu go to *Location map* tab. In section *Structure* choose location to which you wish to add a map. If you have not added a map yet, then you will see a blank field with *Add Map/Image* button in the middle. Choose a file you wish to upload and click *Open*. The platform allows you to upload maps/plans in PNG or JPEG format, and the maximum size of the file is 4 Megabytes. Uploading a large image may take up to several minutes. If you wish to delete a previously added map, click on *Remove* button in the upper left corner of the map. To place a sensor on the map, grab it with the cursor from the box below the map, and drop it in a selected place on the map. To remove the sensor from the map, grab it with the cursor and drop it in *Drop here*

to remove field. After adding and configuring the location map it will be visible in *Dashboard* menu for all the users with access to that location.



8. Reports

Measurements from selected period can be exported as a PDF or CSV report anytime you wish. Additionally, Efento Cloud allows you to configure automatic reports, which will be send with selected frequency (e.g. daily, once a week or once a month) to any e-mail address you type in.

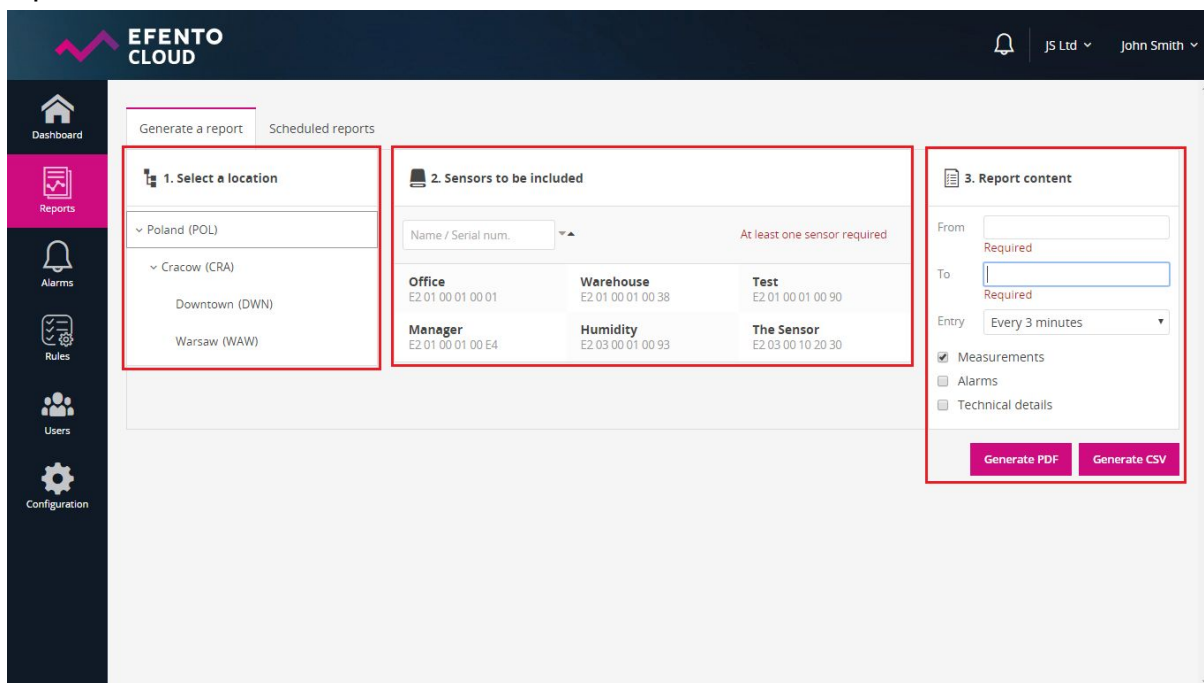
The reports include measurements made by sensors. Additionally they can include information about events such as violation of alarm rules, connection lost or low battery level. The measurements can be saved in reports with density of 3 / 15 / 30/ 60 minutes.

Reports can be generated on user's demand or periodically (automatic reports) with selected frequency (daily, once a week, once a month) and send to any e-mail address. Reports on demand can be generated by each user (Analyst, Manager and Administrator), whereas automatic reports can be configured by users with permissions of Manager or Administrator.

8.1. Generating a report on demand

Generating a report on demand allows you to export measurements from one or more sensors from any period of time in a PDF or CSV file. To generate a report go to menu *Reports* and then to *Generate a report*. Select a location containing sensors

whose measurements you wish to export, and then mark the sensors by clicking their names. You can select any number of sensors. If you have a problem finding a specific sensor in the location you have chosen, then type in its name or serial number in field above the sensor panel. After selecting the sensors, in section *Report content* set a time period from which you wish to export measurements (choose from and to dates), set a density of measurements (3 / 15 / 30 / 60 minutes) and choose what should be included in the report (*Measurements* - all measurements made by the sensor and sent to the platform with previously selected density; *Alarms* - information about alarms initiated in selected period of time; *Technical details* - information about low battery level / connection lost / disabling or enabling the sensor). Click *Generate PDF* or *Generate CSV* to generate a report and send it to the e-mail address you have entered while creating an account in Efento Cloud. The report will be delivered within a few minutes.



EFENTO CLOUD

Dashboard | Reports | Alarms | Rules | Users | Configuration

Generate a report | Scheduled reports

1. Select a location

Poland (POL)

Cracow (CRA)

Downtown (DWN)

Warsaw (WAW)

2. Sensors to be included

Name / Serial num.

At least one sensor required

Office E2 01 00 01 00 01	Warehouse E2 01 00 01 00 38	Test E2 01 00 01 00 90
Manager E2 01 00 01 00 E4	Humidity E2 03 00 01 00 93	The Sensor E2 03 00 10 20 30

3. Report content

From: Required

To: Required

Entry: Every 3 minutes

☒ Measurements

☐ Alarms

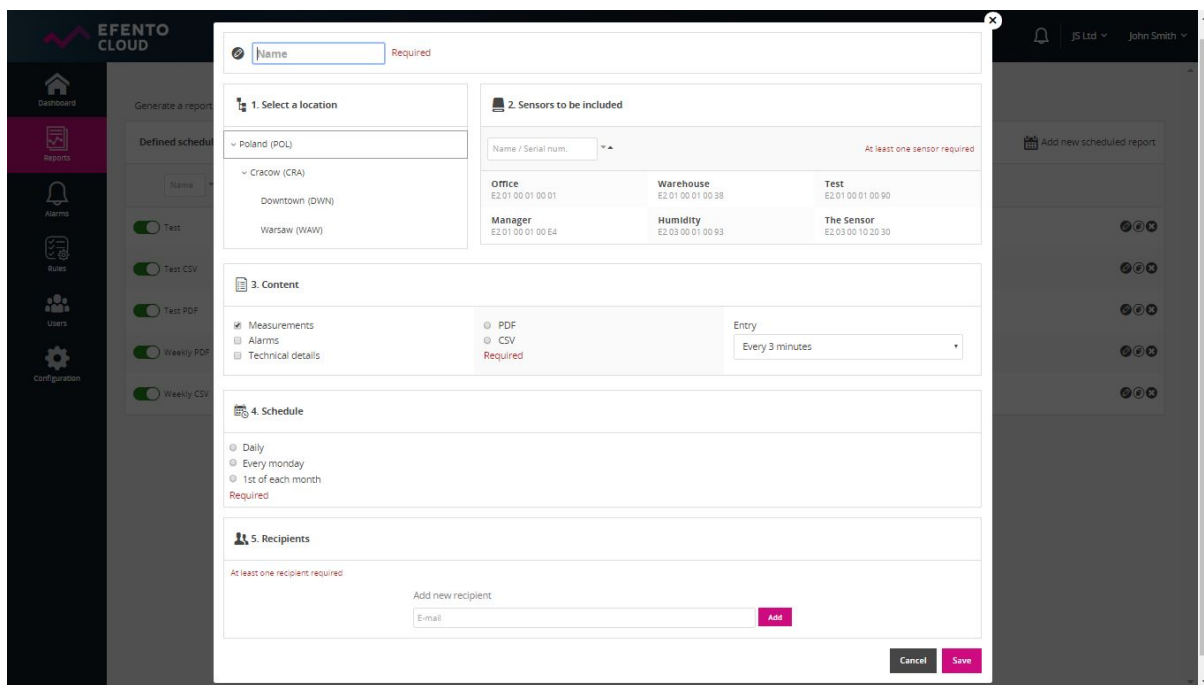
☐ Technical details

Generate PDF | Generate CSV

8.2. Configuration of automatic reports

Automatic reports allows you to automate sending reports to selected e-mail addresses. The reports will be generated and send periodically, depending on configuration. To configure automatic reports you need to have Administrator or Manager access permission. In *Report* menu go to tab *Scheduled reports* and then click on *Add new scheduled report*. Type in report name and then, same as in report on demand, choose sensors which should be included in the report, choose report content and its format and the density of measurements. Next choose report generation frequency - in section *Schedule* mark one of three options: daily, every Monday or 1st day of each month. The last step of automatic report configuration is adding the recipients. In section *Recipients* type in e-mail addresses to which the

automatic report should be send. You can add any number of addresses and they do not need to be registered in Efento Cloud platform. If you have filled all required fields, click **Save** which will result in creating an automatic report. From that moment, automatic report is active and it will be send with previously configured frequency. Automatic reports are generated and sent to recipients a few minutes after midnight. All configured automatic reports including information about report creator, sending frequency, report content and report recipients are visible in *Scheduled reports* tab. To delete an automatic report click delete icon on the right side of the report. You can also edit already existing report by clicking on pencil icon. If you wish to create a new automatic report, similar to an existing one, click *Clone* button which is located between delete and pencil icon. Automatic reports can be disabled- the report configuration will not be deleted, only sending the report will be suspended. In order to disable an automatic report switch the slider on the left side of the report to off position.



1. Select a location

Poland (POL)

Cracow (CRA)

Downtown (DWN)

Warsaw (WAW)

2. Sensors to be included

Name / Serial num. At least one sensor required

office	Warehouse	Test
E2 01 00 01 00 01	E2 01 00 01 00 38	E2 01 00 01 00 90
Manager	Humidity	The Sensor
E2 01 00 01 00 64	E2 03 00 01 00 93	E2 03 00 10 20 30

3. Content

☒ Measurements ☐ PDF ☐ CSV ☐ Entry

☐ Alarms ☐ Required

☐ Technical details

4. Schedule

☐ Daily ☐ Every monday ☐ 1st of each month

5. Recipients

At least one recipient required

Add new recipient

E-mail

Cancel Save

9. Alarms

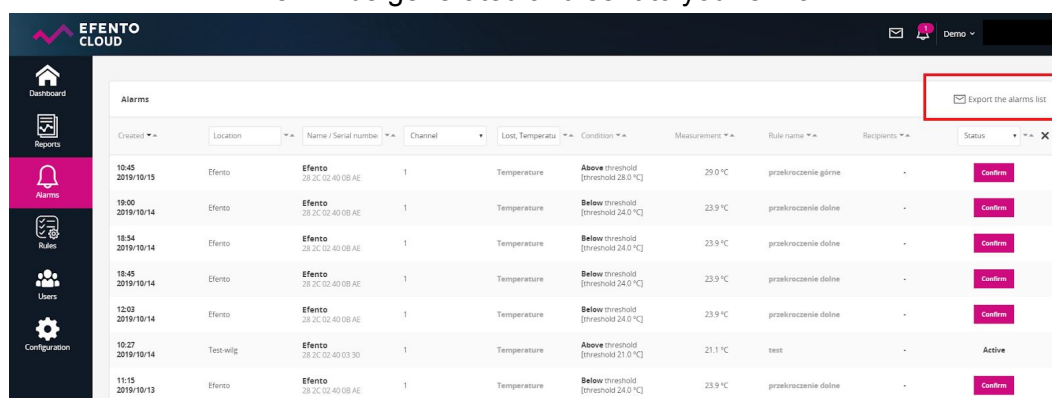
9.1. Alarm preview

Notifications about all (including confirmed) alarms, which occurred since your last login will be visible on the bell icon in the right upper corner of platform site. You will see there a number of alarms initiated during your absence in the platform. By going to the *Alarm* menu you can find a list of all current and past alarms. Column status indicates whether the alarm is *Active* (the alarm rule is still violated), *Confirmed* (other

user has reacted to the alarm; the alarm rule is not violated anymore) or it is waiting for *Confirm* (the alarm rule is not violated but none of the users has confirmed noticing the alarm). The alarms can be confirmed only when its cause has been fixed. The alarms can be sorted depending on date of their occurrence, alarm type, alarm cause, current sensor measurement, alarm rule name or recipients assigned to the alarm. You can also find a selected sensor's alarms by entering its name or serial number in the field *Name / Serial number* above the list. In *Dashboard* menu in column *Alarms* you can see the number of unconfirmed alarms of a selected sensor (active and those waiting to be confirmed).

9.2. Export list of alarms

Export the alarms list, when you click *Export the alarms list* button, a list of alarms in the PDF file will be generated and sent to your e-mail



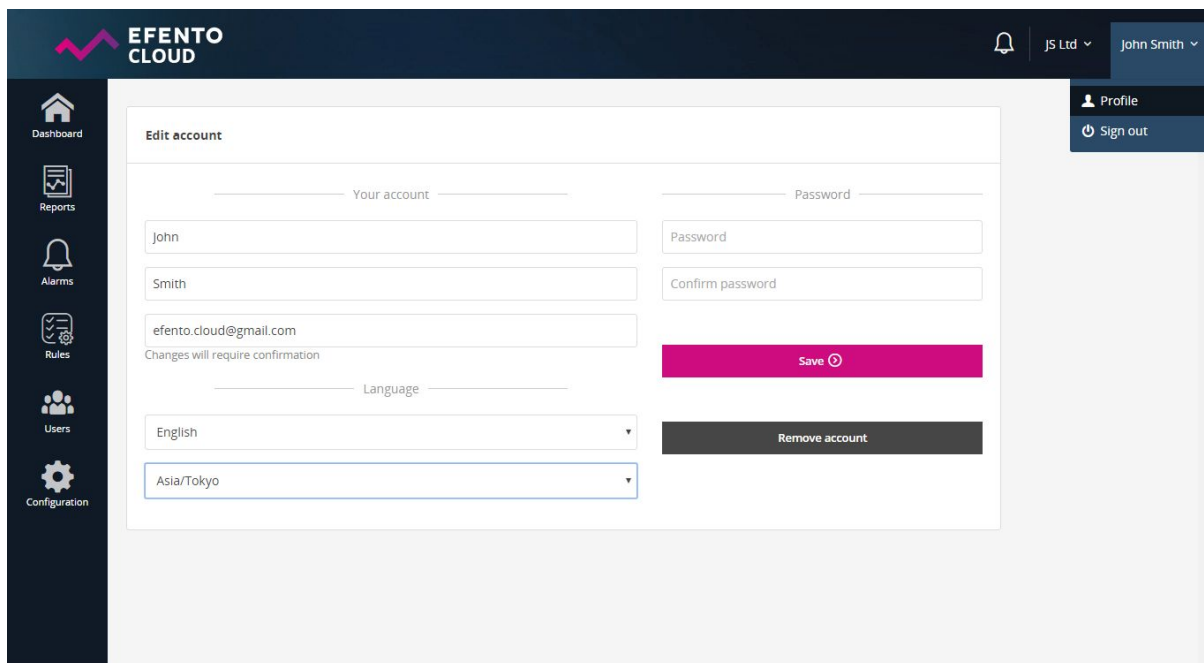

Alarms listing for Demo

#	Created	Sensor	Value	Type	Measurement	Rule name	Recipients	Status	Confirmed by	Comment
1.	2019-10-15 10:45:00	Efento	Temperature	Upper	29.0°C	przekroczenie górne		Unconfirmed		
2.	2019-10-14 15:00:00	Efento	Temperature	Lower	23.9°C	przekroczenie dolne		Unconfirmed		
3.	2019-10-14 18:54:00	Efento	Temperature	Lower	23.9°C	przekroczenie dolne		Unconfirmed		
4.	2019-10-14 18:45:00	Efento	Temperature	Lower	23.9°C	przekroczenie dolne		Unconfirmed		
5.	2019-10-14 12:03:00	Efento	Temperature	Lower	23.9°C	przekroczenie dolne		Unconfirmed		
6.	2019-10-14 10:27:00	Efento	Temperature	Upper	21.1°C	test		Active		
7.	2019-10-13 11:15:00	Efento	Temperature	Lower	23.9°C	przekroczenie dolne		Unconfirmed		

10. Editing user and Organisation data

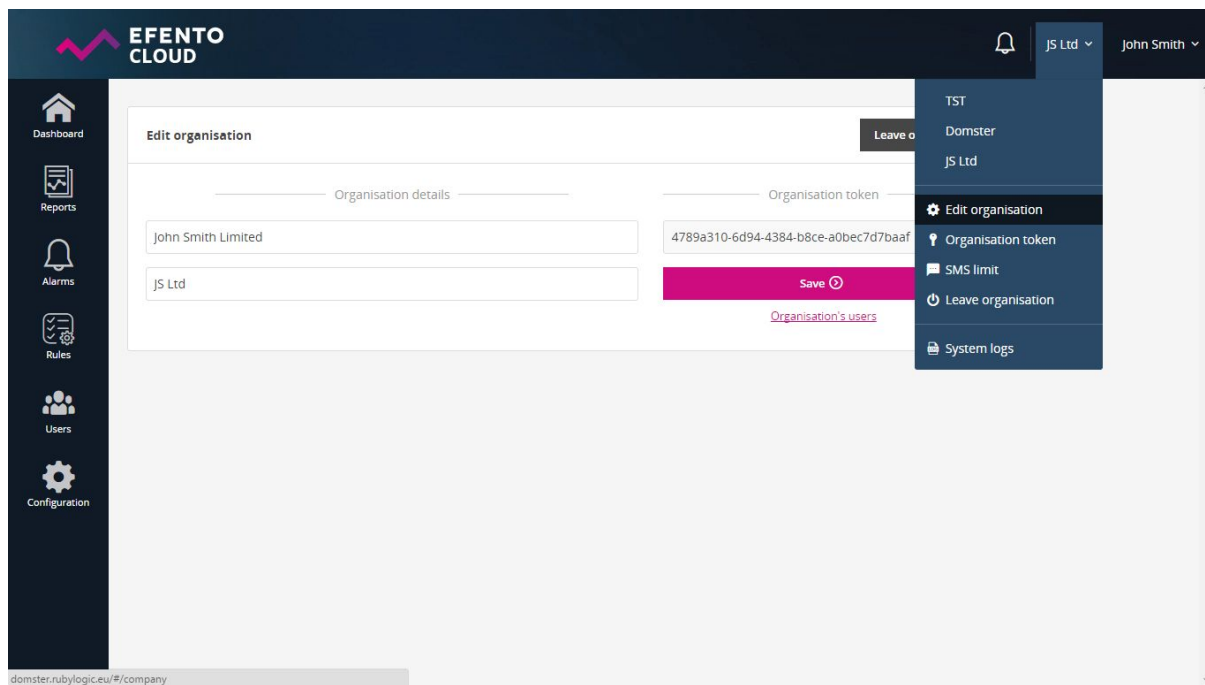
10.1. Changing username, language and password / deleting the account

Hover your cursor over your name and surname in the right upper corner of the platform, and you will see user's account options. You will be able to sign out or to go to the user profile. In *Profile* tab you can edit your data such as: name, surname, e-mail address and Efento Cloud account password. You can also change language and time zone. After making changes save them with *Save* button. If you wish to delete your account including all your data in the platform, click *Remove account* button.



10.2. Editing Organisation information

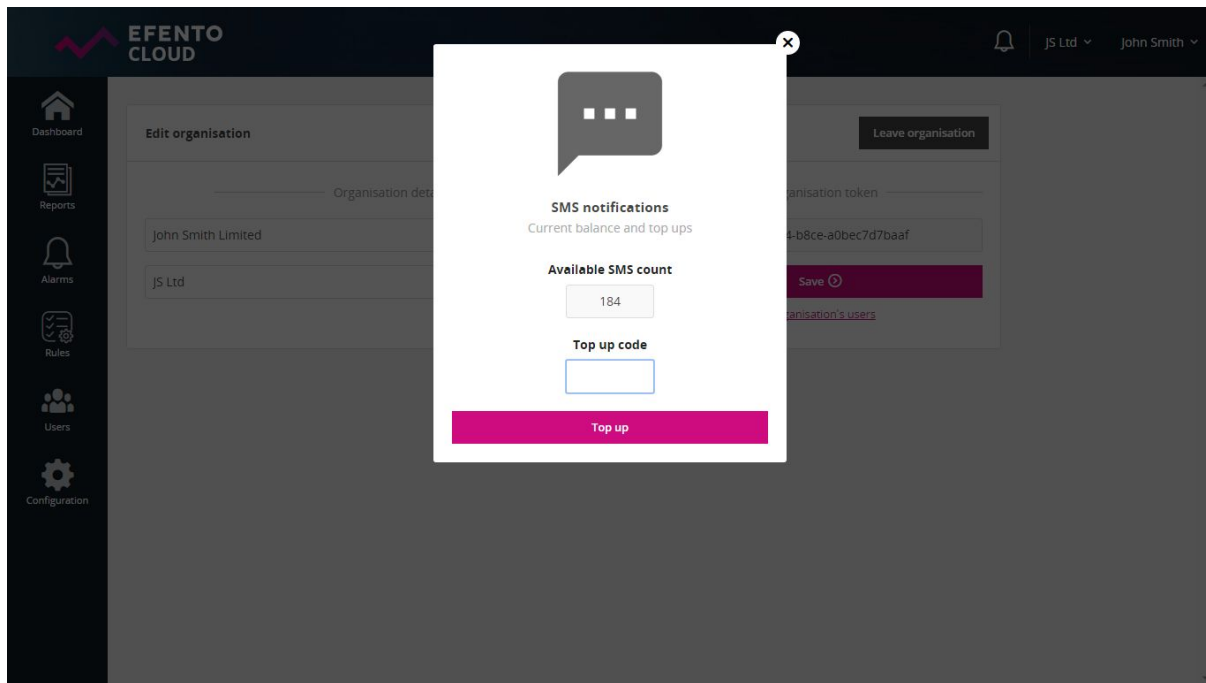
In order to edit your Organisation information, hover the cursor over its name in the upper right corner and then choose *Edit Organisation* tab. You will be able to change Organisation's name and its abbreviation. On the right side of this tab you will also find Organisation Key, but it is impossible to modify it. After making changes, save them with *Save* button.



11. Text message notification

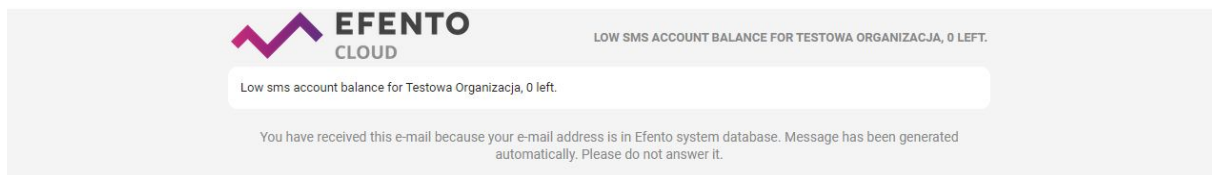
11.1. Topping up the text message balance

Efento Cloud allows you to configure text message notifications about rules violations. If you have configured text message notifications, then in order to receive them it is necessary to top text messages balance up. You can top-up the text messages balance by hovering the cursor over your Organisation's name in the right upper corner of the screen and then going to *SMS Limit*. In the popup window you will see the current text messages balance and, if necessary, top it up by keying in the top-up code. If the code was valid, then the balance should increase by a specified amount (100 / 500 / 1000 SMS).



11.2. Low text message balance notification

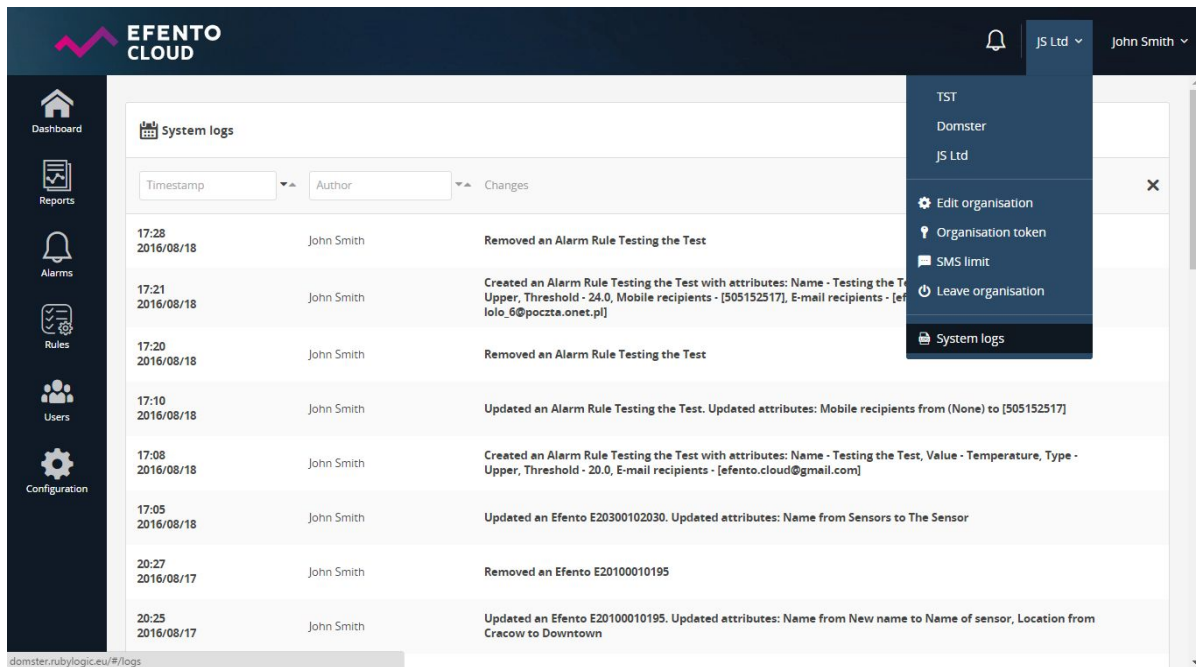
When the number of available SMS drops below 15, an email notification will be automatically sent to all administrators of the organization. Notifications are turned on automatically and cannot be turned off.



12. System logs

12.1. System logs preview

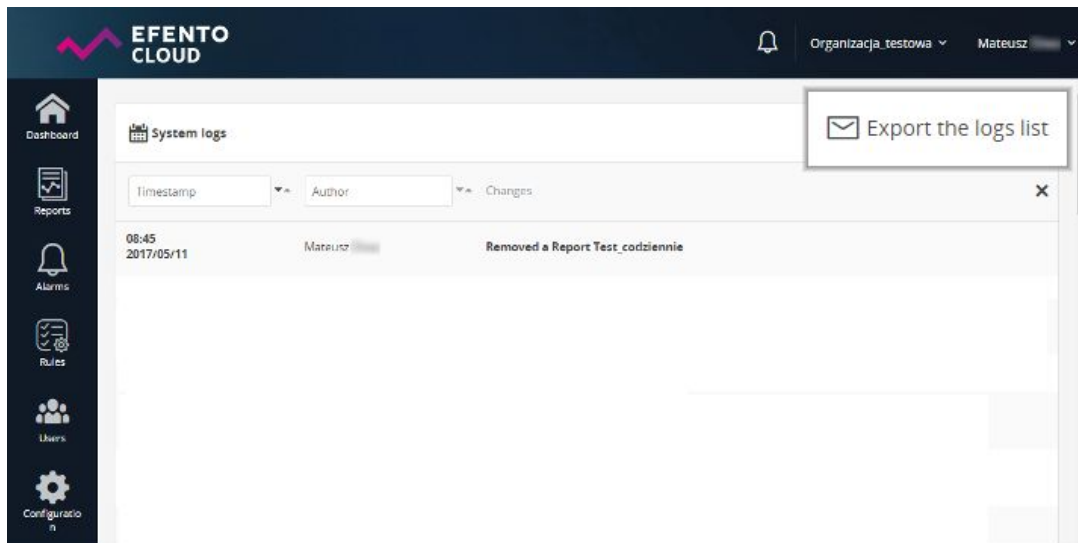
System logs, which are the list of all changes made in Efento Cloud platform, can be browsed by users with permissions of an Administrator. To browse system logs hover your mouse over your Organisation's name in the upper right corner of the screen and then click *System Logs*. You will find there an information about all changes made in sensors configuration, locations, reports, rules, users and Organisation. The list can be filtered depending on the date of the log or the user that made the change. In order to remove all filters and display all logs click X button on the right side of the filters.



domster.rubylogic.eu/#/logs

12.2. Export list of system logs

Export the logs list, when you click the *Export the logs list* button, a list of alarms in the PDF file will be generated and sent to your e-mail.




System logs for Organizacja_testowa

#	Created	Author	Operation	Params
1	2017-05-11 06:45:15	Mateusz	Report Test_codziennie destroyed	---