

# **Eocortex**

Version 4.3

## **Admin guide**

Part 3

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## Eocortex Configurator

With the help of the **Eocortex Configurator** application, the **Eocortex** video surveillance system is set up, including license management, parameters of connected cameras, features used for the cameras, scenarios, schedules and intelligent modules, video server parameters, archive and redundancy settings, user authority, site plans, display profiles, archive bookmarks categories and other settings.

Note

The **Eocortex Configurator** application is included in all the installation packages and is automatically installed with both server and client applications of **Eocortex**.

Note

To work with the **Eocortex Configurator**, it is recommended to use the screen resolution of no less than 1024×768 since using the screens with lower resolution may lead to issues with displaying the application.

Below you will find the procedure to be followed after having installed **Eocortex Server** (or **Eocortex Standalone**), in order to start the full-scale work with the system.

- Run the [Eocortex Configurator](#) stating the IP address and the network port (**8080** by default) of the server, as well as the username and password of the user with configuration privileges (by default, **root** user with the empty password).
- [Set up servers](#).
- [Set up cameras](#) (connection to cameras, archiving parameters, video analytics, etc).
- If required, [set up system user authority](#).
- [Apply settings](#) and close **Eocortex Configurator** application.
- [Install](#) and launch the **Eocortex Client** application, set up client workplace parameters, if required.
- [Launching Eocortex Configurator](#)
- [Applying settings](#)
- [Cameras](#)
- [Servers](#)
- [Users](#)
- [Interactive Site Plans](#)
- [Interactive Maps](#)

- Views
- Automation
- Video analytics

## Launching Eocortex Configurator

### Note

The video surveillance server (**Eocortex Server** or **Eocortex Standalone**) application to which the connection is being made must be operating at the moment of the connection.

### Warning

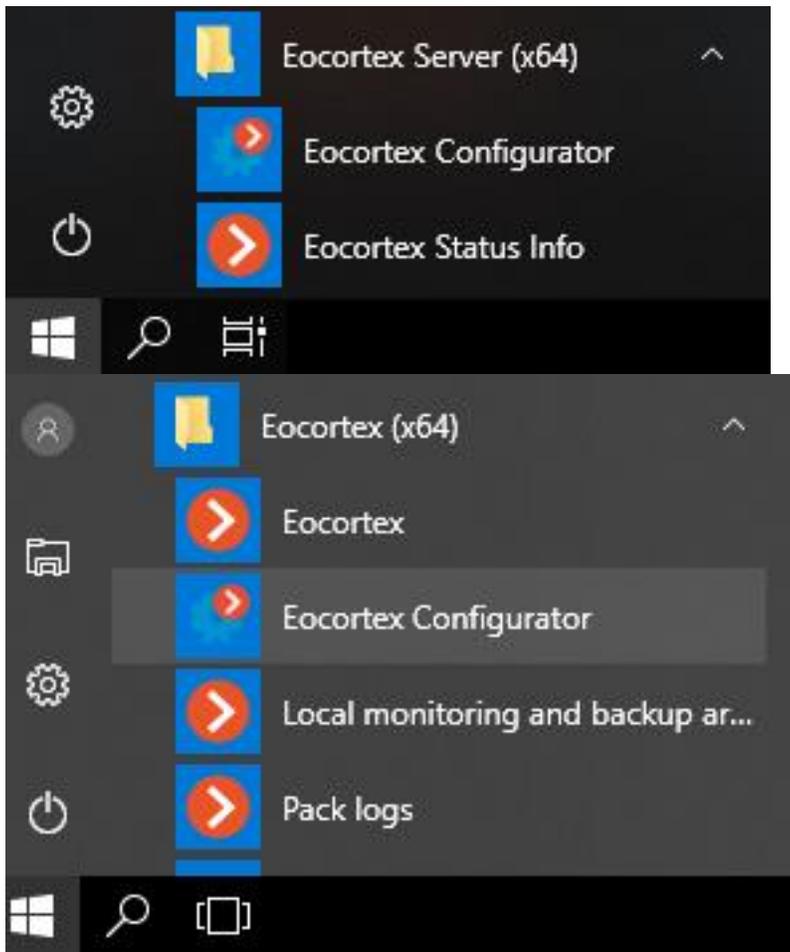
In the course of setting up the server, the same version of the **Eocortex Configurator** application as the server version must be used.

### Note

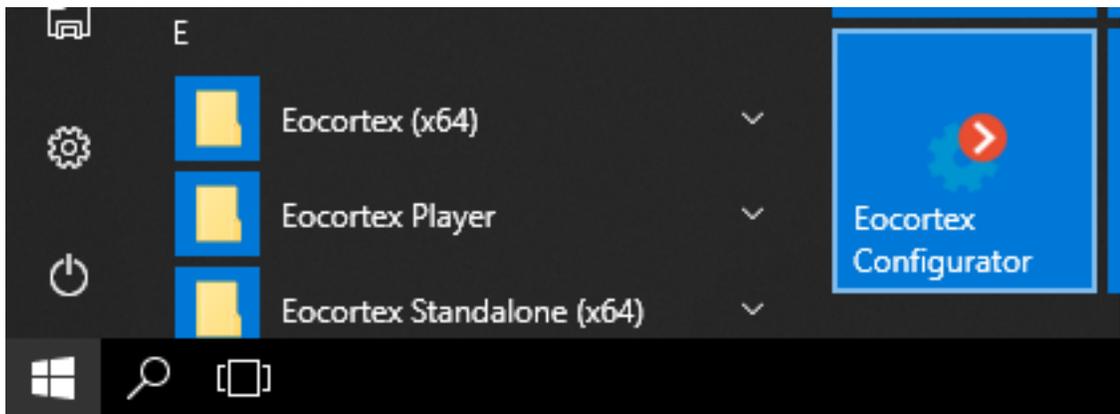
The active system configuration is stored on the **Main server**. In the event of making changes to the configuration, the **Eocortex Configurator** application automatically saves the configuration on the **Main server**, sending it afterwards to all the available member servers. Consequently, to avoid system conflicts, it is recommended to perform the connection via the **Eocortex Configurator** or directly connect to the **Main server**, or to the server that has access to the **Main server** at the moment.

There are several ways to launch the application:

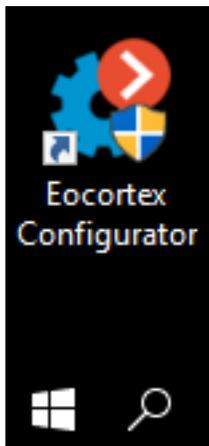
- From the Start menu  ;



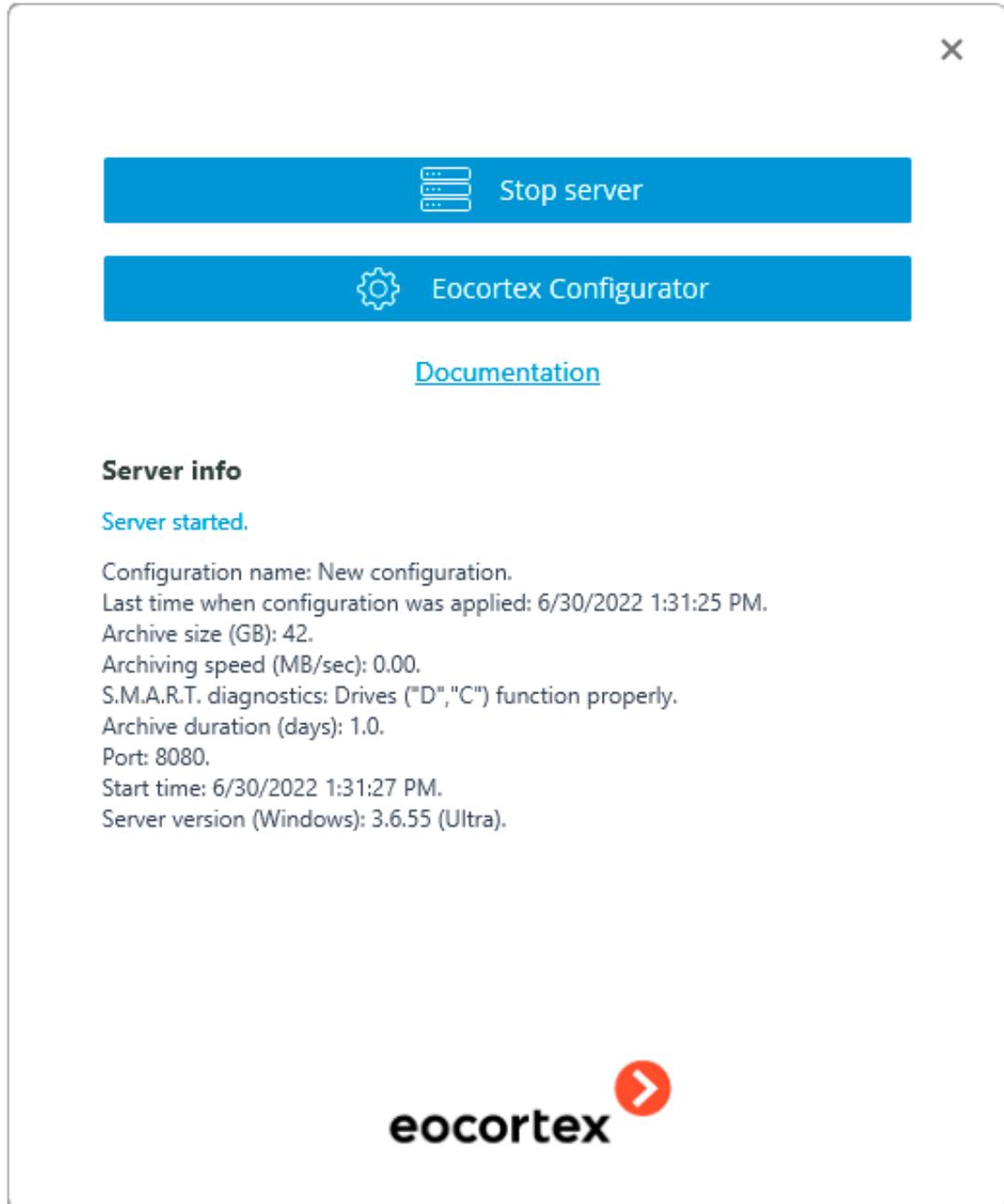
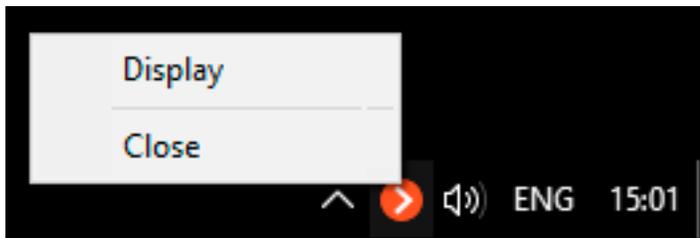
- From the Windows Start screen;



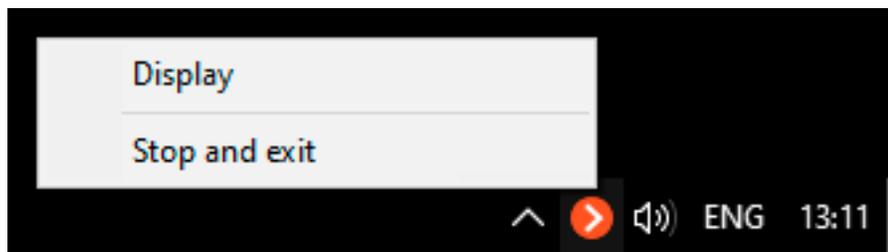
- Using the icon on the Desktop;



- From the **Eocortex Server Info** utility window;



- From the **Eocortex Standalone** application start window;



Log in to Eocortex

Eocortex Configurator

[Documentation](#)

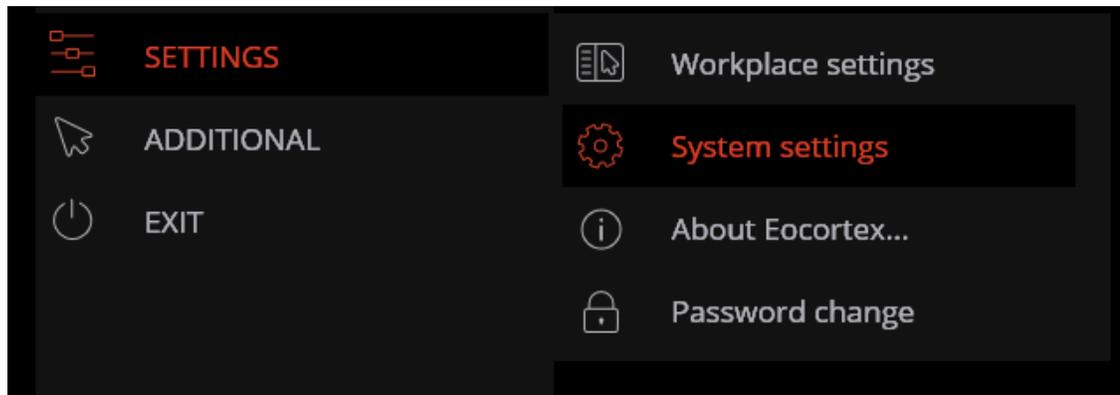
**Server info**

Server started.

Configuration name: New configuration.  
Last time when configuration was applied: 6/30/2022 1:31:25 PM.  
Archive size (GB): 41.  
Archiving speed (MB/sec): 0.00.  
Archive duration (days): 1.9.  
Port: 8080.  
Start time: 6/30/2022 4:17:30 PM.  
Server version (Windows): 3.6.55 (Ultra).

**eocortex**

- From the **Eocortex Client** application.



The authorization window will open. It is required to indicate the server address there in the **Server** field (or select the address in the dropdown list to the right of the input field) and the account type (only for **Enterprise** and **ULTRA**), username and password, then press the **Connect** button.

**Account type:**  **Eocortex**;  **Active Directory**.

For **Active Directory** accounts, the user name is specified as: **username@domain**; where **domain** is the domain name, **username** is the name of the user in the domain.

Note

Registration under an **Active Directory** account is available not for all types of licenses.



## Eocortex Configurator

Server

User

Password

Remember password





## Eocortex Configurator

Server

vmsrv@mycompany.com

User

user1@mycompany.com

Password

●●●●●●●●

Remember password

Connect



The secure connection to the server via HTTPS is enabled by pressing  button located in the left side of the field with the server's address.

### Note

Since the capability of a secure connection to the server is set up by the system administrator on the server itself, the parameters of such connection must be obtained from the administrator.

In the cases when it is impossible to obtain the secure connection parameters from the system administrator, it is important to keep in mind that the port explicitly indicated after the two-spot in the end of the connection address line

is used for the secure connection. If no port is explicitly indicated, the port **18080** will be used for the secure connection.

### Warning

The system administrator can forbid the connection to the server using the insecure protocol. Such servers will always require a secure connection.

### Note

During the initial installation on the **Eocortex** server the **root** user with an empty password is created. This user has a full set of rights. In the course of setting up user authorities it is recommended to change the username and password of this user. Client connection port is **8080** by default; if required, it can be changed in the **Eocortex Configurator** application.

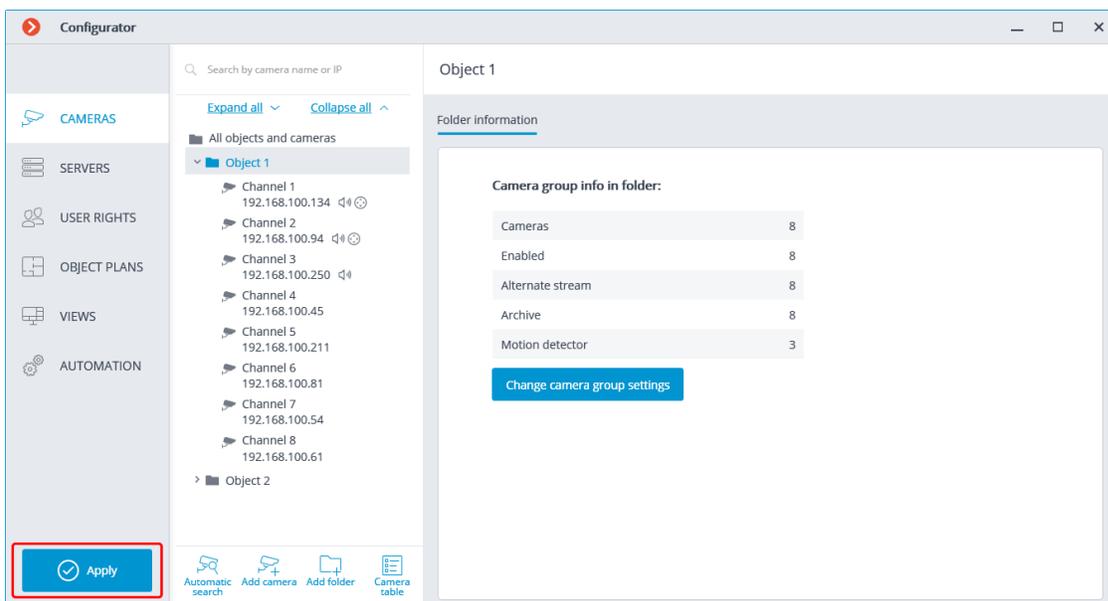
Following the successful authorization, the main window of the **Eocortex Configurator** application will open.

## Applying settings

### Warning

After making any changes to the settings, it is required to apply them. The new settings will be enabled only after their application.

To confirm the settings changes, click the  **Apply** button.

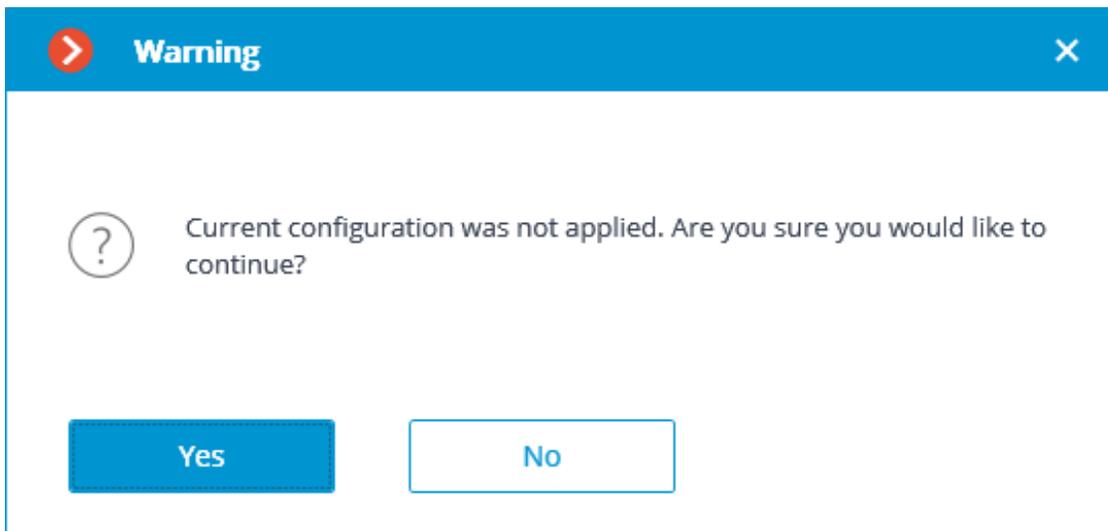


### Note

The  **Apply** button will be visible only in case there are unapplied changes in the configuration. Titles of the settings tabs with the unapplied changes are marked by an asterisk.

## Note

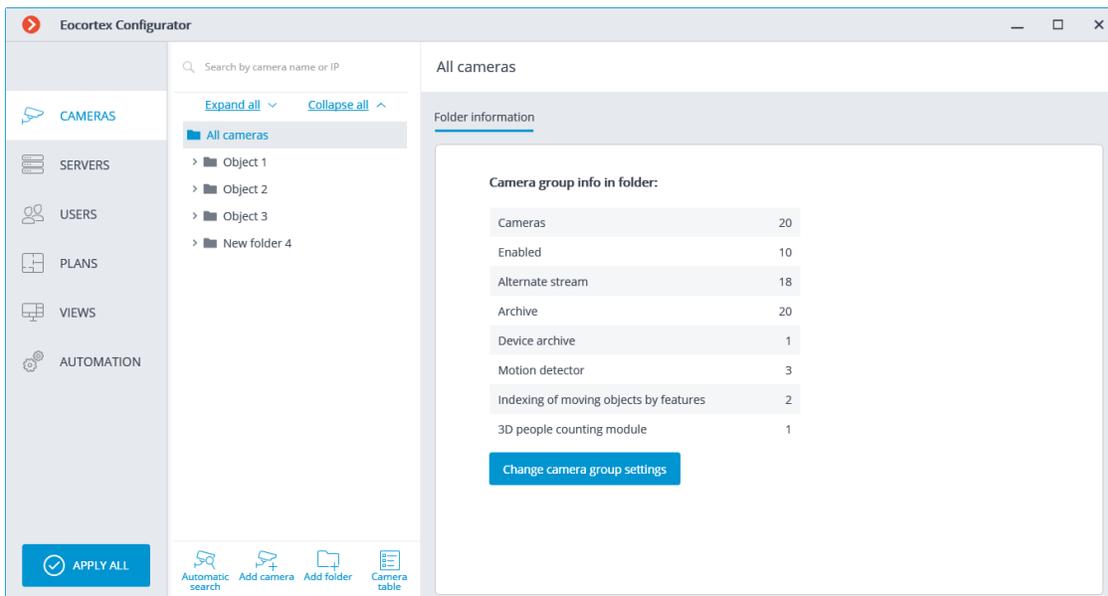
At an attempt of exiting the **Eocortex Configurator** application without applying the changes, the Warning window will appear.



In order to return and apply the changes, press the **No** button. To exit without applying settings, press **Yes**.

## Cameras

To set up cameras in the **Eocortex Configurator** application, you need to go to the  **Cameras** tab.



## Note

The **Camera** term in the **Eocortex** system has an extended interpretation because, in addition to cameras, one can connect video server and video

encoder channels to the system, as well as video recorders, door phones, sound capture devices, thermal cameras, and digital to analog converters.

Warning

Not all the features of the devices are supported by **Eocortex**, even if such features are available in the **Eocortex Configurator** application.

## List of cameras

Note

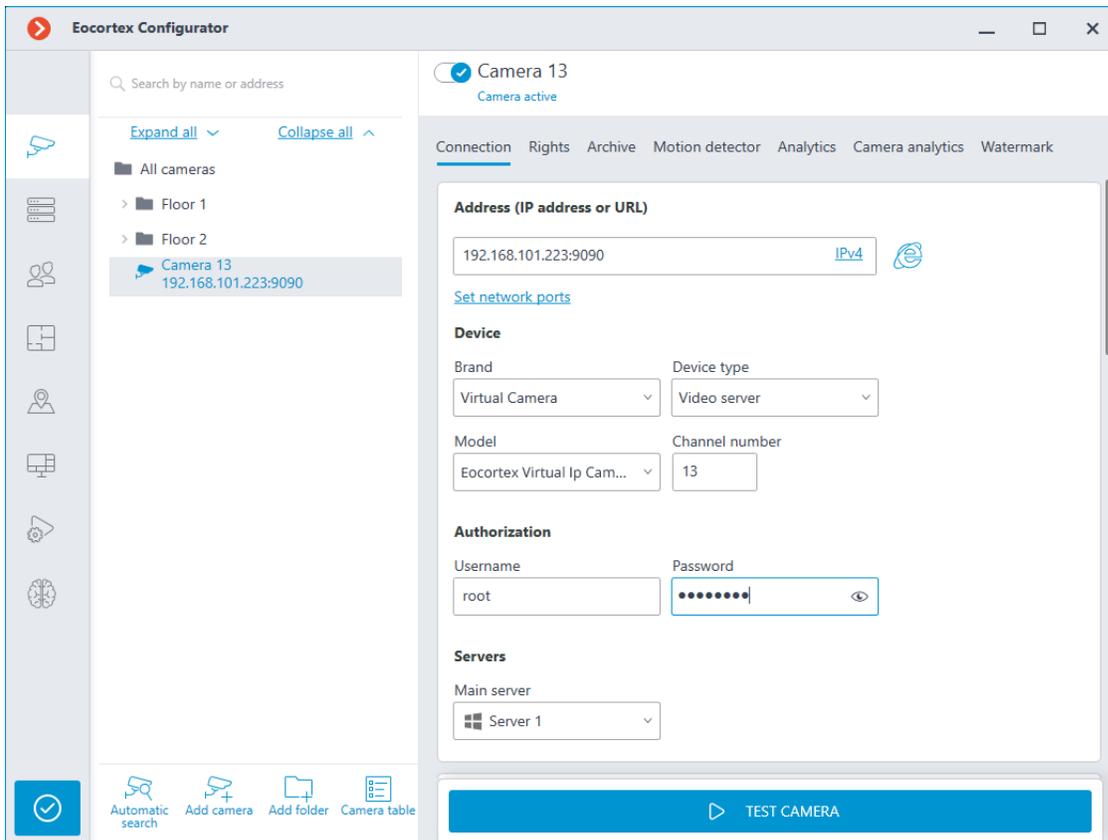
A list of supported cameras and devices can be found at [eocortex.com](http://eocortex.com), on the [Support / Supported Cameras](#) page. For information about support of additional camera functions (second stream, audio, PTZ, etc.), contact **Eocortex** technical support.

The list of cameras in the **Eocortex** system has a tree structure and uses **Folders**, which may contain cameras or other folders. Such hierarchy is easy to use for navigation through the list and for grouping cameras by various characteristics.

Note

In particular, it is possible to create a tree by the territorial principle; for example, **City / Building / Floor / Room**. Also, for convenience, on one of the levels of the tree, one can group the cameras by type, for example, **Fixed, Controllable, Video recorders**. Moreover, it is possible to group the cameras based on security principles, for example, **Shared access** and **Restricted access**.

For setting up a particular camera, select it in the tree. The settings page of this camera appears in the right part of the window.



At the top of the camera settings page is the full name of the camera, including the path to it in the tree. To the left of the camera name is a switch that allows you to disconnect the camera from the system without removing it from the tree.

## Note

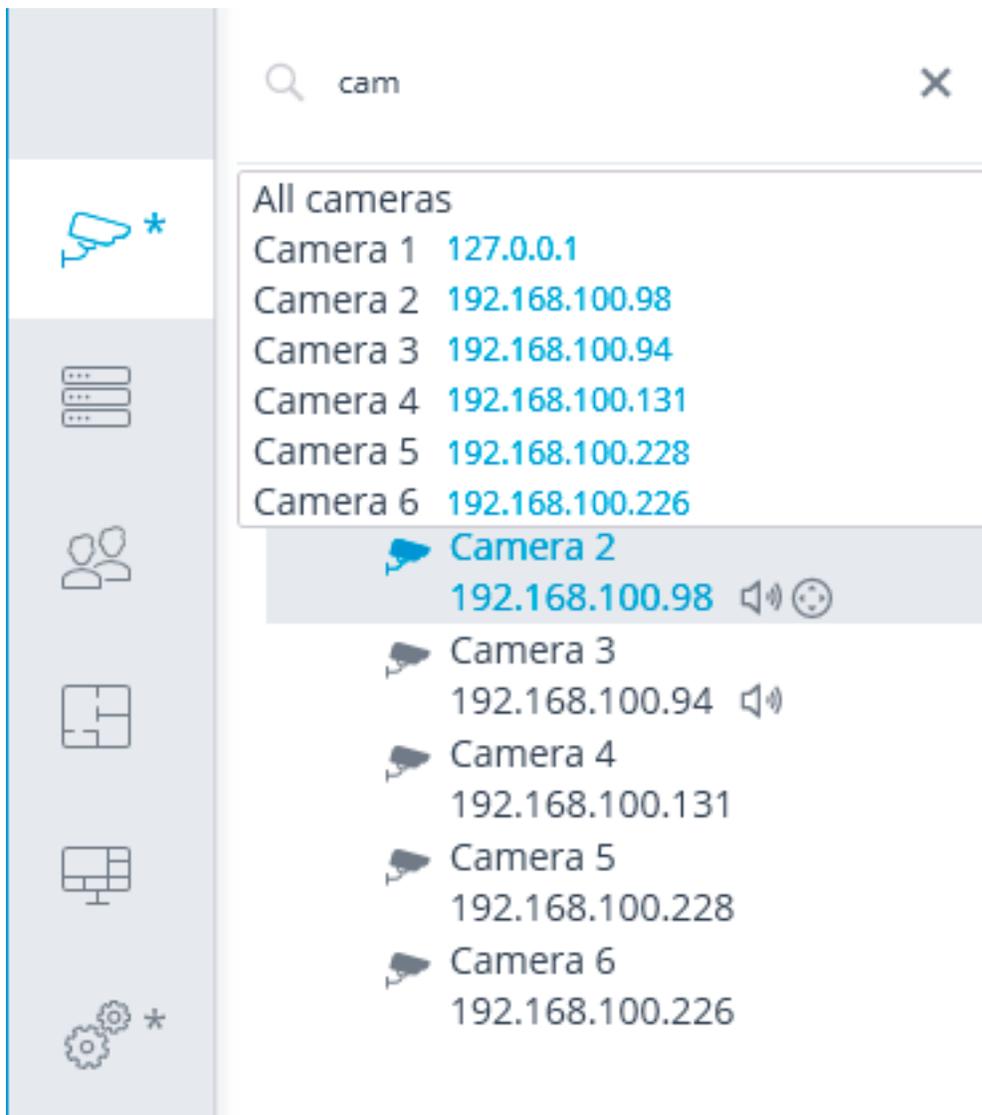
A disconnected camera is disregarded by the license protection.

For example, a single-server system has a license for 100 IP cameras, two of which have the ability to connect a face recognition module. There are 100 cameras connected to the server, including two cameras with face recognition. If 20 cameras are disconnected, including one with face recognition, then an additional 20 cameras can be connected, including one with face recognition.

## Actions

To set up a group of cameras inside a folder and its subfolders, select this folder in the tree and press the **Change camera group setting** button on the right side of the window on the **Folder information** tab. The [Camera group editing](#) window will open.

To find cameras and folders in the tree, use the search field located above the list.



Listed below are the commands available during the camera hierarchy setup. All the commands are accessible from the context menu. Some commands are doubled by buttons and keyboard shortcuts.

- **Add folder** (button ) adds a new folder to the selected current folder.
- **Add camera** (button ) adds a new camera to the selected current folder.
- **Create new camera based on the highlighted one** adds a new camera on the basis of the selected one.
- **Create a group of cameras based on the selected one:** adds several new cameras in the specified range of IP addresses based on the selected camera.

The screenshot shows a dialog box titled "Group adding of cameras". It features a blue header bar with a back arrow on the left, the title in the center, and a close button on the right. The main content area is white and contains three input fields. The first is "Number of cameras", which is a spinner control currently set to the value "1". The second is "Initial address", which is a text input field containing "127.0.0.2" and a blue link labeled "Ipv4" to its right. The third is "Port", which is an empty text input field. At the bottom of the dialog, there are two buttons: a solid blue "Save" button and a white "Cancel" button with a blue border.

The maximum number of cameras that can be added is 999.

In the **Initial address** field, the IP address values are automatically assigned: **IP address of the highlighted camera + 1**.

For example, if the IP address of the selected camera in IPv4 format is 192.168.10.12, the **Initial address** field contains 192.168.10.13. It is possible to change the address if required.

Note

You can enter the **Initial address** in two formats: IPv4 and IPv6.

If the values exceed 254, the boundary number counter is increased by 1. For example, if the specified initial address is 192.168.100.254 and the number of cameras is 2, their addresses will be 192.168.100.1 and 192.168.101.2. Addresses with 255 and 0 are ignored.

Note

If the address of the selected camera is in IPv6 format, the following address is specified in the initial address field but in full format.

For example, if the address is [fe80::aecc:8eff:fe13:24f4], the settings window shows fe80:0000:0000:0000:aecc:8eff:fe13:24f5.

## Note

If the selected camera has a URL address, the **Initial address** field is empty. The URL address is not copied.

## Note

Filling in the **Port** field is optional. When adding cameras, the default port is used.

- **Rename** (**F2** shortcut or double click on the name) allow to rename the selected folder or camera. To do so, type a new name and press **Enter**.
- **Ctrl-drag** shortcut copies the selected folder or camera.
- **Delete** (or **Delete** shortcut) removes the selected camera or folder.
- **Switch off camera** disconnects a camera: removes it from the system but keeps it in the tree preserving all its settings.
- **Switch on camera** enables a camera, adding it to the system.
- **Move up** moves camera or folder up within the parent folder.
- **Move down** moves camera or folder down within the parent folder.
- **Copy to clipboard** copy camera or folder to the clipboard for its subsequent pasting.
- **Cut** copy camera or folder to the clipboard for its subsequent moving.
- **Paste** pastes camera or folder from the clipboard.
- **Expand folder** expands the selected folder.
- **Collapse folder** collapses the selected folder.
- **Camera configuration export** saves the settings of a selected camera or all the cameras and folders within the selected folder to disk. The user sets the name and location of the destination file in the proses of uploading.
- **Camera configuration import** loads the previously saved camera and folder settings from the disk. The loading is performed to the selected folder.

## Warning

The loading of the camera settings file from the disk does not cause the deletion of all the current folders and cameras. Thus, if the same settings file is imported to the same folder twice, the uploaded files and folders will be duplicated.



**Automatic search** button performs the [automatic search](#) of the available cameras in the local network and connects them to the system.



**Camera table** button opens the table with the information about all the cameras connected to the system. The table can be exported to **CSV**, **XPS** and **Excel** formats.

The screenshot shows a window titled "Camera table" with a close button (X) in the top right corner. The window contains a table with the following columns: Camera, Address, Device, Format, Server, Motion d..., Face dete..., and Index. The table lists several cameras, including Channel 11, Camera 10, Channel 1, Channel 2, Channel 3, Channel 4, Channel 5, Channel 6, Channel 7, Channel 8, and Camera 11. The "Motion d..." column has checkmarks for Channel 1, Channel 2, and Camera 11. The "Index" column has checkmarks for Channel 1 and Channel 2. An "Export" link is visible at the bottom right of the table area, and an "OK" button is at the bottom left of the window.

Camera	Address	Device	Format	Server	Motion d...	Face dete...	Index.
Channel 11	192.168.150.201	3D People Counter	H.264	Server 1	✓		
Camera 10	win7x64disc4:9090	Eocortex Virtual Ip Camera	H.264	Server 1			
Channel 1	192.168.100.134	Compatible device	H.264	Server 1	✓		✓
Channel 2	192.168.100.94	Compatible device	H.264	Server 1	✓		✓
Channel 3	192.168.100.250	Compatible device	H.264	Server 1			
Channel 4	192.168.100.45	Mxxxx, Pxxxx, Qxxxx, Fxx	H.264	Server 1			
Channel 5	192.168.100.211	DS-2xxxxxx, DS-N2xx	H.264	Server 1			
Channel 6	192.168.100.81	C1201L	H.264	Server 1			
Channel 7	192.168.100.54	C1201L	H.264	Server 1			
Channel 8	192.168.100.61	Mxxxx, Pxxxx, Qxxxx, Fxx	H.264	Server 1			
Camera 11	192.168.100.13	Compatible	H.264	Server 1			

## Camera settings

The camera settings page contains several tabs:

- [Connection](#): Camera connection settings.
- [Rights](#): Camera access rights settings.
- [Archive](#): Camera archive recording settings.
- [Motion detector](#): Motion detector settings.
- [Analytics](#): Video analytics settings.
- [Camera analytics](#): Integration of camera-embedded analytics settings.
- [Watermark](#): Watermark on video in a camera cell settings.

## Hotkeys

Warning

Keyboard shortcuts in the **Eocortex Configurator** application cannot be re-assigned.

- Create new camera based on the highlighted one Ctrl+N
- Create a group of cameras based on the selected one Ctrl+G
- Rename F2
- Delete Del
- Move up Ctrl+Up
- Move down Ctrl+Down
- Switch off camera Ctrl+Q
- Copy Ctrl+C
- Cut Ctrl+X
- Paste Ctrl+V
- [Connection setup](#)
- [Access rights settings](#)
- [Setting up the archive](#)
- [Motion detector setup](#)
- [Video analytics setup](#)
- [Camera analytics](#)
- [Watermark](#)
- [Modifying camera groups](#)
- [Automatic search and connection of cameras](#)

### **Connection setup**

On the **Connection** tab, the connection to camera is set up as well as the parameters of the video streams received from the camera.

Connection Rights Archive Motion detector Analytics Camera analytics Watermark

**Address (IP address or URL)**

192.168.100.226 [IPv4](#) 

[Set network ports](#)

**Device**

Brand:  Device type:  Model:

**Authorization**

Username:  Password:

**Servers**

Main server:  Video analytics server:

### Note

For the drop-down lists of camera manufacturers and models, as well as servers, the search for the specific list position is available.

### Note

The search in the drop-down list can be performed by any part of the searched word. The search is not case-sensitive of the text being entered.

**Servers**

Main server:  Video analytics server:

**Video streams**

In the drop-down list, the needed position can be selected either with the mouse or with the keyboard using the up/down arrows and the **Enter** key.

If the user switch to another control during the search, then the list position that was highlighted during the switch will be used as a search result.

### Address (IP address or URL)

To connect to a camera, it is required to indicate its **Address (IP address or URL)**. Prefixes like **http://** are not required in this field. In some cases, it may be required to state a management port / data port of the device, for example, **192.168.1.55:8000**.

If a camera supports the secure connection via HTTPS, it can be enabled by clicking on  button.

#### Note

This capability is available for selected cameras.

### Address (IP address or URL)

	192.168.100.94	<a href="#">IPv4</a>
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### [Set network ports](#)

#### Note

The port indicated in the connection address field is used for the secure connection. If no port has been explicitly indicated, the port **443** will be used for secure connection.

#### Warning

The operability of all the utilized camera features with the secure connection is checked before starting to use such connection. The camera features whose safety cannot be verified will not work when the secure connection is established.

With the majority of cameras, all the features will work via HTTPS port with the secure connection. However, some cameras may use different ports for different functions. That is why the availability of all camera ports is verified.

Due to the above reasons, when the secure connection is used, it is recommended to check the operability of all the required camera features, such as alarm inputs and outputs, before applying the settings.

#### Warning

The validation of the TLS/SSL certificates used for the secure connection with the cameras is not performed. Thus, it is possible to use any certificate for the above mentioned means.

## Note

In case of using the secure connection, the connection to the camera through the server is always used.

## Warning

If the **DevicePack** or the server version earlier than 2.8 is used, the secure connection will be unavailable.

If a camera is connected using the IPv6 protocol, it is required to select this protocol in the dropdown list in the right part of the **Address (IP address or URL)** field.

### Address (IP address or URL)

192.168.100.134	IPv4	
<a href="#">Set network ports</a>	IPv4 IPv6	
Device		

**Set network ports** link opens the **Device network ports** window allowing to specify ports that differ from those used by default.

## Note

This capability may be unavailable for certain cameras.

> **Device network ports**
✕

Port for ONVIF protocol connection

✓
By default

Port for RTSP protocol data receiving

✓
By default

Check port availability

Apply

Cancel

Pressing the  button attempts to open the camera in a web browser.

### Device

It is also necessary to set the manufacturer and the model of the camera.

#### Note

The connection of cameras the manufacturers or model of which are not in the list is described in [Camera connection features](#) section.

#### Note

Apart from the cameras, it is possible to connect video servers, video recorders and door phones selecting the appropriate device type.

For video servers, it is required to additionally indicate the number of a channel that the camera on this server is connected to.

#### Device

Brand	Device type	Model	Channel number
ONVIF <span style="float: right;">▼</span>	Video server <span style="float: right;">▼</span>	Compatible device <span style="float: right;">▼</span>	1

For video recorders, the special licenses approved by the video recorder manufacturers are used.

## Device

Brand	Device type	Model
<input type="text" value=""/>	<input type="text" value="Video recorder"/>	<input type="text" value=""/>

Video recorder licensing mode is enabled. Recording to archive and video analysis are not available in this mode.

## Device

Brand	Device type	Model
<input type="text" value=""/>	<input type="text" value="Door phone"/>	<input type="text" value=""/>

## Authorization

In order to connect to the camera it is required to log in, **Username** and **Password** must be set.

### Note

Specified user must have full access to the camera.

## Servers

In the multi-server system, it is required to indicate which server will be assigned as main for the given camera. In case there are redundancy licenses, it is also possible to specify a backup server for the camera.

### Note

**Main server** is the server that connects to the camera and processes its video and audio data, including the analysis performed by the video analytics, recording to the archive and forwarding to the client applications.

**Backup server** is the server that connects to the camera and processes its video and audio data in case of a failure of the main server or all of its archive drives. Switching to the backup server means that all of the video analysis modules enabled on the camera will cease to operate.

**Video analytics server** is a server exclusively dedicated to launching video analysis modules that process video data sent from other servers. Having said that, the video analytics server does not perform archiving of the video data being analyzed nor its broadcasting to client workplaces; these actions are performed on the general servers of a video surveillance system. Thus, the Video analytics server allows to remove the load associated with video analysis from the rest of the servers.

[Description, features and limitations](#) of the video analytics server.

## Time zone

### Time zone

Server time zone

(UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna

Camera time zone

(UTC+01:00) Amsterdam, Berlin, Be... ▾

In the **Time zone** group of settings, the time zone that the camera will use in operations can be set:

- **Server time zone:** the time zone of the server the camera is linked to will be used.
- **Camera time zone:** the selected time zone will be used, regardless of what time zone has the server the camera is linked to.

## Video streams

The screenshot displays the 'Video streams' configuration page. It features four columns representing different video streams: 'Main', 'Additional 1', 'Additional 2', and 'Additional 3'. Each column includes a 'Format' dropdown menu (with options like H264 and MJPEG), checkboxes for 'Eocortex Client' and 'Mobile and web clients', and dropdown menus for 'Stream for video analytics' and 'Stream for recording to archive'. At the bottom, there is a checkbox labeled 'Continuously receive all streams from camera' which is checked.

In the **Video streams** group of settings configuring the reception of video streams from the camera.

If the selected camera model supports additional video streams, it is possible to enable and configure them. It is required to select streams for archive recording and video analysis.

### Note

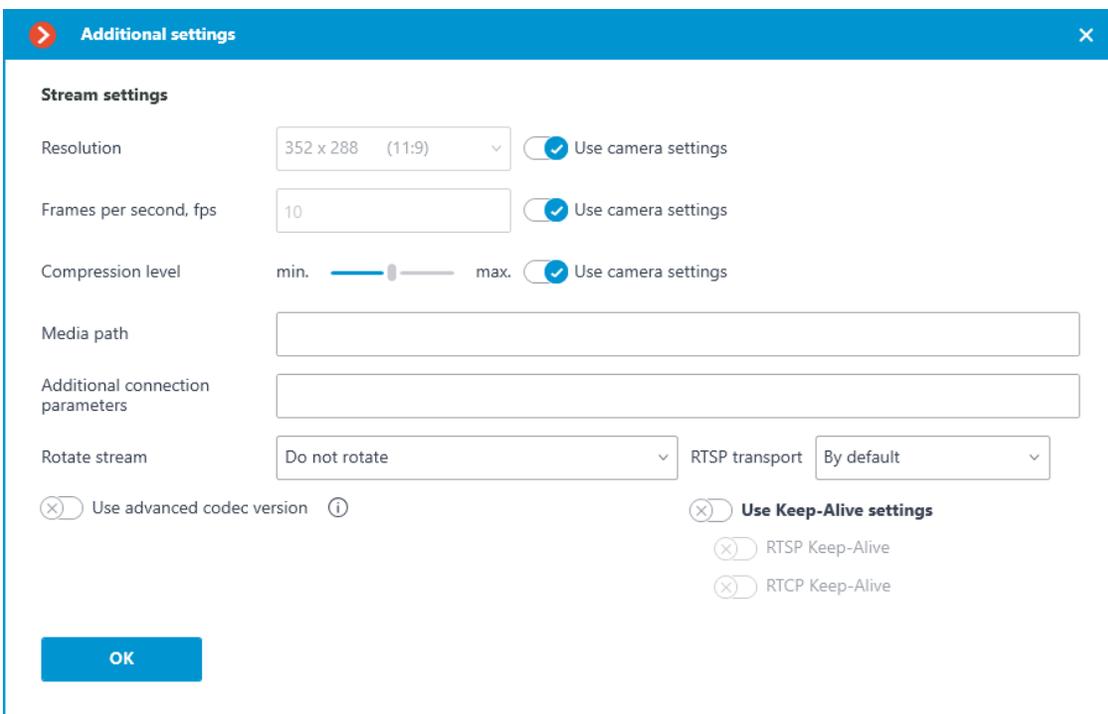
More details regarding the video streams can be found in the [Using multiple streams](#) section.

Support of three additional streams is not implemented for all the cameras: for many cameras, only one additional stream is supported; for some cameras, only the main stream can be received.

The number of additional channels that are implemented in **Eocortex** is shown in the settings, even if the camera itself supports a larger number of streams.

The streams are configured on the camera itself. In the **Eocortex Configurator**, only the reception of these streams and their use in **Eocortex** are configured.

For each video stream, a codec specifies separately; client applications where the stream will be used are also selected. Clicking the button  opens the window with additional video stream settings.



**Additional settings**

**Stream settings**

Resolution: 352 x 288 (11:9)  Use camera settings

Frames per second, fps: 10  Use camera settings

Compression level: min.  max.  Use camera settings

Media path:

Additional connection parameters:

Rotate stream: Do not rotate RTSP transport: By default

Use advanced codec version ⓘ  Use Keep-Alive settings

RTSP Keep-Alive

RTCP Keep-Alive

OK

## Note

The parameters available in the **Eocortex Configurator** window may differ depending on the camera models.

Setting camera parameters from the **Eocortex Configurator** application is available for a limited number of camera models.

## Note

To display the **Use advanced codec version**, selected video stream must be of H.264 or H.265 codec.

There are [some requirements and limitations](#) in the use of advanced versions of codecs.

**Eocortex Client** option : allows you to broadcast this video stream for displaying it in the **Eocortex Client** application.

**Mobile and web clients** option : allows broadcasting the video stream for displaying it in the **Eocortex** mobile application and the **Eocortex Web Client**.

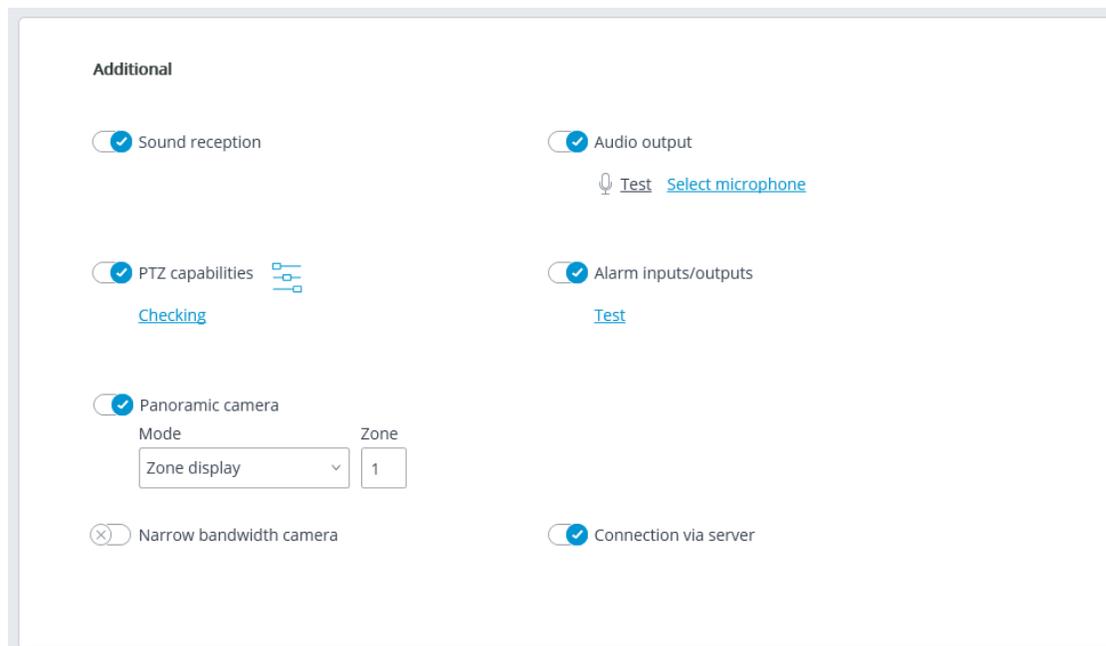
Note

These options must be enabled for at least one video stream.

These options are enabled by default for all video streams.

**Continuously receive all streams from camera:** Constant receipt of all streams from the camera will improve the responsiveness of the interface in the clients at the expense of increasing the load on the server and network.

### *Additional*



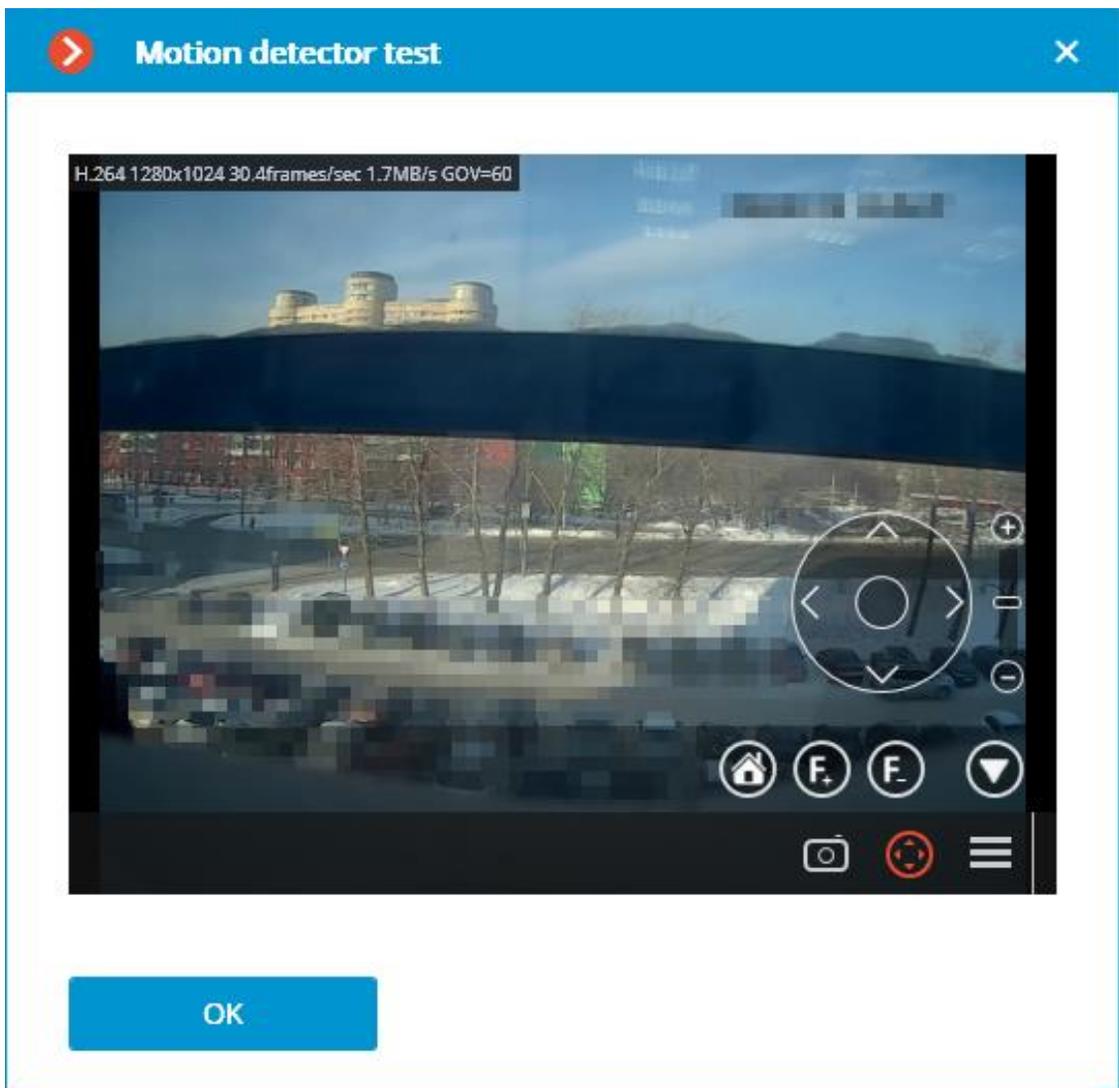
The following settings are available in the **Additional** group of settings.

**Sound reception:** enables the reception of sound from the camera.

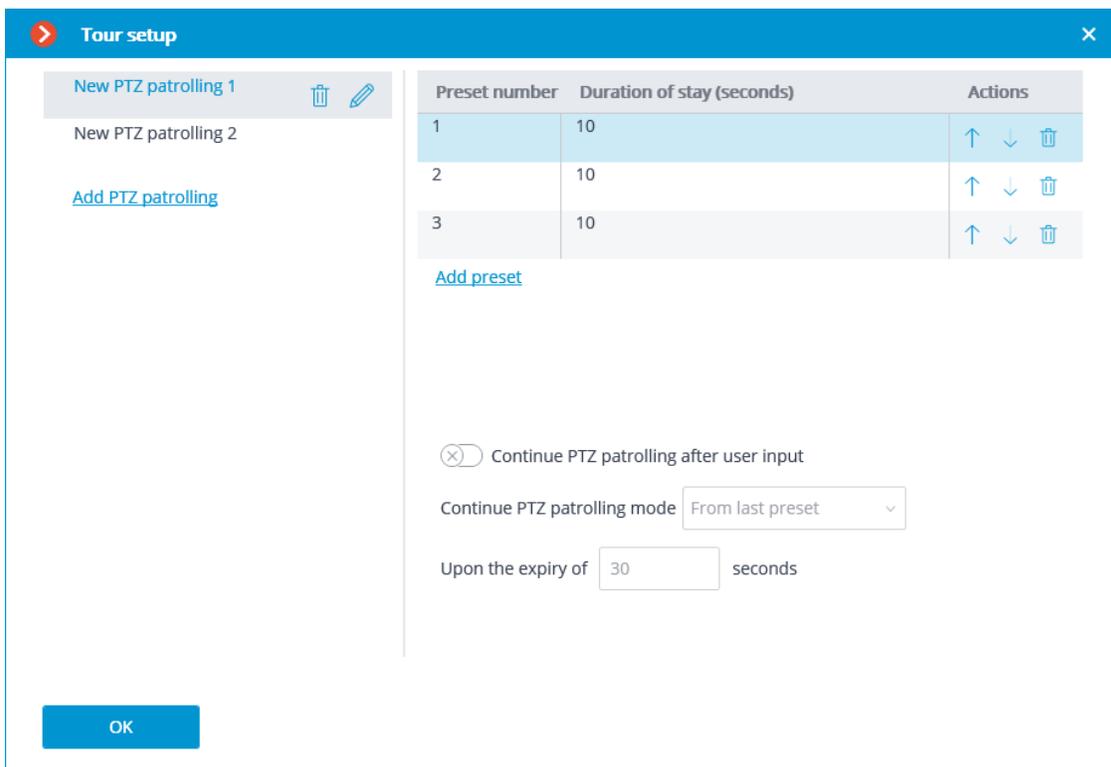
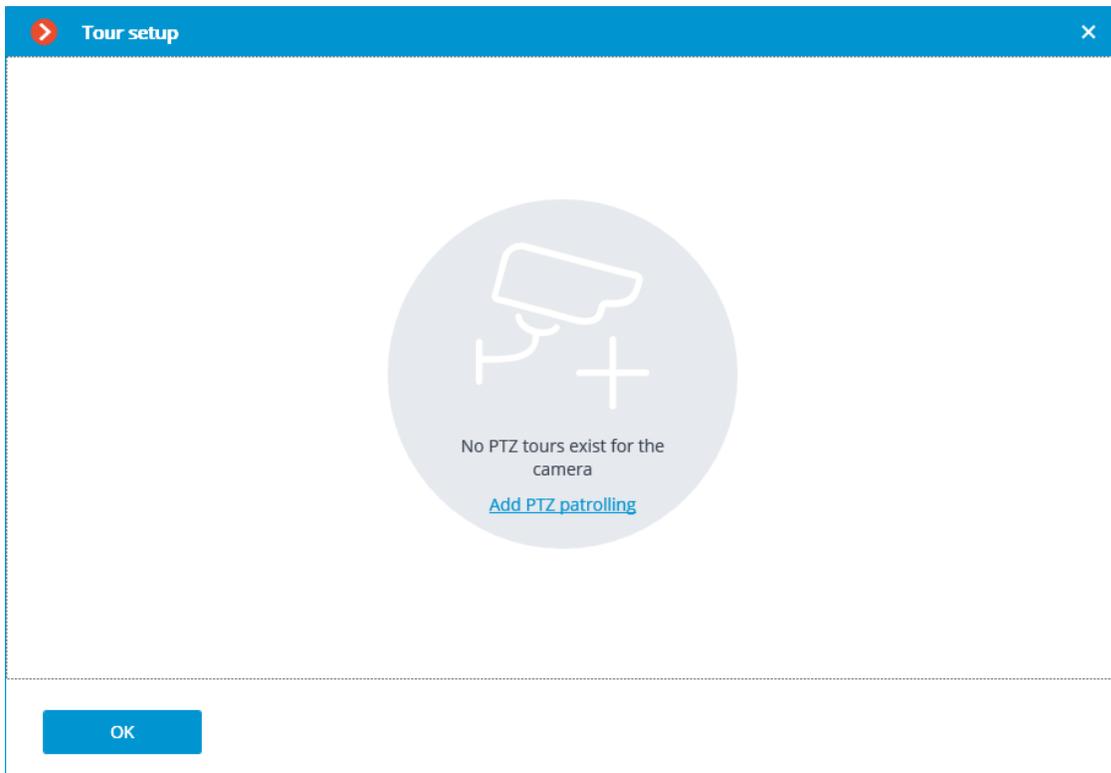
**Audio output:** it enables the transmission of sound to the camera. With the push of the  button, the microphone connected to a computer is switched on, allowing to test the sound transmission. The choice of a particular sound device (driver) is made following the Select microphone link.

**PTZ capabilities** enables the camera control features.

**Test** link opens the window with the test video broadcasting which contains PTZ controls.



The  button opens the Tour setup (automatic patrolling) — the sequences of toggling camera presets.

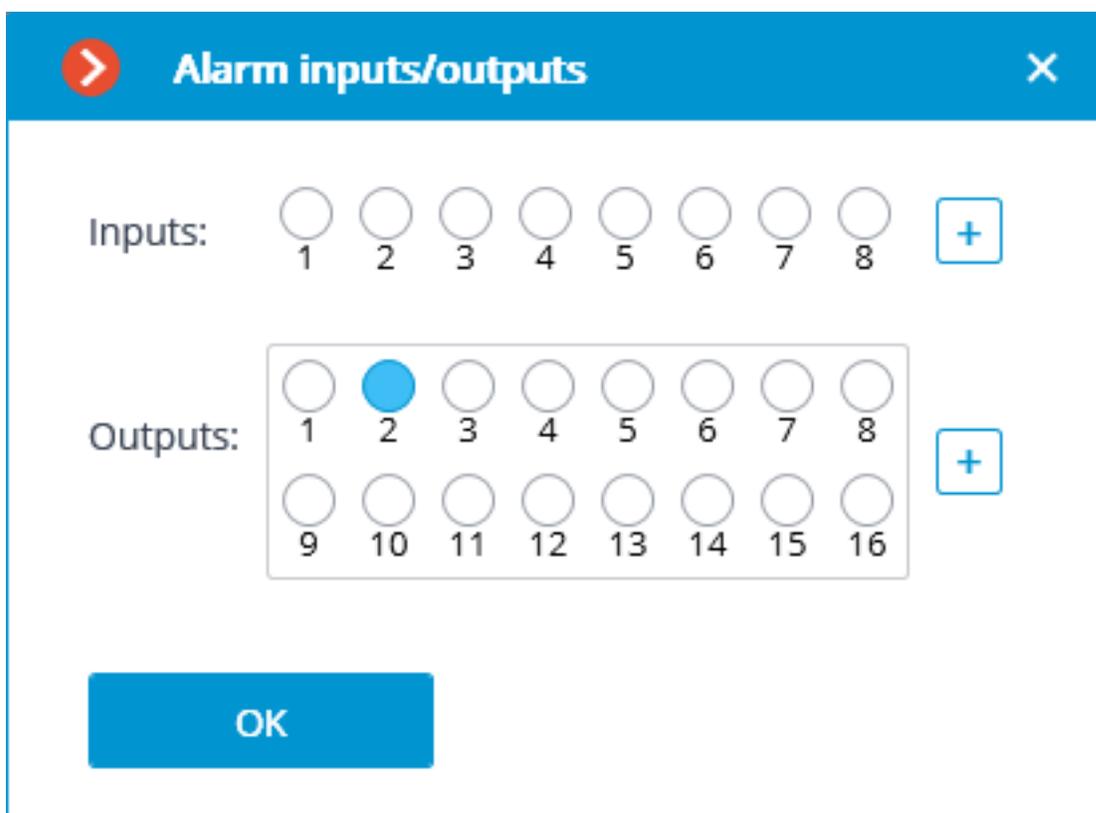


## Note

To automatically start or stop a tour, configure [automation script](#).

**Alarm inputs/outputs** enables signal recording from the inputs and sending signals to the camera outputs.

The **Test** link opens the camera inputs and outputs window. When signals are sent to the inputs, the corresponding indicators will be highlighted in the **Inputs** line. For sending signals to the inputs it is required to click on the corresponding indicator in the **Outputs** line. By default, 8 input and output indicators are displayed; to have more inputs or outputs displayed, press **[+]** located to the right of the corresponding indicator block.



**PTZ capabilities:** allows to select the display modes available for the particular model.

Note

If a position is selected in the **Model** field that corresponds not to a particular camera model but to a model range, the **PTZ capabilities** option will be available on the condition that the PTZ camera feature support is implemented for at least one model from the selected range. That is why the **PTZ capabilities** option is to be switched on only if the connected camera really is a PTZ one.

**Narrow bandwidth camera:** enabling this option will increase the time of waiting for the camera signal.

**Connection via server:** when this option is enabled, the video streams to the client workplaces will be transmitted through the server.

Note

Some cameras have a limitation of the quantity of simultaneous connections, or they lower the frame transmission frequency when several simultaneous connections are in place. Thus, the connection through server ensures only one connection to the camera for any quantity of the client workplaces.

### Warning

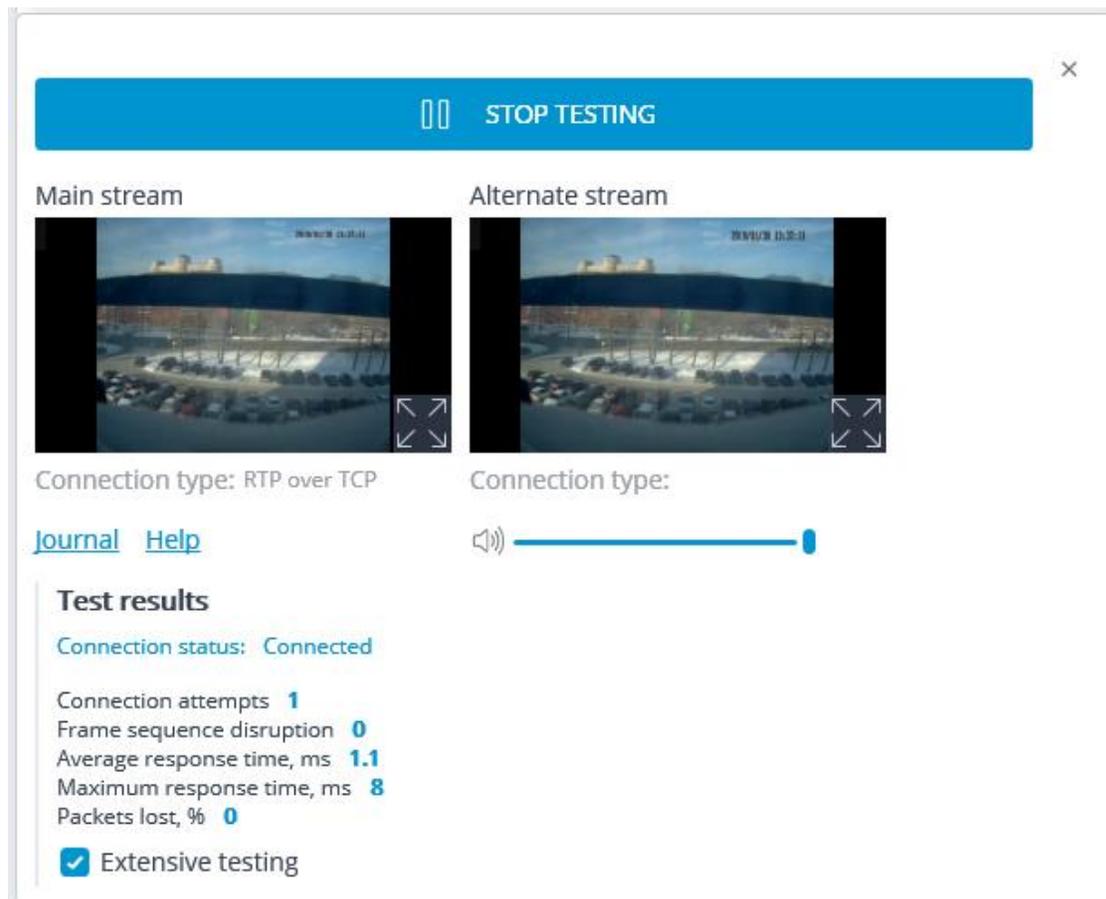
If this option is disabled, the **Eocortex Client** application will try to establish a connection with the camera according to the data specified in the channel settings. Receiving video streams may cause difficulties if the camera and the client workstation are located in different networks.

### Test camera

Pressing the **Test camera** button initiates an attempt to connect to the camera with the current parameters.



The connection status will be displayed in the test window. The test connection events are available in the log at the corresponding link.



## Camera connection features

The list of cameras supported by **Eocortex** grouped by their manufacturers can be found on [eocortex.com](http://eocortex.com), [Support / Supported Cameras](#) page.

### Note

Sometimes the cameras listed in the list of supported cameras cannot be connected. Most often this is since support has been implemented for other firmware versions of these cameras.

The adjustments of the connection of cameras to the **Eocortex** server is made via **Eocortex Configurator** application, on the  **Cameras / Connection** tab.

If a camera manufacturer is not present in the **Brand** dropdown list, it is recommended to do the following:

Click the  **Automatic search** button. If the camera appears in the [list of detected cameras](#) and **ONVIF** is available for it, it is required to mark the camera, enable the **Automatic setup** option and click the **Add device** button. The camera will be added to the list and automatically set up. If after doing the above the image from the camera is not received, enter the login and the password, and perform the setup manually.

### Note

For proper work of this function, **ONVIF Profile S** is preferred. It is also recommended to disable ONVIF authorization on the camera if the camera settings allow it.

If the camera has not been found by the automatic search, try to connect it using the standard protocols, selecting one of the standards in the **Brand** field (**Model** field will be filled in automatically).

- If the camera supports **ONVIF** or **PSIA** standards, it is required to manually indicate its address, login/password, select its manufacturer and set other parameters.
- If the camera supports **HTTP** connection for receiving **Motion JPEG**, or **RTSP / RTP** connection for receiving MJPEG, it is required to select **HTTP (MJPEG) device** or **RTSP/RTP device**, correspondingly, in the **Brand** field, and set a connection string in the **Address (IP address or URL)** field. The connection string depends on the camera model and is usually indicated in the documentation or on the manufacturer's web site. Login and password are set in the connection string or in the corresponding fields (depending on the connection method implemented in the model).

If the manufacturer of the camera is in the **Brand** dropdown list, but the camera model is not in the **Model** dropdown list, try to connect to the camera

using other models of the same manufacturer. For some manufacturers, the model ranges, series, or generations of cameras are indicated rather than camera models. For some manufacturers there is only one position in the list — that means that all the models use the same driver, or only a certain series/model of the manufacturer's devices is supported.

If the above connection method has failed, try to connect the camera choosing one of the standard protocols in the **Brand** field: **ONVIF**, **PSIA**, **HTTP (MJPEG) device** or **RTSP/RTP device**.

### *Using multiple streams*

The majority of modern IP cameras support broadcasting two or more video streams simultaneously. This permits to record frames to the archive in high quality and display lower quality video in client applications, significantly reducing the load on the hardware.

In the **Eocortex** terminology, the first stream broadcast by the camera is called the **main stream**, and the rest are **additional streams**.

When using multiple streams, the **Eocortex** server writes the main stream to the archive by default.

When displaying video from the camera broadcasting multiple streams in the client application, the stream with the resolution closest to the size of the window in which this stream will be shown is selected for displaying on the screen by default.

Using server and client settings, can to change the terms of use and display of streams.

When using a software motion detector, it is possible to choose which stream will be analyzed. If no other video analytics is used for the camera besides the software motion detector, it is recommended to use a lower resolution stream for analysis since this can significantly reduce the server load.

However, if other video analytics is used for the camera in addition to the software motion detector, in most cases it is recommended to use a high-resolution stream for analysis. This is primarily since low resolution may not be sufficient for analysis.

For analysis and for recording to the archive the same stream should be used, otherwise in the archive will be incorrect the coordinates of the objects detected by video analytics.

### *Settings on camera*

Even though the **Eocortex** can work with one or multiple streams from cameras of any resolution, it should be borne in mind that the load on the **Eocortex** server largely depends on the parameters of the streams

received from the cameras. It is also important to consider the specifics of setting up and functioning of **Eocortex** applications.

For most cameras, the parameters of the broadcast video and audio streams should be set on the camera itself, using the camera's web interface. An exception is made for certain brands and models of cameras, for which the parameters of video streams can be set in the **Eocortex Configurator** application.

The list of terms that can be found in camera settings can be found below.

- Stream
- Codec
- Compression
- Resolution
- Frame rate
- Profile
- Bitrate
- Bitrate type
- GOV

## Stream

Note

Possible names of the option: Stream, Channel

**Stream** means the video data transmission channel from the camera.

**Eocortex** supports receiving up to four streams from one source at the same time, in the camera settings these streams can be identified as:

- First, Main
- Second, Sub, Additional, Additional 1, Alternative, Alternative 1
- Third, Additional 2, Alternative 2
- Fourth, Additional 3, Alternative 3

For most devices, the **Stream** option is used to enable and select a channel to configure other broadcast settings.

## Codec

Note

Possible names of the option: Codec, Format, Video format, Compression format, Coding format, Encoding mode

**Codec** means a compression and decoding algorithm used to reduce the amount of data to be transmitted and stored.

**Eocortex** supports the following codecs:

- **MJPEG** (Motion JPEG) — the standard with the lowest compression rate among the supported ones. The stream is composed of a series of JPEG images containing the full frames of the scene. Compared to other standards, it has the lowest demands on the resources of the decoding device, while at the same time requiring the largest channel width and disk space for storing the archive.
- **MPEG-4** (MPEG-4 Part 2) — the standard that provides a moderate compression rate, i.e. for the same image quality the channel width and archive size will be much smaller than that of **MJPEG**, while the resource consumption during decoding will increase insignificantly. The stream is composed of the reference frames (I-frames), containing full image of the scene, separated by a sequence of intermediate frames (P- and B-frames), containing only the moving part of the frame and object motion compensation data for predicting future frames. The prediction method causes moving objects to be visually blurred when viewed in slow motion and on pause. Modern cameras rarely use **MPEG-4** — instead, they use the more advanced **H.264**.
- **H.264** (MPEG-4 Part 10, AVC) — the standard that can be called as a successor of **MPEG-4**. With improved stream conditioning and next-frame prediction algorithms, it provides higher compression ratio and better quality of intermediate frames than its predecessor. This reduces the amount of transmitted and stored data of the same image quality by increasing resource consumption during processing compared to **MPEG-4**.
- **H.265** (HEVC) — the standard that can be called as a successor of **H.264**. Because of its more efficient encoding algorithms compared to its predecessor, it provides an even greater reduction in the amount of transmitted and stored data at the cost of increased resource consumption during data processing compared to **H.264**.
- **MxPEG** — proprietary standard developed and applied by Mobotix. It is a sort of combination of **MJPEG** and **H.264** standards: each frame of the stream is an independent frame, but only part of the frames contains the full image of the scene, while most of the frames contain only the changed fragments. This approach reduces motion blur on fragmented frames, while the resource requirements for transmission, storage and stream processing are in between of **MJPEG** and **H.264**.

- **H.264+, H.265+, WiseStream, Zipstream, Smart Stream** — standards that are enhanced versions of **H.264** and **H.265** with improvements to various algorithms of the original codecs. Most often presented in the camera interface as an option of the original codec, rather than a standalone codec. They allow to reduce the bitrate without a noticeable loss of quality, reducing the load on the network and decreasing the size of the archive. The higher compression rate compared to the original codecs also implies higher resource requirements for decoding.

Note

Requirements and limitations of extended codec versions usage:

Note

Limitations have an impact when the GOV is greater than 350

- Periodic lags may occur when viewing the archive.
- When the number of cameras with a high GOV value is large, a lot of video data is kept in RAM. This can lead to high CPU resource consumption.
- Lags may occur when positioning in the archive.
- When viewing live video, the **Waiting** message before playback starts may be displayed longer than usual. This happens when the **Connect via server** option is enabled in the camera settings. If this option is disabled, the **Eocortex Client** application connects directly to the camera and the video is displayed almost without delay.
- The higher the GOV value and the lower the frame rate, the more the archive is being decimated. In some cases, applying the second decimation stage is pointless.
- When playing back a camera archive recorded with a high GOV value, it is necessary to have the **Use advanced codec version** option enabled in the additional stream settings even if the camera is currently set to a low GOV.

Note

The higher compression of the video, the smaller the amount of data to be transmitted and stored, but the greater the resource consumption for video decoding when playing back and processing with video analytics modules.

## Compression

Note

Possible names of the option: Compression, Compression level, Quality, Quality level

All supported video formats provide the ability to adjust the balance between the quality of the frame and its bit rate. This setting can be represented in a camera settings as one of the following options:

- **Compression rate** — the parameter that determines the degree of detail reduction of the frame.
- **Quality level** — the opposite parameter to the compression rate, determining the remaining details of the frame.

The parameter values can be specified as a percentage of the source image (e.g., Quality=90%) or as levels predefined by the camera manufacturer (e.g., in the range from 0 to 12).

Both parameters are responsible for reducing the detail of the frame, the difference is in the method of applying the selected value: while the **Compression rate** indicates how much the detail is to be reduced, **Quality level** indicates how much the detail is to be preserved. For example, setting **Compression=30%** is the same as setting **Quality=70%**.

Depending on video surveillance conditions and camera hardware features, an acceptable compression level can be from 30 to 60%, although options from 0 (minimum compression) to 70% (high compression) are possible. The real compression rate should be set based on the visual evaluation of the resulting image quality.

## Resolution

Note

Possible names of the option: Resolution, Image size, Image quality

**Resolution** — the parameter that determines the detail of the frame by specifying the number of color dots (pixels) that form the image. Depending on the camera model, this setting can be expressed as a direct comparison of the number of dots in the horizontal and vertical direction (1920x1080), the absolute number of dots in the image (2 Mpix) or as a standard name (FullHD).

The higher the resolution, the greater the detail in the frame and the higher the resource consumption in transmitting, storing, and processing it.

Note

**Eocortex** has no limitations on this parameter except those imposed by the standard itself. However, a low resolution can make it impossible for video analytics modules to analyze the frame, while a high resolution may result in increased resource consumption when decoding an overly detailed frame.

## Frame rate

### Note

Possible names of the option: Frame Rate, Frame frequency, Frames per second, FPS

**Frame Rate** — the parameter indicating the number of frames per one second of video.

The higher the value of this parameter, the smoother the motion in the video, but the higher the resource consumption in transmission, storage, and processing.

### Note

**Eocortex** has no limitations on this parameter except those imposed by the standard itself. However, a low frame rate can cause lags when playing video and make it impossible for video analytics modules to analyze the stream.

## Profile

### Note

This option is mostly available only for the H.264 codec

### Note

Possible names of the option: Profile

**Profile** — a set of settings and restrictions in the codec algorithms application, providing compatibility of stream compression and decoding on different devices. The selected profile also determines the initial video compression rate, which determines resource consumption during transmission and decoding.

**Eocortex** supports the following profiles:

- **Baseline** (BP) — profile that assumes minimum video compression. Compared to other profiles, it provides the lowest resource consumption during decoding at the expense of increasing the amount of data for transmission and storage.
- **Main** (MP) — profile that assumes a balance between resource consumption in decoding, transmitting, and storing data.
- **High** (HP) — profile that assumes maximum video compression. Compared to other profiles, it provides the lowest load on the network and storage disks at the expense of increased resource consumption during decoding.

## Bitrate

### Note

This option is mostly available only for the H.264 codec

Note

Possible names of the option: Bitrate

**Bitrate** — the parameter that defines the amount of information transmitted by the camera per unit of time. Measured in bits per second (bits/c, bps), as well as derived values with kilo- (kbit/s, kbps), mega- (Mbit/s, Mbps), and similar prefixes.

Note

**Eocortex** has no limitations on this parameter except those imposed by the standard itself. However, a low bitrate value can cause a significant degradation of image quality, especially in a high activity scene.

Bitrate type

Note

This option is mostly available only for the H.264 codec

Note

Possible names of the option: Bitrate type

**Bitrate Type** — the parameter that determines how to control the amount of data transmitted.

- **Variable Bit Rate** (VBR) — type of bitrate with a dynamic amount of transmitted data. It provides the specified parameters of the video stream, while the used channel width can vary. This mode is recommended to use in most cases, if there are no problems with network bandwidth.
- **Constant Bit Rate** (CBR) — type of bitrate with a static amount of transmitted data. It provides a specified channel width, at the same time, depending on the implementation in the given camera model, some parameters of the video stream can be changed and, as a result, the quality of the image may be reduced. This mode is recommended for use only when there are problems with network bandwidth.

GOV

Note

This option is mostly available only for the H.264 codec

Note

Possible names of the option: GOP, GOV, Group of Pictures, Group of Video, Group of VOP, I-frame

**GOV** — the parameter that defines the length of the group of frames (the distance between the reference frames).

For example, with a GOV of 50, there will be one reference frame for every 50 frames transmitted (i.e., there will be 49 intermediate frames between the nearest reference frames); with a GOV of 25fps and a GOV of 50, there will be one reference frame every 2 seconds. The higher the GOV, the smaller the video stream bitrate, but the greater the memory and CPU consumption. The reason is that to decode each subsequent frame, the reference frame and all subsequent intermediate frames must be stored in memory until the next reference frame.

Note

**Eocortex** has no limitations on this parameter except those imposed by the standard itself. However, a high GOV value may cause video playback lags and inability to analyze the stream by analytics modules, while a low GOV value will increase the load on the network and the archive. For example, with a GOV of 1, **H.264** is no different than **MJPEG**.

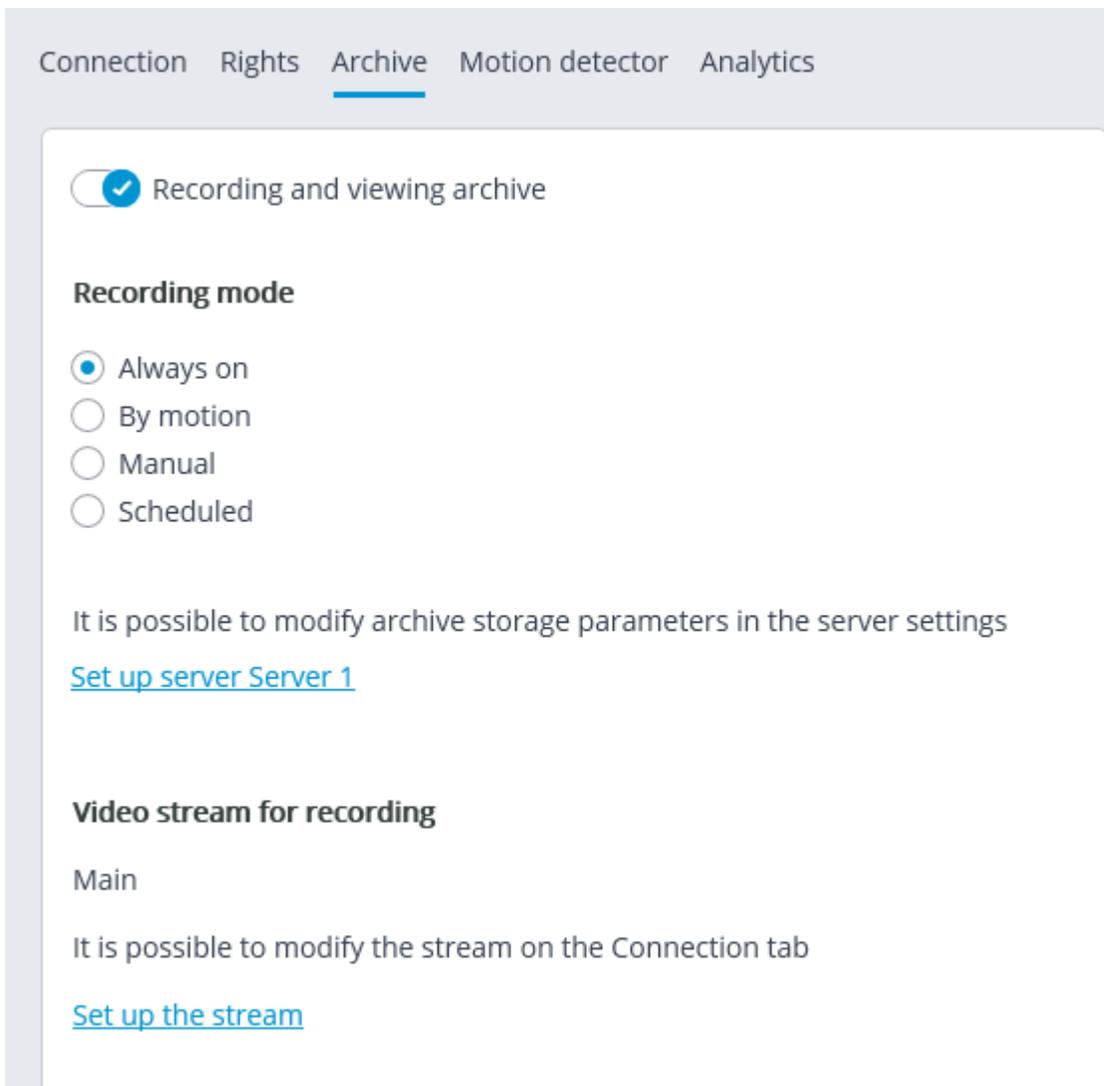
## Access rights settings

The **Rights** tab allows to set up camera access rights (see also [Users of Eocortex applications](#)).

	Surveillance	Archive	Configuring	Archive viewing depth
All groups of users	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Administrators	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1 <input type="text"/> min <input type="button" value="v"/>
Operators	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	1 <input type="text"/> min <input type="button" value="v"/>

## Setting up the archive

On the **Archive** tab you can set up the parameters of writing camera audio and video to archive as well as the parameters of interaction with the archive located on camera.



Below you will find a description of controls located on the tab.

**Recording and viewing archive:** enables recording the video and audio from a camera to archive. **Recording and viewing archive:** enables recording the video and audio from a camera to archive.

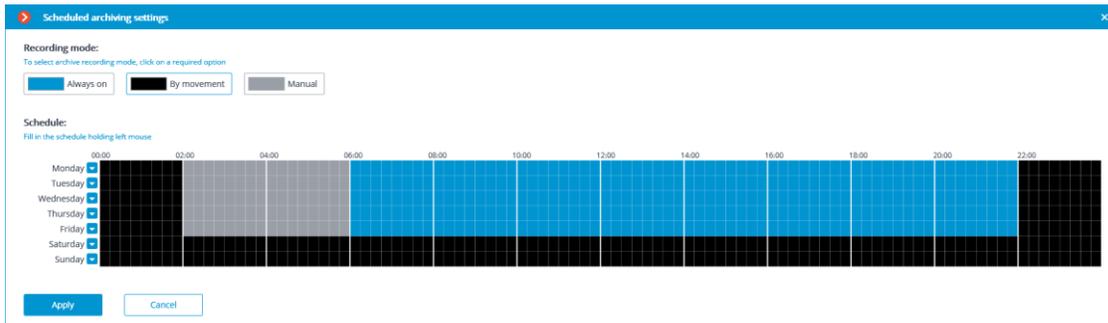
**Recording mode:** allows to select one of the modes explained below.

**Recording mode:** allows to select one of the modes explained below.

- **Always on:** continuous recording to archive is performed.
- **By motion:** recording to archive is performed only when motion is detected in the frame (also when a set sound level is exceeded in case a sound detector is enabled). Moreover, the operator can start the recording to archive forcibly even if there is no motion in the frame.
- **Manual:** enabling and disabling recording to archive is done by the operator only.

- **Scheduled:** allows to flexibly set up modes of recording to archive.

**Set schedule:** opens the schedule. **Set schedule:** opens the schedule.



In the Schedule window, select one of the modes by clicking the corresponding rectangle in the upper part of the window. Then by holding left mouse button select the periods when the chosen mode will be active. The corresponding periods will be colored accordingly.

#### Note

For setting a mode for the whole day you can select it in the dropdown list located to the right of the day of the week.

**Video stream for recording:** allows to choose which stream will be recorded to archive. This setting is available only when receiving two streams from camera is enabled.

### Additional

Recording only key frames to archive ⓘ

Record speed, frames/sec

Sound recording



Recorded archive fragments will contain:

- 1 seconds before event start;
- the whole period of time during which the event was being recorded
- 1 seconds after the event has ended.

### Archive storage time

Minimum value, day

Maximum value, day

### Archive on device

Usage of archive on data storage card

Synchronizing with main archive

**Recording only key frames to archive:** when this option is enabled for MPEG-4, H.264 and H.265 codecs, only the key frames will be recorded, but for MJPEG codec the required frame rate is stated in the **Record speed** field.

Note

If for MJPEG codec the frame rate of the camera is lower than the one stated in the **Record speed** field, all frames will be recorded to archive.

Note

For MJPEG codec, **Recording speed limitation** option is shown.

## Additional

Recording speed limitation ⓘ

Record speed, frames/sec

### Warning

Since the sound is not decimated during the recording to archive, it will be available only for the archive recorded without recording speed limitation.

### Note

Recording speed limitation influences the quality of video playback from archive and the archive volume: the decimated video recording played back from the archive will be less smooth, but the archive drive space will be saved.

### Note

Sometimes there appears a necessity to enable recording without speed limitation only during a specific period of time or as a response to a specific event, and record a decimated video at all other times. In this case, it is required to set up the **Scheduled tasks** or **Tasks by event** using **Disable frame skipping when recording to the archive**.

**Sound recording:** enables recording sound to archive. **Sound recording:** enables recording sound to archive.

### Warning

In order to have sound recorded to archive, enable **Sound recording** on the **Connection** tab.

**Prerecording** and **Post recording:** using these sliders, you can set short periods of time during which the recording to archive will be performed before the start of the event that triggers the recording and after the start of the event that triggers stops the recording, accordingly. For example, **Prerecording** is performed when movement or exceeding of a preset sound level is detected, and **Post recording** is made after the motion has stopped and the sound level drops below the preset level.

**Archive storage time:** in this group of settings you can set minimum and maximum archive storage time. **Archive storage time:** in this group of settings you can set minimum and maximum archive storage time.

## Note

Generally, the minimum and maximum set archive storage time for each camera assigned to server is analyzed, and an attempt is made to provide for the limitations indicated in the settings. In case it turns out to be impossible, the older recordings from all the cameras will be erased to make room for the archive.

**Usage of archive on data storage card:** enables access of **Eocortex** applications to the data storage card on the camera.

**Synchronizing with main archive:** if this option is enabled, the archive from camera will be downloaded to **Eocortex** server, but only of those periods when no connection with camera was available or the server was down.

## Warning

The archive for a required period may be absent on the camera's memory card. It happens, for example, when there is no motion, if a motion detector on the camera is used for recording. In this case the archive on the server will be empty.

For **ULTRA** and **Enterprise** licenses, the Archive Decimation with Time Setting feature is available, which allows you to reduce the size of the archive after a specified interval.

The archive decimation operation can be executed in one or two stages: for example, recording is performed with an original frequency of 30 fps; in 7 days it is resampled down to 5 fps; and in 30 days — down to 0.5 fps (1 frame per 2 seconds).

## Warning

If the archive decimation is configured in the system and there is not enough disk space for storing the undecimated archive, the decimation process will start. The values of the archive decimation settings will be used as the archive storage time. This setting can be disabled by turning off archive thinning.

### Archive storage time

Storage time of undecimated archive, days

First stage of decimation

Recording frequency, fps

Storage time, days  ⓘ

Second stage of decimation

Recording frequency, fps

Storage time, days  ⓘ

#### Warning

When enabling archive decimation with time setting, all the archived recordings whose depth exceeds the depth of the undecimated archive specified in the settings will be deleted. The same will happen when the depth of the undecimated archive is modified.

E.g.: initially, the archive decimation with time setting is disabled; the specified maximum time of archive storage is 180 days.

If the first decimation stage is enabled and the time of storage of the undecimated archive is set to 30 days, the archive with the depth of more than 30 days will be deleted at the moment the settings are applied.

If subsequently the depth of the undecimated archive is set to 7 days, the archive with the depth of more than 7 days will be deleted at the moment the settings are applied.

#### Note

For the MPEG-4, H.264 and H.265 codecs, only the reference frames will be recorded.

In case of playback of the archive in **Ecocortex Client**, archive fragments, which have been decimated with time, will be displayed by the shaded area on the timeline.

## Motion detector setup

Motion detector parameters can be set up on the **Motion detector** tab.

Connection Rights Archive Motion detector Analytics Camera analytics

**Video stream for analysis**

Main

It is possible to modify the stream on the Connection tab

[Set up the stream](#)

Motion detector

**Detector type**

Eocortex

On camera

[Checking](#)

[Set up zones and sizes](#)

Enable motion start/end events

**Detection frequency** ⓘ

Optimal frequency ⓘ

Only by key frames

Constant frequency

Below is the description of controls located on the tab.

**Motion detector:** enables motion detector support. **Motion detector:** enables motion detector support.

**Detector type:** determines which motion detector will be used: **Detector type:** determines which motion detector will be used:

- **Eocortex:** software motion detector on **Eocortex** server.
- **On camera:** camera inbuilt motion detector.

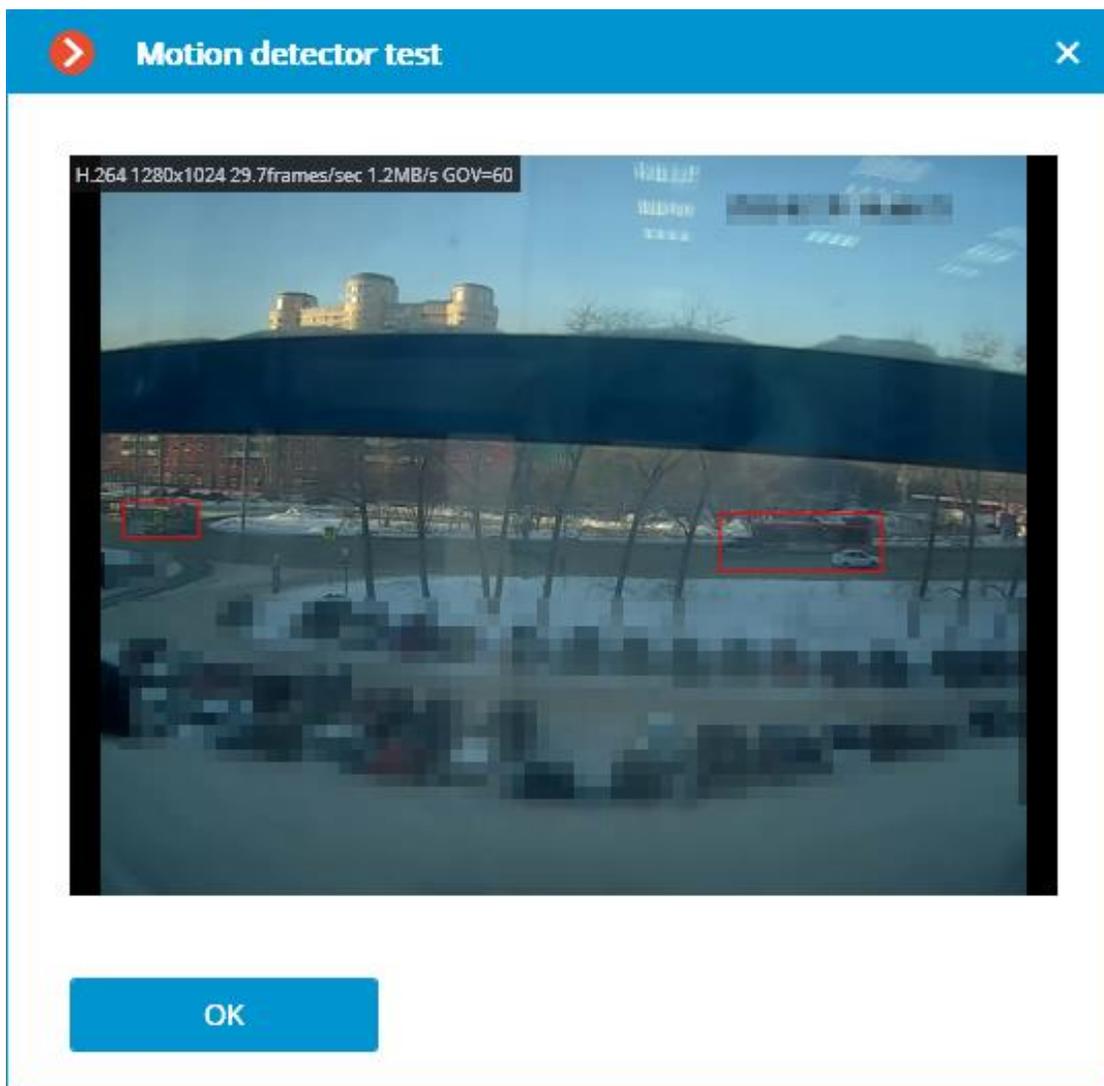
Warning

To use the motion detector built into the camera, it is necessary that the motion detector is existing on the camera and the **Eocortex** supports it.

Warning

When using the motion detector built into the camera, the **Eocortex** video analytics becomes unavailable.

The **Test** link opens the window of motion detector check.



**Video stream for analysis:** determines which stream will be used for software motion detection on **Eocortex** server.

Note

Recommendations for choosing a stream for analysis, on a condition that the main stream has higher resolution than the alternative one; for example, the resolution of the main one is 1920x1080, the alternative — 640x480:

**Alternative:** no intelligent modules are used apart from the **Eocortex** software detector.

**Main:** at least one additional video analytics module, including the external ones, is used in addition to the **Eocortex** software detector.

The **Set up zones and sizes** link will open the window of setting up detection zones and minimum sizes of the objects to be detected.

**Zones and sizes** [Close]

**Zones**

Zone 1

[Add zone](#)

Size Zone

Real time Archive

Camera 3, 25.03.2022 13:00:15.433

12:40 | 12:50 | 13:00 | 13:10 | 13:20

Select object minimum size

**Zones and sizes** [Close]

**Zones**

Zone 1

[Add zone](#)

Size Zone

**Zone mask setting**

Brush size:

MJPEG 768x576 06.3frames/sec 16.4Mbit/s

[Fill](#) [Clear](#)

Left mouse button - draw a zone, right mouse button - erase zone

**Generate motion start/end events:** enables generation of the corresponding events, for example, for using them in scenarios.

**Detection frequency:** determines the frequency of video stream analysis for detecting motion in the frame:

- **Optimal frequency:** video stream analysis and motion detection will be performed with the frequency set automatically in accordance with the following rules:
  - If at least one video analysis module is enabled on the camera, the analysis will be performed with the frequency of 10 fps;
  - If no video analysis module is enabled on the camera, the analysis will be performed with the frequency of 5 fps for MJPEG, and for H.264, H.265 and MPEG-4 the frequency will be chosen automatically within the range of 0.4 – 5 fps.
- **Only by key frames:** only the key frames will be analyzed for H.264, H.265 and MPEG-4 codecs.
- **Constant frequency:** the analysis will be performed with the set frequency.

#### *Motion detector setup recommendations*

The software motion detector analyzes the video stream received from the camera and, in case of detecting motion, generates the corresponding system event, based on which, for example, a recording to archive is started.

The motion detector consumes certain system resources of the server: loads up the processor, uses the RAM memory. At that, it can be estimated that the consumption of system resources is proportional to the resolution and frame rate. For example, for a video stream with a resolution of 1920x1080 with the use of motion detector, the processor load is approximately 6 times higher than for the 640x480 video stream. Likewise, when the analysis is performed with the frequency of 25 fps, the consumption of system resources is 4 times higher than when the analysis is performed with the frequency of 6 fps.

At the same time, triggering the recording by the motion detector allows to reduce the archive volume because the recording is performed only when there is motion in the frame.

To avoid the situation when the software motion detector is triggered by such insignificant movements as those of leaves, birds etc. it is possible to set it up for detecting the movement of the objects bigger than the preset size.

#### Note

The software motion detector must be enabled on the following analysis modules:

- **Sabotage Detection;**
- **Loud sound detection;**
- **Auto zoom;**
- **Tracking;**
- **Search for Objects;**
- **People Counting;**
- **Crowd monitoring;**
- **Face detection;**
- **Traffic density heat map;**
- **Personnel Activity Monitoring;**
- **Uniform Detection;**
- **Shelf Fullness Check;**
- **License Plate Recognition (Complete);**
- **License Plate Recognition (Light).**

Many cameras have their own, inbuilt motion detectors (in **Eocortex** terms — Camera motion detector). When the camera motion detector is used, the system resources of the server are practically not consumed.

If it is planned for the camera to perform continuous recording to archive, and it is not planned to use video analytics modules, the use of the software motion detector is not recommended. Instead, it is sufficient to select the mode of continuous recording to archive. Such situation is possible when, for example, there is motion that happens 24/7: during the continuous manufacturing process, at a large railway station etc.

If the camera is equipped with the inbuilt motion detector, and it is not planned to use video analysis modules, it is recommended to enable the camera motion detector. It allows to lower the server load and reduce disk space usage at the same time.

That said, in some situations it is preferable to use software motion detector, for example, when there are many cameras of the same type and when setting up a motion detector on each camera would be too time-consuming. In such a case it is easier and faster to enable the software motion detector for a group of cameras, or set up one camera and copy its settings many times, changing only the network address.

In **Eocortex**, it is also possible to set up the combined mode of recording to archive (in **Eocortex** terms, the **Scheduled mode**). For example, there is constant movement at the entrance of a shopping mall from 10:00 to 22:00, but at other times there should be no movement. In such a case, it is possible to set up the recording as follows: from 10:00 to 22:00 — continuous recording (this will reduce server load); from 22:00 to 10:00 — motion detection-triggered recording (this will save disk space).

By default, the frequency of checking video stream for the presence of motion in the frame, which is called detection frequency, does not match the frame rate of the video stream: most of the time, the detection frequency is lower than the video stream frame rate. It is done to reduce the consumption of resources by **Eocortex** server. This mode is called detection with optimal frequency.

At the same time, it is possible to set constant detection frequency in the software motion detector settings in the **Eocortex Configurator** application. It is advisable to use this mode when the optimal detection frequency is a priori lower or higher than the one required and sufficient for analysis, or when it is necessary to set the fixed frequency for H.264, H.265 or MPEG-4 formats. The analysis frequencies recommended for a particular video analytics module are stated in the documentation for each module.

#### Note

When multiple streams from a camera are used, the motion is by default detected on the first additional stream.

At the same time, in the software motion detector settings of **Eocortex Configurator** application it is possible to select which stream will be used for analysis on the camera.

If no other video analytics modules are used except for the software motion detector, it is recommended to use lower resolution stream for detection because it allows to decrease server load significantly.

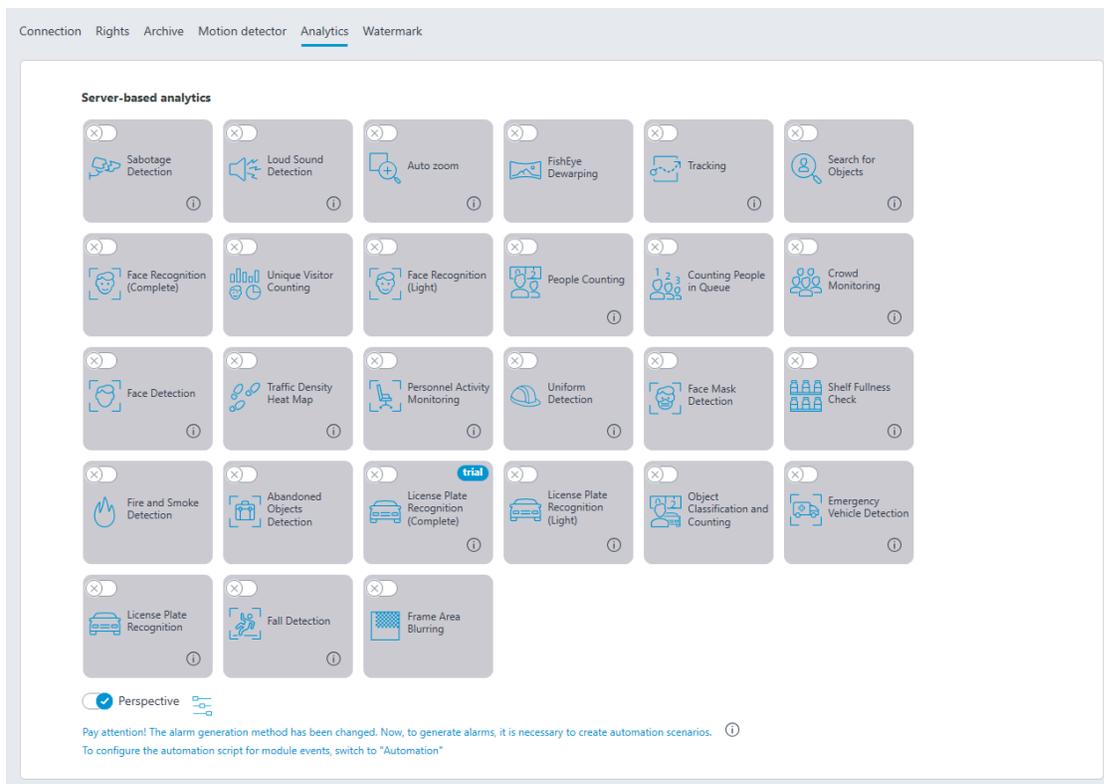
#### *Requirements and recommendations*

##### Determination of objects

- The size of the object must be at least (width x height): 16 x 16 pixels.
- The minimum possible contrast of the object is calculated using the following formula:  $(x * 1.5 + 12) * 0.7 = \text{contrast}$ . Where **x** is amplitude of brightness fluctuations due to noise.

#### **Video analytics setup**

On the **Analytics** tab the video analysis modules are set up.



On this tab, the settings of all the existing **Eocortex** video analysis modules are displayed, regardless of the presence of licenses for particular modules on the present server.

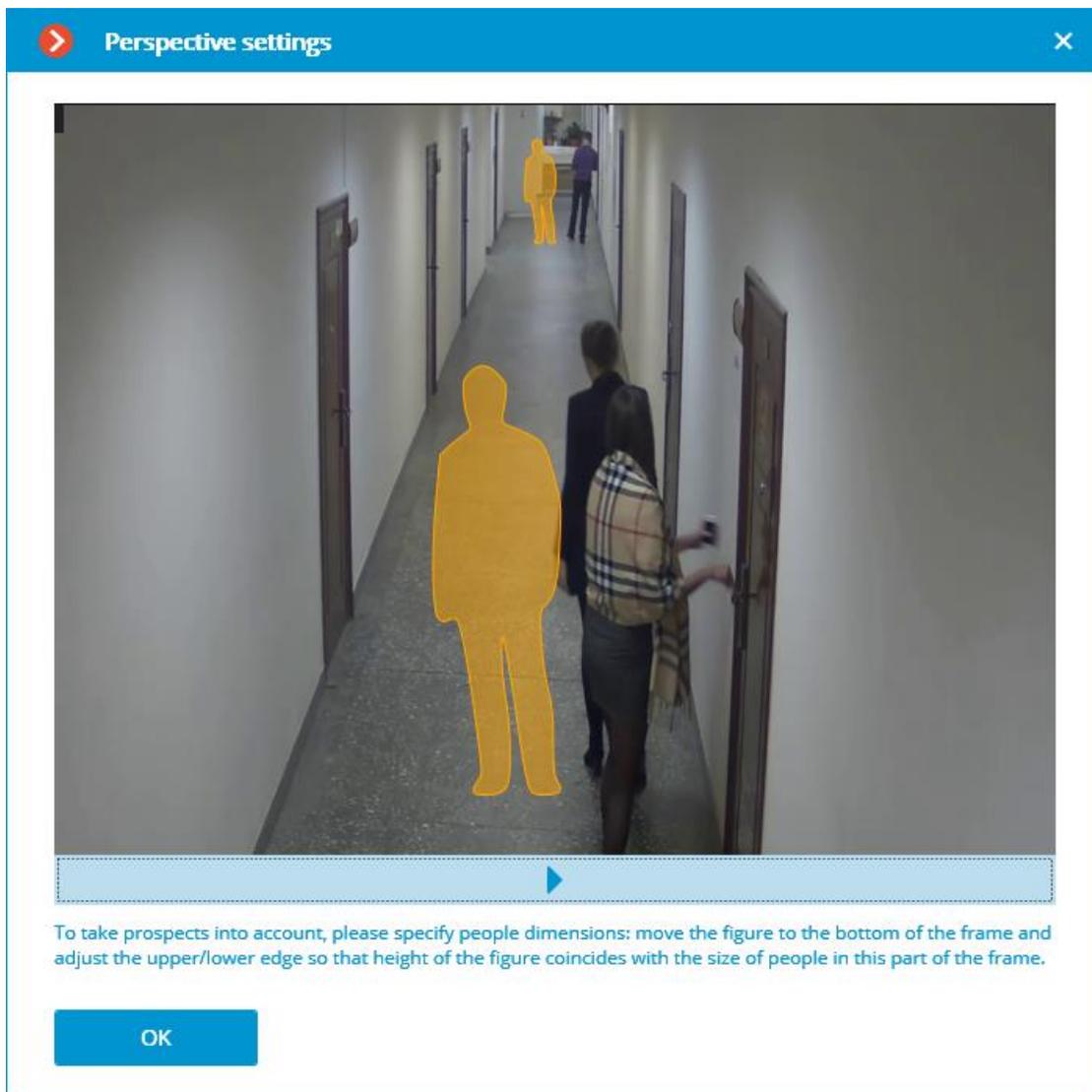
For enabling or disabling a video analytics module that analyzes the video stream set in the settings of the motion detector it is required to enable  or disable  the corresponding switch.

By the press of the  button the hint appears stating which capabilities must be enabled or disabled for activation and proper functioning of the module.

If the module is on, then by the press of the button  the module settings window is opened. The  button resets the settings to the default values. If these buttons are not displayed, the module requires no additional adjustment.

The settings of each module are described in the [Video analytics](#) section.

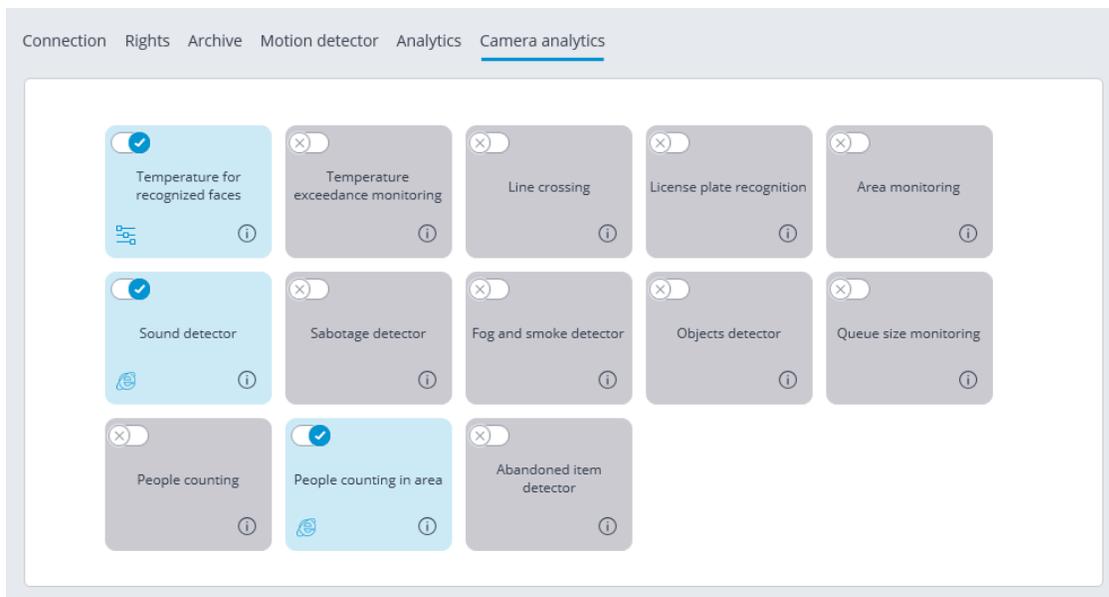
For the operation of some video analysis modules it is required to enable and set up the perspective first. The button  located to the right of the **Perspective** switch opens the perspective settings window.



The perspective can be set using two scale forms  which are dragged with the mouse to the corresponding area of the frame and adjusted in a way that the height of the form matches the height of the persons in the given area of the frame. In order to change the size of the form it is necessary to click on the upper or lower edge of the form and, holding the mouse button, move the pointer up or down.

### Camera analytics

The video analytics built into a camera can be set up on the **Camera analytics** tab.



This tab contains blocks of settings of all the video analytics built into the camera that is available in **Eocortex**.

The video analytics can be enabled using the  switch.

The  button opens the prompt for video analytics.

If the analytics must be configured in the **Eocortex Configurator** application, the settings window of this video analytics can be opened upon clicking the  button.

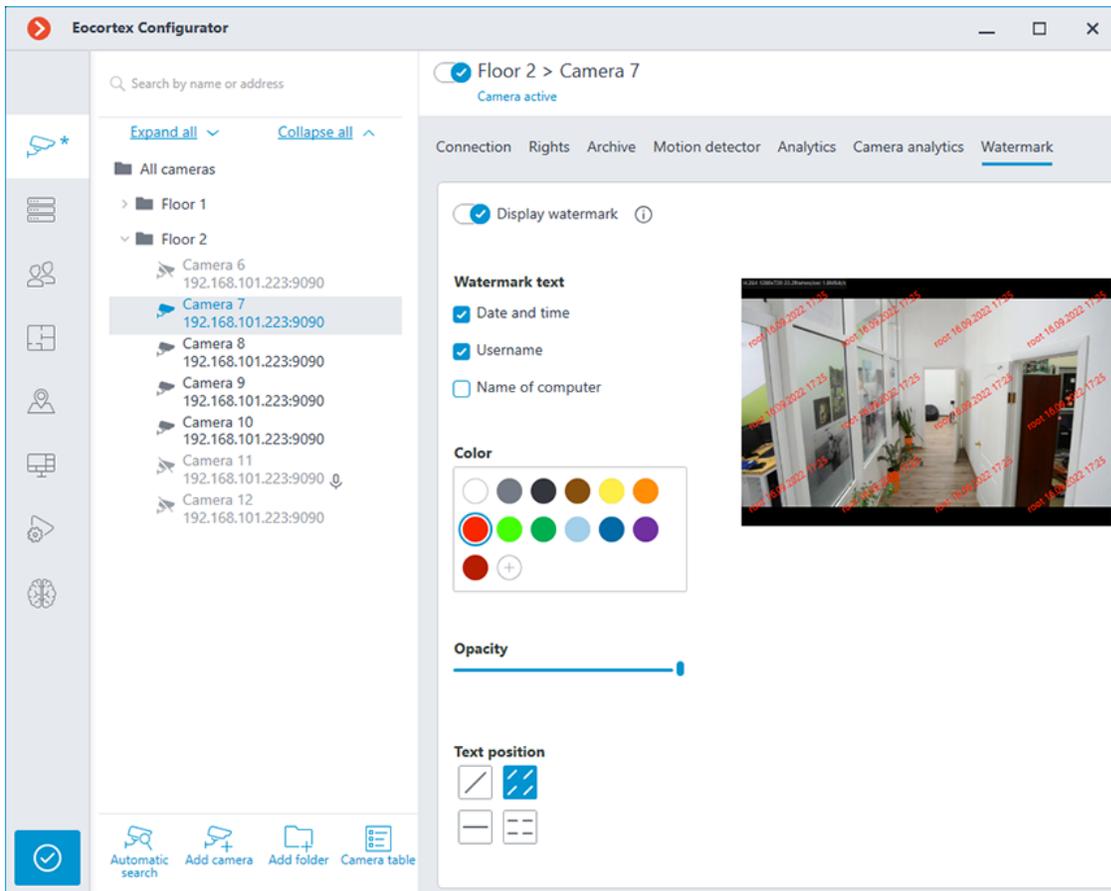
If the analytics must be set up directly on the camera, the camera's web interface can be opened by clicking the  button.

Settings and requirements:

[Temperature for recognized faces](#)

## **Watermark**

The **Watermark** contains the settings of displaying watermarks on video in a camera cell.



## Modifying camera groups

To facilitate the setup of many cameras with similar parameters there exists a possibility to set the parameters for all the cameras at once, or for the cameras contained in the same folder, including its subfolders and the cameras and folders in it.

To set the parameters of a group of channels, select the corresponding folder and press **Change camera group settings** button.

Search by camera name or IP

[Expand all](#) [Collapse all](#)

All cameras

- Object 1
  - Group 1.1
    - Camera 1  
192.168.100.134
    - Camera 2  
192.168.100.94
    - Camera 3  
192.168.100.250
    - Camera 4  
192.168.100.45
  - Group 1.2
- Object 2
- Object 3
  - Camera 21  
192.168.100.211

Automatic search   Add camera   Add folder   Camera table

## Object 1

### Folder information

Camera group info in folder:

Cameras	8
Enabled	8
Alternate stream	8
Archive	8
Device archive	1
Motion detector	2
Indexing of moving objects by features	1

[Change camera group settings](#)

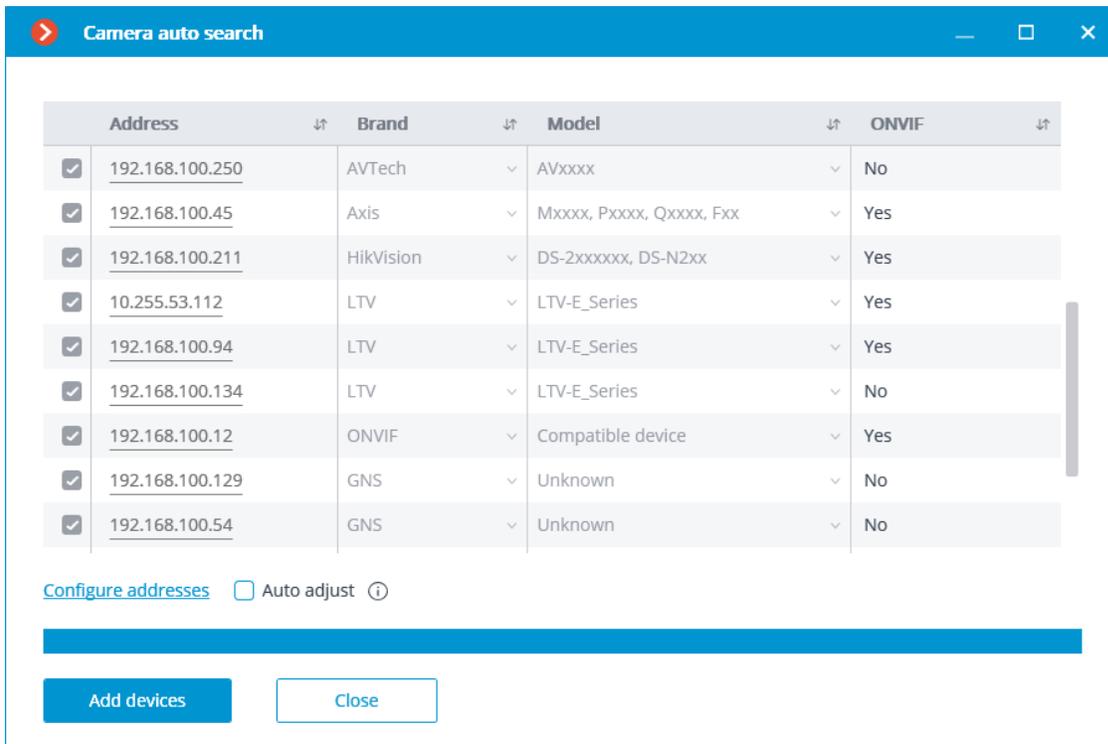
Set the required parameters similar to those of an individual camera in the opened editing window and click the **Apply** button.

The screenshot shows a software window titled "Camera group editing" with a close button in the top right corner. Below the title bar, there is a header area with a pencil icon and the text "Object 1" and "Cameras being edited: 8". A navigation bar contains tabs for "Connection", "Rights", "Archive", and "Motion detector", with "Connection" being the active tab. An information icon (i) is followed by a warning message: "The settings will be changed for all cameras in the folder. Only explicitly made settings will be modified; at that, only settings supported by the specific camera will be changed." Below this, the "Authorization" section has input fields for "Username" and "Password" (with a visibility toggle). The "Servers" section has dropdown menus for "Main server" (set to "Server 1") and "Backup server". A red note below says "Will be applied for camera 8". The "Video streams" section has a dropdown for "Main stream video format" (set to "H264") and another for "Alternative stream video format" (set to "MIPEG"). A red note below says "Will be applied for camera 8". At the bottom, there are "Apply" and "Cancel" buttons.

To come into effect, the changes need to be applied.

## Automatic search and connection of cameras

For automatic searching for cameras in the local network and for adding them to the system it is required to press the  **Automatic search** button; after that, in the **Camera auto search** window, mark the cameras to be added and press the **Add devices** button.



In order to return to the main window of **Eocortex Configurator** press the **Close** button.

#### Note

Not all of the cameras support features that allow to automatically locate them in the local network.

#### Warning

After automatically adding the cameras, in many cases it is necessary to manually enter the login and password of the camera administrator and select the video format in data stream settings.

#### Warning

In the course of the automatic adding, some cameras are defined as the cameras of other manufacturers or other models. In such a case it may be required to manually select the corresponding make or model after adding the cameras.

#### Warning

**Configure addresses** link opens the window of setting up the IP addresses of the cameras, which allows to modify the IP address from **Eocortex Configurator** without having to open the web interface of the camera. This feature is available for certain camera models only.

#### Warning

The **Automatic setup** option permits to automate the process of setting up channels, if the devices support the **ONVIF** standard (preferably, **ONVIF Profile S**). For the correct operation of this feature, it is recommended to disable the **ONVIF authorization** on the device, if it is provided in the camera's settings.

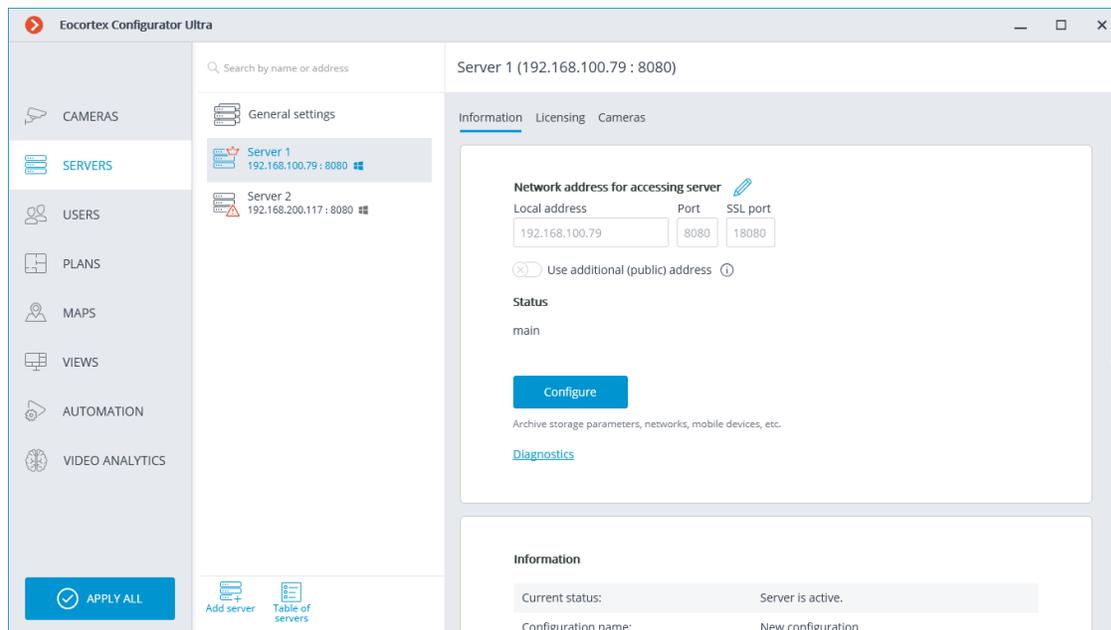
Note

When using the automatic channel setup by **ONVIF**, do the following:

- If two streams are enabled on the camera, enable **Use two streams** option;
- If the camera supports PTZ, enable **PTZ camera** option;
- If the camera supports sound reception, enable **Sound reception** option.

## Servers

For setting up servers in the **Eocortex Configurator** application, go to the **Servers** tab 



The list of servers is shown in the left part of the **Servers** tab . At the top of this list, the search field that allows to find the server by name or IP address is available above. To the right of the list you can find the page with the tabs of settings related to the position selected in the list. Moreover, some settings for the selected position are called from the context menu.

The list of servers contains the records of three types marked by the corresponding icons:

-  **Main settings** contain the following settings tabs:
  - [Centralized server update](#): Server update settings.
  - [Eocortex services](#): connection and operation settings for [Eocortex System Monitoring](#), [Episode archive](#), and [Long-term database services](#).
  - [Distribution of cameras among servers](#): Settings of camera distribution among servers.
  - [Archive bookmark category setup](#): Setting of archive bookmarks' categories.
  - [General settings: Network settings](#): Adjusting multicasting and interaction between servers.
  - [General settings: Security](#): Setting up secure connection to servers.
-  **Main server**: the main server of the multi-server system. In the single-server system the server is always "main".
-  **Subordinate server** is a subordinate server in a multi-server system.

For the main and subordinate servers, their names and addresses are stated to the right of the icons.

Note

Server name is not a unique feature, that is why a system may contain various servers with the same name. To rename a server it is required to double click on its name or open a context menu and select **Rename**, then enter a new name and press **Enter**.

Note

If the **Eocortex Configurator** application cannot access the server, such server is marked by the  icon.

Note

The servers which encounter problems are marked with the  icon.

The pages of the settings of the main and the subordinate servers contain the following tabs:

- [Basic settings and server information](#): main settings and server info.
- [Server licenses](#): setup of server licenses.

- **Settings of the server's cameras:** information regarding cameras connected to the server.

Server settings context menu items:

- **Rename:** renaming server.
- **Configure:** [special server settings](#).
- **Disconnect:** disconnection of the server from the system.
- **Make main:** making the server main in the system.

Buttons under the list of servers:

-  **Add server:** connection of the server to system.
-  **Server table:** the list of all the servers in system.

### Basic settings and server information

In the **Eocortex Configurator** application, on the  **Servers** tab on the page of server settings, in the **Information** tab the following settings and info can be found:

Information Licensing Cameras

**Network address for accessing server** ✓ ✕

Local address	Port	SSL port
127.0.0.1 ▼	8080	18080

Use additional (public) address ⓘ

Additional address	Port	SSL port
	8080	18080

**Status**

main

[Configure](#)

Archive storage parameters, networks, mobile devices, etc.

[Diagnostics](#)

**Local address** and **Additional address** display network addresses and ports for accessing the server. To modify a port or an address, it is required to press the button  , enter the required values and then press  .

#### Warning

Changing the network address and port in the **Eocortex Configurator** application does not result in their actual change on the server. That is why it is recommended to first change the address and/or port using the operation system tools and then modify them in **Eocortex Configurator**.

In contrast, changing the network port in the **Eocortex Configurator** will result in its change on the server. In this case, depending on the state of the settings, the server will be restarted either immediately after changing the port in the application, or in the process of applying the settings.

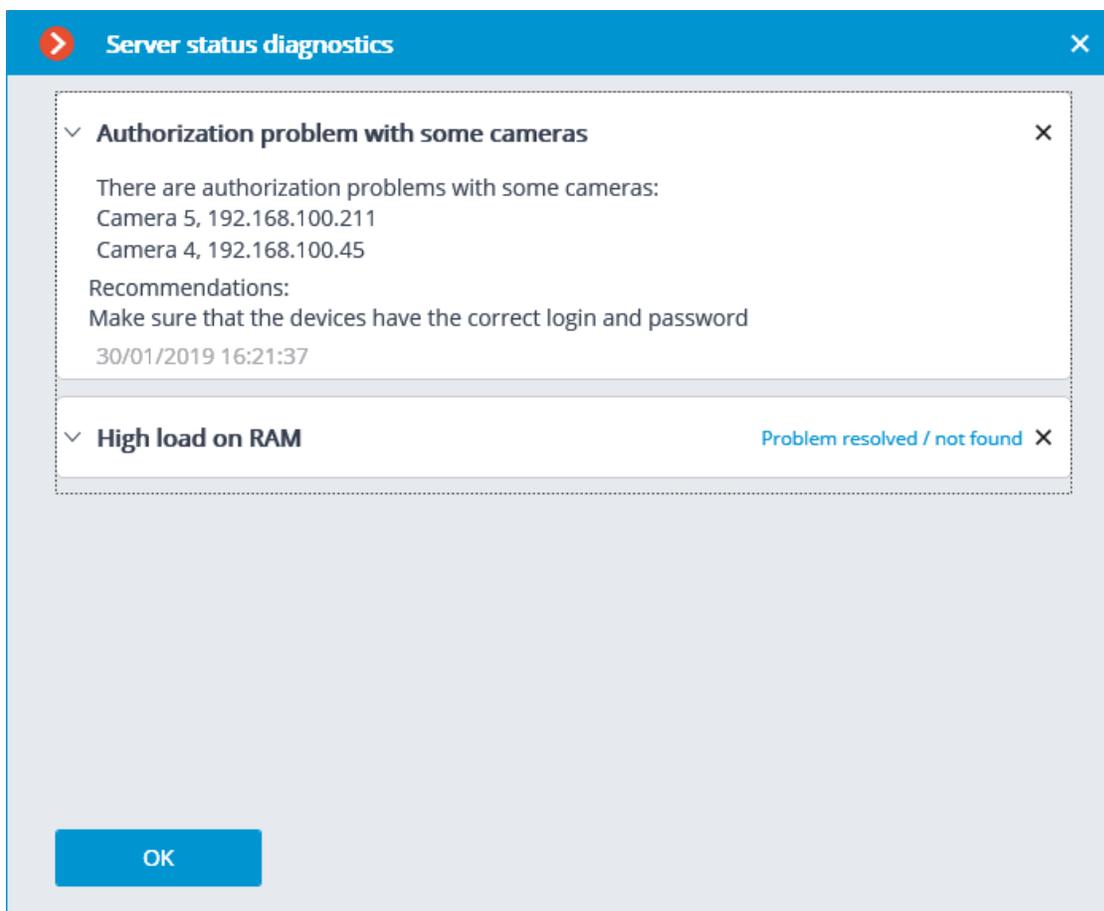
#### Note

The use of two addresses for one server is described on the page [Two addresses for the same server](#).

**Status:** displays current server status. **Status:** displays current server status.

**Configure:** opens [special server settings](#) window.

**Diagnostics:** opens server status diagnostics window. **Diagnostics:** opens server status diagnostics window.



## Note

In this window the list of detected problems is displayed, both current and those already resolved.

By clicking on the line with a problem you can obtain its detailed description and the recommendations on its solution.

To remove a line from the list, press the  button.

## Information

Current status:	Server is active.
Configuration name:	New configuration
Last time when configuration was applied:	12.03.2019 15:57:09
Archive size (GB):	2
Archiving speed (MB/sec):	0.06
Recording to archive is performed by disks:	Main
SMART diagnostics:	
Archive duration (days):	1.9
Port:	8080
Start time:	14.03.2019 11:08:07
Server version	2.5.127, Windows

**Information:** current information about the server. **Information:** current information about the server.

## Backup (redundancy)

- Sending email notifications [Setup](#)
- Fast redundancy ⓘ
- Constant redundancy ⓘ

**Fast redundancy:** when this option is on, fast redundancy will be applied to the main channels assigned to server, meaning that the redundancy will be activated not later than in 10 seconds after a loss of camera connection.

Warning

In the systems where periodical, including short-term, disruptions of camera connection are possible, enabling the fast redundancy may result in false redundancy responses.

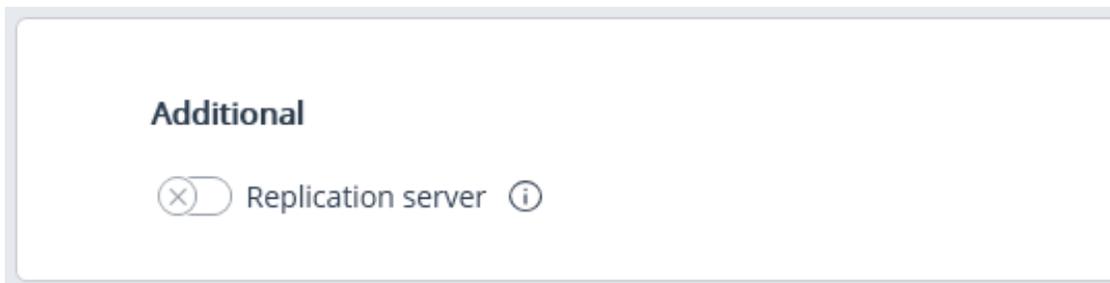
**Constant redundancy** enables the constant redundancy mode. Redundancy of cameras for which this server will be assigned as the main one will work always, regardless of the status of the given server.

#### Warning

It is required to bear in mind that, in case of normal operation of the system, the cameras with constant redundancy will have two connections: one from the main and the other from the redundant servers. Thus, depending on the design of the cameras, the bandwidth may increase and/or the framerate may decrease.

#### Note

The **Fast redundancy** and **Constant redundancy** modes are mutually exclusive. Likewise, when the constant redundancy mode is on, notifications regarding the activation of redundancy (backup) will be switched off.



**Replication server:** when this option is enabled, the server is assigned as a replication server.  button is used to open the replication settings window.

#### Server licenses

The following settings are located on the  **Servers** tab on the page of server settings on the **Licensing** tab in the Eocortex Configurator application:

The following settings are located on the page of  **Servers** on the **Licensing** tab in the **Eocortex Configurator** application:

**Key identifier** 2B217205 

### License parameters

Product type:	ST
License time limit:	01.03.2020
Language:	MULTI
IP camera licenses:	20 / 400
Cameras with enabled redundancy:	0 / 10
Video recorder cameras:	0 / 0
Audio stream processing modules:	4 / 10
PTZ camera control modules:	3 / 10
FishEye dewarping module:	0 / 10
Suspect search modules:	0 / 400
Face detection modules:	0 / 400
Face recognition modules:	0 / 10

[Update license](#)

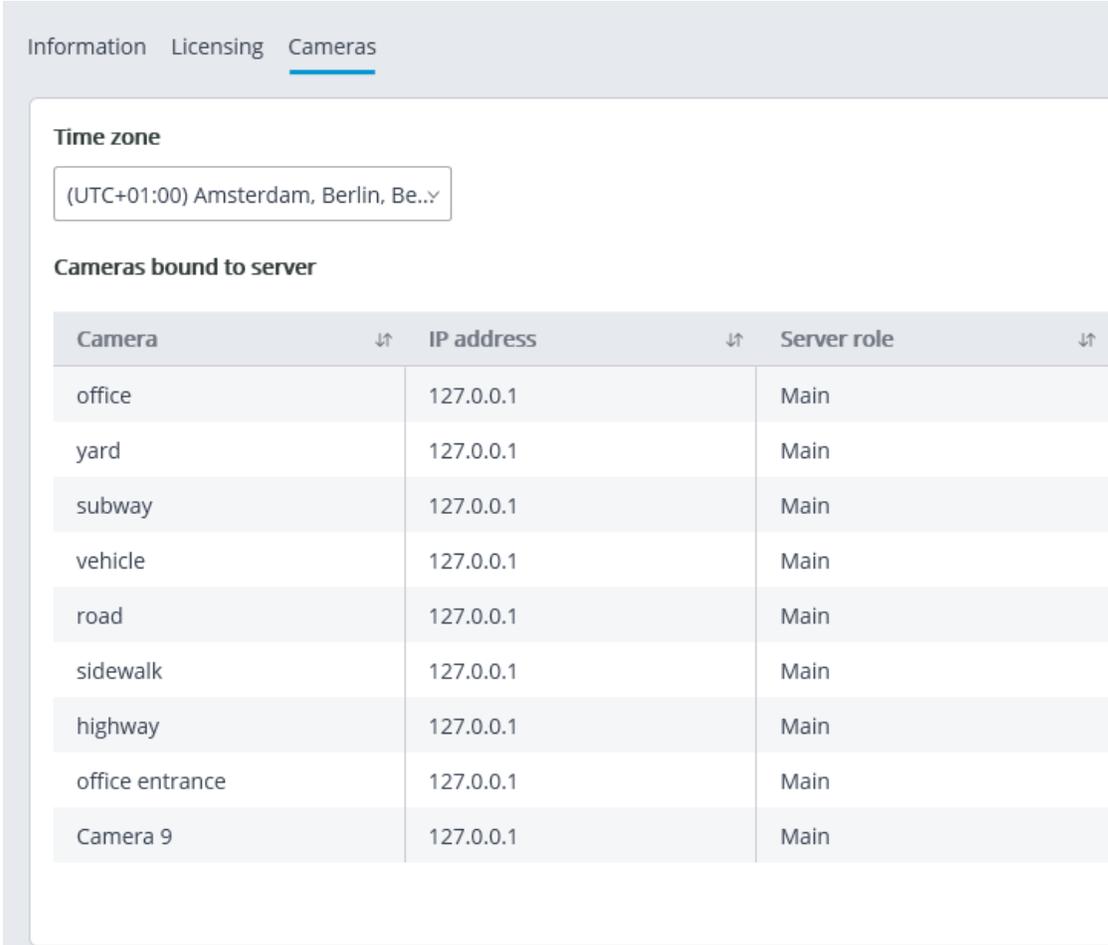
**Key identifier:** the identifier of the active software or hardware **Eocortex** protection key.

**License parameters:** the parameters of the active **Eocortex** protection key license.

**Update license:** launching the [Install license](#) wizard.

## Settings of the server's cameras

The following information regarding the cameras assigned to the server is located at the  **Servers** tab on the server settings page at the **Cameras** tab in the **Eocortex Configurator** application:



Information Licensing **Cameras**

**Time zone**

(UTC+01:00) Amsterdam, Berlin, Be..

**Cameras bound to server**

Camera	IP address	Server role
office	127.0.0.1	Main
yard	127.0.0.1	Main
subway	127.0.0.1	Main
vehicle	127.0.0.1	Main
road	127.0.0.1	Main
sidewalk	127.0.0.1	Main
highway	127.0.0.1	Main
office entrance	127.0.0.1	Main
Camera 9	127.0.0.1	Main

**Time zone:** a setting that allows to set for the server the time zone that differs from the time zone specified in the operating system settings of the computer running the server software.

All cameras linked to this server will use this time zone by default.

The  button displayed to the right of the camera name when the camera is marked serves for jumping to camera settings.

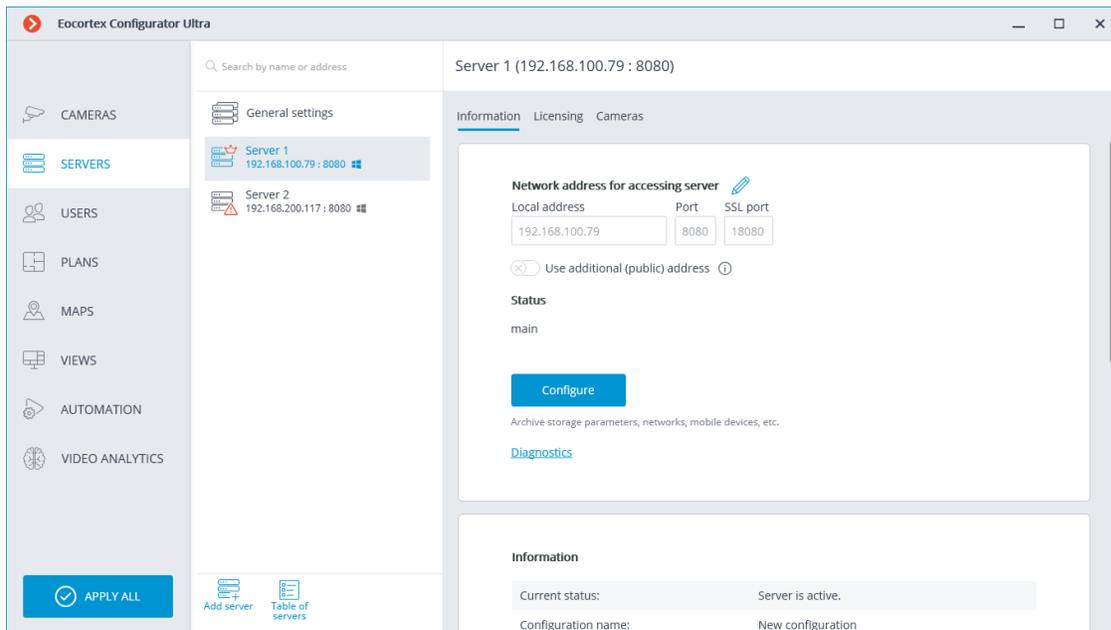
## Additional server settings

The additional server settings are as follows:

- Archive allocation settings;
- Mobile and web connection settings;

- Settings of client application updates;
- Watchdog timer settings;
- Part of the network settings;
- Part of the archive replication settings (only for replication servers).

To open the additional server settings window, select the server on the **Servers** page of **Eocortex Configurator** application and then either select **Configure** in the context menu or click **Configure** on the **Information** tab of the server settings tab.



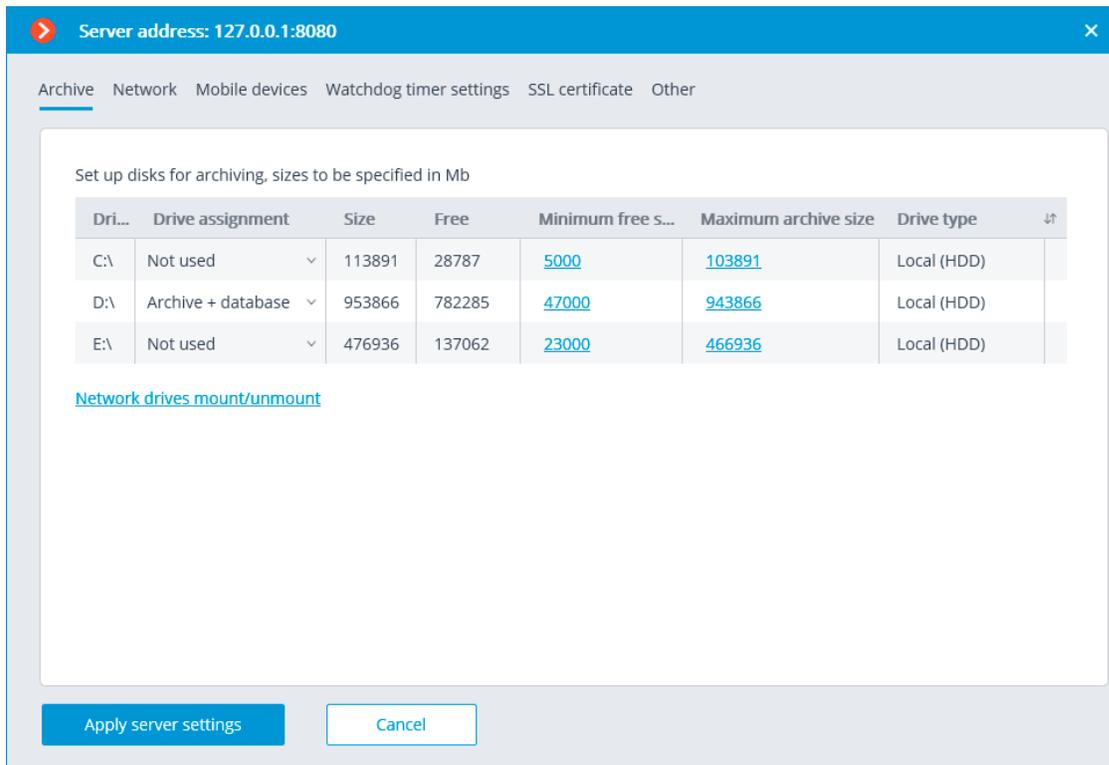
The additional settings window contains the following tabs:

- Archive
- Network
- Mobile devices
- Watchdog timer settings
- SSL certificate
- Synchronization with an external system
- Other
- **Replication** (available only for replication servers)

Warning

To save the changes made it is required to press the **Apply server settings** button.

## Archive



- **Drive:** logical name of a drive.
- **Drive assignment:** indication of the usage of the drive.

The following options are available:

Option	Main or redundant	Video archive	Event database
Not used	—	—	—
Archive only	main	yes	—
Archive + DB	main	yes	yes
Redundant archive	redundant	yes	—
Redundant archive + DB	redundant for archive; main for DB	yes	yes
Duplicate Archive (only for <b>ULTRA</b> and <b>Enterprise</b> )	Duplicate archive and database	yes	yes

- **Size:** total drive size (Mb).

- **Free:** currently remaining free space on drive (Mb).
- **Minimum free space:** minimum drive space that is required to remain free when recording the archive (Mb). In order to set the value of this parameter, double click on the current value, enter the new one and press **Enter**.
- **Maximum archive size:** maximum size of the archive in Mb. In order to set the value of this parameter, double-click on the current value, enter the new one and press **Enter**.
- **Drive type:** information regarding the type of drive — **Local (HDD)** or **Network**.
- **Connecting network drives:** this link opens network drive connection window.

**Network drives mount/unmount**

Attention!  
Network disc will be connected only in case of a valid network path and account with non-blank password and full rights for network resource being connected (creation of folders, writing, deleting, reading). If this data is invalid, the connected disc will appear in Eocortex Configurator but will be unavailable. In such a case, it is required to disconnect the disc and connect it again with the correct parameters.

[Connect network drive](#)  
[Disable network drive](#)

Z:\ (\server\shared)

Unique network drive letter: Z:\ For example, letters Z, Y

Network drive path: \\server\shared For example, \\Server\Shared or \\192.168.137.1\share

Username: mydomain/cctvuser For example, administrator or remote computer/user

Password: .....

OK Cancel

### Note

To connect a network drive, select a letter that will be used to designate the network drive being added in the **Connecting/disconnecting network drives** window, indicate a path to the network drive in the corresponding fields, and enter the user name and password of the user who has access to reading, writing and creating files and folders on this

path; then click on the **Connect network drive** link and press the **OK** button.

After pressing the **OK** button, the server will restart and all the network drives listed will be added to the list of drives displayed in the **Archive** tab. After that, you will be able to configure the network drives in the same way as the local drives.

For disconnecting a network drive it is required to select the drive to be disconnected in the list of drives in the **Connecting/disconnecting network drives** window, then press the **Disable network drive** link, and then the **OK** button.

After you press the **OK** button, the server will restart and all the network drives not in the list will be excluded from the list of drives displayed on the **Archive** tab.

#### Warning

At the first start of the server its default settings are created automatically. **C:** drive is connected to the archive. During the initial setup it is recommended to assign other drives for archive allocation, because the placement of the archive on the same physical drive with the **Windows** operating system may lead to the reduction of productivity or system errors.

#### Warning

It is not allowed allocating database on the network drives.

#### Note

The archive is stored on the server with the indication of the **Coordinated Universal Time (UTC)**. At that, in the client applications the local time of the device used for viewing the archive is displayed (with account for the time zone).

As an example:

The server with the **UTC+03:00** time zone settings recorded a fragment of the archive from 12:00 to 12:05 server time.

When viewing this fragment in the **Eocortex Client** application running directly on the server, it will be displayed on the timeline between 12:00 and 12:05.

But when viewing this fragment on a computer with **UTC+05:00** time zone settings, the fragment time on the timeline will be from 14:00 to 14:05.

And when viewing the same fragment on a computer with **UTC+01:00** time zone settings, the fragment time on the timeline will be from 10:00 to 10:05.

#### Note

## **Archive data:**

The archive of each server stores the video recordings of only those channels that are assigned to this particular server.

The archive has a cyclic structure. If the space designated for the archive is full, the new archive files begin to replace the oldest ones, taking into consideration the archive depth parameters set for each channel.

When several drives are used, the recording to archive is performed simultaneously to all the available drives. If one of the drives becomes unavailable, the recording to it stops and the data is redistributed to the available drives. Likewise, if the unavailable drive becomes available again, the recording of data to it resumes.

One or more drives may be assigned as redundant. The recording of the new data to the redundancy drives starts only when all the main drives become unavailable; when a main drive becomes available again, the recording to the redundancy drives stops.

The archive is located in the **EocortexArchive** folder in the root directory of each drive used for archive storage.

One or more disks can be assigned as duplicates. New data is recorded on the duplicating discs in parallel with the recording on the main or backup discs.

### Note

This capability is not present in some types of licenses.

## Network

Server address: 127.0.0.1:8080

Archive Network Mobile devices Watchdog timer settings SSL certificate Other

Allow server location according to UPnP protocol

Accept RTSP connections (to broadcast H.264)

RTSP/TCP port:

Allow Mjpeg broadcasting via RTSP ⓘ

Accept ONVIF connections ⓘ

User name:  Password:

Allow multicasting

Realtek PCIe GbE Family Controller (rt640x64)

Apply server settings Cancel

**Allow server location according to UPnP protocol:** enables the **UPnP** protocol for the video surveillance server that allows to locate the server in the network using the stated protocol.

**Accept RTSP connections (to broadcast H.264 and MJPEG):** allows to receive video stream and operational information using direct requests to server via **RTSP** protocol.

**RTSP port (for TCP or HTTP connections):** port for client connections to server using **RTSP** protocol.

**Allow MJPEG broadcasting via RTSP:** enables **MJPEG** broadcasting via **RTSP** protocols.

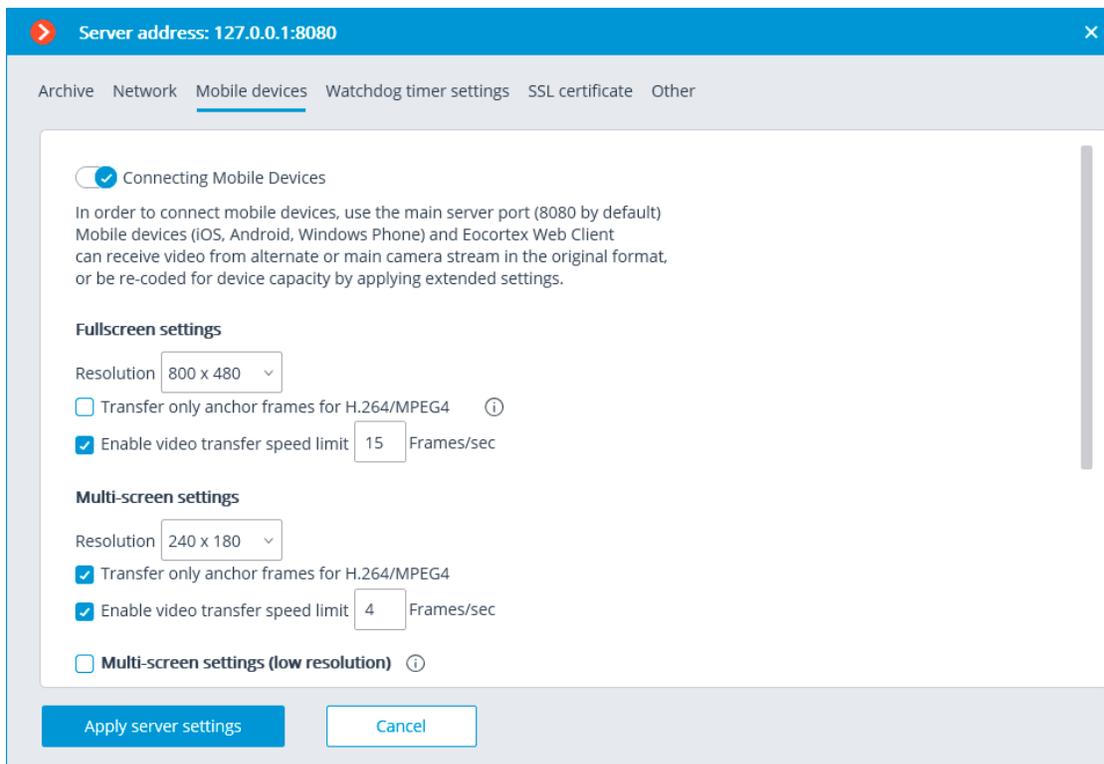
### Note

Since **RTSP** protocol only supports **MJPEG** frames encoded in the base (**Baseline**) encoding mode, for broadcasting video streams encoded in other modes their recoding will be required. It will increase server load. Moreover, in the course of **MJPEG** recoding the framerate can be reduced (in comparison with the framerate transmitted directly by camera).

**Accept ONVIF connections:** enables client connections to video surveillance server via **ONVIF**. By default, username is **onvif**, password — **onvif**. It is recommended to change password when enabling this option. Username cannot be modified.

**Allow multicasting:** enables multicasting from the server for those channels that have this option on. If there is more than one network adapter installed on the computer, it will be possible to choose the adapter for multicasting in the dropdown list that appears upon enabling this option.

### Mobile devices



**Allow connecting mobile devices to server:** activates the service of broadcasting video streams for mobile devices and web clients built in the **Eocortex** server application.

### Note

This service is also used for arranging broadcasting to site.

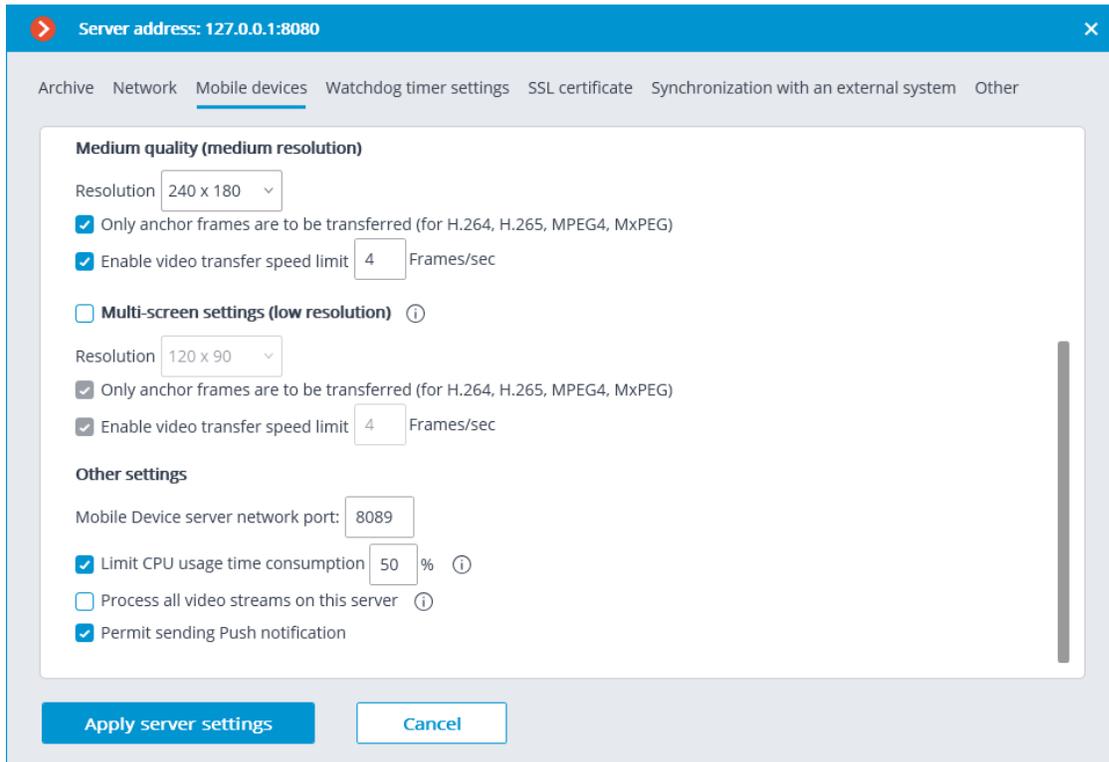
Depending on the resolution of the connected mobile device or web browser, the service can broadcast video streams in two or three modes:

- **Good quality (high resolution):** used for full-screen mode.
- **Medium quality (medium resolution):** used for multiscreen mode.
- **Low quality (low resolution):** used for low resolution multiscreen mode. This mode is off by default.

It is possible to set the following for each of the modes:

- **Resolution** that will be broadcast by default for each of the channels.

- **Transfer only anchor frames for H.264/MPEG-4:** for these codecs, only anchor (key) frames will be broadcast; this setting allows to reduce the amount of data transferred in the networks with limited bandwidth.
- **Enable video transfer speed limit:** the framerate of the frames being transferred will be limited to the set value; this setting permits to reduce the amount of data transferred in the networks with limited bandwidth.



### Other settings:

- **Mobile device server network port:** allows to set the port through which the connection to the video stream broadcasting service will be available.
- **Limit CPU usage time consumption:** allows to limit the consumption of CPU time by the mobile connections service.
- **Process all video streams on this server:** when this option is enabled, all video streams sent from this server to mobile applications will be reencoded on this server; if the option is disabled, the streams will be reencoded on those servers to which the cameras are connected, and already reencoded streams will be sent to this server.

### Note

This feature appeared in **Ecortex** version 3.4. The servers upgraded from earlier versions will have this option enabled. The option is disabled by default for new servers.

- **Permit sending Push notification:** enables the possibility of sending various Push notifications from the server to mobile devices.

### Watchdog timer settings

Server address: 127.0.0.1:8080

Archive Network Mobile devices **Watchdog timer settings** SSL certificate Other

**Enable watchdog timer**

COM port ⓘ  
COM3 [Automatic search](#)

Timeout in minutes  
3

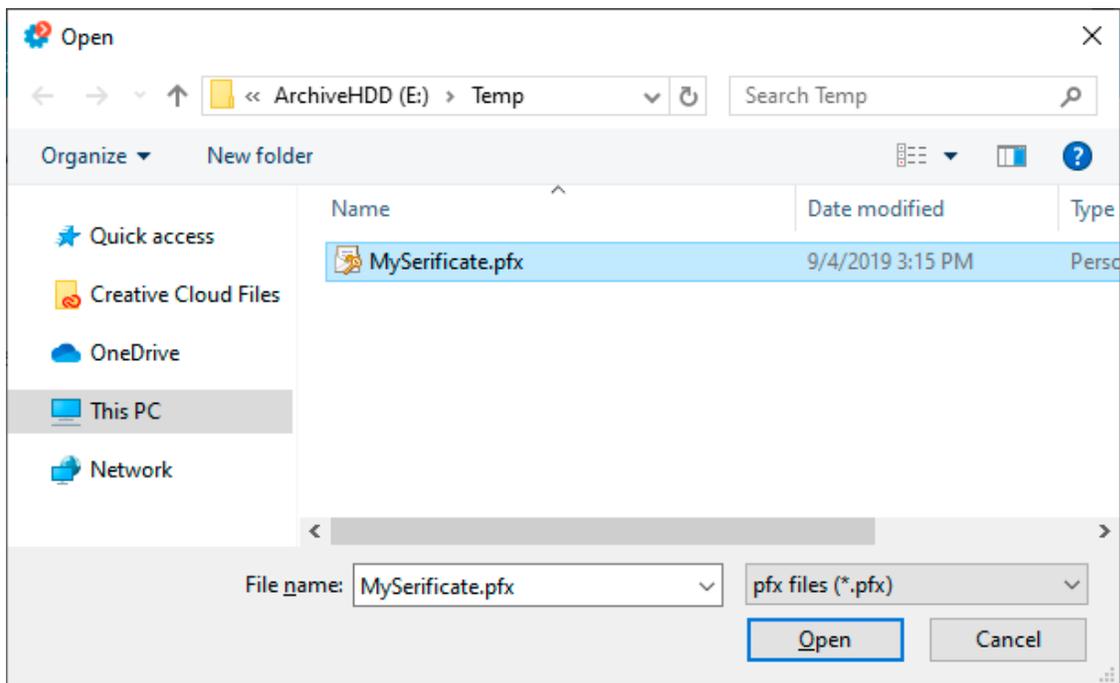
[Restart computer](#)

**Status:** Not connected

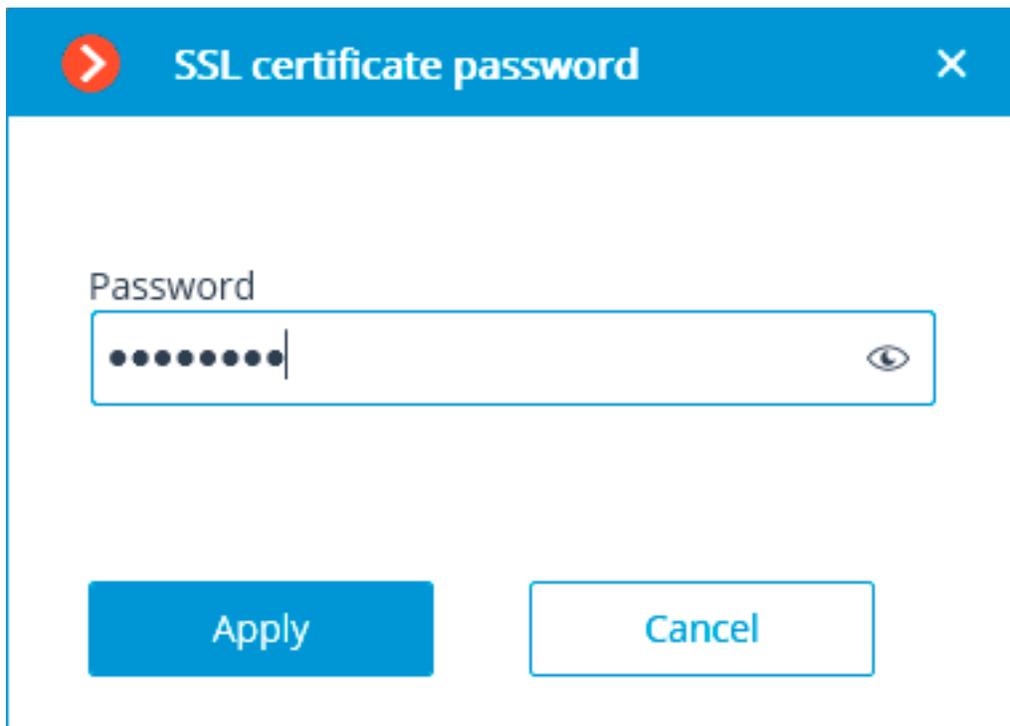
Apply server settings Cancel

- **Enable watchdog timer:** activates interaction with the watchdog timer.
- **COM port:** assigns a COM port to which the watchdog timer is connected.
- **Automatic search:** performs automatic search for a connected watchdog timer.
- **Timeout in minutes:** sets a period after which the watchdog timer is triggered.
- **Restart computer:** restarts the computer being set up.
- **Status:** displays the current watchdog status.
- **Firmware version:** displays the current version of watchdog firmware.





When installing the certificate, it could be required to enter the password assigned to the certificate.



Note

The uploaded certificate will be used for encrypting the secure connections only after the server settings are applied.

Note

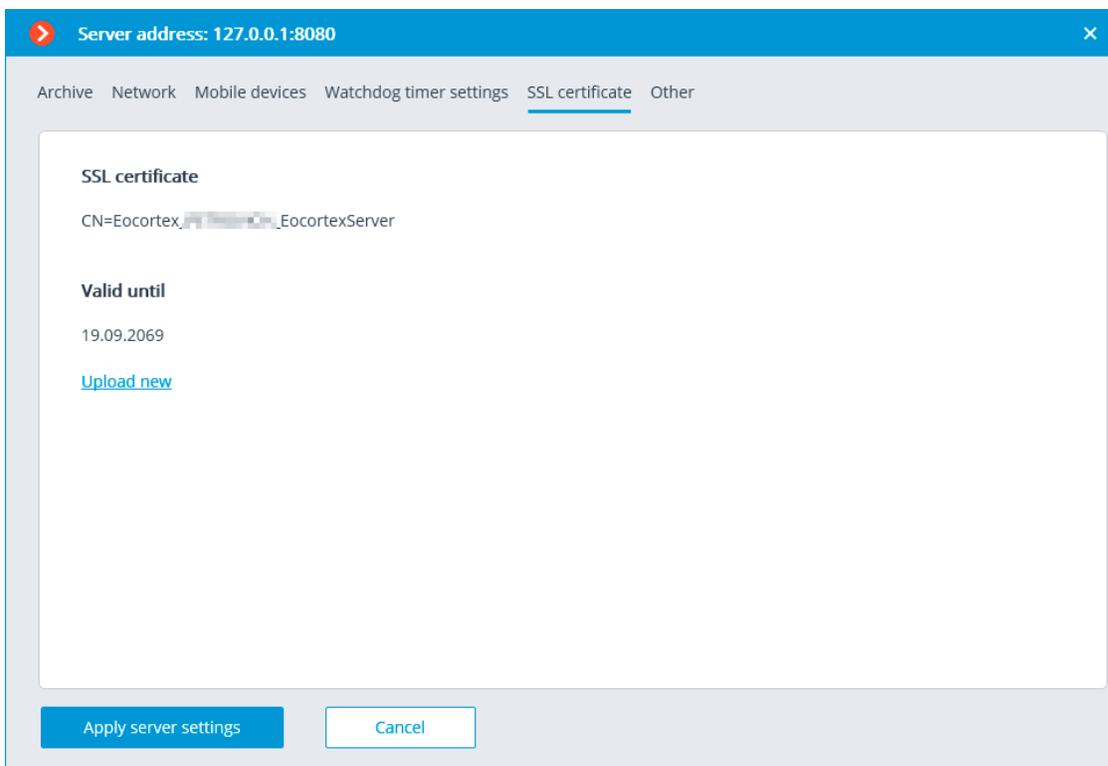
All the information regarding the modification and usage of the certificate is recorded in the event log.

## Generating a self-signed certificate

If a third-party security certificate for the server is not installed or it has been impossible to load it during the launch of the server, the self-signed TLS certificate will be used for establishing secure connections with the server. Such certificate is generated on the server in the process of creating a new configuration of the video surveillance system. The self-signed TLS certificate has the following disadvantages:

- The certificate can be replaced by an insecure one within the network; the user may not even notice that, confirming the insecure connection.
- The users of the web application will have to confirm the insecure connection every time; it may lead to the distrust of the users.

The absence of the **Reset** link proves that the self-signed certificate is being used.

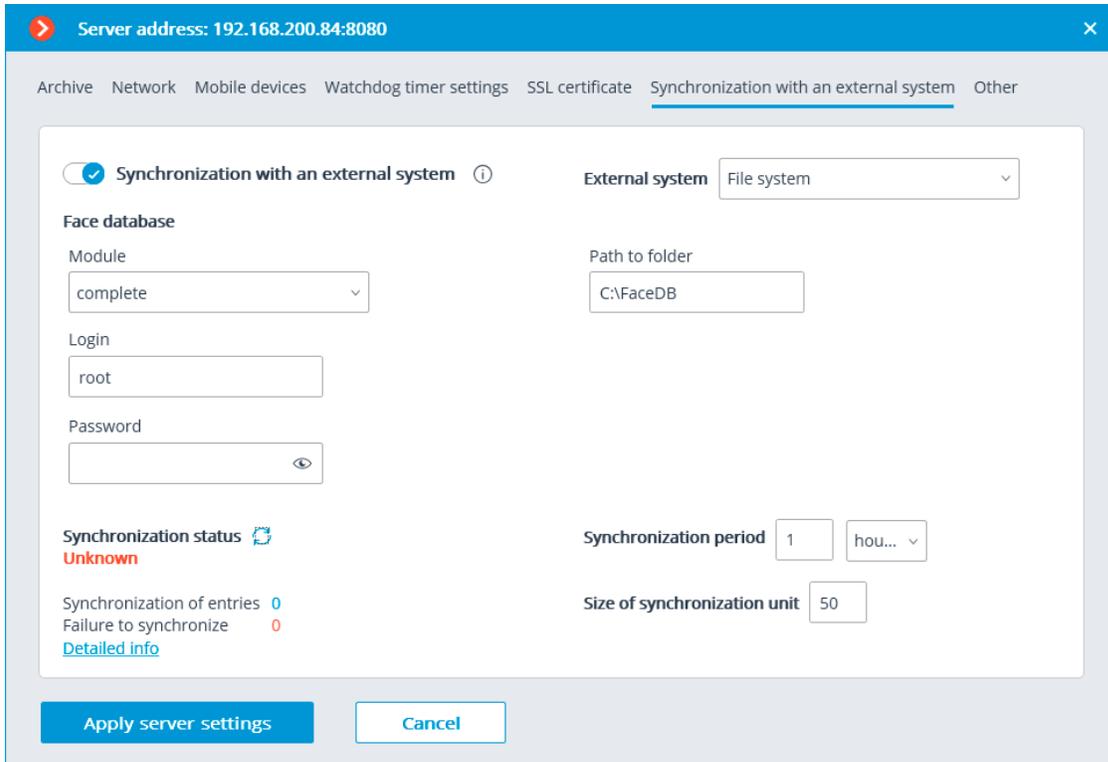


### Note

To activate the self-signed certificate, apply the settings and restart the server.

## Synchronization with an external system

On this tab, it is possible to enable and set up the import of a face database used by one of the **Eocortex** face recognition modules from files located in a folder on the drive.



The screenshot shows a web interface for configuring synchronization. At the top, a blue header bar displays the server address: 192.168.200.84:8080. Below the header, a navigation menu includes 'Archive', 'Network', 'Mobile devices', 'Watchdog timer settings', 'SSL certificate', 'Synchronization with an external system' (which is the active tab), and 'Other'. The main content area is titled 'Synchronization with an external system' and features a toggle switch that is turned on. Under the 'Face database' section, there are fields for 'Module' (set to 'complete'), 'Login' (set to 'root'), and 'Password' (empty). To the right, the 'External system' is set to 'File system' in a dropdown menu, and the 'Path to folder' is 'C:\FaceDB'. Below these fields, the 'Synchronization status' is shown as 'Unknown' with a refresh icon. Further down, there are statistics: 'Synchronization of entries' (0) and 'Failure to synchronize' (0), with a link for 'Detailed info'. At the bottom right, there are input fields for 'Synchronization period' (set to 1) and 'Size of synchronization unit' (set to 50). At the very bottom, there are two buttons: 'Apply server settings' and 'Cancel'.

To perform setup, it is required to select **File system** as a type of external system and indicate a folder on the drive where the data will be uploaded from. The periodicity and the size of a data block are also set here, as well as the current synchronization status.

### Warning

Only those entries of employees that contain photos suitable for use by the **Eocortex** face recognition module will be imported from the file system.

The entries imported from the file system are rerecorded during each synchronization session. Thus, if such entry is modified in **Eocortex**, the modifications will be lost during the subsequent synchronization session.

The image files will be uploaded from the server folder specified in the settings, and the full names will be derived from the filename; for that end, the words in the filename must be separated by spaces.

The synchronization can be enabled only for one of the face recognition modules.

For the synchronization to work, it is required that at least one camera assigned to the server with the synchronization set up had a synchronized face recognition module enabled.

In a multiserver system, the synchronization can be enabled only on one **Eocortex** server.

To connect to the Eocortex server, it is required to have a login and a password of the user with the rights to edit face and license plate databases in the **Eocortex** system.

#### Note

In the course of the first synchronization session, all the entries of employees that meet the requirements (those with photos suitable for recognition) will be imported into **Eocortex**. However, those entries that have been added to the **Eocortex** face recognition module's database manually will not be affected in any way by the process of synchronization. During the subsequent synchronization sessions, only those entries that were modified, added or deleted in the file system after the previous synchronization session will be imported.

The synchronization period can be set in the range of 1 minute to 40 days.

Each entry of the **Eocortex** face database imported from the file system will have a corresponding note.

## Other

Server address: 127.0.0.1:8080

Archive Network Mobile devices Watchdog timer settings SSL certificate Synchronization with an external system **Other**

**GPU-powered decoding** ⓘ

Use decoding on GPU

All GPUs ^

GeForce GTX 1050 [0]

**Update**

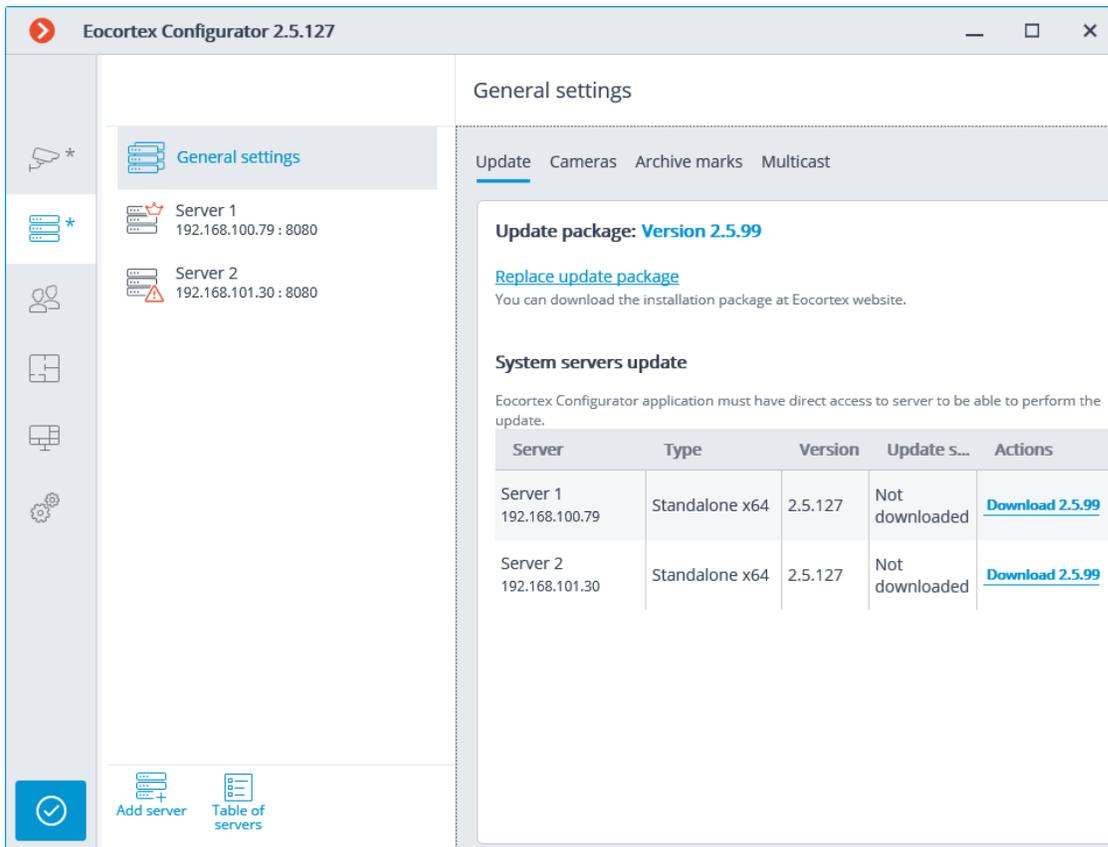
Allow client auto update to server version.

Apply server settings Cancel

- **Use decoding on GPU:** enables to optimize the load on the server.
- **Allow client auto update to server version.:** enables the automatic update mechanism built into the server application.

## Centralized server update

In the **Eocortex Configurator** application, on the  **Servers** tab, under **General settings** item in the **Update** tab the centralized server update tools are located.



Before updating the server applications, it is required to upload the update package to the **Eocortex Configurator** application on the computer. The package can be downloaded following the **Load updates** link, or **Replace update package** in case the update package of another version has already been downloaded. It is required to download the file of the complete distribution package: **EocortexMainCommon Installer.exe**.

#### Note

The most up-to-date version of **Eocortex** can be downloaded from the [eocortex.com](http://eocortex.com) website at the [Support / Software Installation Packages Supported](#) page.

To update the server, it is required to perform the following procedure on the server in the **System servers update** table:

- For the servers with the **Not downloaded** status: perform the **Download ...** action.
- For the servers with the **Loaded** status: perform the  **Install version ...** action.

## Update package: **Version 2.5.99**

### [Replace update package](#)

You can download the installation package at Eocortex website.

### System servers update

Eocortex Configurator application must have direct access to server to be able to perform the update.

Server	Type	Version	Update status	Actions
Server 1 192.168.100.79	Standalone x64	2.5.127	Not downloaded	<a href="#">Download 2.5.99</a>
Server 2 192.168.101.30	Standalone x64	2.5.127	Downloading: 18%	<a href="#">Break</a>

## Update package: **Version 2.5.99**

### [Replace update package](#)

You can download the installation package at Eocortex website.

### System servers update

Eocortex Configurator application must have direct access to server to be able to perform the update.

Server	Type	Version	Update status	Actions
Server 1 192.168.100.79	Standalone x64	2.5.127	Not downloaded	<a href="#">Download 2.5.99</a>
Server 2 192.168.101.30	Standalone x64	2.5.127	Installation (2-10 minutes)...	

## Update package: **Version 2.5.99**

### [Replace update package](#)

You can download the installation package at Eocortex website.

### System servers update

Eocortex Configurator application must have direct access to server to be able to perform the update.

Server	Type	Version	Update status	Actions
Server 1 192.168.100.79	Standalone x64	2.5.127	Not downloaded	<a href="#">Download 2.5.99</a>
Server 2 192.168.101.30	Standalone x64	2.5.99	Already installed	<a href="#">↶ 2.5.127</a>

For the server with the **Already installed** status the  **Roll back to ...** action is available, allowing to roll the server back to the previous version. In this case all the server settings go back to the values existing before the update.

#### Note

If the server was updated using the centralized update procedure more than once, it is possible to roll back to any previous version in the opposite order, step by step.

#### Warning

The centralized update is available only for the **Eocortex Server** and **Eocortex Standalone** applications. For the **Eocortex NVR** application the centralized update is not available.

#### Note

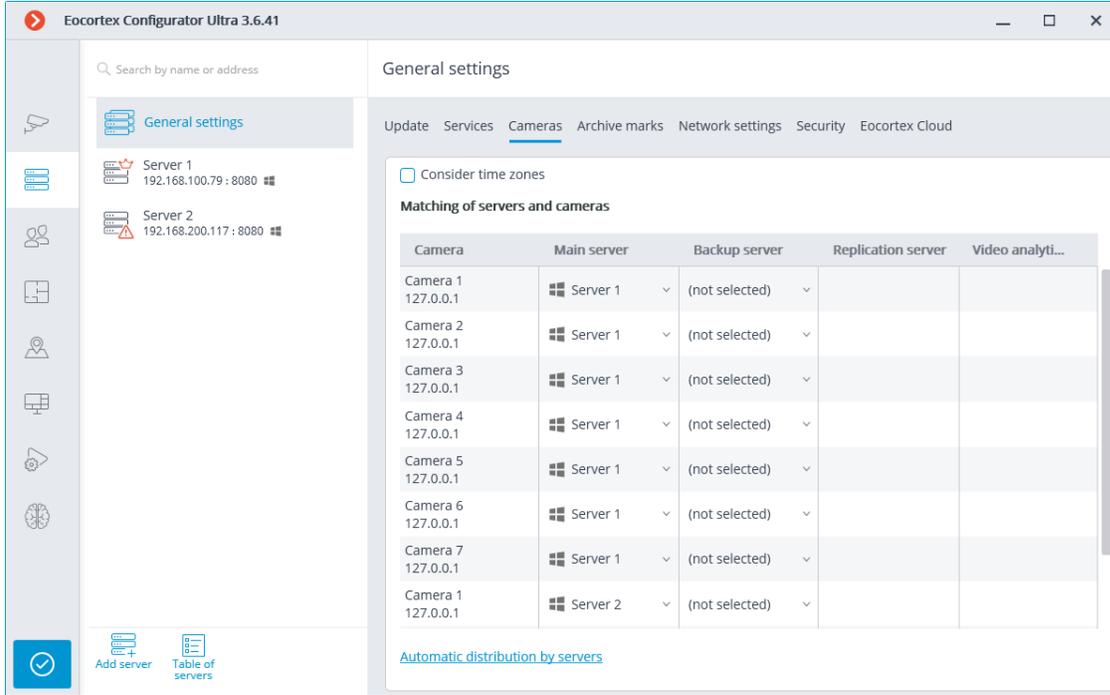
The **Eocortex** server applications can be updated not only to the newer versions, but also to the older ones, provided that the first two digits of the version number are the same.

#### Warning

To centrally upgrade servers to version 4.0 or higher, first upgrade those servers to version 3.6.57 or higher. Otherwise, servers can be updated up to two versions ahead without the need to pre-update to version 3.6.57.

## Distribution of cameras among servers

In the **Eocortex Configurator** application, on  **Servers** tab, the table of camera distribution among servers appears upon selecting the **General settings** item.



General settings

Update Services **Cameras** Archive marks Network settings Security Eocortex Cloud

Consider time zones

Matching of servers and cameras

Camera	Main server	Backup server	Replication server	Video analyti...
Camera 1 127.0.0.1	Server 1	(not selected)		
Camera 2 127.0.0.1	Server 1	(not selected)		
Camera 3 127.0.0.1	Server 1	(not selected)		
Camera 4 127.0.0.1	Server 1	(not selected)		
Camera 5 127.0.0.1	Server 1	(not selected)		
Camera 6 127.0.0.1	Server 1	(not selected)		
Camera 7 127.0.0.1	Server 1	(not selected)		
Camera 1 127.0.0.1	Server 2	(not selected)		

[Automatic distribution by servers](#)

**Consider time zones:** this slider enables the ability to respect the selected time zones in applications.

### Note

The changes made to the assignment of cameras to servers will take effect only when [the changes will be applied](#).

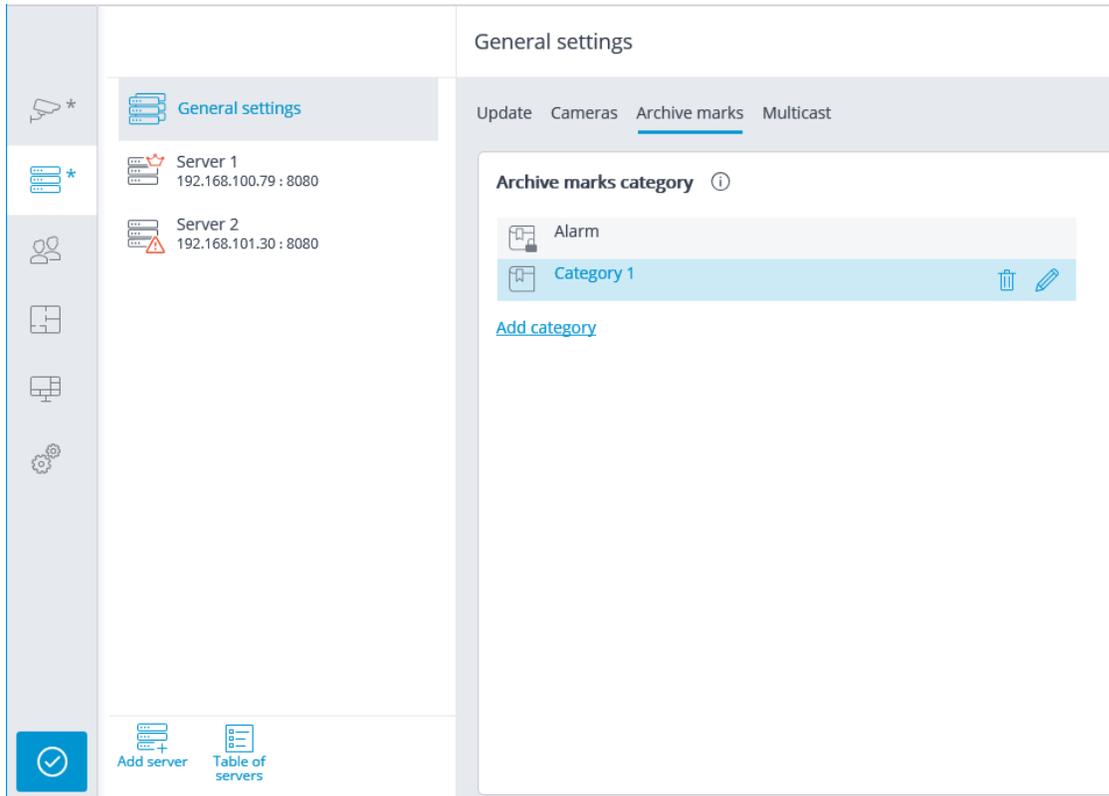
### Note

The search in the drop-down menu during the server selection can be performed by any part of the searched word.

Camera	Main server	Backup server	Replication server	Video analyti...
Camera 1 127.0.0.1	Server 1	(not selected)		
Camera 2 127.0.0.1	2	(not selected)		
Camera 3 127.0.0.1	Server 2	(not selected)		
	Server 1	(not selected)		

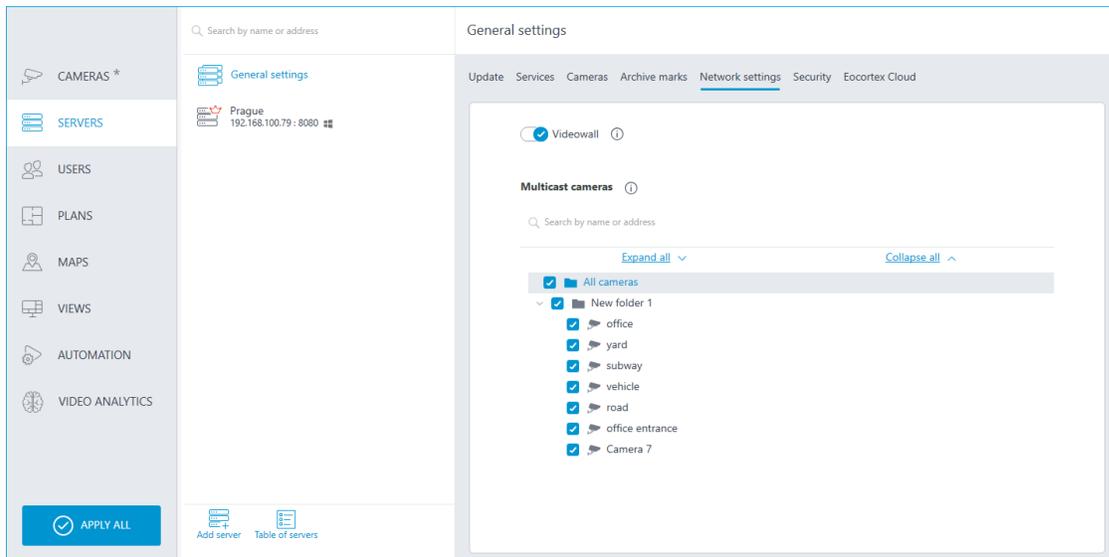
## Archive bookmark category setup

In **Eocortex Configurator**, on the  **Servers** tab, the list of archive bookmark categories appears on the **Archive bookmarks** tab when selecting the **General settings** item.



## General settings: Network settings

The settings of interaction between servers can be found in the **Eocortex Configurator** application, on the  **Servers** page. The camera tree with the possibility to enable multicasting from a server appears on the **Multicast** tab upon selecting the **General settings** item.

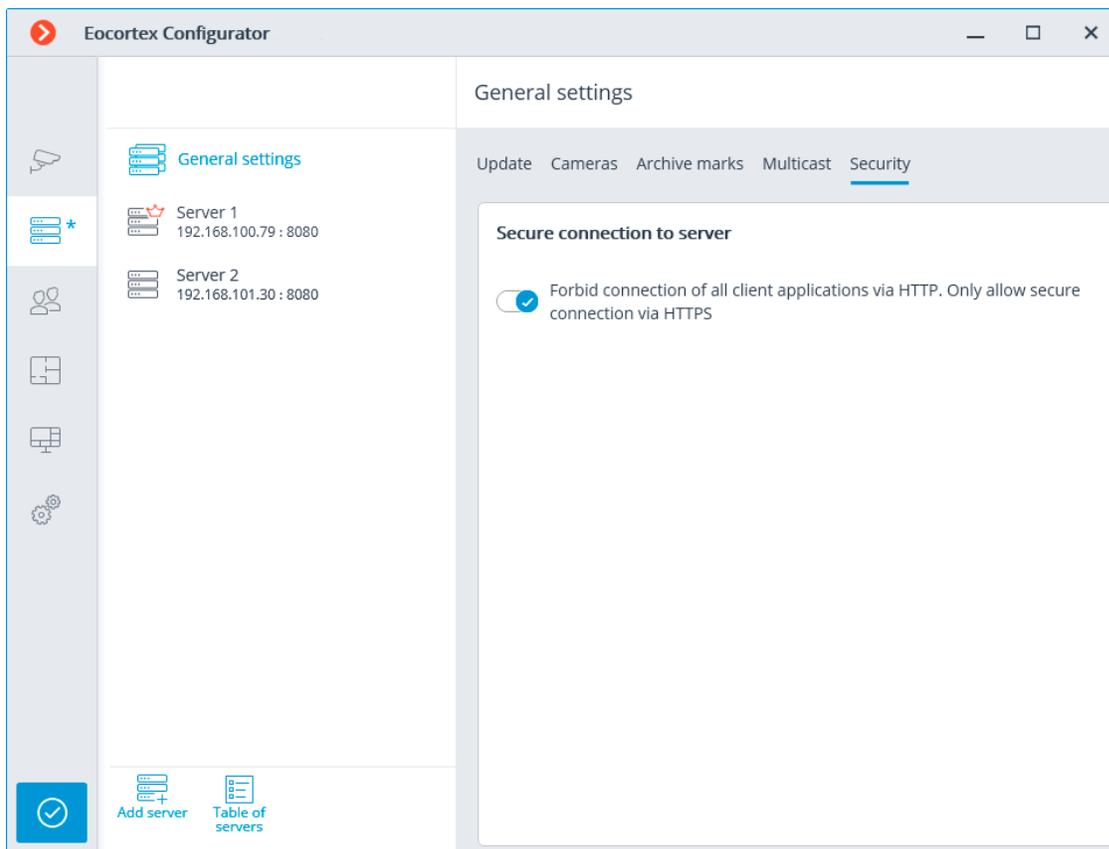


It is recommended to disable the **Video Wall** option if the videowall is not being used on any of the workstations. This will help to reduce the load on the network.

### General settings: Security

The insecure connections (via HTTP) will be forbidden when enabling the **Forbid connection of all client applications via HTTP. Only allow secure connection via HTTPS** option for all the system servers in the **Eocortex**

**Configurator** application on the  **Servers** page, at highlighting the **General settings** item on the **Security** tab.



## Note

When applying the settings after enabling this option, the **Eocortex Client** and **Eocortex Web Client** applications connected to the servers will be automatically restarted using the secure connection. At the same time, the **Mobile Android client Eocortex video surveillance** and **Mobile iOS client Eocortex video surveillance** applications will not be restarted in this situation. Later on, the prohibition of the insecure connections to servers will be valid for all new connections from the **Eocortex Client**, **Eocortex Web Client**, **Mobile Android client Eocortex video surveillance** and **Mobile iOS client Eocortex video surveillance** applications. At that, the **Eocortex Client** application will be connected using the secure connection even in case of an attempt to use the insecure connection.

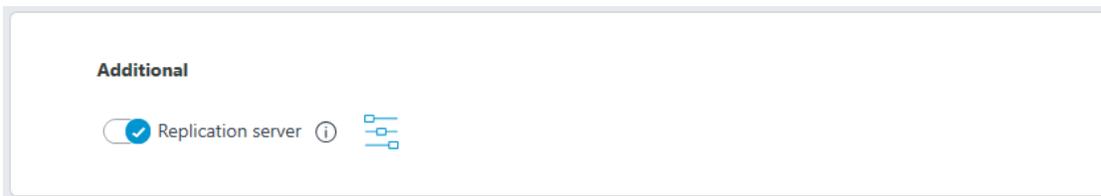
## Replication server

The **Replication server** is the server that stores backup copies of the archives from the other servers. The role of a replication server can be assigned to one or several servers in the system.

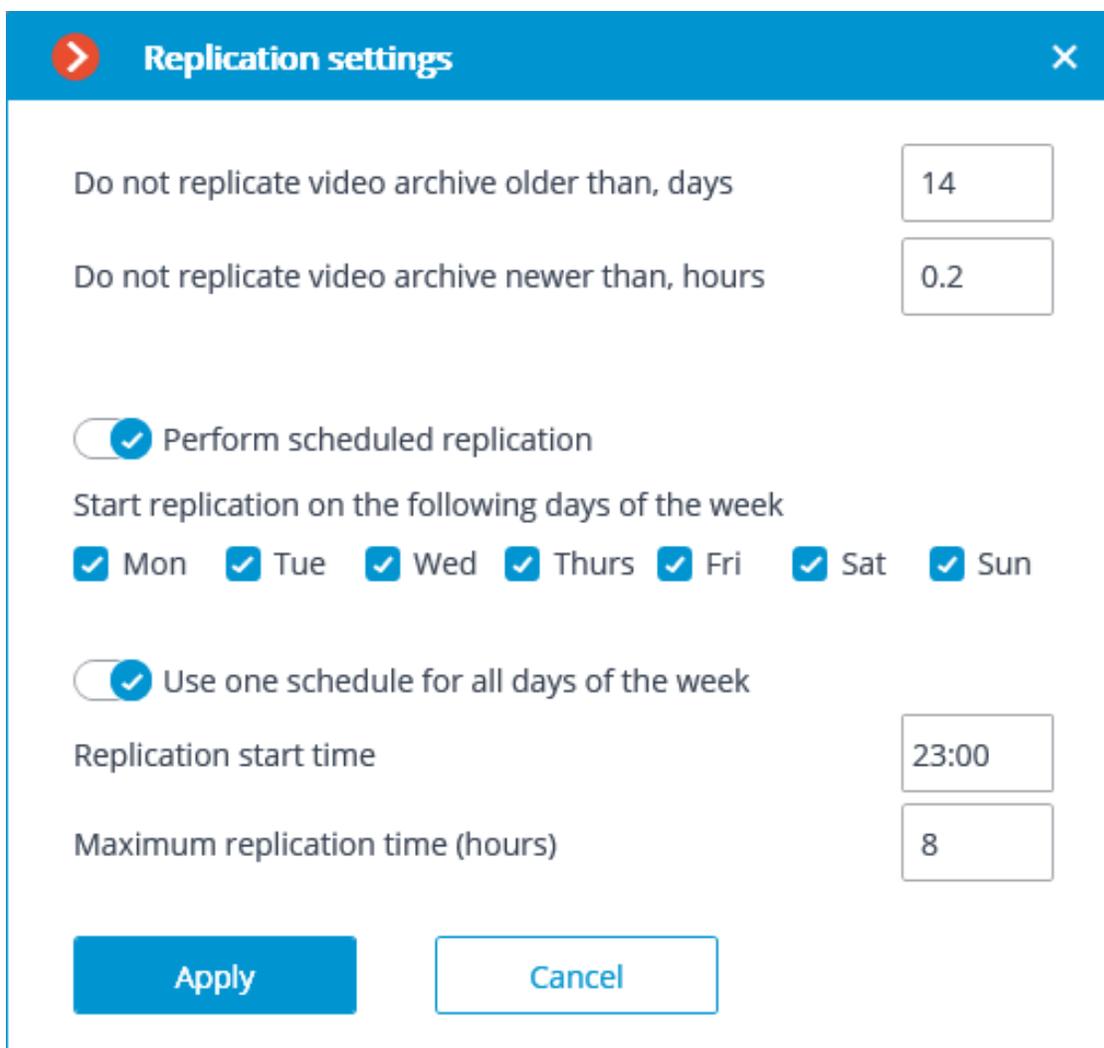
## Note

The replication server cannot be assigned as main or redundancy server for the cameras.

For using a server as the replication one, it is required to enable the **Replication server** option in the **Eocortex Configurator** application, on the **Servers** tab, on the **Information** tab of the server settings page.



Then, by clicking the  button, open the **Replication settings** window, set the replication depth limits and schedule, and select channels that will be replicated on this server.

A screenshot of the 'Replication settings' window. The window has a blue header with a back arrow, the title 'Replication settings', and a close button (X). The settings are as follows:

- 'Do not replicate video archive older than, days': 14
- 'Do not replicate video archive newer than, hours': 0.2
- 'Perform scheduled replication': checked
- 'Start replication on the following days of the week': Mon, Tue, Wed, Thurs, Fri, Sat, Sun (all checked)
- 'Use one schedule for all days of the week': checked
- 'Replication start time': 23:00
- 'Maximum replication time (hours)': 8

At the bottom, there are two buttons: 'Apply' (solid blue) and 'Cancel' (white with blue border).

Then using one of the methods (through camera settings, camera group settings, or camera distribution among servers settings) indicate the cameras the archives of which will be replicated.

➤
— □ ×

Search by camera name or IP

Expand all ▼ Collapse all ▲

- All cameras
- ▼ Object 1
  - ▼ Group 1.1
    - 📷 Camera 1  
192.168.100.134 🔊🔇🌐
    - 📷 Camera 2  
192.168.100.94 🔊🔇🌐
    - 📷 Camera 3  
192.168.100.250 🔊🔇🌐
    - 📷 Camera 4  
192.168.100.45
  - Group 1.2
  - Object 2
  - Object 3
    - 📷 Camera 21  
192.168.100.211 🌐

🔍 Object 1 > Group 1.1 > Camera 1
Camera active

Connection
Rights
Archive
Motion detector
Analytics

**Device**

Brand:  Device type:

Model:

**Authorization**

Username:  Password:

**Servers**

Main server:  Replication server:

**Video streams** 🔍 Alternative stream

Main stream video format:

▶ TEST CAMERA

✔

🔍 Automatic search
➕ Add camera
📁 Add folder
📄 Camera table

➤ Camera group editing
✕

📄 All cameras

Cameras being edited: 21

Connection
Rights
Archive
Motion detector

! The settings will be changed for all cameras in the folder. Only explicitly made settings will be modified; at that, only settings supported by the specific camera will be changed.

**Authorization**

Username:  Password:

**Servers**

Main server:  Replication server:

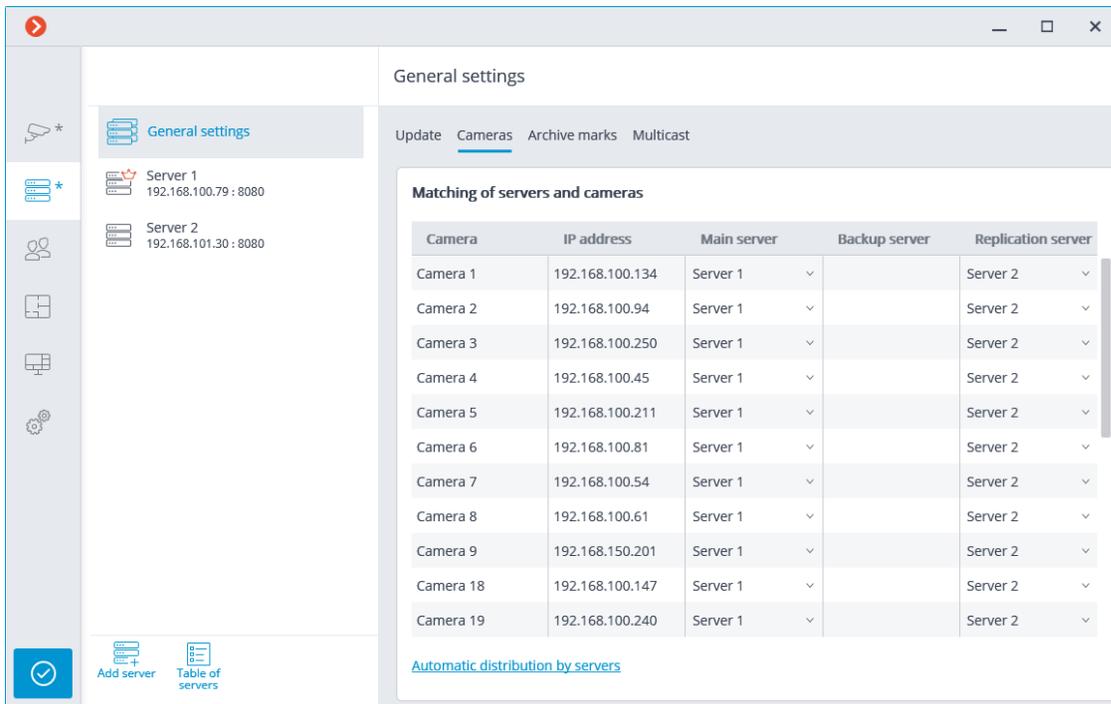
Will be applied for camera 21

**Video streams** 🔍 Alternative stream

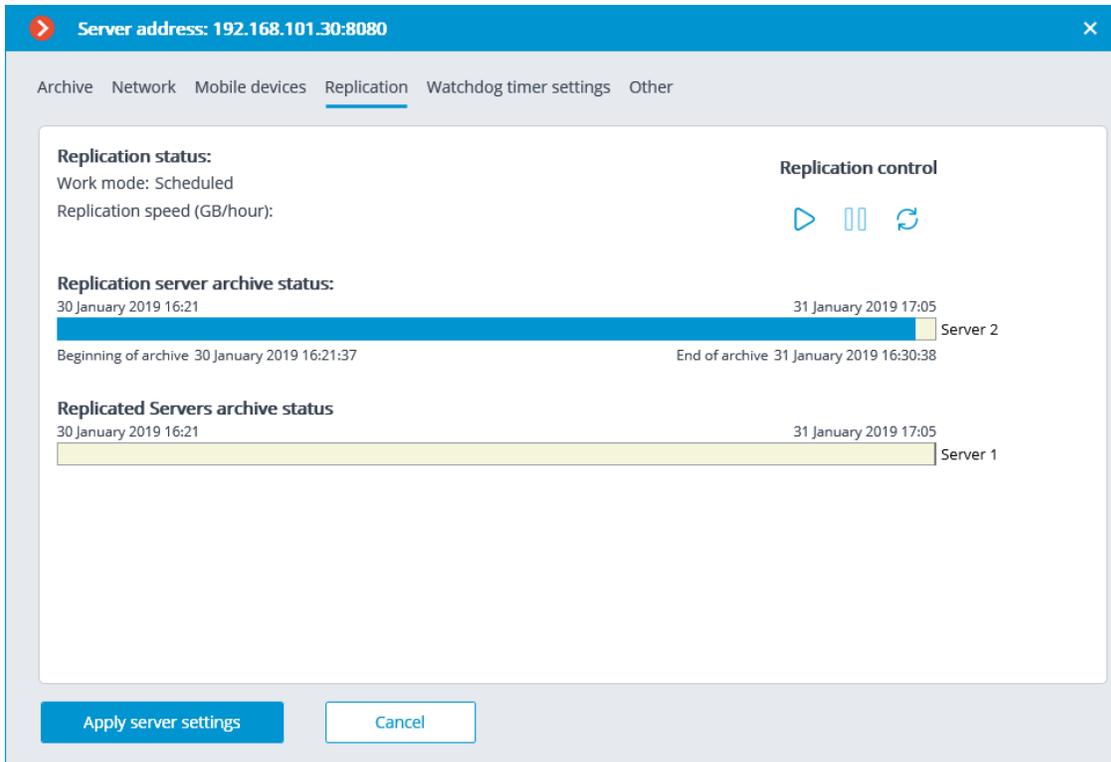
Main stream video format:

Alternative stream video format:

Apply
Cancel



The current replication status is displayed on the  **Servers** tab of the **Eocortex Configurator** application, on the **Replication** tab of the server settings item. On this tab you can also manually start or stop the replication process.

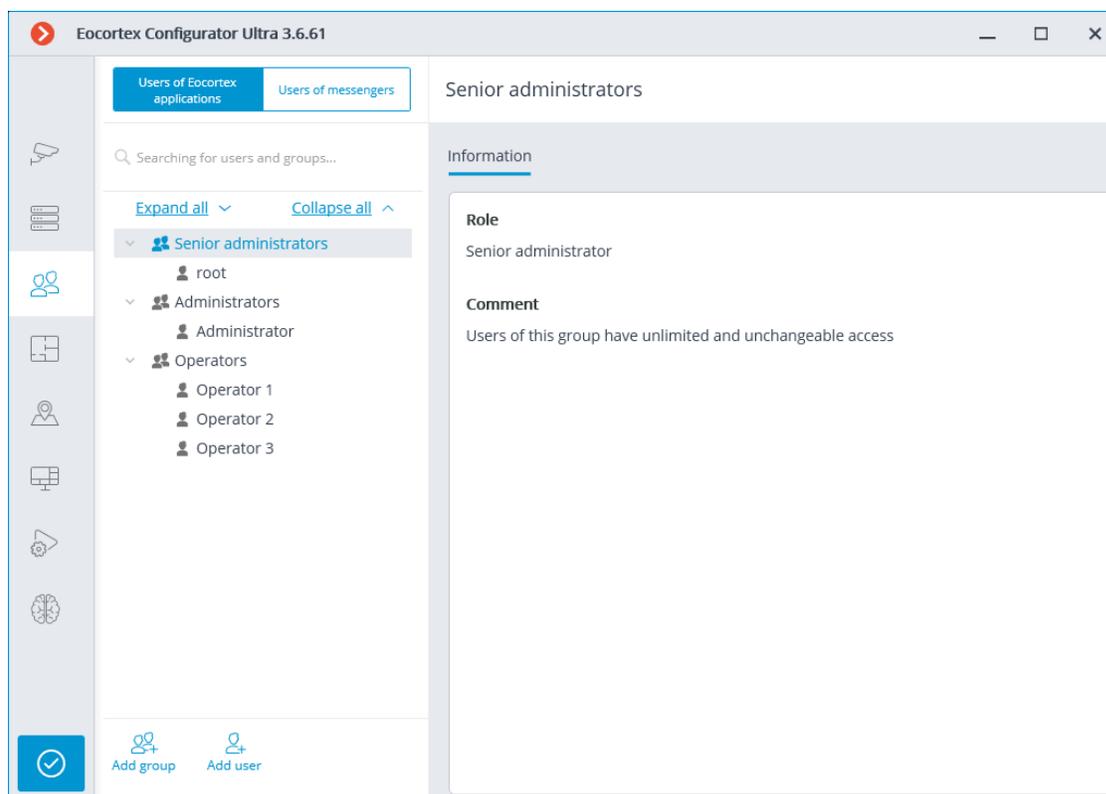


## Users

The **Eocortex Configurator** application allows you to configure the rights of various categories of users of the video surveillance system.

### Users of Eocortex applications (Enterprise and ULTRA licenses)

To set up the rights of users of the Eocortex system running on **Enterprise** or **ULTRA** license, run the **Eocortex Configurator**, open the  **Users** page and select the **Users of Eocortex applications** tab.



### *The tree of the groups and the users*

The left part of the window contains a hierarchical tree of groups with the surveillance system users created in them. To configure an existing group or an individual user, select the required item in the list — the settings page of the selected group/user will be displayed in the right part of the window.

For the convenience of finding the necessary groups/users, the search field above the list can be used.

### Note

Particularities and limitations of user rights:

- The rights are provided only to the entire groups of users and are extended to all the users of the group. Individual users cannot be granted any rights that differ from the rights of the group.
- A single user can belong to only one group. A group may not contain users at all, but it is not possible to create a user which does not belong to any group.
- Every user is assigned a unique password.
- A user can be moved from one group to another, maintaining its password. The rights of the user in this case are modified according to those of the current group.

User groups in **Eocortex** running on **Enterprise** or **ULTRA** licenses have three levels of rights:

- **Senior administrators:** System administrator access level. An embedded group that cannot be deleted, and its rights cannot be modified. Only one group of users with such access level can exist in the system. The users belonging to this group have unlimited configuration access: they are allowed to configure the whole system, create, modify and delete other groups and users, view and listen to any cameras, both in real time and from the archive. This group cannot be deprived of its rights. The configuration of the system must contain at least one member of this group (The default configuration of a system always contains an embedded user named root).
- **Junior administrators:** System administrator access level. Users of such group have also the ability to change the selection of the main server, as well as add new cameras and servers to the system. However, they are not allowed to configure the plans and users of the system. Removing a server from the system is available to the junior administrator only if no cameras that are unavailable for this user are bound to this server.
- **Operators:** Regular system user access level. The rights of group members with this level of access are limited to viewing cameras without access to the system configuration.

#### Note

The Senior administrators group must contain at least one account with Eocortex user type. Otherwise, the system configuration will not be applicable.

#### Warning

When updating the system running on **Eocortex ULTRA** version 1.4 or older to a later version, the following changes will be applied to user rights:

- **Senior administrators** group will be created. All the users with full system configuring rights will be transferred there.
- All groups which have the rights to partially configure the system become groups with junior administrator level.
- All groups which do not have system configuration rights become groups with operator level.

At rollback **Eocortex** to a version earlier than 1.4, all groups with junior administrator rights will have full access to perform configuring of the whole system.

Below is the list of actions available when setting up users of the system. These actions can be performed either from the context menu of the group/user, or using the buttons below the list of users and groups, or via links on the group or user information page. Some actions can be performed in multiple ways, including using hotkeys.

-  **Add group:** Opens the window of adding a group.
-  **Add user:** Opens the window of adding a user to the selected group.
- **Add group based on the selected one:** Adds a new group with the rights identical to those of the selected group.
- **Edit:** Opens the editing window for the selected group or user.
- **Delete:** Removes the selected group or user from the configuration.

Warning

The settings will come into effect only after they are [applied](#).

[Access levels](#)

[Junior administrator](#)

Below is a list of the access rights that can be set for the user group with the Junior administrator access level.

Permissions tree >

Configuring >

Section of access rights settings, which is responsible for the ability to configure the system by a user included in a group with these rights.

Includes the following subsections:

## Servers

The **Servers** subsection of access rights settings defines the list of servers that a user from this group can [configure](#).

## Cameras

The **Cameras** subsection of access rights settings defines the list of cameras that a user from this group can [configure](#).

In addition to setting up the list of cameras available for editing, it is possible set the level of access to camera configuration, which determines a user's ability to change camera settings in the system.

Access levels for configuring cameras:

- **No access**

Complete prohibition on viewing and changing camera settings. The Cameras section of the Configurator application containing camera settings is not available to users with this access level.

- **Viewing settings and adding cameras**

Partial prohibition. Users with this access level can add new cameras and view the settings of cameras that already exist in the system, while at the same time not being able to delete or change the settings of existing cameras, even if they were added by this user.

- **Modifying settings**

Partial prohibition. Users with this access level can view and change the settings of existing cameras without having the right to add new cameras or delete existing cameras.

- **Changing settings and adding cameras**

Partial prohibition. Users with this access level can view and change the settings of existing cameras, as well as add new cameras to the system. Removal of cameras added to the system is not available.

- **Modifying settings, deleting and adding cameras**

No prohibition. Users with this access level can: view and change the settings of existing cameras, add new cameras, delete added cameras.

## Surveillance >

Access rights settings section, which is responsible for interaction with **Eocortex** using [client applications](#).

Includes the following subsections:

## Basic

The **Basic** subsection determines the accessibility of sections and functions of the **Eocortex Client** application to users belonging to this group.

- **Camera control**

- **Audio streaming from camera**

Provides the ability to listen to the sound received from the camera microphone. To receive sound in the system, the camera must have the **Sound capturing** option enabled in the [connection settings](#).

- **Broadcast sound to camera**

Provides the ability to transmit sound from a microphone installed at a user's workplace to the camera speaker. To transmit sound from the system, the camera must have the **Sound transmission** option enabled in the [connection settings](#).

- **Observation mode change**

Provides the ability to arm one or more cameras with the [Guard mode](#) in the **Eocortex Client** application in order to receive notifications when alarm events occur.

- **PTZ Cameras management**

Provides the ability to use the [PTZ functionality of the camera](#) in the **Eocortex Client** application. To use the PTZ functionality, the camera must have the **PTZ capabilities** option enabled in the [connection settings](#). **Eocortex** systems with **Enterprise** and **ULTRA** allow the system administrator to additionally prioritize user commands in case of simultaneous control of a single camera from multiple workplaces. The following priority levels are available:

- Priority: minimum
- Priority: low
- Priority: medium
- Priority: high
- Priority: maximum

Note

When using PTZ functionality by two users with equal priority, the commands of a user who started controlling the camera first will be executed.

- **Archiving management**

Provides the ability to manually enable recording of the camera stream to the **Eocortex** archive, if the recording option **Manual**, **On motion** or **Scheduled** is selected for this camera in the [Archive Recording Settings](#).

- **Configuring**

- **Changing password from client**

Gives a user the ability to change the password for his system account in the **Eocortex Client** application.

- **Configure workplace**

Gives a user the ability to change the [Workplace Settings](#) in the **Eocortex Client** application.

- **Editing face database and license plate database data**

Determines the possibility of adding, modifying and deleting entries in the databases of the [License Plate Recognition](#) and [Face Recognition](#) modules.

- **Eocortex client applications capabilities**

- **Log access**

Specifies whether the [Events Log](#) is available to a user.

Access to the Log can be granted to a user with one of two levels:

- **Current user in log only**

For a user, in addition to general system events (loss of connection with the camera, analytics events, etc.), only those events that were caused by his actions (execution of a user task, archive export, etc.) will be displayed.

- **All system users in log**

A user will see all system messages will be displayed, including those caused by the actions of other users.

- **Videowall access**

Determines the availability of the [Video Wall](#) functionality for a user.

Even if this right is disabled for a user, the monitor from his workplace still can be used to create a video wall controlled from another workplace.

– **Chat access**

Determines the availability of the [Chat](#) functionality for a user.

– **Access to reports**

Determines for a user the ability to build reports based on the data collected by the **Eocortex** system ([Archive depth](#), [Face Recognition Report](#), etc.).

– **Access to archive marks**

Determines for a user the ability to create and view [Archive Bookmarks](#).

– **Access to the episode archive**

Determines for a user the ability to create, view and delete archive episodes in the [Episode Archive](#).

This right has several access levels:

- Viewing (only your own)
- View (all)
- Creating and viewing (only your own)
- Creating and viewing (all)
- Creating, viewing, and deleting (only your own)
- Creating, viewing, and deleting (all)

– **Access to maps**

Determines the availability of the [Maps](#) section for a user.

– **Access to search for objects**

Determines for a user the ability to use data collected by the system using the [Search for Objects](#) module.

– **Close application**

Determines the ability for a user to close the window of the **Eocortex Client** application using standard methods.

- **Limitation of the number of connections**

Sets a [limit on the number of simultaneous connections](#) using the credentials of the same user.

- **Application launch delayed**

Prevents a user from being forced to immediately restart the application when changes are made to the system settings.

Warning

This right allows to delay the restart of the **Eocortex Client** application, but the user must still restart the application when appropriate for the changes to take effect.

- **User tasks launch**

Provides the ability to execute [User tasks](#).

- **Camera cell control**

Provides a user with the ability to interact with camera cells: drag and drop cameras between cells, use the context menu and cell interface elements.

- **Access to face and license plate databases**

Provides a user with the ability to view entries in the databases of the [License Plate Recognition](#) and [Face Recognition](#) modules.

Warning

Disabling this right will automatically disable the **Editing face database and license plate database data** right.

- **Adjusting the number of occupied parking spots**

Allows a user to make changes to the data displayed in the [Occupied Parking Spots counter](#) of the **License Plate Recognition** module.

- **Archive export**

Provides the ability to [export fragments of the system archive](#) as **MCM**, **MP4** or **AVI** files.

- **Archive expert mode access**

Allows a user to interact with the archive in the mode of [simultaneous viewing of multiple cameras](#).

- **Editing views**

Allows a user to [create and edit views](#).

Applies only to views created in the **Eocortex Client** application directly at a user's workplace.

Does not affect [server views](#) created and edited in Eocortex Configurator.

- **Blurring disabled**

Allows a user to disable image blurring imposed by the **Frame area blurring** module.

- **Alarm processing**

- **Allow to mark alarms as false:** Allows the user to mark a false alarm.

- **Ignore the alarm for, sec:** Allows the user to ignore alarms within a specified time.

- **Interaction with external components**

- **Receive push notifications**

Allows a user to receive Push notifications in **Eocortex** mobile applications (iOS, Android) authorized under his account.

- **Connection via mobile devices and Web-Client**

Allows using a user account for authorization in **Eocortex** mobile applications ([iOS](#), [Android](#)) and [Web Client](#).

## Cameras

The **Cameras** subsection defines the list of cameras available for [viewing in Eocortex client applications](#). Both full access to the camera, and partial access to only the archive or only to the live video of the camera can be provided.

### **One right for surveillance and archive**

An option that speeds up the process of setting up access to cameras. If enabled, a user will be granted both access rights to the camera at the same time — to the live video and to the archive of the camera. Can be disabled for more fine-grained access customization with separate rights.

- **Surveillance**

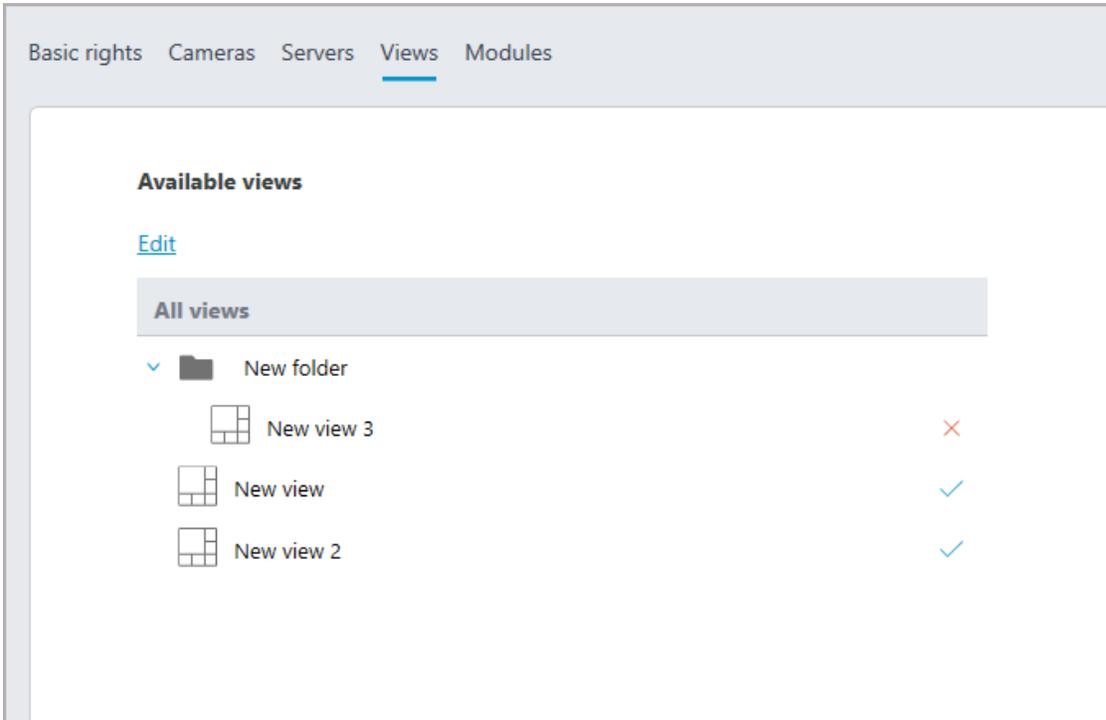
The user has access to the camera's live video.

- **Archive**

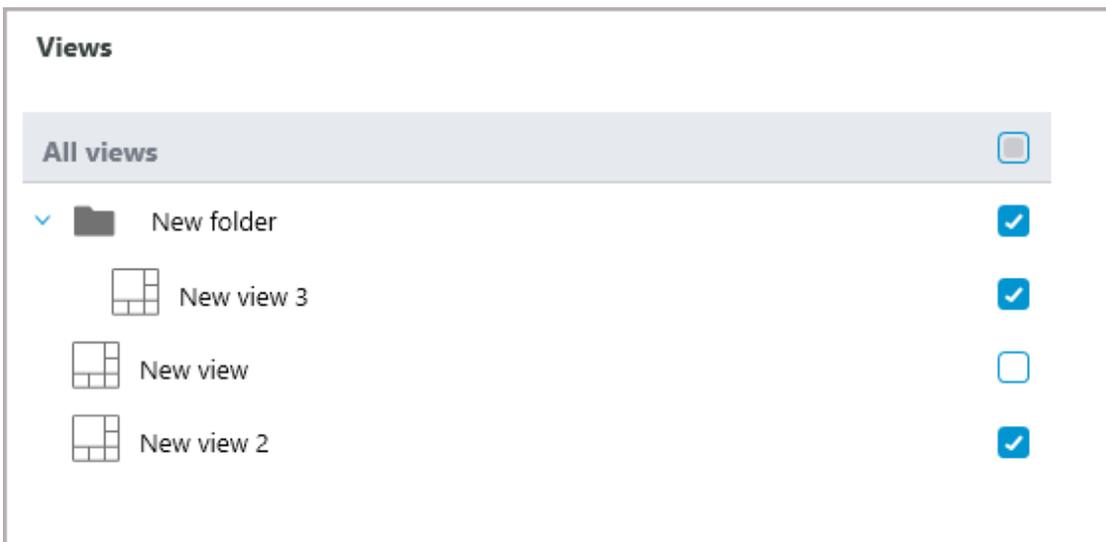
The user has access to the camera's archive recordings.

## Views

The **Views** subsection displays the [view tree](#) with the current permissions for each view in the **Eocortex Configurator** application.



Clicking on the **Edit** button brings up an edit window with a view tree, where access to items can be controlled through checkbox activation.



## Modules

The **Modules** subsection defines the list of [video analytics modules](#) available to a user in the **Eocortex Client** application.

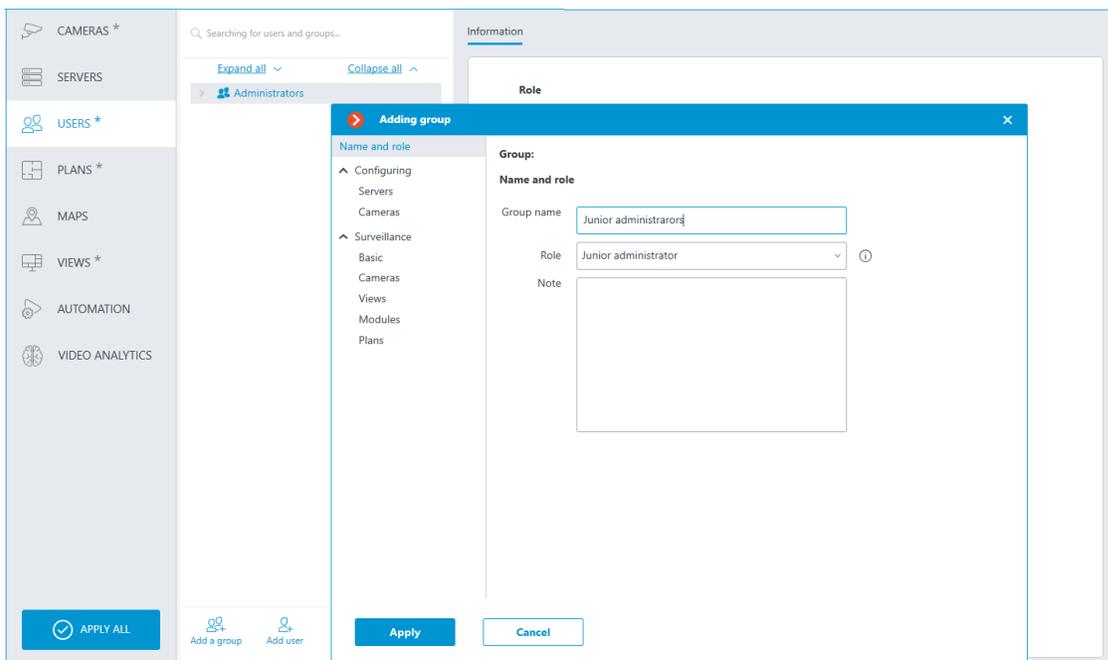
## Plans

The **Plans** subsection defines the list of [plans](#) available to a user in the **Eocortex Client** application.

Adding a group >

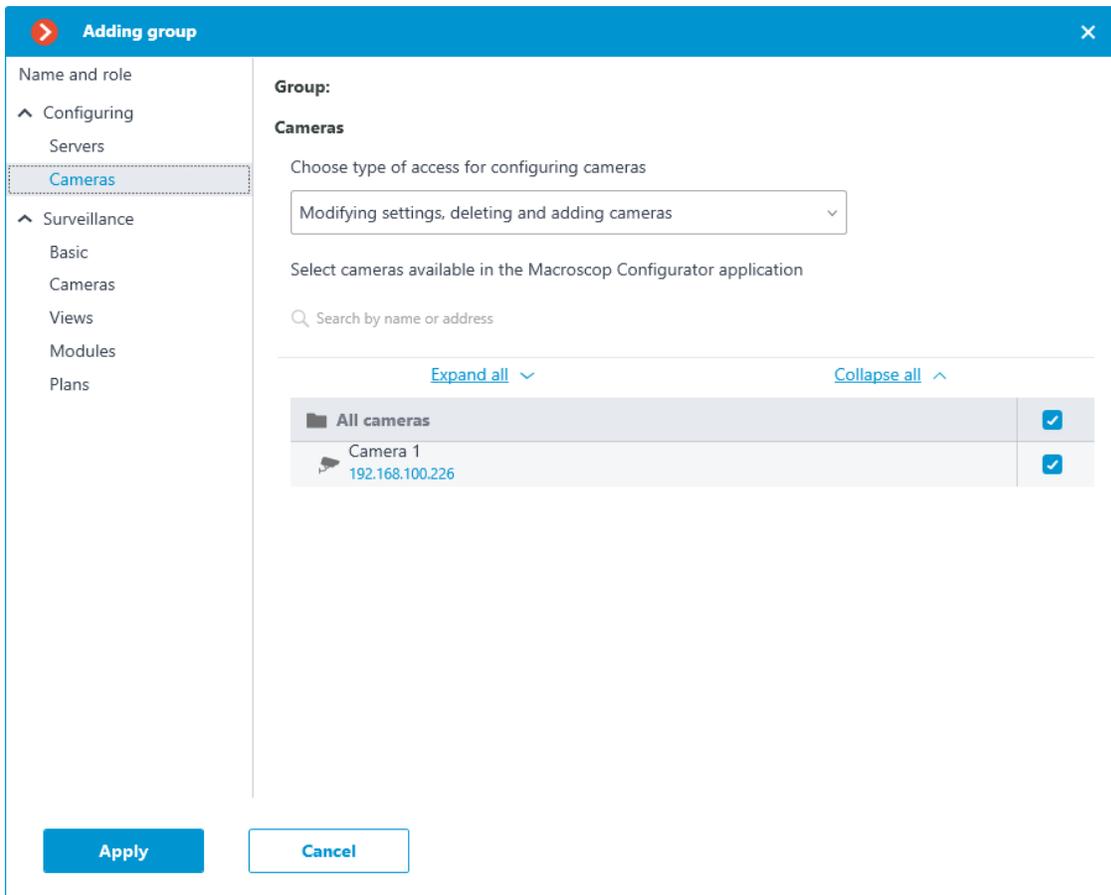
### Adding the group

To add a group, press the **Add a group** button at the bottom of the panel. In the window that appears, specify the **Group name** and **Role**, the **Notes** field is optional.



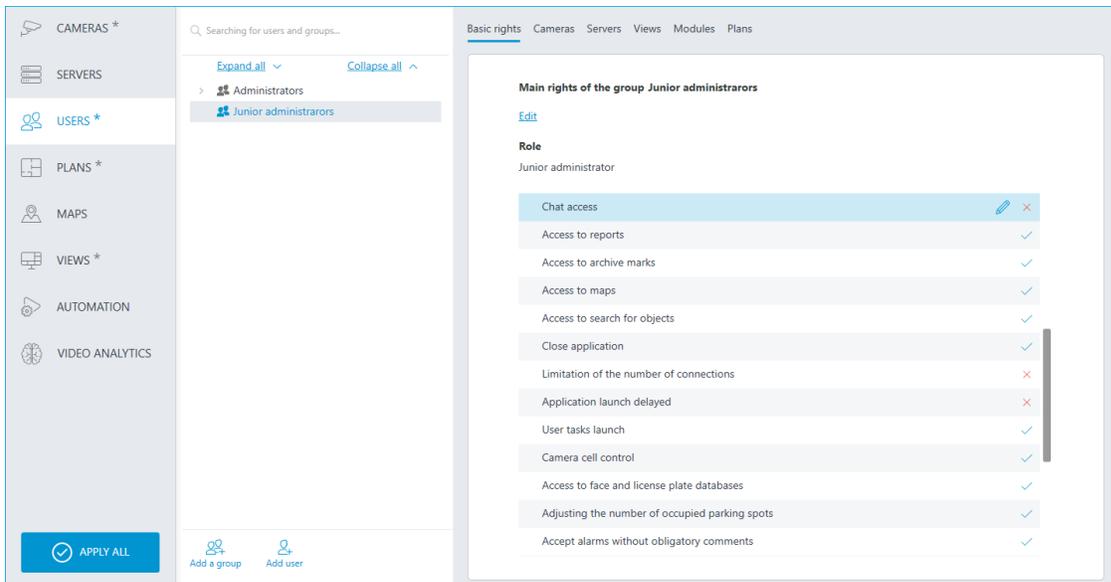
### Granting rights

Permissions for this user group are configured on the **Configuring** and **Surveillance** tabs.



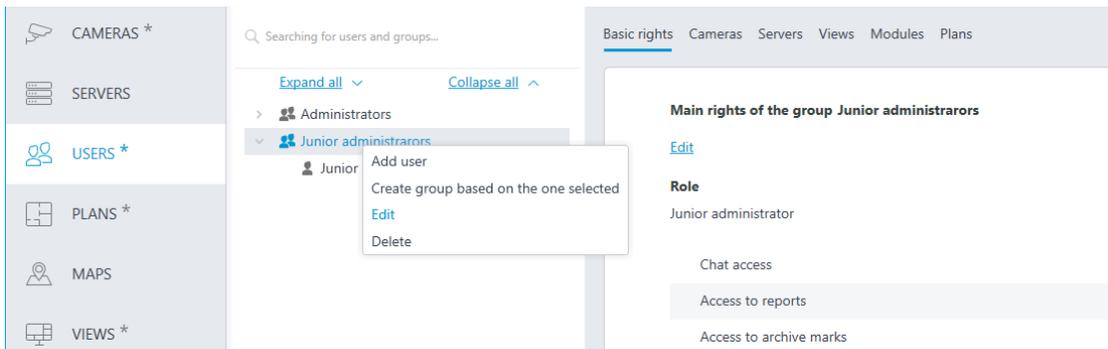
## Group permissions overview

The permissions configured for a group are displayed when the corresponding group is selected.

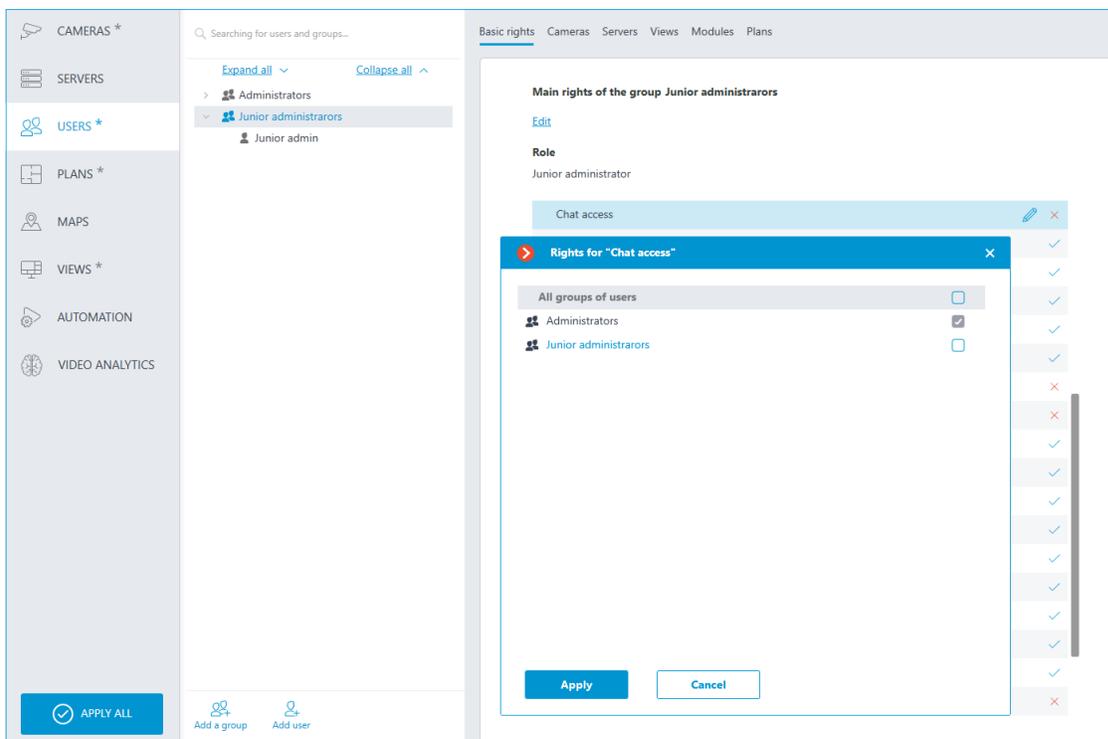


Editing the group >

To edit the group settings, press the **Edit** button or select the corresponding item in the context menu.

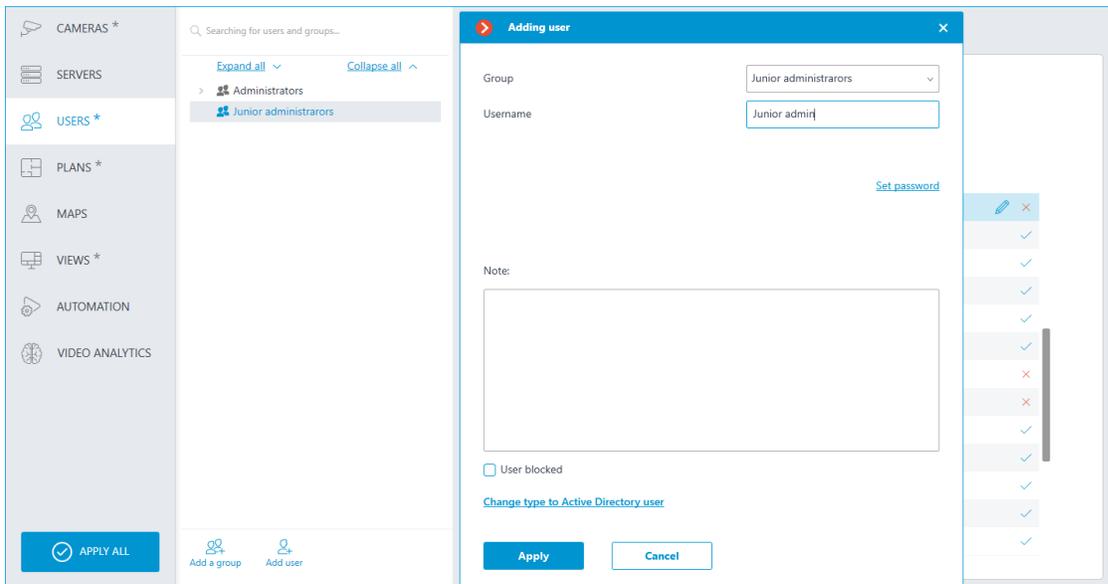


To edit one permission item, just select the item and press the  icon.



Adding the user >

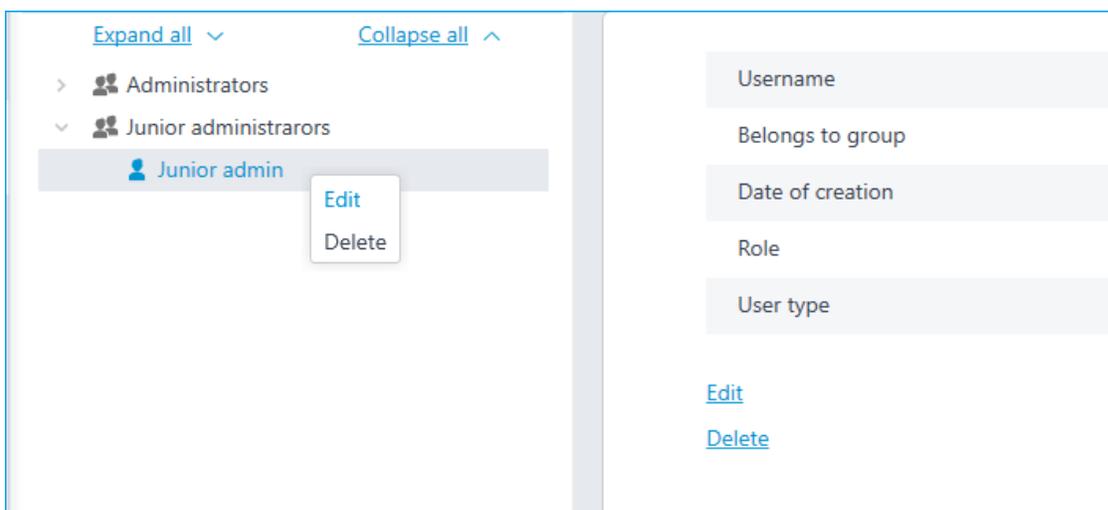
To add a user, press the **Add user** button at the bottom of the panel. In the window that appears, specify the name of the user.



In this window, it is possible to block a user by checking the box next to the item **User blocked**. After applying these settings, blocked users will not be able to log in to the configurator and client applications Eocortex. If such a user is already logged into the client application, the session window will close. In the case that the user is logged into the configurator, they will not be able to save the changes made to the system.

Additionally, the option to add a user with **Active Directory** is provided. To do this, click on the link **Change type to Active Directory user**. After changing the user type, it will be impossible to change it back to Eocortex while editing the user.

To edit the user settings, press the **Edit** button or select the corresponding item in the context menu.



## Operator

Below is a list of the access rights that can be set for the user group with the Operator privilege level.

Permissions tree >

The **Surveillance** section of access rights settings is responsible for interaction with **Eocortex** using [client applications](#).

Includes the following subsections:

### Basic

The **Basic** subsection determines the accessibility of sections and functions of the **Eocortex Client** application to users belonging to this group.

- **Camera control**

- **Audio streaming from camera**

- Provides the ability to listen to the sound received from the camera microphone. To receive sound in the system, the camera must have the **Sound capturing** option enabled in the [connection settings](#).

- **Broadcast sound to camera**

- Provides the ability to transmit sound from a microphone installed at a user's workplace to the camera speaker. To transmit sound from the system, the camera must have the **Sound transmission** option enabled in the [connection settings](#).

- **Observation mode change**

- Provides the ability to arm one or more cameras with the [Guard mode](#) in the **Eocortex Client** application in order to receive notifications when alarm events occur.

- **PTZ Cameras management**

- Provides the ability to use the [PTZ functionality of the camera](#) in the **Eocortex Client** application. To use the PTZ functionality, the camera must have the **PTZ capabilities** option enabled in the [connection settings](#). **Eocortex** systems with **Enterprise** and **ULTRA** allow the system administrator to additionally prioritize user commands in case of simultaneous control of a single camera from multiple workplaces.

- The following priority levels are available:

- Priority: minimum
    - Priority: low

- Priority: medium
- Priority: high
- Priority: maximum

#### Note

When using PTZ functionality by two users with equal priority, the commands of a user who started controlling the camera first will be executed.

- **Archiving management**

Provides the ability to manually enable recording of the camera stream to the **Eocortex** archive, if the recording option **Manual, On motion** or **Scheduled** is selected for this camera in the [Archive Recording Settings](#).

- **Configuring**

- **Changing password from client**

Gives a user the ability to change the password for his system account in the **Eocortex Client** application.

- **Configure workplace**

Gives a user the ability to change the [Workplace Settings](#) in the **Eocortex Client** application.

- **Access to new added cameras**

If enabled, a user from this group will be automatically granted access rights to all cameras added to the system later. If security policies require strict restriction of camera accessibility for users, it is recommended to disable this option and grant access to the required cameras to each user group manually.

- **Editing face database and license plate database data**

Determines the possibility of adding, modifying and deleting entries in the databases of the [License Plate Recognition](#) and [Face Recognition](#) modules.

- **Eocortex client applications capabilities**

- **Log access**

Specifies whether the [Events Log](#) is available to a user.

Access to the Log can be granted to a user with one of two levels:

- **Current user in log only**

For a user, in addition to general system events (loss of connection with the camera, analytics events, etc.), only

those events that were caused by his actions (execution of a user task, archive export, etc.) will be displayed.

- **All system users in log**

A user will see all system messages will be displayed, including those caused by the actions of other users.

- **Videowall access**

Determines the availability of the [Video Wall](#) functionality for a user. Even if this right is disabled for a user, the monitor from his workplace still can be used to create a video wall controlled from another workplace.

- **Chat access**

Determines the availability of the [Chat](#) functionality for a user.

- **Access to reports**

Determines for a user the ability to build reports based on the data collected by the **Eocortex** system ([Archive depth](#), [Face Recognition Report](#), etc.).

- **Access to archive marks**

Determines for a user the ability to create and view [Archive Bookmarks](#).

- **Access to the episode archive**

Determines for a user the ability to create, view and delete archive episodes in the [Episode Archive](#). This right has several access levels:

- Viewing (only your own)
- View (all)
- Creating and viewing (only your own)
- Creating and viewing (all)
- Creating, viewing, and deleting (only your own)
- Creating, viewing, and deleting (all)

- **Access to maps**

Determines the availability of the [Maps](#) section for a user.

- **Access to search for objects**

Determines for a user the ability to use data collected by the system using the [Search for Objects](#) module.

- **Close application**

Determines the ability for a user to close the window of the **Eocortex Client** application using standard methods.

- **Limitation of the number of connections**  
Sets a [limit on the number of simultaneous connections](#) using the credentials of the same user.
- **Application launch delayed**  
Prevents a user from being forced to immediately restart the application when changes are made to the system settings.  
Warning  
This right allows to delay the restart of the **Eocortex Client** application, but the user must still restart the application when appropriate for the changes to take effect.
- **User tasks launch**  
Provides the ability to execute [User tasks](#).
- **Camera cell control**  
Provides a user with the ability to interact with camera cells: drag and drop cameras between cells, use the context menu and cell interface elements.
- **Access to face and license plate databases**  
Provides a user with the ability to view entries in the databases of the [License Plate Recognition](#) and [Face Recognition](#) modules.  
Warning  
Disabling this right will automatically disable the **Editing face database and license plate database data** right.
- **Adjusting the number of occupied parking spots**  
Allows a user to make changes to the data displayed in the [Occupied Parking Spots counter](#) of the **License Plate Recognition** module.
- **Archive export**  
Provides the ability to [export fragments of the system archive](#) as **MCM, MP4** or **AVI** files.
- **Archive expert mode access**  
Allows a user to interact with the archive in the mode of [simultaneous viewing of multiple cameras](#).
- **Editing views**  
Allows a user to [create and edit views](#).  
Applies only to views created in the **Eocortex Client** application directly at a user's workplace.

Does not affect [server views](#) created and edited in Eocortex Configurator.

- **Blurring disabled**

Allows a user to disable image blurring imposed by the [Frame area blurring](#) module.

- **Alarm processing**

- **Allow to mark alarms as false:** Allows the user to mark a false alarm.

- **Ignore the alarm for, sec:** Allows the user to ignore alarms within a specified time.

- **Interaction with external components**

- **Receive push notifications**

Allows a user to receive Push notifications in **Eocortex** mobile applications (iOS, Android) authorized under his account.

- **Connection via mobile devices and Web-Client**

Allows using a user account for authorization in **Eocortex** mobile applications (iOS, Android) and [Web Client](#).

## Cameras

The **Cameras** subsection defines the list of cameras available for [viewing in Eocortex client applications](#).

### **One right for surveillance and archive**

An option that speeds up the process of setting up access to cameras. If enabled, a user will be granted both access rights to the camera at the same time — to the live video and to the archive of the camera. Can be disabled for more fine-grained access customization with separate rights.

- **Surveillance**

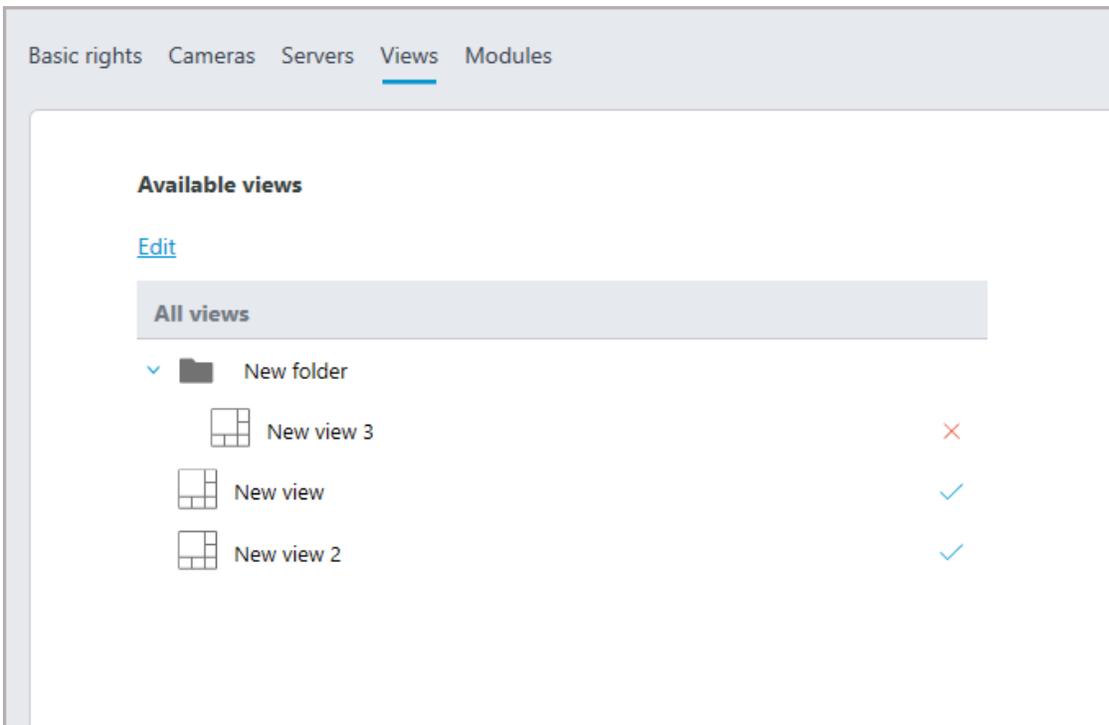
The user has access to the camera's live video.

- **Archive**

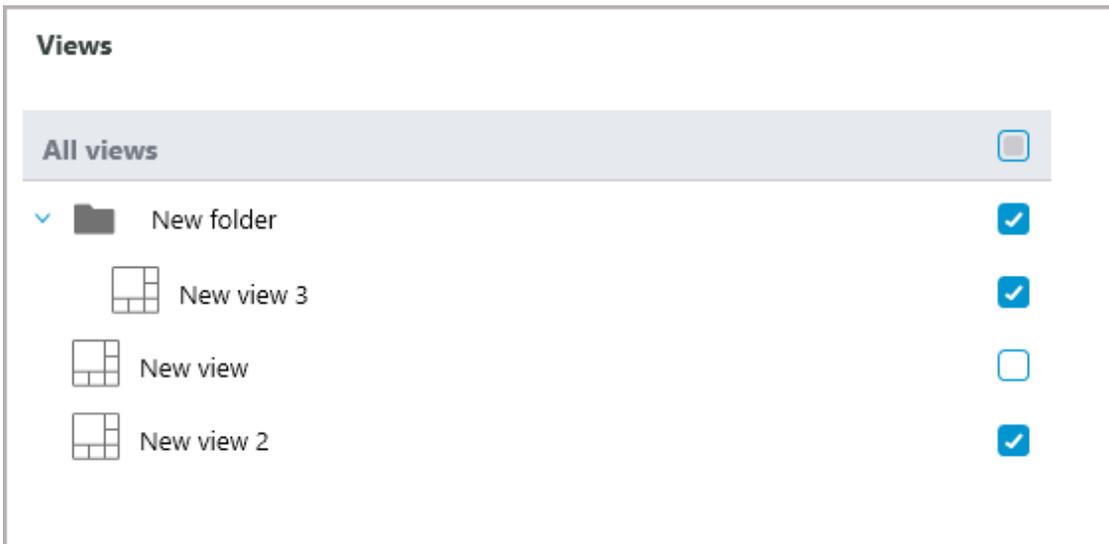
The user has access to the camera's archive recordings.

## Views

The **Views** subsection displays the [view tree](#) with the current permissions for each view in the **Eocortex Configurator** application.



Clicking on the **Edit** button brings up an edit window with a view tree, where access to items can be controlled through checkbox activation.



## Modules

The **Modules** subsection defines the list of [video analytics modules](#) available to a user in the **Ecortex Client** application.

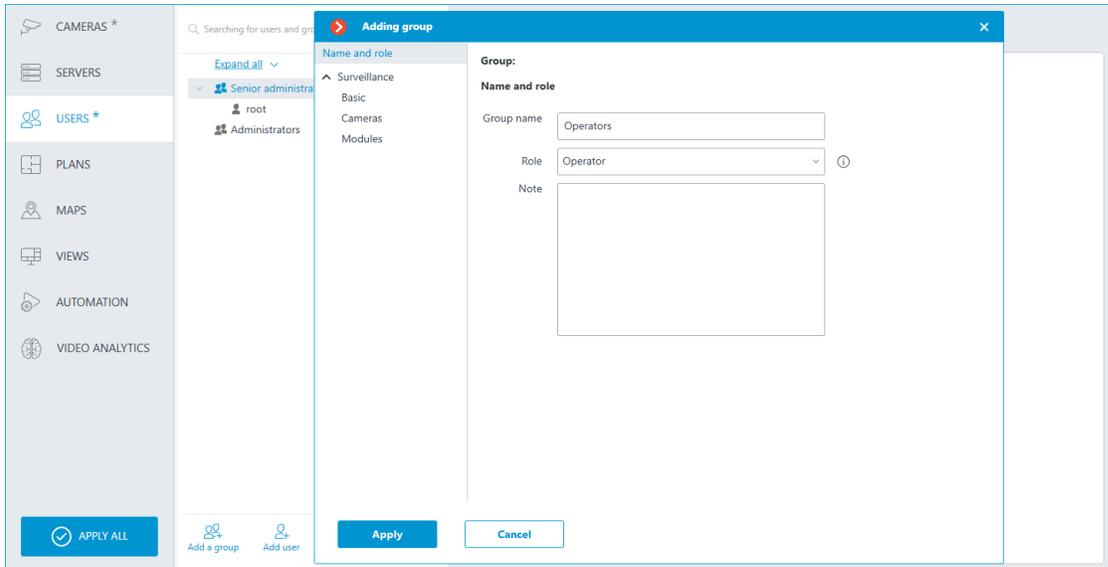
## Plans

The **Plans** subsection defines the list of [plans](#) available to a user in the **Ecortex Client** application.

Adding a group >

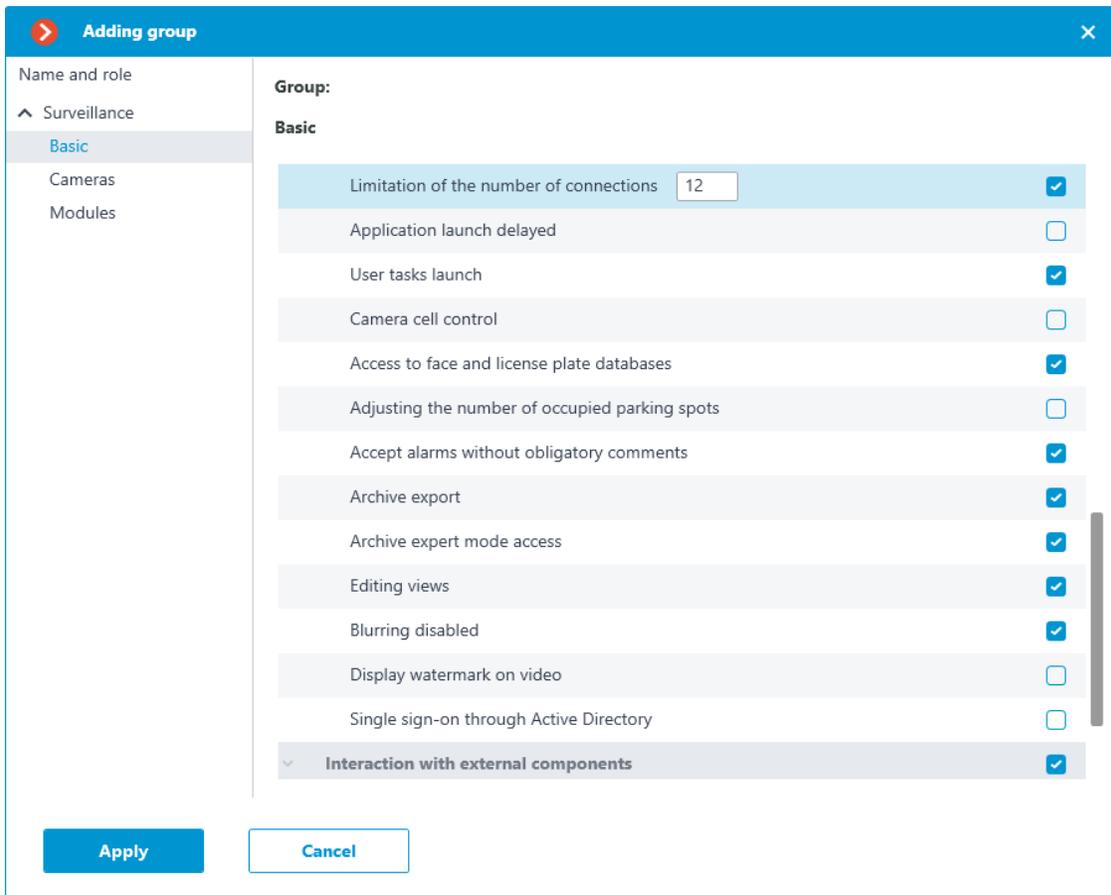
## Adding the group

To add a group, press the **Add a group** button at the bottom of the panel. In the window that appears, specify the **Group name** and **Role**, the **Notes** field is optional.



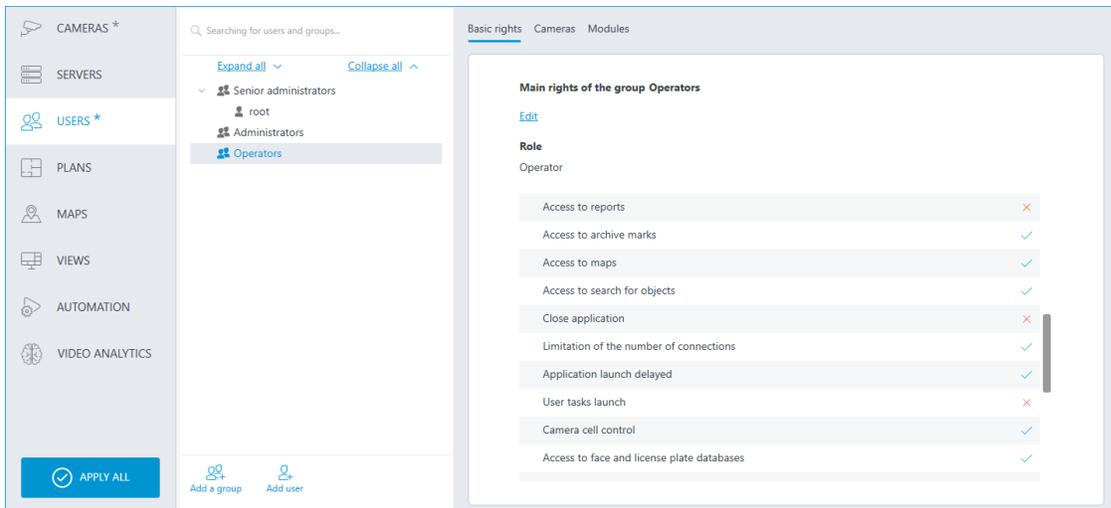
## Granting rights

Permissions for this user group are limited to the **Surveillance** tab.



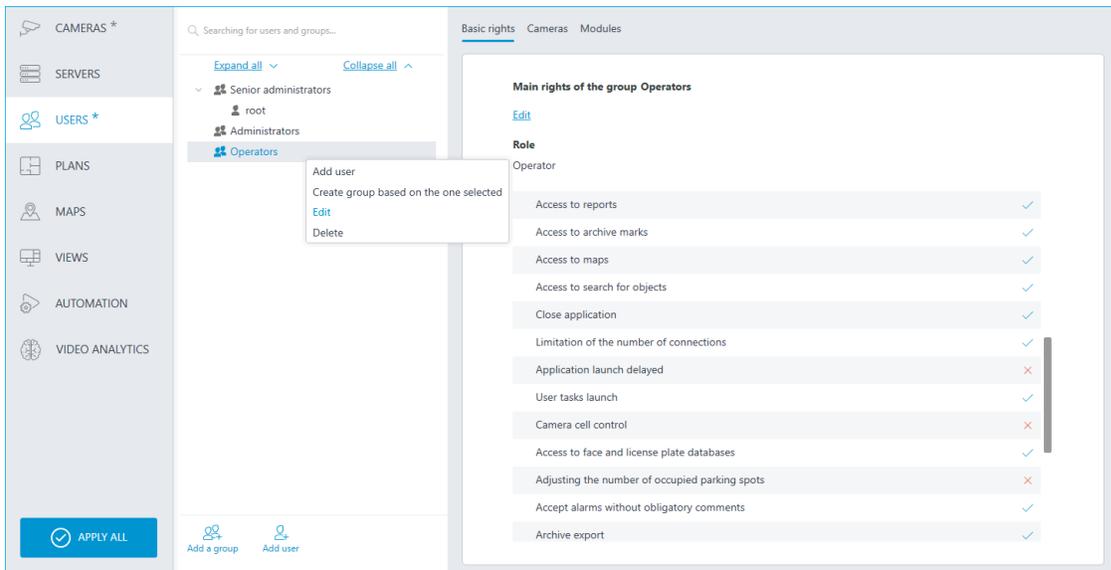
## Group permissions overview

The permissions configured for a group are displayed when the corresponding group is selected.

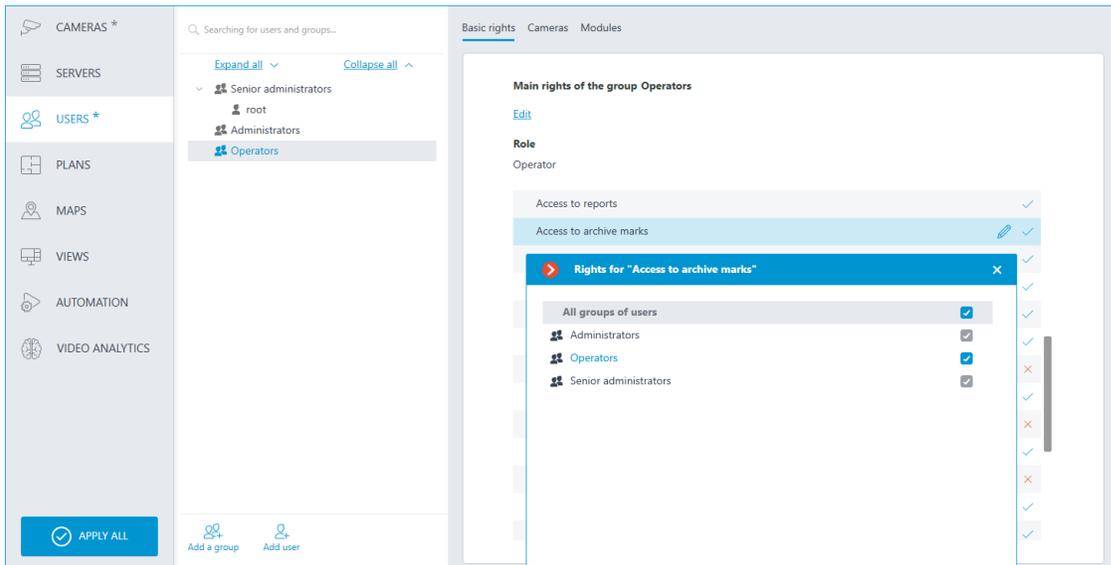


## Editing the group >

To edit the group settings, press the **Edit** button or select the corresponding item in the context menu.

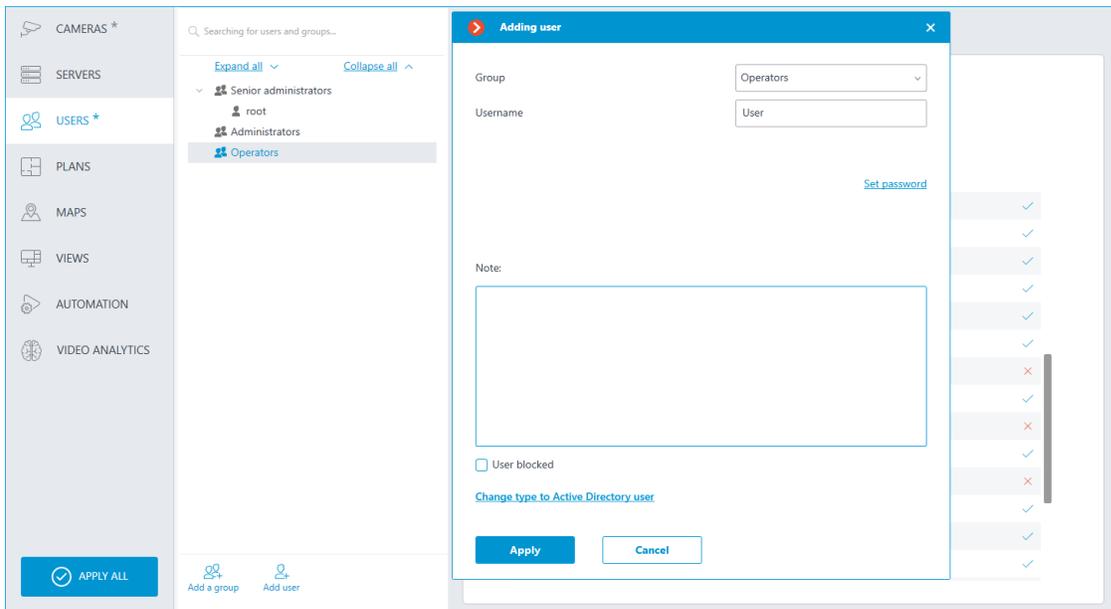


To edit one permission item, just select the item and press the  icon.



Adding and editing the user >

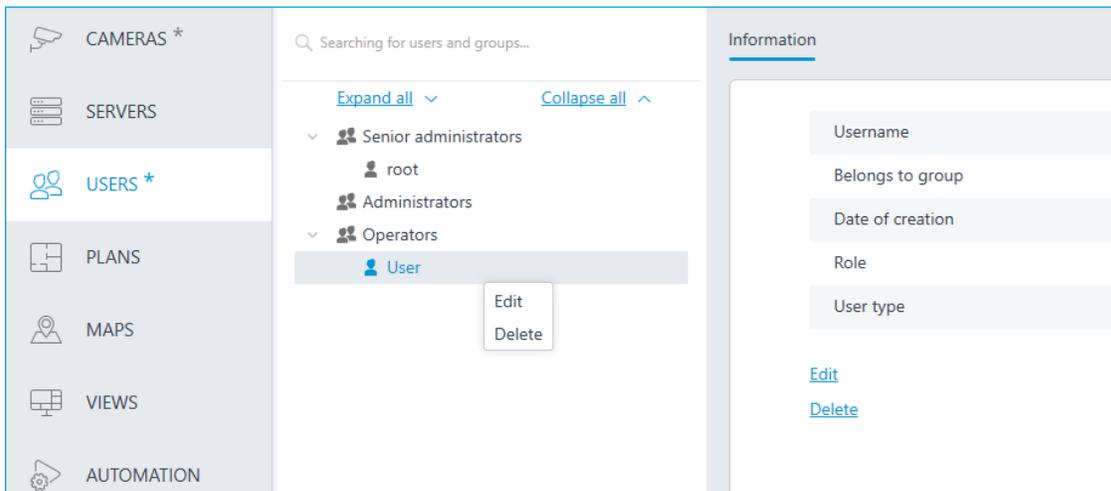
To add a user, press the **Add user** button at the bottom of the panel. In the window that appears, specify the name of the user.



In this window, it is possible to block a user by checking the box next to the item **User blocked**. After applying these settings, blocked users will not be able to log in to the configurator and client applications Eocortex. If such a user is already logged into the client application, the session window will close. In the case that the user is logged into the configurator, they will not be able to save the changes made to the system.

Additionally, the option to add a user with **Active Directory** is provided. To do this, click on the link **Change type to Active Directory user**. After changing the user type, it will be impossible to change it back to Eocortex while editing the user.

To edit the user settings, press the **Edit** button or select the corresponding item in the context menu.



## Active Directory users

Adding the user >

To add **Active Directory** group or user, press **Change type to Active Directory user** link.

In the opened window type **Active Directory** name and password of the user who has rights to search **Active Directory** catalogue.

Then in the **Add User** window, in the filter section, enter part of the name or description which will be used for searching; mark the types of entries to be searched for (**Users** and/or **Groups**), then click **Start search**.

In the lower part of the window you will see a list of found users/groups. If **Name** and **Description** fields are left blank, the complete user/group list will be displayed.

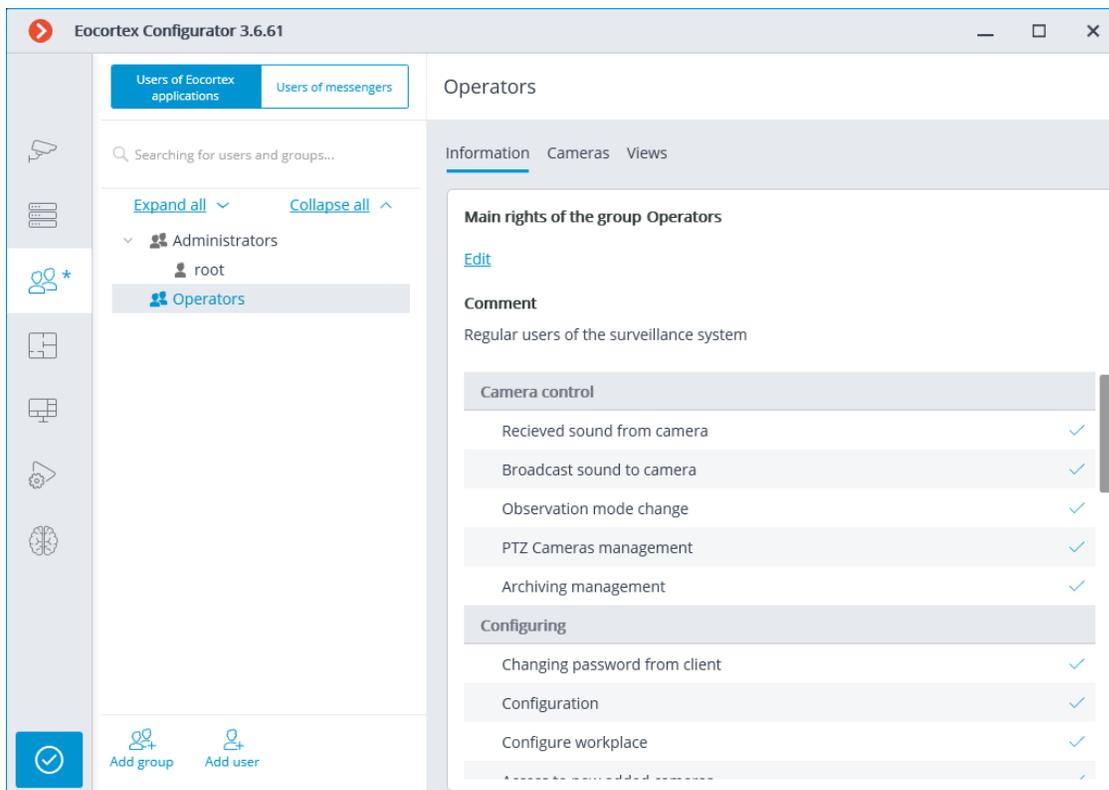
Note

When **Active Directory** group is added to the list of users, the corresponding permissions will be extended to all users of this **Active Directory** group.

## Users of Eocortex applications (LS and ST licenses)

To set up the rights of users of the Eocortex system running on **LS** or **ST**

license, run the **Eocortex Configurator**, open the  **Users** page and select the **Users of Eocortex applications** tab.



### *The tree of the groups and the users*

The left part of the window contains a hierarchical tree of groups with the surveillance system users created in them. To configure an existing group or an individual user, select the required item in the list — the settings page of the selected group/user will be displayed in the right part of the window.

For the convenience of finding the necessary groups/users, the search field above the list can be used.

### Note

Particularities and limitations of user rights:

- The rights are provided only to the entire groups of users and are extended to all the users of the group. Individual users cannot be granted any rights that differ from the rights of the group.
- A single user can belong to only one group. A group may not contain users at all, but it is not possible to create a user which does not belong to any group.
- Every user is assigned a unique password.
- A user can be moved from one group to another, maintaining its password. The rights of the user in this case are modified according to those of the current group.

User groups in **Eocortex** running on **LS** or **ST** licenses have two levels of rights:

- **Administrators:** System administrator access level. This is embedded group. Users of the group can configure the entire system, create, modify and delete other groups and users, view and listen to any cameras both in real time and from the archive. This group and its users can be deleted, provided that at least one user with configuration rights exists.
- **Operators:** Regular system user access level. The rights of group members with this level of access are limited to viewing cameras without access to the system configuration.

Note

The ability to create user groups with partial system configuration rights is available only for **Eocortex** systems running on **Enterprise** and **ULTRA** licenses.

Below is the list of actions available when setting up users of the system. These actions can be performed either from the context menu of the group/user, or using the buttons below the list of users and groups, or via links on the group or user information page. Some actions can be performed in multiple ways, including using hotkeys.

-  **Add group:** Opens the window of adding a group.
-  **Add user:** Opens the window of adding a user to the selected group.
- **Add group based on the selected one:** Adds a new group with the rights identical to those of the selected group.
- **Edit:** Opens the editing window for the selected group or user.
- **Delete:** Removes the selected group or user from the configuration.

Warning

The settings will come into effect only after they are [applied](#).

*Operator access level*

Permissions tree

Below is a list of the access rights that can be set for the user group with the Operator privilege level.

**Surveillance**

Access rights settings section, which is responsible for interaction with **Eocortex** using [client applications](#).

Includes the following subsections:

Basic

The **Basic** subsection determines the accessibility of sections and functions of the **Eocortex Client** application to users belonging to this group.

- **Camera control**
  - **Audio streaming from camera**

Provides the ability to listen to the sound received from the camera microphone. To receive sound in the system, the camera must have the **Sound capturing** option enabled in the [connection settings](#).
  - **Broadcast sound to camera**

Provides the ability to transmit sound from a microphone installed at a user's workplace to the camera speaker. To transmit sound from the system, the camera must have the **Sound transmission** option enabled in the [connection settings](#).
  - **Observation mode change**

Provides the ability to arm one or more cameras with the [Guard mode](#) in the **Eocortex Client** application in order to receive notifications when alarm events occur.
  - **PTZ Cameras management**

Provides the ability to use the [PTZ functionality of the camera](#) in the **Eocortex Client** application. To use the PTZ functionality, the camera must have the **PTZ capabilities** option enabled in the [connection settings](#).
  - **Archiving management**

Provides the ability to manually enable recording of the camera stream to the **Eocortex** archive, if the recording option **Manual**, **On motion** or **Scheduled** is selected for this camera in the [Archive Recording Settings](#).
- **Configuring**
  - **Changing password from client**

Gives a user the ability to change the password for his system account in the **Eocortex Client** application.

- **Configuring**

Gives a user the ability to open the **Eocortex Configurator** application.
- **Configure workplace**

Gives a user the ability to change the [Workplace Settings](#) in the **Eocortex Client** application.
- **Access to new added cameras**

If enabled, a user from this group will be automatically granted access rights to all cameras added to the system later. If security policies require strict restriction of camera accessibility for users, it is recommended to disable this option and grant access to the required cameras to each user group manually.
- **Editing face database and license plate database data**

Determines the possibility of adding, modifying and deleting entries in the databases of the [License Plate Recognition](#) and [Face Recognition](#) modules.
- **Eocortex client applications capabilities**
  - **Log access**

Specifies whether the [Events Log](#) is available to a user. Access to the Log can be granted to a user with one of two levels:

    - **Current user in log only**

For a user, in addition to general system events (loss of connection with the camera, analytics events, etc.), only those events that were caused by his actions (execution of a user task, archive export, etc.) will be displayed.
    - **All system users in log**

A user will see all system messages will be displayed, including those caused by the actions of other users.
  - **Access to reports**

Determines for a user the ability to build reports based on the data collected by the **Eocortex** system ([Archive depth](#), [Face Recognition Report](#), etc.).
  - **Access to archive marks**

Determines for a user the ability to create and view [Archive Bookmarks](#).

- **Access to maps**

Determines the availability of the [Maps](#) section for a user.

- **Access to search for objects**

Determines for a user the ability to use data collected by the system using the [Search for Objects](#) module.

- **Access to plans**

Determines the availability of the [Plans](#) section for a user.

- **Close application**

Determines the ability for a user to close the window of the **Eocortex Client** application using standard methods.

- **Limitation of the number of connections**

Sets a [limit on the number of simultaneous connections](#) using the credentials of the same user.

- **Application launch delayed**

Prevents a user from being forced to immediately restart the application when changes are made to the system settings.

Warning

This right allows to delay the restart of the **Eocortex Client** application, but the user must still restart the application when appropriate for the changes to take effect.

- **User tasks launch**

Provides the ability to execute [User tasks](#).

- **Camera cell control**

Provides a user with the ability to interact with camera cells: drag and drop cameras between cells, use the context menu and cell interface elements.

- **Access to face and license plate databases**

Provides a user with the ability to view entries in the databases of the [License Plate Recognition](#) and [Face Recognition](#) modules.

Warning

Disabling this right will automatically disable the **Editing face database and license plate database data** right.

- **Adjusting the number of occupied parking spots**

Allows a user to make changes to the data displayed in the [Occupied Parking Spots counter](#) of the **License Plate Recognition** module.

- **Archive export**

Provides the ability to [export fragments of the system archive](#) as **MCM, MP4** or **AVI** files.

- **Archive expert mode access**

Allows a user to interact with the archive in the mode of [simultaneous viewing of multiple cameras](#).

- **Editing views**

Allows a user to [create and edit views](#).

Applies only to views created in the **Eocortex Client** application directly at a user's workplace.

Does not affect [server views](#) created and edited in Eocortex Configurator.

- **Blurring disabled**

Allows a user to disable image blurring imposed by the **Frame area blurring** module.

- **Alarm processing**

- **Allow to mark alarms as false:** Allows the user to mark a false alarm.

- **Ignore the alarm for, sec:** Allows the user to ignore alarms within a specified time.

- **Interaction with external components**

- **Receive push notifications**

Allows a user to receive Push notifications in **Eocortex** mobile applications (iOS, Android) authorized under his account.

- **Connection via mobile devices and Web-Client**

Allows using a user account for authorization in **Eocortex** mobile applications (iOS, Android) and [Web Client](#).

## Cameras

The **Cameras** subsection defines the list of cameras available for [viewing in Eocortex client applications](#). Both full access to the camera, and partial access to only the archive or only to the live video of the camera can be provided.

### One right for surveillance and archive

An option that speeds up the process of setting up access to cameras. If enabled, a user will be granted both access rights to the camera at the same time — to the live video and to the archive of the camera. Can be disabled for more fine-grained access customization with separate rights.

- **Surveillance**

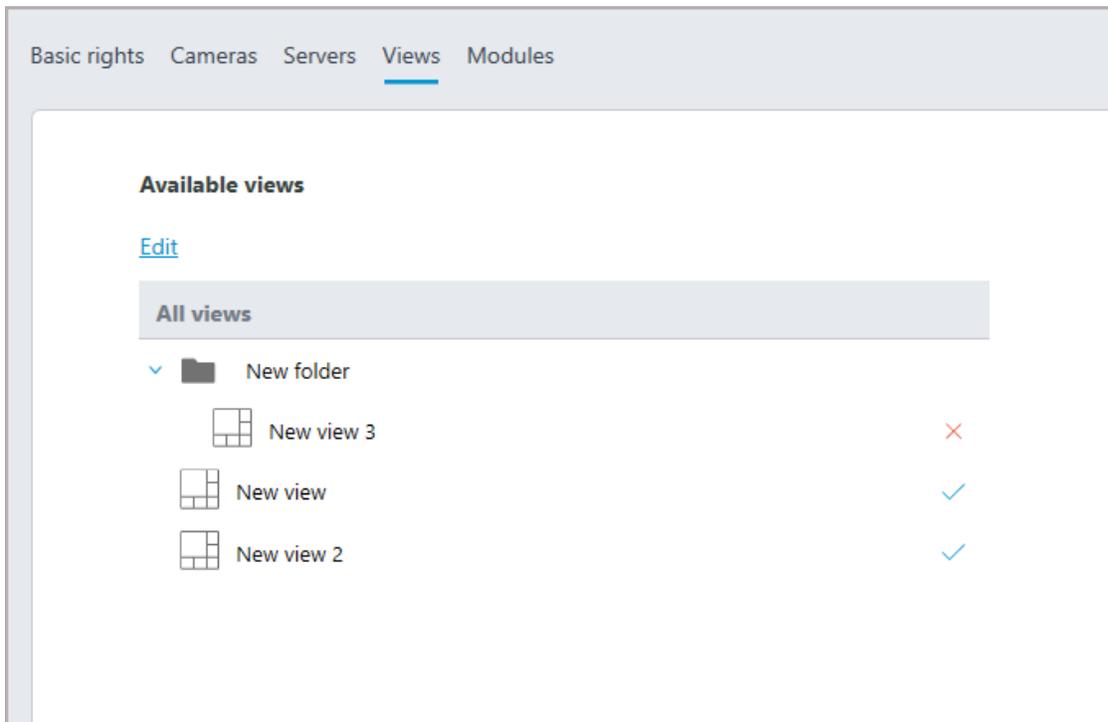
The user has access to the camera's live video.

- **Archive**

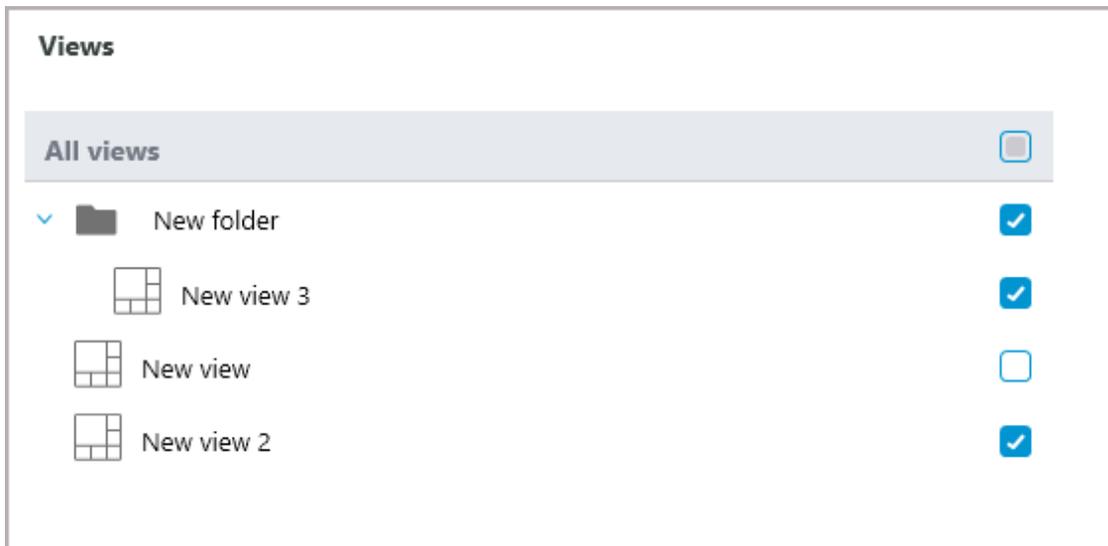
The user has access to the camera's archive recordings.

## Views

The **Views** subsection displays the [view tree](#) with the current permissions for each view in the **Eocortex Configurator** application.



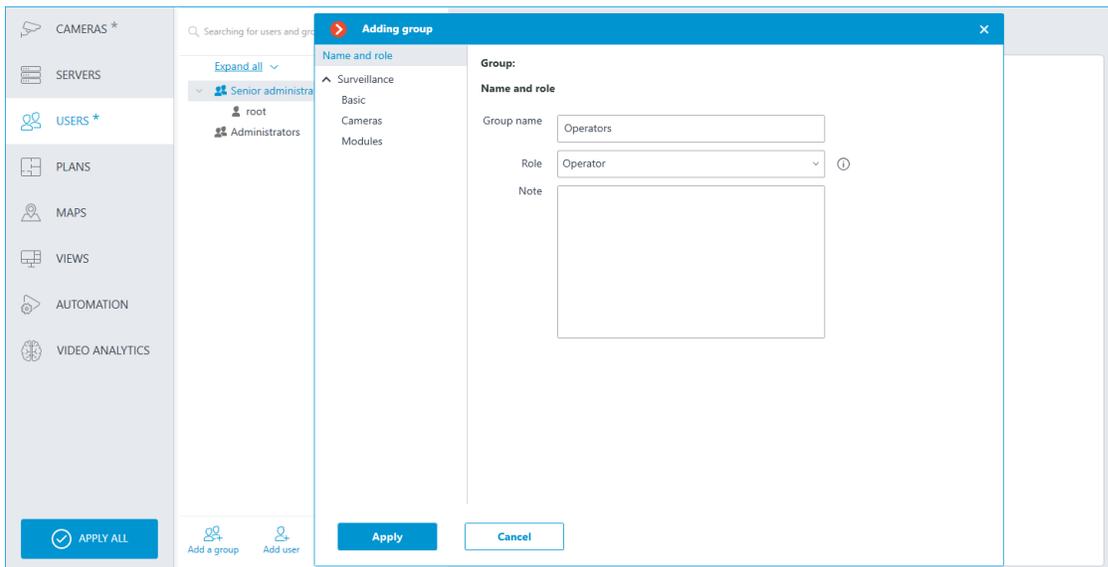
Clicking on the **Edit** button brings up an edit window with a view tree, where access to items can be controlled through checkbox activation.



## Adding a group

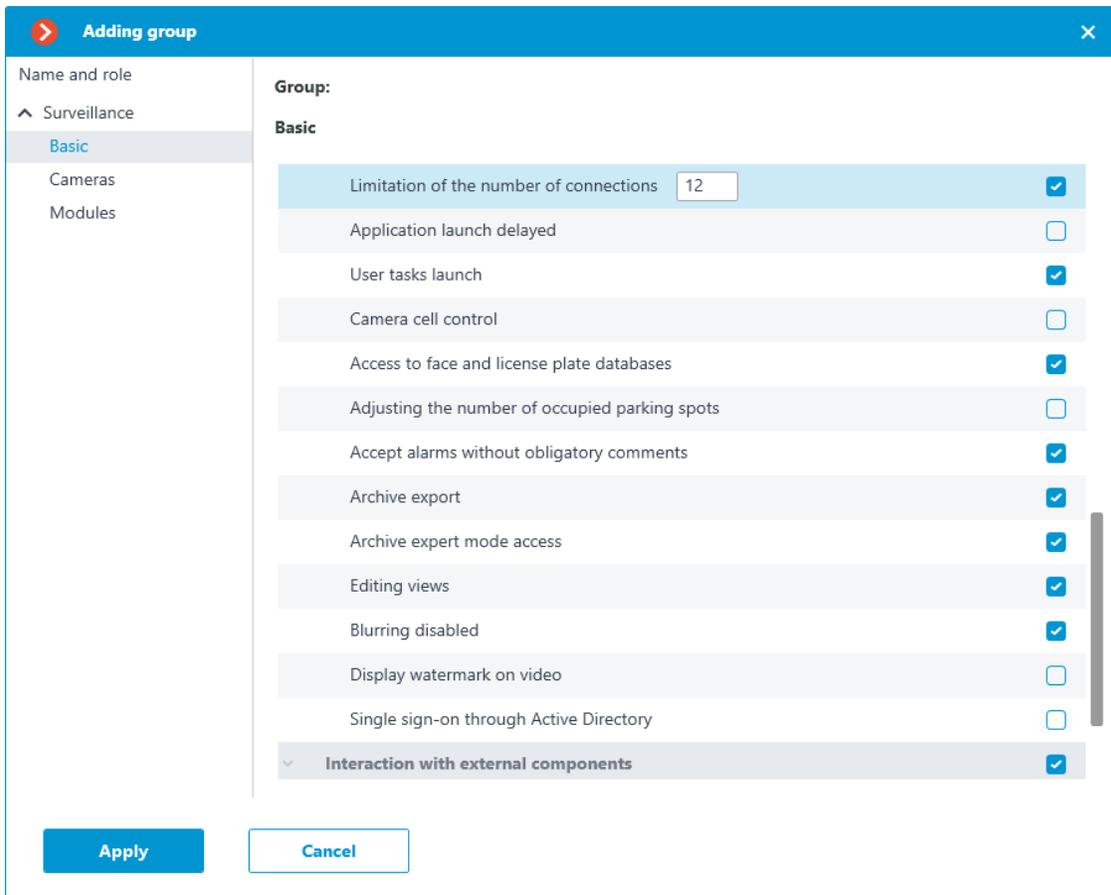
### Adding the group

To add a group, press the **Add a group** button at the bottom of the panel. In the window that appears, specify the **Group name** and **Role**, the **Notes** field is optional.



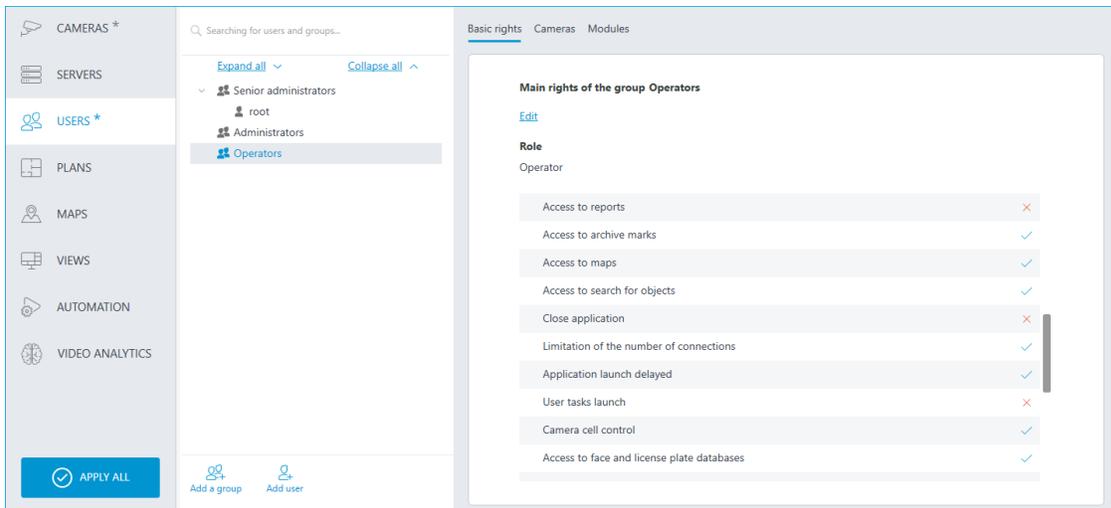
### Granting rights

Permissions for this user group are limited to the **Surveillance** tab.



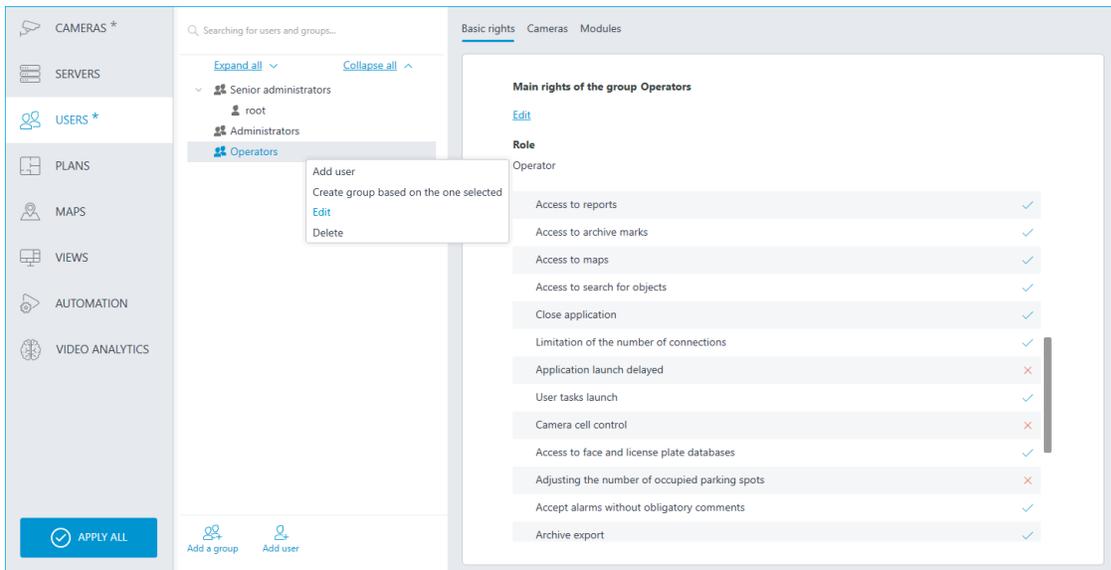
## Group permissions overview

The permissions configured for a group are displayed when the corresponding group is selected.

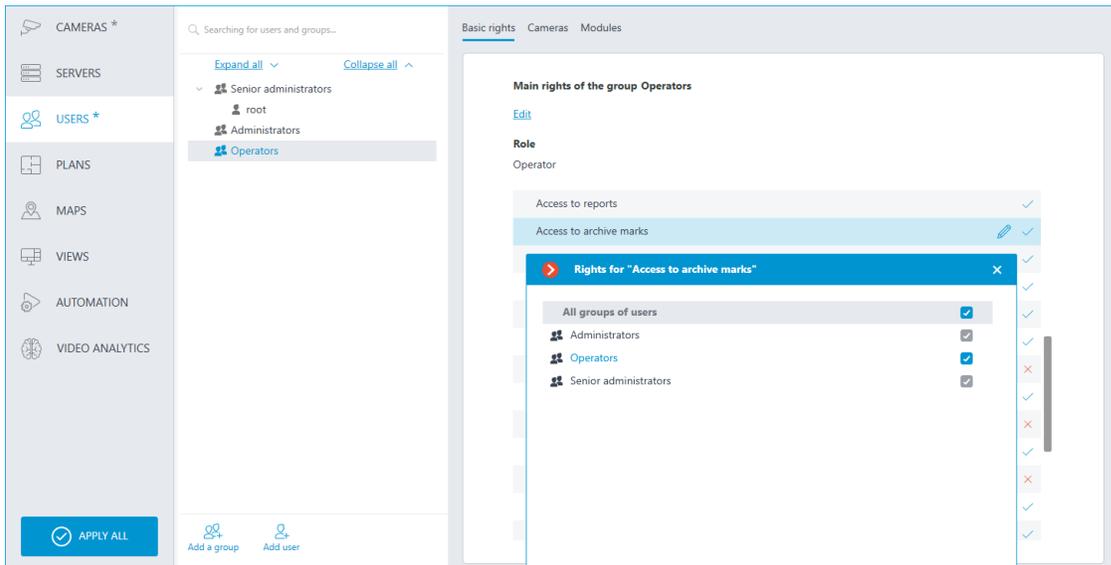


## Editing the group

To edit the group settings, press the **Edit** button or select the corresponding item in the context menu.

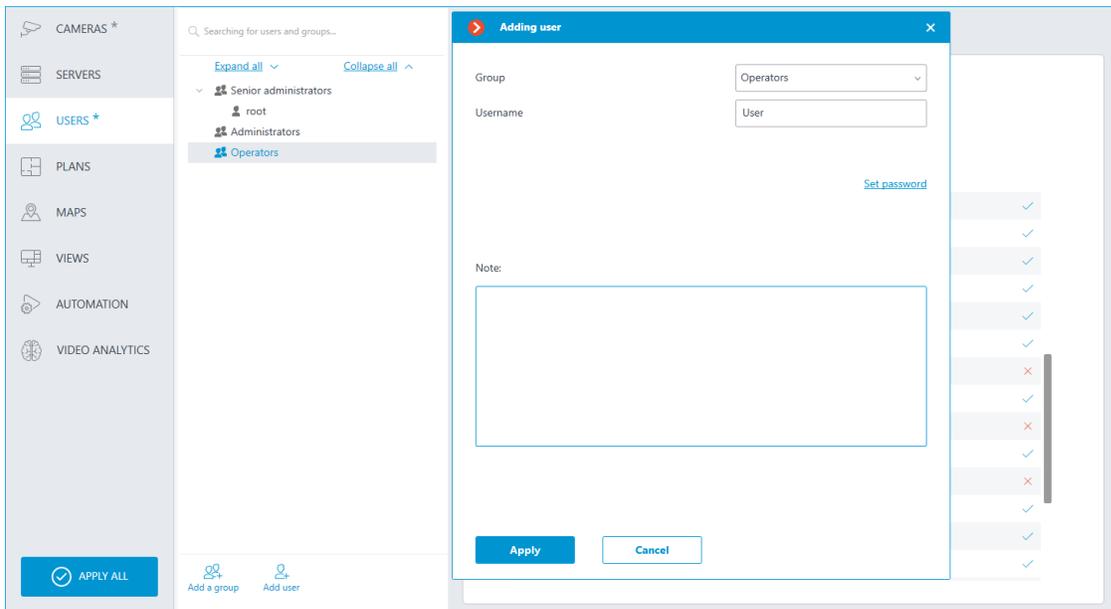


To edit one permission item, just select the item and press the  icon.

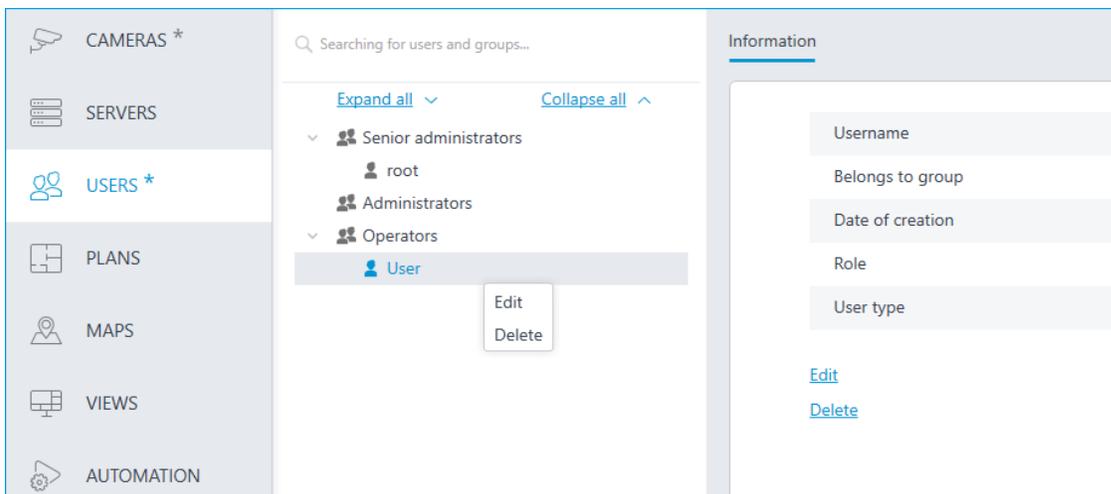


### Adding and editing the user

To add a user, press the **Add user** button at the bottom of the panel. In the window that appears, specify the name of the user.

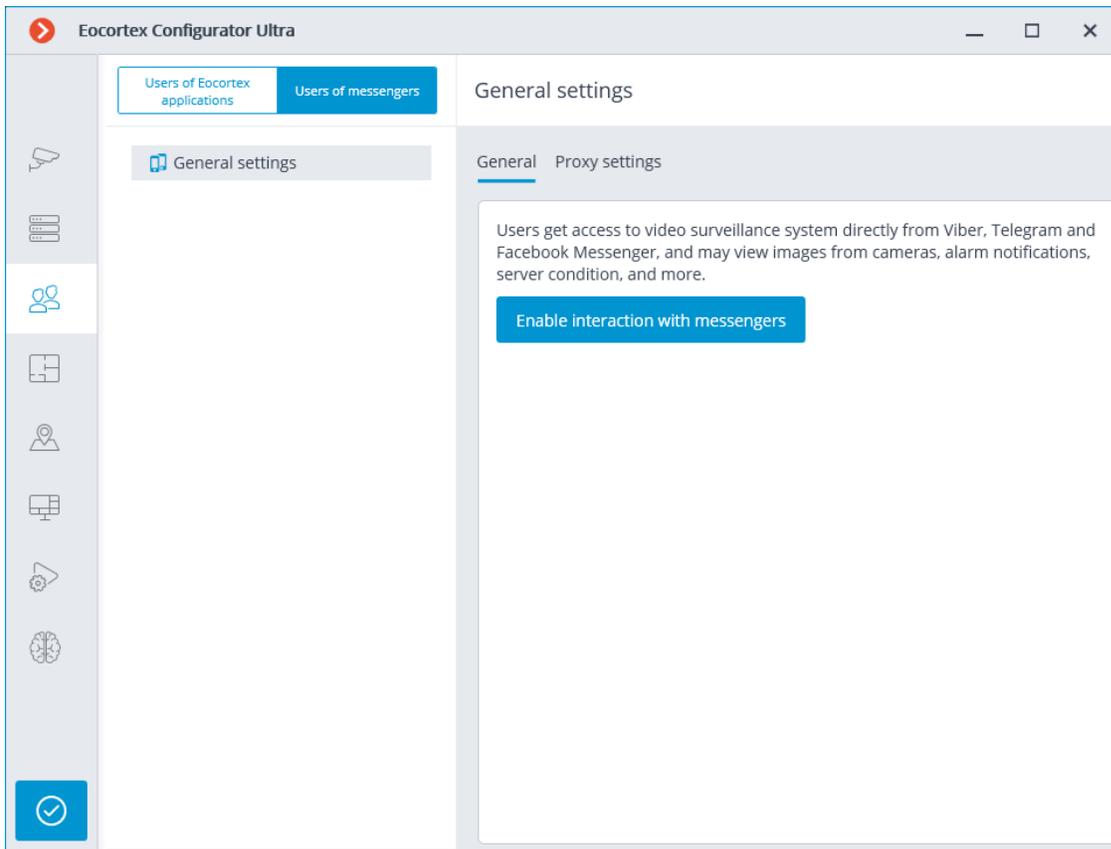


To edit the user settings, press the **Edit** button or select the corresponding item in the context menu.



### Users of messengers

To configure the rights of messengers that interact with the **Eocortex** video surveillance system, it is required to open the **Eocortex Configurator** application, go to the **Users**  tab and switch on the **Users of messengers** button.



Initially, the subsystem of interaction with messengers is disabled, and the list of messenger users is empty. To enable interaction with messengers, it is required to press the **Enable interaction with messengers** button. The authorization window for the **Eocortex Messengers** service will open.

 **Authorization** 

To enable messenger interaction, log in to the Eocortex Messengers service

e-mail

Password

  [Reset password](#) 

No account? [Register](#)

The e-mail address and password are used for authorization. Thus, in case of availability of an account with the **Eocortex Messengers** service, it is required to specify an e-mail address and a password in the corresponding fields, and then click **OK**. To restore the password, it is required to use the **Reset password** link.

When no account exists, it is required to create one using the **Register** link.

**Registration**

Register in the Eocortex Messengers service

e-mail

mycompany8@mail.com

Account confirmation code will be sent to this address

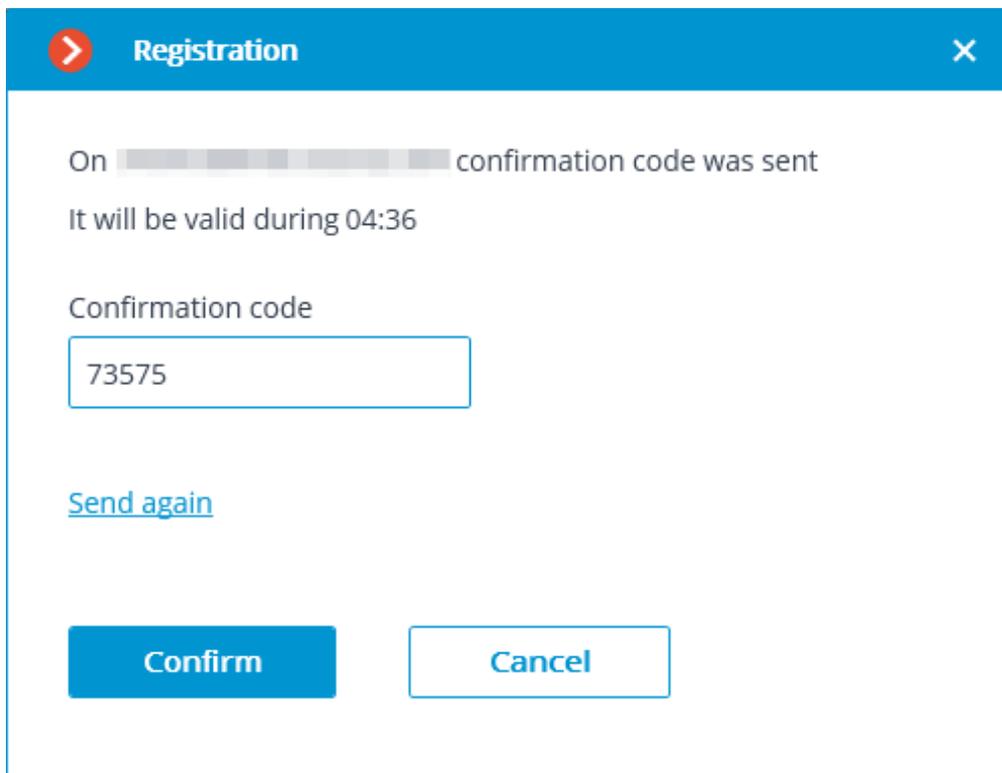
Password

Confirm password

I agree with [the Data Protection Policy](#) that I have read and understood, and I hereby consent to [processing of my personal data](#)

**Register** Cancel

In the registration window that opens, it is required to specify the e-mail address and password that will be used for authorization in the **Eocortex Messengers** service. Upon clicking on the **Register** button, an email with an activation code will be sent to the specified email address. The code is to be entered in the confirmation window that opens.



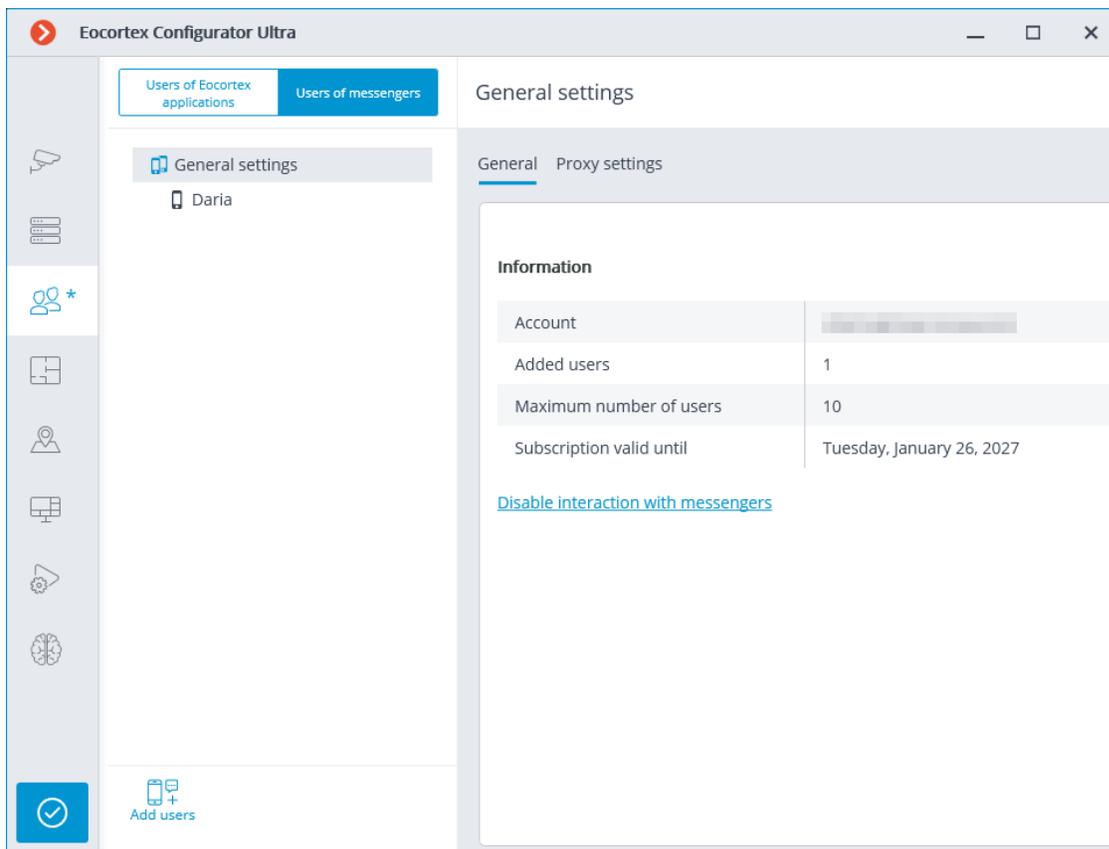
The image shows a 'Registration' dialog box with a blue header containing a back arrow, the title 'Registration', and a close 'X' button. The main content area is white and contains the following elements: a status message 'On [blurred] confirmation code was sent', a validity period 'It will be valid during 04:36', a label 'Confirmation code' above a text input field containing '73575', a blue link 'Send again', and two buttons at the bottom: a solid blue 'Confirm' button and a white 'Cancel' button with a blue border.

The interface and features available when interaction with messengers is enabled are described below.

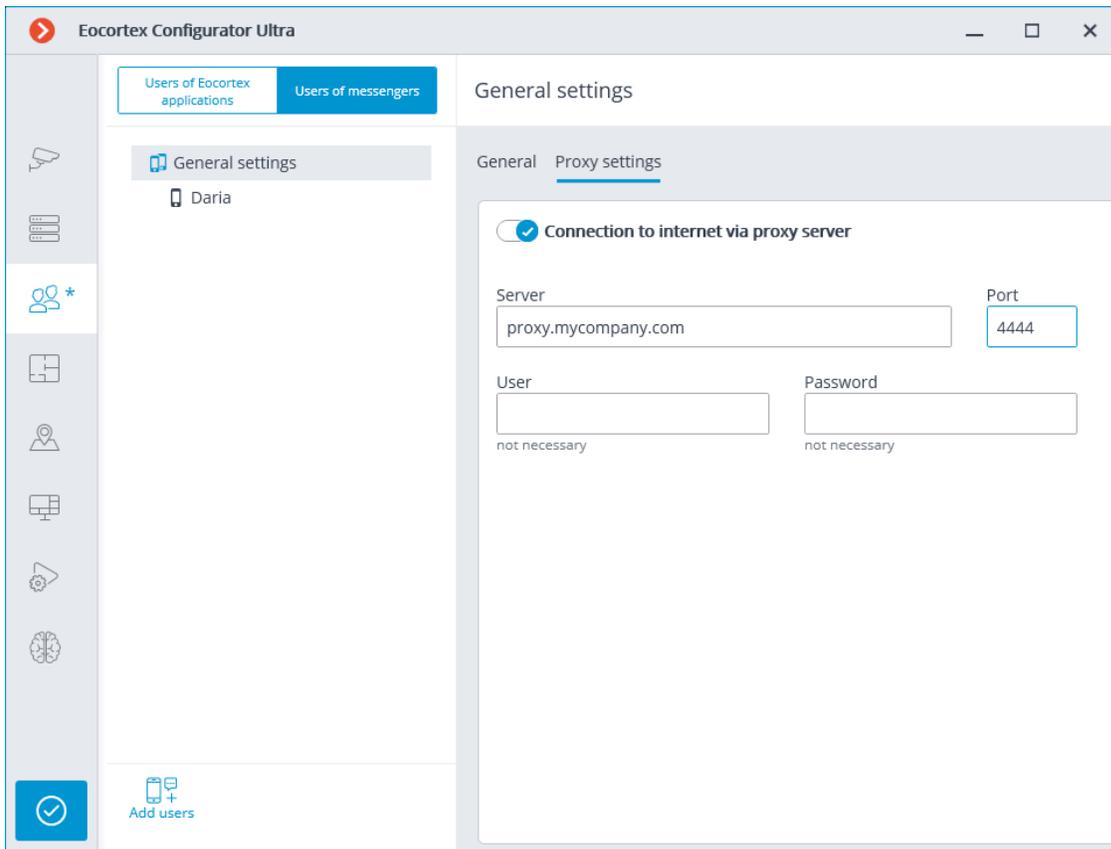
When selecting the item **General settings** in the list of users, the **General** tab will display the account settings.

#### Warning

Disabling the interaction with messengers (using the corresponding link on the **General** tab) will lead to the deletion of all messenger user settings.



Selecting the **General settings** item in the list of users and proceeding to the **Proxy settings** tab allows to configure the settings for connecting to the **Eocortex Messengers** service via a proxy server.



To add a user, it is required to click the **Add users** button. In the window that opens, it is required to specify the user's e-mail address, the name under which the user will appear in the system, the **Eocortex** video surveillance system user group, and the messengers that are available to the user for interacting with **Eocortex**. In this case, the user will only have access to the cameras that are available to the specified **Eocortex** user group.

#### Note

It is possible to add several users by specifying their addresses followed by a comma, semicolon, or space.

➤ Adding users
✕

The user will receive a message with an invitation to chat with the Eocortex bot. The link in the message is single-use and becomes void after click-thru.

e-mail

It is possible to add several addresses.

Name

Daria

Cameras of the group are available.

Administradores séniores ▼

Telegram

Viber

Facebook Messenger

Add

Cancel

After clicking on the button **Add**, the users are added to the list, and emails containing links for connection in the appropriate messengers are sent to their addresses. These links are single-use, and the period of their validity is limited.

#### Access to the CCTV system via messengers

**Eocortex** <bot@eocortex.com>

Hello!

You now have access to EocortexBot.

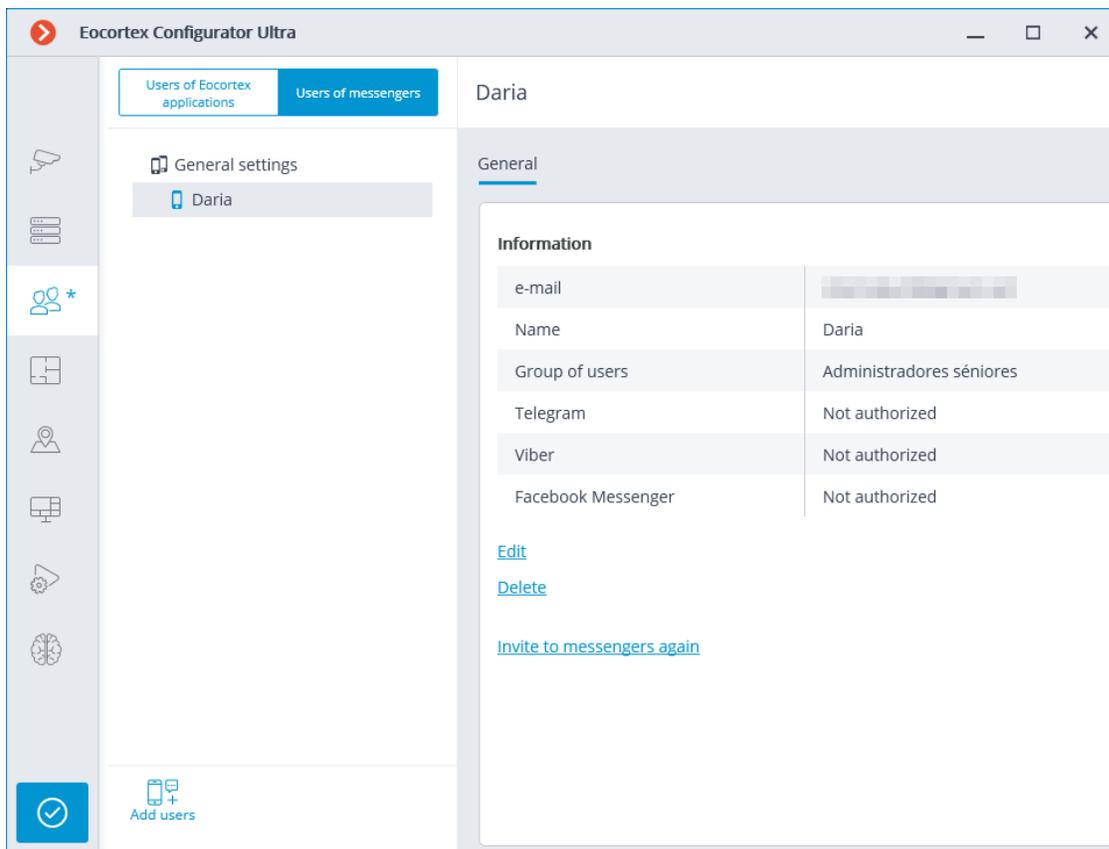
To start working with the surveillance system via messenger, follow the appropriate link.

Make sure that you have the selected messenger installed, and also check that this messenger is not blocked by your internet provider.

- **Telegram**  
[http://t.me/Eocortex\\_bot?start=50af737a-bce9-4217-baf6-036bd209462b](http://t.me/Eocortex_bot?start=50af737a-bce9-4217-baf6-036bd209462b)
- **Viber**  
<http://bot.eocortex.com?a248186a-6e98-46b2-8c0f-813b02414021>
- **Facebook Messenger**  
<http://m.me/1923167444589598?ref=2566afe5-5210-48ae-b859-a80f60b1893c>

After the user clicks on the link in the appropriate messenger, a greeting will be sent to them.

When selecting a user in the list, the information about that user will be shown on the **General** tab. In addition, using the corresponding links, it is possible to delete a user, change their settings, and resend the links with invitations to their messengers.



### Warning

The changes will only take effect after the [application of the settings](#).

### Note

Added users are bound to the system to which they have been added rather than to the account. If the same account is used to connect to another system, the list of users in that system will initially be empty. At the same time, if a different account is used to connect to the system, the users added to that system will be transferred to the new account.

### Warning

If the same account is used to connect to different systems, all added users in all systems will be added together. At the same time, the same user in different systems will be regarded as a different user. Thus, the current number of users bound to the account will correspond to the sum of all users in all systems.

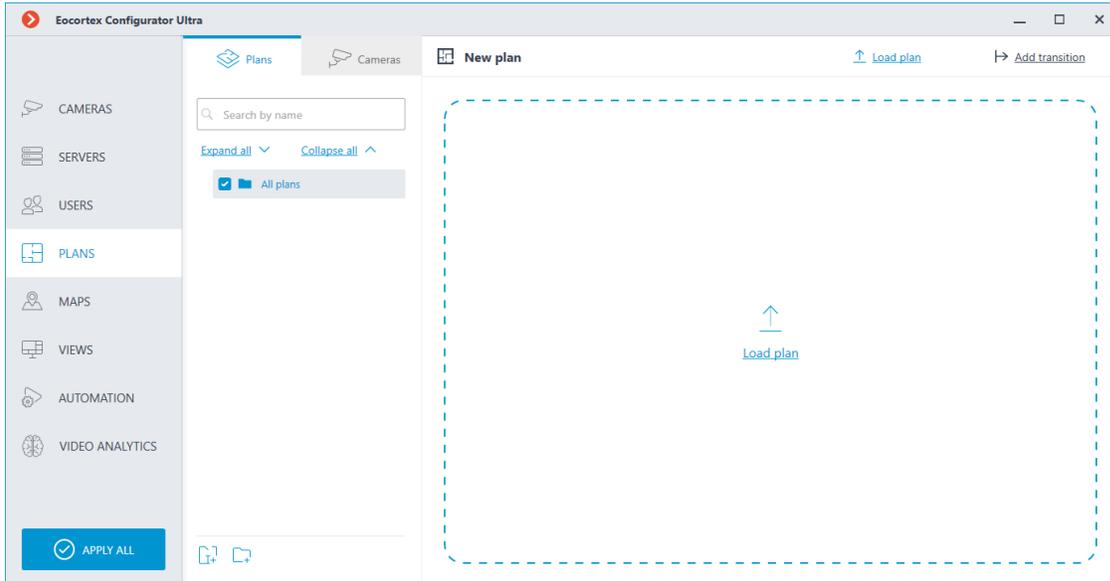
### Note

The same user interacting with the same system through different messengers does not interact in different messengers with themselves. That is, the actions of this user in one messenger have no effect on the sessions of the same user in other messengers.

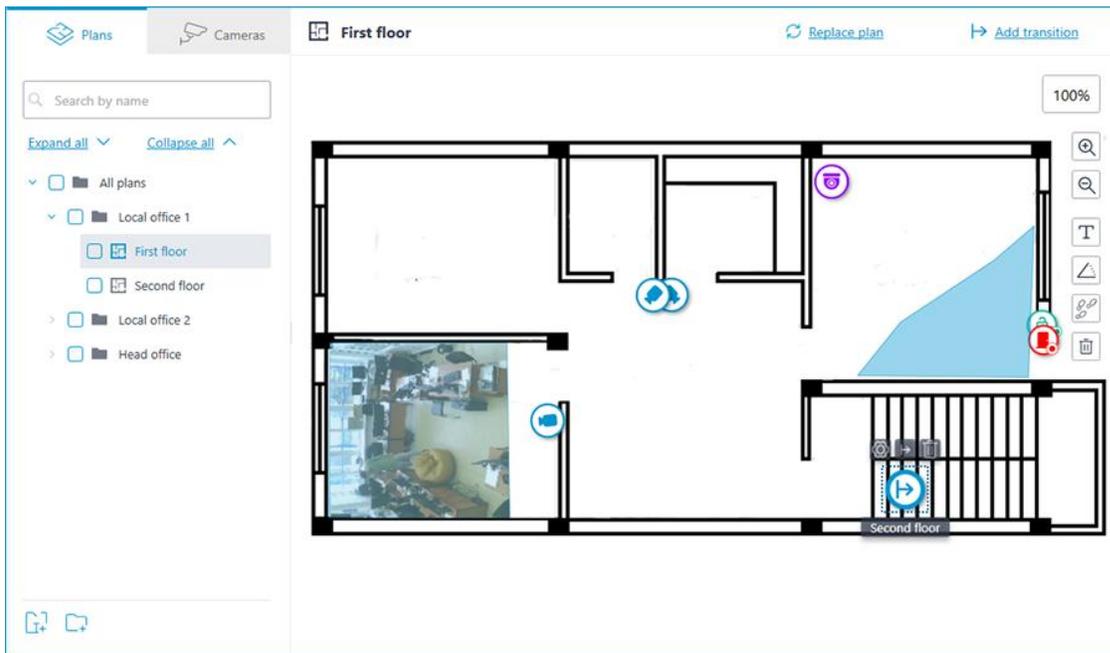
## Interactive Site Plans

To set up camera layout in the **Eocortex Configurator** application, go to  **Plans** tab.

This tab contains site plans and the cameras, sensors, relays placed on these plans, as well as camera fields of view and transition points between the plans.



The left panel has two settings tabs: **Plans** and **Cameras**. Selecting a tab opens a tree with the relevant elements.



## Plans

By default, the plans tree is empty. To add a plan, click the **Add plan** button in the middle of the screen, or find it in the context menu or on the bottom panel of the plan tree.

When selecting a plan, its image is displayed on the right side, with the name of the plan and two buttons at the top:

-  **Load plan**: allows to upload an image from the device to be used as the plan's background.

Note

Supported image formats: **svg, jpg, bmp, png, gif, tif.**

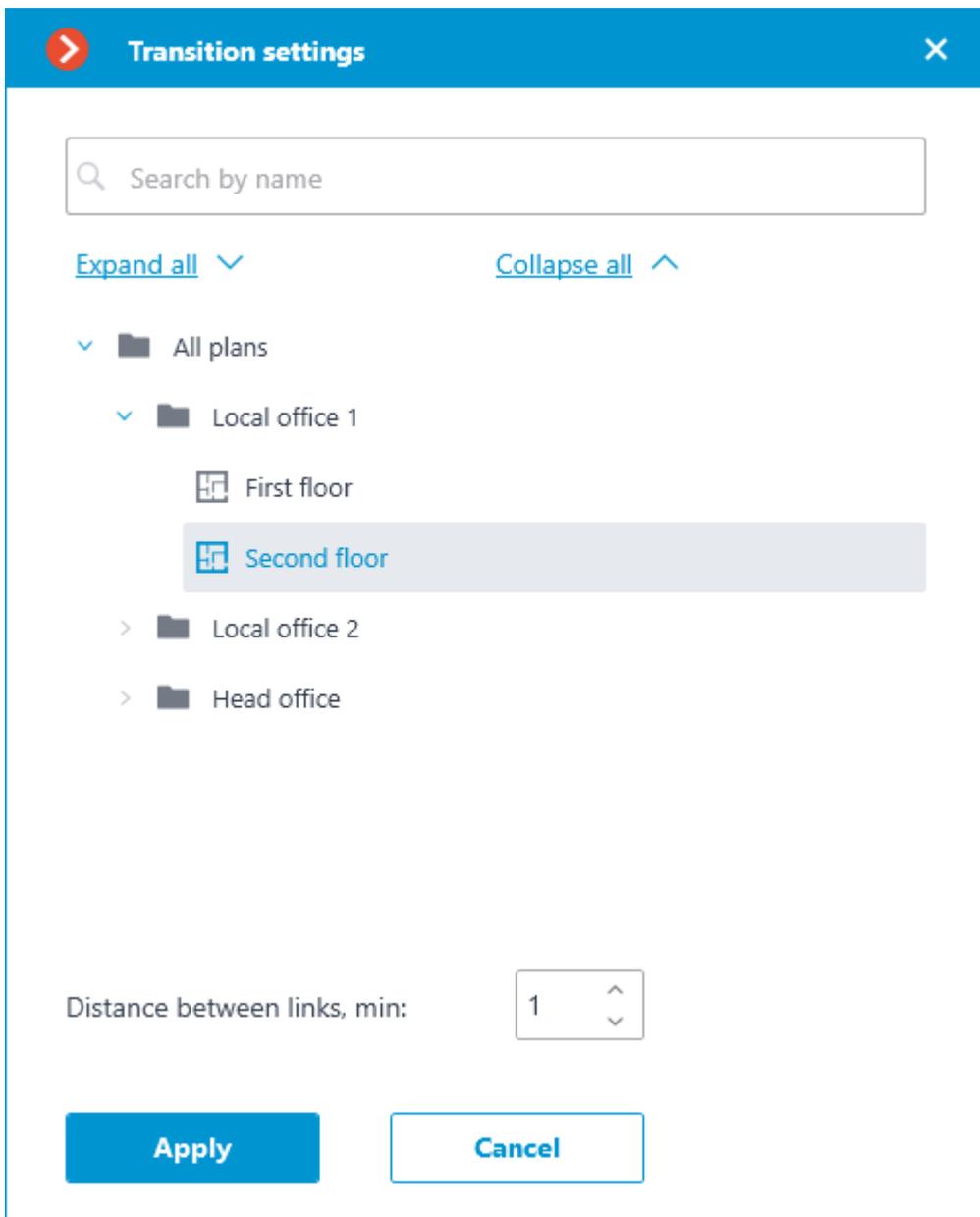
-  **Replace plan**: allows to upload a new background image to replace the previous one in the plan.
-  **Add transition**: allows to add to the plan a transition point, by clicking which the user will be able to go to the plan associated with this point.

If a transition point is placed on the plan, but not configured, its icon will be red:

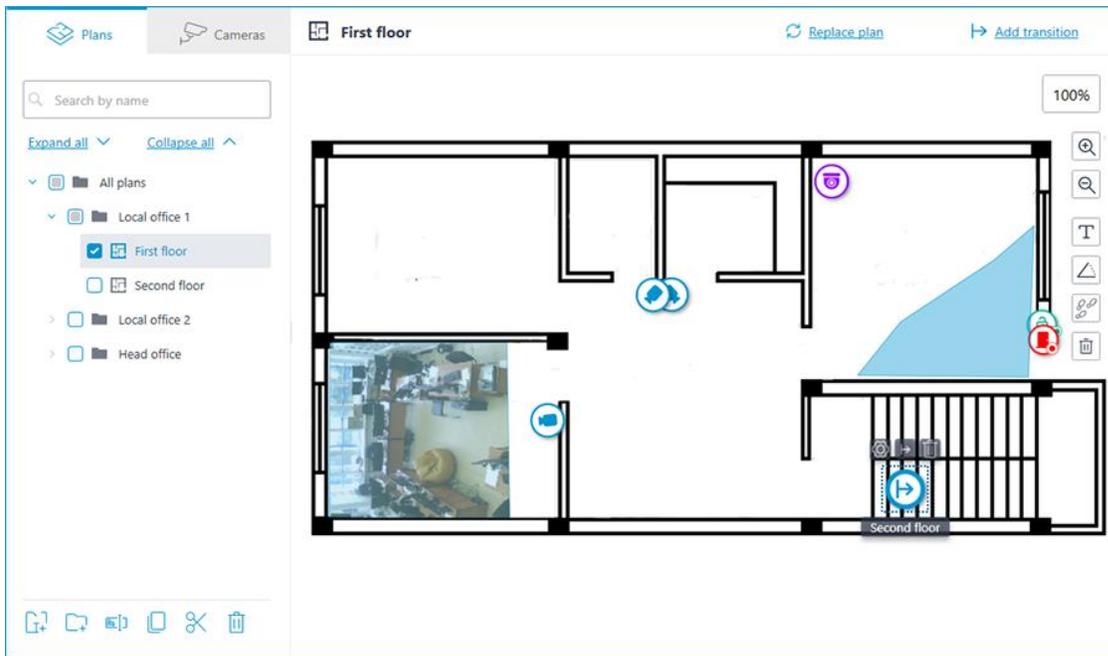


To set it up, place the transition point to the plan and click the  button.

In the **Transition settings** window that opens, select the plan to which the transition should guide to. In the **Distance between links, min:** field, set the time in minutes that a person would actually spend following this transition, and then click the **Apply** button.



The plans window will automatically switch to the specified plan, and a transition endpoint will be added in the center of the screen. Place it on the plan in a location that actually connects this plan to the previous one.



When selecting the icon of the configured transition on the map, the transition button  becomes available. It allows to quickly switch between the plans. When switching, the new plan will open in such a way that the transition endpoint icon will be located in the center of the screen.

A bar with the following buttons is available on the right side of the plan:

 **Zoom in:** Scales the plan up.

 **Zoom out:** Scales the plan down.

Note

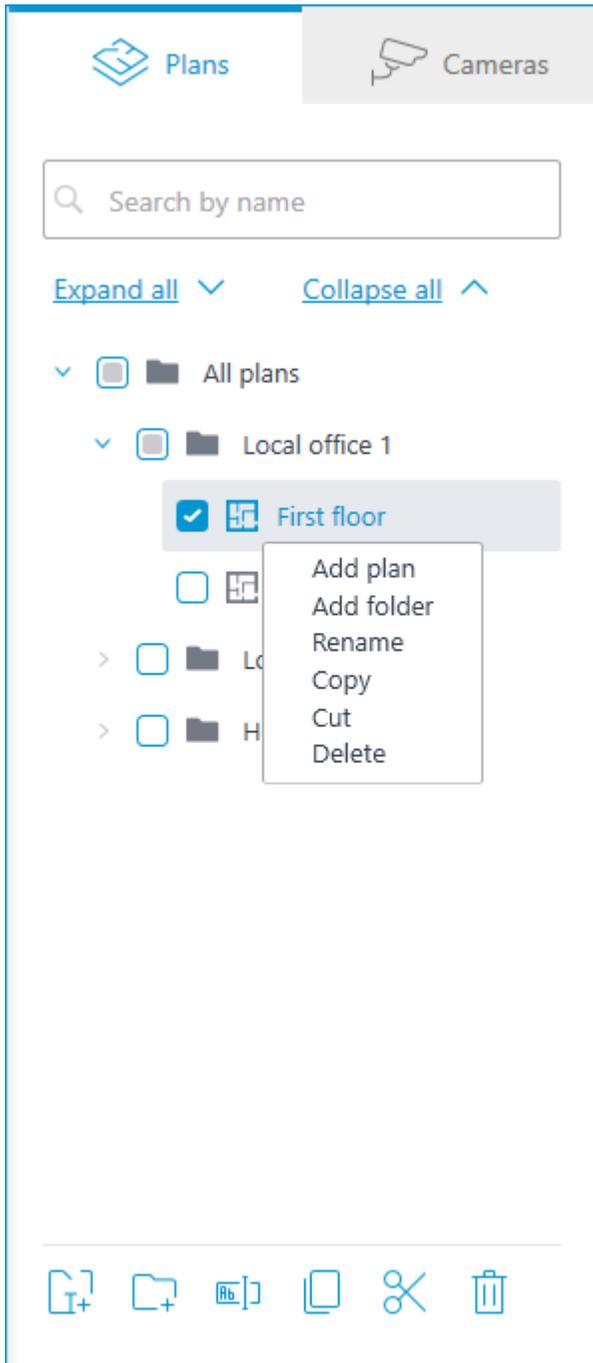
You can also use the mouse wheel to change the scale of the plan.

 **Show camera names:** Hides or displays the names of all cameras on the plan.

 **Show fields of view:** Hides or displays the field of view of all cameras on the plan. If no fields of view are configured, this button will not be displayed on the panel.

 **Show heat maps:** Overlays a heat map for the specified period on the video in the camera's field of view. If there are no cameras with the **Traffic Density Heat Map** module configured, this button will not be displayed on the panel.

The following actions become available in the context menu and on the bottom panel of the plans tree when selecting a folder or an individual plan on the left panel:



In addition to selecting a plan manually, it can also be found using the search field above the plans tree.

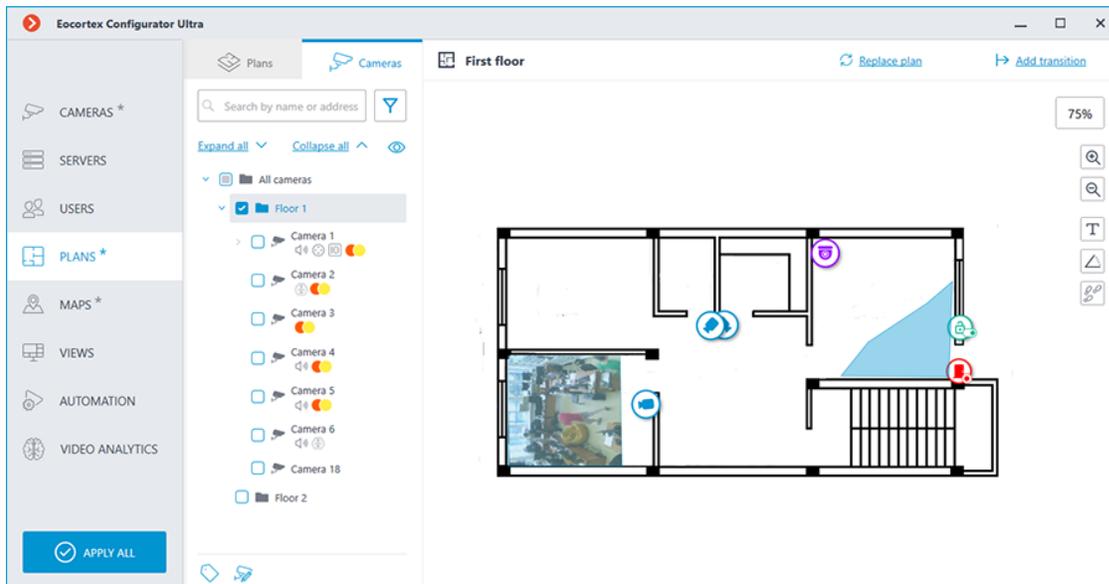
It is possible to move between folders both individual plans and even entire folders.

Warning

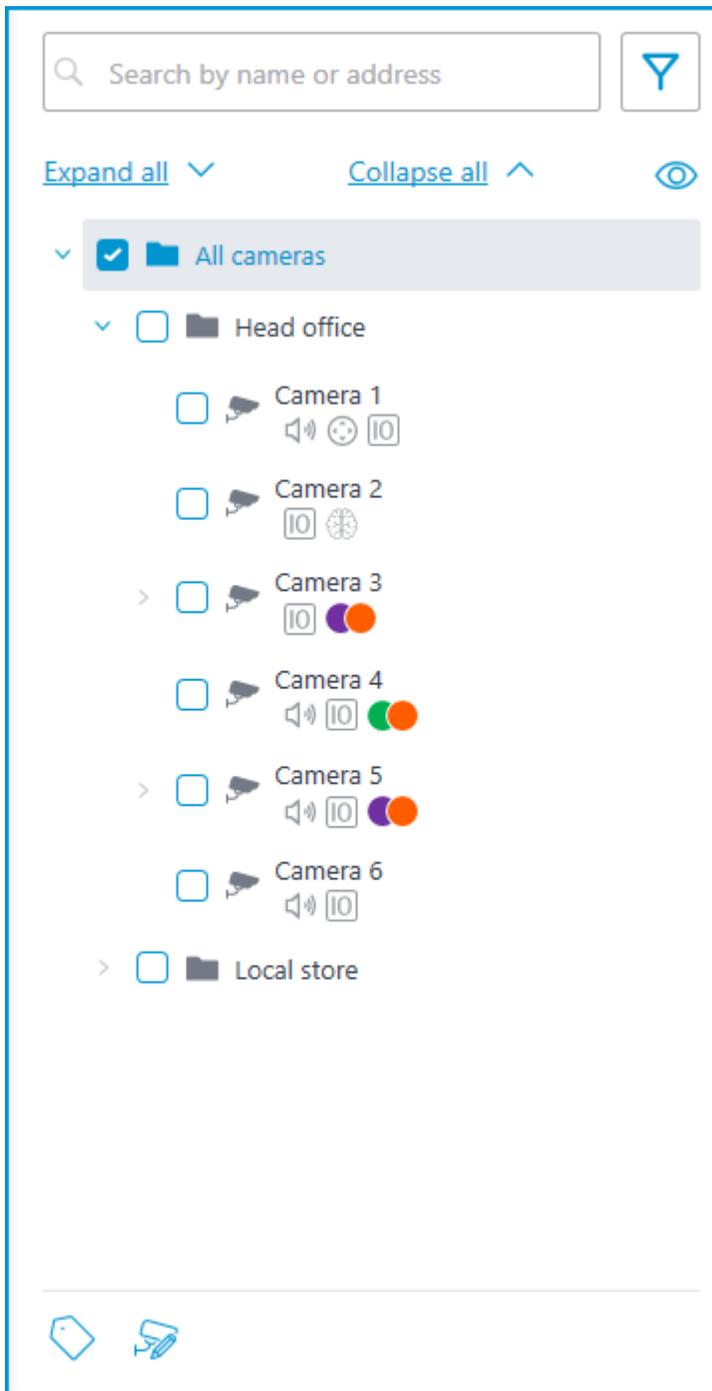
Plan, starting from **Eocortex** 4.1, is the lowest level element in the tree. When migrating settings from earlier versions, folders are used to keep the hierarchical structure. For an item with attachments, a folder with the same name is created at a higher level, in which the item itself and its attachments are placed in the same manner.

## Cameras

### General



This tab contains the cameras tree.

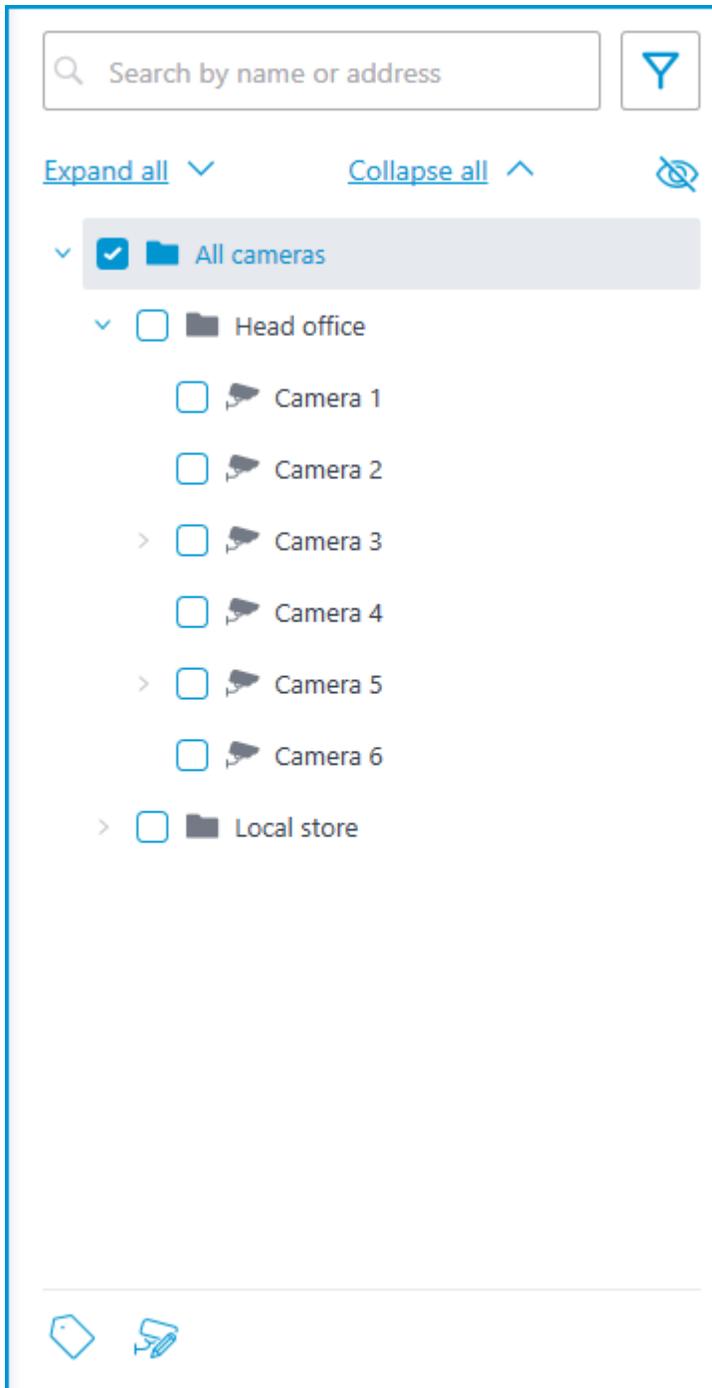


Cameras can have the following attributes:

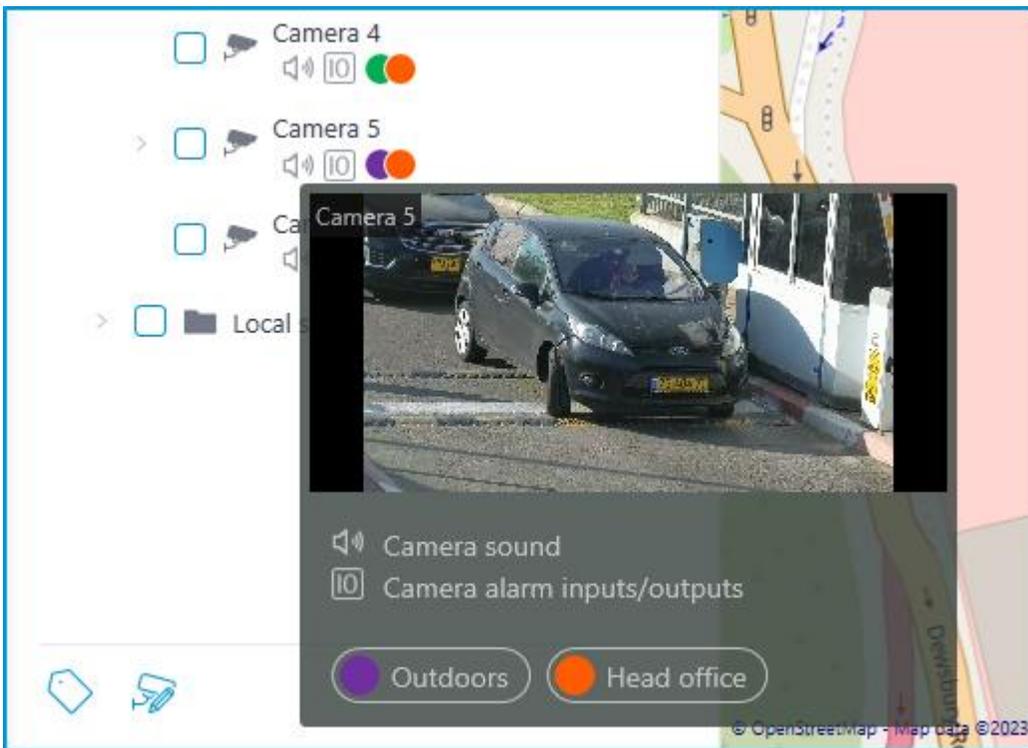
-  : the camera has enabled video analytics module;
-  : the camera has enabled sound receiving option;
-  : the camera has enabled PTZ;
-  : the camera has enabled alarm inputs/outputs.

- **Colored labels:** the camera has tags with the displayed colors;

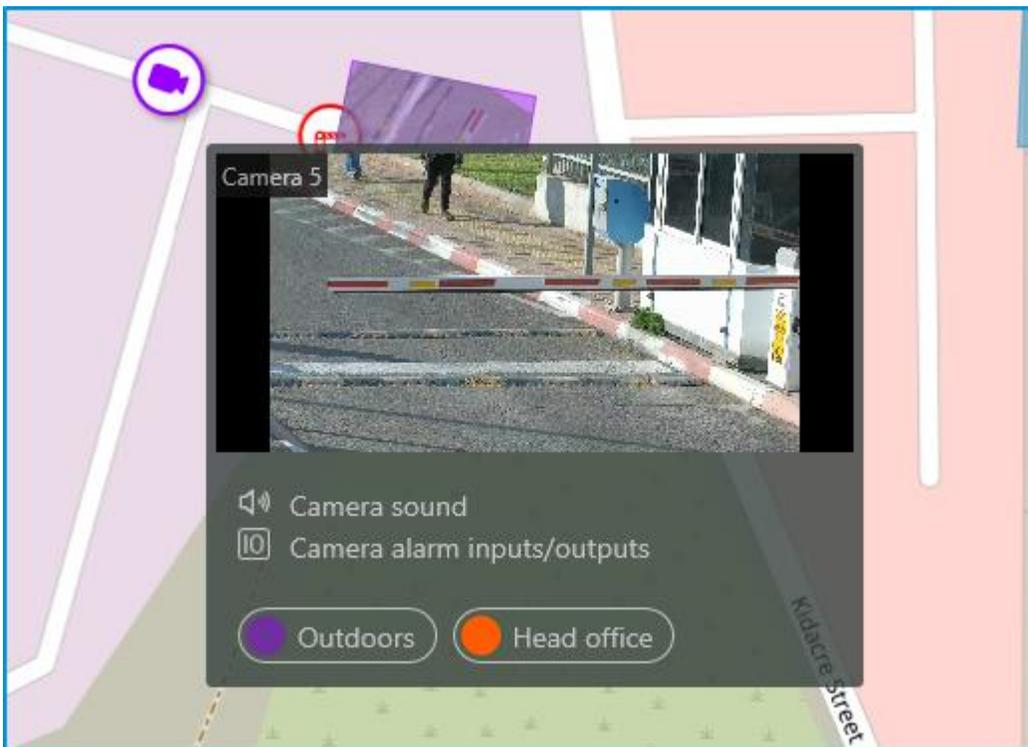
If necessary, you can hide the attributes by clicking the  icon on the right side of the tree.



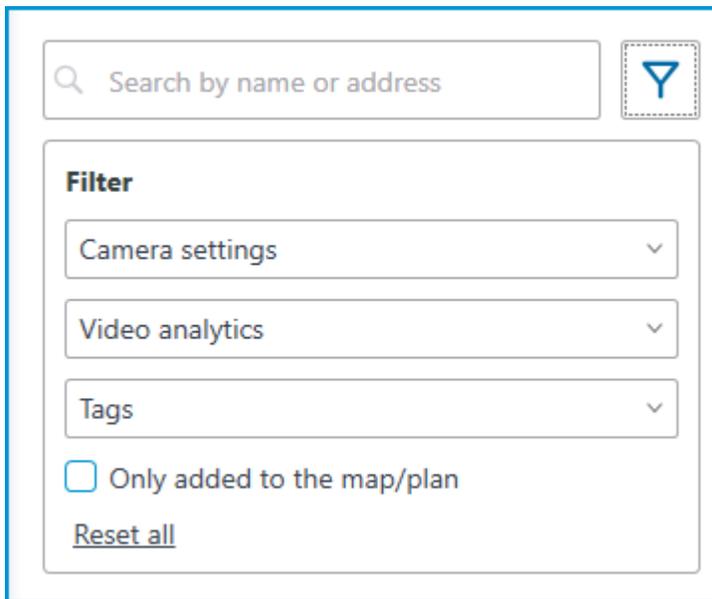
Hovering the cursor over the camera opens a preview window that contains video from the camera and a list of its attributes.



The same preview window opens when hovering the cursor over a camera located outside the cameras tree.



To select a camera manually, you can also find it by **name** or **IP address** using the search field above the camera's tree.



You can filter cameras by clicking the  icon and customizing the following filter options:

- Camera settings Filter by the following attributes: , , .
- Video analytics
- Tags

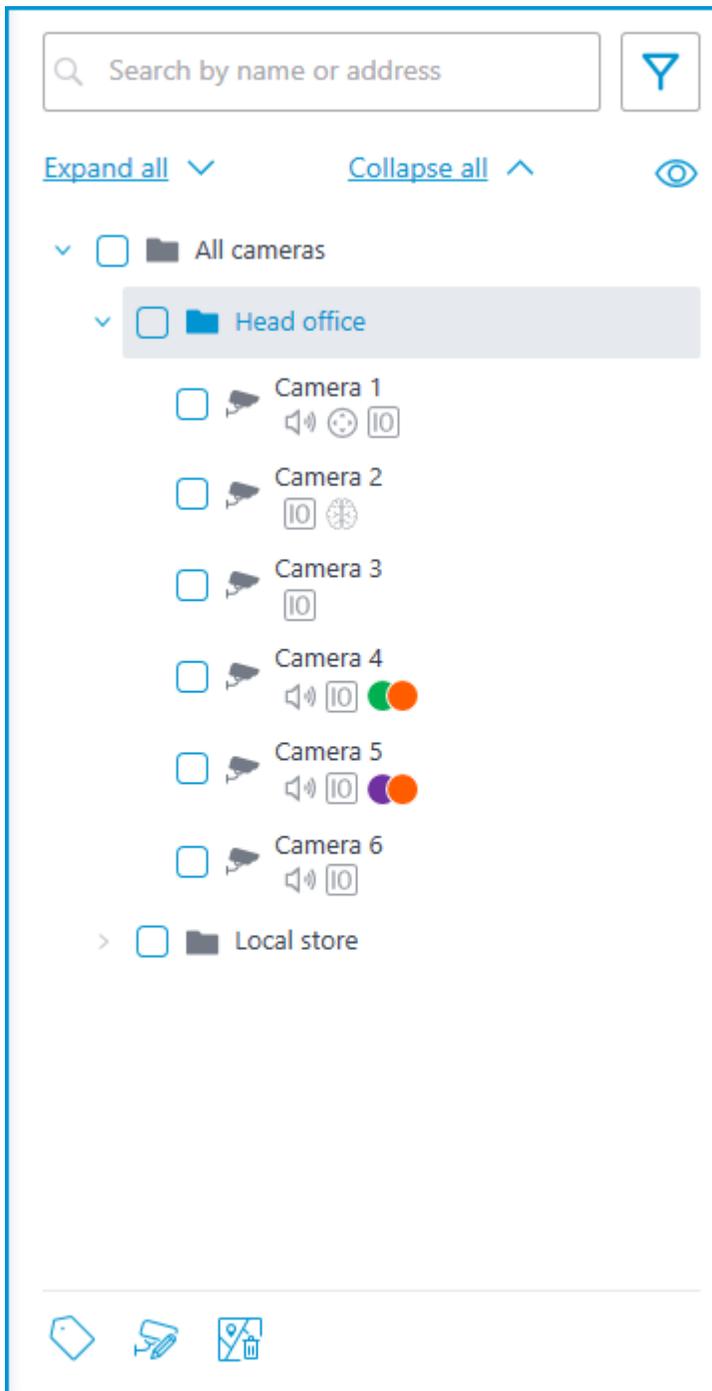
#### Note

The availability of filtering options depends on the settings of the cameras. Filtering applies immediately after selecting an item.

If necessary, it is possible to collapse the filtering by clicking the  filter button. When the filtering is applied and collapsed, the filter icon changes to .

#### Tags

For easy navigation in the cameras tree, tags can be added for each camera. The window for creating and editing tags opens by clicking the **Tags** button in the bottom of the cameras tree or by selecting the relevant item in the context menu of the camera.



To add a new tag, click the **Add** button.

Tags

Search by tag name

- Indoors
- Outdoors
- Head office

Indoors

Color ●

Add

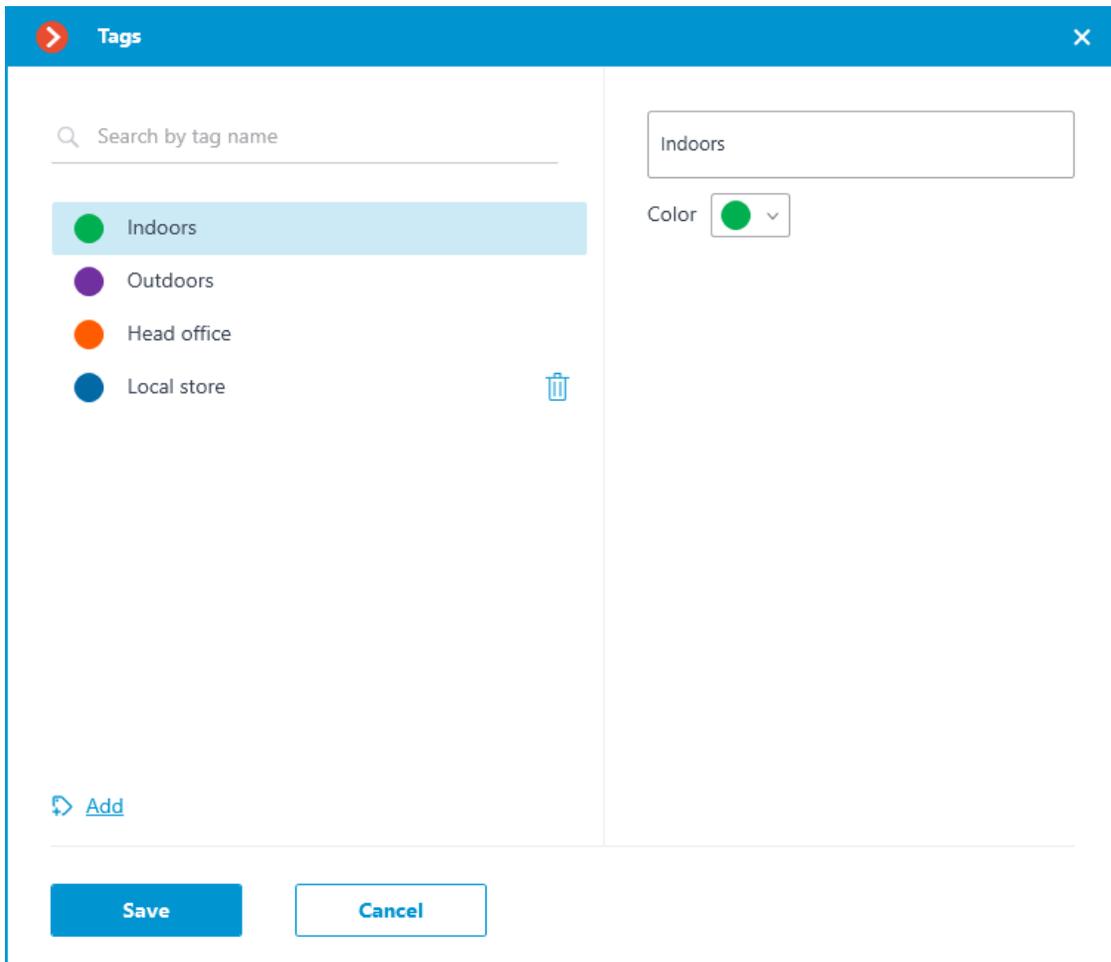
Save Cancel

The tag can have a name and a color. The color can be both selected from the preset options and set an own from the palette.

#### Warning

It is not recommended choosing excessively light colors for tags, as they can blend in with the background.

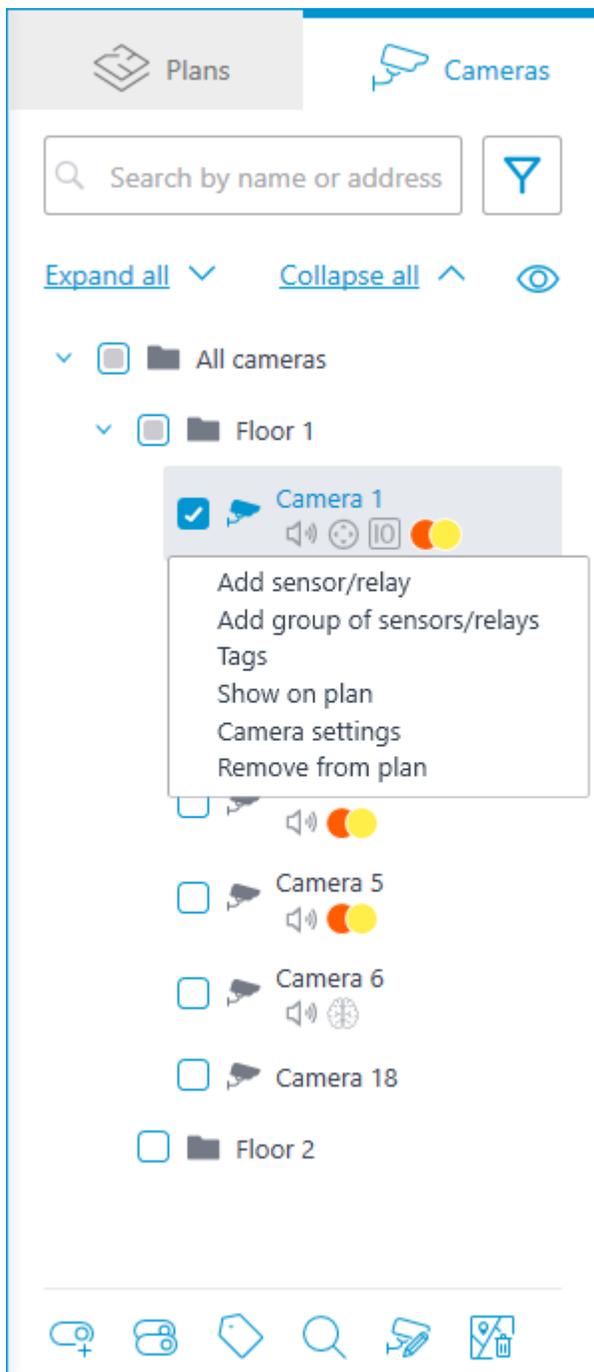
To delete a tag, hover the cursor over it and click the  button that appears.



Also, the settings window allows searching tags by their names.

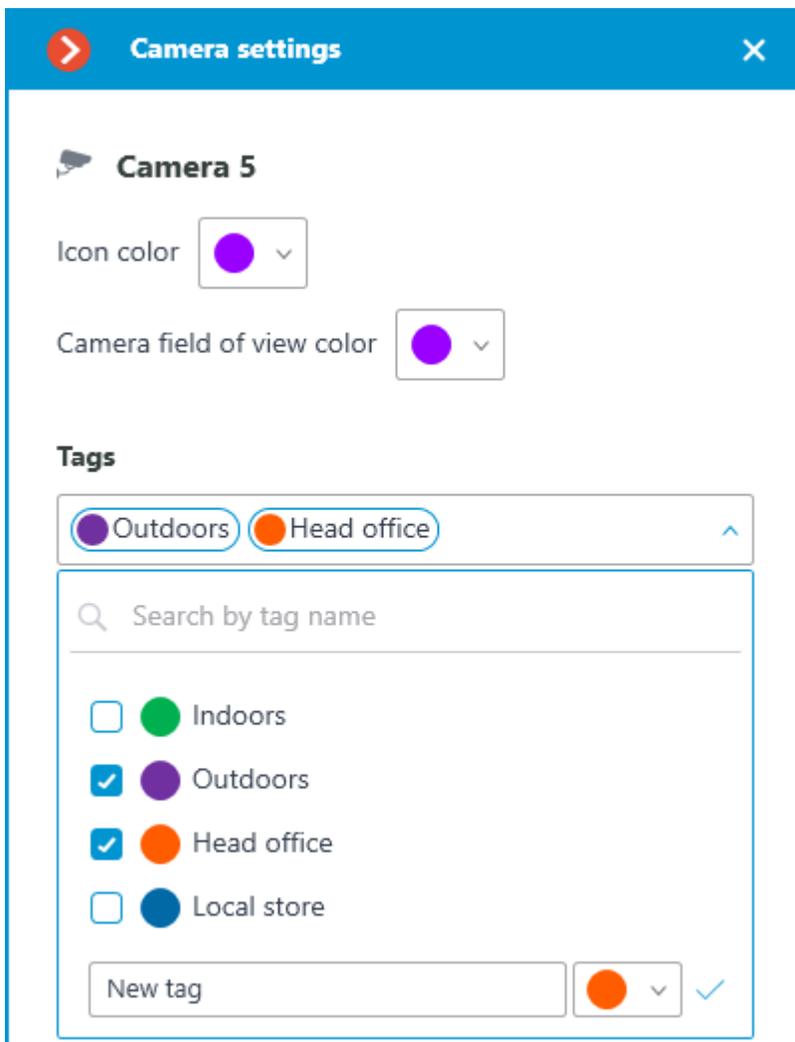
Representation of the camera on the plan

To customize the camera representation, click **Camera settings** in the camera context menu or at the bottom of the camera tree.



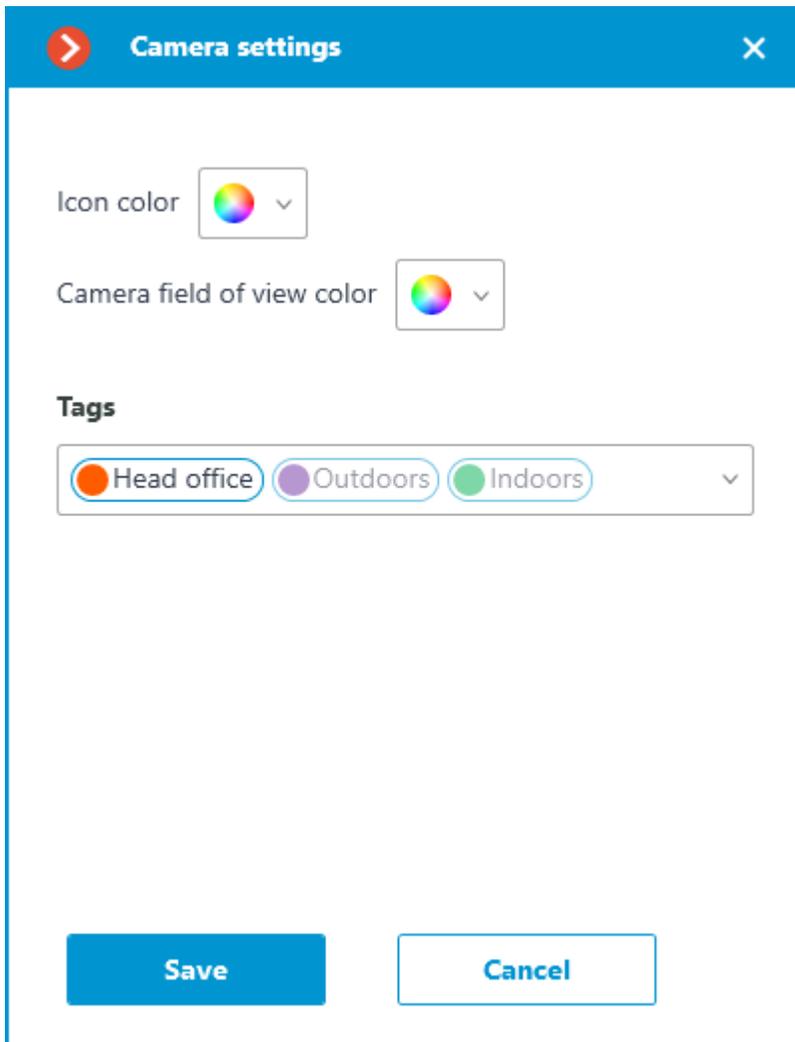
The following can be configured in the camera settings window:

- Color of the camera icon
- Color of the camera field of view
- Tags



In the drop-down list, it is possible both to select from already available tags and to create a new one. To create a new tag, give it a name, select a color, and click the  button. The created tag will appear in the list of tags.

This settings window is available both for individual cameras and for entire groups. When opening the settings window for a group of cameras at once, the own settings of cameras are displayed in the combined view. If the camera settings are the same, the actual parameter values will be displayed for the group. Otherwise, merged information is displayed.

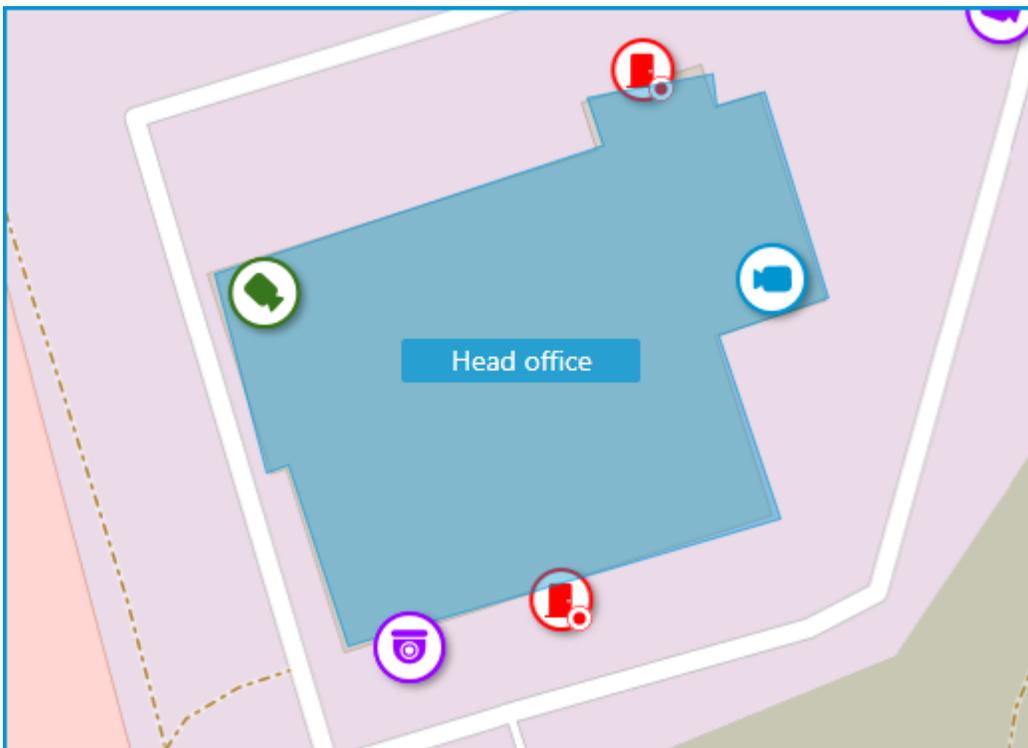


## Placement of cameras on the plan

### General

To add a camera to the plan, drag it from the camera tree to the needed point on the plan.

The camera icon depends on the settings you set in the **Cameras** section. If PTZ functionality is enabled for a camera, it will be displayed on the map with the corresponding icon. Other cameras are displayed with the usual icon.



When a camera is selected on the map, the following buttons appear around it:

-  : view video from the camera in full-screen mode.
-  : edit camera settings.
-  : remove the camera from the map.
-  : rotate the camera.
-  : set up the field of view.
-  : jump to the camera position in the tree.

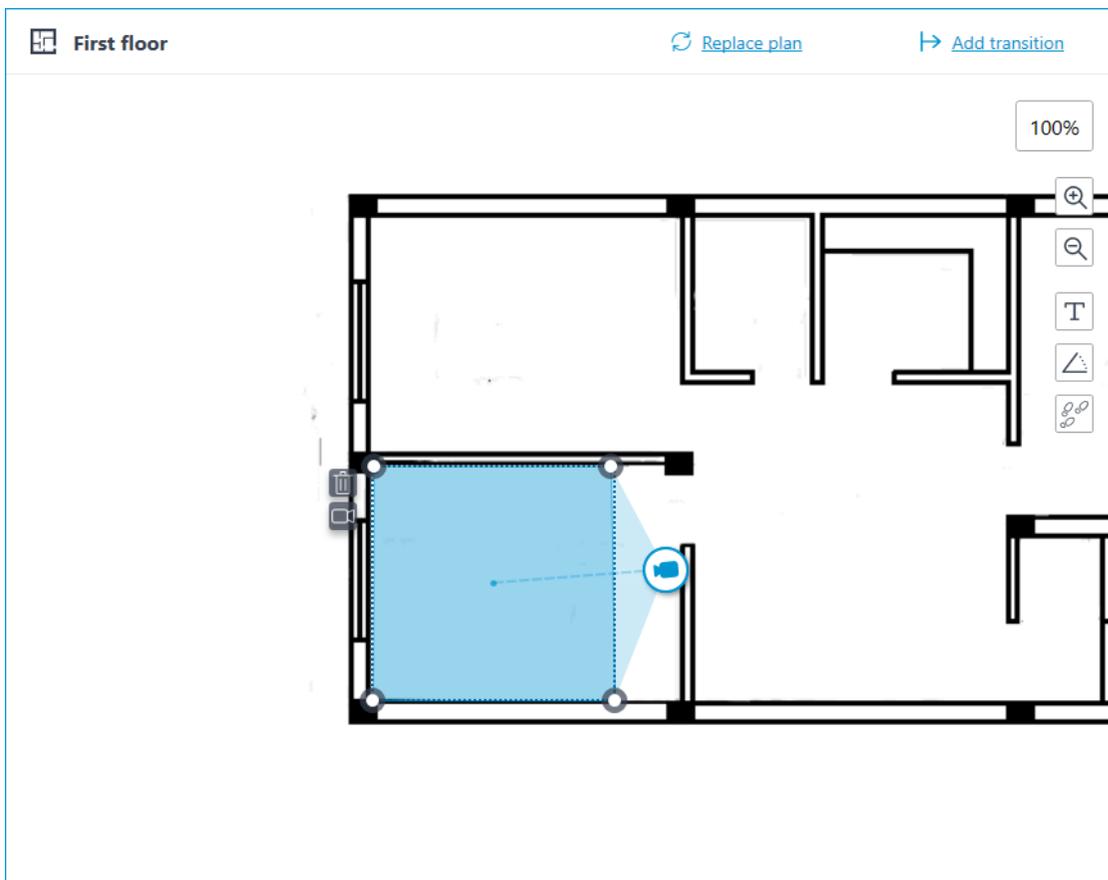


### Note

Also, when a camera is selected, its name will be displayed. By default, it is hidden.

### Camera field of view

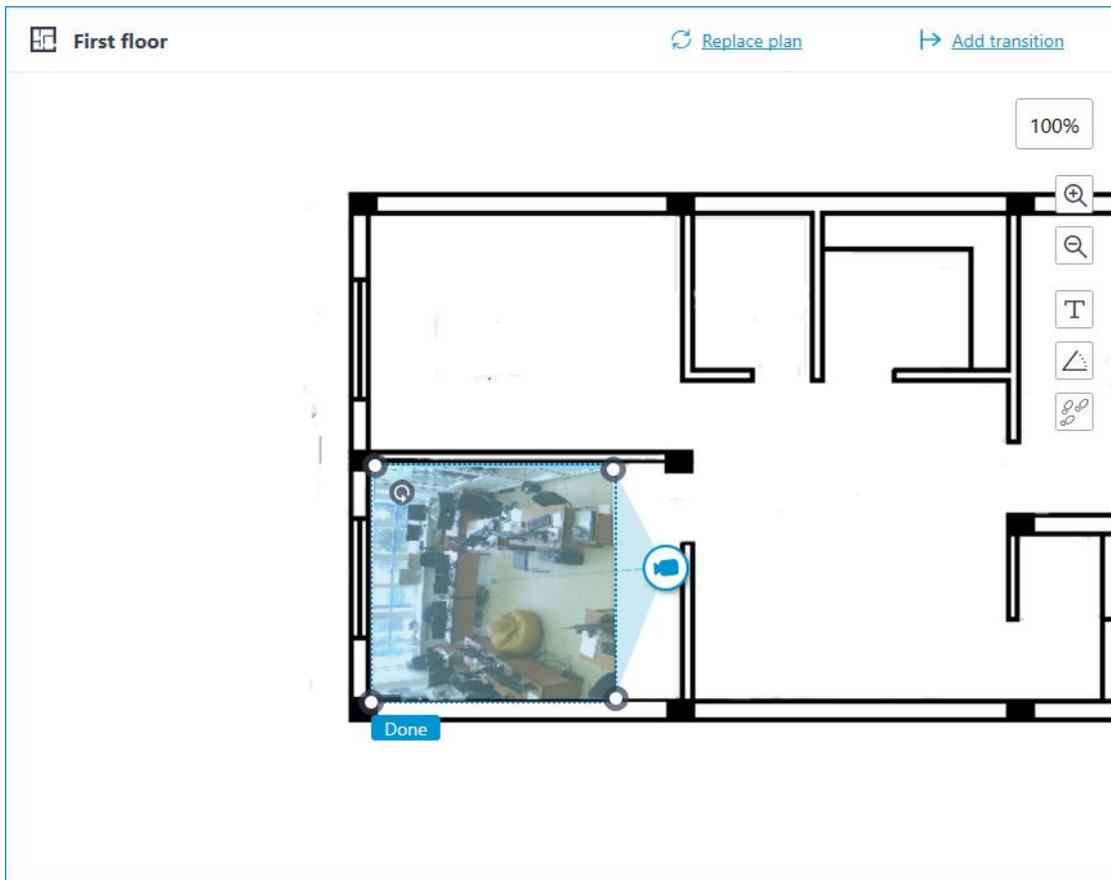
If necessary, a custom field of view can be created. To do this, click the  button. After that, an editable rectangle will appear, which can be used to adjust the needed viewing angle. The shape of the field of view can be changed indefinitely: add and delete nodes, move them along the plan or the map.



To delete a custom camera field of view, select it and click the  button. If the video displaying has been set in the field of view, deleting the FOV deletes this setting as well.

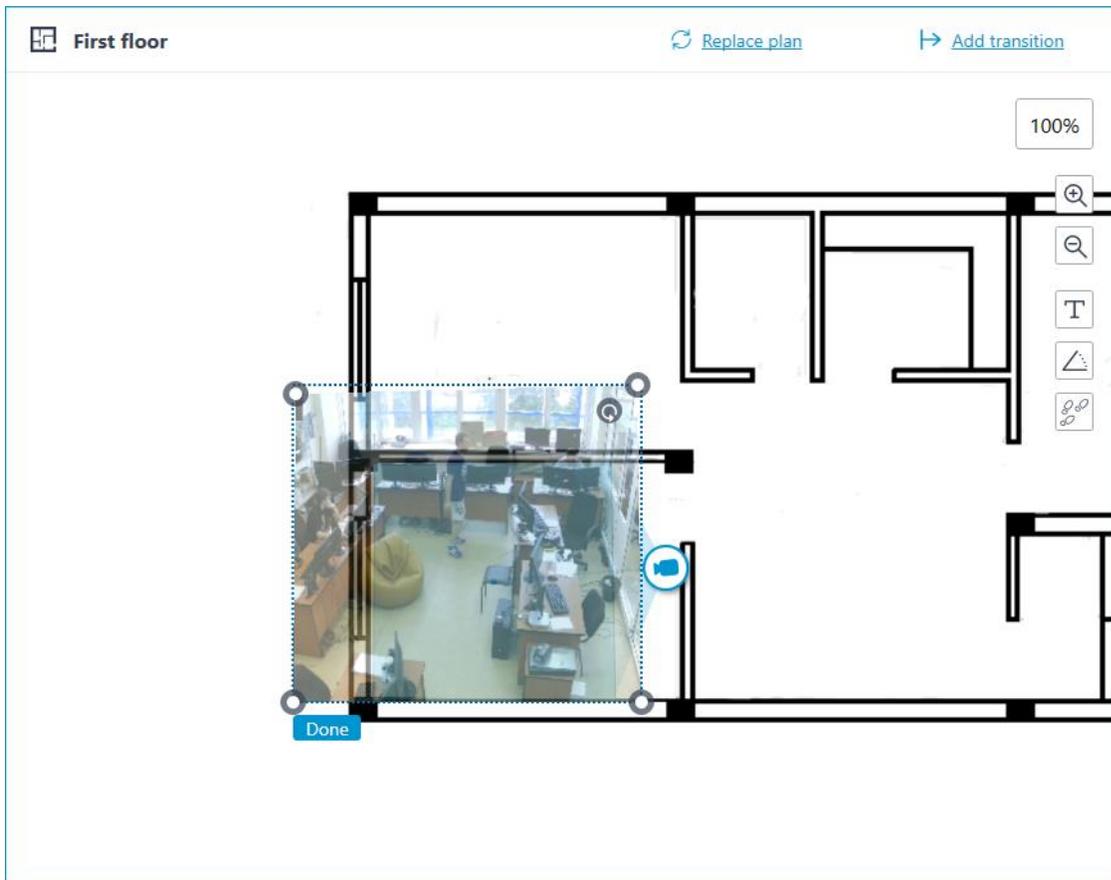
#### Video inside the field of view

The field of view can display video from the camera. To set it up, click the  button. This will create an editable rectangle in which the live video from the selected camera will be embedded. By default, video appears as the size of the dotted outline of the field of view.

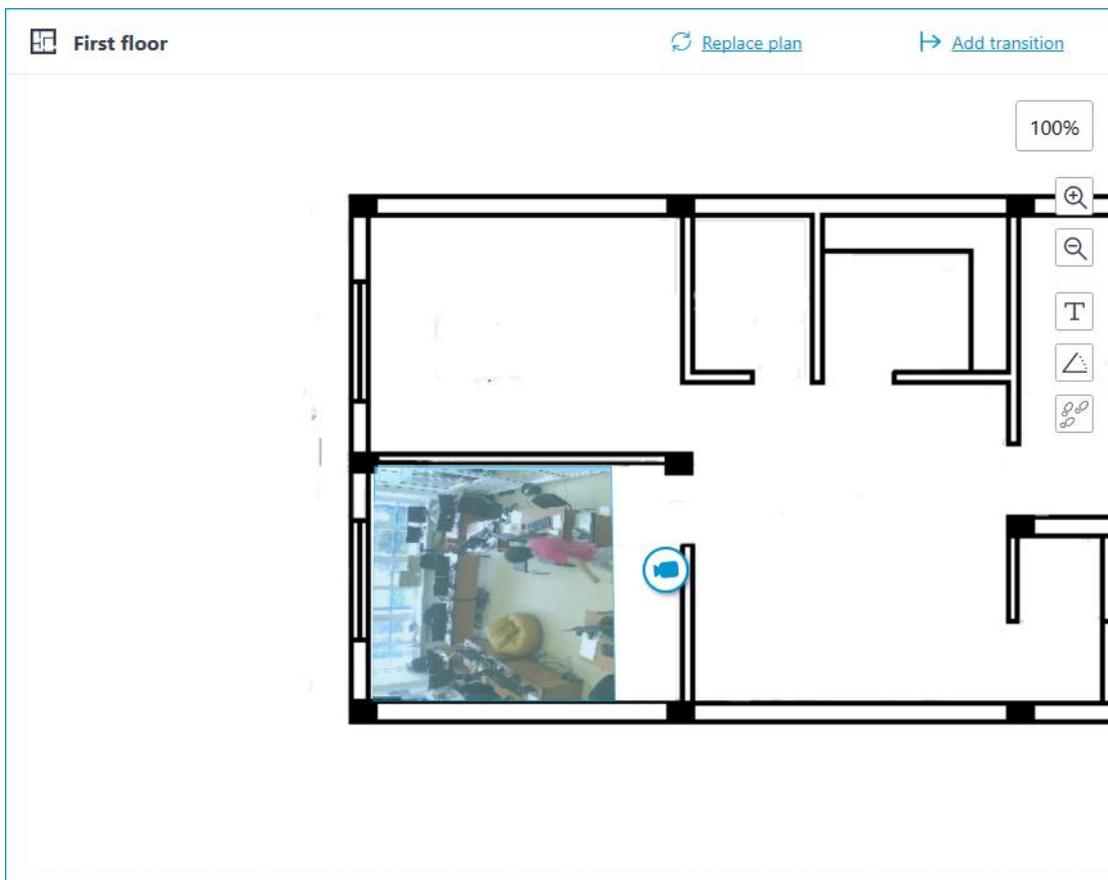


Adjust the shape and location of the displayed video so that the area visible in the frame matches its position on the map. Once ready, click the **Done** button.

To edit an already configured video displaying, click the  button. To reset the video displaying settings in the field of view, click the crossed-out camera button. Reconfiguration of the video displaying after resetting will be performed according to the current shape of the field of view.



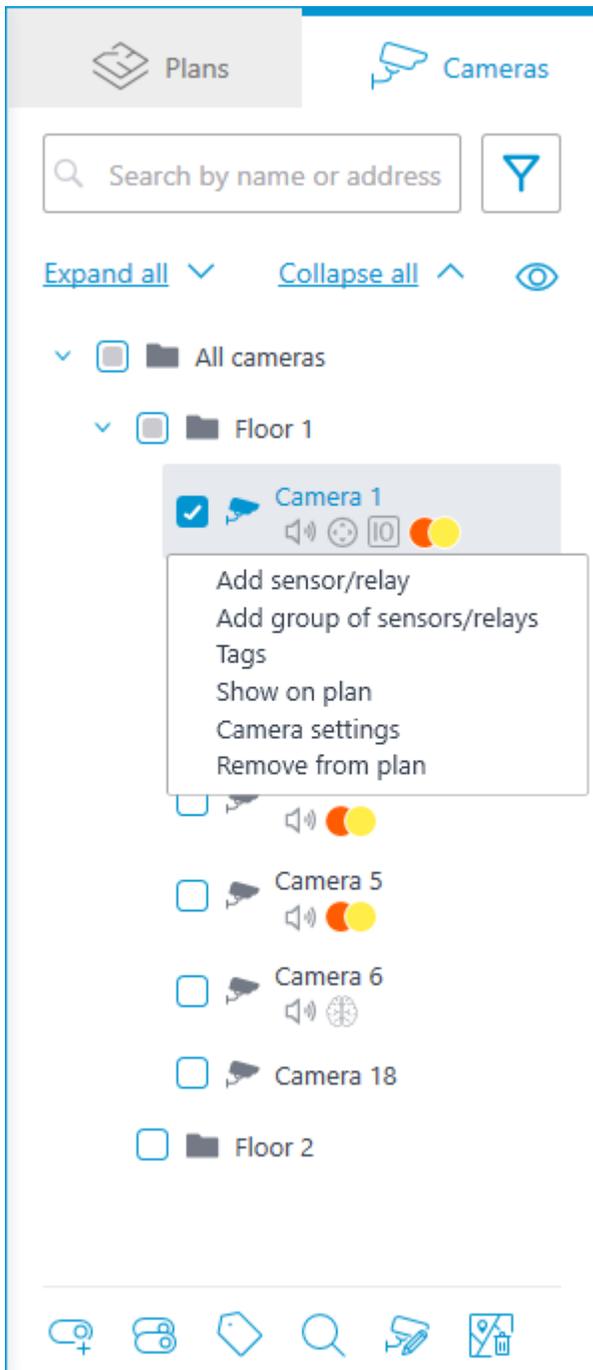
When the field of view editing mode is switched off, the video will be cropped according to the shape of the field of view:



### Placement of sensors and relays

If the camera has alarm inputs/outputs enabled in the **Cameras** section, sensors and relays connected to it can be placed to the map.

To place a sensor or a relay, select the **Add sensor/relay** item in the camera context menu or click the corresponding button in the bottom panel of the cameras tree.



The following sensor parameters can be configured in the **Device settings** window:

Type

- Sensor
- Relay

Displayable icon

- Default icon

- Door
- Barrier
- Turnstile
- Lock

Name

Number of input/output

Receiving signal status

The screenshot shows a 'Device settings' dialog box with the following fields and options:

- Type:** A dropdown menu currently showing 'Sensor'.
- Icon:** A dropdown menu showing a blue circle icon, with a list of other icons (door, barrier, turnstile, lock) visible below it.
- Name:** A text input field containing 'Entry point 1'.
- Number of input/output:** A numeric spinner set to '1'.
- Receiving signal status:** Two radio buttons, one red and one green, with the green one selected.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom.

Sensors are displayed in the camera tree for those cameras to which they are connected. The device type and name of the sensor are also displayed there.

Search by name or address



Expand all

Collapse all



▼  All cameras

▼  Head office

Camera 1

Camera 2

▼  Camera 3

Door sensor

Electronic lock

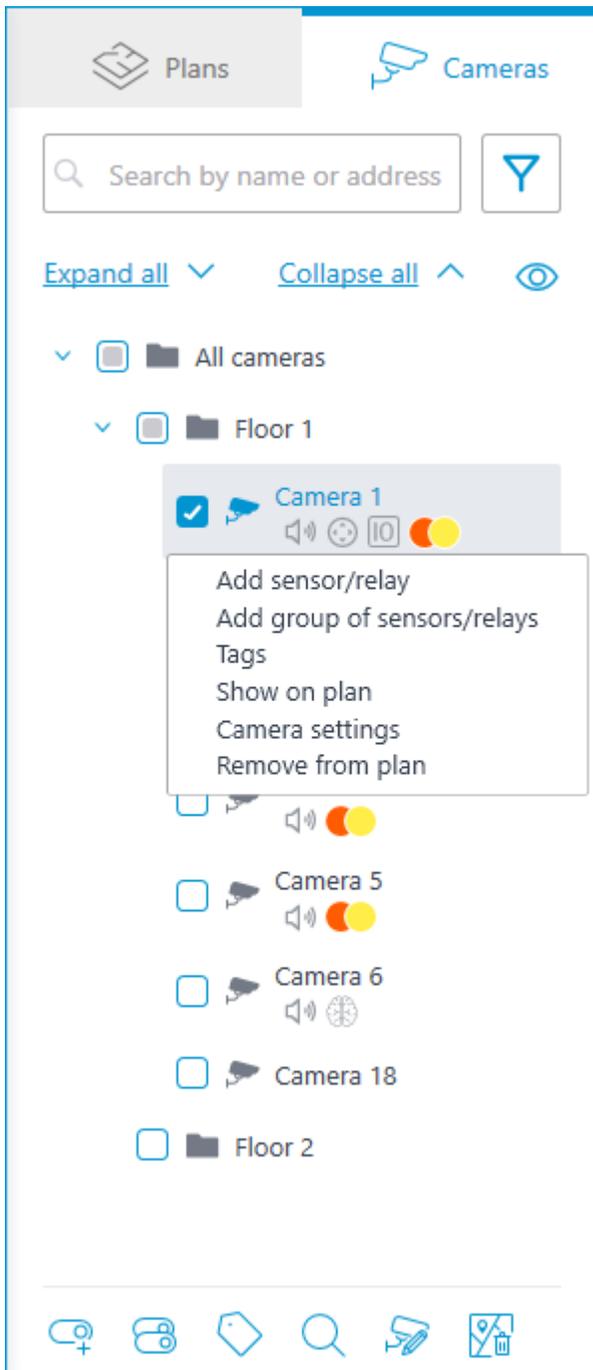
Camera 4

>  Camera 5

Camera 6

>  Local store





To create a sensor or relay group, click **Add group of sensors/relays** in the camera context menu or at the bottom of the camera tree.

In the **Add group of devices** window, all the same parameters can be selected that are available when setting up an individual sensor. But the difference is that in this case, several I/Os can be specified simultaneously.

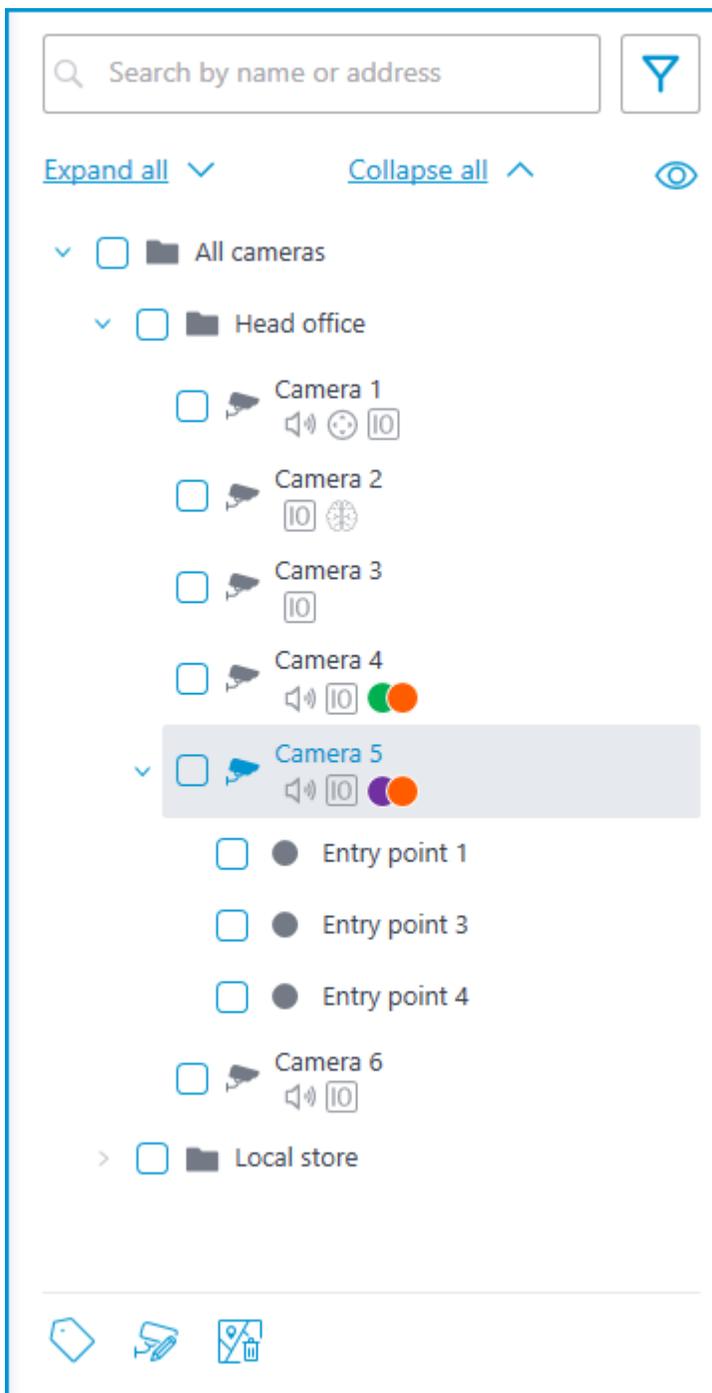
**Add group of devices** ×

Type:  ▼    Icon:  ▼    Name:

Numbers of inputs/outputs ⓘ:     Receiving signal status:

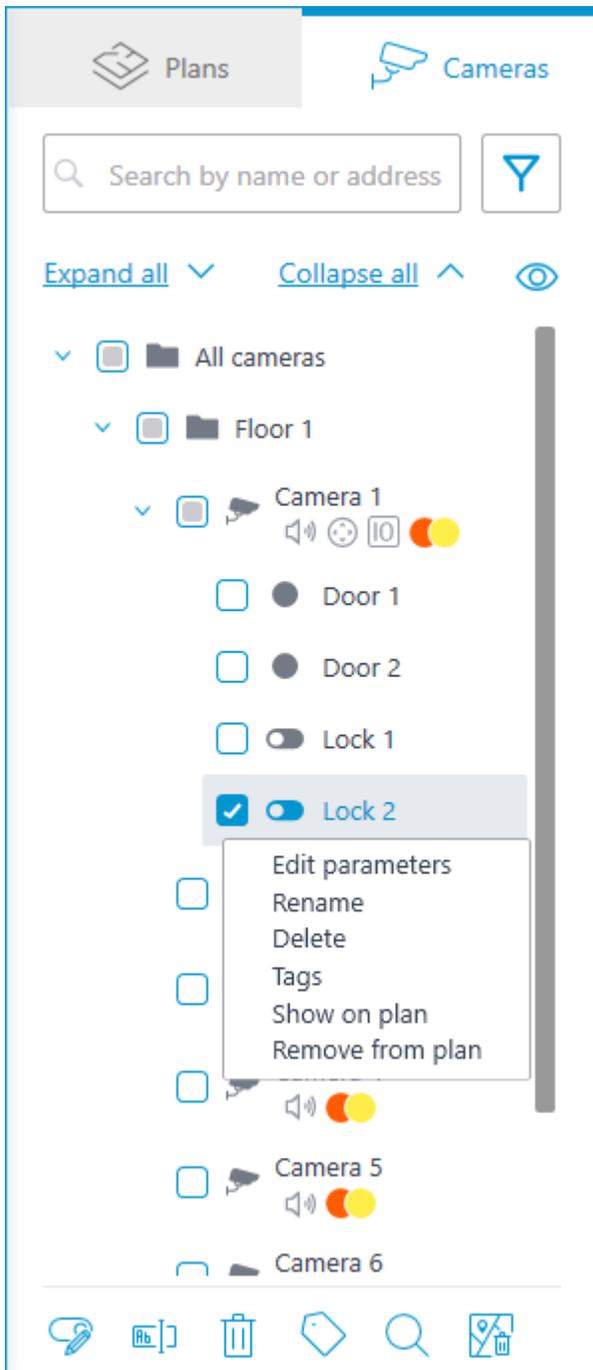
**Save**    **Cancel**

After clicking the **Save** button, all sensors/relays will be added to the associated camera. The device name will be generated from the sensor name and the input number.

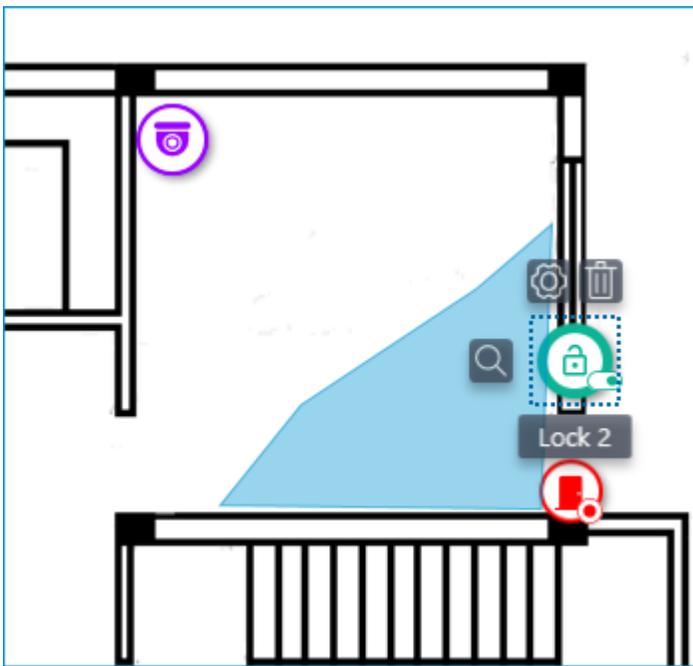


If the sensor is placed to the plan, the following additional items appear in its context menu:

- Show on plan
- Remove from plan



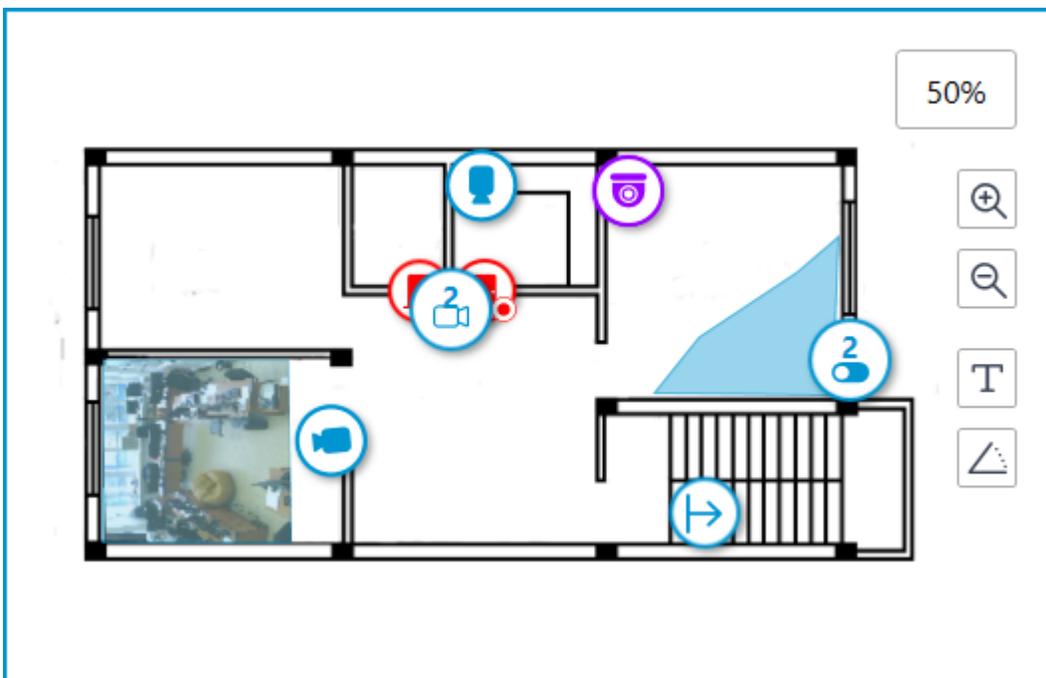
The sensor will be displayed on the map with the icon that was selected when it was created. The device type will also be displayed. The color of the sensor depends on the specified state when there is a signal and, consequently, on the current signal status for this sensor.



When the sensor is selected on the map, its name and the following buttons appear: **Edit parameters**, **Remove from map**, and **Show in tree**.

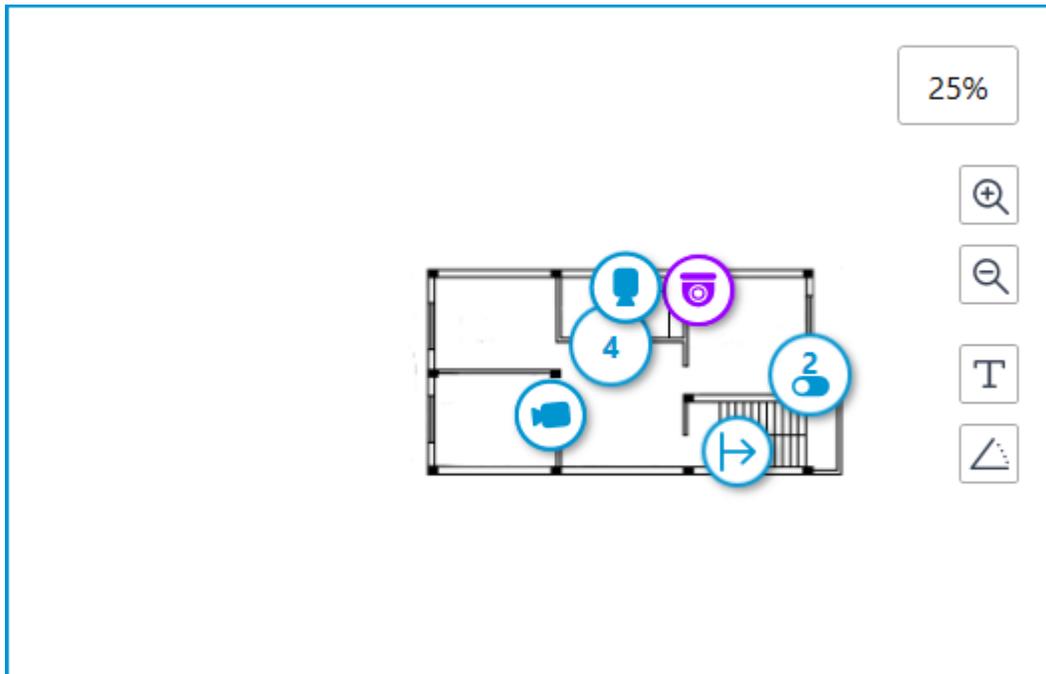
#### Grouping devices on the plan

When you change the scale of the plan - cameras, sensors, relays, and transitions are grouped into markers.



Elements of the same type located close to each other on the plan are grouped into one marker with the number of devices and their type: camera, sensor, relay, or transition.

Elements of different types are grouped into one marker with the number of devices.

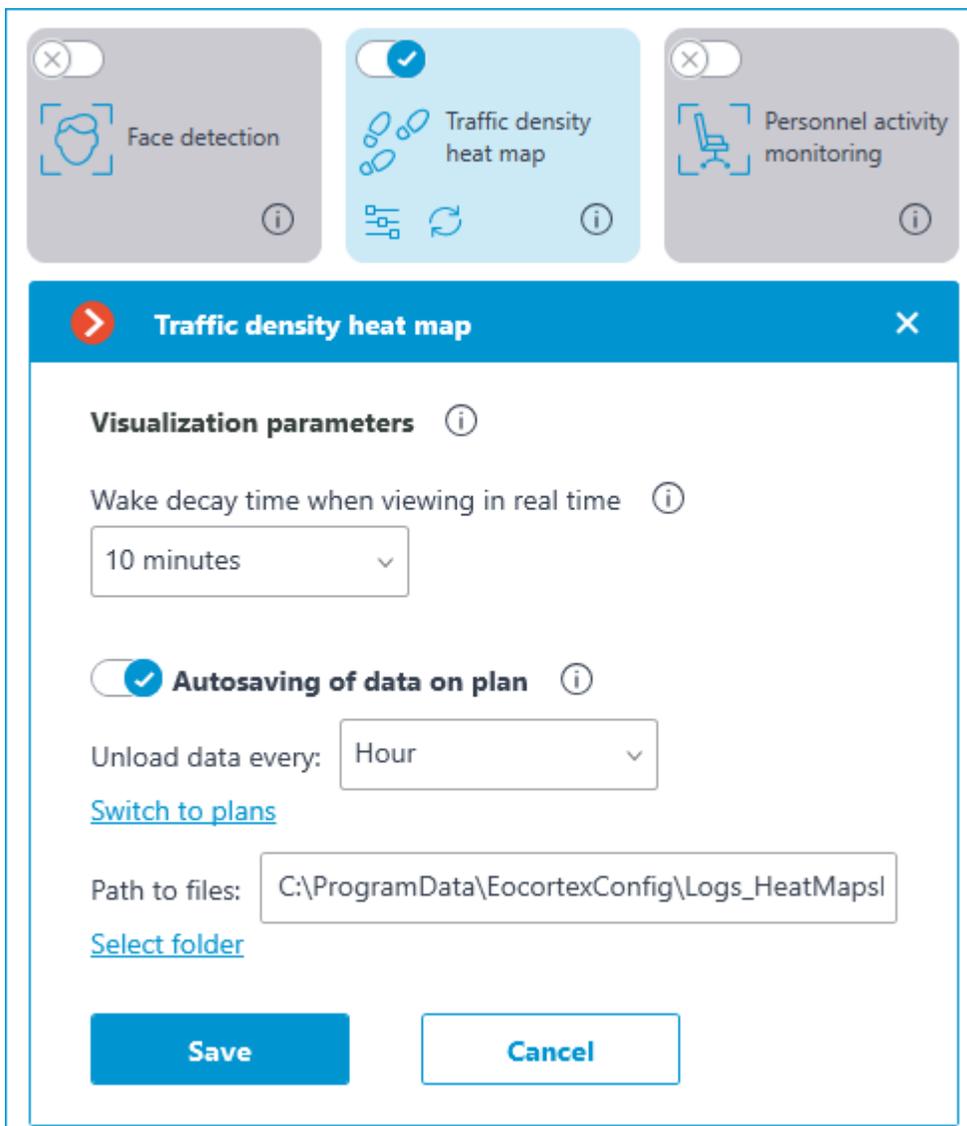


#### Note

If the number of grouped elements is more than 99, the number on the marker will be displayed as **99+**.

#### Heat maps

To use heat maps, enable and configure the **Traffic Density Heat Map** module in the [Analytics](#) section.



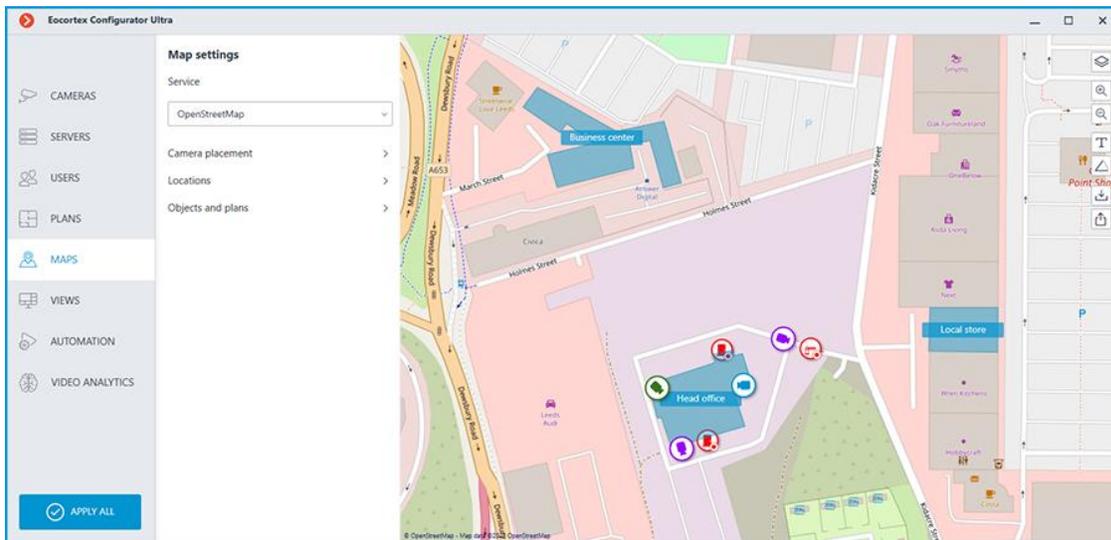
For the **Autosaving of data on plan** function of the **Traffic Density Heat Map** module to work, the field of view must be configured for the camera placed on the plan in the **Plans** section.

## Interactive Maps

Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

To place cameras on the geographical maps provided by the cartographic services, go to the  **Maps** tab in the **Eocortex Configurator** application.



## Description

This tab displays a geographical map with the cameras, sensors, and relays placed on it.

A bar with the following buttons is available on the right side of the map:



**Change layer:** Changes the current map layer.



**Zoom in:** Scales the map up.



**Zoom out:** Scales the map down.

Note

The scale can also be changed with the mouse wheel.



**Show camera names:** Hides or displays the names of all cameras on the map.



**Show fields of view:** Hides or displays the field of view of all cameras on the map. If no fields of view are configured, this button will not be displayed on the panel.



**Camera configuration export:** Exports the current map settings to the device. The export can be made to a CSV file, which contains:

1. Identifier of the camera.
2. Full camera path, including the camera name.

3. Coordinates of the camera on the map. If the camera is not placed to the map — the coordinates will not be added.



**Camera configuration import:** Imports a map settings file. When imported, the camera is added to the map by the coordinates written in the file.

If the camera is already placed to the map, the imported settings will change its coordinates to the new ones. If the file does not contain the coordinates for this camera — it will be removed from the map. For those cameras that were not found in the current configuration of the system or whose coordinates are specified incorrectly, an error message will be displayed. The import of the remaining cameras will continue.



**Edit camera settings:** Opens the camera settings window. This button will not appear in the panel if no site is selected.



**Remove selected objects from map:** Deletes the selected sites from the map. This button will not appear in the panel if no site is selected.

In the **Service** section, the preferred GIS service can be selected.

Note

Changing the GIS service does not change the current position.

The following GIS services are available:

- OpenStreetMap
- Google Maps

Layers of the map can be changed by clicking the  button on the panel located to the right of the map.

- **OpenStreetMap**

Available layers: **OpenStreetMap; OpenCycleMap; OpenCycleLandscapeMap.**

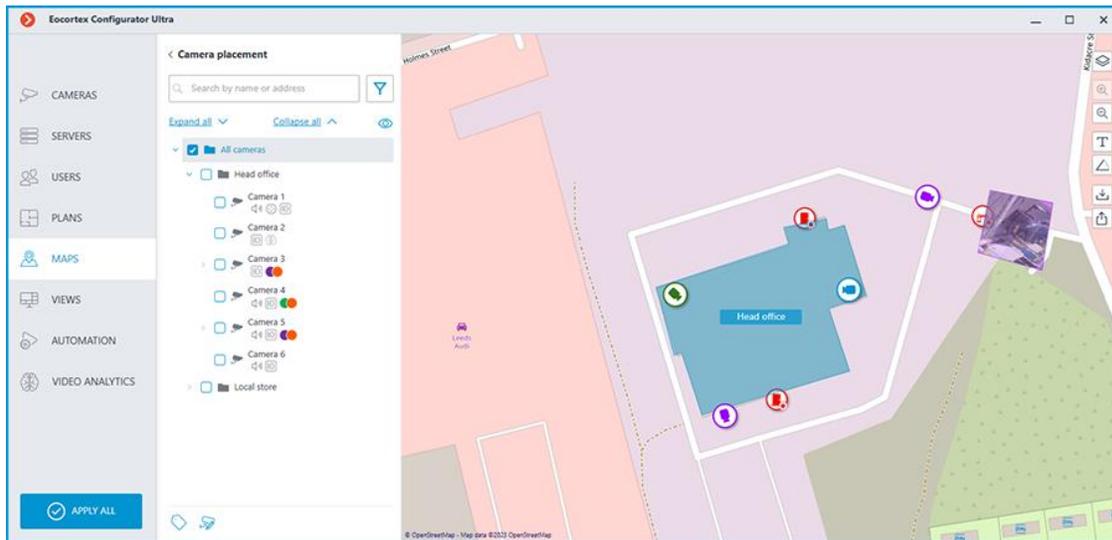
- **Google Maps**

Available layers: **Map; Satellite.**

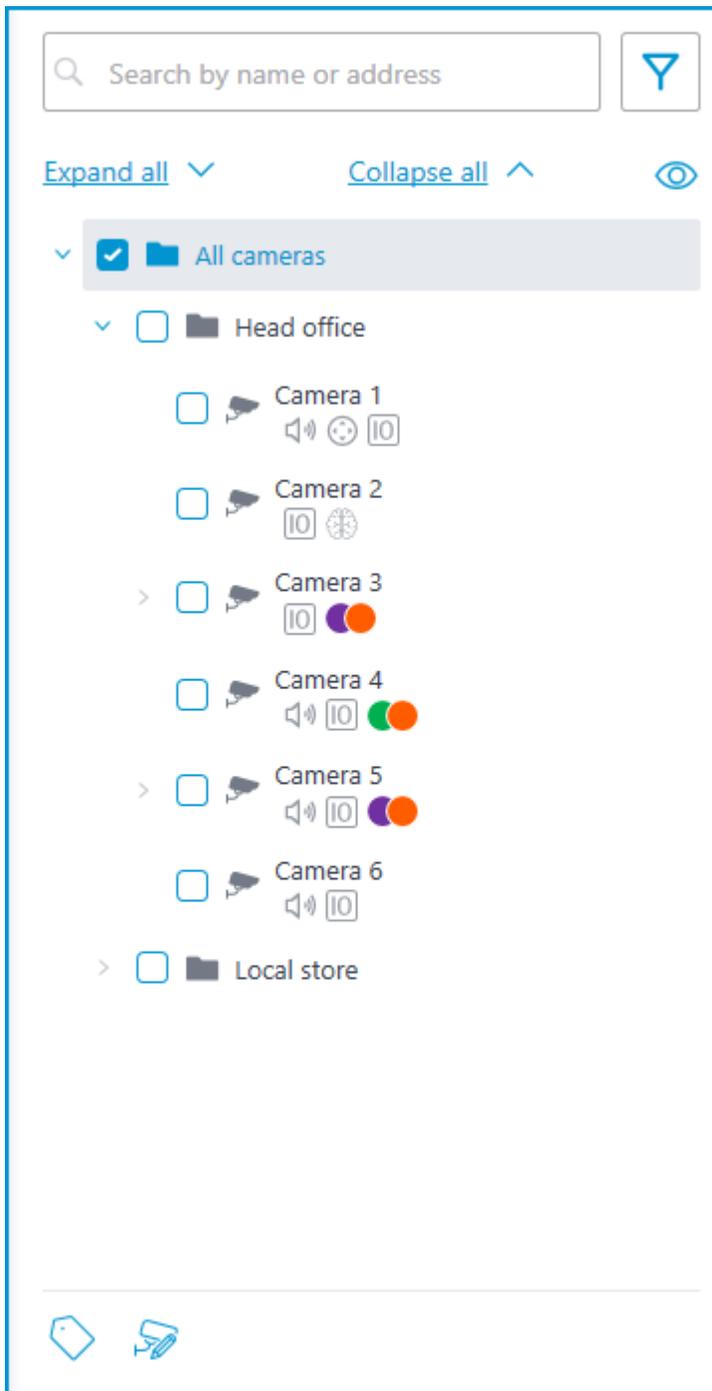
Below there are the **Camera placement, Locations, and Objects and plans** tabs. Clicking them opens the corresponding settings panel.

## Camera placement

### General



This tab contains the cameras tree.

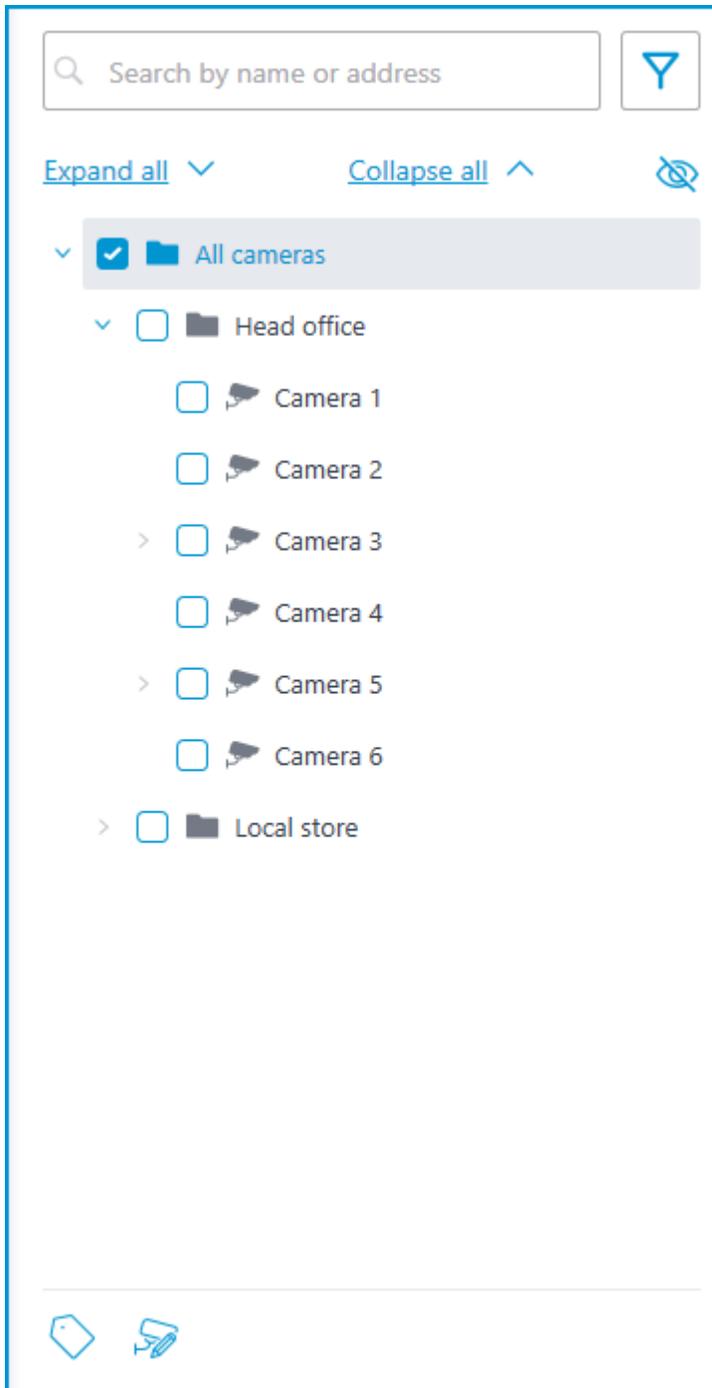


Cameras can have the following attributes:

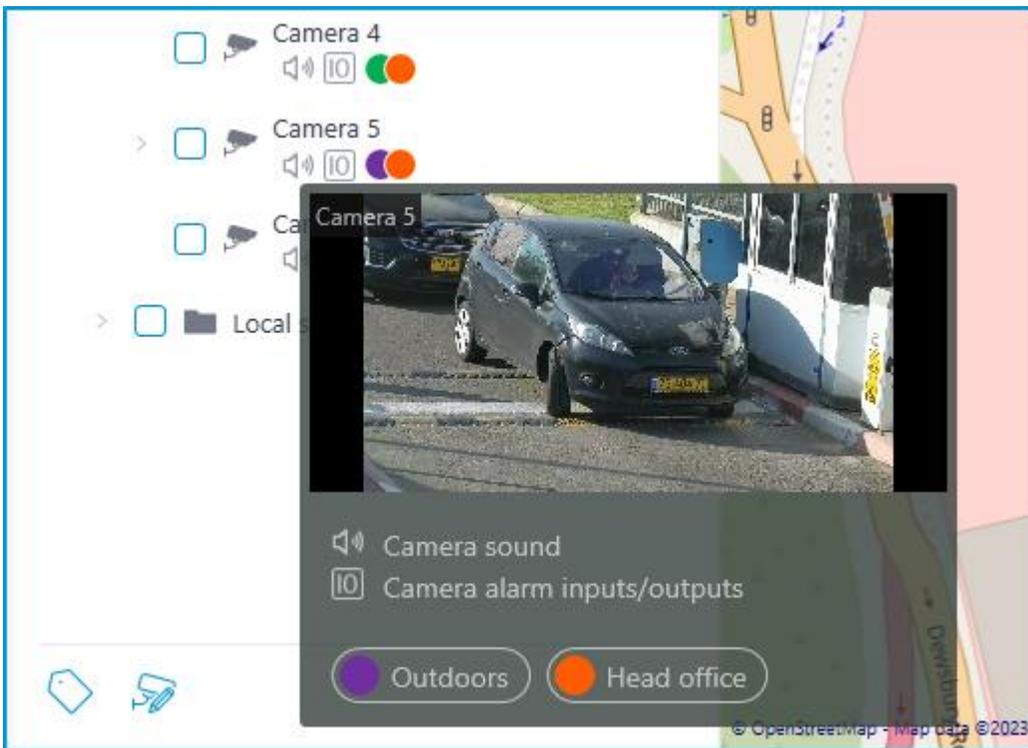
-  : the camera has enabled video analytics module;
-  : the camera has enabled sound receiving option;
-  : the camera has enabled PTZ;
-  : the camera has enabled alarm inputs/outputs.

- **Colored labels:** the camera has tags with the displayed colors;

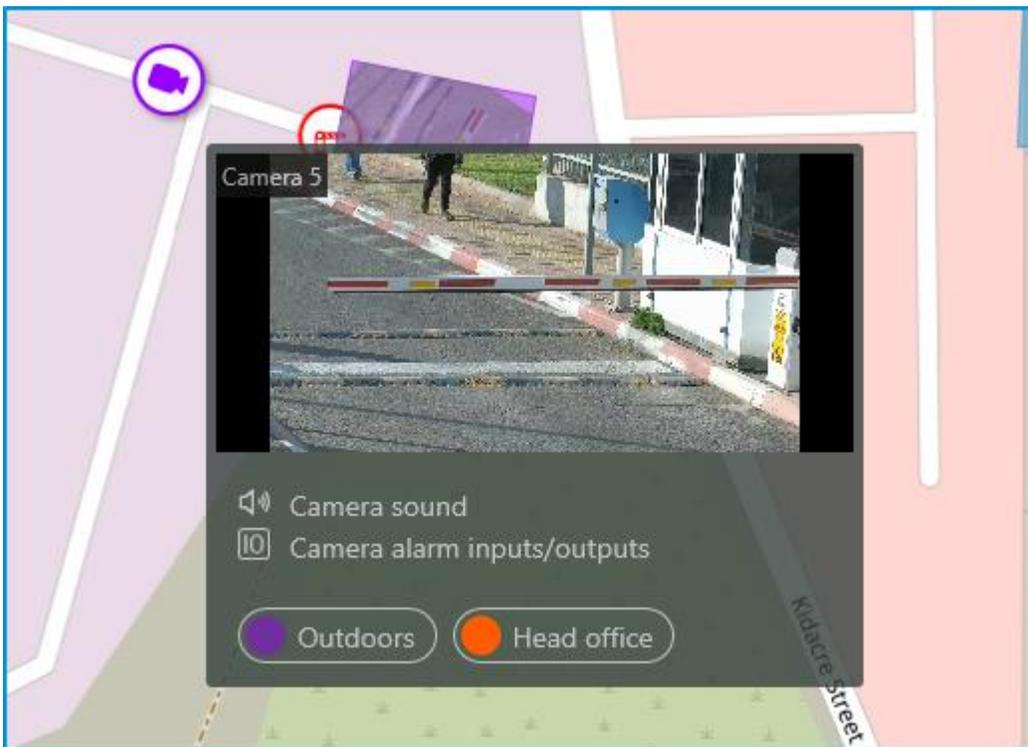
If necessary, you can hide the attributes by clicking the  icon on the right side of the tree.



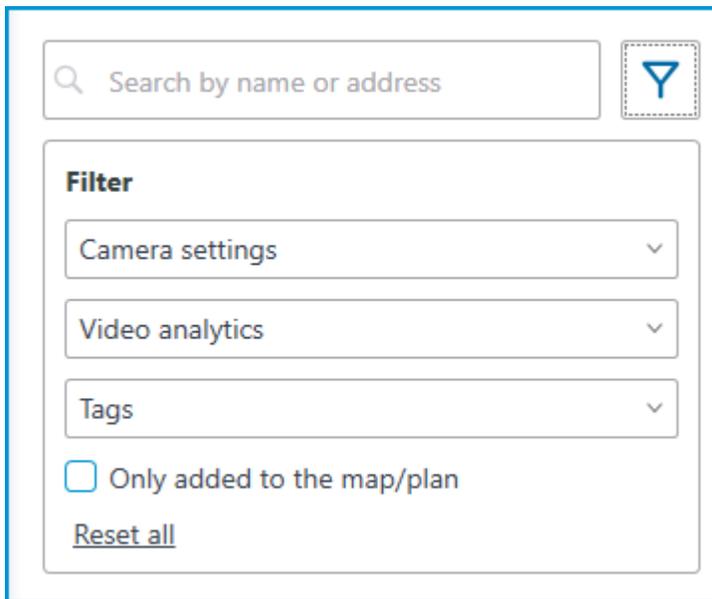
Hovering the cursor over the camera opens a preview window that contains video from the camera and a list of its attributes.



The same preview window opens when hovering the cursor over a camera located outside the cameras tree.



To select a camera manually, you can also find it by **name** or **IP address** using the search field above the camera's tree.



You can filter cameras by clicking the  icon and customizing the following filter options:

- Camera settings Filter by the following attributes: , , .
- Video analytics
- Tags

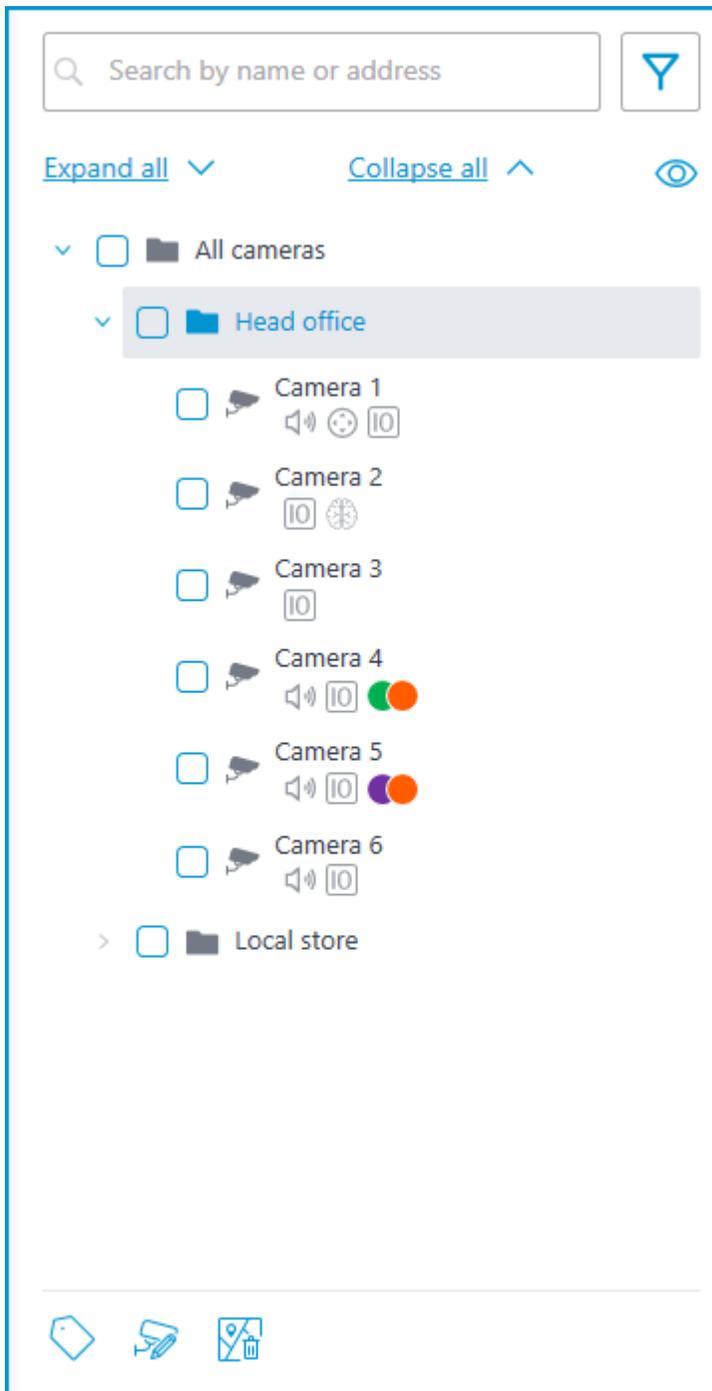
#### Note

The availability of filtering options depends on the settings of the cameras. Filtering applies immediately after selecting an item.

If necessary, it is possible to collapse the filtering by clicking the  filter button. When the filtering is applied and collapsed, the filter icon changes to .

#### Tags

For easy navigation in the cameras tree, tags can be added for each camera. The window for creating and editing tags opens by clicking the **Tags** button in the bottom of the cameras tree or by selecting the relevant item in the context menu of the camera.



To add a new tag, click the **Add** button.

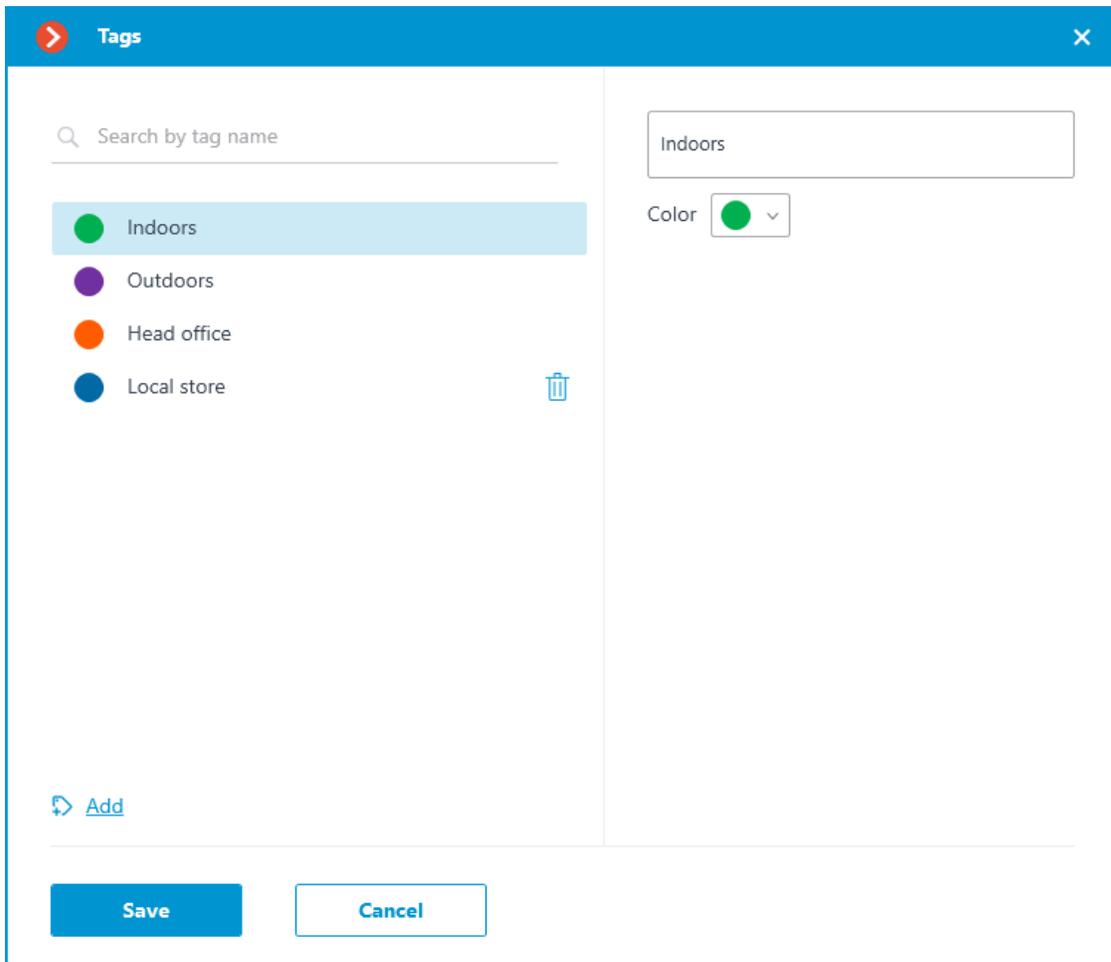
The screenshot shows a 'Tags' dialog box. It features a search bar at the top left with the placeholder text 'Search by tag name'. Below the search bar is a list of three tags: 'Indoors' (with a green dot), 'Outdoors' (with a purple dot), and 'Head office' (with an orange dot). The 'Indoors' tag is currently selected. To the right of the list, there is a text input field containing the word 'Indoors' and a 'Color' dropdown menu with a green circle selected. At the bottom left of the dialog is an 'Add' button with a plus icon. At the bottom center are two buttons: 'Save' and 'Cancel'.

The tag can have a name and a color. The color can be both selected from the preset options and set an own from the palette.

#### Warning

It is not recommended choosing excessively light colors for tags, as they can blend in with the background.

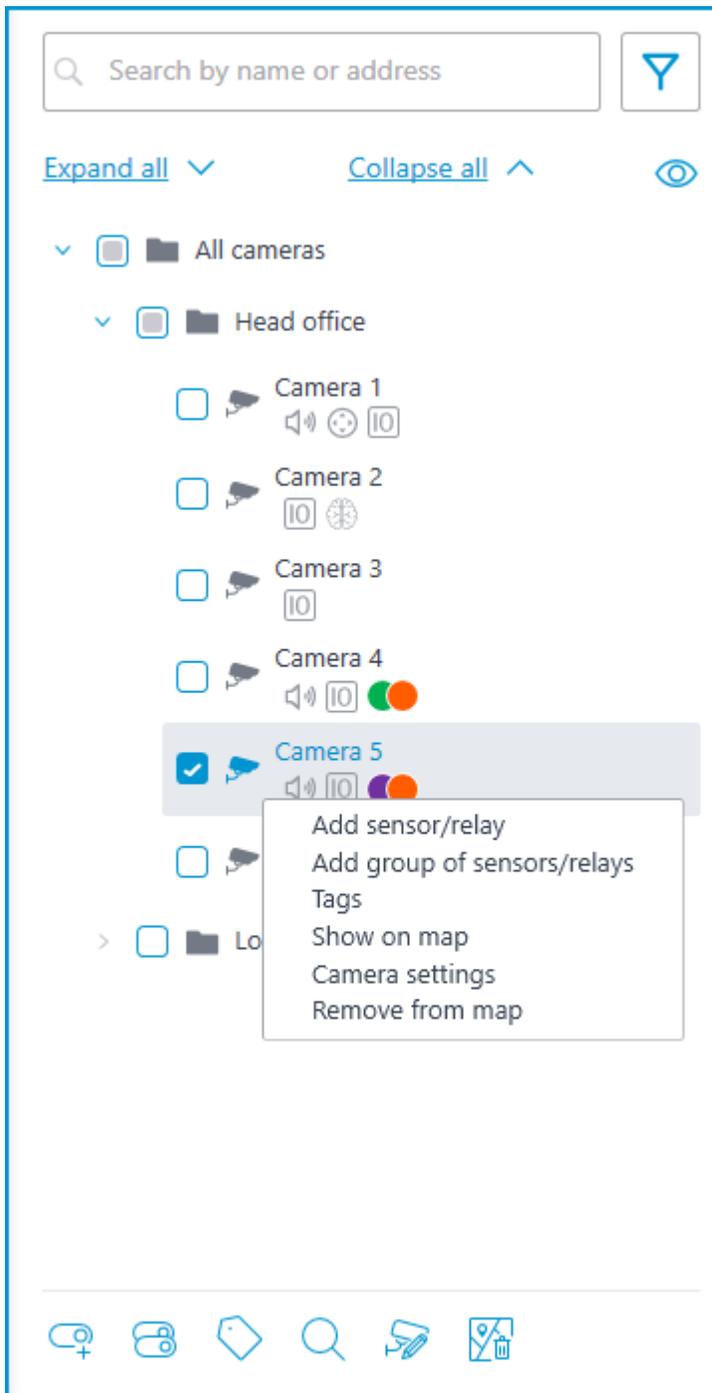
To delete a tag, hover the cursor over it and click the  button that appears.



Also, the settings window allows searching tags by their names.

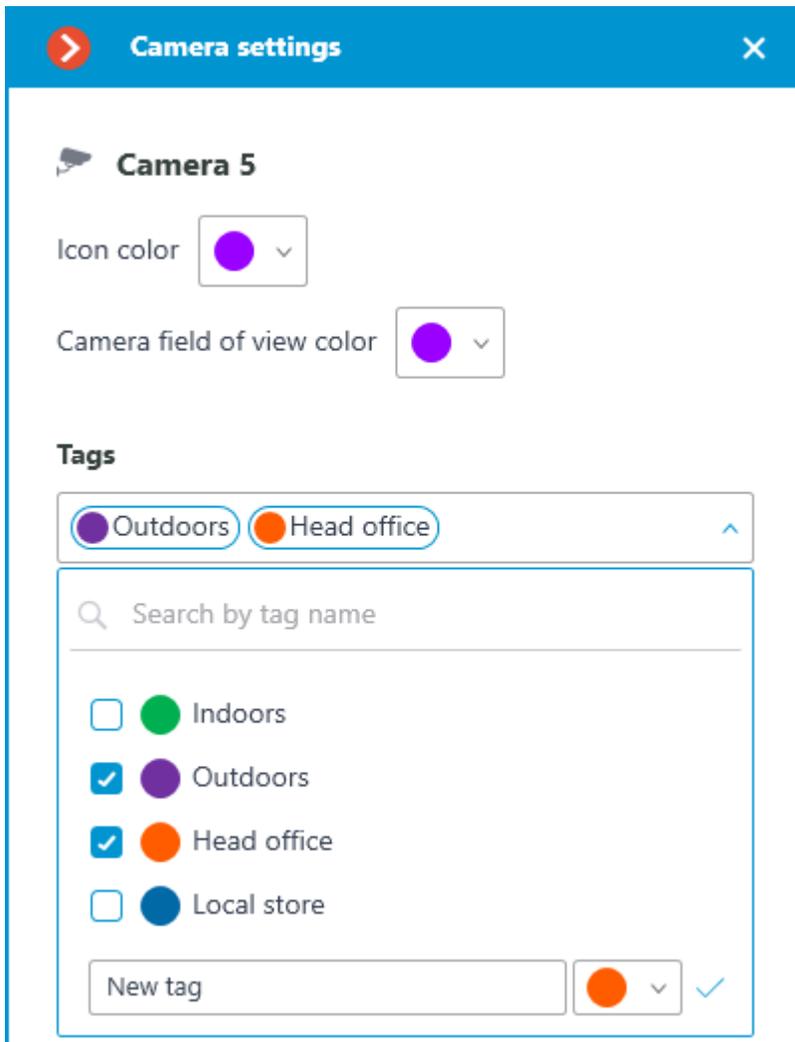
Representation of the camera on the map

To customize the camera representation, click **Camera settings** in the camera context menu or at the bottom of the camera tree.



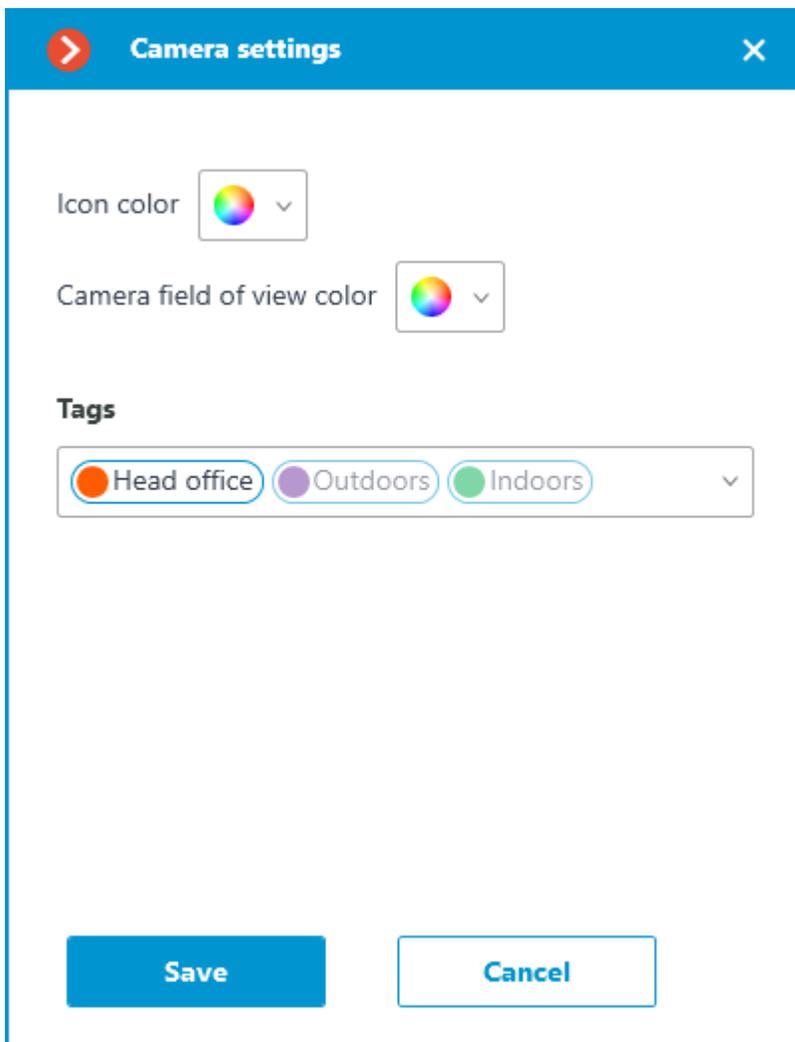
The following can be configured in the camera settings window:

- Color of the camera icon
- Color of the camera field of view
- Tags



In the drop-down list, it is possible both to select from already available tags and to create a new one. To create a new tag, give it a name, select a color, and click the  button. The created tag will appear in the list of tags.

This settings window is available both for individual cameras and for entire groups. When opening the settings window for a group of cameras at once, the own settings of cameras are displayed in the combined view. If the camera settings are the same, the actual parameter values will be displayed for the group. Otherwise, merged information is displayed.

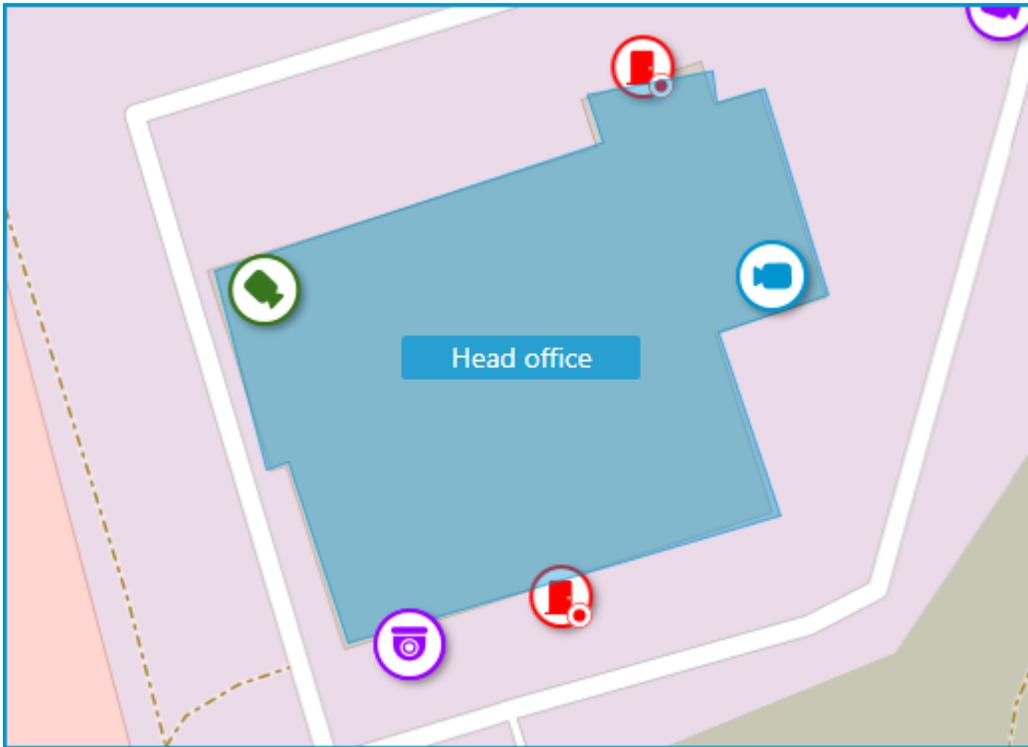


### Placement of cameras on the map

#### General

To add a camera to the map, drag it from the camera tree to the needed point on the map.

The camera icon depends on the settings you set in the **Cameras** section. If PTZ functionality is enabled for a camera, it will be displayed on the map with the corresponding icon. Other cameras are displayed with the usual icon.



When a camera is selected on the map, the following buttons appear around it:

-  : view video from the camera in full-screen mode.
-  : edit camera settings.
-  : remove the camera from the map.
-  : rotate the camera.
-  : set up the field of view.
-  : jump to the camera position in the tree.

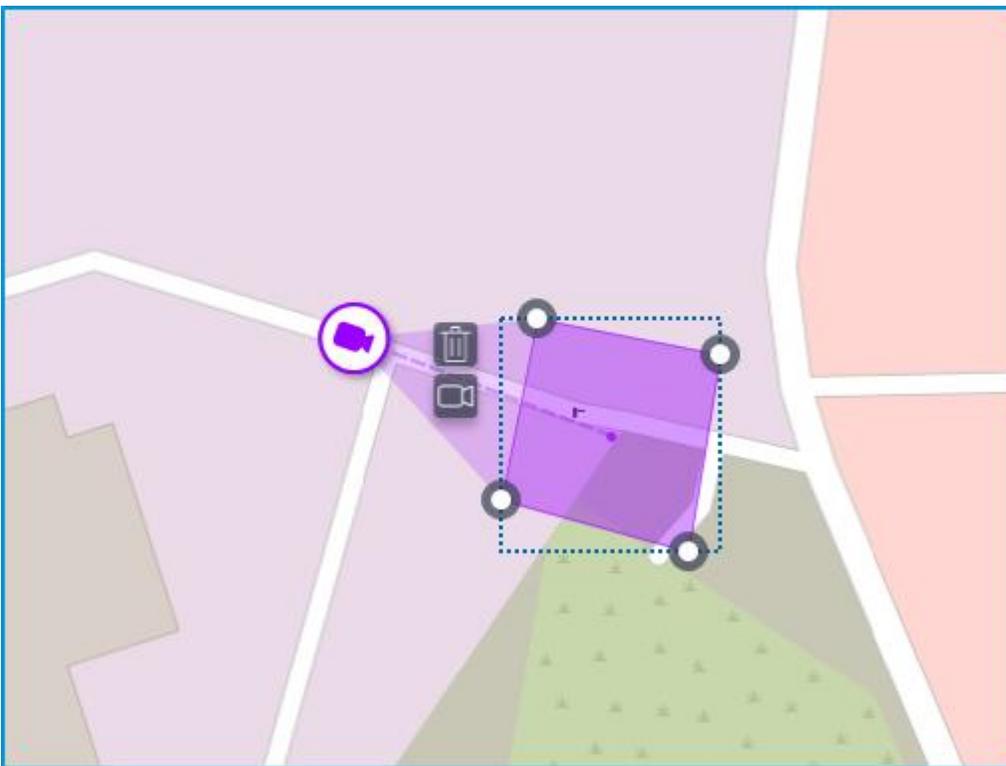


### Note

Also, when a camera is selected, its name will be displayed. By default, it is hidden.

### Camera field of view

If necessary, a custom field of view can be created. To do this, click the  button. After that, an editable rectangle will appear, which can be used to adjust the needed viewing angle. The shape of the field of view can be changed indefinitely: add and delete nodes, move them along the plan or the map.



To delete a custom camera field of view, select it and click the  button. If the video displaying has been set in the field of view, deleting the FOV deletes this setting as well.

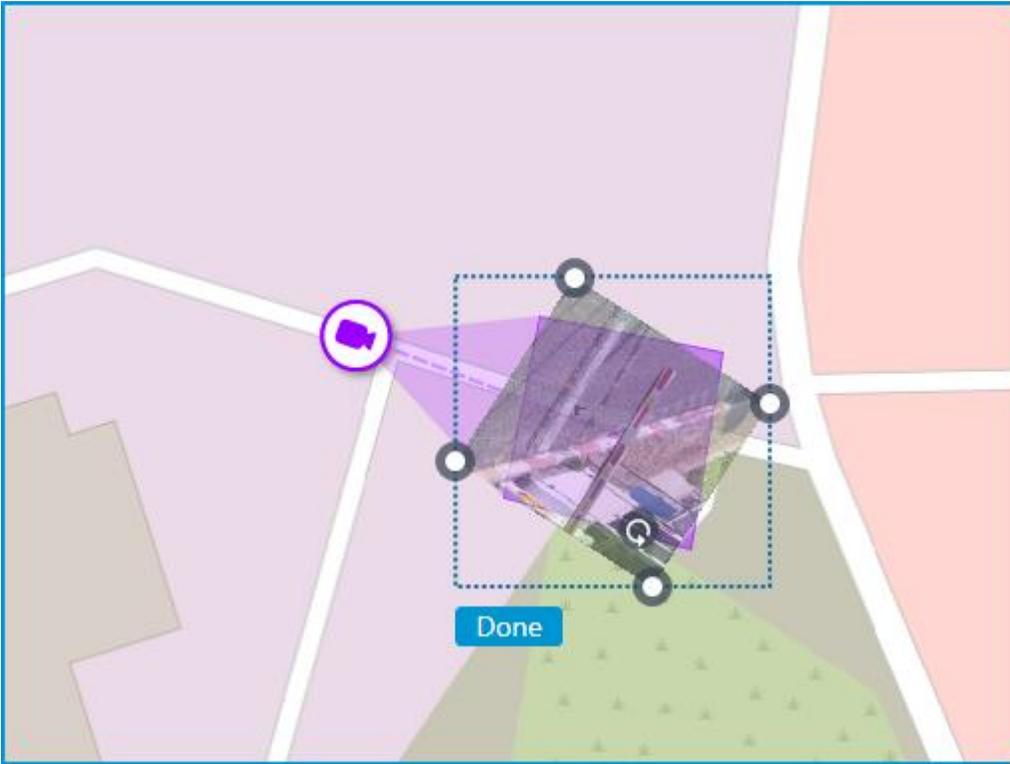
### Video inside the field of view

The field of view can display video from the camera. To set it up, click the  button. This will create an editable rectangle in which the live video from the selected camera will be embedded. By default, video appears as the size of the dotted outline of the field of view.

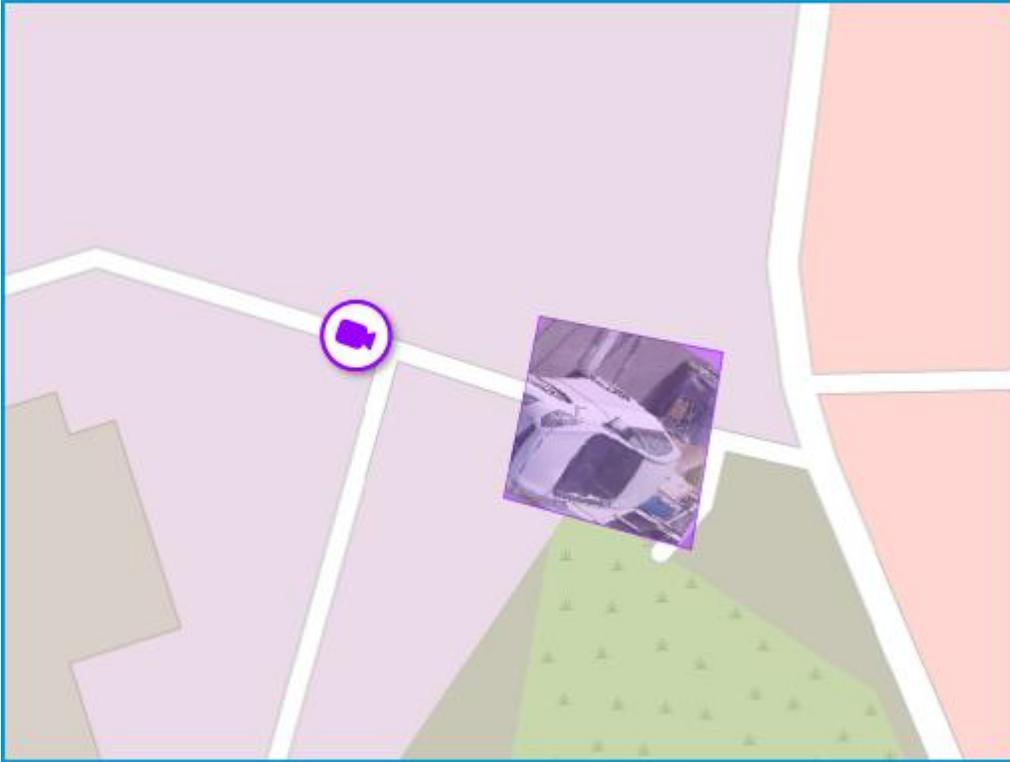


Adjust the shape and location of the displayed video so that the area visible in the frame matches its position on the map. Once ready, click the **Done** button.

To edit an already configured video displaying, click the  button. To reset the video displaying settings in the field of view, click the crossed-out camera button. Reconfiguration of the video displaying after resetting will be performed according to the current shape of the field of view.



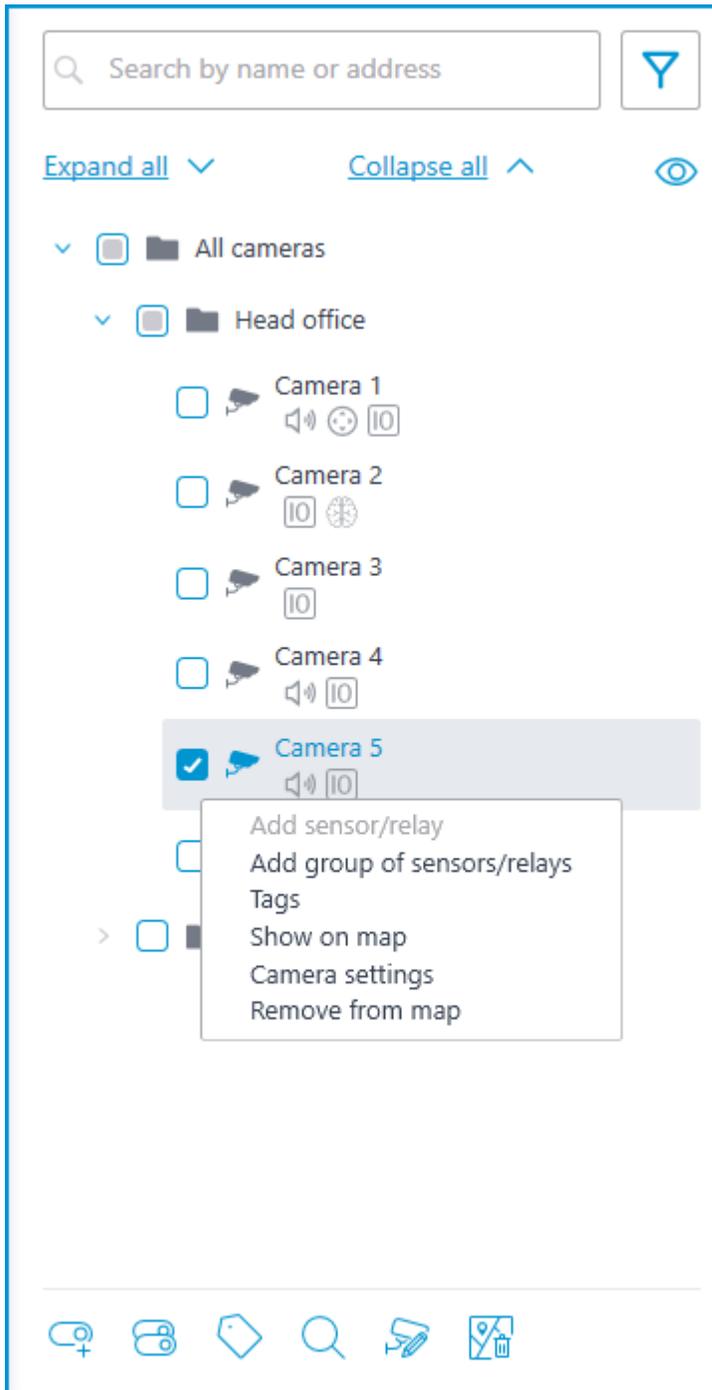
When the field of view editing mode is switched off, the video will be cropped according to the shape of the field of view:



## Placement of sensors and relays

If the camera has alarm inputs/outputs enabled in the **Cameras** section, sensors and relays connected to it can be placed to the map.

To place a sensor or a relay, select the **Add sensor/relay** item in the camera context menu or click the corresponding button in the bottom panel of the cameras tree.



The following sensor parameters can be configured in the **Device settings** window:

Type

- Sensor
- Relay

Displayable icon

- Default icon
- Door
- Barrier
- Turnstile
- Lock

Name

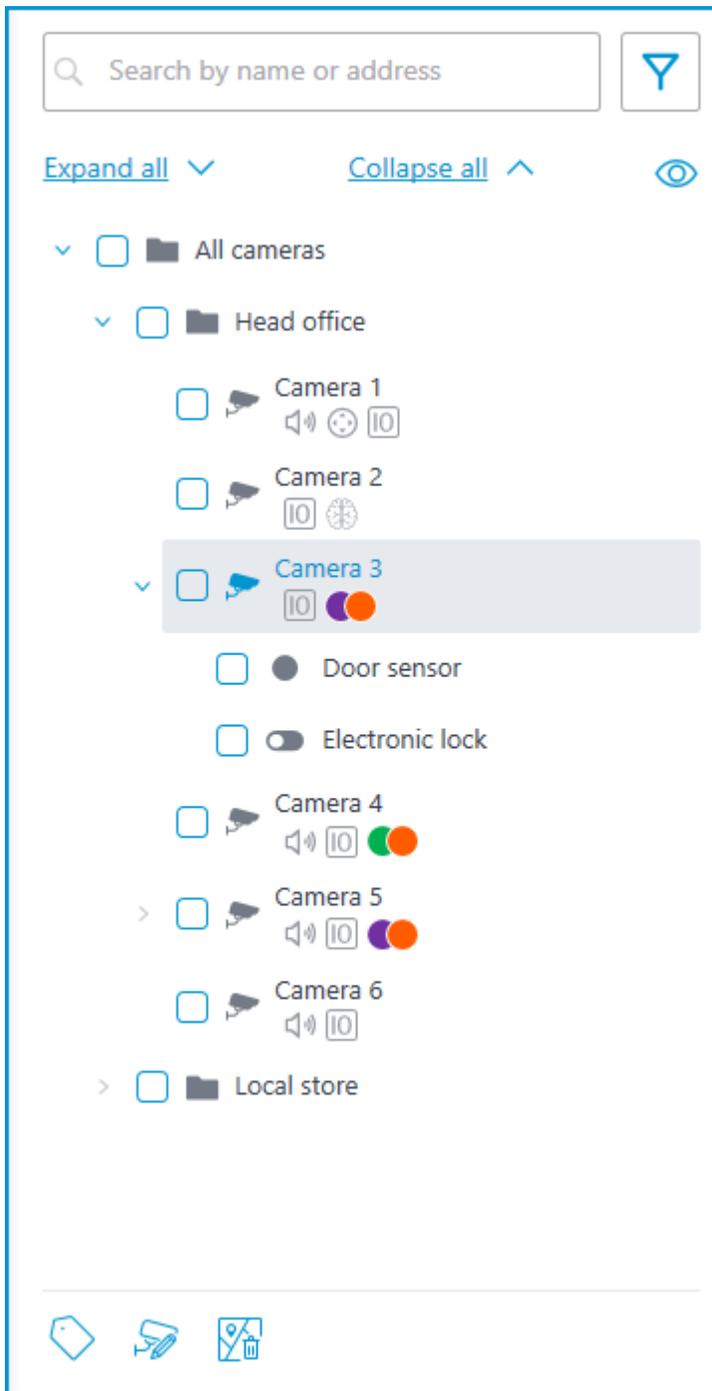
Number of input/output

Receiving signal status

The screenshot shows a 'Device settings' dialog box with the following fields and options:

- Type:** A dropdown menu set to 'Sensor'.
- Icon:** A dropdown menu showing a blue circle with a white center. A list of icons is open below it, including a door, a barrier, a turnstile, and a lock.
- Name:** A text input field containing 'Entry point 1'.
- Number of input/output:** A dropdown menu set to '1'.
- Receiving signal status:** Two radio buttons, one red and one green, both of which are selected.
- Buttons:** 'Save' and 'Cancel' buttons at the bottom.

Sensors are displayed in the camera tree for those cameras to which they are connected. The device type and name of the sensor are also displayed there.



To create a sensor or relay group, click **Add group of sensors/relays** in the camera context menu or at the bottom of the camera tree.

In the **Add group of devices** window, all the same parameters can be selected that are available when setting up an individual sensor. But the difference is that in this case, several I/Os can be specified simultaneously.

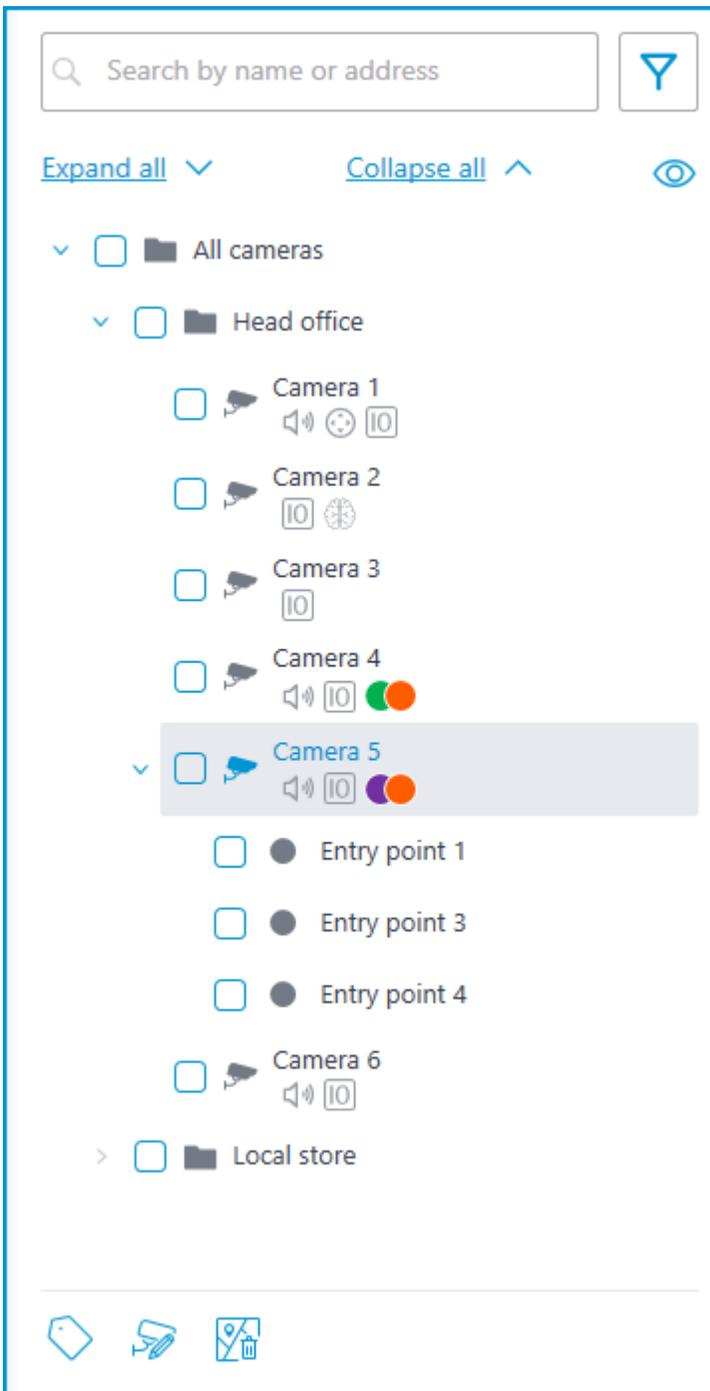
**Add group of devices** ×

Type:  ▼    Icon:  ▼    Name:

Numbers of inputs/outputs ⓘ:     Receiving signal status:

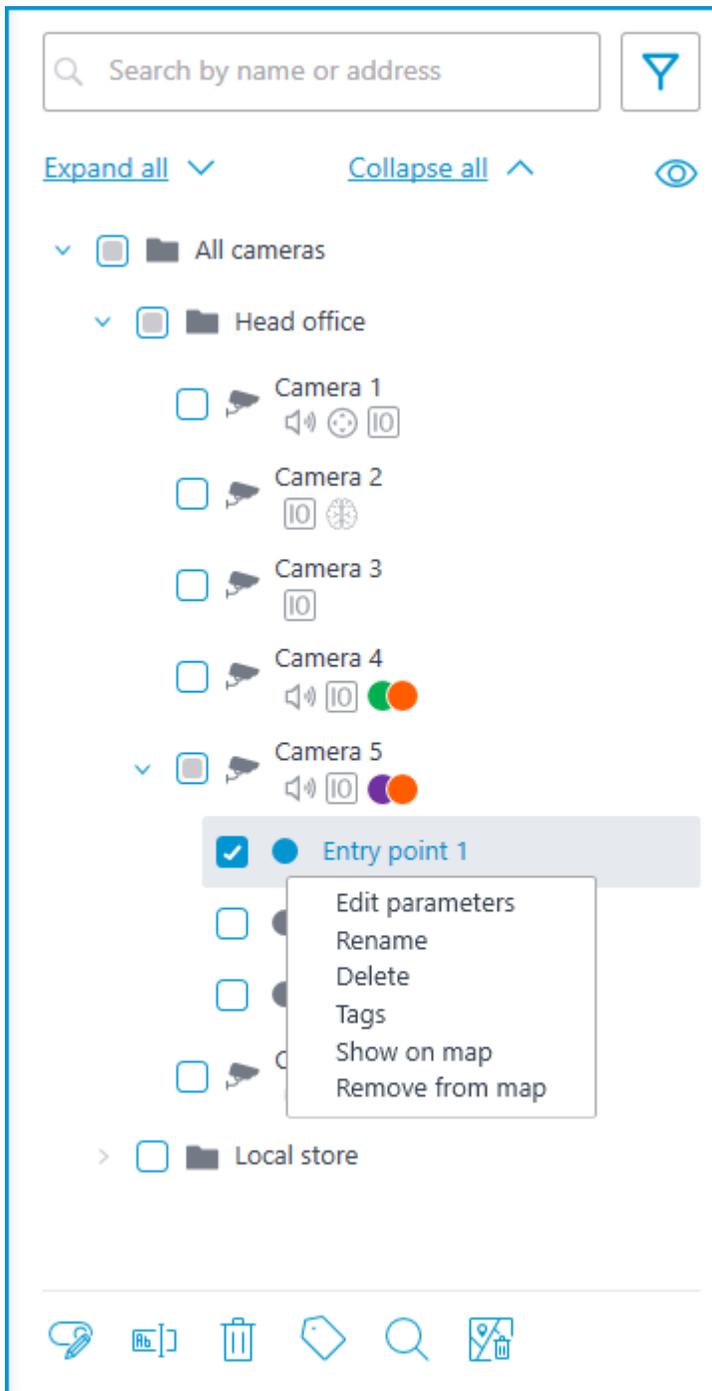
**Save**    **Cancel**

After clicking the **Save** button, all sensors/relays will be added to the associated camera. The device name will be generated from the sensor name and the input number.



If the sensor is placed to the map, the following additional items appear in its context menu:

- Show on map
- Remove from map



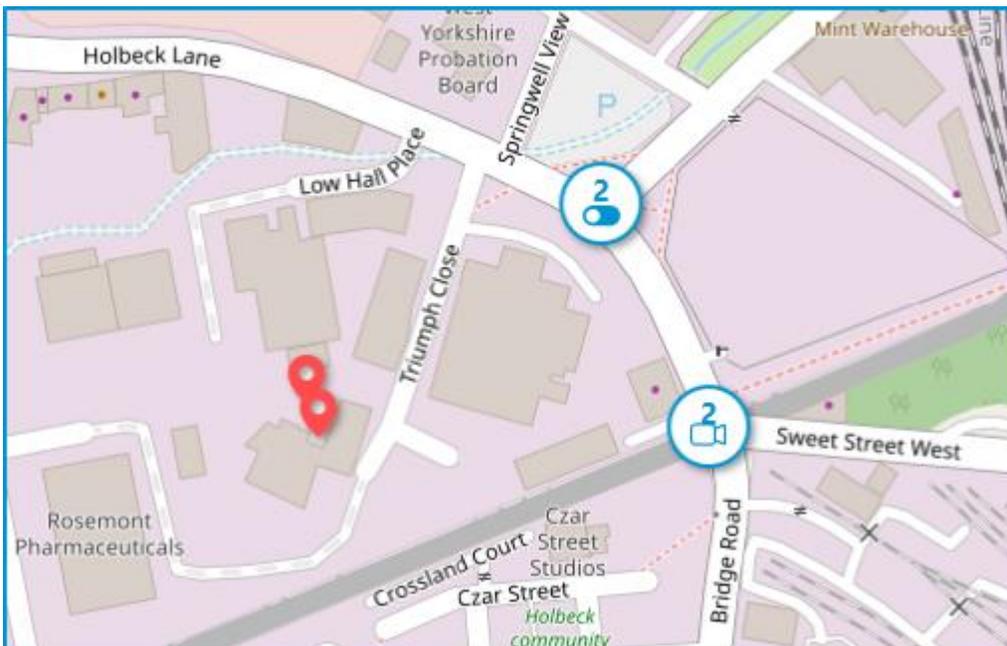
The sensor will be displayed on the map with the icon that was selected when it was created. The device type will also be displayed. The color of the sensor depends on the specified state when there is a signal and, consequently, on the current signal status for this sensor.



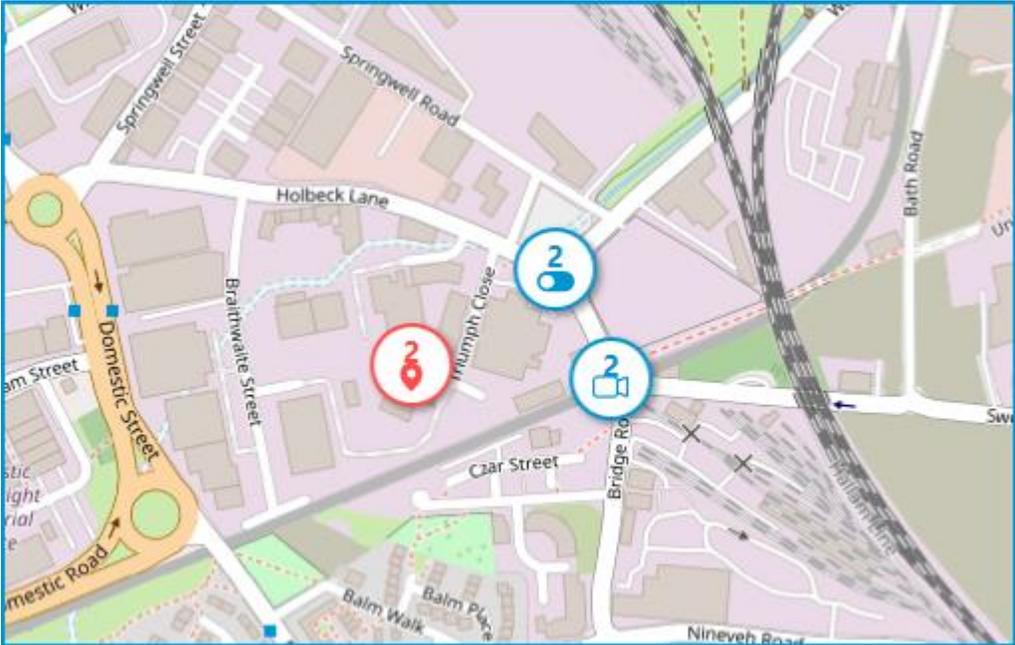
When the sensor is selected on the map, its name and the following buttons appear: **Edit parameters**, **Remove from map**, and **Show in tree**.

#### Grouping elements on the map

When the scale of the map is changing, cameras, sensors, relays, and sites on the map can be clustered into the group markers.



Elements of the same type located close to each other on the map are grouping into one marker with the number of grouped elements and their type: camera, sensor, relay, or site.



Elements of different types are grouping into one marker with the number of devices.



Note

If the number of grouped elements is more than 99, the number on the marker will be displayed as **99+**.

## Locations



On this tab, preset locations can be created on the map, using which users can quickly navigate to the required parts of the map with a given map scale.

To create a location, click the **Add location** option in the context menu or at the bottom of the locations tree.

If necessary, locations can be grouped by folders.

### Warning

Location, starting from **Eocortex 4.1**, is the lowest level element in the tree. When migrating settings from earlier versions, folders are used to keep the hierarchical structure. For an item with attachments, a folder with the same name is created at a higher level, in which the item itself and its attachments are placed in the same manner.

The following actions are available in the context menu when selecting an individual location or an entire folder:



It is possible to move between folders both individual locations and even entire folders.

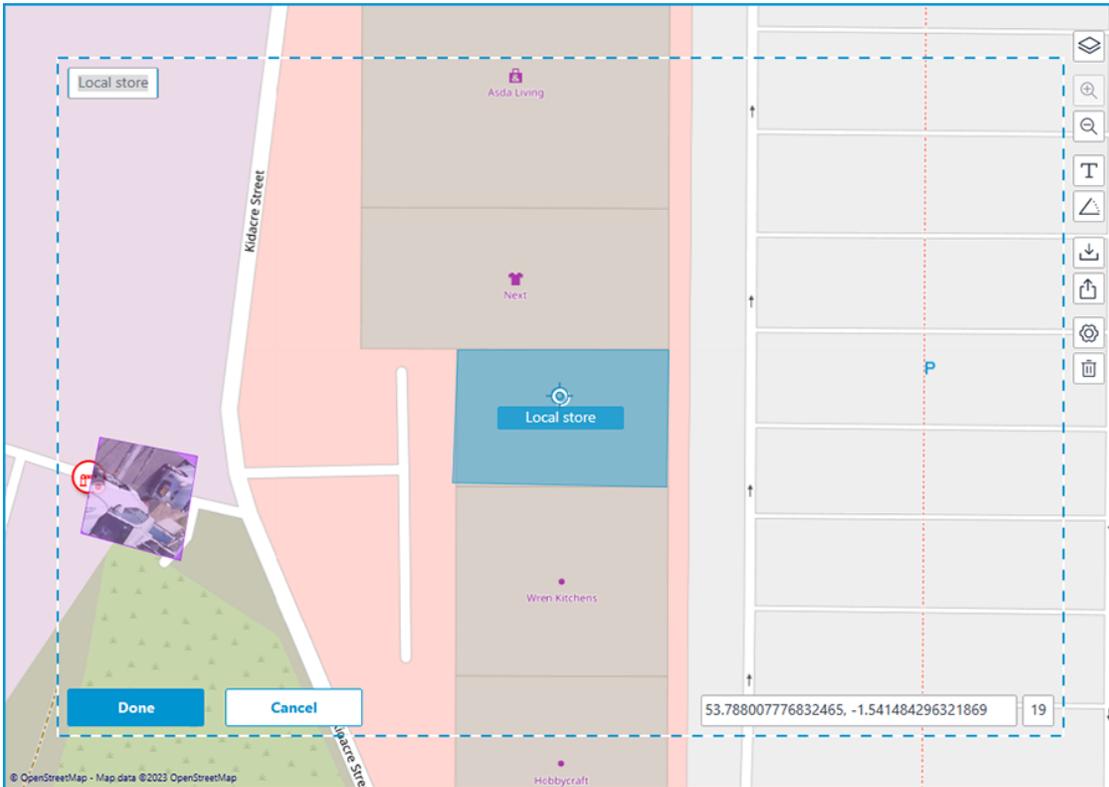
To define a location, select an area on the map. The bottom part of the area displays the coordinates of the selected area center and the map scale.

If necessary, the coordinates can be set manually. The following types of coordinates are allowed:

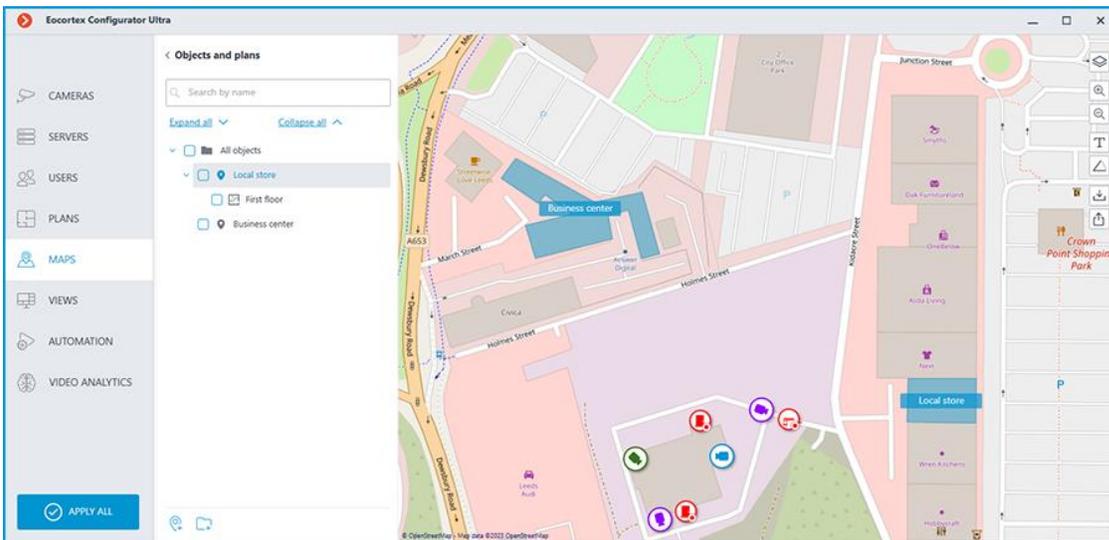
- 53.788007776832465, -1.541484296321869
- S53.788007776832465, W-1.541484296321869
- 53.788007776832465S, -1.541484296321869W

A **comma** or **semicolon** can be used as the separator, and the decimal separator can be specified as either a **comma** or a **dot**.

The name of the location can be set by double-clicking both In the tree and on the box in the upper left corner of the site on the map.



## Objects and plans



You can create Sites on this tab. Site is an area on the map, such as a building or facility area, for which you should set up a more detailed plan.

The site can have several plans attached. This feature is useful if the building has several floors.



In the context menu, when you select a site or an entire folder, the following actions are available:

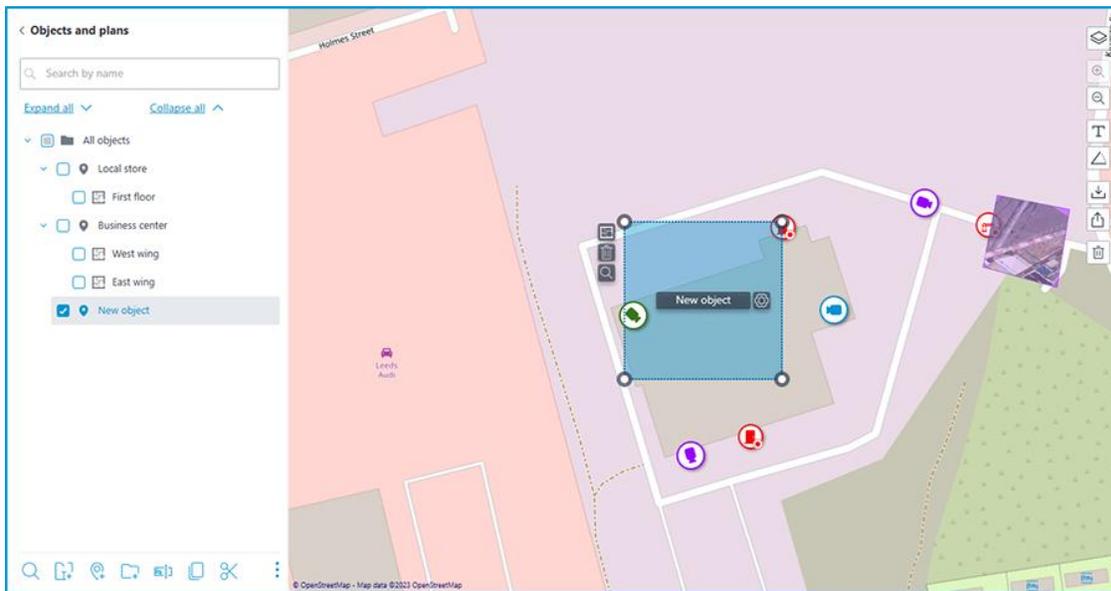


The same actions can be performed using the buttons in the bottom panel of the sites tree.

It is possible to move between folders both sites and entire folders.

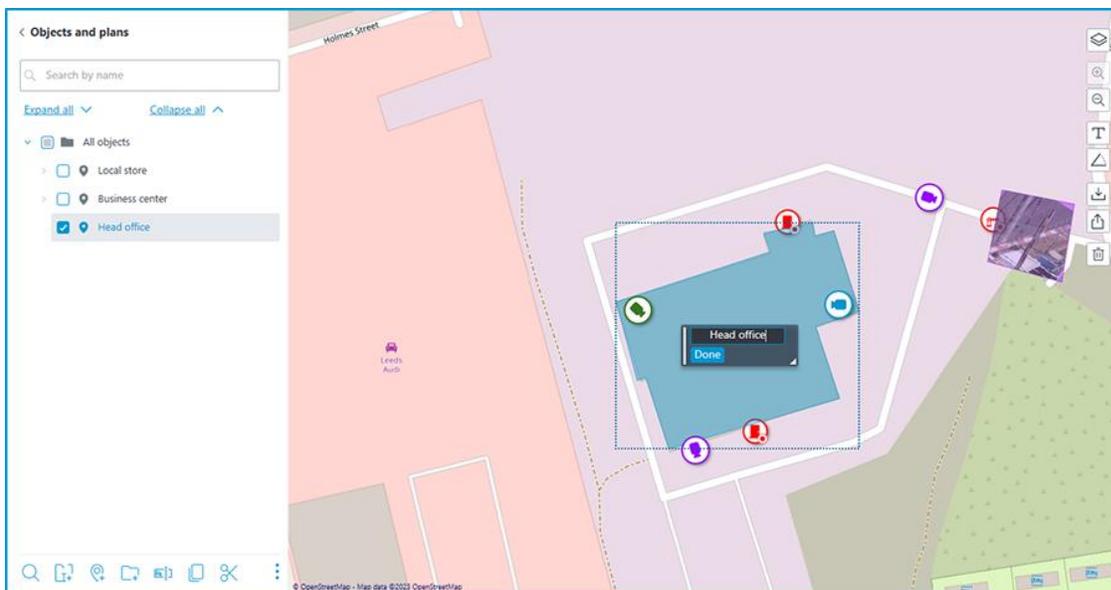
To create a site, click the **Add site** option in the context menu or at the bottom of the sites tree.

When creating a new site, a rectangular area appears on the map, which can be adjusted by dragging the nodes. You can add a new node by left-clicking on the site's boundary, and it is possible to remove an unnecessary node by right-clicking on it.



You can name the site either by double-clicking on the site in the tree, or by clicking on the  button located in the interactive area of the site next to the current name.

Clicking this button makes the name field interactive. In addition to changing its value, it is also possible to extend and reduce its size depending on the length of the name.

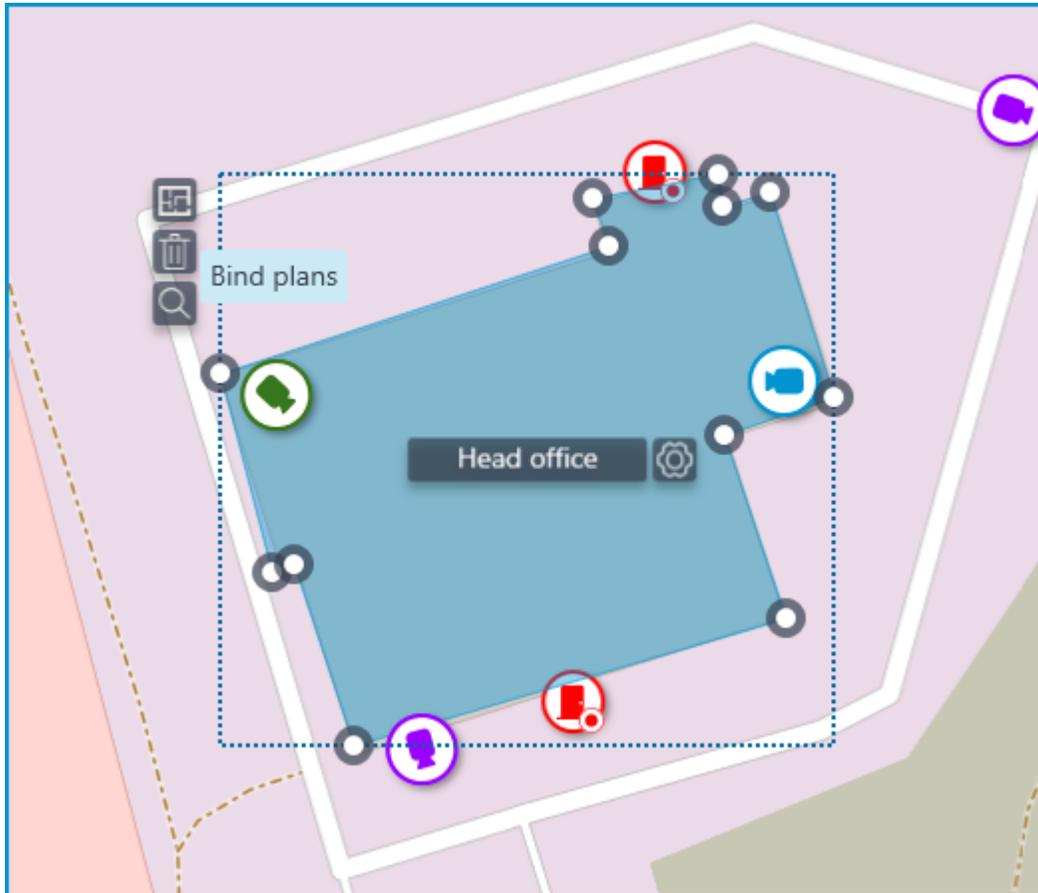


If the site name is too long to display, you can resize the name window by dragging the bottom right corner. Otherwise, the part of the name that does not fit into the rectangle will be replaced by an ellipsis when displayed.

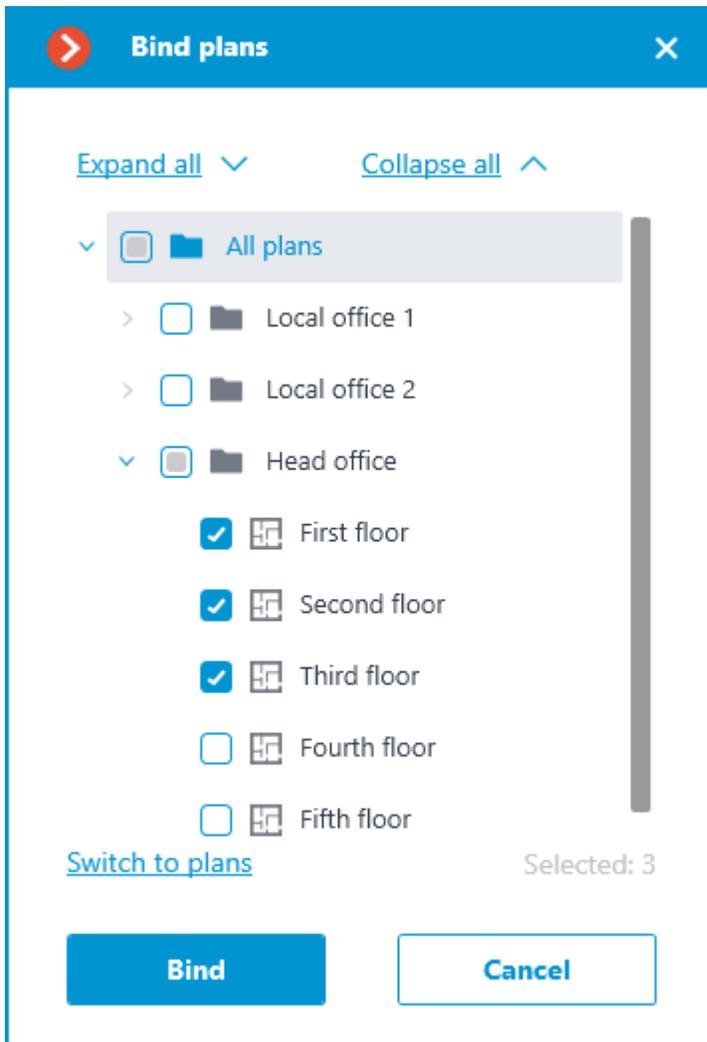
If necessary, the name can be moved to the place where it should be displayed on the site. To do this, drag the rectangle by the left edge to the desired

position and click the **Done** button. By default, the sites name is displayed in the middle of the site.

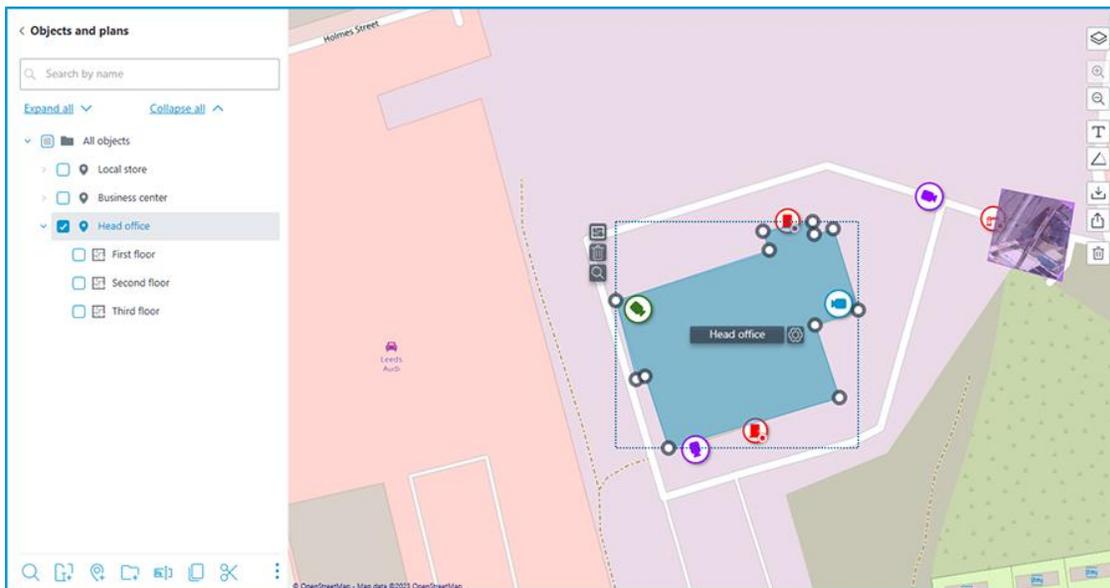
Plans can be attached to the site. Select the site in the tree and click the **Bind plans** option in the context menu or at the bottom of the site tree. Also, the same button is available next to the site area on the map.



The opened window displays all the plans available in the [Plans](#) section. To switch to the plans, click the **Switch to plans** button.



Select the plans to be bound and click **Bind**. After that, all bound plans will be displayed in the tree for the relevant site.



You can delete selected site by clicking the  option in the context menu or at the bottom of the site tree. Also, the same button is available next to the site area on the map.

## Views

To display the images from the cameras on the screen in the client applications, **Eocortex** uses **Views** – grids with the images from the cameras shown in the cells. There are two types of views: Server and Client ones.

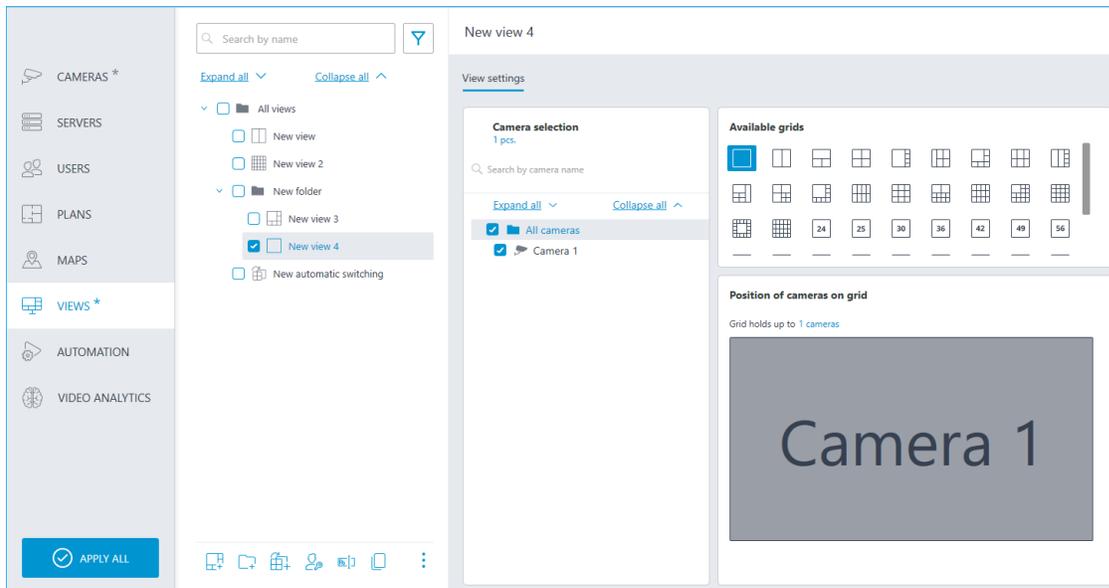
- **Server View** is a view created by a video surveillance system administrator in **Eocortex Configurator**. The server views are available in the **Eocortex Client** application as well as in the mobile client applications working under Android and iOS. In a multi-server system, the server views are available when connecting to any server of the system via the client application. At that, the server view is added to the client application at the moment of launching it. Thus, if you create or modify a server view, the changes will appear only after the restart of the application.
- **Client View** is a view created by a user in the client application. The client views are available only on a particular device or computer on which they were created, and only for the particular user who created them. Upon the termination of a session of working with the client application, all the client views that contain no cameras are deleted.

### Warning

The server views that contain no cameras will not be added to the client application when it is launched.

In addition to views, automatic switching can be used. **Automatic switching** is a sequence of views that replace one another automatically. It is intended to change the views automatically with the preset periodicity so that the user would not have to do it manually.

To set up server views and automatic switching in the **Eocortex Configurator** application, go to the  **Views** tab.



The views and automatic switching tree includes the following features:

- Display the first nested or previously viewed view or automatic switching on the right side of the view editor when a folder is selected.
- Drag-and-drop navigation of individual views and automatic switching through the tree.
- Search by name of views, automatic switchings and folders.
- Filtering by automatic switchings and views.
- Toolbar and context menu.

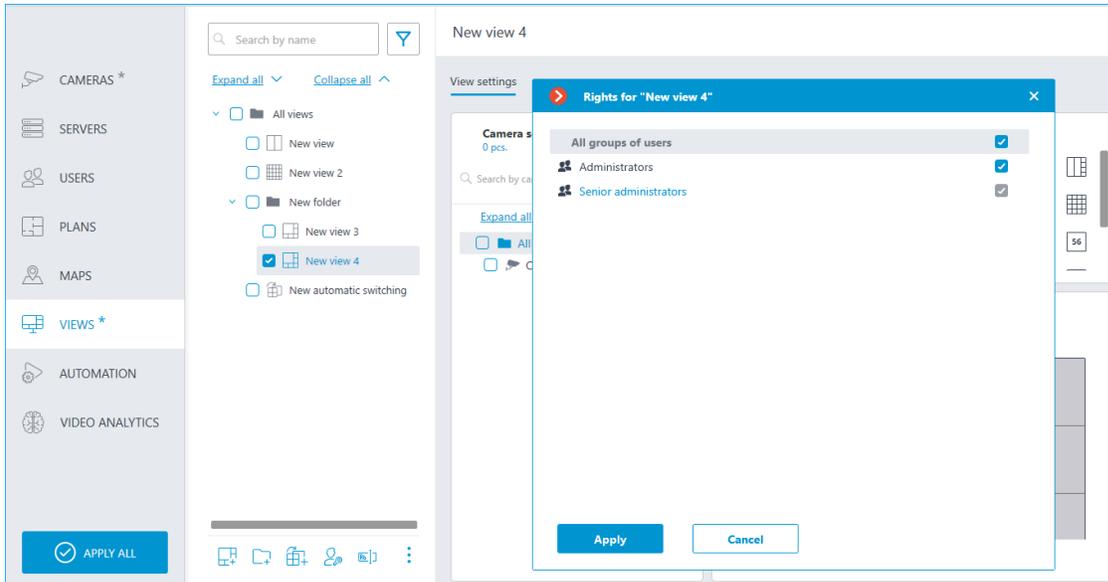
Below are the commands available in the course of setting up views and automatic switching. These commands can be opened from the context menu, by using the buttons at the bottom of the page, or by clicking the links on the page of the views and automatic switching. Some commands can be opened using various methods, including hot keys.

- **Add view**
- **Add folder**
- **Create automatic switching**
- **Assign rights**
- **Rename**
- **Copy**
- **Cut**
- **Delete**

Selecting a view or a switching in the right part of the tab makes their settings available.

### Server view settings

When a new view is added, the edit permissions window opens.



The view can be configured using various methods:

- Mark cameras and folders in **Camera selection** tree, then choose one of the grids in the **Available grids** section. The cameras will be automatically placed in the grid cells.
- Select one of the available grids in the **Available grids** section, place cameras on the grid dragging them from the **Camera selection** tree to the grid.

### Note

It is possible to modify the layout of cameras on the grid by dragging them between the cells with mouse.

When the configuration is applied, empty folders and empty views are deleted, and a warning appears in the configuration application window.

**Application of settings**

Configuration check Changes

Configuration name:  Last time configuration was applied: 30.07.2024 15:34:05

**Configuration checking results**

Warnings: 4

Entry type	Source type	Source name	Description
Warning	Other	Views	Empty folder New folder 2 is found in the configuration. It will be automatically deleted after applying configuration.
Warning	Other	New view	A view without cameras will be deleted after restarting.
Warning	Other	New view 2	A view without cameras will be deleted after restarting.
Warning	Other	New view 3	A view without cameras will be deleted after restarting.

**Apply** **Cancel**

## Automatic switching settings

**New automatic switching**

Automatic view switching setup

View switching interval, seconds

**List of switching views**

- New view 3
- New view

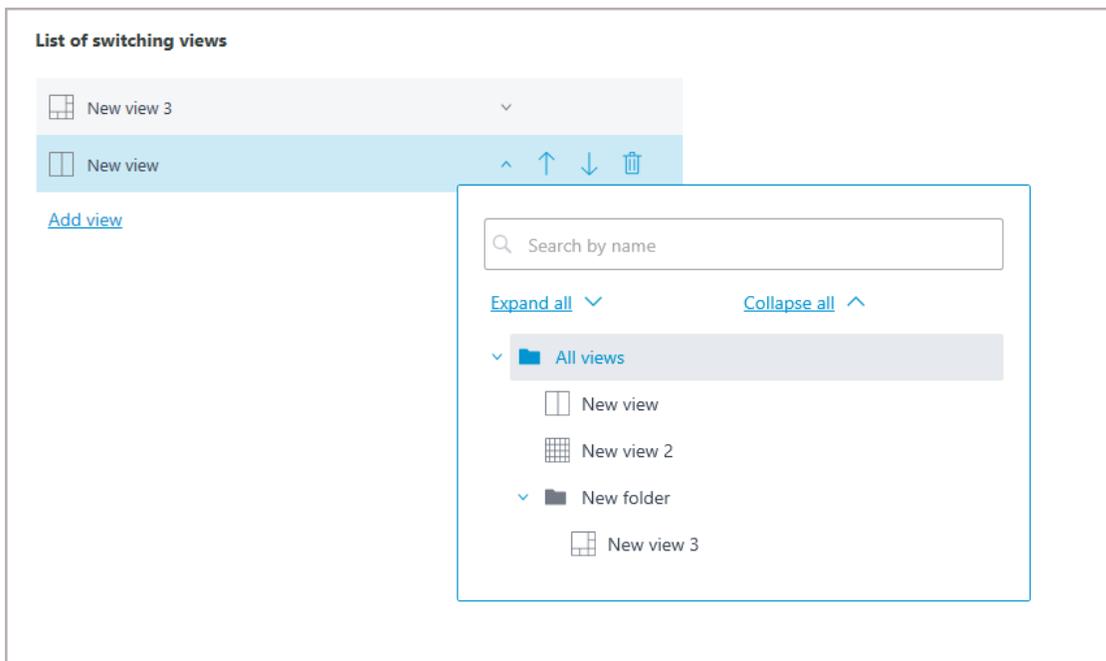
[Add view](#)

To set up the automatic switching, it is required to set the time of displaying each view in the **View switching interval, seconds** field and add the desired views to the **List of switching views** using the **Add view** command.

When adding a view to the list, the first available view is always added by default. To modify the added view, use the buttons located to the right of its name:

-  view selection/modification;
-  moving the view up the list;
-  moving the view down the list;
-  deleting the view.

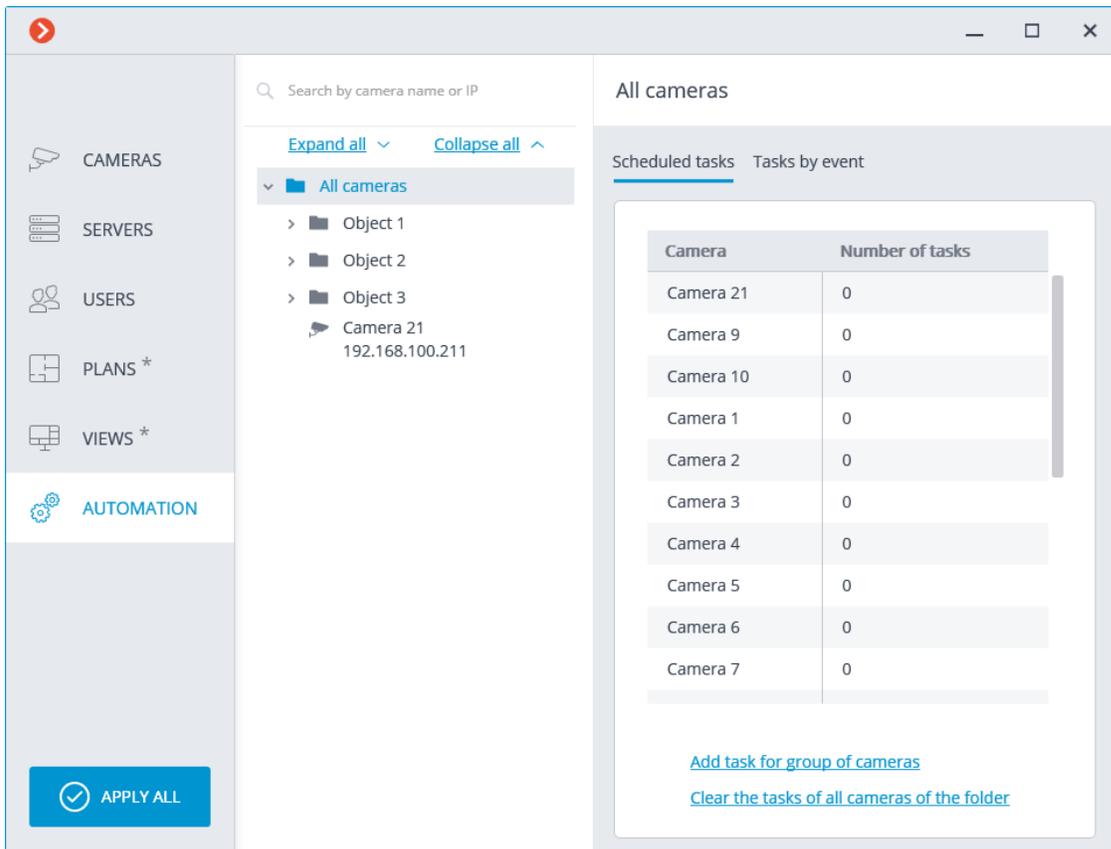
To select a view in automatic switchings, an uneditable tree is used, where selection is performed by double-clicking. Automatic switchings and empty folders are not displayed in this tree.



## Automation

To set up actions to be performed on schedule or in response to certain events, as well as for adjusting the interaction with the external systems, it is required

to go to the  **Automation** tab in the **Eocortex Configurator** application.



In the left part of the tab there is a camera tree, and in the right one — a page of automation settings for the camera or folder currently selected. The tabs for cameras differ from the tabs for folders.

On the [Scheduled tasks](#) tabs you can add, modify and delete scheduled tasks for the selected camera.

Search by camera name or IP

[Expand all](#) [Collapse all](#)

- All cameras
  - Object 1
    - Group 1.1
      - Camera 1**  
192.168.100.134
      - Camera 2  
192.168.100.94
      - Camera 3  
192.168.100.250
      - Camera 4  
192.168.100.45
    - Group 1.2
  - Object 2
  - Object 3
    - Camera 21  
192.168.100.211

### Camera 1

Scheduled tasks | Tasks by event | Integrations

**Tasks**

Task 1

Task 2

[Add task](#)

**Description**

**Schedule**  
Daily, starting from 01.02.2019 at 20:00.

**Actions**  
1 Turn on recording  
recording time (sec): 36000

**Note**  
Night recording

For a folder on the **Scheduled tasks** tab, it is possible to add scheduled tasks for all cameras contained in the selected folder, as well as to delete all the tasks of these cameras.

Search by camera name or IP

[Expand all](#) [Collapse all](#)

- All cameras
  - Object 1**
    - Group 1.1
      - Camera 1  
192.168.100.134
      - Camera 2  
192.168.100.94
      - Camera 3  
192.168.100.250
      - Camera 4  
192.168.100.45
    - Group 1.2
  - Object 2
  - Object 3
    - Camera 21  
192.168.100.211

### Object 1

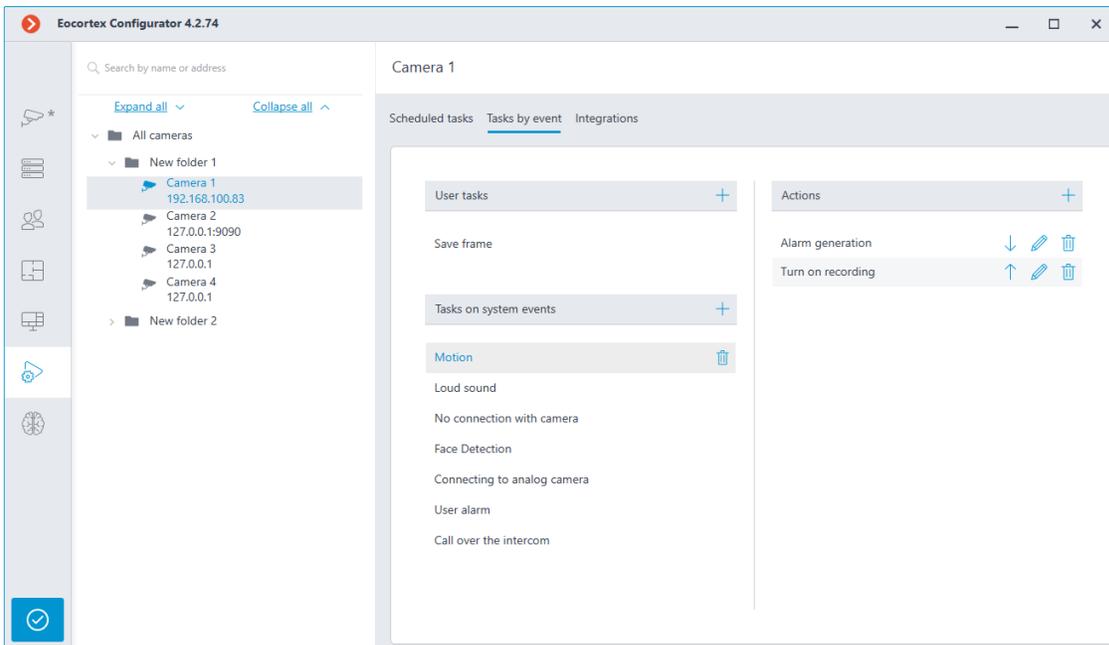
Scheduled tasks | Tasks by event

Camera	Number of tasks
Camera 1	2
Camera 2	0
Camera 3	0
Camera 4	0
Camera 5	0
Camera 6	0
Camera 7	0
Camera 8	0

[Add task for group of cameras](#)

[Clear the tasks of all cameras of the folder](#)

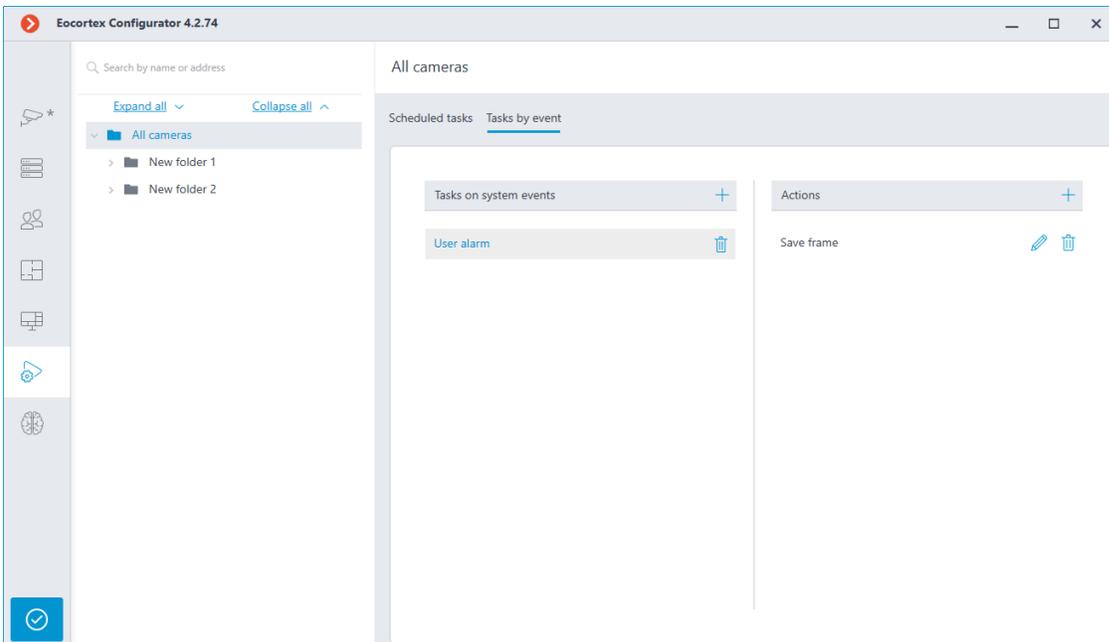
For the individual camera on the **Tasks by event** tab, it is possible to add, modify and delete event-based tasks and user tasks of the selected camera.



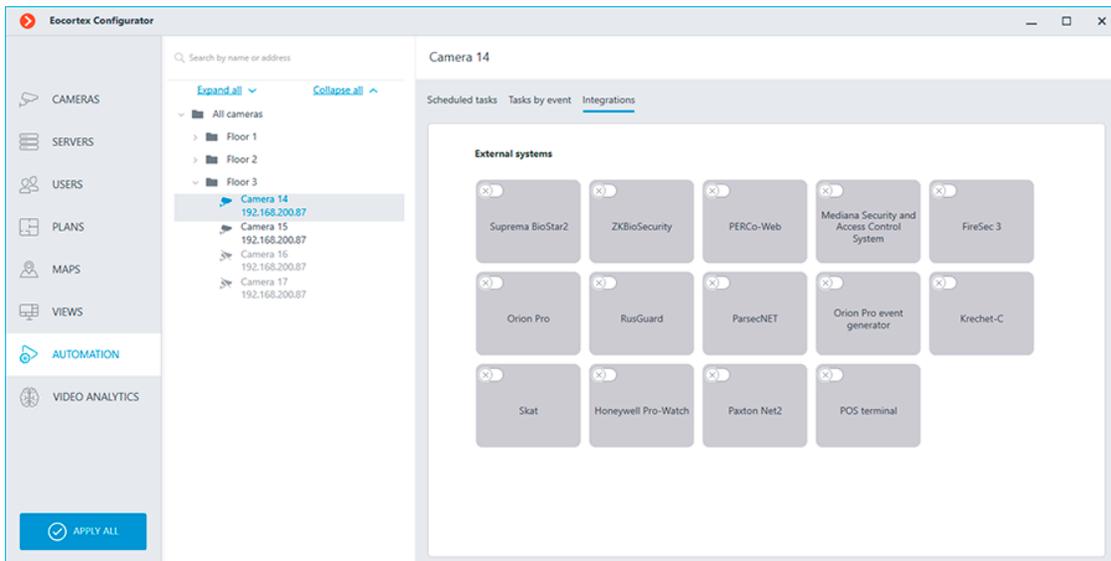
## Note

Some highly specialized cameras and devices may not support event-driven tasks, so the **Tasks on system events** tab is not displayed for such cameras.

For the folder on the [Tasks by event](#) tab, it is possible to add tasks by event for all cameras contained in the selected folder.



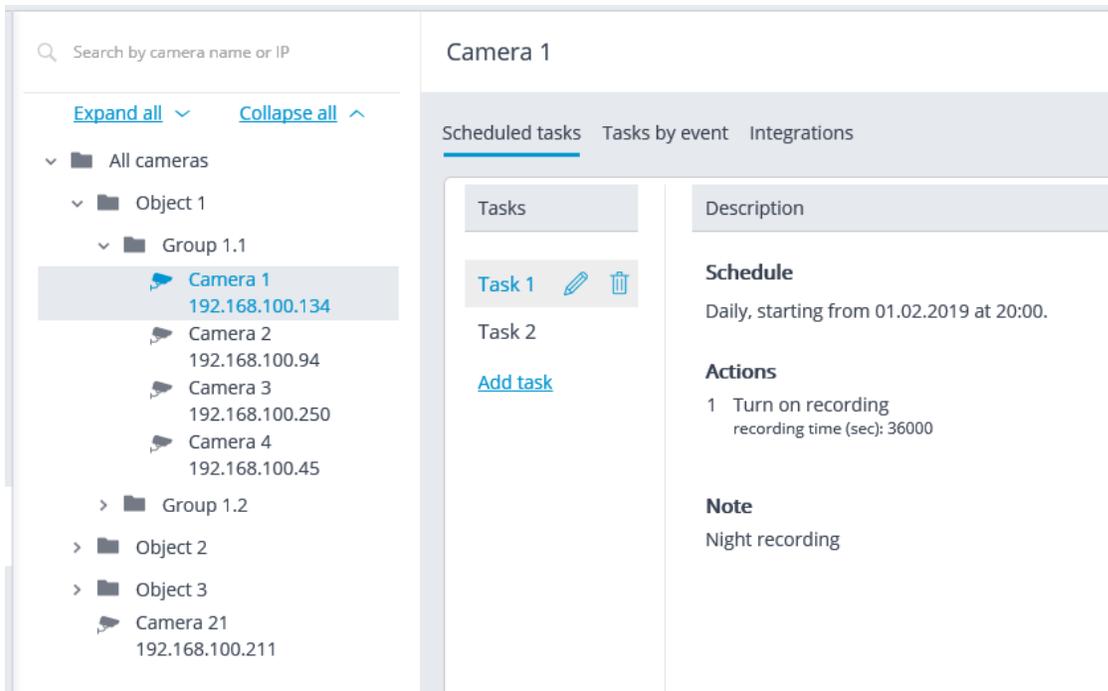
For the individual camera on the [Integrations](#) tab, it is possible to add, modify and delete the settings of the integration of the selected camera with the external systems.



## Scheduled tasks

To set up actions to be performed on schedule, it is required to go to the  **Automation** tab in **Eocortex Configurator**, select a camera or a folder in the tree, then, on the opened page, go to the **Scheduled tasks** tab.

It is possible to add, modify and delete the scheduled tasks for the specific selected camera.



For the folder, it is possible to add tasks to be run on schedule for all cameras in the selected folder, as well as to delete all the tasks of these cameras.

Search by camera name or IP

[Expand all](#) [Collapse all](#)

- ▼ All cameras
  - ▼ Object 1
    - ▼ Group 1.1
      - Camera 1  
192.168.100.134
      - Camera 2  
192.168.100.94
      - Camera 3  
192.168.100.250
      - Camera 4  
192.168.100.45
    - > Group 1.2
    - > Object 2
    - > Object 3
    - Camera 21  
192.168.100.211

## Object 1

Scheduled tasks Tasks by event

Camera	Number of tasks
Camera 1	2
Camera 2	0
Camera 3	0
Camera 4	0
Camera 5	0
Camera 6	0
Camera 7	0
Camera 8	0

[Add task for group of cameras](#)

[Clear the tasks of all cameras of the folder](#)

In order to add tasks to be run on schedule it is required to click on the Add task link. The scheduled task wizard will open.

### Note

The adding procedures for the individual selected camera and for the folder are identical. The only difference is whether they will be applied to one or several cameras.

The interface of the scheduled task modification wizard is identical to the interface of the wizard for adding such a task.

In the wizard's start screen it is required to set the **Task name** and, optionally, enter its Description, then click **Next**.

**Scheduled action wizard** ×

### Task

Task name

Description

< Back   Next >   Cancel

At the following step the schedule is set. At that, the interface does not depend on the selected period set in the **Repeat** dropdown list.



## Description

Schedule operation commencement

Repeat

Run all day, if it is not run on time

Task was started 01.02.2019 in 14:42.



## Scheduled action wizard



### Description

Schedule operation commencement

 01.02.2019 14:42:06

Repeat

by months 

Of what month

Jan	Feb	Mar	Apr
May	Jun	Jul	Aug
Sep	Oct	Nov	Dec

all months

Of what date

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

all dates

Run all day, if it is not run on time

Task will be performed from 2/1/2019 2:42 PM. Daily, on the following dates: 1, 10, 26.

< Back

Next >

Cancel



## Scheduled action wizard



### Description

Schedule operation commencement

Repeat

Which days

Every  week

 Mon  Tue  Wed  Thu  Fri  Sat  Sun

all days

Run all day, if it is not run on time

Task will be performed from 2/1/2019 2:42 PM. Weekly on the following days: Monday, Wednesday, Friday.

< Back

Next >

Cancel



### Description

Schedule operation commencement

 01.02.2019 14:42:06

Repeat

by days 

Every  day

Run all day, if it is not run on time

Task will be performed from 2/1/2019 2:42 PM. Each 2 day.

**< Back**

**Next >**

Cancel



### Description

Schedule operation commencement

 01.02.2019 14:42:06

Repeat

by the hour 

Every  h

Run all day, if it is not run on time

Task will be performed from 2/1/2019 2:42 PM. Each 8 hours.

< Back

Next >

Cancel



## Description

Schedule operation commencement

 01.02.2019 14:42:06

Repeat

by the minute 

Every  min.

Run all day, if it is not run on time

Task will be performed from 2/1/2019 2:42 PM. Each 15 minutes.

**< Back**

**Next >**

Cancel

**Scheduled action wizard** ×

### Description

Schedule operation commencement

 01.02.2019 14:42:06

Repeat

by the second ▾

Every  sec.

Run all day, if it is not run on time

Task will be performed from 2/1/2019 2:42 PM. Each 30 seconds.

< Back Next > Cancel

At the next step it is required to add and arrange the tasks that will be performed according to the set schedule in the corresponding order, then press **Ready**.



## Actions

[Add action](#)

< Back

Ready

Cancel



## Add action



### Action

Turn on recording

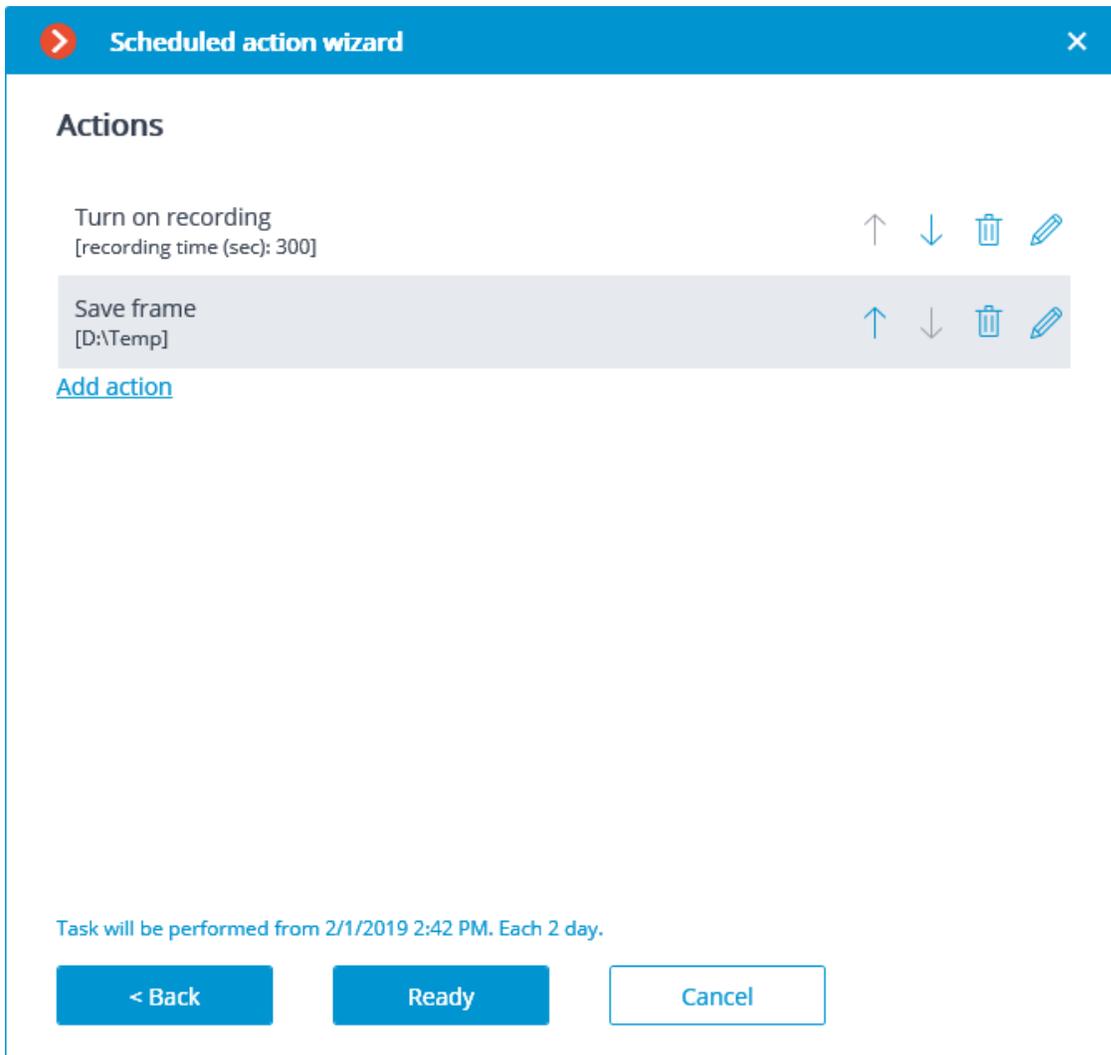


Recording time (sec):

300

OK

Cancel



## Note

The list and description of the available actions can be found in the [Actions](#).

### Actions

#### *Turn on recording*

Turns on the recording to archive.

**Action**

Turn on recording

Recording time (sec): 300

OK Cancel

Action parameters:

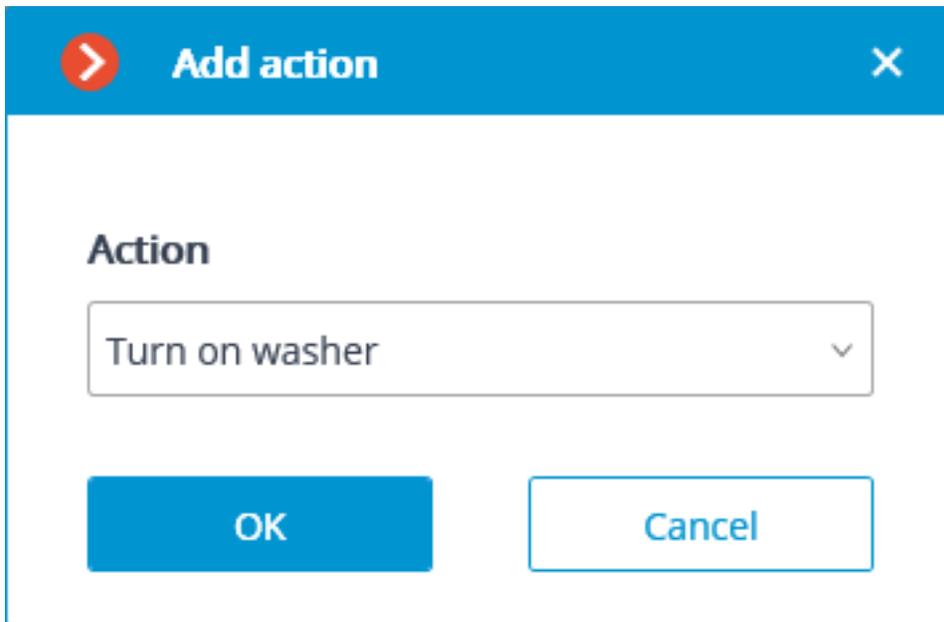
**Recording time (seconds):** sets the recording time during which the recording to archive will be performed.

Warning

This action will not be performed if the continuous recording to archive is in progress on the channel, or if the continuous recording mode has been set.

*Turn on washer*

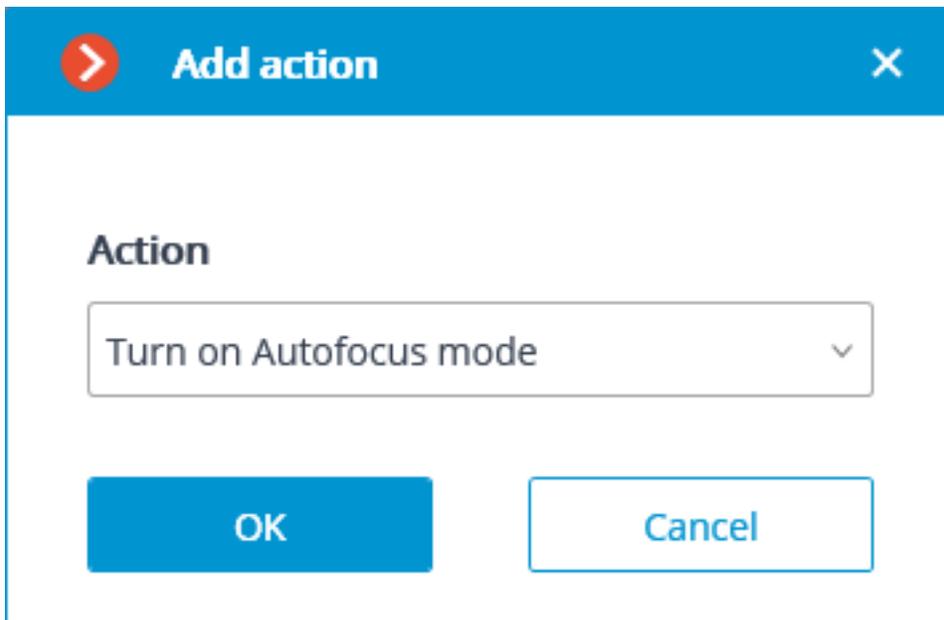
Activates camera washer.



The image shows a dialog box titled "Add action" with a blue header bar containing a red arrow icon on the left and a white "X" icon on the right. Below the header, the word "Action" is displayed in bold. Underneath, there is a dropdown menu with the text "Turn on washer" and a small downward-pointing chevron icon on the right. At the bottom of the dialog, there are two buttons: a solid blue button labeled "OK" and a white button with a blue border labeled "Cancel".

*Turn on Autofocus mode*

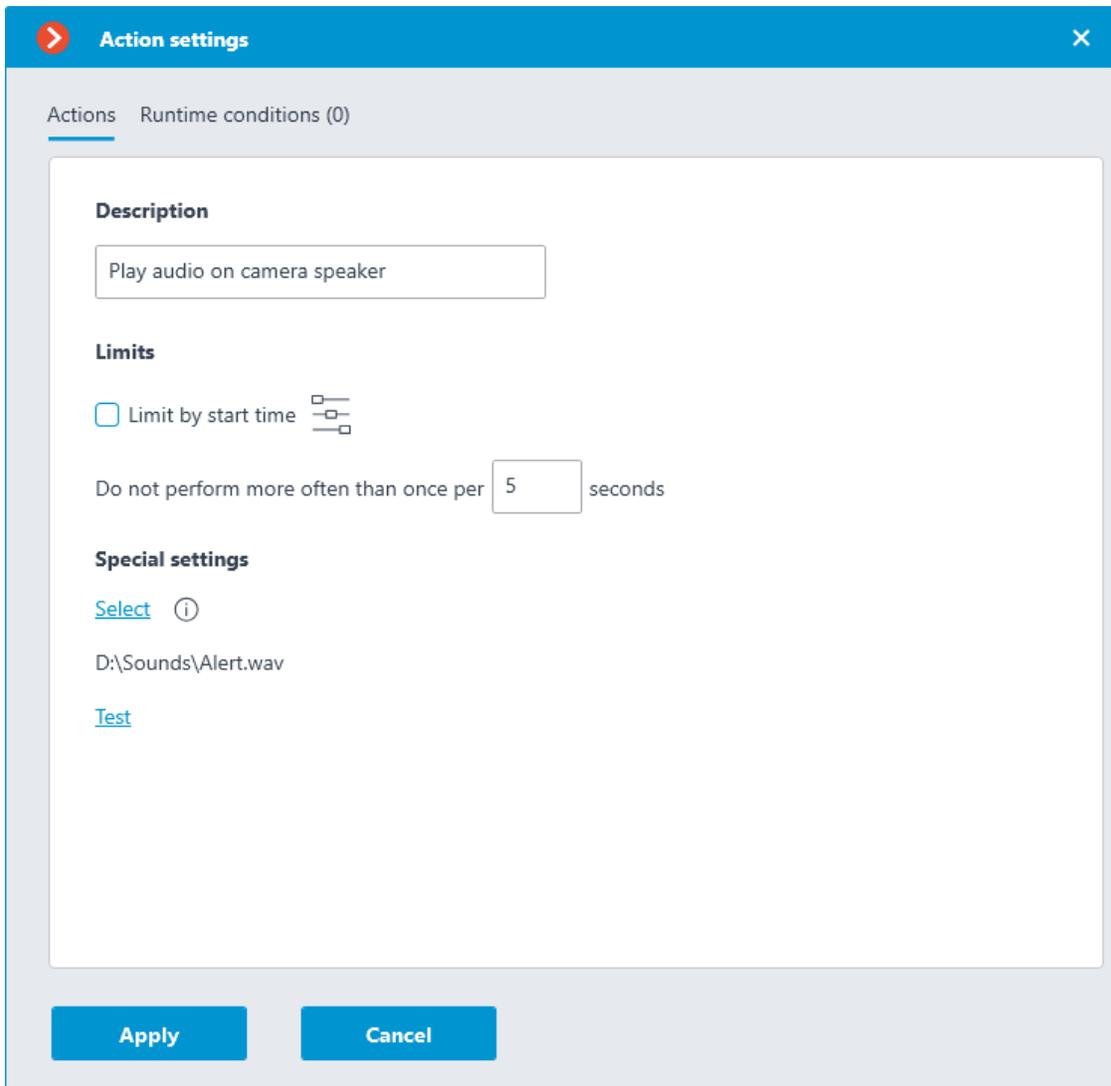
Activates camera autofocus.



The image shows a dialog box titled "Add action" with a blue header bar containing a red arrow icon on the left and a white "X" icon on the right. Below the header, the word "Action" is displayed in bold. Underneath, there is a dropdown menu with the text "Turn on Autofocus mode" and a small downward-pointing chevron icon on the right. At the bottom of the dialog, there are two buttons: a solid blue button labeled "OK" and a white button with a blue border labeled "Cancel".

*Play audio on camera speaker*

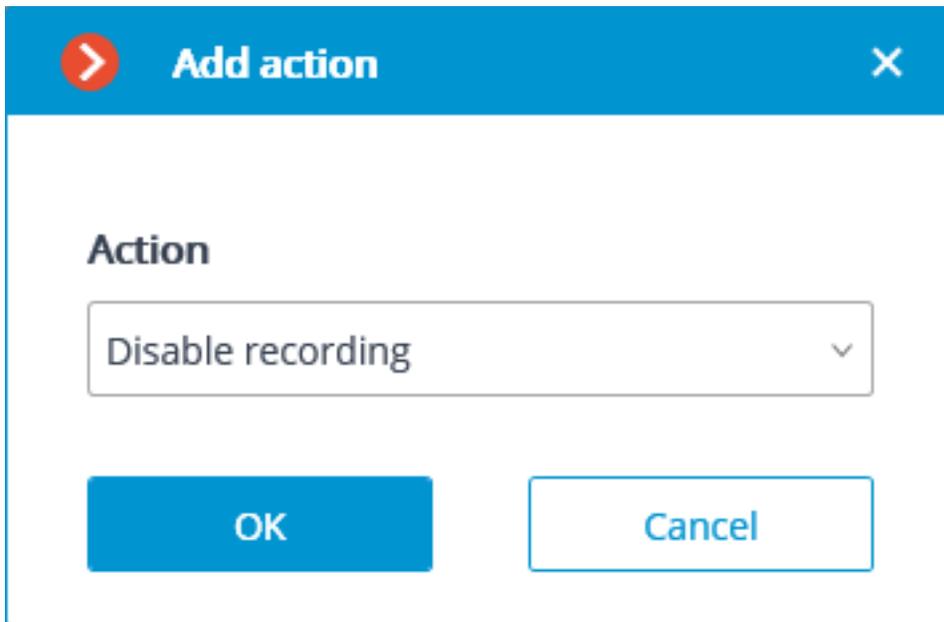
Transmits the audio file specified in the settings to the camera speaker.



See more information about [setting up this action](#).

#### *Disable recording*

Disables recording to archive triggered by automation scenarios or user actions in the **Eocortex Client** application.



**Add action**

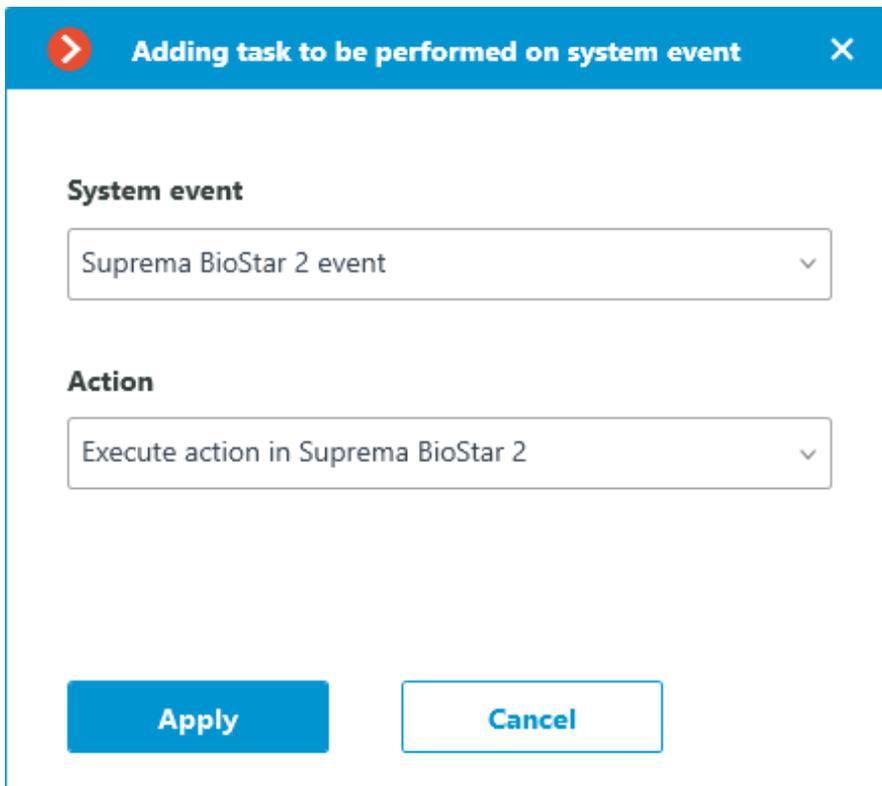
**Action**

Disable recording

OK Cancel

*Perform action in BioStar 2*

Sends a door control command to the **BioStar 2** ACS.



**Adding task to be performed on system event**

**System event**

Suprema BioStar 2 event

**Action**

Execute action in Suprema BioStar 2

Apply Cancel

In the window that opens by clicking **Apply**, the **Special settings** section allows selecting the door to interact with, and selecting the action to be performed when processing the scenario.

**Action settings**

Actions Runtime conditions (0)

**Description**

Execute action in Suprema BioStar 2

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

Door  

Action

Actions not set up

### Warning

If the settings for integration with **BioStar 2** ACS on the **Integrations** tab are not set, are incorrect or are inactive for the selected camera, the corresponding message will be displayed instead of the action settings in the **Special settings** section.

**Action settings**

Actions Runtime conditions (0)

**Description**

Execute action in Suprema BioStar 2

**Limits**

Limit by start time

Do not perform more often than once per  seconds

**Special settings**

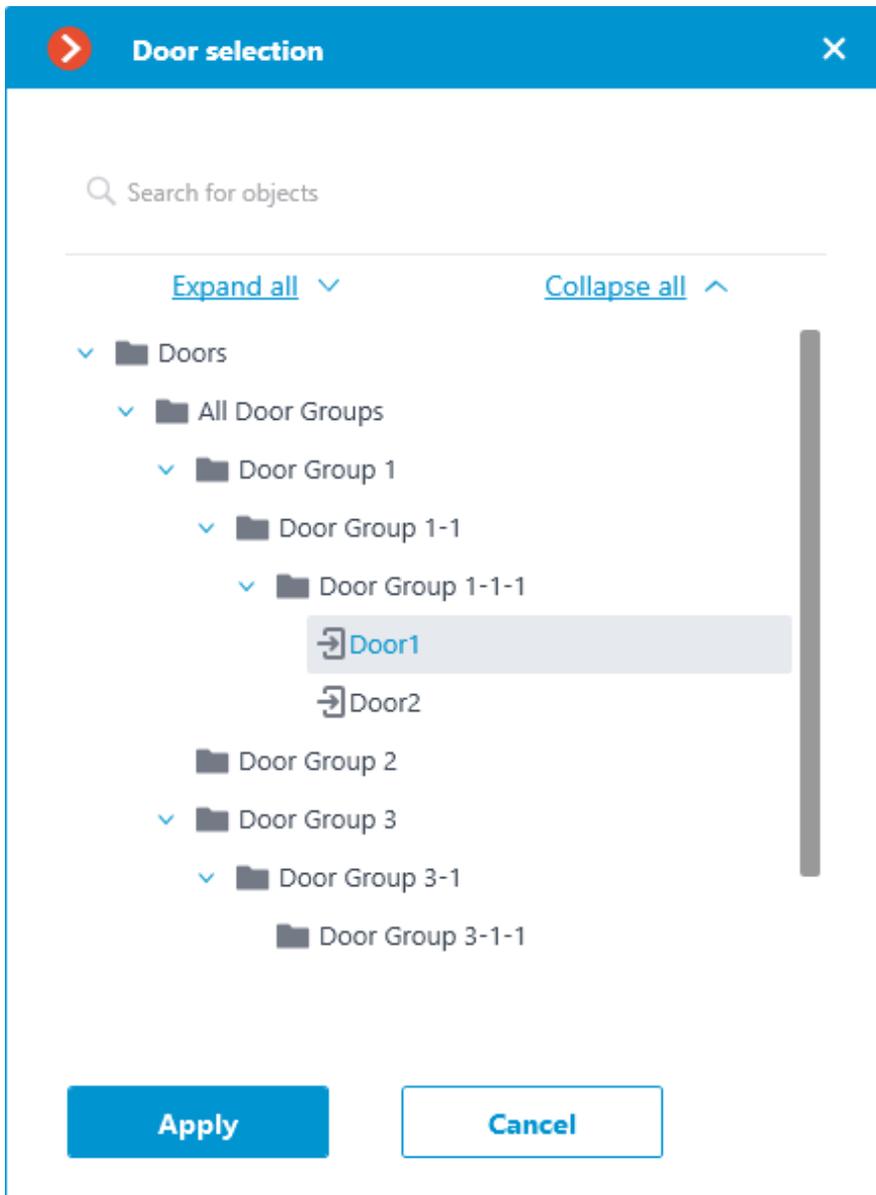
Integration is disabled

Actions not set up

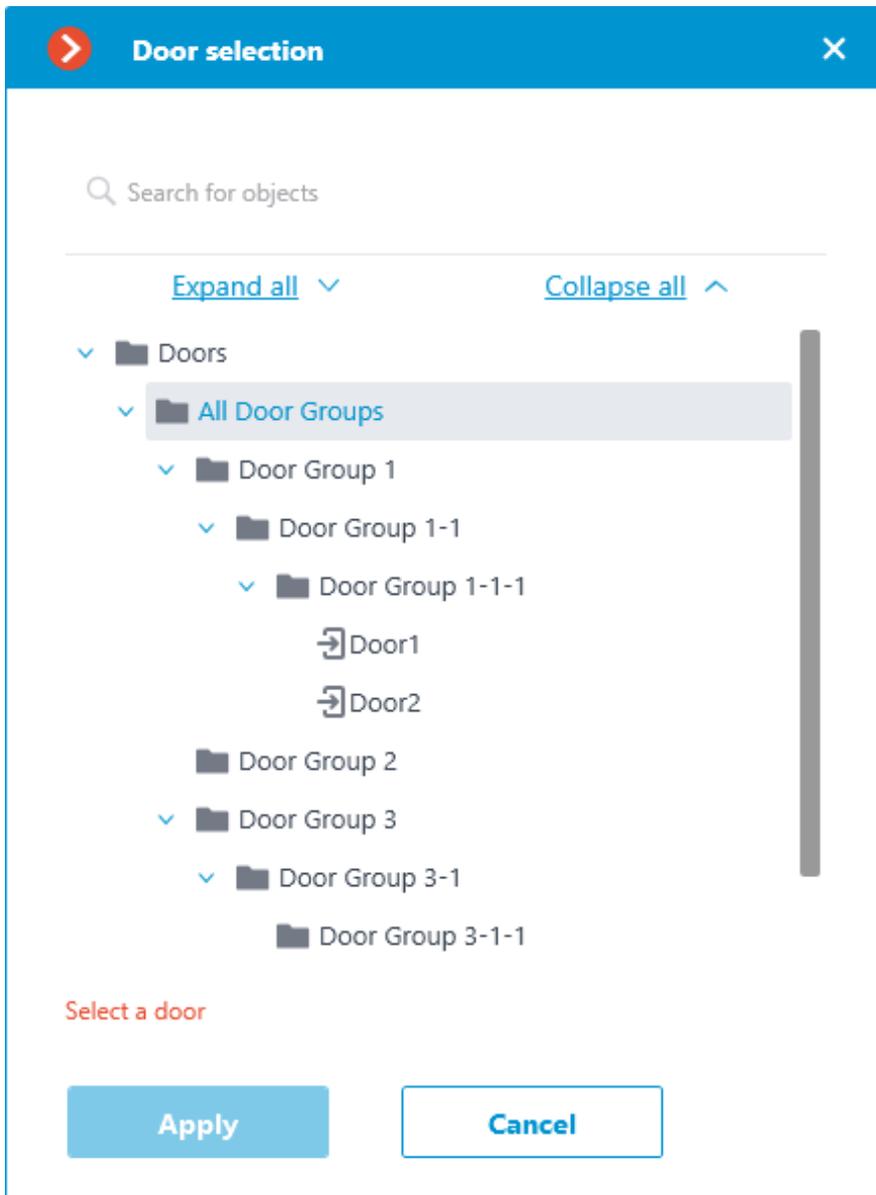
Apply Cancel

## Door selection

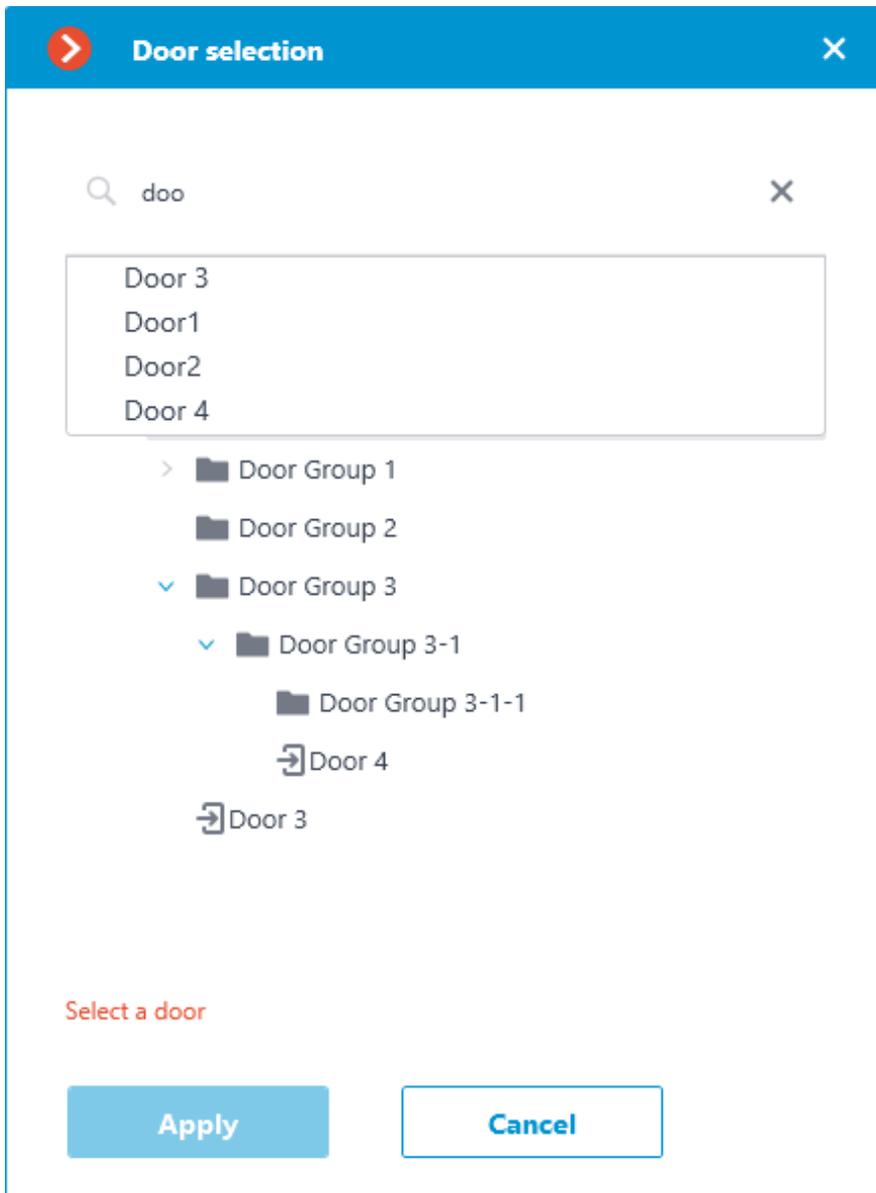
Clicking the **Select** button next to the **Door** field opens the device selection window. To load the list of doors available for interaction, the connection to **BioStar 2** ACS will be established with the credentials that were specified in the **Integrations** section.



The **Door selection** window allows selecting the door from the list, for which the action should be performed. It is necessary to select a specific door, selecting a group of doors at once is not possible.



For easy navigation to the right door, the text search by its name is available at the top of the window. Select the desired door and click **Apply** to confirm.



Once the door is selected, the previously inactive  **Copy** button, located in the **Door** field, becomes available. Clicking this button saves to the clipboard the name and ID of the selected door, which can be used later for diagnostic or automation tasks.

### Action selection

The **Action** drop-down list provides a choice of actions to be performed on the selected door. The following options are available:

- **Open** — temporarily opens the door.
- **Release** — removes the manual door lock/unlock.
- **Manual lock** — manually locks the door. The door remains locked even if the user is successfully authorized.

- **Manual unlock** — manually unlocks the door. The door remains open without the need for user authorization.
- **Clear alarm** — removes the alarm state from the door.

### Action test

Once the door and the action to be performed are set, the previously hidden **Test action** link that triggers a test run of the settings becomes available.

**Action settings**

Actions Runtime conditions (0)

**Description**

Execute action in Suprema BioStar 2

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

Door Door1 Select

Action Open

[Test action](#)

Status  
Not tested

Apply Cancel

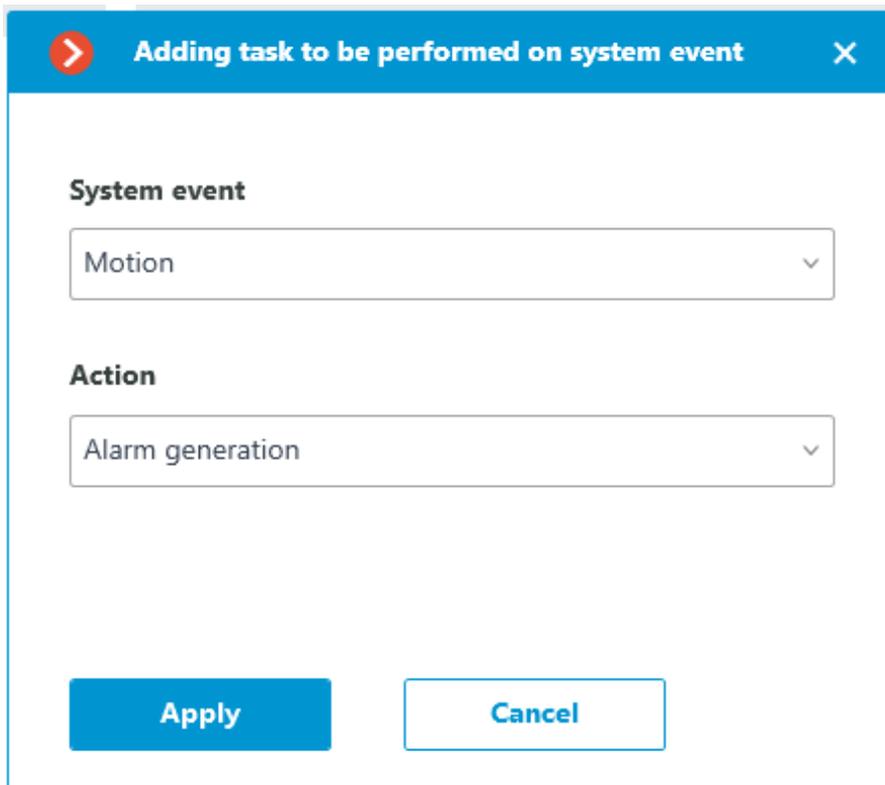
The current state will be displayed in the **Status** field as one of the following results:

- **Not tested** — the settings were not checked, the functionality of the configured action is unknown.
- **Testing...** — test run is performing according to the specified settings.
- **Connection succeeded** — test run is successful, the settings are correct.

- **Request timeout** — the command to run the action has not been sent to the ACS within the specified timeout period (by default, 100 seconds). Check if the integration settings are correct and if the BioStar 2 server is available.
- **Unknown error** — test run of the action has failed for unknown reason. Detailed information about the error can be found in the **Eocortex** Server logs.

*Alarm generation*

**Alarm generation** action generates a camera alarm.



The image shows a dialog box with a blue header bar containing a red arrow icon, the text "Adding task to be performed on system event", and a close button (X). Below the header, there are two sections: "System event" with a dropdown menu showing "Motion" and "Action" with a dropdown menu showing "Alarm generation". At the bottom, there are two buttons: a blue "Apply" button and a white "Cancel" button with a blue border.

Action options:

## Tab Actions

**Action settings**

Actions Alarms setting Cell Runtime conditions

**Description**

Alarm generation

**Execute on cameras**

Action will be performed for the following cameras

(Current)

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

Activate camera

**Alarm monitor settings**

Open real time video

Apply Cancel

- **Description:** Actions description.
- **Execute on cameras:** Allows you to specify on which cameras the action will be triggered.

### Execute on cameras

Action will be performed for the following cameras

(Current)

(Current)

For all cameras in folder

Selectively...

- **Limit by start time:** Allows to limit the start of an action by time.

### Limits

Limit by start time 

Do not perform more often than once per  seconds

Clicking the  button opens [Limit scheduled action start](#)

- **Activate camera:** If the camera is displayed in the **Eocortex Client** application in live view, the camera cell will be activated.
- **Open real time video:** If camera is opened on the alarm monitor, it will be open in real time.
- **Open archive:** Opening the camera on the alarm monitor will cause it to open in archive playback mode. The playback will be played back from an earlier point in time, with the shift set in **Time shift when opening archive, sec.**

### Alarm monitor settings

Open real time video

Open archive

Time shift when opening archive, sec  

### Note

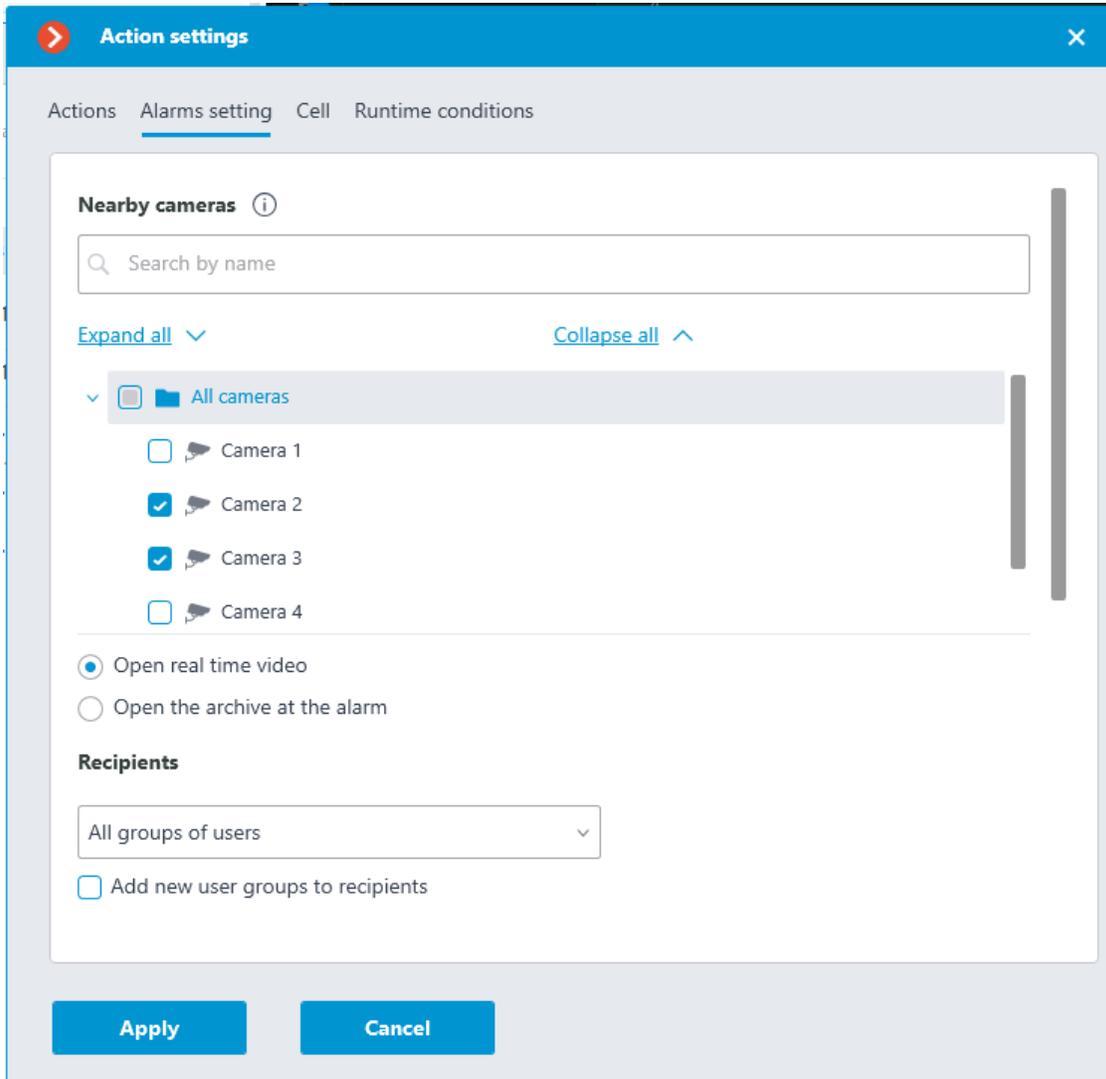
It is recommended to set the shift value to at least 10 seconds.

When playing back the archive with shift, it is recommended to use the **Always On** recording mode for the selected channel.

### Warning

Successful playback of the archive with shift requires synchronization of date and time settings of the server and client devices.

## Alarm settings tab



- **Nearby cameras:** Selecting the cameras installed next to the camera where the alarm occurred. When an alarm occurs on this camera, the selected cameras can be opened in the client application in an optimal grid. For each alarm, a total of 262 such cameras can be defined.

After selecting cameras, it is necessary to specify how they will be opened. There can be two options:

- **Open real time video**
- **Open the archive at the alarm**
- **Recipients:** A list of user groups that will be able to see the alarm.

Note

When the **Add new user groups to recipients** option is enabled, all new user groups will be automatically added to the list of recipients of

this alarm. If the option is disabled, new user groups will not receive this alarm.

**Action settings**

Actions Alarms setting Cell Runtime conditions

Camera 3

Camera 4

Open real time video

Open the archive at the alarm

**Recipients**

All groups of users

Add new user groups to recipients

**Alarm processing**

Alarm timeout 56 sec

Manual for the operator

Manual for users processing alarms.

Apply Cancel

- **Alarm timeout:** The time during which the alarm must be processed. After this time the alarm will be considered as missed.
- **Manual for the operator:** Manual for users processing alarms.

## Cell tab

**Action settings** ×

Actions Alarms setting Cell Runtime conditions

**Cell settings**

Frame color  Text color

Text in the cell



This tab configures how the alarm will be displayed in the client application: the frame cell color, the alert text color, the text itself. Also on this tab you can select one of the application-supplied sounds or upload your own sound file for sound notification.

### Cell settings

Sound alert

Select a sound

Upload sound

Play sound, times   

### Cell settings

Sound alert

Select a sound

Upload sound

[Select](#)

Play sound, times   

*Add an event to intercom log*

Add the current door phone event to the **Event log**.

 **Add action** 

**Action**



*Run external application on server*

Launches an external application on the server.

The screenshot shows a dialog box titled "Add action" with a blue header. Inside the dialog, there is a dropdown menu for "Action" with "Run external application on server" selected. Below this is a "Path (on server):" label, a text box containing "C:\Windows\notepad.exe", and a folder icon button. Underneath is an "Arguments:" label and an empty text box. At the bottom are "OK" and "Cancel" buttons.

Warning

The Windows operating system does not allow the background services to launch the applications with graphical user interfaces. That is why such applications will not be launched from **Eocortex Server** using this action. At the same time, a record regarding the launch of the application will be made in the **Eocortex Server** event log, because the operating system prevents the independent execution of the application when attempted.

Action parameters:

**Path::** sets the path to the application located on server.

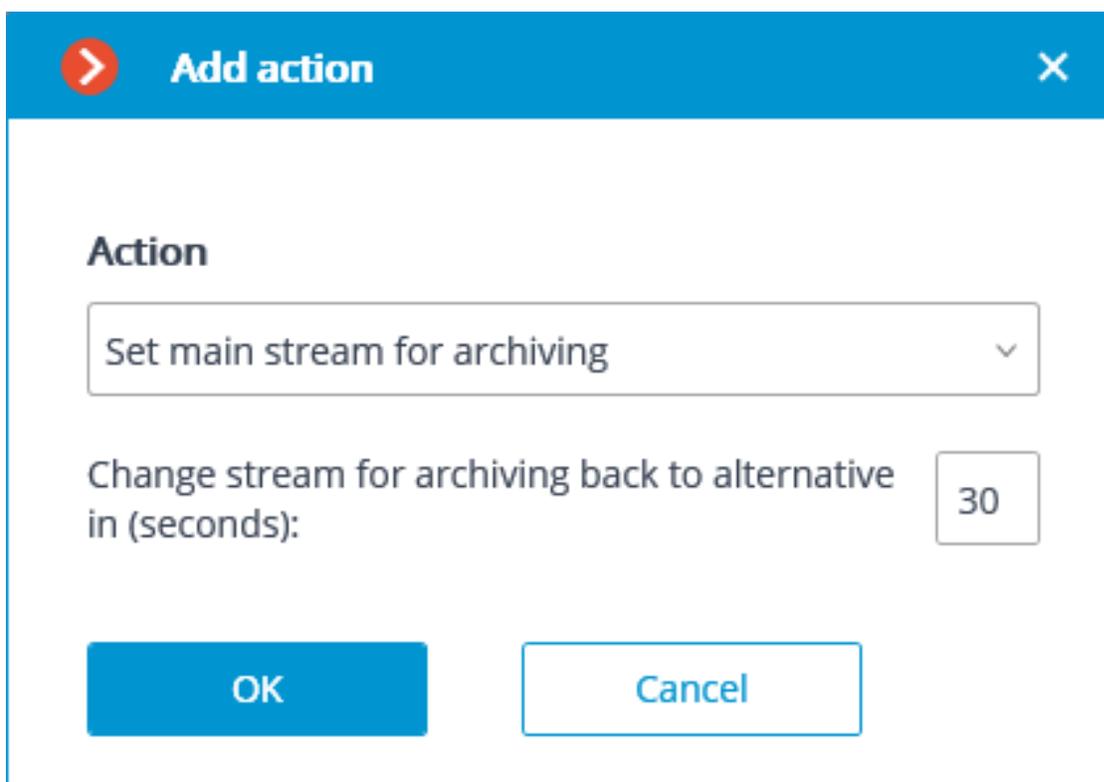
Warning

The application to be launched must be located in the **Scripts** subfolder in the startup folder of **Eocortex** application. The application will not start if located in any other folder.

**Arguments:** to launch an application with the command line arguments, these arguments are to be entered in this field.

*Set main stream for archiving*

Enables the mode of recording the main stream of the set time interval to archive. It is used in the case when the recording of alternative stream to archive has been set for the camera.



**Action**

Set main stream for archiving

Change stream for archiving back to alternative in (seconds): 30

OK Cancel

Action parameters:

**Change stream for archiving back to alternative in (seconds):** sets the period of time for which the recording of the main stream to archive will be enabled.

*Disable frame skipping when recording to the archive*

Disables frame skipping when performing the recording of the preset time interval to archive.

**Add action**

**Action**

Disable frame skipping when recording to the archive ▾

Disable frame skipping for (seconds): 30

OK Cancel

Action parameters:

**Disable frame skipping for (seconds):** sets a time interval for which the frame skipping will be disabled while recording to archive.

*Open door Paxton Net2*

Sends a door opening command to **Paxton Net2** access control system (ACS).

**Add action** ✕

**Action**

Open door Paxton Net2 ▾

Адрес сервера Paxton Net2 server address

REST port

User name

Password  👁

Client ID  👁

Door name

**OK** **Cancel**

When setting up the action, configure the following parameters:

- **Paxton Net2 server address:** IP address or domain name of the Paxton Net2 server
- **REST port:** Port for sending REST API requests to the Paxton Net2 server (usually the same as SignalR)
- **Username:** Name of the Paxton Net2 account used for connection
- **Password:** Password of the Paxton Net2 account used for connection
- **Client ID:** Identifier contained in the Paxton Net2 license filename
- **Door name:** The door name as it is set in the Paxton Net2 ACS

#### *Send HTTP request*

Sends an HTTP or HTTPS request to an external system with HTTP API.

**Add action** ✕

**Action**

Send HTTP request ▼

GET ▼  Test

Status: 200 OK

Authorization (Basic)

User name  Password

OK Cancel

**Add action** ✕

**Action**

Send HTTP request ▼

POST ▼  Test

Status: 200 OK

Authorization (Basic)

User name  Password

Request body Text JSON XML

```
[
  {
    "Name": "Camera 2",
    "ServerBindingsSettings": {
      "OwnerServerId": "efc87f33-f09f-4e0f-b865-1efccba25e8"
    }
  }
]
```

OK Cancel

Action parameters:

The dropdown list allowing to select a request type: **GET**, **POST**, **PUT** or **DELETE**.

The field for entering the text of a request.

The **Test** button sends a request. The status of implementation of the test request is shown under the field with the text of the request.

The activation of the **Authorization (Basic)** option allows to specify the username and password for sending the request using Basic authorization.

The field for entering the body of a request.

*Send Push notifications to mobile devices*

Sends Push notifications with the preset text to the mobile clients connected to servers.

**Action**

Send Push notifications to mobile devices

Message text Camera 1: Sabotage!

Recipients john.smith,robert.miller

root

john.smith

robert.miller

OK

Action parameters:

**Message text:** allows setting the text to be sent in the notification.

**Recipients:** allows setting the recipients of the notification.

*Send to messenger*

Sends a message through the connected messengers.

**Action**

Send to messenger

**Message text**

Camera 1: Sabotage!

Attach frame

**Recipients**

r.miller@mycompany.com

j.smith@mycompany.com

OK Cancel

Action parameters:

**Message text:** the text of the message to be sent via messengers. Use of **template variables** is supported.

**Attach frame:** attaches the current frame.

**Use frame from archive:** a frame from the archive is attached.

**Attach link to the map** — the option that allows to attach a link to the location of the camera on the map to the end of the message text. For this purpose, the camera must be located on the map in the **Maps** section. The link will be sent to the service (Google, OpenStreetmap), which is configured in the system.

**Recipients:** the list of messenger users in which it is required to mark the recipients of the message.

Note

When sending messages created by the **Face recognized** event to the messengers, the image of a face from the archive at the moment of recognition will be attached to the message, and the reference image from the database will also be attached for comparison. Whereby, regardless of whether the **Use frame from archive** option is enabled or disabled, the archived image will be attached. At the same time, the message will not contain the image of the face if there was no corresponding image in the archive at the moment of recognition. Moreover, the message will be sent only in case the settings of the conditions of the execution of action by event contain **Identified | Equal | Yes** setting.

*Send report by email*

Draws up a report and sends it by email.

**> Add action** ✕

**Action**

Send report by email ▼

Send from  + 🗑️ ✎

To  ℹ️

Type of report  ▼

For the last   ▼

Interval size   ▼

Report format  ▼

**OK**

Warning

Settings for this action have been moved to the  **Video analytics** section.

*Send notification by email*

Sends an email notification from the server to the indicated address.

**Adding action** ✕

**Action**

Send notification by email ▼

Mailing server:  + ✎ 🗑

Send from:

To:  ⓘ

Subject:  ✎

Message text:  ✎

Attach frame to email

Use frame from archive

Saved frame format:  ▼

Attach link to the map

[Send text message](#)

Action parameters:

**Mailing server** — connection settings with the SMTP server that should be used for sending messages. Allows to perform authorization to **Google** mail service, as well as to connect a **custom SMTP server**.

**Send from** — email address to be used for sending messages. Most often the value will be the same as the user name in the mail server settings window.

**To** — email address to which the messages will be sent.

**Subject:** — e-mail header the recipient will see in the message right after the sender's name. Use of **template variables** is supported.

**Message text:** — text of the message to be sent to the specified address. Use of **template variables** is supported.

**Attach frame to email** — allows to add a frame from the channel taken at the moment of sending the message. The frame **file format** must be set: JPEG, PNG or BMP.

On the frame, a red frame will highlight the object when the message is sent in response to the following analytics events:

- Face recognized
- License plate recognized
- Abandoned object
- Inactive zone
- Fire / Smoke
- Checked for equipment
- No face mask

**Use frame from archive** — frame from the archive will be used for sending instead of the real time frame. It allows to send more event-synchronized visual data, but causes additional server hardware load.

**Attach link to the map** — the option that allows to attach a link to the location of the camera on the map to the end of the message text. For this purpose, the camera must be located on the map in the **Maps** section. The link will be sent to the service (Google, OpenStreetmap), which is configured in the system.

Clicking the **Send text message** link will cause an attempt to send the message. Depending on the result, a window with a message confirming a successful transmission or an error will appear.

Below are the forms for adding a mail server and sender address, depending on the mail server type: **Set manually** or **Google**.

## Note

The forms of editing the mail server and sender address are similar to the forms used for adding.



## Add Mail server



Mailing server

Gmail



SMTP server address:

smtp.gmail.com

OK

Cancel



## Add Mail server



Mailing server

Set manually



SMTP server address:

smtp.mycompany.com

Port:

25

Use SSL

### Data authentication (optional)

User Name:

cctv

Password:

●●●●●●●●



OK

Cancel

 Sign in with Google

## Eocortex wants to access your Google Account

 cctv.mycompany2018@gmail.com

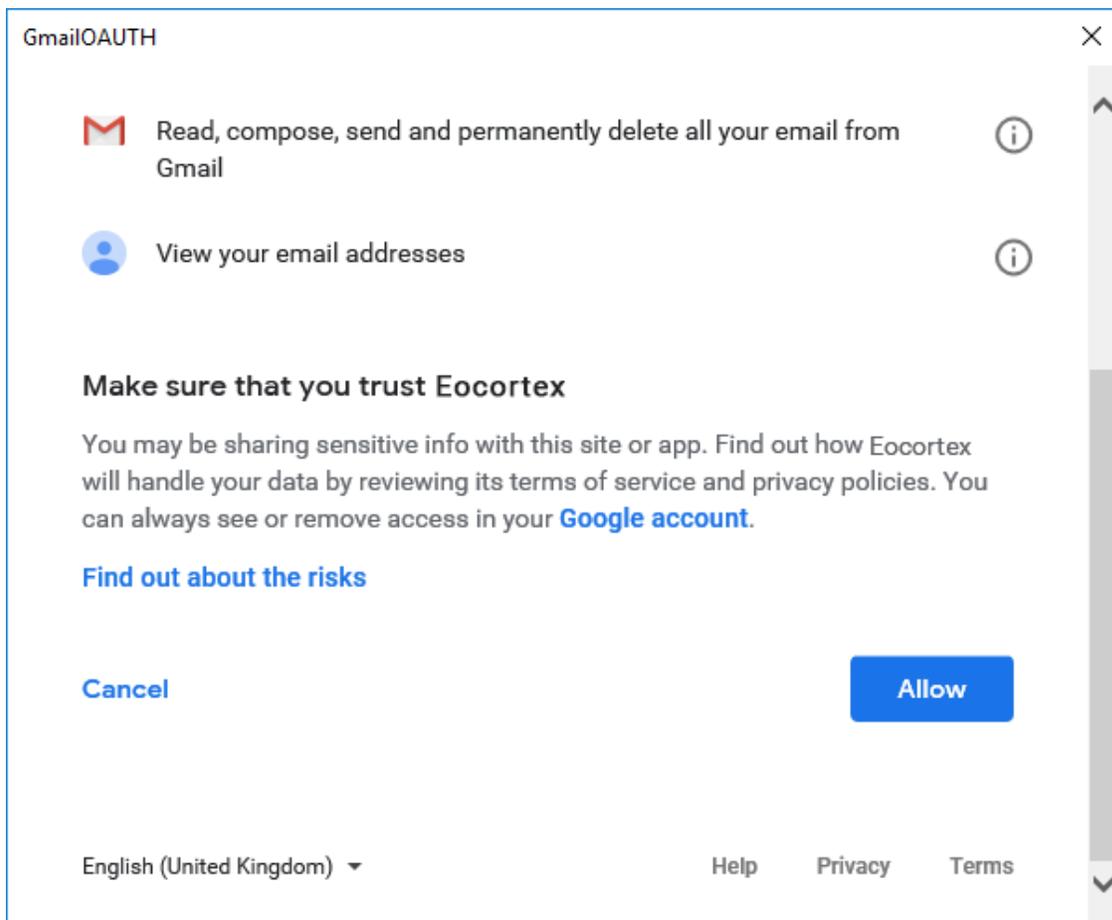
This will allow **Eocortex** to:

 Read, compose, send and permanently delete all your email from Gmail 

 View your email addresses 

### Make sure that you trust Eocortex

You may be sharing sensitive info with this site or app. Find out how Eocortex will handle your data by reviewing its terms of service and privacy policies. You



[Send notification by SMS](#)

Sends an SMS notification using the GSM modem plugged into a USB port of the server to the indicated address.

 **Adding action** 

**Action**

Send notification by SMS 

GSM modem: GSM Modem    

Telephone number: +447800767690

Message text:

Problem with camera {{ cameraname }} 

[Send message](#)

**OK** **Cancel**

### Warning

Before using the GSM modem on the server, it is required to install the drivers supplied with the modem, then check the modem's operability by sending a test message either with the software provided with the modem or using the operating system's means. After checking the modem's operability, it is required to close or stop the software used for working with the modem — otherwise the modem may become unavailable for use with the CCTV system.

### Note

The number of the COM port to which the GSM is connected may be found in the Windows Device Manager or in the software provided with the modem.

Action parameters:

**GSM modem:** allows to set the modem to be used for sending SMS messages.

Below is the modem settings form. It is required to set relevant values there. These values are usually can be found or changed in the native software of a modem.

> **Add GSM modem** ×

Modem name:	<input type="text" value="GSM Modem"/>
Port:	<input type="text" value="COM5"/>
Transfer speed:	<input type="text" value="9600 Bit/s"/>
Parity check:	<input type="text" value="Not in use"/>
Modem data bits:	<input type="text" value="8"/>
Stop bits:	<input type="text" value="1"/>

**Telephone number:** the number of the phone to which the SMS message will be sent.

**Message text:** the text of the message to be sent to the specified number. Use of **template variables** is supported. Clicking on the **Send message** link will attempt to send the SMS message. Depending on the result, a window with a message confirming a successful transmission or an error will appear.

*Pause*

Allows to set a pause between the actions.

**Action**

Pause

Pause Interval (sec): 1

OK Cancel

Action parameters:

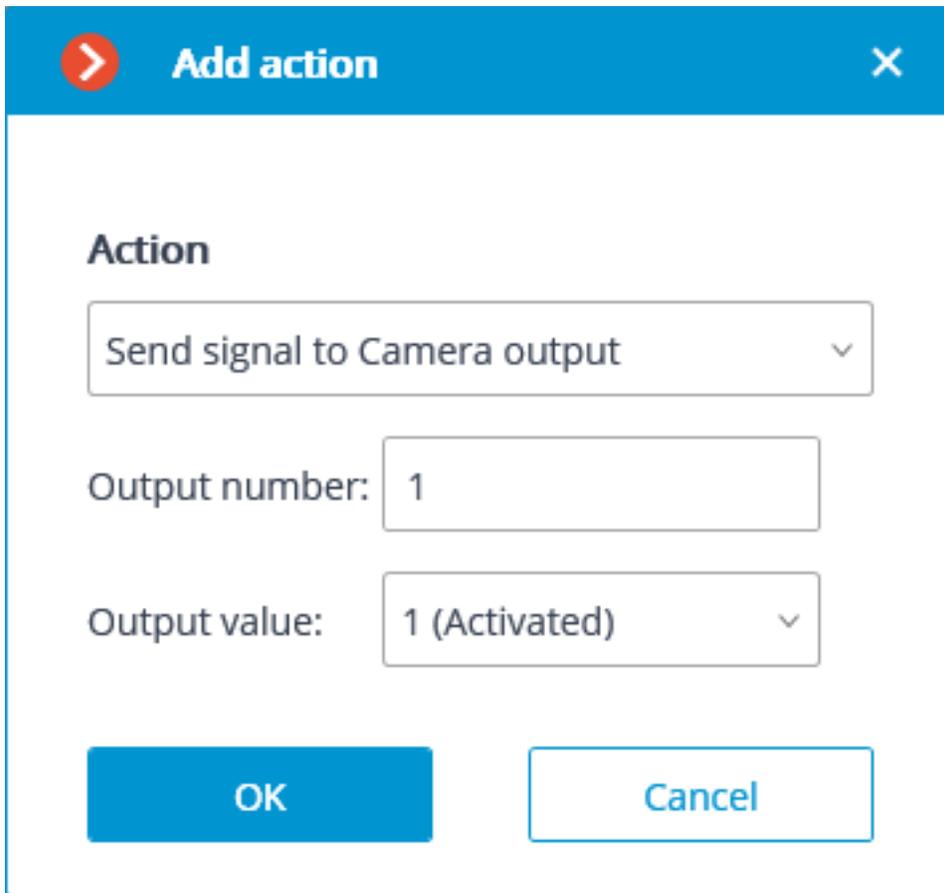
**Pause interval (sec)** sets the pause duration.

*Send signal to Camera output*

The electrical signal is sent to the IP camera's signal output.

Note

To perform this action, it is required that the support of the signal outputs for this particular IP camera model is implemented in the **Eocortex** software. Contact **Eocortex** technical support team for further details.



**Action**

Send signal to Camera output

Output number: 1

Output value: 1 (Activated)

OK Cancel

Action parameters:

**Output number:** sets the number of camera signal output.

Note

Value 0 or 1 is used for most cameras with one output.

**Output value:** sets the alarm output status: 1 (Activated) / 0 (Deactivated).

Note

Depending on the circuitry employed, different physical statuses of the contacts may correspond to the activation/deactivation of the signal output: circuit closed or opened, voltage present or absent etc. As a rule, the information on the wiring can be found in the engineering documentation for the cameras.

*Save frame*

Saves a frame on the server.

**Adding action**

**Action**

Save frame

Folder (on server):

C:\Program Files\Eocortex Server\{{{ cameraname }}}

File name template (it will be supplemented with the current time for uniqueness)

{{ eventtime }}{{{ cameraname }}}{{{ cameraip }}

Saved frame format:

Jpeg

Restrict maximum size of the folder (MB):

100

Use frame from archive ⓘ

OK Cancel

Action parameters:

**Folder (on server):** sets the path to the folder where the frames will be stored. Use of **template variables** is supported.

**File name template** — the name of the saved frame, to the end of which will be added date and time in the format **\_dd\_MM\_yyyy hh.mm.ss** to provide uniqueness. If the template name is not specified, it will be formed by default from the name of the camera and the time of the event. Use of **template variables** is supported. For example, if setting up a template using the **{{ cameraname }}** variable, the name of the resulting file would be **Office\_01\_11\_2022 16.47.59.jpg**.

**Saved frame format:** image file format (JPEG or PNG).

**Restrict maximum size of the folder (Mb):** allows to set folder size limit. Old files will be deleted when the maximum folder size is reached. If template variables were used in specifying the folder path, then the maximum folder size limit will be applied to the specific folder, the name of which is obtained after the template evaluation.

Note

Filenames will be formed as follows:

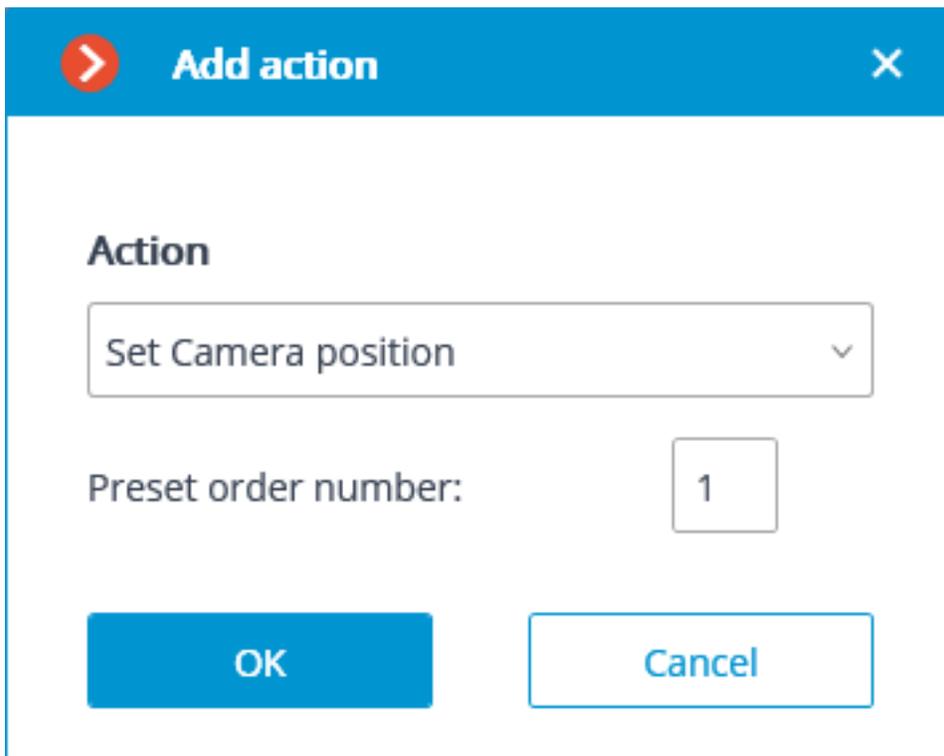
ChannelName DD\_MM\_YYYY hh.mm.ss.ttt.ext, where:

- DD\_MM\_YYYY: day, month, year;
- hh.mm.ss.ttt: hours, minutes, seconds, milliseconds
- ext: jpg, png.

**Use frame from archive** — the frame saved in the archive will be used for sending. This allows sending visual information that is more synchronous with the event, but it leads to additional hardware resource consumption of the server.

#### *Set camera position*

Puts a PTZ camera into a preset position. The particular preset position must be preliminarily set in the camera own settings.



**Action**

Set Camera position

Preset order number: 1

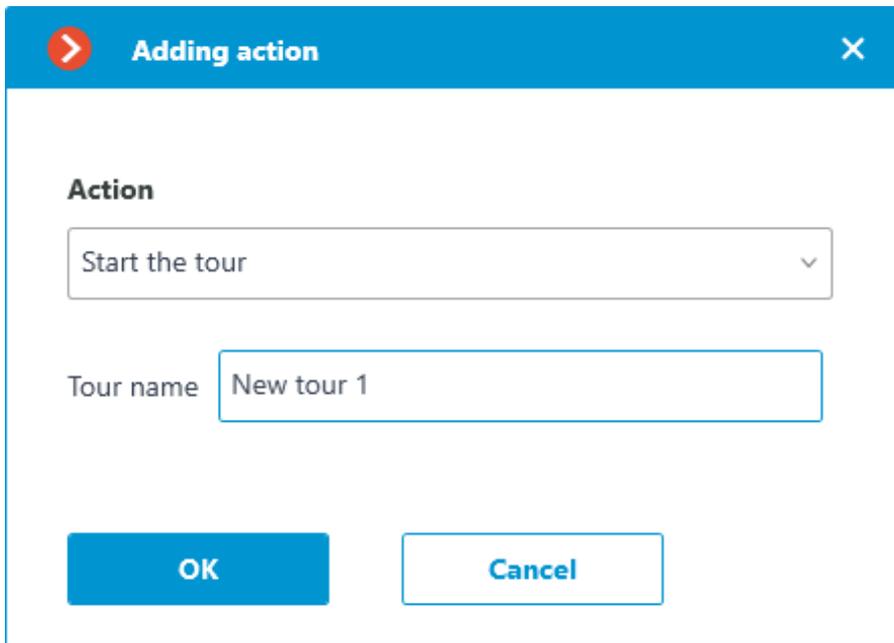
OK Cancel

Action parameters:

**Preset order number:** sequential number of a preset is set.

#### *Start the tour*

Starts a tour on one or more cameras.



**Adding action**

**Action**

Start the tour

Tour name: New tour 1

OK Cancel

Action options:

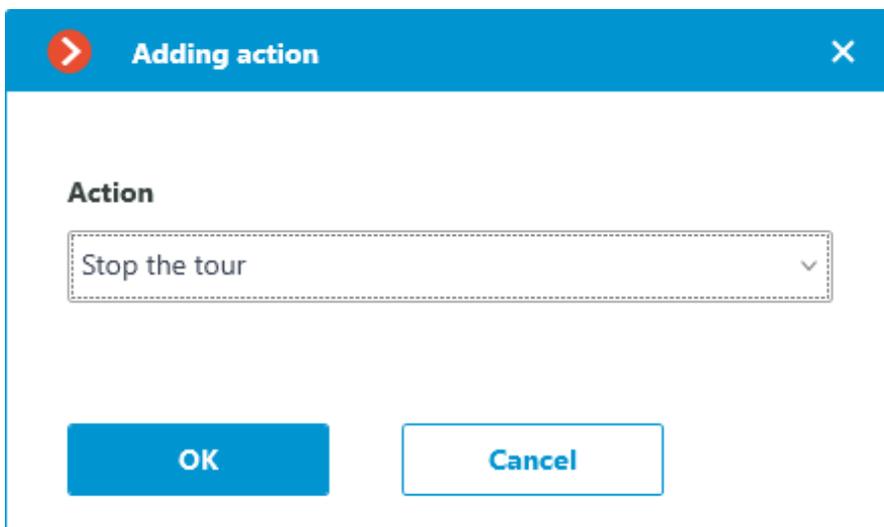
**Tour name:** If the action is configured for a single camera, select the appropriate tour from the drop-down list in this field. If you are configuring an action for several cameras, you must manually enter the tour name in this field; in this case, if any of the selected cameras do not have a tour with the entered name, no action will be performed for that camera; no warnings or error messages will be generated.

Note

This action has a lower priority than the user action.

*Stop the tour*

Stops a previously launched tour on one or more cameras.



**Adding action**

**Action**

Stop the tour

OK Cancel

## Note

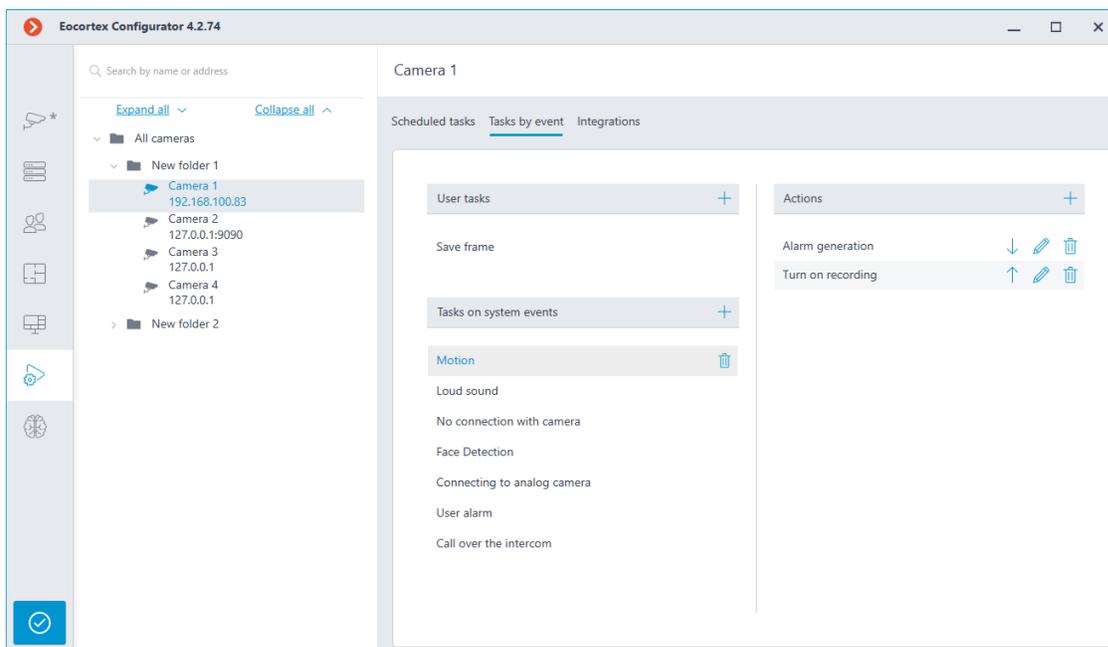
This action has a lower priority than the user action.

## User tasks

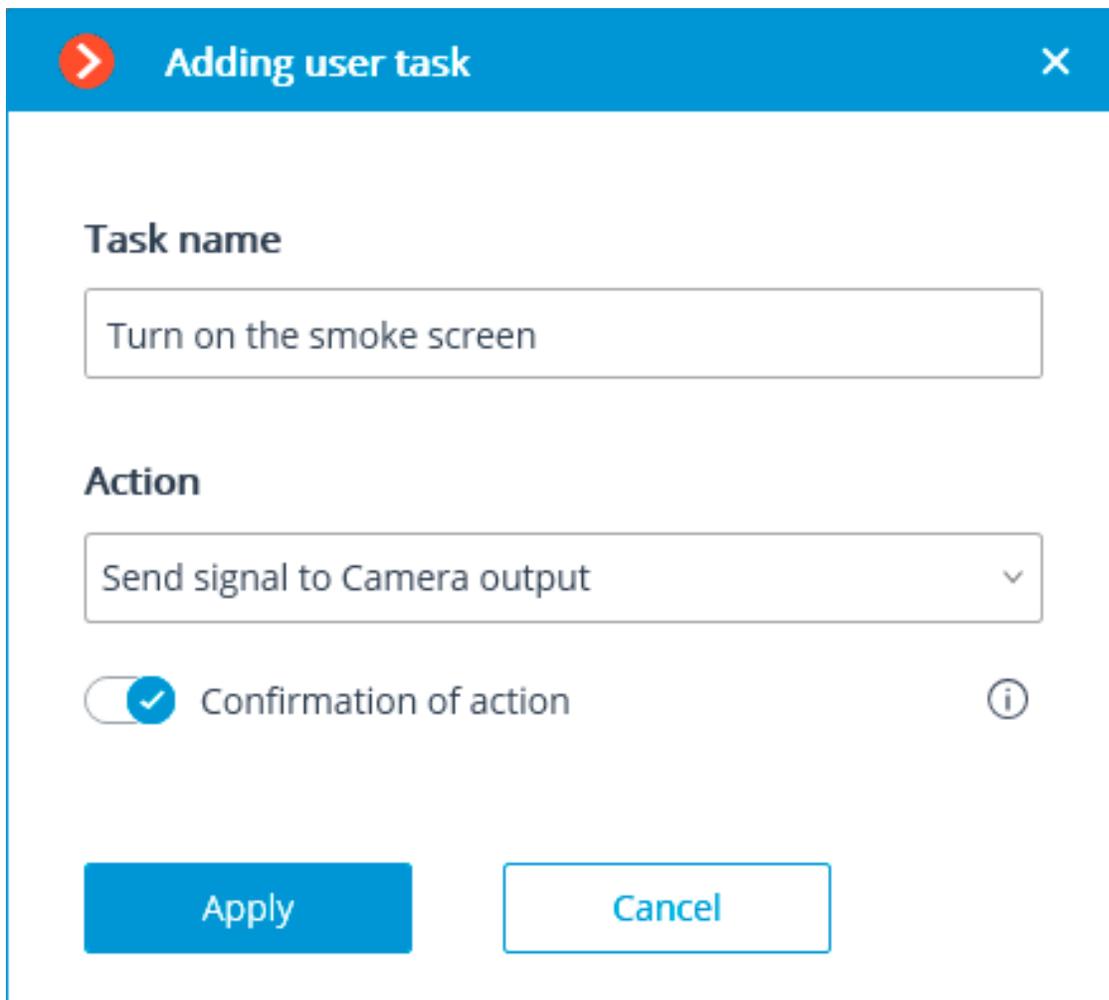
## Warning

No more than 8 user tasks can be assigned to one camera.

For setting up actions to be performed by command of the user of the client application, go to the  **Automation** tab in the **Eocortex Configurator** application, select an individual camera in the tree, then go to the **Tasks by event** tab in the opened window.



In order to add a user task, select the camera in the list and click the  button on the right of the **User tasks** header. The task by event wizard will open.



**Adding user task**

**Task name**

Turn on the smoke screen

**Action**

Send signal to Camera output

Confirmation of action ⓘ

Apply Cancel

In the start screen of the wizard, it is required to enter the task name and to select an action in the dropdown list that will be executed when the task is launched. If the task launch confirmation is required, the **Confirmation of action** must be enabled.

#### Note

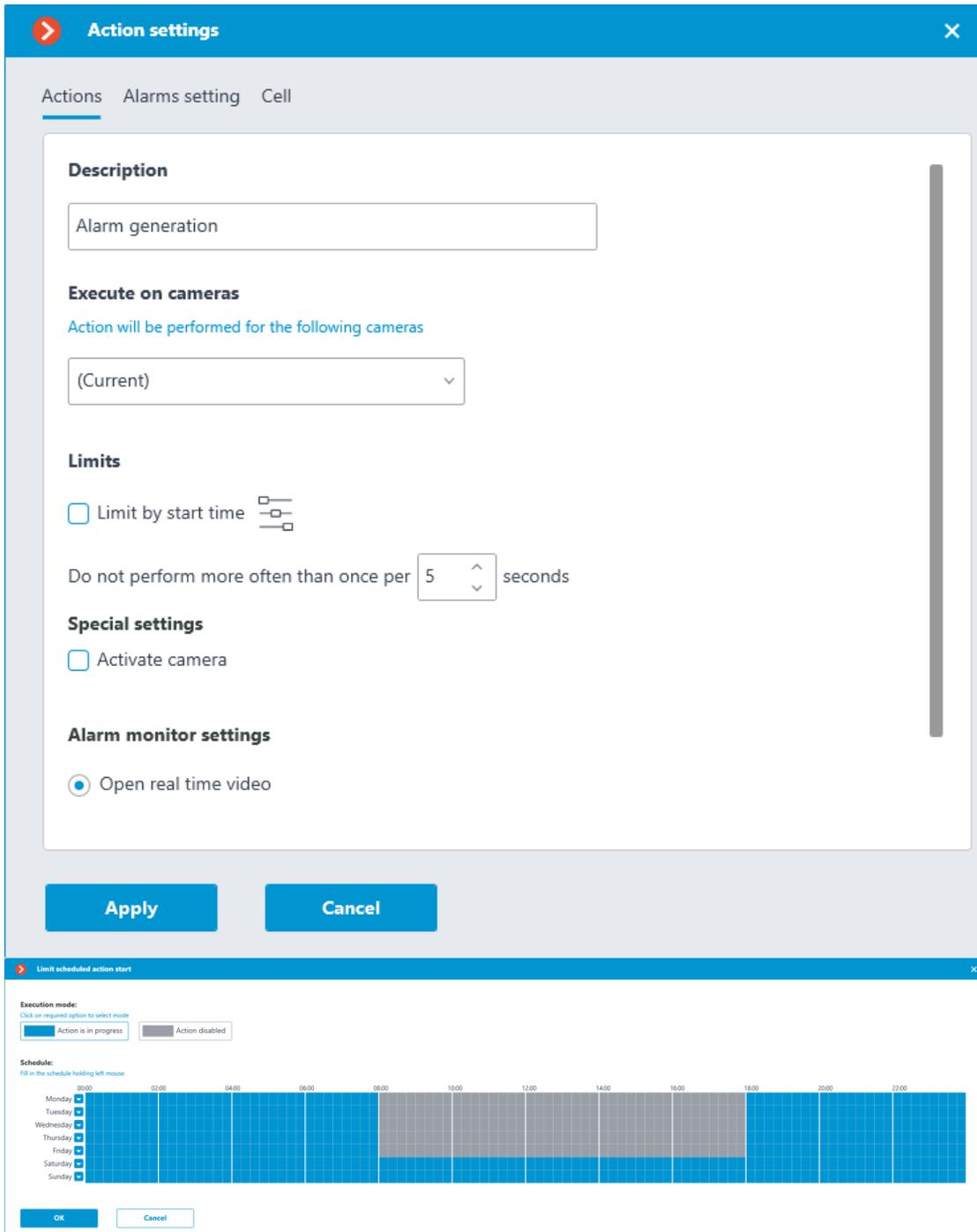
The list and description of the available actions can be found in the [Actions](#).

At the next step, on the **Actions** tab, it is possible to set the cameras on which a task will be completed. The options are as follows: on a single camera, on all cameras, or on a user-defined list of cameras.

#### Warning

When performing actions on the group of cameras, these actions will be carried out only on the cameras bound to the same server to which the camera whose event has initiated the actions is bound. The actions on the initiating camera will be performed in all cases.

On this tab you can also set the limitations by execution time, including limitations on the schedule that opens when pressing the  button. Also, on this tab you may adjust the **Special settings** that depend upon a selected event.



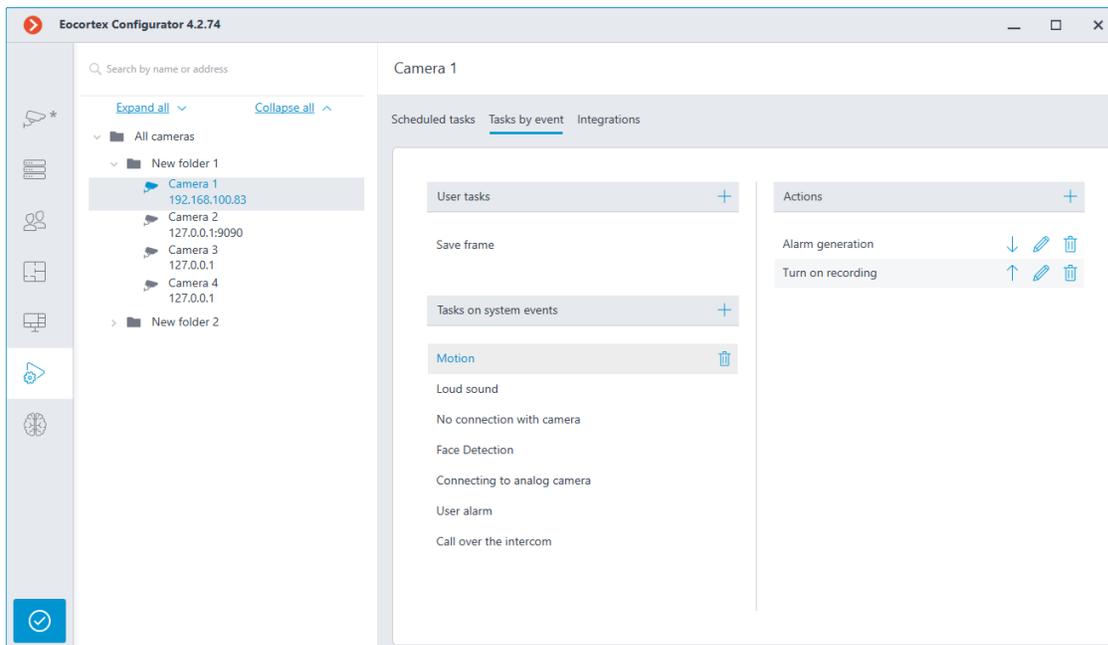
The image shows two screenshots from a software interface. The top screenshot is the 'Action settings' dialog box, which has a blue header with a back arrow and a close button. It contains three tabs: 'Actions', 'Alarms setting', and 'Cell'. The 'Actions' tab is active. The main content area is white and contains several sections: 'Description' with a text input field containing 'Alarm generation'; 'Execute on cameras' with a sub-label 'Action will be performed for the following cameras' and a dropdown menu showing '(Current)'; 'Limits' with a checkbox 'Limit by start time' (unchecked) and a frequency setting 'Do not perform more often than once per 5 seconds' (the number 5 is in a spinner box); 'Special settings' with a checkbox 'Activate camera' (unchecked); and 'Alarm monitor settings' with a radio button 'Open real time video' (selected). At the bottom are 'Apply' and 'Cancel' buttons. The bottom screenshot is the 'Limit scheduled action start' dialog box, also with a blue header and close button. It has an 'Execution mode' section with a legend: a blue square for 'Action is in progress' and a grey square for 'Action disabled'. Below is a 'Schedule' section with a grid. The grid has days of the week on the y-axis (Monday to Sunday) and time slots on the x-axis (00:00, 02:00, 04:00, 06:00, 08:00, 10:00, 12:00, 14:00, 16:00, 18:00, 20:00, 22:00). The grid shows blue blocks for 'Action is in progress' and grey blocks for 'Action disabled'. For Monday, the action is in progress from 00:00 to 08:00 and from 18:00 to 22:00, and disabled from 08:00 to 18:00. For Tuesday to Saturday, the action is in progress from 00:00 to 08:00 and from 18:00 to 22:00, and disabled from 08:00 to 18:00. For Sunday, the action is in progress from 00:00 to 18:00. At the bottom are 'OK' and 'Cancel' buttons.

## Tasks by event

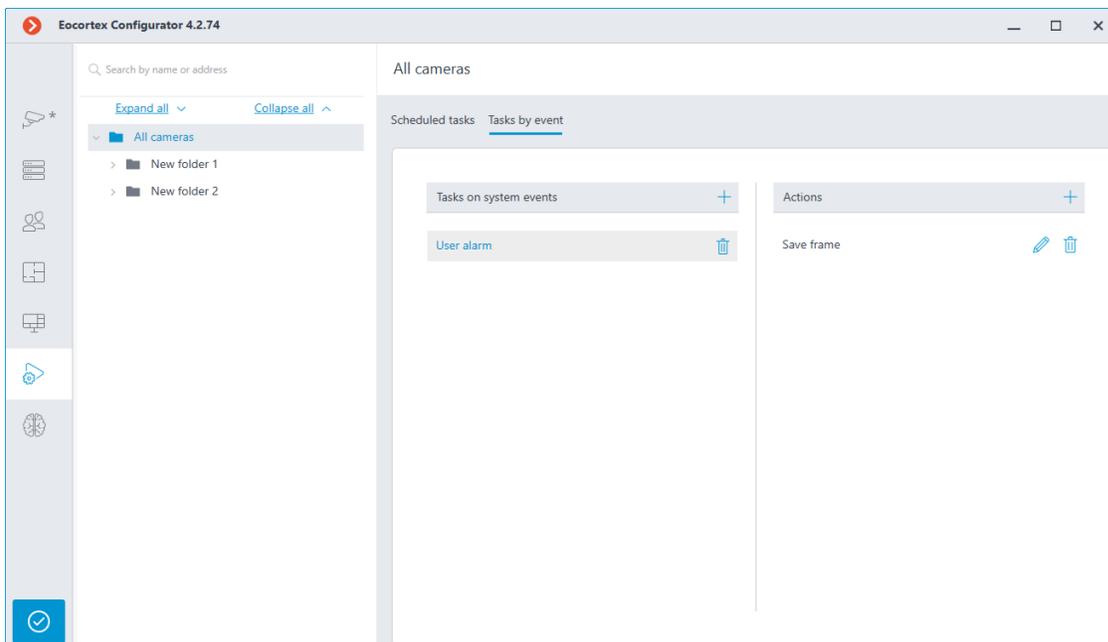
For setting up actions to be performed in response to events happening in the CCTV system, go to the  **Automation** tab in the **Eocortex Configurator**

application, select an individual camera or folder in the tree, then go to the **Tasks by event** tab in the opened window.

You can add, modify and delete the tasks to be performed by event.



It is possible to add only one action to be performed in response to an event for a folder or a user-defined list of cameras.



In order to add a task to be performed in response to an event, select the camera in the list and click the **Add task** link. The task by event wizard will open.

In the wizard launch screen, choose Event and Action that will be performed in response to the specified event, then click **Add**.

#### Note

The list and description of the available events can be found in the [Events](#) section.

#### Note

The list and description of the available actions can be found in the [Actions](#).

At the next step, on the **Actions** tab, it is possible to set the cameras on which a task will be completed. The options are as follows: on a single camera, on all cameras, or on a user-defined list of cameras.

#### Warning

When performing actions on the group of cameras, these actions will be carried out only on the cameras bound to the same server to which the camera whose event has initiated the actions is bound. The actions on the initiating camera will be performed in all cases.

On this tab you can also set the limitations by execution time, including

limitations on the schedule that opens when pressing the  button. Also, on this tab you may adjust the **Special settings** that depend upon a selected event.



## Action settings



Actions Alarms setting Cell

### Description

Alarm generation

### Execute on cameras

Action will be performed for the following cameras

(Current)

### Limits

Limit by start time 

Do not perform more often than once per  seconds

### Special settings

Activate camera

### Alarm monitor settings

Open real time video

Apply

Cancel

**Action settings**

Actions Alarms setting Cell Runtime conditions

**Execute on cameras**  
Action will be performed for the following cameras

Selectively... ▾

🔍 Search by camera name

[Expand all](#) ▾ [Collapse all](#) ▲

- All cameras
- ▾  New folder 1
  - Camera 1
  - Camera 2
- ▾  New folder 2
  - Camera 3
  - Camera 4

**Limits**

Limit by start time

**Apply** **Cancel**

---

**Limit scheduled action start**

**Execution mode:**  
Click on required option to select mode

Action is in progress  Action disabled

**Schedule:**  
Fit in the schedule holding left mouse

Day	08:00	02:00	04:00	06:00	08:00	10:00	12:00	14:00	16:00	18:00	20:00	22:00
Monday	Blue											
Tuesday	Blue											
Wednesday	Blue											
Thursday	Blue											
Friday	Blue											
Saturday	Blue											
Sunday	Blue											

**OK** **Cancel**

On the **Runtime conditions** tab, it is possible to set the conditions for an action to be performed.

For actions, the following comparison conditions apply:

- Configurator/ScenarioControl.Comparison
- Configurator/ScenarioControl.ComparisonBigger
- Configurator/ScenarioControl.ComparisonEqual

- Configurator/ScenarioControl.ComparisonLike
- Configurator/ScenarioControl.ComparisonNotEqual
- Configurator/ScenarioControl.ComparisonSmaller
- Configurator/ScenarioControl.ComparisonSmallerOrEqual
- Configurator/ScenarioControl.ComparisonBiggerOrEqual

#### Note

Some actions do not have all comparison conditions available.

#### Warning

When adding several conditions, it is required to take into consideration that all the conditions are combined by the **AND** logical operator. Consequently, there can be a situation when, with certain settings, the action will never be executed.

For example, if two different zones were set for the movement event in the conditions, the action will be performed only in case that the movement is registered in the part of the frame where these zones overlap. If the zones do not overlap, the action will never be performed.

The screenshot shows a software interface titled "Action settings" with a close button (X) in the top right corner. Below the title bar, there are four tabs: "Actions", "Alarms setting", "Cell", and "Runtime conditions", with "Runtime conditions" being the active tab. The main content area contains a table with three columns: "Event attribute", "Comparison", and "Value". The first row of the table has the following values: "Stream type" (with a dropdown arrow), "Equal" (with a dropdown arrow), and "Video, main stream" (with a dropdown arrow). To the right of the table is a trash icon. Below the table is a blue link labeled "Add condition". At the bottom of the dialog, there are two blue buttons: "Apply" and "Cancel".

The procedure of adding a task by event to a group of cameras is similar to the procedure for a single camera, with the exception that the adjustment of the attributes is not available.

## Events

### Note

The list of on-board camera analytics events has been moved to a [On-board camera analytics events](#) page.

The list of events of integrations with external systems has been moved to a [Events of integrations with external systems](#) page.

### *Large number of people in the queue*

This event is generated when the **Counting people in queue** module is enabled on the camera in the event that the quantity of people in the queue has exceeded the preset limit.

When configuring the event, it is possible to set the **Number of people in queue** condition with a certain number of people, as well as the **Area** condition, indicating the zone name from the module settings. If the **Area** condition is not set, the action will be performed for any zone, according to the settings of this zone.

The screenshot shows a dialog box titled "Action settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "Actions" and "Runtime conditions", with "Runtime conditions" being the active tab. The main content area contains two rows of condition settings. Each row has three columns: "Event attribute", "Comparison", and "Value". The first row has "Area" in the "Event attribute" column, "Equal" in the "Comparison" column, and "Area 1" in the "Value" column. The second row has "Number of people in queue" in the "Event attribute" column, "Larger" in the "Comparison" column, and "50" in the "Value" column. To the right of each row is a trash icon. Below the conditions is a blue link labeled "Add condition". At the bottom of the dialog are two buttons: "Apply" and "Cancel".

#### *Large crowd of people*

This event is generated when the **Crowd monitoring** module is enabled on the camera, in case the number of people reached or exceeded the maximum set limit.

You can set the **Area** attribute for the event, indicating the name of the zone using the module settings. If this attribute has not been set, the action will be performed for any zone in accordance with its settings.

Additionally, it is possible to set the **Number of people** attribute which surpasses the similar parameter in the module's settings.

Actions Runtime conditions (2)

Event attribute	Comparison	Value	
Zone	Equal	Zone 1	
Number of people	Larger	10	

*Emergency vehicle detected*

This event will be generated when the **Emergency Vehicle Detection** module is enabled on the camera and when an emergency vehicle stays in the control zone for a specified time. The **Area** condition can be set for the event by selecting a zone from the module settings.

**Action settings** ×

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
Area	Equal	Lengthy presence	

[Add condition](#)

- Lengthy presence

Similarly, the **Emergency vehicle type** condition can be set up by selecting an emergency vehicle type from the drop-down menu.

The screenshot shows a software interface titled "Action settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "Actions" and "Runtime conditions (1)". The "Runtime conditions (1)" tab is active. Inside this tab, there is a configuration area with three columns: "Event attribute", "Comparison", and "Value".

Event attribute	Comparison	Value
Emergency vehicle type	Equal	[Dropdown menu open showing: Ambulance, Fire engine, Police car]

Below the configuration area, there is a blue link labeled "Add condition". At the bottom of the dialog, there are two buttons: "Apply" and "Cancel".

### *Fire*

This event is generated when the **Fire and Smoke Detection** module is enabled on the camera and a fire is detected.

### *Call over the intercom*

This event is generated when a door phone (intercom) signal is received.

### Note

The event will be generated only for those door phone models that are supported by **Eocortex**.

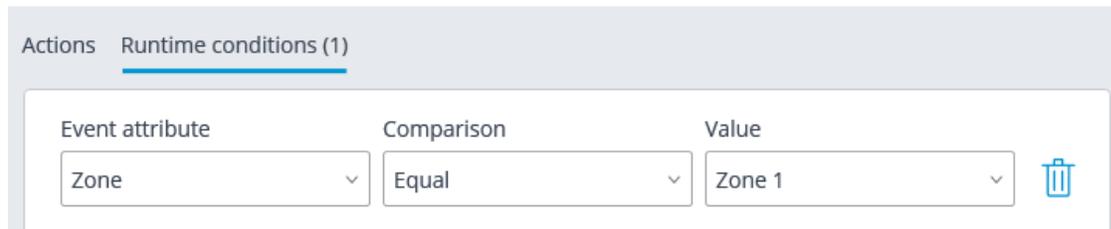
### *Loud sound*

This event is generated when the **Loud sound detection** module registers the exceedance of the preset sound level by the sound picked up by the camera microphone.

### Motion

This event is generated when the software motion detector registers a motion in the frame.

It is possible to set the **Area** attribute for this event, selecting a zone set in the motion detector settings. If this attribute has not been set, the action will be performed for any zone.



Actions Runtime conditions (1)

Event attribute	Comparison	Value	
Zone	Equal	Zone 1	

### Smoke

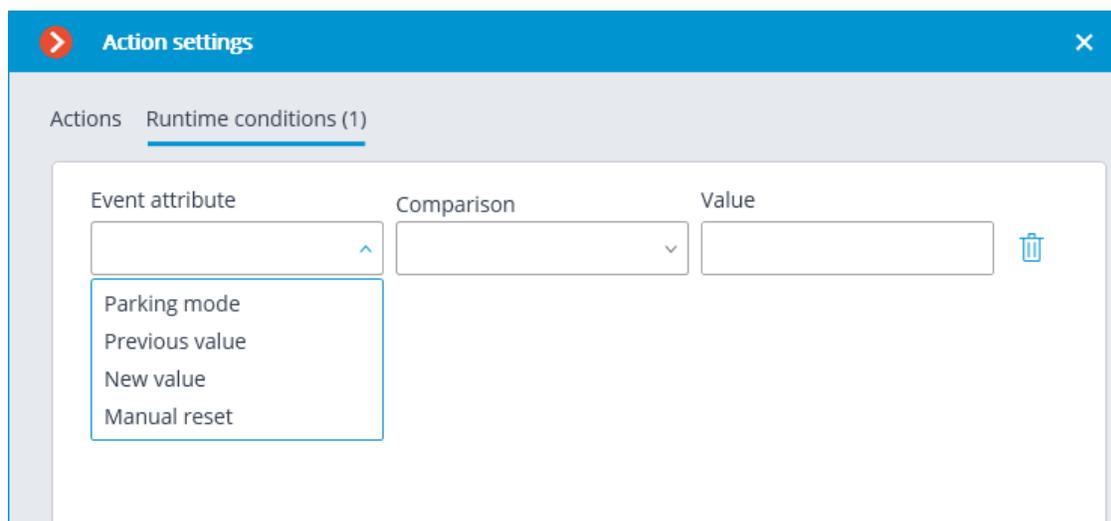
This event is generated when the **Fire and Smoke Detection** module is enabled on the camera and smoke is detected.

### *Parking vehicle counter has been changed*

This event is generated when the **Licence plate recognition** module is enabled on the camera and parking lots are configured. The following counter changes will trigger the event:

- Automatic reset of the counter of vehicles in the parking lot.
- Manual change of the counter of vehicles in the parking lot in the **Eocortex Client** application.

For this event, it is possible to set the following runtime conditions:



➤ Action settings ✕

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
<ul style="list-style-type: none"><li>Parking mode</li><li>Previous value</li><li>New value</li><li>Manual reset</li></ul>			

### *Parking lot occupancy has changed*

This event is generated when the **Licence plate recognition** module is enabled on the camera and parking lots are configured.

For this event, it is possible to set the following runtime conditions:

Event attribute	Comparison	Value
<input type="text" value="Parking mode"/>	<input type="text" value=""/>	<input type="text" value=""/>

### *Number of people in counting zone is back to allowed*

This event is generated when the People counting module is enabled on the camera with the Counting in the premises feature configured, and the current number of people in the zone returns to the allowed number set for that zone.

The **Area** runtime condition can be set for the event by specifying the name of the zone from the module settings. If this condition is not set, the action will be performed for any zone according to its settings.

**Action settings** ×

Actions Runtime conditions

Event attribute	Comparison	Value	
Area	Equal	Area 1	
Number of people in queue	Larger	50	

[Add condition](#)

**Apply** **Cancel**

#### *External alarm start*

This event is generated when the **External alarm start** event comes from an external system. It is used for the integration of the external systems with **Eocortex**.

#### *Motion started*

This event is generated when the software motion detector registers the start of a motion in the frame. To do this, the option **Enable start/stop motion events** must be enabled in [the motion detector settings](#).

The **Area** attribute can be set for this event by selecting a zone set in the motion detector settings. If this attribute is not set, the action will be performed for any zone.

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
Zone	Equal	Zone 1	

#### *Inactive zone*

This event is generated when the **Personnel activity monitoring** module is enabled on the camera and there is no activity in the controlled zone.

The **Area** attribute can be set for this event by selecting a zone set in the motion detector settings. If this attribute is not set, the action will be performed for any zone.

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
Zone	Equal	Zone 1	

#### *Recognized license plates*

This event is generated when the **Licence plate recognition** module is enabled on the camera and a vehicle license plate number is recognized.

Different attributes can be set for this event. For example, if the **License plate identified** attribute equals **Yes**, the action will be performed when any license plate that is in the database is recognized. If several attributes are set, the action will be performed only when all the attributes are fulfilled. If no attribute is set, the action will be performed when any number is recognized.

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
License plate identified ^	Equal v	Yes v	
License plate identified			
License plate			
Reliability			
Surname			
Name			
Middle name			
Brand			
Color			
Additional information			
Group name			
Direction			

#### *Fall detected*

This event is generated when the **Fall Detection** module is enabled on the camera in case of detecting a fall of a person in the controlled area. It is possible to configure the **Area** condition for the event by selecting one of the configured areas.

Actions Runtime conditions

Event attribute	Comparison	Value	
Area v	Equal v	Area v	

[Add condition](#)

#### *Face Detection*

This event is generated when the **Face Detection** module is enabled on the camera and a face is detected in the frame.

#### *Face recognized*

This event is generated when the **Face recognition** module is enabled on the camera and a face is recognized.

Various runtime conditions can be set for the event. For example, if the condition **Identified | Equal | Yes** is set, the action will be performed upon recognition of any face added to the database. If multiple conditions are set,

then the action will be performed only if all conditions are met. If no conditions are set, then the action will be performed if any face is recognized.

The screenshot shows a software interface titled "Action settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "Actions" and "Runtime conditions (3)". The "Runtime conditions (3)" tab is active. The main area contains three rows of configuration fields, each with a trash icon to its right. The first row has "Event attribute" set to "Identified", "Comparison" set to "Equal", and "Value" set to "Yes". The second row has "Event attribute" set to "Face covered with mask", "Comparison" set to "Equal", and "Value" set to "No". The third row has empty fields for "Event attribute", "Comparison", and "Value". A dropdown menu is open under the "Event attribute" field of the third row, listing the following options: Identified (highlighted), Surname, Name, Patronymic, Group name, Additional information, Identification accuracy, Age, Gender, User ID, Temperature, Emotion, Face covered with mask, and Face turned much. At the bottom of the dialog, there are two buttons: "Apply" and "Cancel".

#### *A person running a fever detected*

This event is generated when the **Face recognition** module is enabled on a camera that combines the functionality of video surveillance and thermal imaging, and the set temperature for a recognized face is exceeded.

#### *Analog camera connection fail*

This event is generated when the connection with the analog camera that is bound to this channel is lost on the channel of the hybrid video recorder or decoder.

**Camera number** attribute is obligatory for this event.

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
Camera number	Equal	1	

#### *No connection with camera*

This event is generated when there is a disruption of communication with the camera.

#### Note

Instead of this event, it is recommended to use the **No connected camera** event, because due to such issues with the networks or network interfaces as their congestion, low throughput, or bad signal quality the short-term disruptions and reconnections of cameras may happen, leading to the generation of many **No connection with camera** events.

#### *End of external alarm*

This event is generated when the **End of external alarm** event comes from an external system. It is used for integration of **Eocortex** with the external systems.

#### *Motion stopped*

This event is generated when the software motion detector stops registering movement in the frame. To do this, the option **Enable start/stop motion events** must be enabled in [the motion detector settings](#).

It is possible to set the **Area** attribute for this event, selecting a zone set in the motion detector settings. If this attribute is not set, the action will be performed for any zone.

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
Zone	Equal	Zone 1	

#### *Abandoned object*

This event is generated when the **Abandoned Objects Detection** module is enabled on the camera and the abandoned object which has remained in the frame for a longer period than the one specified in the settings is detected.

#### *Sending HTTP request*

This event is generated when the **Send HTTP request** action is executed.

### *No connected camera*

This event is generated when the communication with the camera the connection with which was lost has not resumed after the set time.

It is required to set the **Breakage duration (seconds)** obligatory attribute for this event.

It is also possible to set the **Stream type** attribute that may have one of the following values:

- **Main stream:** no main video stream.
- **Alternate video:** no alternate video stream.
- **Main sound:** no main sound stream.
- **Alternate sound:** no alternate sound stream.
- **Sound output:** no channel for sound output to camera.
- **Motion detection:** no channel for receiving information from camera motion detector
- **I/O:** no channel for communication with signal inputs/outputs of the camera.
- **Archive video:** no channel for communicating with camera video archive.
- **Archive audio:** no channel for communicating with camera audio archive.

If no **Stream type** attribute is specified, the lack of communication will be registered on any of the stream types.

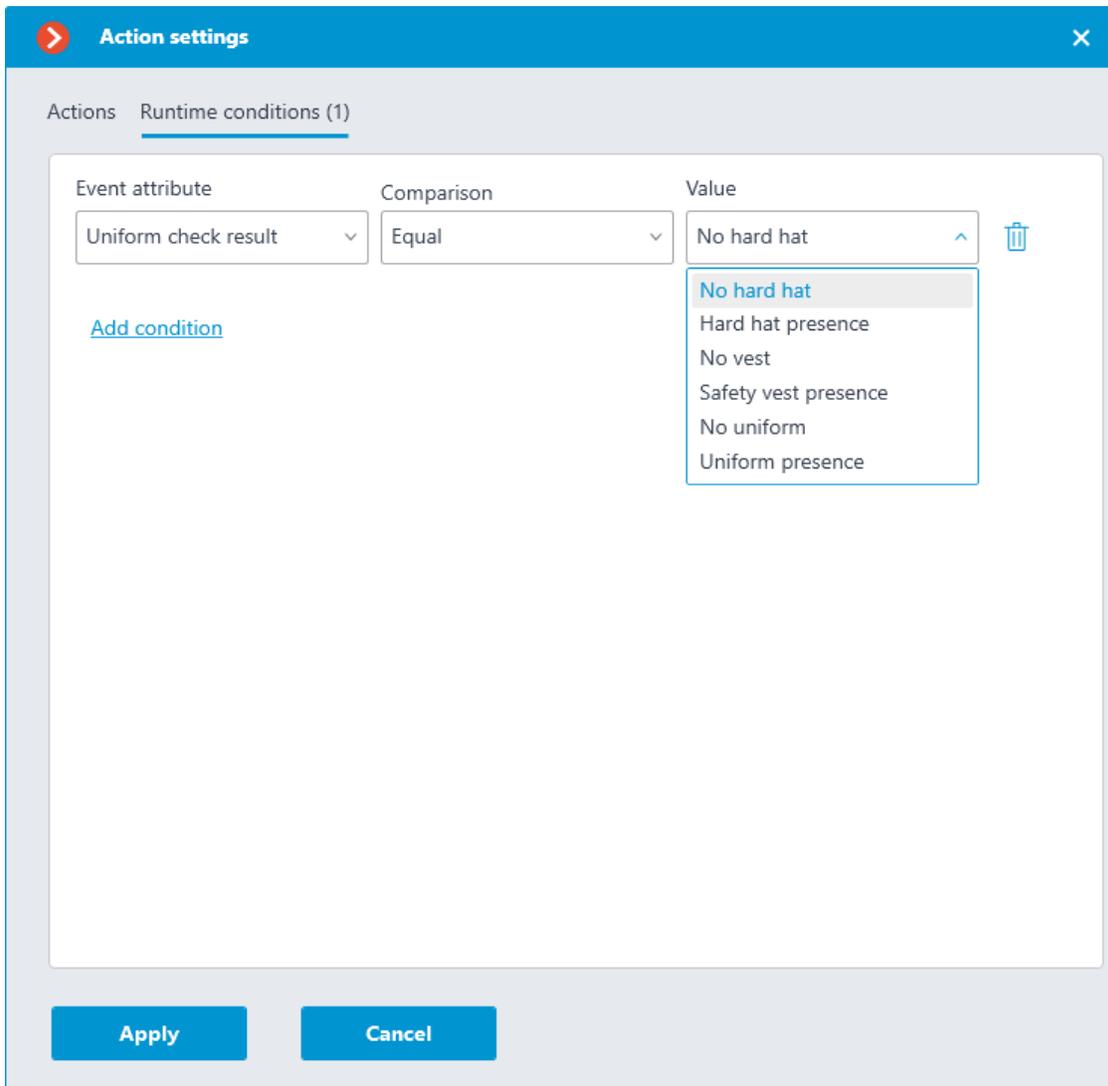
Actions Runtime conditions (2)

Event attribute	Value	
Breakage duration (secon	15	
Event attribute	Comparison	Value
Stream type	Equal	Main stream 
<a href="#">Add condition</a>		
		<ul style="list-style-type: none"> <li>Main stream</li> <li>Alternate stream</li> <li>Main sound</li> <li>Alternate sound</li> <li>Sound output</li> <li>Motion detection</li> <li>I/O</li> <li>Archive video</li> <li>Archive audio</li> </ul>

*Checked for uniform*

This event is generated when the **Uniform Detection** module is enabled and configured on the camera, and a person in a workwear or without it is detected in the frame.

For this event, it is possible to set the following runtime conditions:



### *No face mask*

This event is generated when the **Face Mask Detection** module is enabled and configured on the camera, and a person without a face mask is detected in the frame.

### *Object Classification and Counting*

This event is generated when the **Object Classification and Counting** module is enabled and configured on the camera.

For this event, it is possible to set the following runtime conditions:

➤ Action settings
✕

Actions Runtime conditions (4)

Event attribute	Comparison	Value	
<input type="text" value="Area or line"/>	<input type="text" value="Equal"/>	<input type="text"/>	🗑️
<input type="text" value="Objects"/>	<input type="text" value="Equal"/>	<input type="text"/>	🗑️
<input type="text" value="Type of vehicle"/>	<input type="text" value="Equal"/>	<input type="text"/>	🗑️
<input type="text" value="Count of objects"/>	<input type="text" value="Equal"/>	<input type="text" value="0"/>	🗑️

[Add condition](#)

No conditions are set up

Apply
Cancel

### *Shelf empty*

This event occurs on a camera with the enabled **Shelf Fullness Check** module when a shelf becomes empty.

For this event, it is possible to set up the **Area** condition by selecting a zone specified in the module's settings. If this condition is not specified, the action will be performed for any zone. Apart from the zone, it is possible to set up sending of the condition in dependence to the level of fullness of a shelf.

➤ Action settings
✕

Actions
Runtime conditions (2)

Event attribute	Comparison	Value	
<input type="text" value="Zone"/>	<input type="text" value="Equal"/>	<input type="text" value="Shelf 1"/>	
<input type="text" value="Fullness"/>	<input type="text" value="Smaller"/>	<input type="text" value="30"/>	

[Add condition](#)

Apply

Cancel

### *Users alarm*

This event is generated when the user of the **Eocortex Client** application presses the **Alarm** button. The event is generated only for the cameras set on the **User alarm** tab in the **Application settings**.

### *Maximum number of people in counting zone exceeded*

This event is generated when the People counting module is enabled on the camera with the Counting in the premises feature configured, and the current number of people in the zone exceeds the allowed number set for that zone.

The **Area** runtime condition can be set for the event by specifying the name of the zone from the module settings. If this condition is not set, the action will be performed for any zone according to its settings.

**Action settings** ×

Actions Runtime conditions

Event attribute	Comparison	Value	
Area	Equal	Area 1	
Number of people in queue	Larger	50	

[Add condition](#)

**Apply** **Cancel**

### *Video surveillance sabotage*

This event is generated when the **Sabotage detector** module is enabled on the camera in one of the following cases:

- Video camera is defocused;
- Camera is turned away;
- Camera flaring;
- Camera blocking.

### *Camera input signal*

This event is generated when an electrical signal is sent to the signal input of the camera.

Note

It is also required that the signal input support is implemented in **Eocortex** for the particular IP camera model. Contact **Eocortex** technical support service for more information.

It is required to set the **Input number** and **Signal availability** obligatory attributes for this event.

Actions Runtime conditions (2)

Event attribute	Comparison	Value	
<input type="text" value="Input number"/>	<input type="text" value="Equal"/>	<input type="text" value="1"/>	
<input type="text" value="Alarm availability"/>	<input type="text" value="Equal"/>	<input type="text" value="Yes"/>	

#### *External event*

This event is generated when an External system event comes from the external system. It is used to integrate the external systems with **Eocortex**.

#### Note

The external system events are transmitted to the **Eocortex** server using **Eocortex API** HTTP requests.

Different attributes can be set for this event. If no attribute is used for generating the event, then it is not required to add such an attribute.

Actions Runtime conditions (3)

Event attribute	Comparison	Value	
<input type="text" value="System name"/>	<input type="text" value="Equal"/>	<input type="text" value="MyLegacySystem"/>	
<input type="text" value="Information"/>	<input type="text" value="Equal"/>	<input type="text" value="01"/>	
<input type="text" value="Code of event"/>	<input type="text" value="Equal"/>	<input type="text" value="2345"/>	

#### *Parking event*

This event is generated when the **Licence plate recognition** module is enabled on the camera and parking lots are configured, and the vehicle enters and leaves the parking lot.

For this event, it is possible to set the following runtime conditions:

➤ Action settings
✕

Actions
Runtime conditions (1)

Event attribute	Comparison	Value	
<div style="border: 1px solid #0070C0; padding: 2px;"> <div style="display: flex; justify-content: space-between; align-items: center;"> <span>Parking mode</span> <span>^</span> </div> <ul style="list-style-type: none"> <li style="padding: 2px;">Parking mode</li> <li style="padding: 2px;">License plate number</li> <li style="padding: 2px;">Direction</li> <li style="padding: 2px;">Parking time, sec.</li> <li style="padding: 2px;">Parking time exceeded</li> <li style="padding: 2px;">Number of occupied spaces</li> <li style="padding: 2px;">Number of empty spaces</li> </ul> </div>	<div style="border: 1px solid #0070C0; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> <span>Equal</span> <span>▼</span> </div>	<div style="border: 1px solid #0070C0; padding: 2px; display: flex; justify-content: space-between; align-items: center;"> <span>Area 1</span> <span>▼</span> </div>	

Apply

Cancel

### *Tracking event*

This event is generated when the **Tracking** module is enabled on the camera in the following cases:

- Crossing of the preset line by an object;
- Intrusion into the preset zone by an object;
- Long term presence of an object in the preset zone.

It is possible to set the **Area** and **Alert type** attributes for the event. If the attribute is not set, the action will be performed for any zone and any alert type correspondingly.

Actions Runtime conditions (2)

Event attribute	Comparison	Value	
Zone	Equal	Zone 1	
Alert type	Equal		

[Add condition](#)

Line intersection  
 Moving within zone  
 Lengthy presence

### *Request to close gate*

This event is generated in the following situations:

- The user clicked the Close rising arm barrier on-screen button in the **Eocortex Client** application.
- The license plate number entered into the database and included into the group with the enabled **Close rising arm barrier** option is recognized, provided that in the module's settings in the **Rising arm barrier control** tab the **License plate recognition action: Open and close** action is selected.

### *Request to open gate*

This event is generated in the following situations:

- The user pressed the Open rising arm barrier on-screen button in the **Eocortex Client** application.
- The license plate number entered into the database and included into the group with the enabled **Open rising arm barrier** option is recognized.

### *Connecting to analog camera*

This event is generated when the communication with the analog camera bound to this channel is established on the hybrid video recorder or decoder channel.

It is required to set the **Camera number** attribute for this event.

Actions Runtime conditions (1)

Event attribute	Comparison	Value	
Camera number	Equal	1	

### *Established connection with camera*

This event is generated when the communication with the camera is reestablished after a disruption.

#### Note

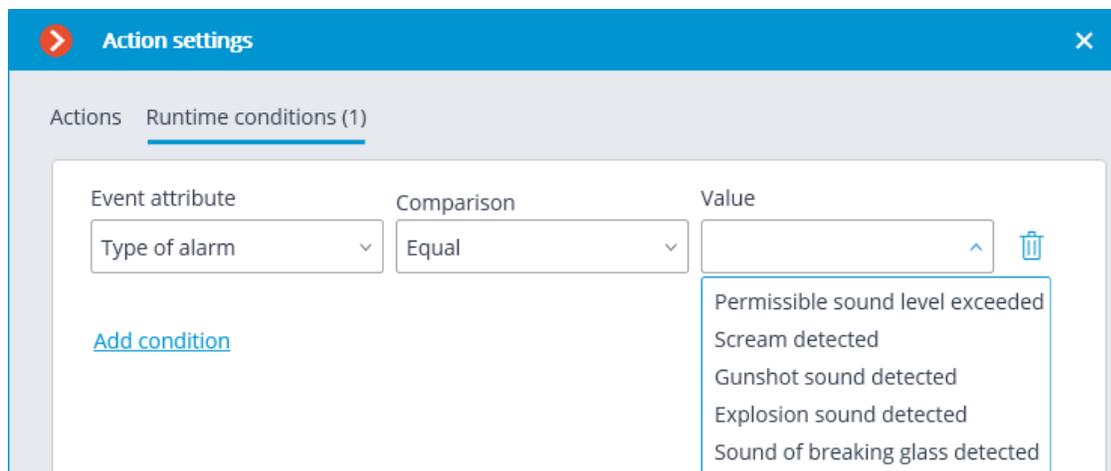
Instead of this event, it is recommended to use the **No connected camera** event, because due to such issues with the networks or network interfaces as their congestion, low throughput, or bad signal quality the short-term disruptions and reconnections of cameras may happen, leading to the generation of many **Established connection with camera** events.

### **On-board camera analytics events**

#### *Camera-based analytics. Detection of sound*

This event is generated when the **Sound detector** module is enabled and configured on the camera.

For this event, it is possible to set the following runtime conditions:



The screenshot shows a software interface titled "Action settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "Actions" and "Runtime conditions (1)". The "Runtime conditions (1)" tab is active. It contains a table with three columns: "Event attribute", "Comparison", and "Value".

Event attribute	Comparison	Value
Type of alarm	Equal	[Dropdown menu]

Below the table, there is a link labeled "Add condition". The dropdown menu for the "Value" column is open, showing the following options:

- Permissible sound level exceeded
- Scream detected
- Gunshot sound detected
- Explosion sound detected
- Sound of breaking glass detected

#### *Camera-based analytics. Intrusion*

This event is generated when the **Area monitoring** module is enabled and configured on the camera.

#### *Camera-based analytics. Area entrance*

This event is generated when the **Area monitoring** module is enabled and configured on the camera.

#### *Camera-based analytics. Area exiting*

This event is generated when the **Area monitoring** module is enabled and configured on the camera.

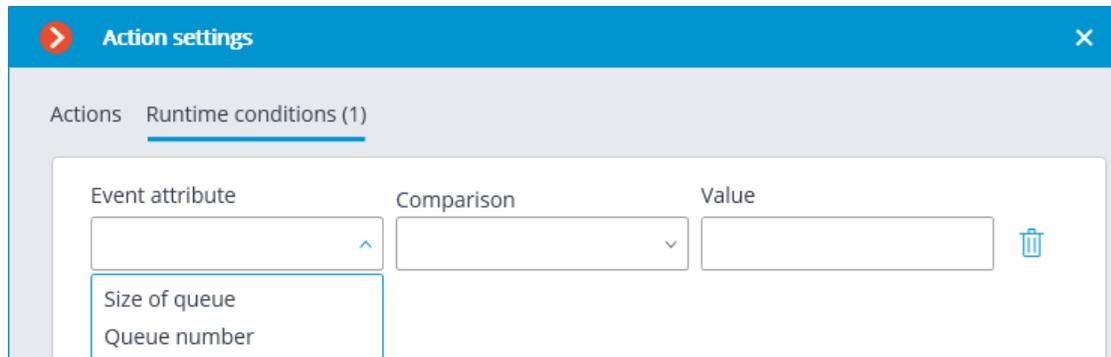
#### *Camera-based analytics. Mist and smoke detection*

This event is generated when the **Fog and smoke detector** module is enabled and configured on the camera.

#### *Camera-based analytics. Size of queue*

This event is generated when the **Queue size monitoring** module is enabled and configured on the camera.

For this event, it is possible to set the following runtime conditions:



Event attribute	Comparison	Value
<input type="text" value="Size of queue"/>	<input type="text" value=""/>	<input type="text" value=""/>

#### *Camera-based analytics. Loitering in area*

This event is generated when the **Area monitoring** module is enabled and configured on the camera.

#### *Camera-based analytics. Item disappeared*

This event is generated when the **Abandoned item detector** module is enabled and configured on the camera.

#### *Camera-based analytics. License plate detection*

This event is generated when the **Objects detector** module is enabled and configured on the camera.

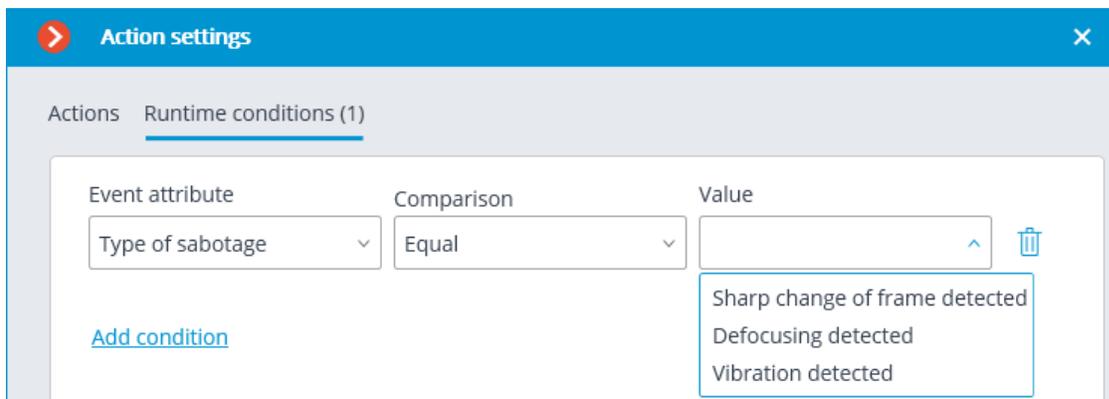
#### *Camera-based analytics. Face Detection*

This event is generated when the **Objects detector** module is enabled and configured on the camera.

#### *Camera-based analytics. Sabotage detection*

This event is generated when the **Sabotage Detection** module is enabled and configured on the camera.

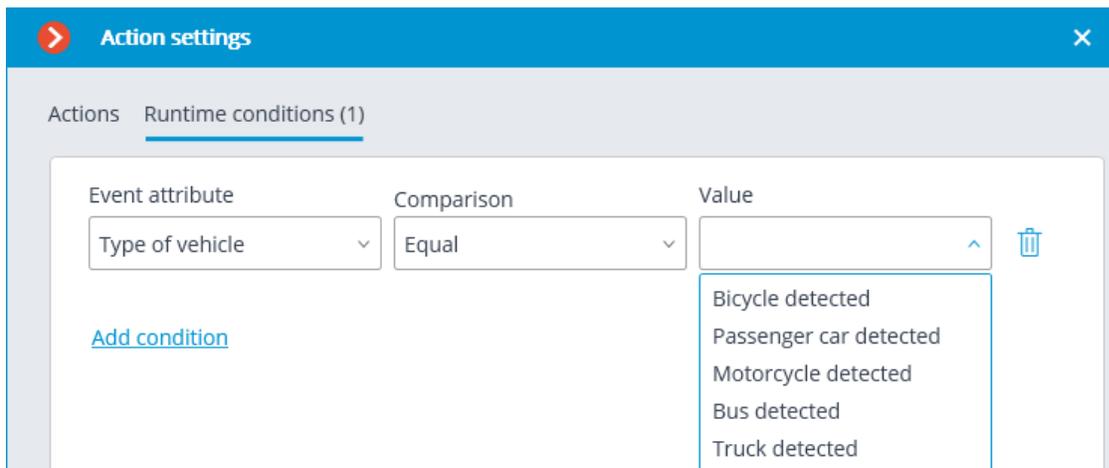
For this event, it is possible to set the following runtime conditions:



*Camera-based analytics. Vehicle detection*

This event is generated when the **Objects detector** module is enabled and configured on the camera.

For this event, it is possible to set the following runtime conditions:



*Camera-based analytics. Person detected*

This event is generated when the **Objects detector** module is enabled and configured on the camera.

*Camera-based analytics. Abandoned item*

This event is generated when the **Abandoned item detector** module is enabled and configured on the camera.

*Camera-based analytics. Line crossing*

This event is generated when the **Line crossing** module is enabled and configured on the camera.

For this event, it is possible to set the following runtime conditions:

**Action settings**

Actions Runtime conditions (2)

Event attribute	Comparison	Value	
Line number	Equal	1	
Active state	Equal	Yes	

[Add condition](#)

*Camera-based analytics. Appearance (disappearance) of object in area*

This event is generated when the **Area monitoring** module is enabled and configured on the camera.

*Camera-based analytics. Temperature exceedance*

This event is generated when the **Temperature exceedance monitoring** module is enabled and configured on the camera.

For this event, it is possible to set the following runtime conditions:

**Action settings**

Actions Runtime conditions (1)

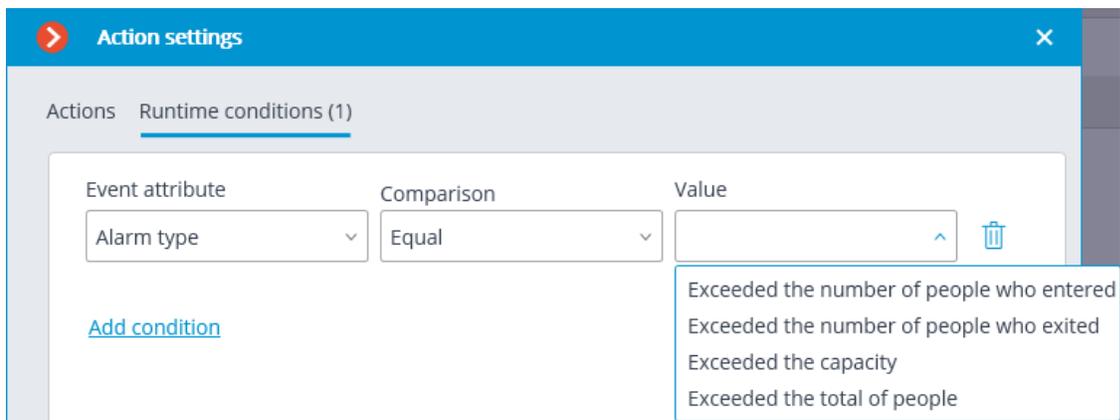
Event attribute	Comparison	Value	
Current temperature	Larger or equal	37.0	

[Add condition](#)

*Camera-based analytics. Exceeded the number of people*

This event is generated when the **People Counting** module is enabled and configured on the camera.

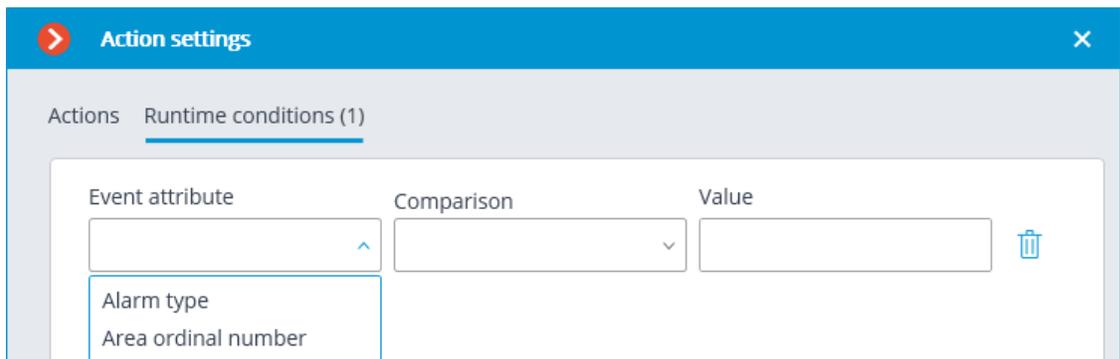
For this event, it is possible to set the following runtime conditions:



*Camera-based analytics. Exceeded the number of people in area*

This event is generated when the **People counting in area** module is enabled and configured on the camera.

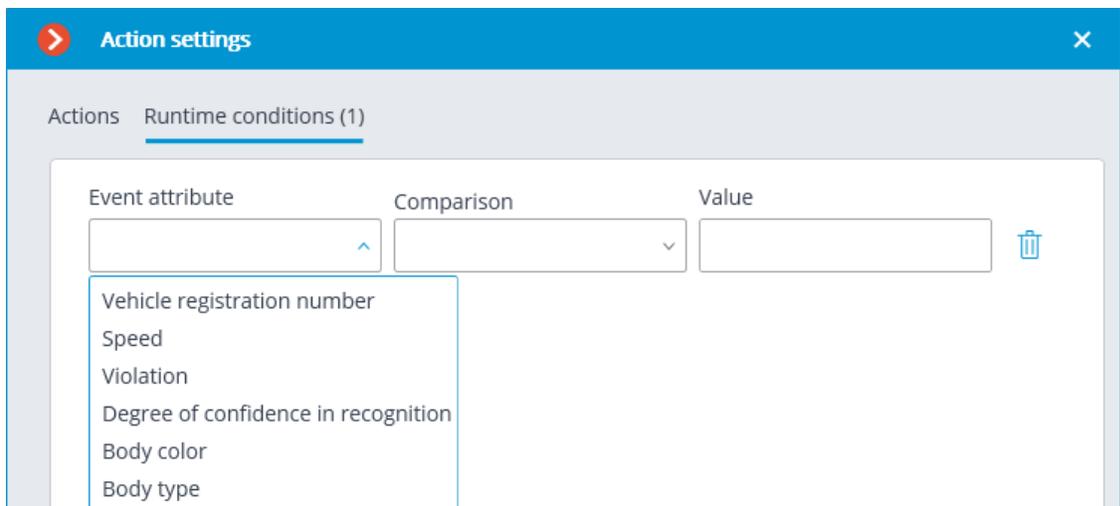
For this event, it is possible to set the following runtime conditions:



*Camera-based analytics. License Plate Recognition*

This event is generated when the **License plate recognition** module is enabled and configured on the camera.

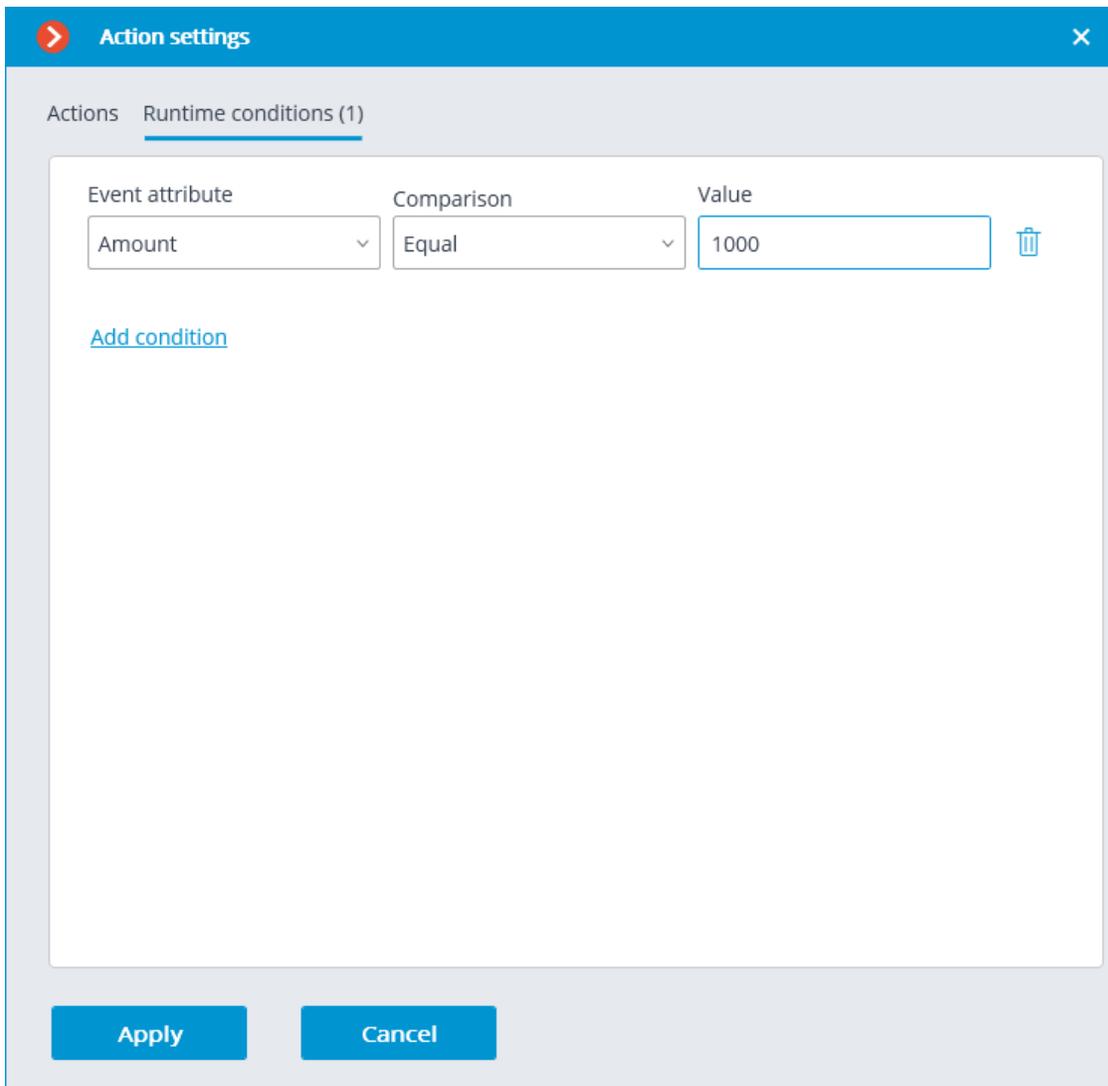
For this event, it is possible to set the following runtime conditions:



## Events of integrations with external systems

### *Received a check from a POS-terminal*

This event is generated when a receipt is received from a **POS terminal**.  
The runtime condition by the total amount value can be set for the event.



The screenshot shows a dialog box titled "Action settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "Actions" and "Runtime conditions (1)". The "Runtime conditions (1)" tab is active. Inside the dialog, there is a table with three columns: "Event attribute", "Comparison", and "Value". The "Event attribute" column contains a dropdown menu with "Amount" selected. The "Comparison" column contains a dropdown menu with "Equal" selected. The "Value" column contains a text input field with "1000" entered. To the right of the "Value" field is a trash icon. Below the table, there is a link labeled "Add condition". At the bottom of the dialog, there are two buttons: "Apply" and "Cancel".

Event attribute	Comparison	Value
Amount	Equal	1000

[Add condition](#)

Apply Cancel

### *Line from POS terminal received*

This event is generated when a line is received from a **POS terminal**.  
The runtime condition by the line content can be set for the event.

Event attribute	Comparison	Value
Line of receipt	Equal	milk

[Add condition](#)

Apply Cancel

By this way, it is possible to make the scenario executable only in the specific cases. For example, enable the archive recording if the cashier's receipt contains an item, the sale of which is subject to any restrictions.

#### *Honeywell Pro-Watch event*

This event is generated at receiving an event from the **Honeywell's Pro-Watch®** system. Various conditions can be set for the event. If a condition is not used for event generating, there is no need to add it.

Various conditions can be set for the event. When several conditions have been added, the action will be performed only if all of these conditions are fulfilled. If no condition is set, the action will be performed at receiving any **Honeywell's Pro-Watch®** event.

➤ Action settings Turn on recording
✕

Actions Runtime conditions (4)

Event attribute	Comparison	Value	
Device type	Equal	System	✕
Device ID	Equal	Network::05010105010801	✕
Alarm event	Equal	Yes	✕
Return to normal state	Equal	No	✕

[Add condition](#)

Apply
Cancel

Below are example conditions for this event.

Attribute	Values in real events		
Name	Description	Card reader event	Input point event
Event description	Description of a specific event used in the ACS. Content varies by localization and Pro-Watch version	Expired card attempt	Input point in alarm
Event type	Description of the	Expired card attempt	Monitor input alarm

Attribute		Values in real events	
Name	Description	Card reader event	Input point event
description	category of events used in the ACS. Content varies by localization and Pro-Watch version		
Event code	Numeric event identifier	402	900
Device description	Textual description of the event source set by the Pro-Watch administrator when configuring the ACS	Readers_1	Input_1
Device location	Textual description of the device placement set by the Pro-Watch administrator when configuring the ACS	Readers_1	Input_1
Device type	The type of event source, such as channel, panel, reader, etc.	Reader	Input point
Device ID	Unique	Network::050101050108	Network::050101050109

Attribute		Values in real events	
Name	Description	Card reader event	Input point event
	device identifier in Pro-Watch	01	00
Card holder name	Text value of the name of the cardholder set by the Pro-Watch administrator	Mike Wazowski	—
Card number	The card number assigned by the ACS. The value is available to the Pro-Watch administrator	28564	—
Card status	Card status set by the Pro-Watch administrator: Active, Stolen, Terminated, etc.	Expired	—
Event message	Additional information about the event. Content varies by localization and Pro-Watch version	Local grant	—

Attribute		Values in real events	
Name	Description	Card reader event	Input point event
Alarm event	Whether the event is alarming for the ACS: Yes/No	Yes	No
Return to normal state	Whether the event is a return to normal: Yes/No. For example, closing a contact is an alarm, subsequent opening a contact is a return to normal	No	No

#### *Paxton Net2 event*

This event is generated upon receiving an event from **Paxton Net2** ACS.

Various conditions can be set for this event. If several conditions are set, the action will be performed only when all these conditions are fulfilled. If no condition is set, the action will be performed upon receiving any event from **Paxton Net2**.

> Action settings
×

Actions Runtime conditions (6)

Event attribute	Comparison	Value	
Type of event	Equal	Door open	🗑️
Event subtype	Equal	Via door entrance syst...	🗑️
User ID	Equal	12345678	🗑️
User name	Equal	Smith	🗑️
Device ID	Equal	876543214	🗑️
Area name	Equal	WarehouseA1	🗑️

[Add condition](#)

Apply
Cancel

The following attributes are available as runtime conditions:

- **Type of event:** select from the listed types of events used by **Paxton Net2** ACS. The following types are available:
  - Door open (user action)
  - Door open
  - Door closed
  - Door did not open
  - Door unblocked
- **Event subtype:** select from the listed subtypes of events used by **Paxton Net2** ACS. The following types are available:
  - Open
  - Closed
  - Via network instruction

- Via door entrance system
- **User ID**: unique user identifier that is internal to the ACS;
- **Username**: the name of the employee or visitor as it is set in the **Paxton Net2** ACS;
- **Device ID**: numeric identifier of the device as it is set in the **Paxton Net2** ACS;
- **Area name**: the string value of the zone name where the event has occurred as it is set in the **Paxton Net2** ACS.

#### *BioStar 2 event*

This event is generated at receiving an event from the **BioStar 2** system.

Various runtime conditions can be set for this event. The following event lines are available as conditions:

- Event details:
  - Type of event — selection from several popular event types, e.g. Door Opened by Operator, Access Denied: Blacklisted, etc. Not all **BioStar 2** event types are available in the list. If the type required to be used as the condition is unsupported, it is possible to use filtering by other fields: numeric Event code or string Description of ACS event;
  - Event code — numeric code of the **BioStar 2** event.
  - Description of ACS event — non-localized event description string, as it comes from **BioStar 2**.
- Device details:
  - Device identifier — usually a numeric permanent identifier of the device in **BioStar 2**;
  - Name of device — string device name in **BioStar 2**, can be changed in the ACS settings in the future.
- Door details:
  - Door identifier — usually a numeric permanent identifier of the door in **BioStar 2**;
  - Name of door — string door name in **BioStar 2**, can be changed in the ACS settings in the future.
- User details:
  - User identifier — usually a numeric permanent ID of the user associated with the event in **BioStar 2**;
  - Username — string name of the user in **BioStar 2**, can be changed in the ACS settings in the future;

- User group identifier — usually a numeric identifier of the group to which the user belongs;
- Name of user group — a name of the group to which the user belongs.



Actions Runtime conditions (1)

Event attribute

Comparison

Value

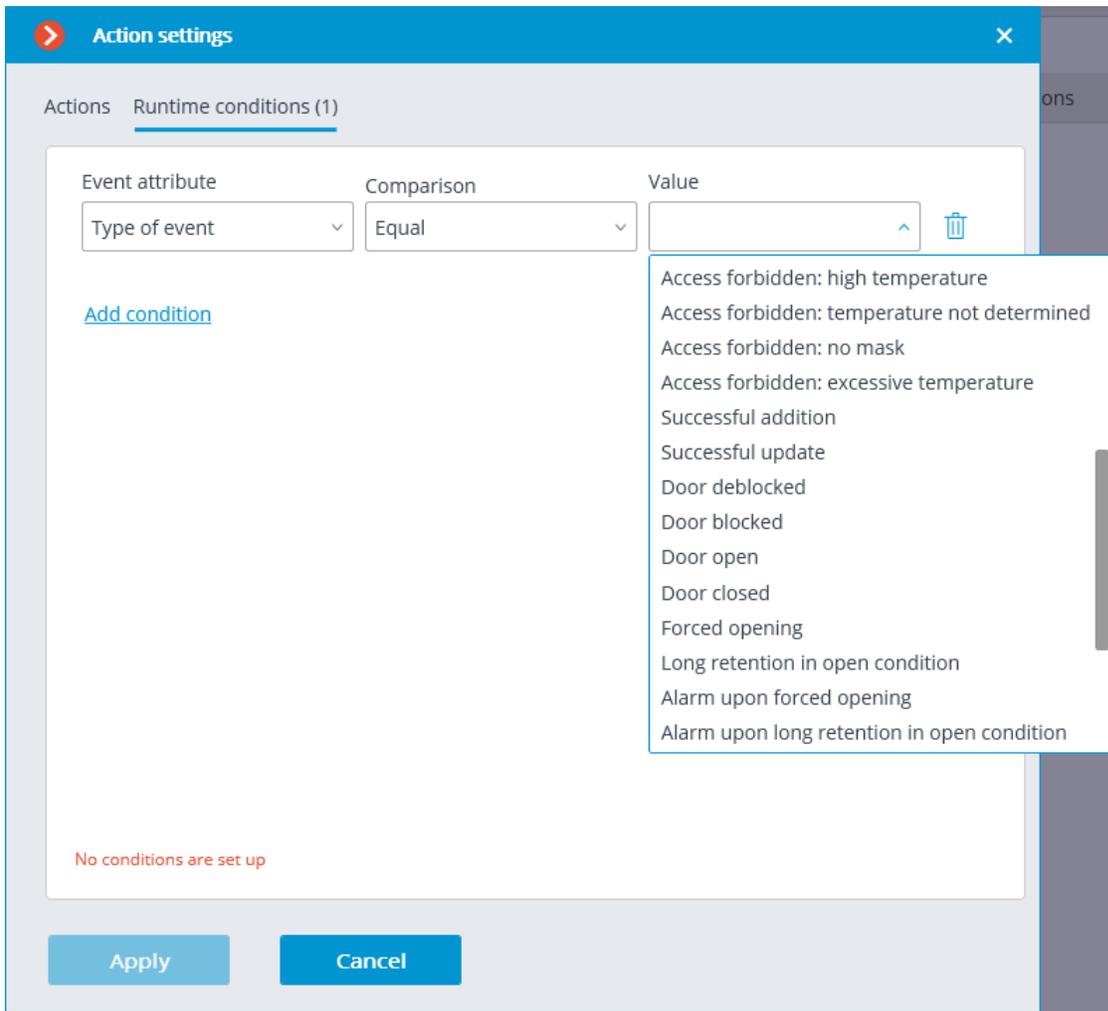


- Type of event
- Description of ACS event
- Device identifier
- Name of device
- Door identifier
- Name of door
- User identifier
- User name
- User group identifier
- Name of user group
- Event code

No conditions are set up

Apply

Cancel



## Note

Regarding the type of event, some lines may be not available in the received message.

### *ZKBioSecurity event*

This event is generated at receiving an event from the **ZKBioSecurity** access control system.

Various runtime conditions can be set for this event. The following event fields are available as conditions:

- Information about the event:
  - Time (Event Time), text field;
  - Event description (Event Name), text field — textual description of the event used in **ZKBioSecurity**;
  - Event point (Event Point Name), text field;
  - Event ID (LogId), text field;

- Event type (EventNumber), drop-down list — selection from several popular event types (For example: Opening by verification, Opening with an emergency password, Double passage prohibition);
- Event code (EventNumber), numeric event code used in **ZKBioSecurity**;
- Event level (Event Level), drop-down list — selection from several defined options (Can take the following values: Normal (Normal), Error (Exception), Alarm (Alarm)).
- Information about the device:
  - Serial number (Device Sn), text field — serial number of the device;
  - Verification mode (Verify Mode Name), text field — textual description (For example: Face, Other, Only Password);
  - Reader name (Reader Name), text field — textual description (For example: SysproDemo-1-In);
  - Device name (Device Name), text field.
- Information about the door:
  - Area name (Area Name), text field;
  - Area name (AccZone), text field;
  - Door name (Door Name), text field.
- Information about the user:
  - Employee ID (Pin), text field;
  - Employee (Name + Last Name), text field;
  - Department name (Department Name), text field;
  - Card number ("Card Number"), text field — the number of the card presented to the reader (For example: 2596802013, 9251205323699455112).



## Action settings



Actions Runtime conditions (1)

Event attribute

Comparison

Value



- Event ID
- Employee ID
- Name
- Last name
- Department name
- Zone name
- Card number
- Serial number
- Verification mode
- Event description
- Event point
- Reader name
- Zone
- Device name

No conditions are set up

Apply

Cancel



## Action settings



Actions Runtime conditions (1)

Event attribute

Event level

Comparison

Equal

Value



Normal

Error

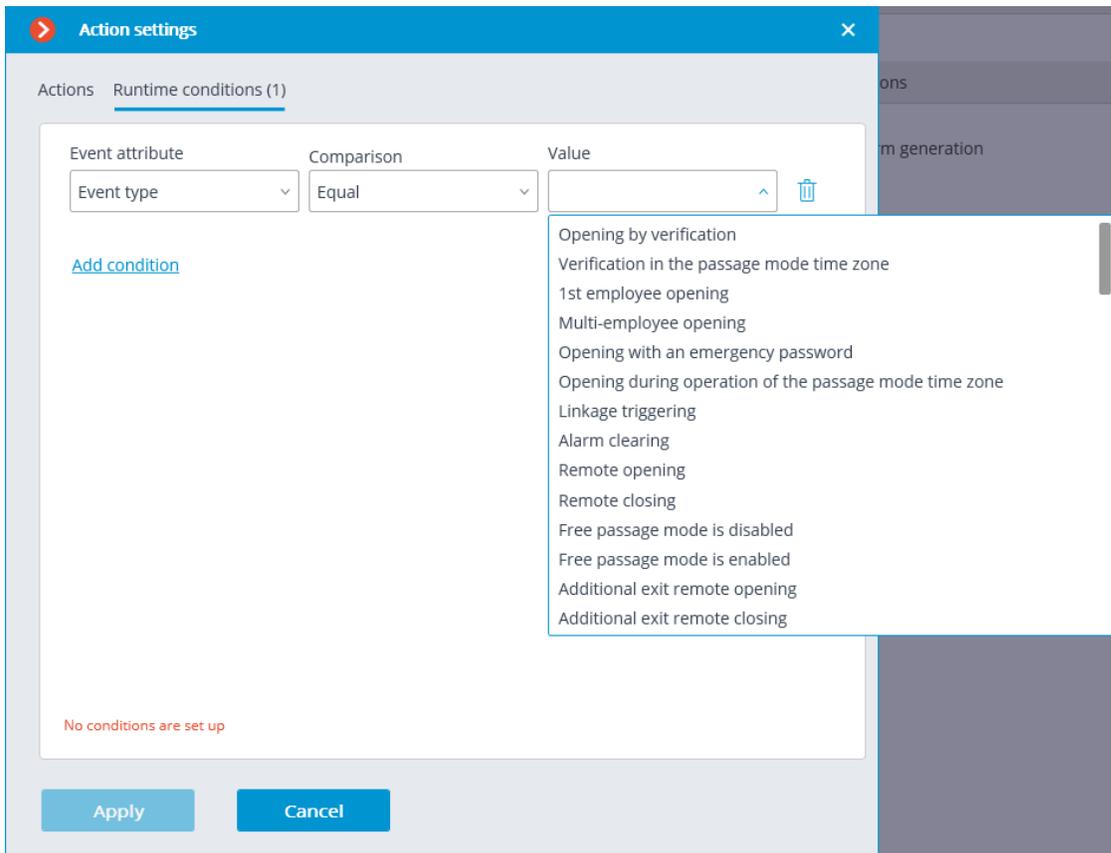
Alarm

[Add condition](#)

No conditions are set up

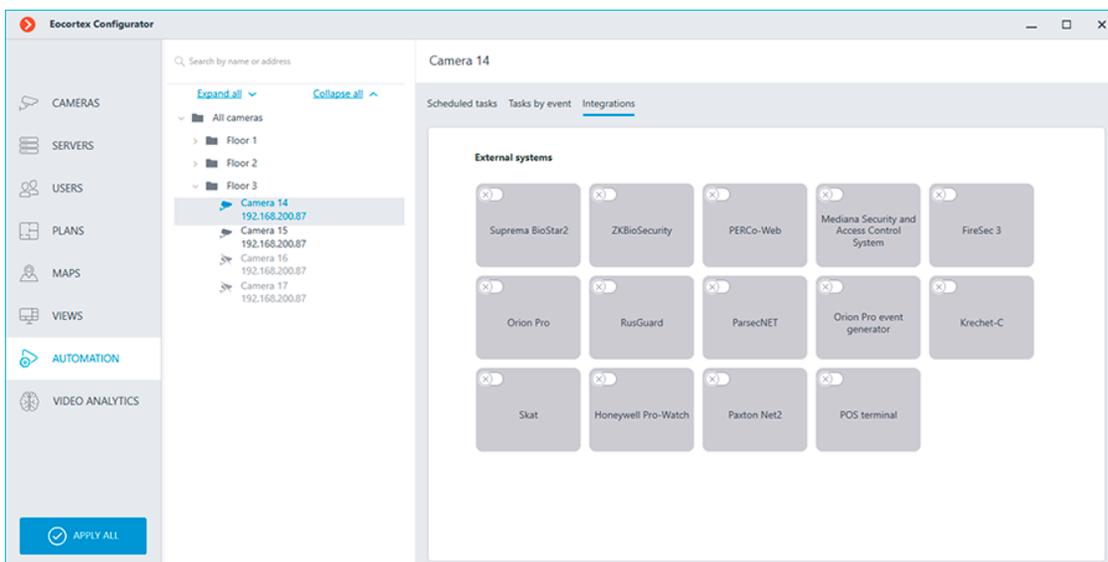
Apply

Cancel



## Integrations

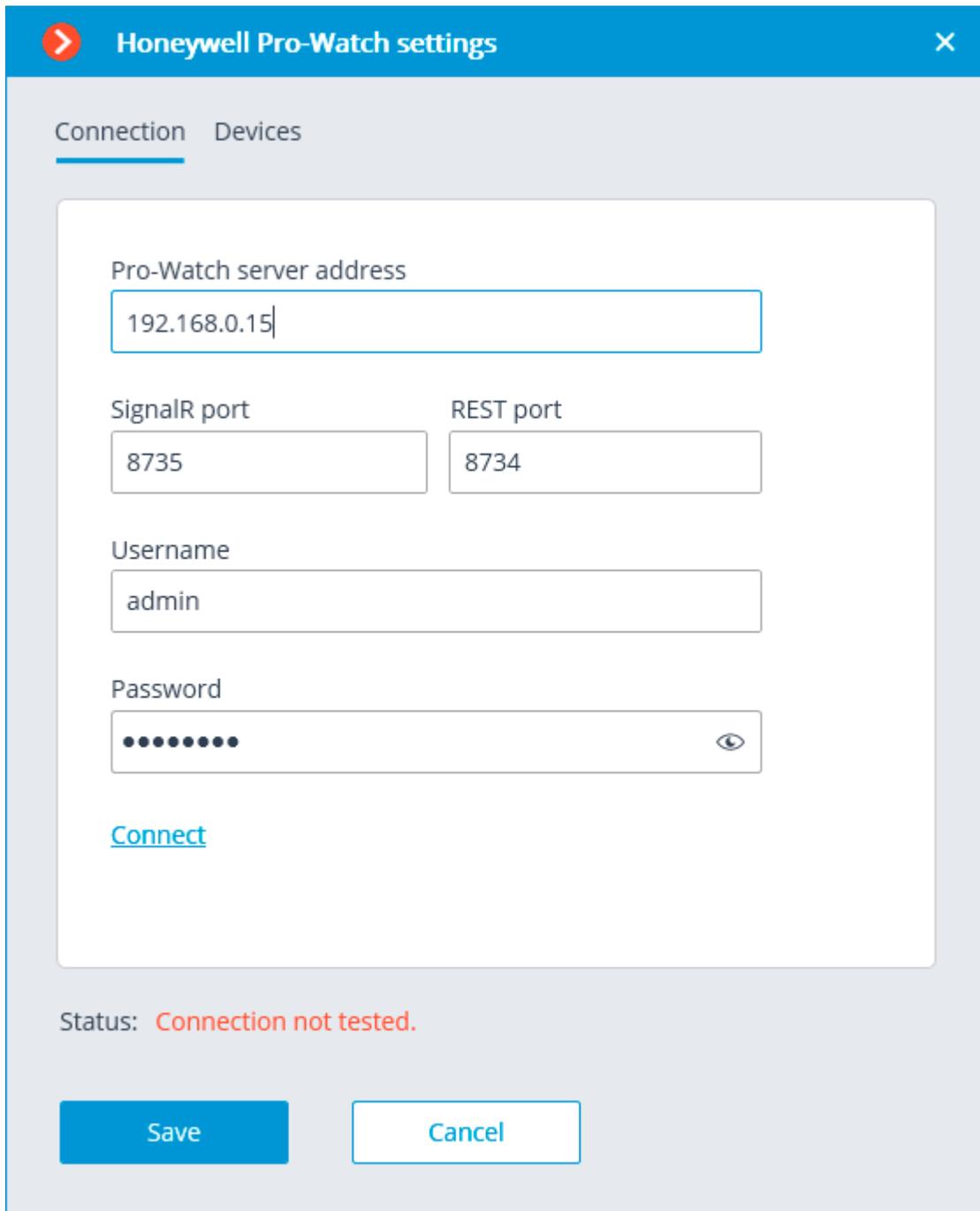
To set up the integration of **Eocortex** video surveillance system with the external systems, it is required to go to the  **Automation** tab in the **Eocortex Configurator** application, select an individual camera in the camera tree, then, on the opened page, go to the **Integrations** tab.



On the tab, it is required to enable the integration with the required system using the  switch, then set up the integration by clicking the  button.

#### *Honeywell Pro-Watch*

The connection to the **Honeywell's Pro-Watch®** comprehensive security platform can be adjusted on the **Connection** tab.



The screenshot shows a settings window titled "Honeywell Pro-Watch settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "Connection" (selected) and "Devices". The "Connection" tab contains the following fields:

- Pro-Watch server address:** A text input field containing "192.168.0.15".
- SignalR port:** A text input field containing "8735".
- REST port:** A text input field containing "8734".
- Username:** A text input field containing "admin".
- Password:** A password input field with 10 dots and a toggle icon (eye) on the right.

Below the input fields is a blue [Connect](#) button. At the bottom of the dialog, the status is displayed as "Status: Connection not tested." in red text. At the very bottom, there are two buttons: a blue "Save" button and a white "Cancel" button with a blue border.

The connection setup parameters:

- **Pro-Watch server address:** the IP address of **Honeywell's Pro-Watch®** server.
- **SignalR port** and **REST port** are the ports that are used to provide **Honeywell's Pro-Watch®** API. The default parameters of these ports correspond to the default parameters of **Honeywell's Pro-Watch®**.
- **Username** and **Password** are the name and **Web password** of the **Honeywell's Pro-Watch®** user for whom the access to the **Honeywell's Pro-Watch®** API service has been set.

After setting up the connection, it is required to test it by clicking on the **Connect** link. In case of a successful test connection, the list of **Honeywell's Pro-Watch®** system devices will become available on the **Devices** tab.

In this list, it is required to mark the devices whose events will be displayed and registered in **Eocortex**.

*ONVIF Profile A/C*

There are two tabs available in the integration settings:

- **General settings**
- **Integration of face recognition**

General settings

The **General settings** tab is used for system configuration of connection to the external system.

The following settings are available:

- **Server address:** IP address or domain name. There is no need to specify a prefix with the name of the protocol (<http://>, etc.). There is no option to use a secure connection (HTTPS).
- **ONVIF port:** The port of the external system.
- **ONVIF login** and **ONVIF password:** Login and password to connect to the external system via ONVIF. These credentials are usually not the same as the system users and are specified in a separate section of the external system settings.

After finishing the setting, press the **Connect** button.

External ONVIF system settings ×

General settings Integration of face recognition

Server address

ONVIF port

ONVIF login

ONVIF password  👁

[Connect](#)

Status  
Not tested

Save Cancel

The **Status** field displays the result of the check:

- **Not tested.**
- **Testing...**
- **Connection succeeded.**
- **Server is unavailable:** In this case, check the network availability of the external system server and its ONVIF settings.

- **Request timeout:** In this case, check the network availability of the external system server.
- **Unknown error:** More detailed information about such errors can be found in **Eocortex** log files that can be sent to technical support for analysis.

#### Verification integration

On the **Integration of face recognition** tab one-factor and two-factor verification are configured for the devices from which events are to be received for the configured camera.

External ONVIF system settings

General settings Integration of face recognition

Successful ONVIF connection is required for loading the list of devices

---

Two-factor verification settings

Maximum time from face recognition to pass presentation, sec

Maximum time from pass presentation to face recognition, sec

Save Cancel

#### Note

The list of devices is displayed only after successful connection testing on the **General settings** tab.

The following folders are displayed in the device tree:

- **One-factor authentication:** Devices configured for one-factor verification mode.

- **Two-factor authentication:** Devices that support two-factor verification.

Note

Even though cameras can only use one verification mode, there is no restriction on connecting devices of both types.

Below the device tree are the **Two-factor verification settings**.

**External ONVIF system settings**

General settings Integration of face recognition

Server address localhost ONVIF port 8089

ONVIF login onvif

ONVIF password

[Connect](#)

Status  
Not tested

Save Cancel

- **Maximum time from face recognition to pass presentation, sec:**  
The maximum time interval from employee recognition to badge reading. It is not recommended to set this value too high, because after successful recognition the employee may leave the access point, and the badge may be presented by someone else.
- **Maximum time from pass presentation to face recognition, sec:**  
The maximum time interval from badge reading to recognition. For example, in situations where an employee approached the access point wearing a mask and only removed it after presenting the badge.

The synchronization of the database used by one of the **Eocortex** recognition modules with the database used in the external system is configured in the **Eocortex server settings**.

#### *Paxton Net2*

The following tabs are available in the integration settings:

- **General settings;**
- **Camera settings.**

General settings

The **General settings** tab is used for setting up the connection to the **Paxton Net2** ACS server.



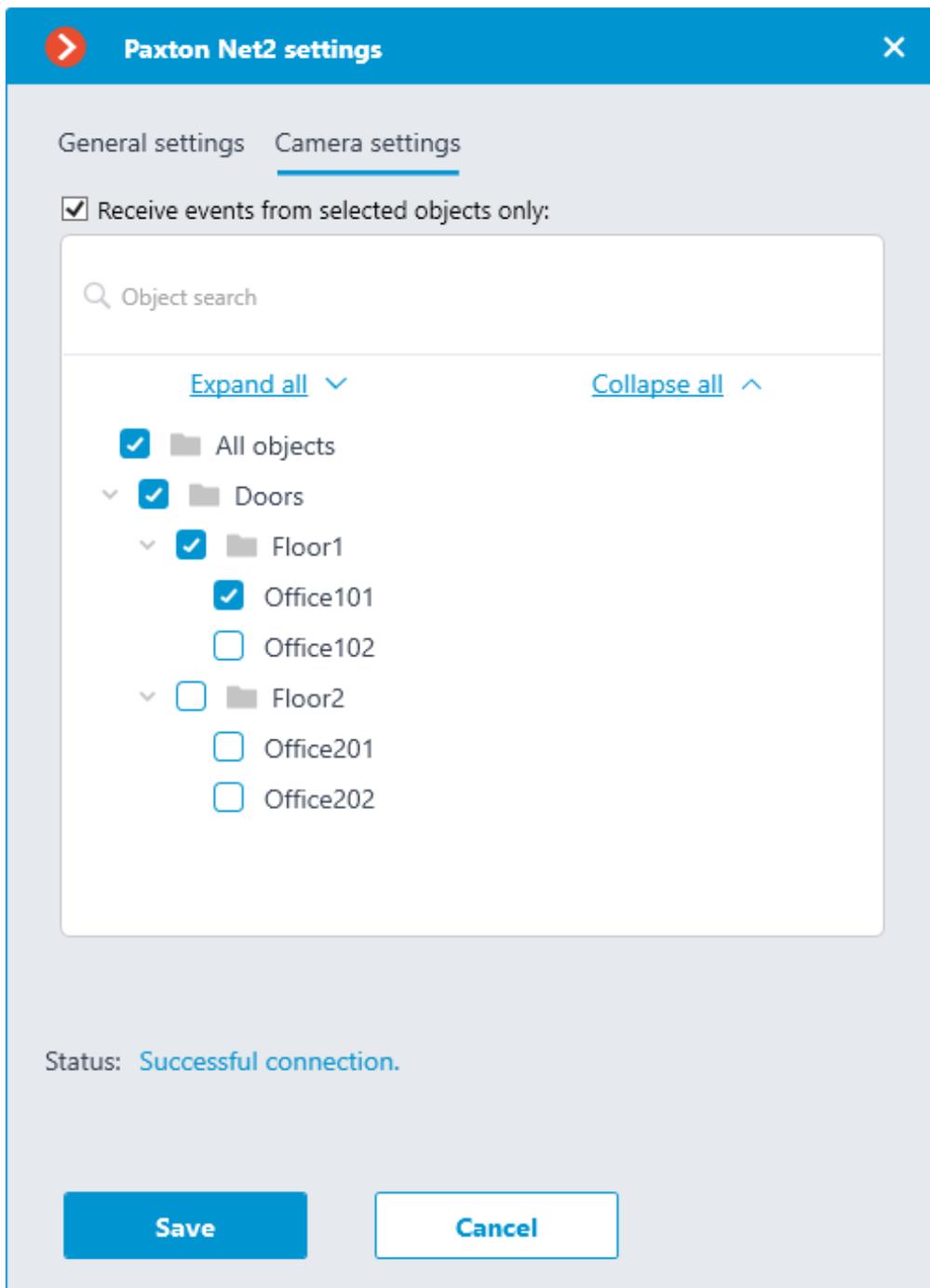
- **Password**: Password of the Paxton Net2 account used for connection
- **Client ID**: Identifier contained in the Paxton Net2 license filename

To test the connection with the provided settings, click the **Connect** button. The **Status** section will display the result of the test.

If the connection is successful, further settings should be made on the **Camera settings** tab.

Camera settings

The **Camera settings** tab is used for setting up the registration of events from Paxton Net2 objects in **Eocortex**.



To receive events only from certain objects, enable the **Receive events from selected objects only:** option and check the selected objects.

If the **Receive events from selected objects only:** option is disabled, **Eocortex** will register all Paxton Net2 events as related to the selected camera.

Warning

**Eocortex** registers events for the camera independently of the settings of other cameras, so the same Paxton Net2 object can cause the reaction of the

system and create an entry in the Events Log for multiple cameras simultaneously.

### *BioStar 2*

The following tabs are available in the integration settings:

#### General settings

The **General settings** tab contains the settings for a network connection to the **BioStar 2** ACS for the whole system.

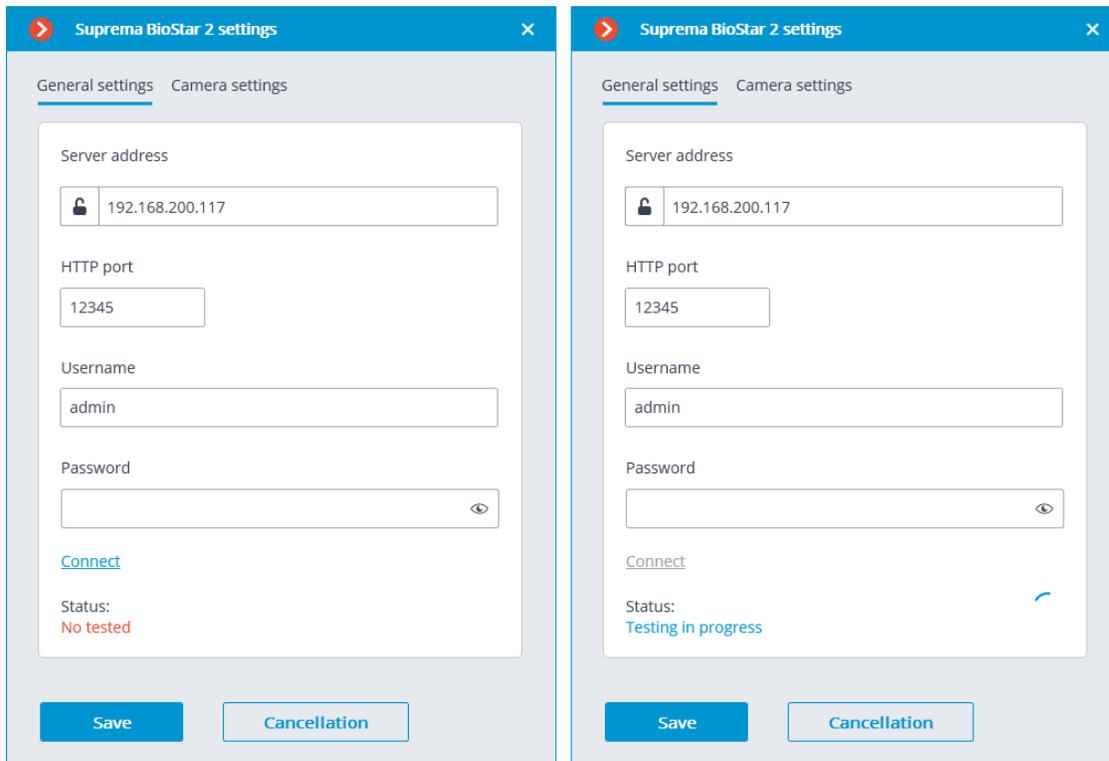
The following settings are available:

- **Server address:** IP address or URL of the **BioStar 2** server. Prefixes, such as [http://](#), are not required to be specified in this field. To enable a secured connection via HTTPS, click the  button.
- **HTTP port:** HTTP(S) port of the **BioStar 2** server. Interaction with the ACS utilizes the HTTP and WebSocket protocols, but both protocols use the same port. The WebSocket port can be configured individually in **BioStar 2** settings, but it is not necessary to set it in the integration settings.
- **Username.**
- **Password.**

When all settings are done, click the **Connect** button.

#### Note

The connection test result will be displayed in the **Status** field.



## Camera settings

The **Camera settings** tab contains settings from which devices the system should receive events for this camera.

### Note

By default, all ACS events will be received from all devices.

If the integration is enabled on multiple cameras with the default settings, the events will be duplicated for all enabled cameras.

There are 2 types of **BioStar 2** objects available for configuration:

-  **Doors**. A high-level object that is most often configured with rules in **BioStar 2**. Usually the door is connected to a relay and a sensor of other device. Receiving events from specific doors allows to configure the integration more precisely;
-  **Devices**. A lower-level **BioStar 2** object. Setting up to receive events from the device allows configuring the integration more flexibly. For example, if **BioStar 2** is in the deployment phase, the list of doors and their properties will continuously change. When configuring to receive events from the specific door, it will be necessary to change the integration settings each time when something has changed. But when configuring to receive events from a device, when new doors are

connected to the device, the integration settings would not need to be changed.

### *ZKBioSecurity*

Two tabs are available in the integration settings:

- **General settings;**
- **Camera settings.**

#### General settings

The **General settings** tab is used to configure the system-wide connection to **ZKBioSecurity**.

#### Note

Setting up the connection to only one **ZKBioSecurity** server is available per one server system.

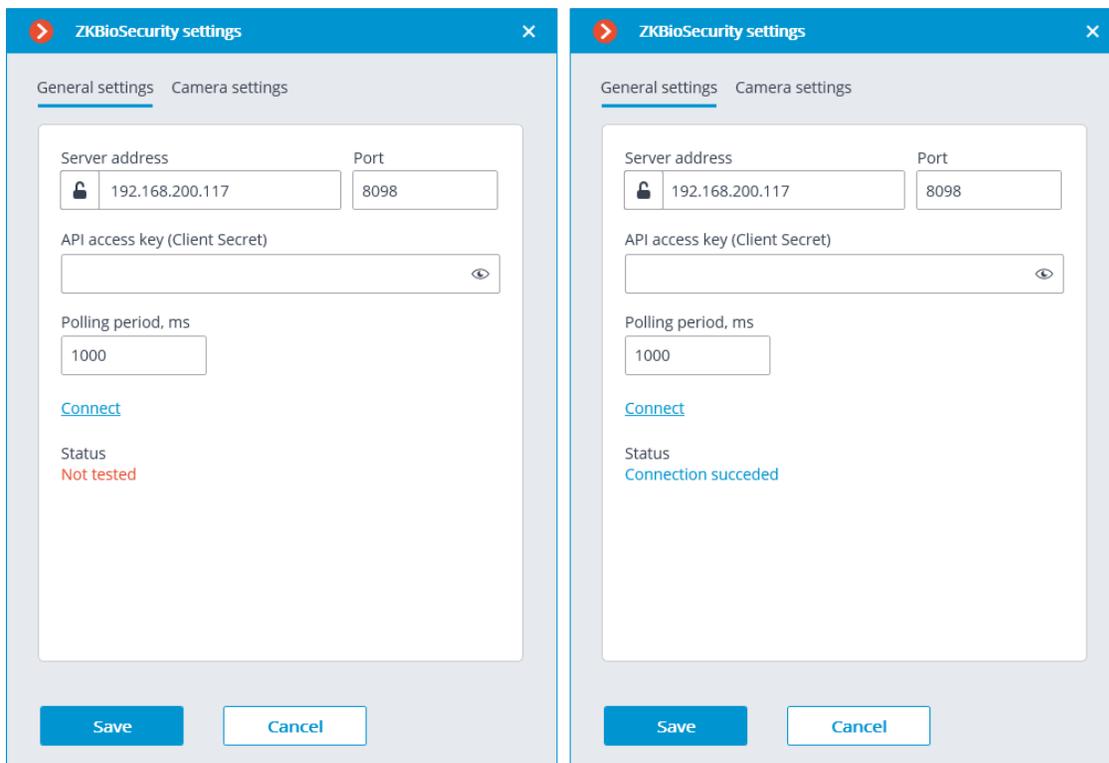
The following settings are available:

- **Server address** (IP address or URL. Prefixes as <http://> are not required to be specified in this field).
  - Use of a secure connection can be set here.
- **Port.** Interaction with **ZKBioSecurity** is performed via HTTP.
- **API access key (Client Secret).**

After making the settings, it is required to press the **Connect** button.

#### Note

The **Status** field will show the verification result.



## Camera settings

On the **Camera settings** tab, it is possible to specify the devices whose events are to be received for the given camera.

### Note

By default, all the **ZKBioSecurity** events are received from all devices.

### Note

Enabling integration on multiple cameras with the default setting will provide duplication of the events for all enabled cameras.

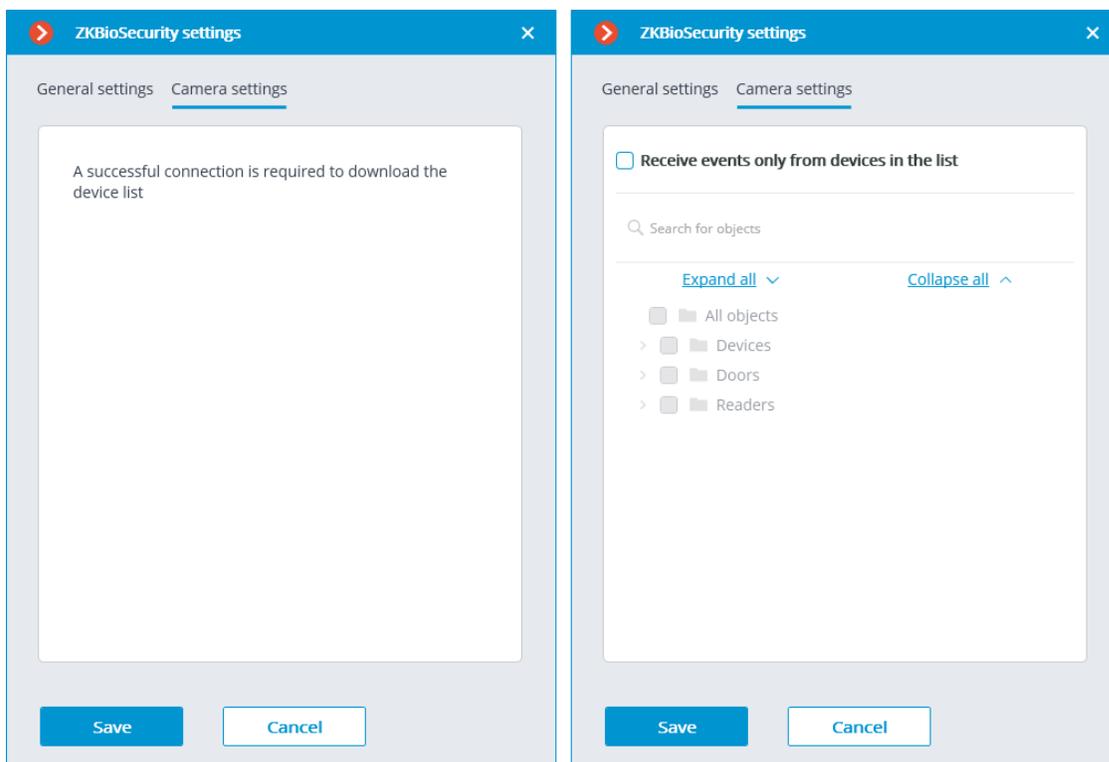
Three types of **ZKBioSecurity** objects are available for configuration (full text search is available):

- **Doors** . A high-level object whose rules are usually configured in **ZKBioSecurity**. Usually, the door is connected to a relay and a sensor of some device. Receiving events from specific doors allows for a more precise integration.
- **Readers** . A high-level object whose rules are usually configured in **ZKBioSecurity**. Typically, the reader is installed on doors, turnstiles and other access control points. Receiving events from specific readers allows to configure the integration more precisely.

- **Devices** . A lower-level **ZKBioSecurity** object. Setting up the reception of events from the device permits to configure the integration more flexibly. For example, if multiple doors are connected to the same device and **ZKBioSecurity** is in the process of being set up, and the doors are being connected and disconnected, the integration settings will have to be changed frequently when setting up the reception of events from the specific doors. In the process of configuring the reception of events from a device, the integration settings do not need to be modified when new doors are being connected to the device.

## Note

Changing the names of **ZKBioSecurity** objects (devices, doors or readers) requires their manual reassignment in the device list every time. Otherwise, the events from the newly renamed object will not be registered.



## Custom notifications and webhooks

**Eocortex** provides the option of sending extended and customizable information about the event to external users and automated systems. This is possible by adding special template variables when configuring **actions** in the **Automation** section.

Only certain **Actions** can be set up with template variables.

This feature can be used, for example, to send the name, group and ID of a recognized person to the ACS so that the ACS will open the door.

### *Description*

The feature allows specifying **Template Variables** in editable text fields of actions to use context information from the received system event. Variables are specified in double curly braces like **{{ templateVariable }}**. When an action on an event or schedule is performed, the value of the variable will be substituted.

Below is a list of [actions](#) that support the variables.

- Custom notifications:
  - Send notification by SMS
  - Send notification by email
  - Run external application on server
  - Send to messenger
  - Send Push notifications to mobile devices
  - Save frame
- Outbound webhooks. Data transfer to third-party automated systems:
  - Send HTTP request

### *Actions*

#### Send notification by SMS

The Send notification by SMS action supports variables in the **Message Text** field.

**Action settings**

Actions Runtime conditions (0)

**Description**

Send notification by SMS

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

GSM modem: GSM Modem +   

Telephone number: +447800767690

Message text:

Problem with camera {{ cameraname }}

[Send message](#)

Apply Cancel

Clicking the  **Edit template** button opens a window with a list of all variables that can be inserted to the current cursor position in the text box. To add the selected variable, click the  **Add variable to the template** button.

**Edit template** ✕

Template variables available for use in editable action text fields

Variable name		Event property name
{{ cameraip }}		Camera IP address
{{ cameraname }}		Camera name
{{ comment }}		Comment
{{ description }}		Event description
{{ eventtime }}		Event time
{{ zoneid }}		Area

Problem with camera {{ cameraname }}

**Apply**

Send notification by email

The Send notification by email action supports variables in the **Email Subject** and **Message Text** fields.



## Action settings



Actions Runtime conditions (0)

### Description

Send notification by email

### Limits

Limit by start time

Do not perform more often than once per  seconds

### Special settings

Mailing server

Send from

To

Subject:

Message text:

Apply

Cancel

**Action settings** ×

Actions Runtime conditions (0)

To:  ⓘ

Subject:  ✎

Message text:  ✎

Attach frame to email

Use frame from archive

Saved frame format:  ▾

Attach link to the map

[Send text message](#)

**Apply** **Cancel**

Clicking the  **Edit template** button opens a window with a list of all variables that can be inserted to the current cursor position in the text box. To add the selected variable, click the  **Add variable to the template** button.

**Edit template** ✕

Template variables available for use in editable action text fields

Variable name		Event property name
{{ cameraip }}		Camera IP address
{{ cameraname }}		Camera name
{{ comment }}		Comment
{{ description }}		Event description
{{ eventtime }}		Event time
{{ zoneid }}		Area

Check the camera! Something happened with it at {{ eventtime }}!

Apply Cancel

Run external application on server

The Run external application on server action supports variables in the **Arguments** field.

**Action settings**

Actions Runtime conditions (0)

**Description**

Run external application on server

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

Path:

Application must be located in the Scripts subfolder

Arguments:

Apply Cancel

Clicking the  **Edit template** button opens a window with a list of all variables that can be inserted to the current cursor position in the text box. To add the selected variable, click the  **Add variable to the template** button.

**Edit template** ✕

Template variables available for use in editable action text fields

Variable name		Event property name
{{ cameraip }}		Camera IP address
{{ cameraname }}		Camera name
{{ comment }}		Comment
{{ description }}		Event description
{{ eventtime }}		Event time
{{ zoneid }}		Area

{{ cameraname }}{{ eventtime }}

Apply Cancel

Save frame

The Save frame action supports variables in the **Folder** and **File name template** fields.

**Action settings** ×

Actions Runtime conditions (0)

Save frame

**Limits**

Limit by start time 

Do not perform more often than once per  seconds

**Special settings**

Folder (on server):

File name template (it will be supplemented with the current time for uniqueness)



Saved frame format:



Restrict maximum size of the folder (MB):



Use frame from archive 

**Apply** **Cancel**

Clicking the  **Edit template** button opens a window with a list of all variables that can be inserted to the current cursor position in the text box. To add the selected variable, click the  **Add variable to the template** button.

**Edit template** ✕

Template variables available for use in editable action text fields

Variable name		Event property name
{{ cameraip }}		Camera IP address
{{ cameraname }}		Camera name
{{ comment }}		Comment
{{ description }}		Event description
{{ eventtime }}		Event time
{{ zoneid }}		Area

```
{{ eventtime }}{{ cameraname }}{{ cameraip }}
```

**Apply** Cancel

Send Push notifications to mobile devices

The Send Push notifications to mobile devices action supports variables in the **Message Text** field.

**Setting the action of sending Push notifications**

Actions Runtime conditions (0)

Action settings ⓘ

**Description**

Send Push notifications to mobile devices

**Limits**

Limit by start time 

Do not perform more often than once per  seconds

**Special settings**

Message text  

Recipients

**Apply** **Cancel**

Clicking the  **Edit template** button opens a window with a list of all variables that can be inserted to the current cursor position in the text box. To add the selected variable, click the  **Add variable to the template** button.

 **Edit template** 

Template variables available for use in editable action text fields

Variable name		Event property name
{{ cameraip }}		Camera IP address
{{ cameraname }}		Camera name
{{ comment }}		Comment
{{ description }}		Event description
{{ eventtime }}		Event time
{{ zoneid }}		Area

Fire detected on camera {{ cameraname }}.  
Details:  
{{ description }}

Apply Cancel

Send to messenger

The Send to messenger action supports variables in the **Message Text** field.

**Action settings**

Actions Runtime conditions (0)

**Description**

Send to messenger

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

Message text

Motion on camera {{ cameraname }} 

Attach frame

Use frame from archive

Attach link to the map

Apply Cancel

Clicking the  **Edit template** button opens a window with a list of all variables that can be inserted to the current cursor position in the text box. To add the selected variable, click the  **Add variable to the template** button.

**Edit template** ✕

Template variables available for use in editable action text fields

Variable name		Event property name
{{ cameraip }}		Camera IP address
{{ cameraname }}		Camera name
{{ comment }}		Comment
{{ description }}		Event description
{{ eventtime }}		Event time
{{ zoneid }}		Area

Motion detected on camera {{ cameraname }}

Apply Cancel

Send HTTP request

The Send HTTP request action supports variables in the **URL** and **Request body** fields.



## Action settings



Actions Runtime conditions (0)

### Description

Send HTTP request

### Limits

Limit by start time

Do not perform more often than once per  seconds

### Special settings

POST

http://192.168.200.87:8080/configure/channels/cb23b6a8-4bd:



Test

Status:

Authorization (Basic)

HTTP headers

### Request body

Event in query body

Custom text

Apply

Cancel

**Action settings** ×

Actions Runtime conditions (0)

Do not perform more often than once per  seconds

**Special settings**

✎

Status:

Authorization (Basic)

HTTP headers

**Request body**

Event in query body

Custom text

Text  JSON  XML ✎

Camera: {{ cameraname }}  
Event time: {{ eventtime }}

Clicking the  **Edit template** button opens a window with a list of all variables that can be inserted to the current cursor position in the text box. To add the selected variable, click the  **Add variable to the template** button.

➤ Edit template
✕

Template variables available for use in editable action text fields

Variable name	Event property name
{{ cameraip }}	Camera IP address
{{ cameraname }}	Camera name
{{ comment }}	Comment
{{ description }}	Event description
{{ eventtime }}	Event time
{{ zoneid }}	Area

```
http://192.168.200.87:8080/configure/channels/cb23b6a8-4bd3-4cd4-a519-4942aa8e9663?
cameraip={{ cameraip }}
```

Apply

Cancel

### Template variables

Template variables are declared in double curly braces like **{{ templateVariable }}**.

#### Requirements and recommendations

- Double curly braces serve as the beginning and the end of the variable, their presence is mandatory.

#### Warning

Other combinations of braces, such as **{{{{}}**, may cause errors or display the string without substituting the corresponding variable.

#### Note

Combinations of **{%{** and **}%}** braces serve as the start and end of a sequence within which the given template variables will be displayed as braced source text.

- Spaces before and after double brackets are optional.
- If there is no template variable in the event, the string will display it as source text in curly braces.

- The case of a template variable does not matter. For example, the variable `{{ lastname }}` will find an event field named `{{ LastName }}`.

Use of variables

Note

The set of available variables depends on the event for which the action is being configured.

The following variables are available for all events:

- `{{ cameraname }}` — the name of the camera where the event happened.
- `{{ cameraip }}` — camera IP address.
- `{{ description }}` — localized description of basic information about the event.
- `{{ comment }}` — event comment.

The list of event fields available as template variables can be viewed in the **Edit template** window or in the tooltip. This list includes event fields that are available as filters in **Runtime conditions** of action.

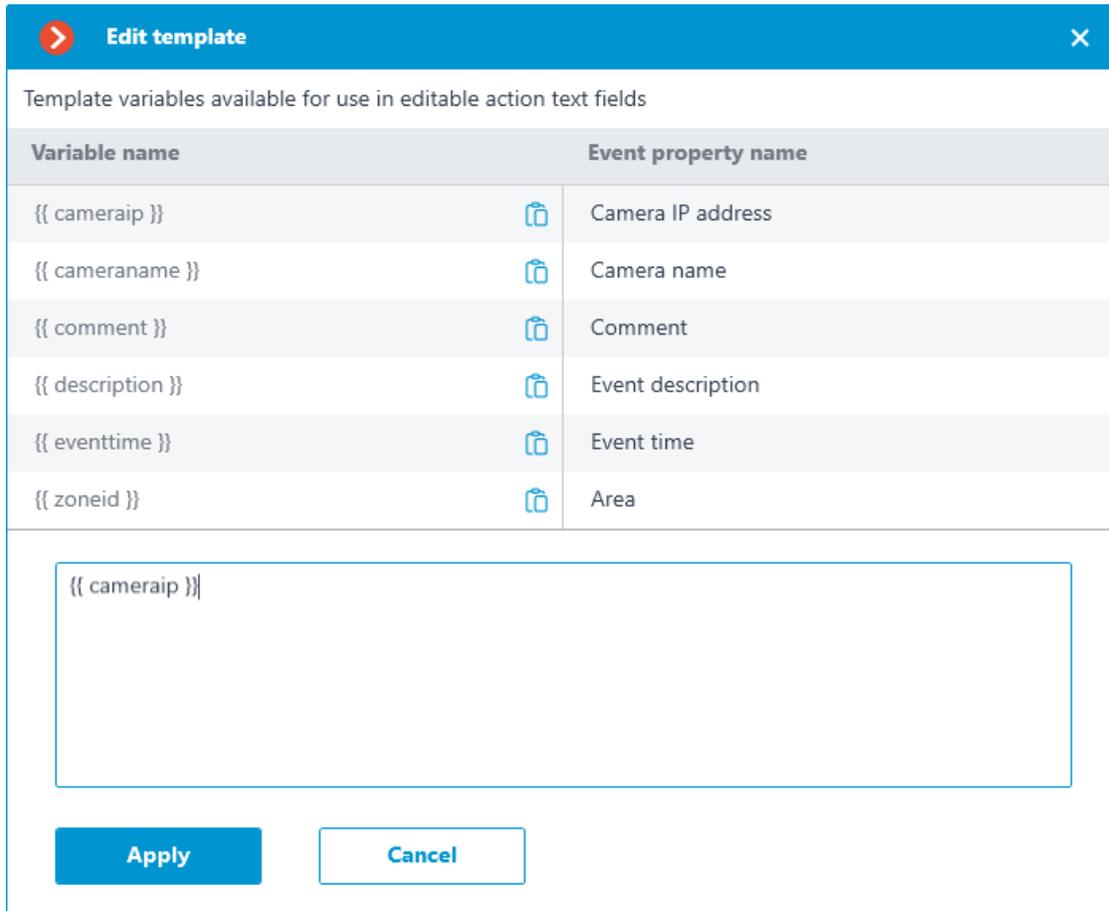
Note

**Custom insertions** can also be used as template variables, if the module that generated the event supports them. The name of the attachment can also be specified in curly brackets. For example, when using **Eocortex** with the Face Recognition module and configured database synchronization with **Gate ACS**, Face recognized event contains a **Wiegand code** parameter, the value of which can be obtained using variable `{{ wiegand26 }}`.

Depending on the type of variable, the value may appear in the text as follows:

- **Strings** are displayed as is.
- **Integral numeric types** are displayed as numbers.
- **Nonintegral numeric types** are displayed according to the server settings, depending on that the fractional part will be separated either by a comma or a dot.
- **Enumeration types** are displayed as a string according to the server's language settings.
- **Date and Time types** are displayed in as a string in the **dd.MM.yyyy HH:mm:ss.fff** format in the local time of the server, ignoring the camera time. For example, 29.09.2022 13:38:19.944.

To open the **Edit template** window, click the  button next to the text input field.



Variable name	Event property name
{{ cameraip }}	Camera IP address
{{ cameraname }}	Camera name
{{ comment }}	Comment
{{ description }}	Event description
{{ eventtime }}	Event time
{{ zoneid }}	Area

Text input field content: {{ cameraip }}

Buttons: Apply, Cancel

Clicking the  icon will insert the relevant variable at the current cursor position in the text field.

A tooltip with a list of variables is available in text fields that support templates. The tooltip opens in the following ways:

- By pressing **Ctrl + Space**
- By typing the **{** character

Note

The tooltip can be closed by pressing **Escape**.

Message text:

cameraip	Camera IP address
cameraname	Camera name
comment	Comment
description	Event description
eventtime	Event time
zoneid	Area

Use frame from archive

Saved frame format:

When typing, a search is performed both by variable name and by variable description. The search results are displayed at the beginning of the list, and variables that do not match the search are displayed lower in alphabetical order.

Message text:

{{ cameraip }} {{ time

eventtime	Event time
cameraip	Camera IP address
cameraname	Camera name
comment	Comment
description	Event description
zoneid	Area

Attach frame to event

Use frame from archive

Saved frame format:

To select a variable in the list, use the **Up** and **Down Arrow** keys on a keyboard to move through the list. Inserting a variable into the field can be done by pressing **Enter** or by clicking on the line. The variable will be inserted to the text at the current cursor position to the previous unclosed opening curly bracket or space, if the unclosed bracket is not found.

Examples of task solutions >

Saving event data to a file.

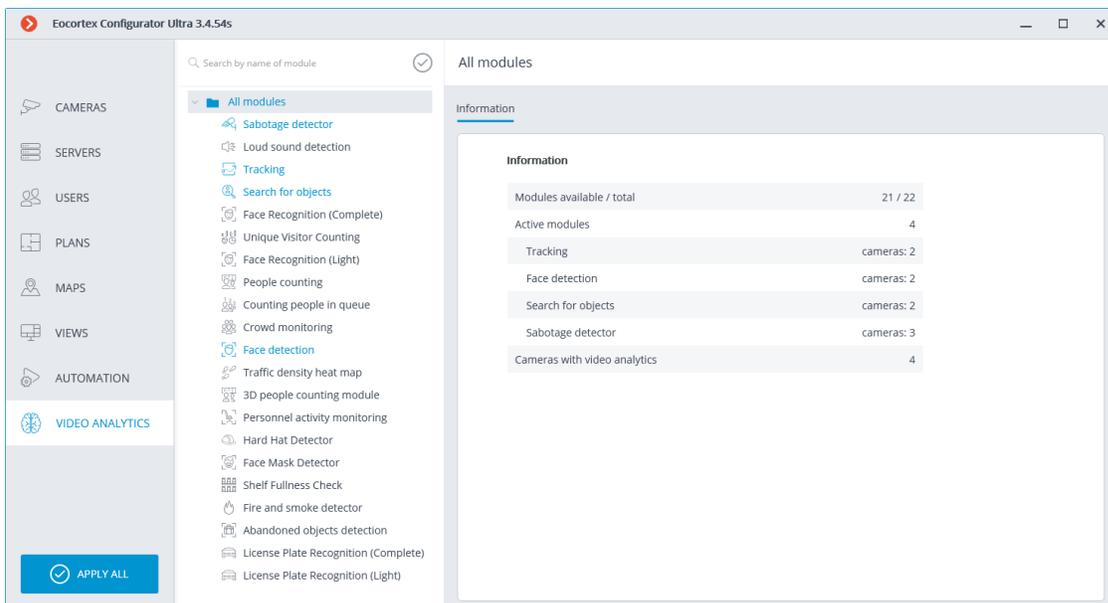
Related references >

Send notification by email

## Emergency vehicle detected

### Video analytics

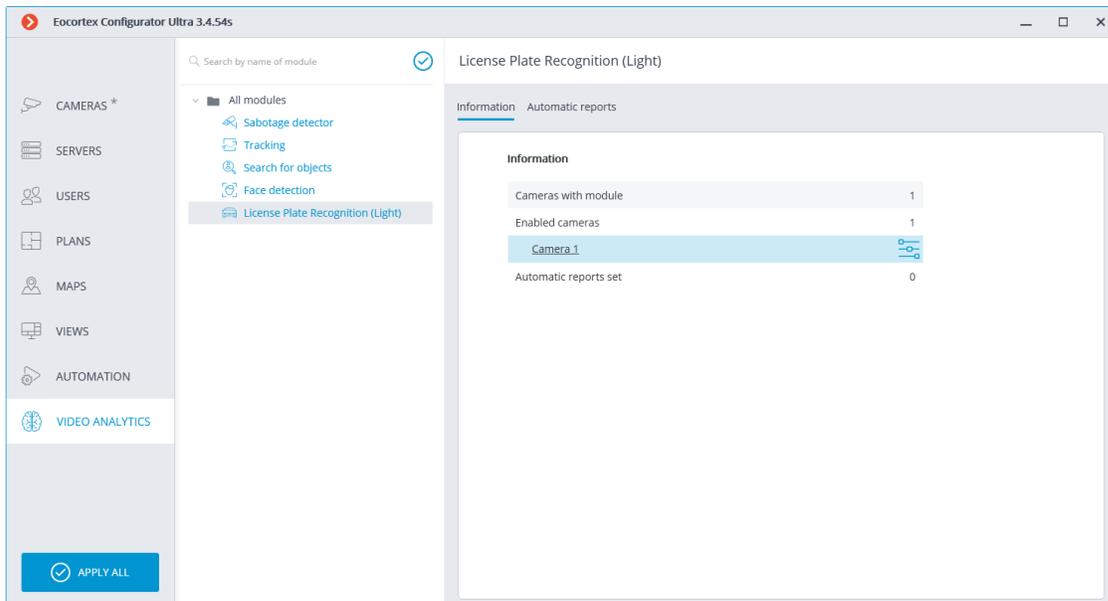
The information regarding the available and activated video analytics in the system is shown in the **Eocortex Configurator** application, on the  **Video analytics** page. Also, it is possible to set up the video analysis modules already in use on the cameras as well as the automatic sending and saving of the reports for some of the modules.



The list of all the video analysis modules is shown on the left side of the page.

Using the  button, it is possible to hide or display the unused modules.

The information regarding the use of the video analytics in the system is shown on the right side of the page, in the **Information** tab.



When a video analysis module is selected, the list of all cameras where this module is activated is displayed, among other things. When clicking on the line of a camera, the connection settings page of this camera appears.

Hovering over the line of a camera in the right side of the line shows the  button. Pressing this button opens the pages of the module's settings for this camera.

The **Automatic reports** feature setting is available for specific video analytics modules. Using this setting, it is possible to specify regular sending or saving of reports containing data generated by the module. The tab also displays information about each generated report.

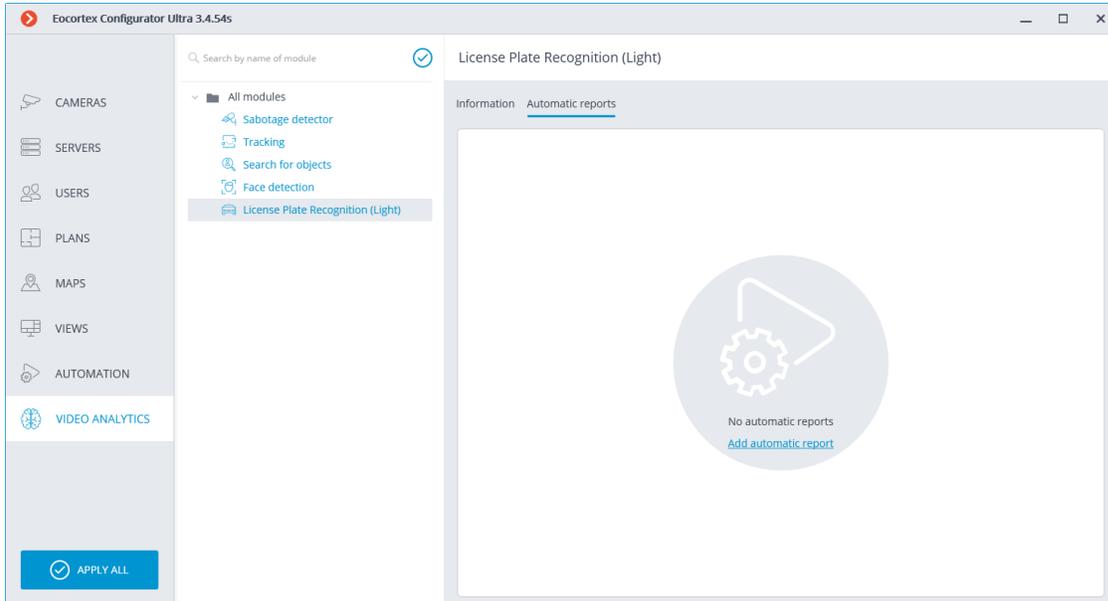
## Note

The automatic reports are available for the following video analysis modules:

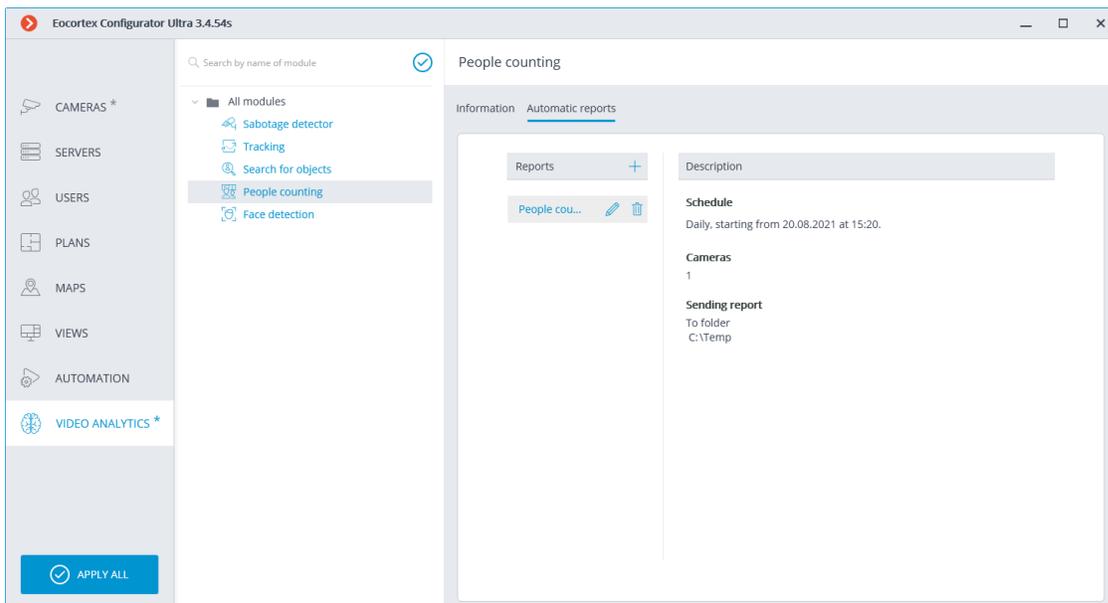
- Personnel Activity Monitoring
- People Counting
- License Plate Recognition (Complete)
- License Plate Recognition (Light)
- Face Recognition (Complete)
- Face Recognition (Light)
- Object Classification and Counting
- Unique Visitor Counting
- License plate recognition

Each server generates its unique report. Thus, if one automatic report is configured for cameras attached to several servers, several reports will be generated simultaneously.

If no automatic report has been created, the tab will be empty. In such a case, it is required to use the **Add automatic report** link.



If at least one automatic report has been created, a list of all the automatic reports generated will be shown on the left side of the tab, and the right tab will contain the information regarding the report selected at the moment.



Renaming a report can be done by double clicking on its name in the list. Changing settings or deleting is performed by clicking a corresponding button to the right of the name of a report.

For adding a new automatic report, it is required to press the **+** button in the list header. It will open the first page of the task adding wizard where it is required to set the time and periodicity of the report's creation. This page is similar to the page of the wizard of adding the [scheduled tasks](#).

**Scheduled action wizard**

**Description**

Schedule operation commencement

03.09.2020 23:59:00

Repeat

by weeks

Every 1 week

Which days

Mon Tue Wed Thu Fri Sat Sun

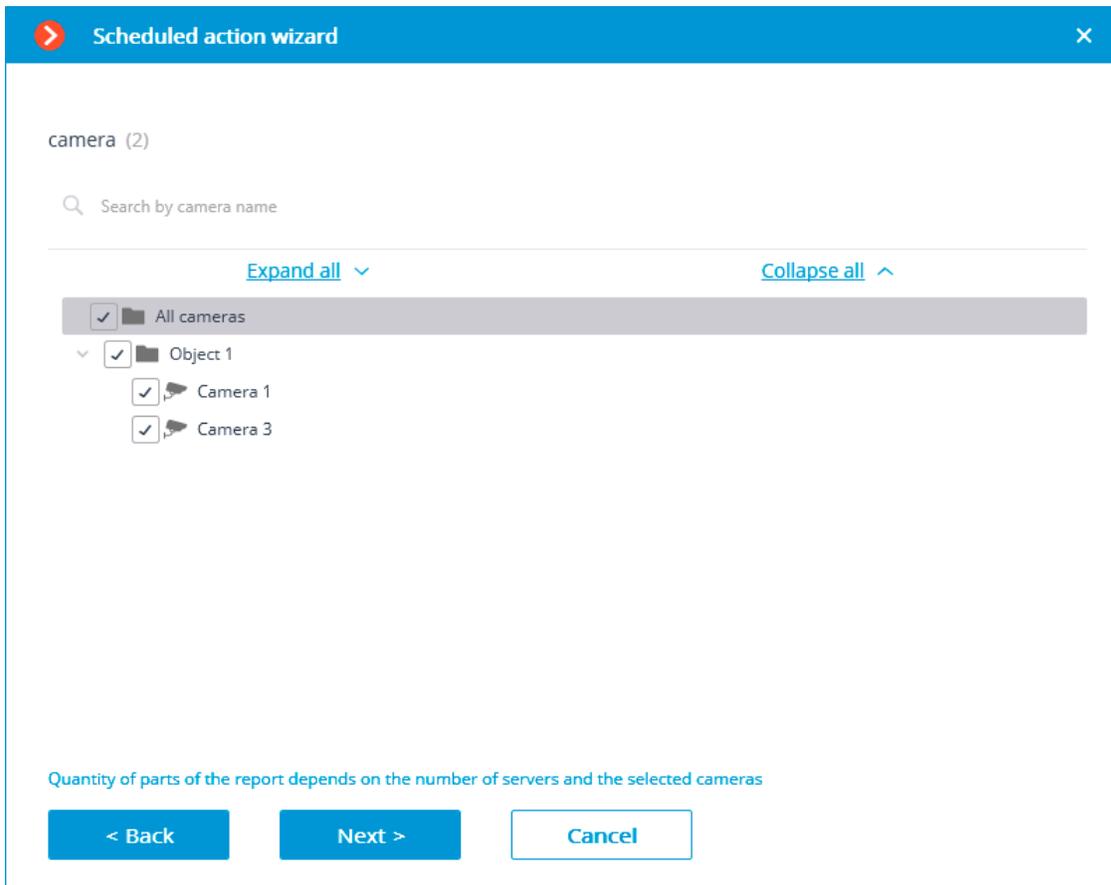
all days

Run all day, if it is not run on time

Task will be performed from 9/3/2020 11:33 AM. Weekly on the following days: Sunday.

< Back   Next >   Cancel

At the next step, it is required to choose the cameras for which the report will be generated.



At the final step, it is necessary to set the parameters of creating and sending the report. At that, some of the parameters are common for all the video analysis modules, and some are specific to each individual type of the modules.

Objects/people counting

➤ Scheduled action wizard
✕

For last

Interval size

Reporting interval

 × —  × 🗑️ +

Report format

Send to email

Save to folder

From

 + 🗑️ ✎

To ⓘ

Task will be performed from 9/3/2020 5:17 PM. Weekly on the following days: Sunday.

< Back

Ready

Cancel

## Licence plate recognition

➤ Scheduled action wizard
✕

For last

Report type

Reporting interval

 × —  × 🗑️ +

Report format

Send to email

Save to folder

Group filter

Groups are not loaded because there are no cameras with the enabled LPR (Light) module in the system.

Filter by direction

Path to folder on server

 📁

Task was started 23.01.2024 in 13:59.

< Back

Done

Cancel

## Face recognition

**Scheduled action wizard** ×

For last   ▾

Reporting interval  × —  × 🗑️ +

Report format  ▾

Send to email  Include in the report only recognized

Group filter  ▾

Save to folder

Task was started 03.09.2020 in 17:10.

## Personnel activity monitoring

**Scheduled action wizard**

For last: 1 days

Reporting interval: 08:00 — 12:00

Report format: .xlsx file

Send to email

Mailing server: [server name]

Send from: [email address]

To: name@mycompany.com

Save to folder

Path to folder on server: D:\Temp

Task was started 19.07.2024 in 15:15.

< Back Done Cancel

## Unique Visitor Counting

**Scheduled action wizard**

For last: 1 hours

Reporting interval: 00:00 — 00:00

Report format: .csv file

Send to email

Interval size: Hour

Group filter: Groups

Save to folder

Path to folder on server: D:\

Task was started 23.01.2024 in 12:17.

< Back Done Cancel

General parameters:

- **For last:** the period for which the report will be created.
- **Reporting interval:** the intervals within a twenty-four-hour period whose data will be used for creating the report. The intervals can be added and deleted.
- **Report format:** allows to choose one of the formats available for the report. The reports can be generated in the following formats: a Microsoft Excel spreadsheet, a CSV file with tabular data, and an image file containing a chart.

Note

The report for **Unique Visitor Counting** is only available in **CSV** format.

- **Send to email:** the parameters for sending the report by email. The forms of adding a mail server and a sender's address are shown in the description of the [Send notification by email](#) action.
- **Save to folder:** the path to a folder on the server where the report will be stored.

To report on the number of visitors:

- **Interval size:** the size of the unit interval in the report.

Note

For the **Unique Visitor Counting** module, the following selection of steps is available: hour, day, week, month.

When using hourly increments, reporting intervals are taken into account. If the step is not equal to an hour, then intervals are not applied, and a standard report is generated in steps of a day, week, or month.

To report on recognized license plates:

- **Group filter:** groups for which data will be displayed in the report.

Note

The list of groups will only be displayed when the corresponding recognition module is enabled on at least one camera and the system settings are applied.

- **Filter by direction:** the direction of movement of vehicles, according to which the data will be displayed in the report.

For face recognition reports:

- **Include only recognized faces in the report:** when this option is enabled, the report will only include those faces that were identified using

a database; when this option is off, all the faces detected by the module will be included into the report.

- **Group filter:** groups whose data will be included into the report.

## Integration with External Systems and Devices

- Integration with messengers
- Integration with ONVIF Profile A/C
- Eocortex API, SDK and REST API
- Integration with BioStar 2
- Integration with Honeywell's Pro-Watch®
- Integration with intercoms
- Integration with Paxton Net2
- Integration with POS terminals
- Integration with ZKBioSecurity ACS

### Integration with messengers

**Eocortex integration with messengers** is a service that connects **Eocortex** servers and popular messenger platforms. This integration allows interaction with **Eocortex** video surveillance systems through messengers: receiving camera images, notifications about registered events, server status reports and other information. The communication between messenger users and the video surveillance systems is done through a special bot called **EocortexBot**.

**Facebook Messenger**, **Telegram**, and **Viber** are currently supported.

Note

Integration is available in version **Eocortex 2.5 and higher**.

### Licensing

By default, the number of messenger users that can be tied to a specific **Eocortex** video surveillance system is limited. To increase the number of messenger users, contact the organization that provided **Eocortex** licenses for this system or your personal **Eocortex** manager.

### Settings

The messenger interaction subsystem is initially disabled in **Eocortex** video surveillance system.

To enable and configure interaction with messengers, you need to launch the

**Eocortex Configurator** application, go to the  **Users** tab, enable the **Users of messengers** button and [configure the messenger users](#).

## Usage

To start interacting with the **Eocortex** video surveillance system via messenger, the user must follow the link sent to them.

Access to the CCTV system via messengers

**Eocortex** <bot@eocortex.com>

Hello!

You now have access to EocortexBot.

To start working with the surveillance system via messenger, follow the appropriate link.

Make sure that you have the selected messenger installed, and also check that this messenger is not blocked by your internet provider.

- **Telegram**  
[http://t.me/Eocortex\\_bot?start=50af737a-bce9-4217-baf6-036bd209462b](http://t.me/Eocortex_bot?start=50af737a-bce9-4217-baf6-036bd209462b)
- **Viber**  
<http://bot.eocortex.com?a248186a-6e98-46b2-8c0f-813b02414021>
- **Facebook Messenger**  
<http://m.me/1923167444589598?ref=2566afe5-5210-48ae-b859-a80f60b1893c>

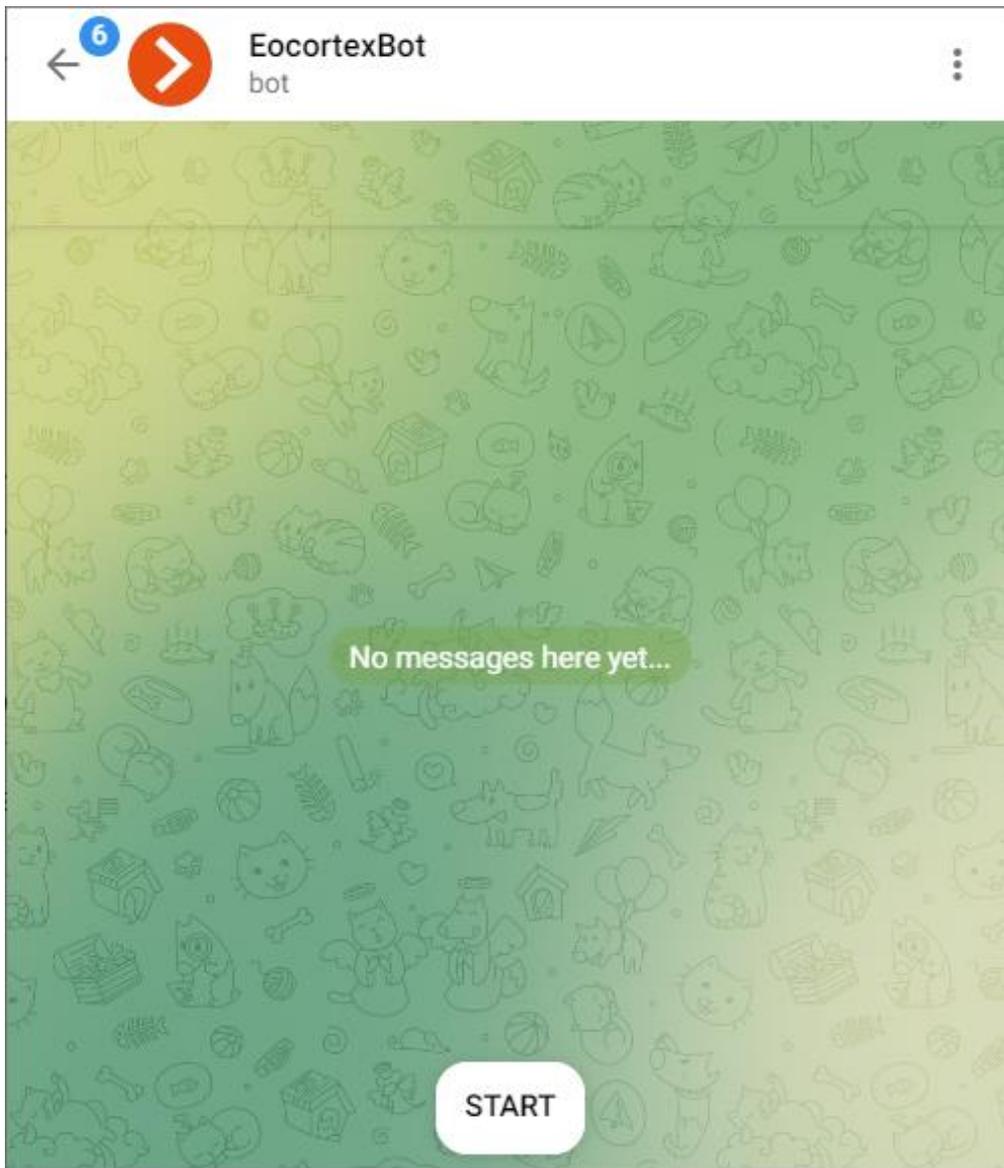
## Note

The process of adding a second and subsequent systems is no different from adding the first system. All that is required to be done in such a case is to follow the link received from the corresponding video surveillance system.

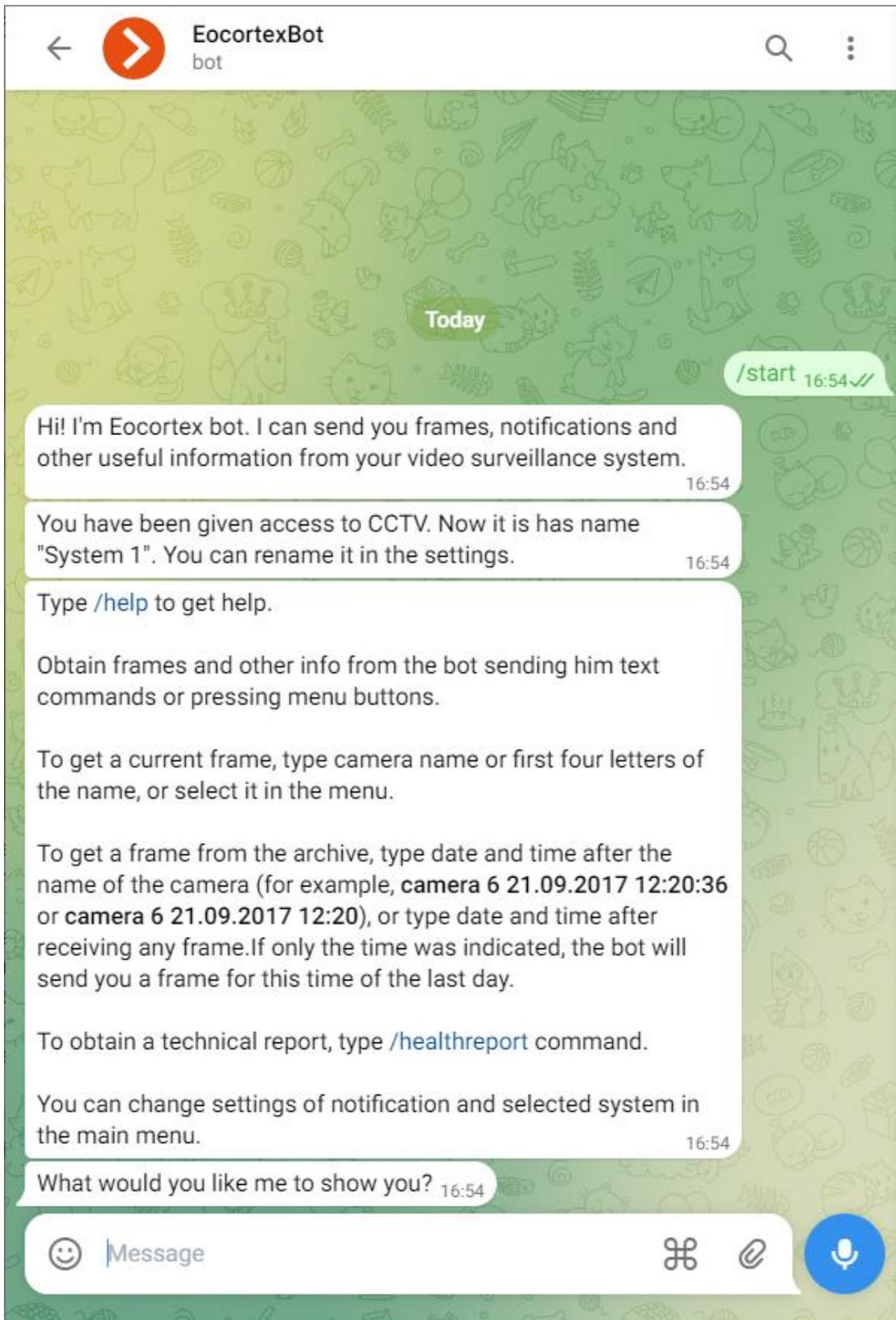
When you follow the link to the messenger, the start page will open. To start interaction with **EocortexBot**, press the **Start** button, after which the bot will send a welcome message.

## Note

There is no start page in **Viber**, so **EocortexBot** directly sends a welcome message.

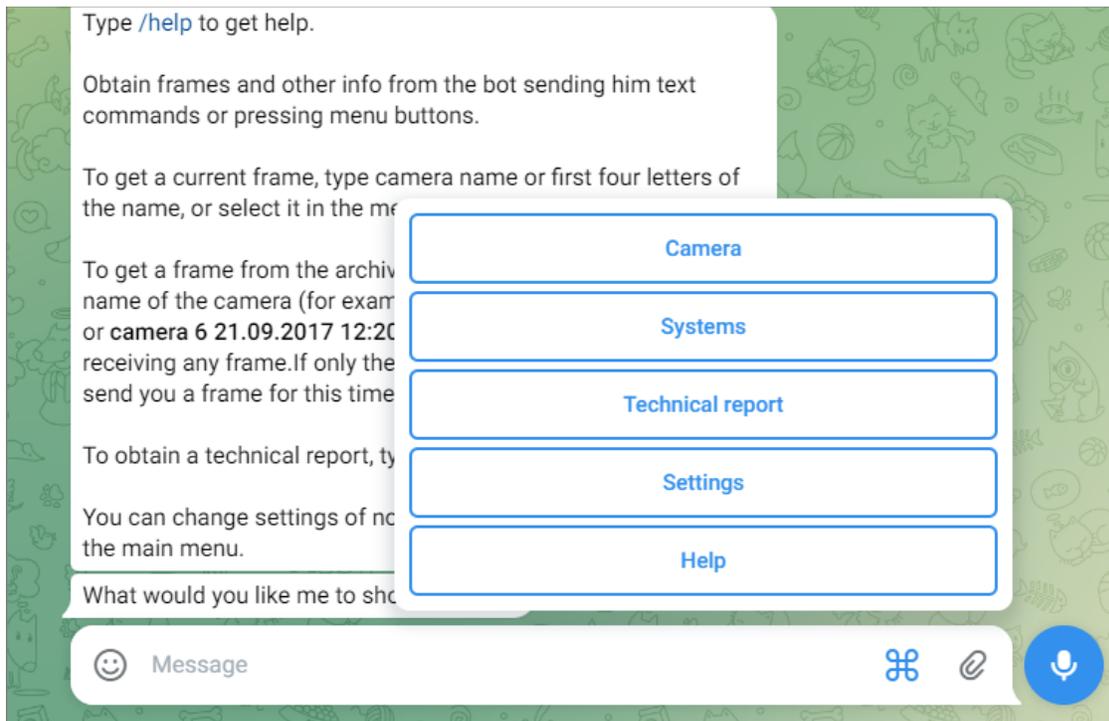


Next, the user is presented with information about the functionality of this bot: what it can do and how to interact with it. If more than one system is added, instructions on how to work with several systems will be provided.

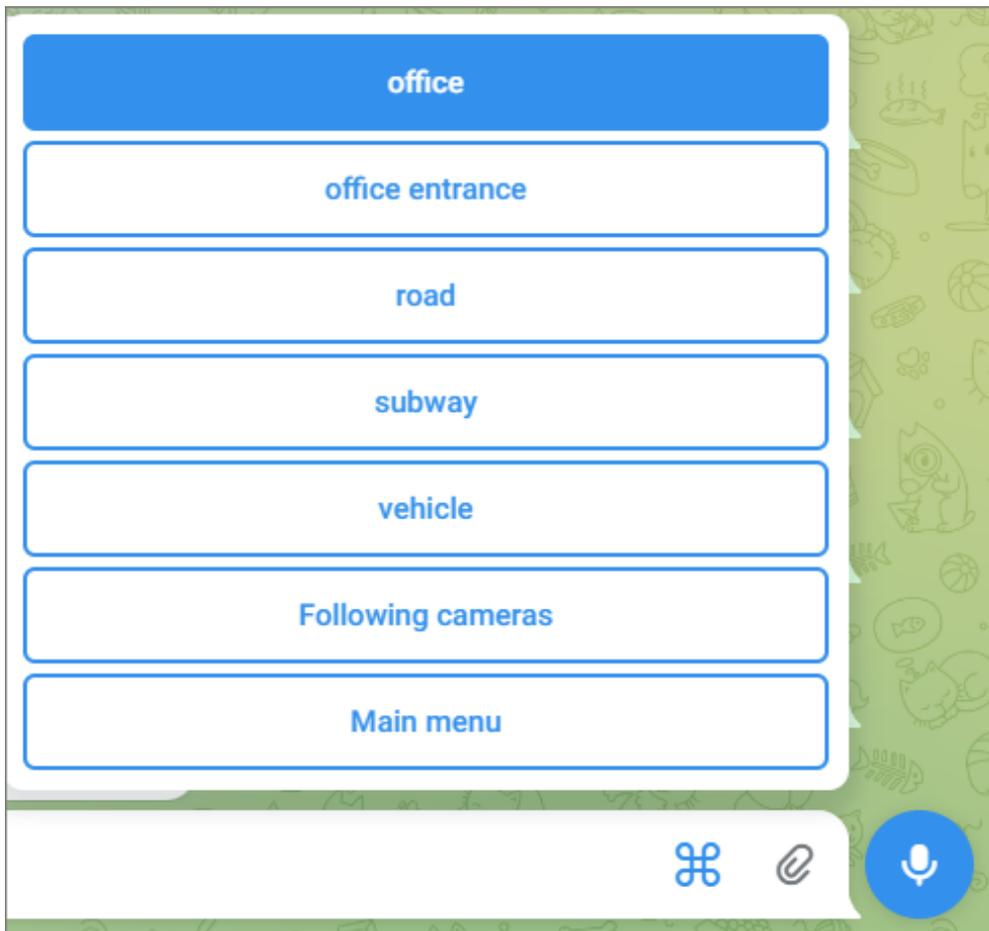


Then the user goes to the main menu. From here it is possible to go to the cameras, change the current system, request a technical report, enter the

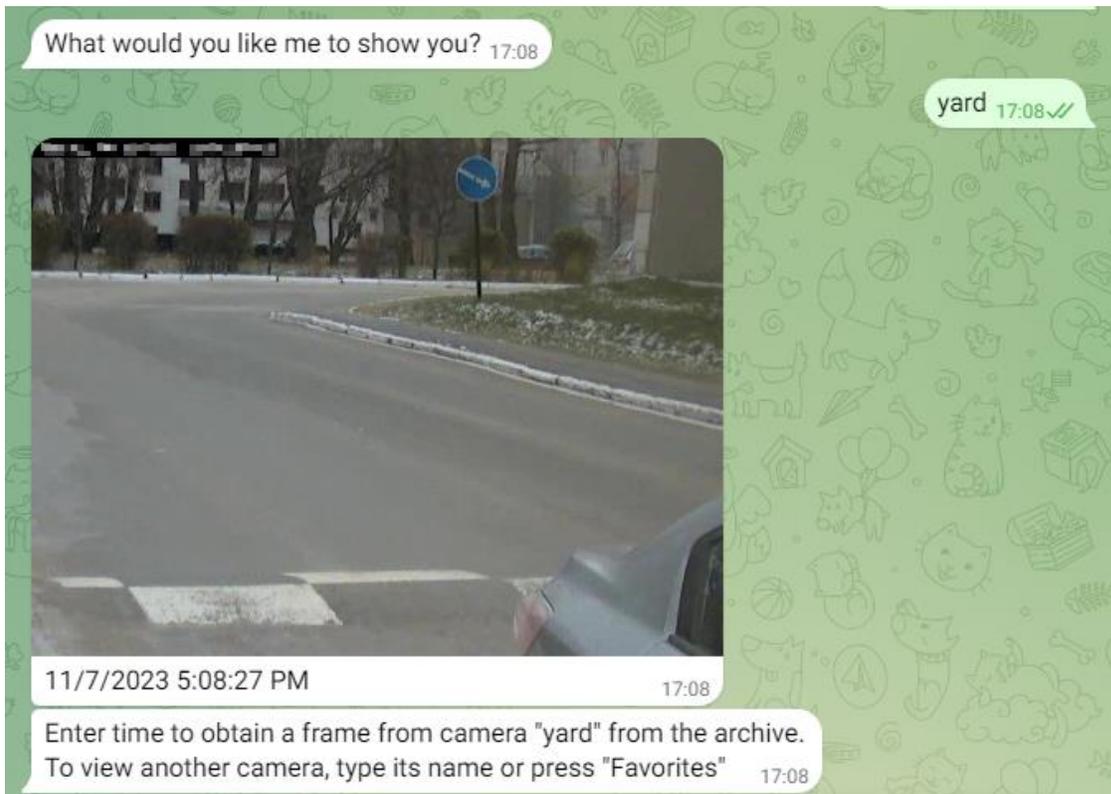
settings or request help. Thus, the further scenario of bot operation is completely up to the user.



In the main menu, pressing the **Camera** button displays a list of cameras from which you can get a frame.



When a camera is selected, the closest frame to the current time is sent to the user.

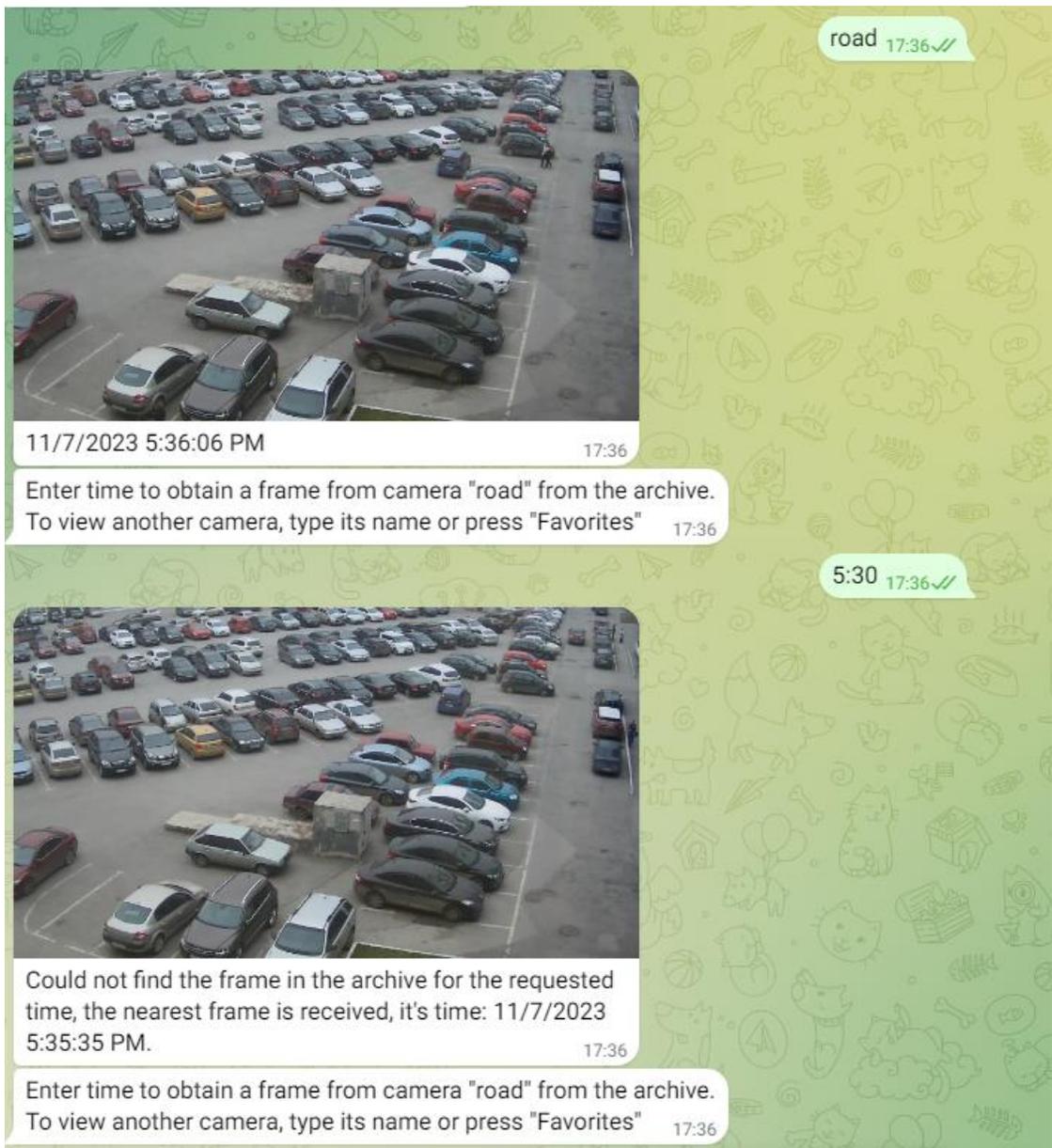


## Warning

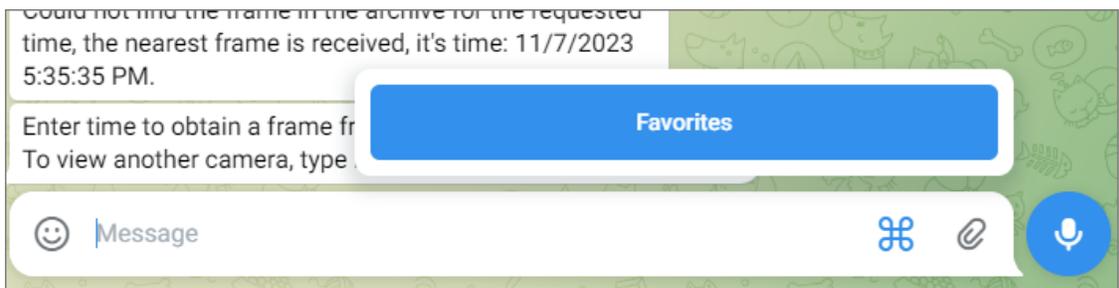
When requesting a frame from a camera with a high GOV and low FPS, it is possible to receive an error caused by the fact that due to the high GOV and low FPS it takes too long to wait for the frame, so the service cannot send the frame to the requested camera.



To receive a frame from the archive for the selected camera, you need to enter the time.



After receiving the frame, you can go to the **Favorites** section, where the cameras from which frames were recently requested are displayed. When you select a favorite camera, a frame from that camera will be sent.

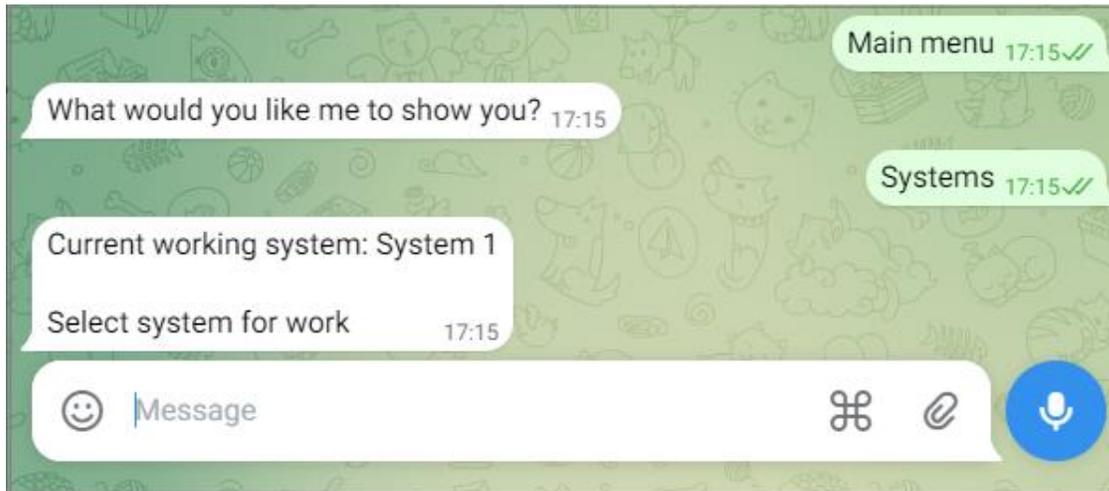


In the main menu, pressing the **Systems** button will display a list of all systems to which the user has been invited. At the same time, interactive

interaction is possible only with one system - the one called **Current System**. To change the current system, select it from the list of the presented systems.

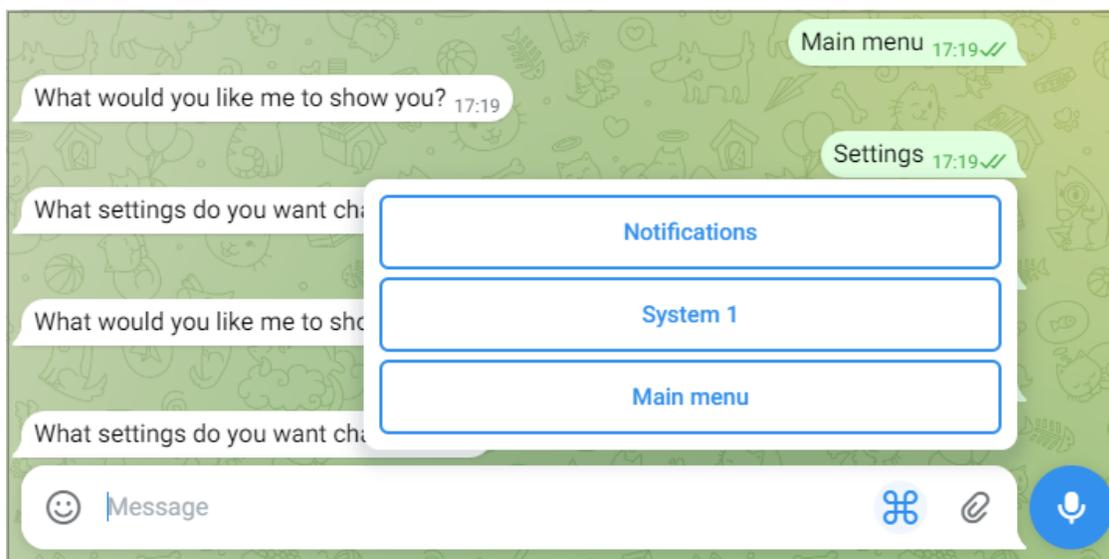
Note

Regardless of which system is current at the moment, camera frames sent by the **Eocortex** server automation subsystem when performing scheduled or event-based actions will come from all systems available to the user.

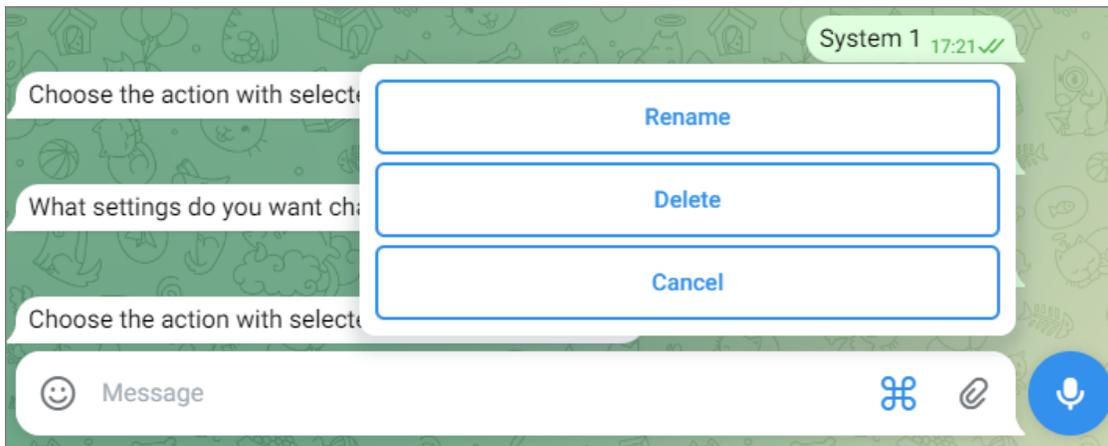


In the main menu, pressing the **Settings** button will display the list of parameters available for configuration.

- **Notifications** — disable and enable notifications from systems, including frames sent by the automation subsystem.
- Pressing the button with the name of the current system will display a menu of actions performed on the system.



The current system can be renamed or deleted. After deleting the system, receiving frames from the cameras of this system will become unavailable.



List of available commands:

- **/help** or **/help** — get information about the bot's capabilities.
- **/healthreport** or **/technical report** — obtain information about the state of the system.
- **/changesystem** — change the active system. After entering the command, a list of available systems will open.
- **camera\_name** — get a frame from the specified camera.
- **camera\_name time** — get a frame from the archive from the specified camera at the specified time.

Note

The **camera\_name** can be specified with errors of several letters, including omitting them or adding extra ones. In this case, the more errors there are in the name, the higher the probability that the bot service will not be able to correctly recognize the correct name. If there are too many errors, the user will be sent a message **I haven't quite understood you**.

The **time** is specified in the format **MM/dd/YYYY hh:mm** (for example, 03/23/2018 16:56). The time should be specified in accordance with the local time of **Eocortex** server.

### Integration with ONVIF Profile A/C

The **Eocortex** video surveillance system is integrated with external systems that support the ONVIF Profile A and Profile C specifications, without the need to integrate these systems directly with **Eocortex**.

Within this integration, the following features are available:

- Synchronization of the **Eocortex** face database with the face database of the external system.

- Two-factor access verification through interaction between **Eocortex** and the external system.

## Warning

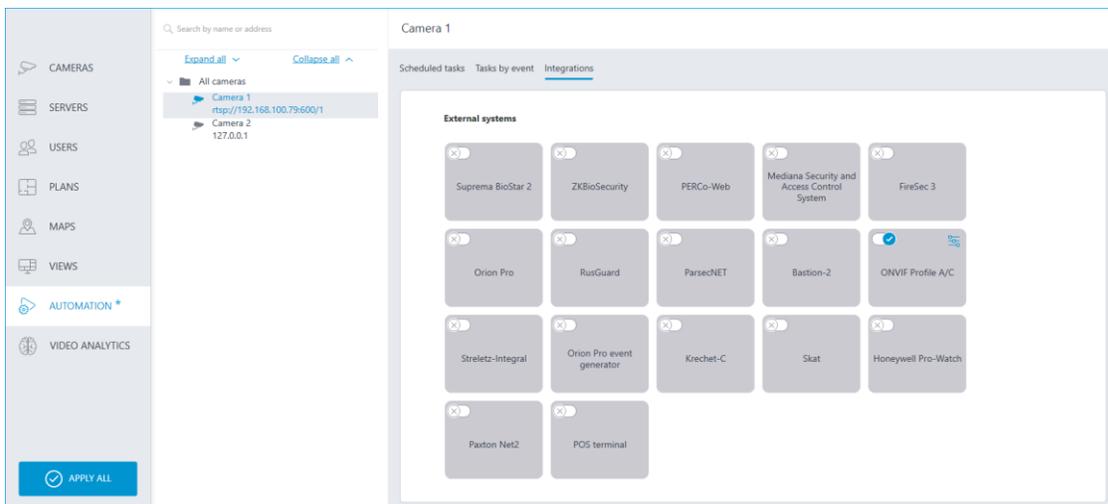
Integration with external systems is configured without checking compatibility.

## Note

Integration is available in version **Eocortex 4.2 and higher**.

## Eocortex setup

To enable **Eocortex** to interact with an external system, launch **Eocortex Configurator** application, go to the  **Automation** page, select the camera in the list, switch to the **Integrations** tab, and enable **ONVIF Profile A/C**.



There are two tabs available in the integration settings:

- **General settings**
- **Integration of face recognition**

## General settings

The **General settings** tab is used for system configuration of connection to the external system.

The following settings are available:

- **Server address:** IP address or domain name. There is no need to specify a prefix with the name of the protocol (<http://>, etc.). There is no option to use a secure connection (HTTPS).
- **ONVIF port:** The port of the external system.

- **ONVIF login** and **ONVIF password**: Login and password to connect to the external system via ONVIF. These credentials are usually not the same as the system users and are specified in a separate section of the external system settings.

After finishing the setting, press the **Connect** button.

External ONVIF system settings

General settings Integration of face recognition

Server address localhost ONVIF port 8089

ONVIF login onvif

ONVIF password

[Connect](#)

Status  
Not tested

Save Cancel

The **Status** field displays the result of the check:

- **Not tested.**

- **Testing...**
- **Connection succeeded.**
- **Server is unavailable:** In this case, check the network availability of the external system server and its ONVIF settings.
- **Request timeout:** In this case, check the network availability of the external system server.
- **Unknown error:** More detailed information about such errors can be found in **Eocortex** log files that can be sent to technical support for analysis.

#### Verification integration

On the **Integration of face recognition** tab one-factor and two-factor verification are configured for the devices from which events are to be received for the configured camera.

External ONVIF system settings

General settings Integration of face recognition

Successful ONVIF connection is required for loading the list of devices

---

Two-factor verification settings

Maximum time from face recognition to pass presentation, sec

Maximum time from pass presentation to face recognition, sec

Save Cancel

#### Note

The list of devices is displayed only after successful connection testing on the **General settings** tab.

The following folders are displayed in the device tree:

- **One-factor authentication:** Devices configured for one-factor verification mode.

- **Two-factor authentication:** Devices that support two-factor verification.

Note

Even though cameras can only use one verification mode, there is no restriction on connecting devices of both types.

Below the device tree are the **Two-factor verification settings**.

**External ONVIF system settings**

General settings | Integration of face recognition

Server address: localhost

ONVIF port: 8089

ONVIF login: onvif

ONVIF password: [masked]

[Connect](#)

Status: Not tested

**Save** **Cancel**

- **Maximum time from face recognition to pass presentation, sec:**  
The maximum time interval from employee recognition to badge reading. It is not recommended to set this value too high, because after successful recognition the employee may leave the access point, and the badge may be presented by someone else.
- **Maximum time from pass presentation to face recognition, sec:**  
The maximum time interval from badge reading to recognition. For example, in situations where an employee approached the access point wearing a mask and only removed it after presenting the badge.

The synchronization of the database used by one of the **Eocortex** recognition modules with the database used in the external system is configured in the **Eocortex server settings**.

#### Two-factor verification setup

Any actions available in **Eocortex** can be configured for events received from an external system.

To set up the scenario executing as a response to the event received from the external system, go to the  **Automation** section of the **Eocortex Configurator** application. In the camera list, select a camera or a group of cameras and switch to the **Tasks by event** tab on the page that opens.

Information about the access granting actions occurring in the external system is transmitted in the **Access control** event received from the external system.

**Adding task to be performed on system event**

**System event**

Access control

**Action**

Alarm generation

**Apply** **Cancel**

When configuring the actions to be performed on this event, it is possible to set various conditions. In this case, if several conditions are set, the action will be performed only if all of them are met.

The screenshot shows the 'Action settings' dialog box with the 'Runtime conditions' tab selected. The dialog contains a table with three columns: 'Event attribute', 'Comparison', and 'Value'. The 'Event attribute' dropdown is open, showing a list of options: 'External system', 'Device', 'Subject external ID', 'Subject', 'Subsystem', 'Reason', 'Status', and 'Additional information'. The 'Comparison' dropdown is set to 'Equal' and the 'Value' dropdown is set to 'Access granted'. There are 'Apply' and 'Cancel' buttons at the bottom of the dialog.

For this event, it is possible to set the following runtime conditions:

- **External system:** name of the external system;
- **Device:** name of the external system device (door, turnstile, other reader) associated with the camera to which the access granting information will be sent;
- **Subject:** the name of the person who is granted access;
- **Subject external ID:** the number of the badge;
- **Subsystem:** the Eocortex subsystem responsible for making the decision to grant access. In this case, **Face Recognition**.

- **Reason:** using a specific algorithm to select single-factor or two-factor verification or manual mode.
- **Status:** The status of the access granting process:
  - Access verification requested:** In two-factor verification, an event with this status is generated first.
  - Access provided:** Generated when access is granted.
  - Access denied:** Generated when access is denied in a situation where the employee is not recognized.
- **Additional information:** With the **Access denied** status for two-factor verification, the explanation here will be that access is denied due to a failed face recognition attempt in a given time.

### Eocortex API, SDK and REST API

**Eocortex** provides open and free-to-use **API**, **SDK**, and **REST API**, which allows third-party developers to expand the functionality of **Eocortex**, as well as provide one-way or two-way communications between **Eocortex** applications and third-party software.

#### Eocortex API

**Eocortex API** is the basic set of application programming interfaces provided by **Eocortex** that allows to build one- or two-way interactions between **Eocortex** applications and third-party applications. **Eocortex API** supports and uses various types of requests and responses: HTTP, RTSP, XML, JSON. **Eocortex API** allows external applications to interact with the **Eocortex** Server or Client to perform the following tasks, such as:

- Receiving live view and archive recordings of cameras connected to the system.
- Receiving various information from the **Eocortex** Server, including system configuration and entries of Events log.
- Sending various commands for execution by **Eocortex** Server or Client.

#### Eocortex SDK

**Eocortex SDK** is the set of materials useful in development of external plugins and modules for expanding the existing functionality of **Eocortex** applications. This development kit is intended for .NET developers and contains the list of core classes and interfaces, as well as several code samples that demonstrate the implementation of external plugins. All source files are written in C#. It is recommended to use **Microsoft Visual Studio** as a plugin development environment.

## Eocortex REST API

**Eocortex REST API** is the set of advanced application programming interfaces provided by **Eocortex** that allows to build a deeper interaction with **Eocortex** than **Eocortex API**.

**Eocortex REST API** allows to:

- Configure cameras, users, groups, views, automation scenarios and some intelligent modules.
- View the information about statuses and current configuration of servers and cameras.
- View the list of integrated cameras supported in the system.
- Manage databases of intelligent modules: add, modify, delete groups and entries for faces and license plates.

**Eocortex REST API** can be used for system configuration without the need to use **Eocortex Configurator** and **Eocortex Client** applications.

The **configure/** set of commands is available only for **Eocortex** systems with **Enterprise** and **ULTRA** licenses. Only the user with the highest level of access rights, i.e., belonging to the Senior administrators group, can configure the system using **Eocortex REST API**.

The **api/** set of commands available for all users and for all types of **Eocortex** licenses.

Note

Detailed descriptions for **Eocortex** API, SDK and REST API are available at the website [eocortex.com](http://eocortex.com), on the [Support / Documentation](#) page.

The **Eocortex** REST API description is also available for viewing in the [browser using Swagger](#) if configured accordingly.

Note

**Eocortex** Software Development Kit (plugin samples written in C#) can be downloaded at the [Download](#) page of the [eocortex.com](http://eocortex.com) website. Specific plugin samples can be provided by request. **Eocortex** SDK is not required to use **Eocortex** APIs resources.

## Integration with BioStar 2

**Eocortex** has the integration with the **BioStar 2** ACS by **Suprema**. Available integration options:

- [General integration with BioStar 2](#)
- [Advanced integration with BioStar 2](#)

## General integration with BioStar 2

General integration features with **BioStar 2** ASC include receiving events from **BioStar 2** in **Eocortex**, configuring reactions to these events, viewing received events in event log of **Eocortex Client** application, and sending commands to **BioStar 2** to perform various actions.

### Description

The integration supports two-way interaction between **Eocortex** and **BioStar 2**, allowing to receive and process events from ACS in **Eocortex** applications, as well as to send control commands to the doors controlled by **BioStar 2**.

#### Receiving events

The event information can contain the following lines:

- Type of event (code and description) (e.g.: Door opened by operator, Fire alarm, Access denied);
- Information about the device (controller) (name and identifier). The controller can have relays and readers to which the doors can be connected. Information about them is not used in **Eocortex**;
- Information about the door (name and identifier);
- Information about the user (name and identifier);
- Information about the user group (name and identifier).

#### Performing actions

As a command to the ACS, requests for one of the following actions can be sent:

- **Open** — temporarily opens the door.
- **Release** — removes the manual door lock/unlock.
- **Manual lock** — manually locks the door. The door remains locked even if the user is successfully authorized.
- **Manual unlock** — manually unlocks the door. The door remains open without the need for user authorization.
- **Clear alarm** — removes the alarm state from the door.

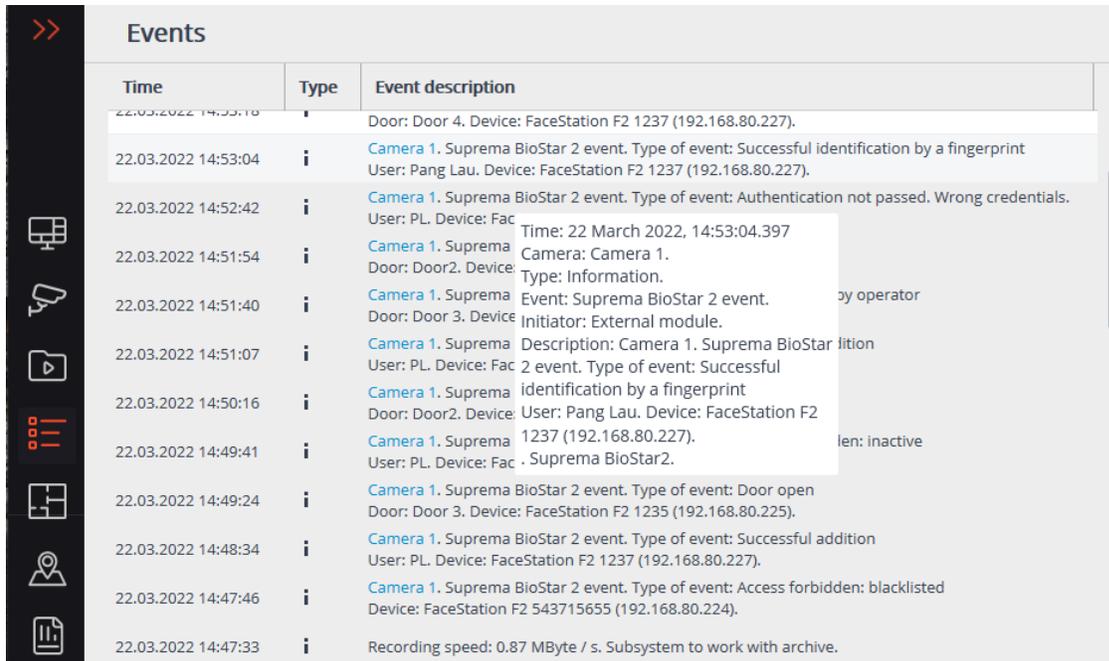
### Events log

Events received from the ACS or created by sending commands to it are displayed in the Event Log of the **Eocortex Client** application. These events are associated with the relevant camera.

The following lines are displayed for the log entry, if available for this event type:

- Type of event — the description of received event;

- Name of device;
- Name of door;
- User name.



Time	Type	Event description
22.03.2022 14:53:18	i	Door: Door 4. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:53:04	i	Camera 1. Suprema BioStar 2 event. Type of event: Successful identification by a fingerprint User: Pang Lau. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:52:42	i	Camera 1. Suprema BioStar 2 event. Type of event: Authentication not passed. Wrong credentials. User: PL. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:51:54	i	Camera 1. Suprema BioStar 2 event. Type of event: Information. Time: 22 March 2022, 14:53:04.397 Camera: Camera 1. Door: Door2. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:51:40	i	Camera 1. Suprema BioStar 2 event. Type of event: Information. Event: Suprema BioStar 2 event. Initiator: External module. by operator Initiator: External module.
22.03.2022 14:51:07	i	Camera 1. Suprema BioStar 2 event. Type of event: Successful identification by a fingerprint Description: Camera 1. Suprema BioStar 2 event. Type of event: Successful identification by a fingerprint User: PL. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:50:16	i	Camera 1. Suprema BioStar 2 event. Type of event: Successful identification by a fingerprint Door: Door2. Device: FaceStation F2 1237 (192.168.80.227). User: Pang Lau. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:49:41	i	Camera 1. Suprema BioStar 2 event. Type of event: Successful identification by a fingerprint User: PL. Device: FaceStation F2 1237 (192.168.80.227). len: inactive User: PL. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:49:24	i	Camera 1. Suprema BioStar 2 event. Type of event: Door open Door: Door 3. Device: FaceStation F2 1235 (192.168.80.225).
22.03.2022 14:48:34	i	Camera 1. Suprema BioStar 2 event. Type of event: Successful addition User: PL. Device: FaceStation F2 1237 (192.168.80.227).
22.03.2022 14:47:46	i	Camera 1. Suprema BioStar 2 event. Type of event: Access forbidden: blacklisted Device: FaceStation F2 543715655 (192.168.80.224).
22.03.2022 14:47:33	i	Recording speed: 0.87 MByte / s. Subsystem to work with archive.

The Events log can be filtered to display events only from **BioStar 2**.

The screenshot shows the 'Events' tab in the Eocortex Configurator. At the top, there are navigation icons for Mode, Cameras, Types, Events (highlighted), and Initiators. Below the navigation is a search bar with the text 'Searching events...'. Underneath, there are links for 'Expand all' and 'Collapse all'. A list of external systems is displayed, with 'Suprema BioStar 2 event' selected. The list includes: External alarm start, End of external alarm, External event, PERCo-Web event, Suprema BioStar 2 event, Paxton Net2 event, Parsec system event, Honeywell Pro-Watch event, Skat event, and an ellipsis. At the bottom, there are 'Apply filter' and 'Export' buttons.

### *Setting tasks by events*

To set up the scenario executing as a response to the event received from the security platform, go to the  **Automation** section of the **Eocortex Configurator** application. In the list of cameras, select a camera or a group of cameras and switch to the **Tasks by event** tab on the page that opens.

It is possible to configure any standard task for the **BioStar 2 event**:

 Adding task to be performed on system event 

**System event**

Suprema BioStar 2 event 

**Action**

Execute action in Suprema BioStar 2 

**Apply** **Cancel**

The following runtime conditions can be set for the scenario:

- Event details:
  - Type of event — selection from several popular event types, e.g. Door Opened by Operator, Access Denied: Blacklisted, etc. Not all **BioStar 2** event types are available in the list. If the type required to be used as the condition is unsupported, it is possible to use filtering by other fields: numeric Event code or string Description of ACS event;
  - Event code — numeric code of the **BioStar 2** event.
  - Description of ACS event — non-localized event description string, as it comes from **BioStar 2**.
- Device details:
  - Device identifier — usually a numeric permanent identifier of the device in **BioStar 2**;
  - Name of device — string device name in **BioStar 2**, can be changed in the ACS settings in the future.
- Door details:
  - Door identifier — usually a numeric permanent identifier of the door in **BioStar 2**;

- Name of door — string door name in **BioStar 2**, can be changed in the ACS settings in the future.
- User details:
  - User identifier — usually a numeric permanent ID of the user associated with the event in **BioStar 2**;
  - Username — string name of the user in **BioStar 2**, can be changed in the ACS settings in the future;
  - User group identifier — usually a numeric identifier of the group to which the user belongs;
  - Name of user group — a name of the group to which the user belongs.



Actions Runtime conditions (1)

Event attribute

Comparison

Value

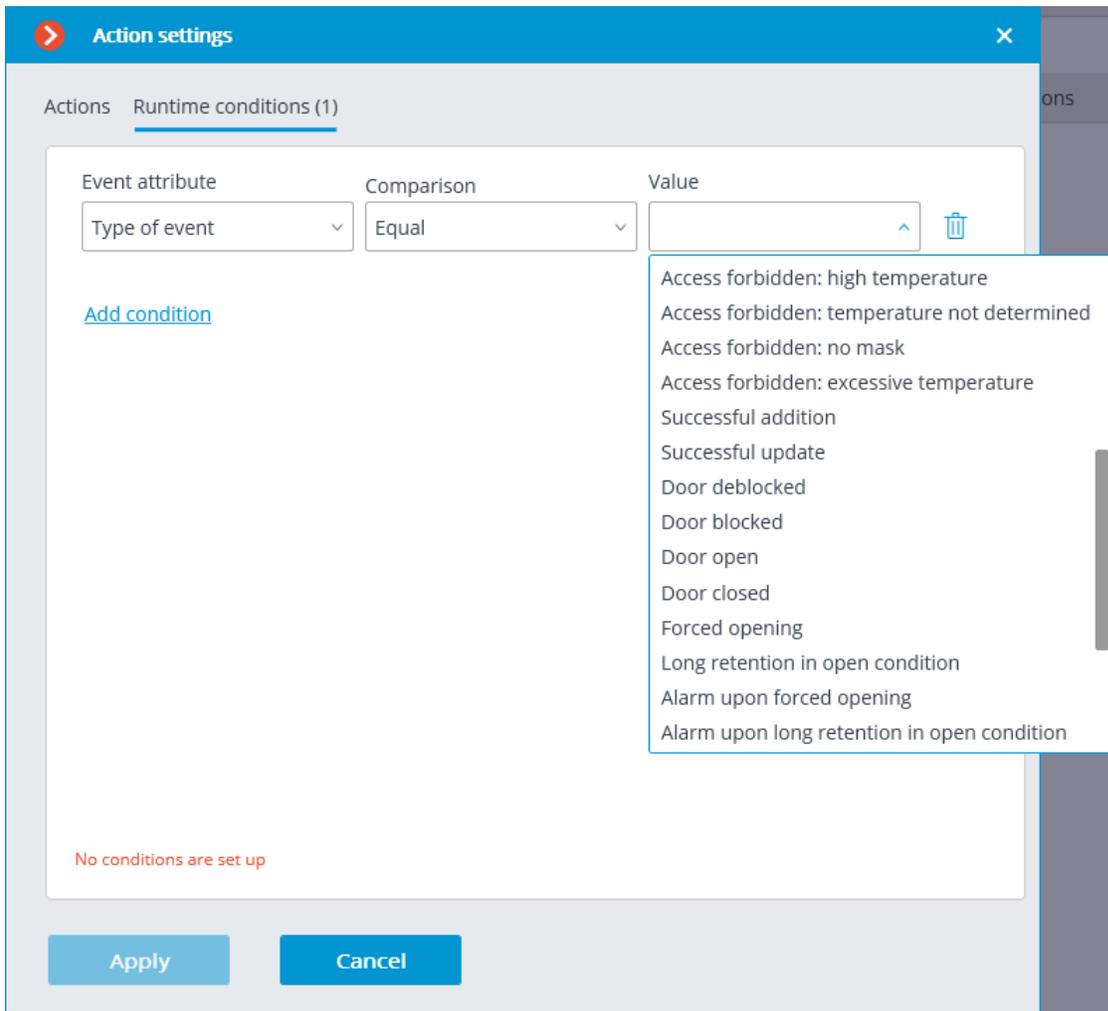


- Type of event
- Description of ACS event
- Device identifier
- Name of device
- Door identifier
- Name of door
- User identifier
- User name
- User group identifier
- Name of user group
- Event code

No conditions are set up

Apply

Cancel



## Note

Regarding the type of event, some lines may be not available in the received message.

*Setting up scenario with Perform action in BioStar 2*

## Warning

Before this feature can be used, it must be enabled and configured for the selected camera on the **Integrations** tab of the **Eocortex Configurator** application.

To configure an **Perform action in BioStar 2** action, run the **Eocortex**

**Configurator** application, go to the  **Automation** tab, select an individual camera or a whole folder in the camera tree. Create a task with the needed execution method, selecting **Perform action in BioStar 2** as the action. [Scheduled tasks](#), [Tasks by event](#) and [User tasks](#) are supported.

**Adding task to be performed on system event** ✕

**System event**

Suprema BioStar 2 event ▾

**Action**

Execute action in Suprema BioStar 2 ▾

**Apply** **Cancel**

In the window that opens by clicking **Apply**, the **Special settings** section allows selecting the door to interact with, and selecting the action to be performed when processing the scenario.

**Action settings**

Actions Runtime conditions (0)

**Description**

Execute action in Suprema BioStar 2

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

Door  

Action

Actions not set up

### Warning

If the settings for integration with **BioStar 2** ACS on the **Integrations** tab are not set, are incorrect or are inactive for the selected camera, the corresponding message will be displayed instead of the action settings in the **Special settings** section.

**Action settings**

Actions Runtime conditions (0)

**Description**

Execute action in Suprema BioStar 2

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

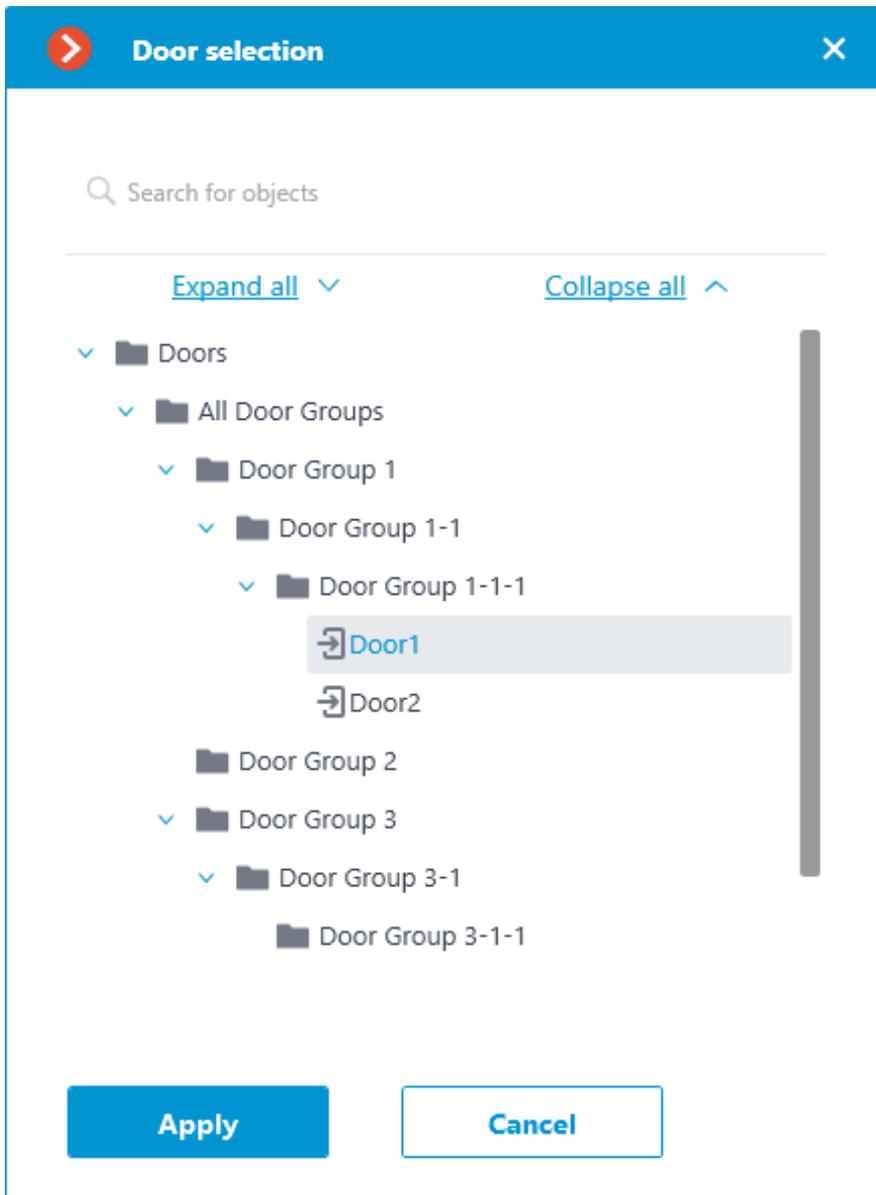
Integration is disabled

Actions not set up

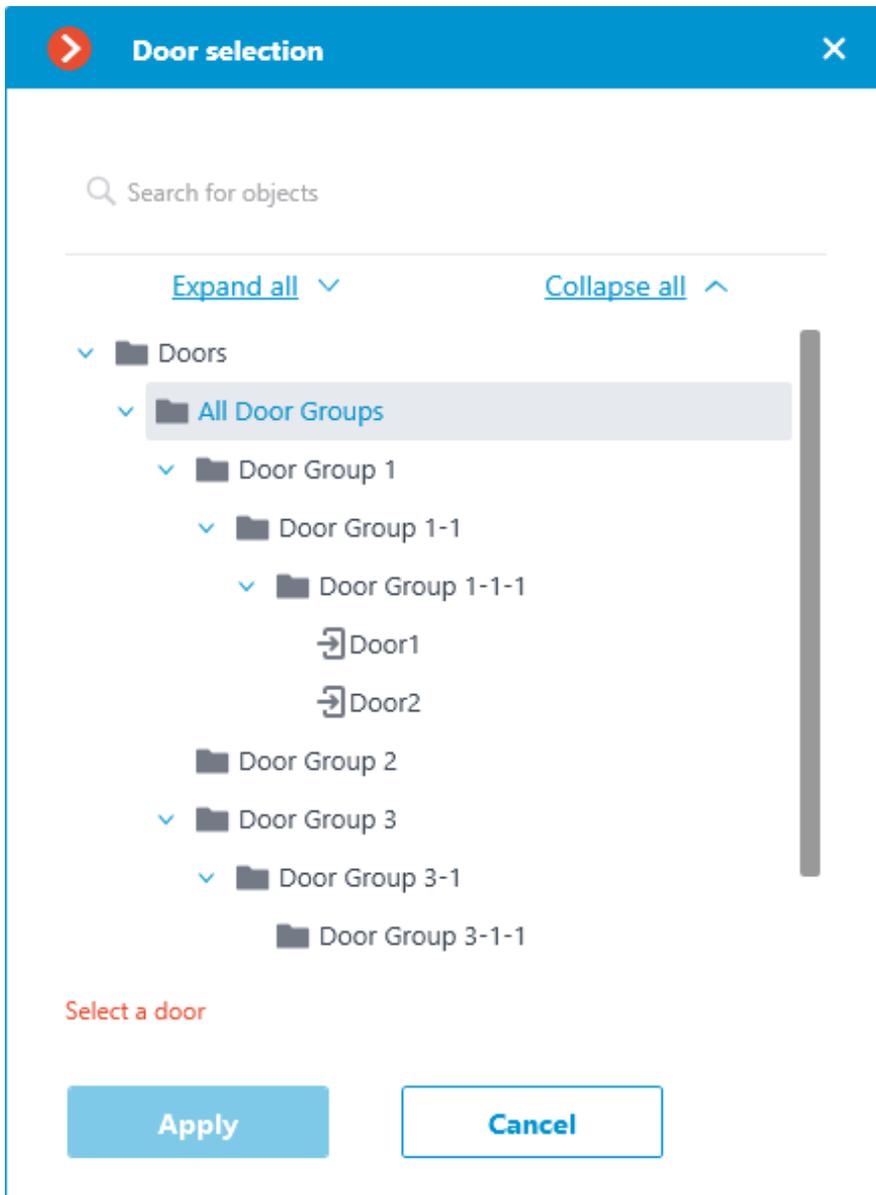
Apply Cancel

## Door selection

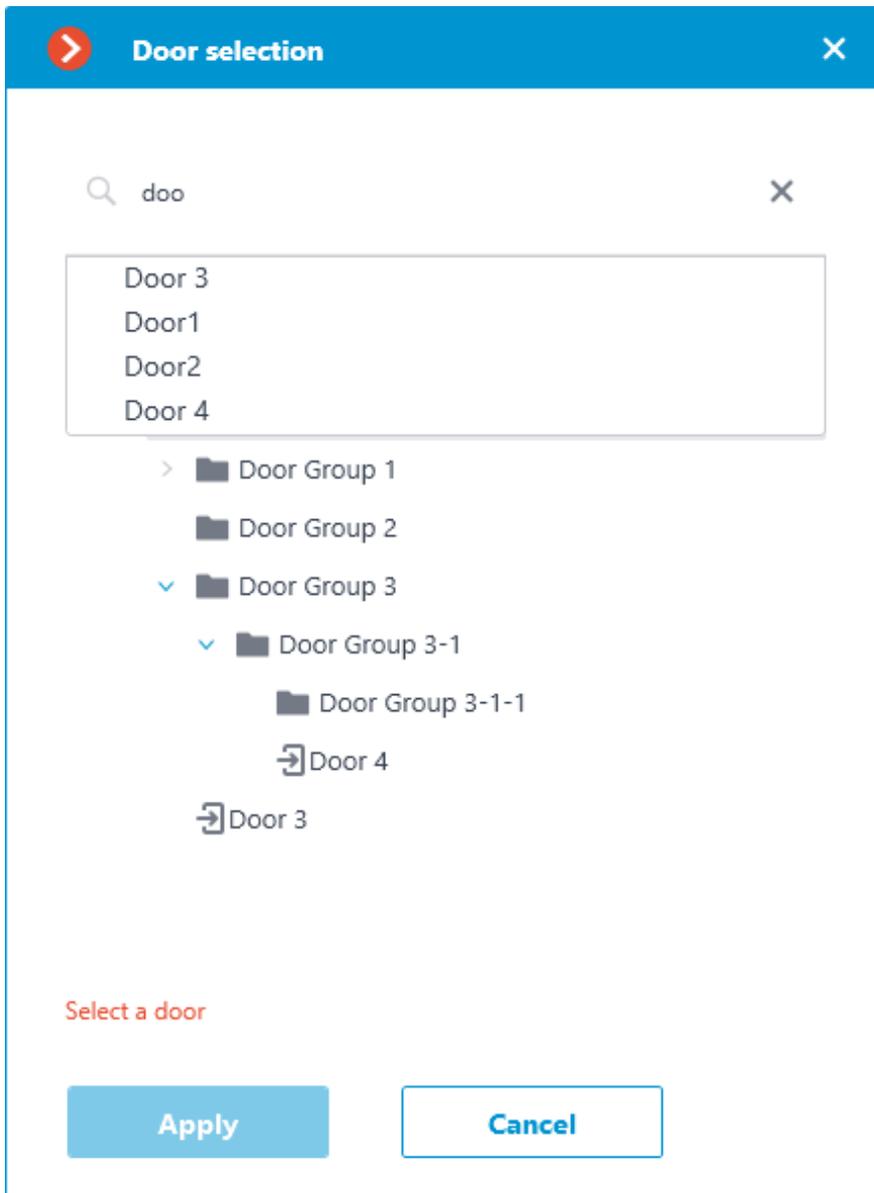
Clicking the **Select** button next to the **Door** field opens the device selection window. To load the list of doors available for interaction, the connection to **BioStar 2** ACS will be established with the credentials that were specified in the **Integrations** section.



The **Door selection** window allows selecting the door from the list, for which the action should be performed. It is necessary to select a specific door, selecting a group of doors at once is not possible.



For easy navigation to the right door, the text search by its name is available at the top of the window. Select the desired door and click **Apply** to confirm.



Once the door is selected, the previously inactive  **Copy** button, located in the **Door** field, becomes available. Clicking this button saves to the clipboard the name and ID of the selected door, which can be used later for diagnostic or automation tasks.

#### Action selection

The **Action** drop-down list provides a choice of actions to be performed on the selected door. The following options are available:

- **Open** — temporarily opens the door.
- **Release** — removes the manual door lock/unlock.
- **Manual lock** — manually locks the door. The door remains locked even if the user is successfully authorized.

- **Manual unlock** — manually unlocks the door. The door remains open without the need for user authorization.
- **Clear alarm** — removes the alarm state from the door.

### Action test

Once the door and the action to be performed are set, the previously hidden **Test action** link that triggers a test run of the settings becomes available.

**Action settings**

Actions Runtime conditions (0)

**Description**

Execute action in Suprema BioStar 2

**Limits**

Limit by start time

Do not perform more often than once per 5 seconds

**Special settings**

Door Door1 Select

Action Open

[Test action](#)

Status  
Not tested

Apply Cancel

The current state will be displayed in the **Status** field as one of the following results:

- **Not tested** — the settings were not checked, the functionality of the configured action is unknown.
- **Testing...** — test run is performing according to the specified settings.
- **Connection succeeded** — test run is successful, the settings are correct.

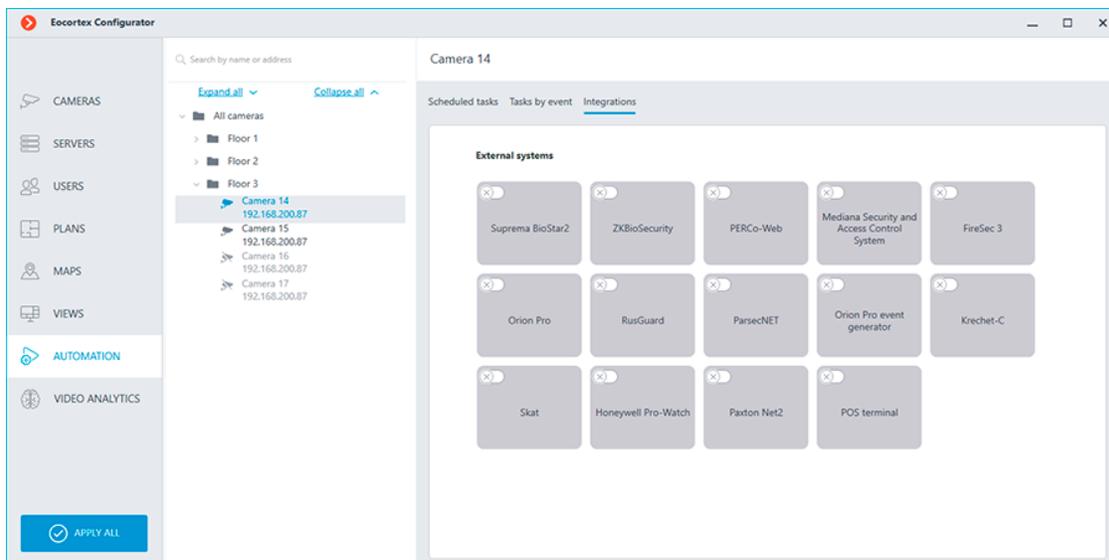
- **Request timeout** — the command to run the action has not been sent to the ACS within the specified timeout period (by default, 100 seconds). Check if the integration settings are correct and if the BioStar 2 server is available.
- **Unknown error** — test run of the action has failed for unknown reason. Detailed information about the error can be found in the **Eocortex** Server logs.

## Warning

Under normal conditions, the connection to the ACS server is carried out by the **Eocortex** server, while the test connection in the settings window is made directly by the **Eocortex Configurator** application. When setting up the integration, it is recommended to make sure that all **Eocortex** components have access to the ACS server.

### *Setting the integration in Eocortex Configurator*

Before the **Eocortex** server will be able to interact with the **BioStar 2** ACS, it is necessary to configure the integration. To set it up, go to the  **Automation** section of the **Eocortex Configurator** application. In the list of cameras, select a camera and switch to the **Integrations** tab on the page that opens, then activate the slider for **BioStar 2** tile.



The following tabs are available in the integration settings:

### General settings

The **General settings** tab contains the settings for a network connection to the **BioStar 2** ACS for the whole system.

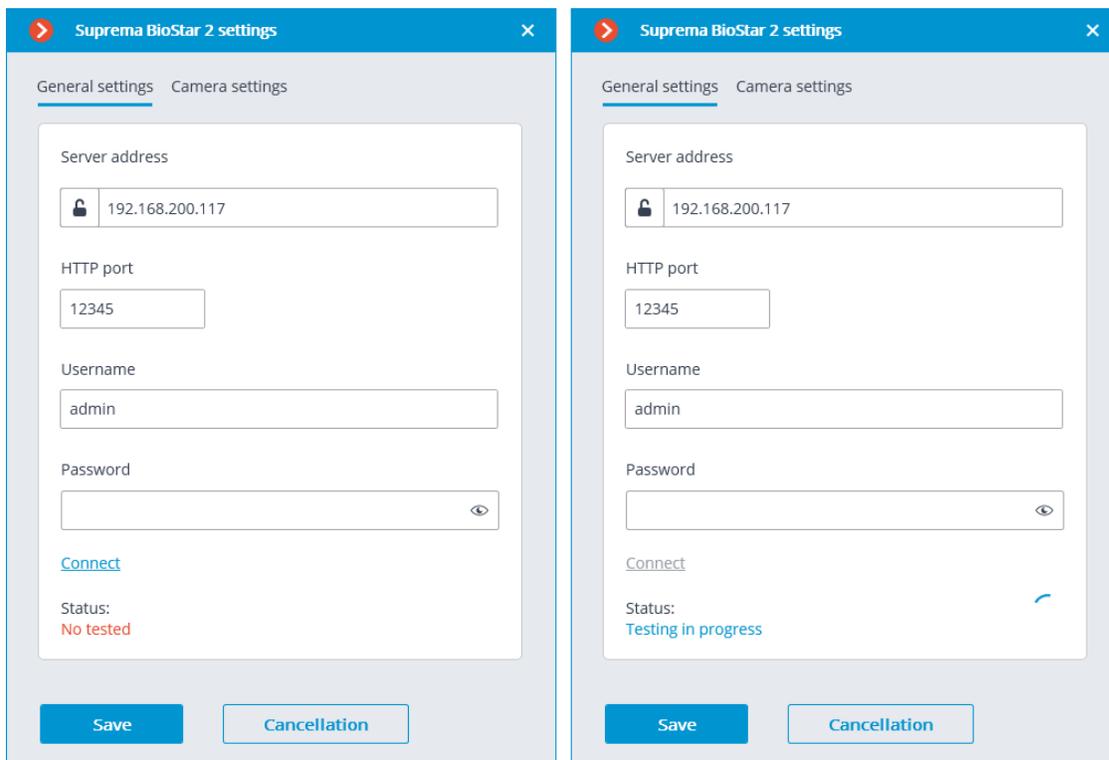
The following settings are available:

- **Server address:** IP address or URL of the **BioStar 2** server. Prefixes, such as <http://>, are not required to be specified in this field. To enable a secured connection via HTTPS, click the  button.
- **HTTP port:** HTTP(S) port of the **BioStar 2** server. Interaction with the ACS utilizes the HTTP and WebSocket protocols, but both protocols use the same port. The WebSocket port can be configured individually in **BioStar 2** settings, but it is not necessary to set it in the integration settings.
- **Username.**
- **Password.**

When all settings are done, click the **Connect** button.

Note

The connection test result will be displayed in the **Status** field.



Camera settings

The **Camera settings** tab contains settings from which devices the system should receive events for this camera.

Note

By default, all ACS events will be received from all devices.

If the integration is enabled on multiple cameras with the default settings, the events will be duplicated for all enabled cameras.

There are 2 types of **BioStar 2** objects available for configuration:

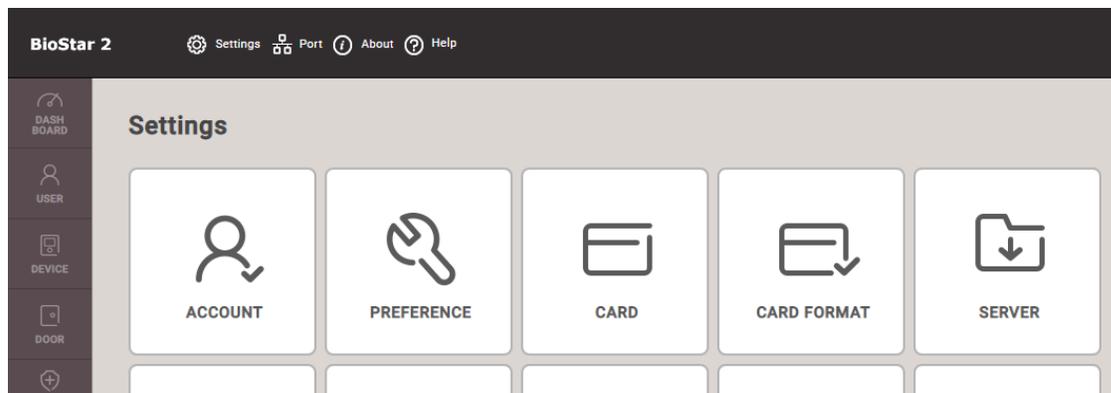
-  **Doors.** A high-level object that is most often configured with rules in **BioStar 2**. Usually the door is connected to a relay and a sensor of other device. Receiving events from specific doors allows to configure the integration more precisely;
-  **Devices.** A lower-level **BioStar 2** object. Setting up to receive events from the device allows configuring the integration more flexibly. For example, if **BioStar 2** is in the deployment phase, the list of doors and their properties will continuously change. When configuring to receive events from the specific door, it will be necessary to change the integration settings each time when something has changed. But when configuring to receive events from a device, when new doors are connected to the device, the integration settings would not need to be changed.

### Setting up BioStar 2

To configure **BioStar 2** for this integration, use the ACS web interface, which is available on the same port that is specified in the integration settings.

Note

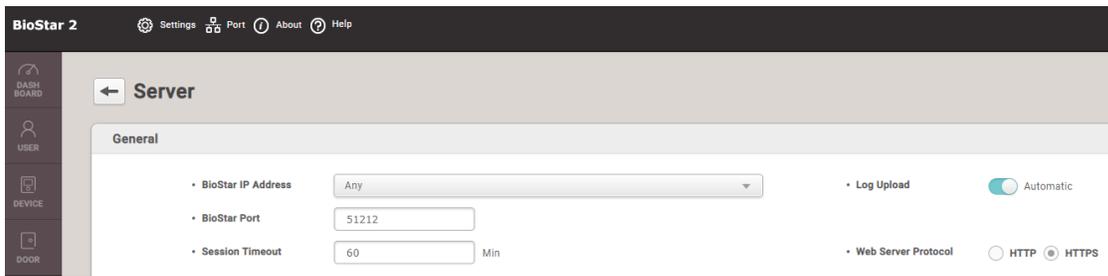
The minimum version of **BioStar 2** must support control over the used protocol (BioStar 2 New Local API).



On the **Settings** tab of the **Server** section, the use of a secure connection can be configured.

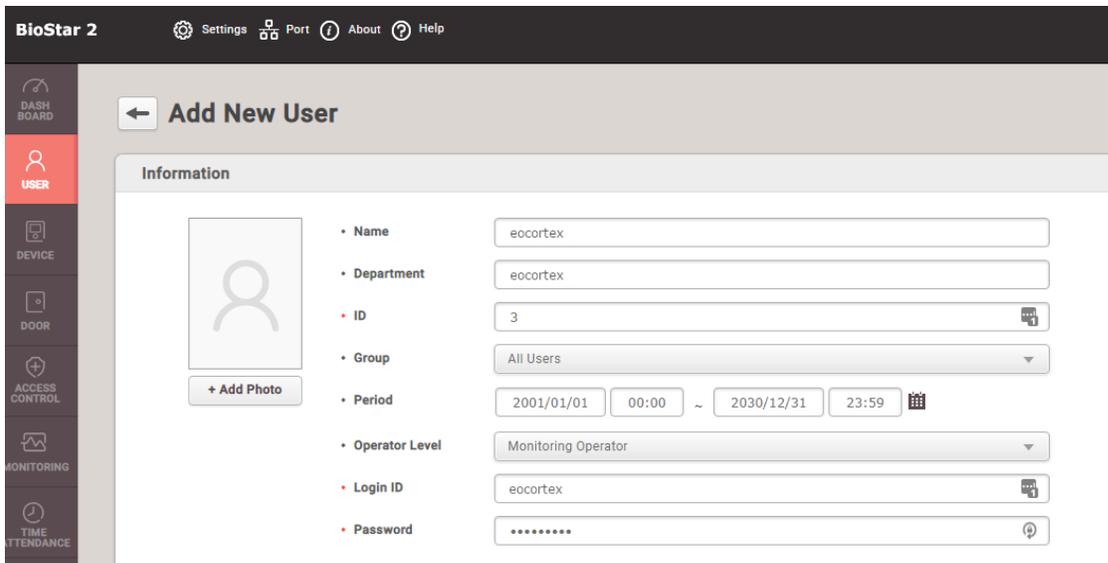
Note

HTTPS is used by default.



On the **Port** tab, network ports for connection can be configured. **Eocortex** uses either HTTP (if insecure connection is selected) or HTTPS (if secure connection is selected) connection port.

The user under which **Eocortex** connects to the ACS must be provided with rights to read and monitor data (Monitoring Operator level), in case of problems it is recommended to provide administrative access.



#### Requirements and limitations

- Integration is developed using **BioStar 2 New Local API**, available in **BioStar 2** since version 2.7.10. The possibility of enabling integration with earlier versions of ACS is not guaranteed.
- The possibility of receiving events from **BioStar 2** was developed for the ACS version 2.8.11.60. The functionality of this feature with earlier versions of the ACS is not guaranteed.
- The possibility of sending commands to **BioStar 2** was developed for the ACS version 2.9.0.80. The functionality of this feature with earlier versions of the ACS is not guaranteed.
- The time and time zone settings on the **Eocortex** and **BioStar 2** servers must match.

- One **Eocortex** system can be connected only to one **BioStar 2** server at a time.

### Advanced integration with BioStar 2

This integration allows to add devices from **BioStar 2** to **Eocortex** on maps and plans and display the current state of these devices.

#### Note

Integration is available in **Eocortex** version 4.3 and above.

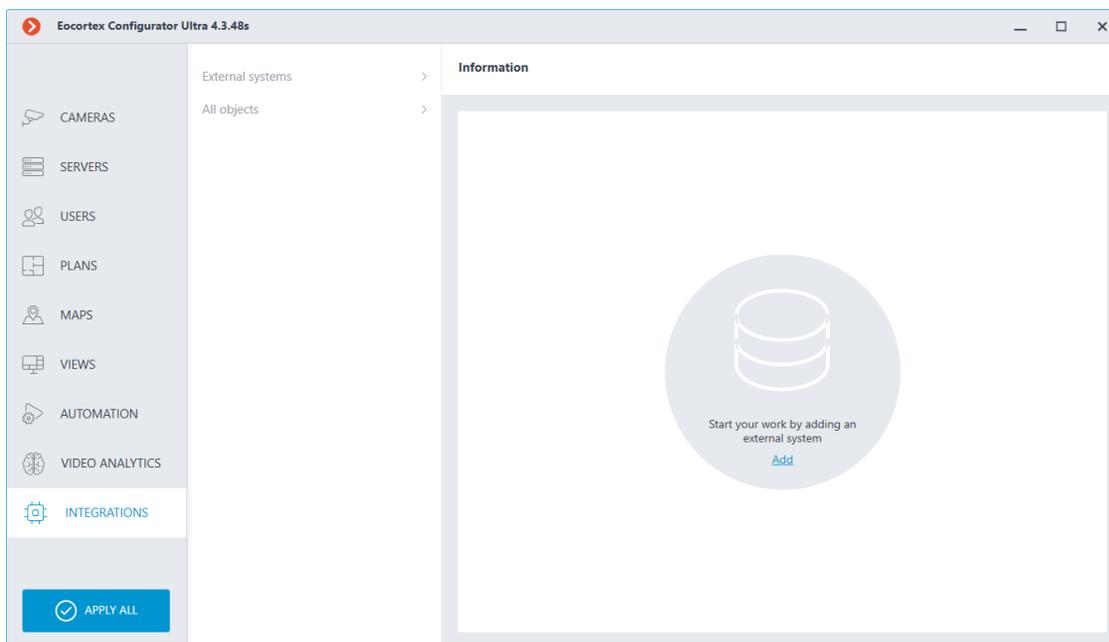
Integration implemented with **BioStar 2** version 2.9.0.80.

#### Setting in Eocortex Configurator

Before the **Eocortex** server can to interact with the **BioStar 2** ACS, it is necessary to launch the **Eocortex Configurator** application and then go to the



**Integrations** tab.

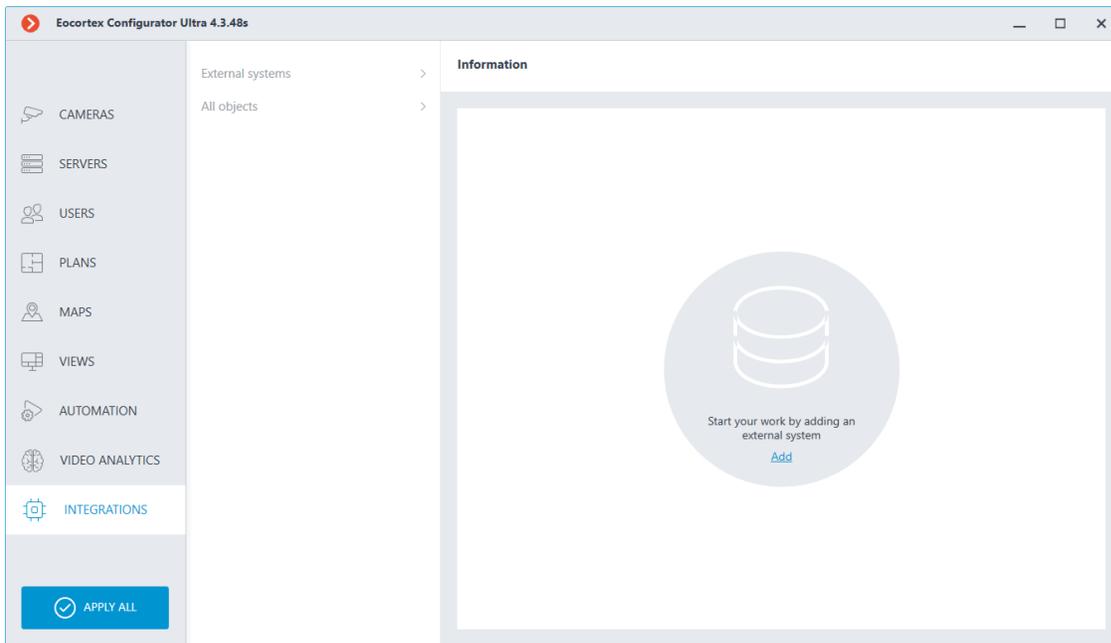


There are two partitions available on the **Integrations** tab:

- External systems
- All objects

#### External systems

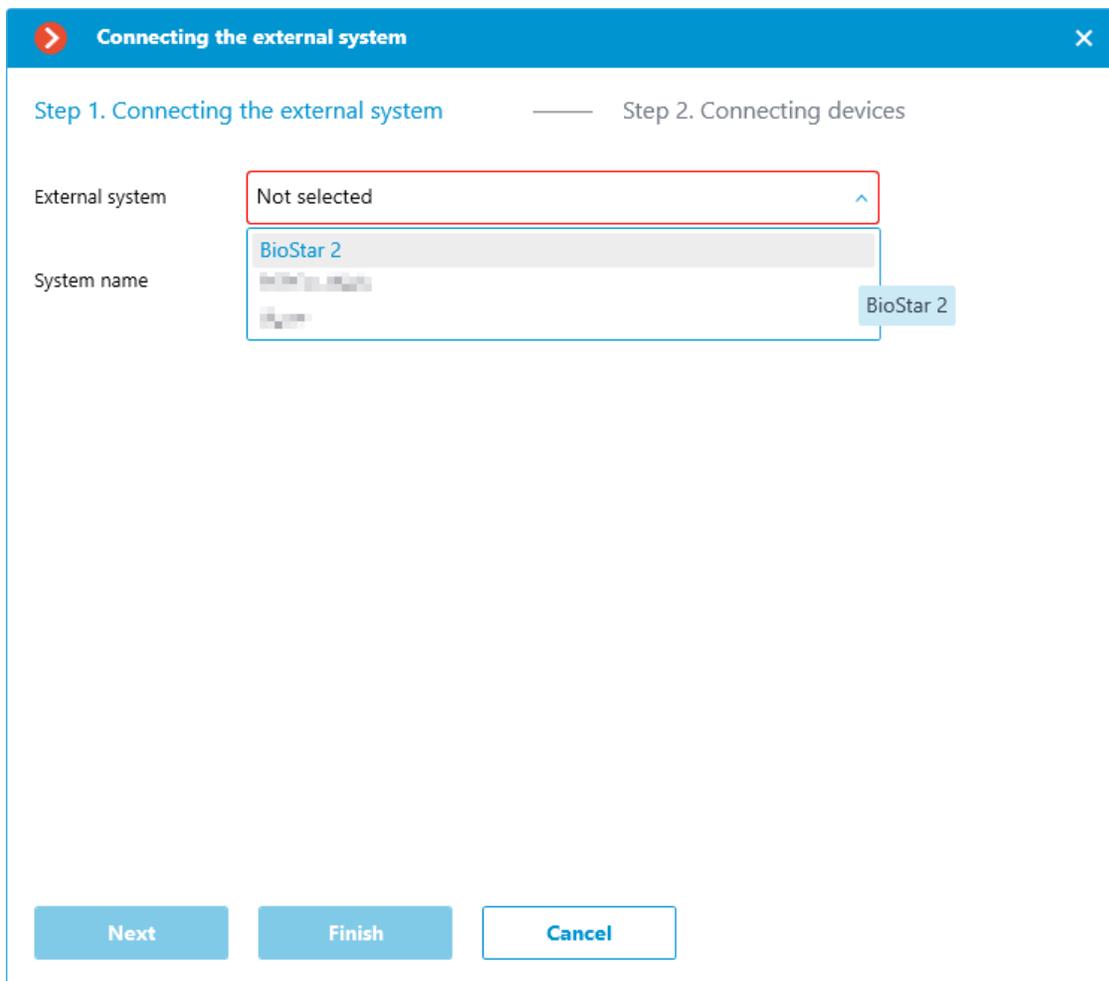
To add a new connection to the external system, click the **Add** button.



## Note

Also, if the system already has connections, adding a new external system connection is available by clicking the **+** **Add** button at the bottom of the page.

After that, the Configuration Wizard window will open. You should select **BioStar 2** in the **External system** drop-down list .



When you add a connection to an external system, the External System Connection Settings Wizard window will open.

Available settings are as follows:

- Server address
- Server port
- Username
- Password

**Connecting the external system**

Step 1. Connecting the external system — Step 2. Connecting devices

External system: BioStar 2

System name: BioStar 2

Server address:  127.0.0.1

HTTP port: 80

Username: admin

Password:

[Connect](#)

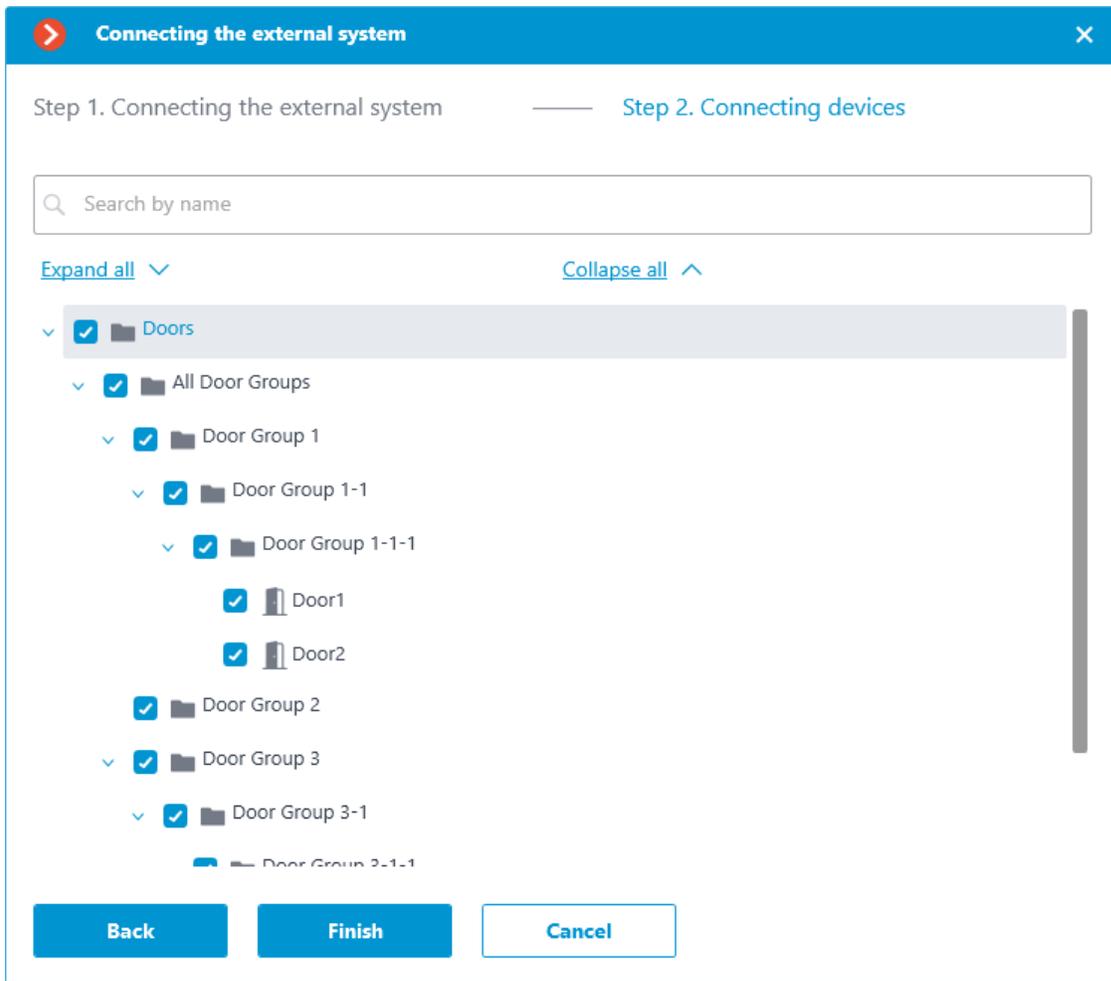
Status: Not tested

**Next** **Finish** **Cancel**

The **Status** field contains the result of the check:

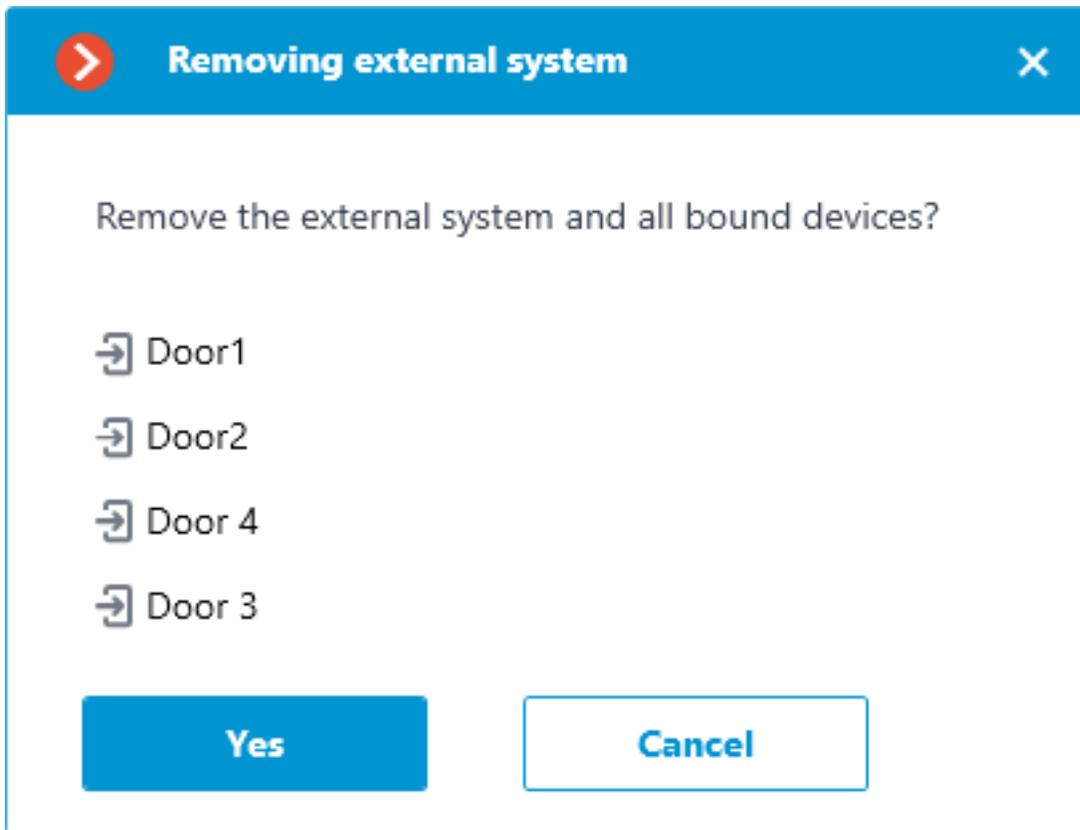
- **Not tested**
- **Testing...**
- **Connection succeeded**
- **Wrong login details.**
- **Server is unavailable**
- **Request timeout**
- **Unknown error:** More detailed information about such errors can be found in **Eocortex** log files, which can be passed to technical support for analysis.

After the connection is configured and verified, the second step of the setup wizard **Connecting Devices** will be available.



After clicking **Done** button, the added system will appear in the list of systems in **External systems**.

If an external system is deleted, a warning message will appear with a list of devices of the system being deleted.



#### Note

Connecting settings can be changed by clicking the **Edit** button.

When a connection is selected, the **Rights** tab is available on the right side of the window. The tab contains an administrator groups list with rights to configure the external system.

#### Note

If there is no right for **Configuring**, the user will not see the connection to the external system and the devices added to it in the **Eocortex Configurator** application but will be able to create any other connection and add devices to it.

For the group **Senior administrators**, it is not possible to change the rights to configure an external system because the rights for such a group are not restricted.

The external system configuration right is not available for the **Operators** group.

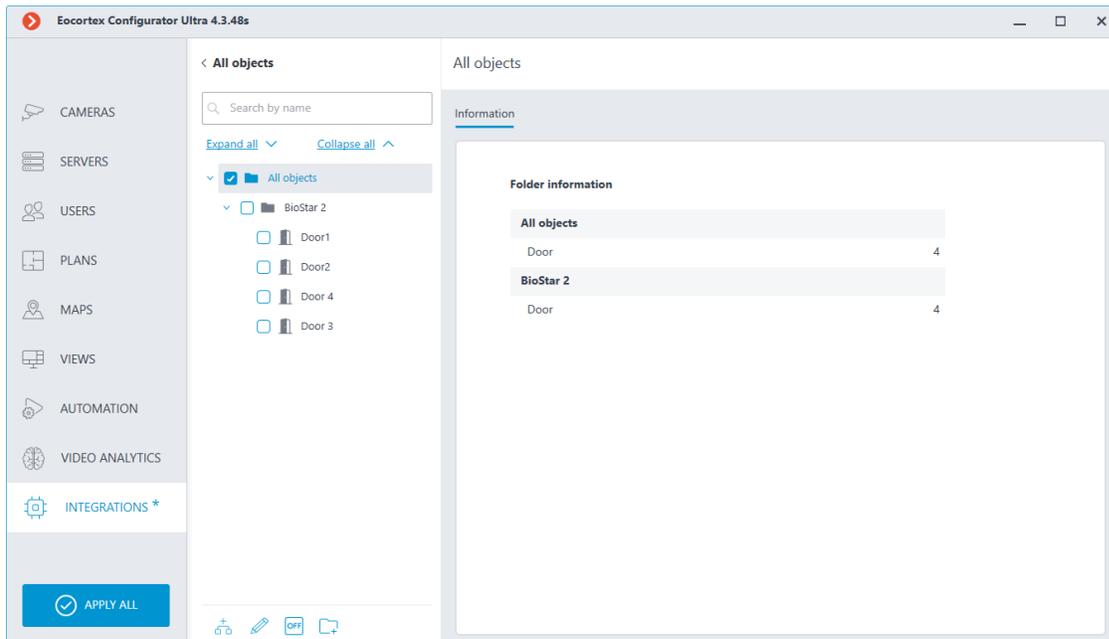
#### Warning

For users of the **LS**, **ST** licenses, only groups with configuration right enabled on the  **Users** tab have configuration rights.

Also, changing the settings of external system configuration rights is available on the  **Users** tab.

All objects

If you select **All objects**, the tree of added devices from **External systems** is displayed.



When you select a folder, the **Information** tab displays information about the contents of the folder.

The following commands are also available for added folders:

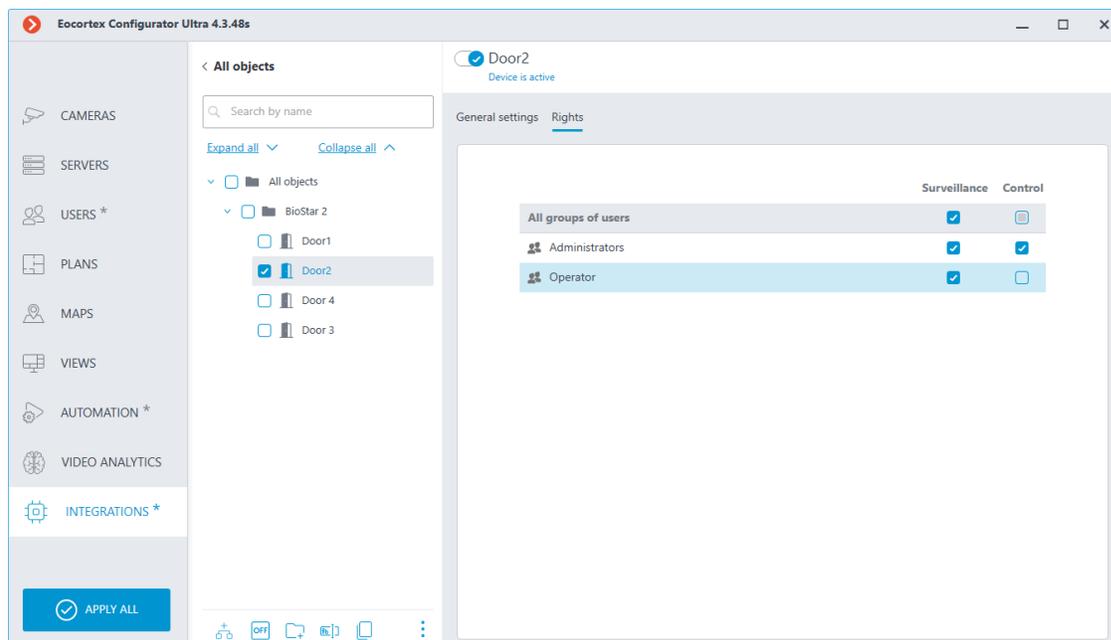
-  **Add devices.** Opens the wizard for configuring the connection to the external system.
-  **Edit object group settings.** Opens group settings that will be applied to all objects nested in the folder.
-  **Disable.** Allows you to turn off all objects nested in a folder.
-  **Enable.** Allows you to turn on all objects nested in a folder.
-  **Add folder**
-  **Rename**

-  **Copy.** Allows you to copy a folder along with its contents to the clipboard.
-  **Cut.** Allows you to cut a folder along with its contents to the clipboard.
-  **Paste.** Allows you to paste a copied or cut folder, along with its contents, from the clipboard into a specified folder.
-  **Delete.** Allows you to delete folders and all its contents.

## Note

The commands are also available from the context menu.

When a device is selected, the **Rights** tab is available on the right side of the window. This tab contains a list of user groups with rights to the selected device.



The **Surveillance** right determines whether the device will be displayed in the **Eocortex Client** application.

The **Control** right allows you to invoke commands supported by the device from the **Eocortex Client** application on maps and plans.

## Warning

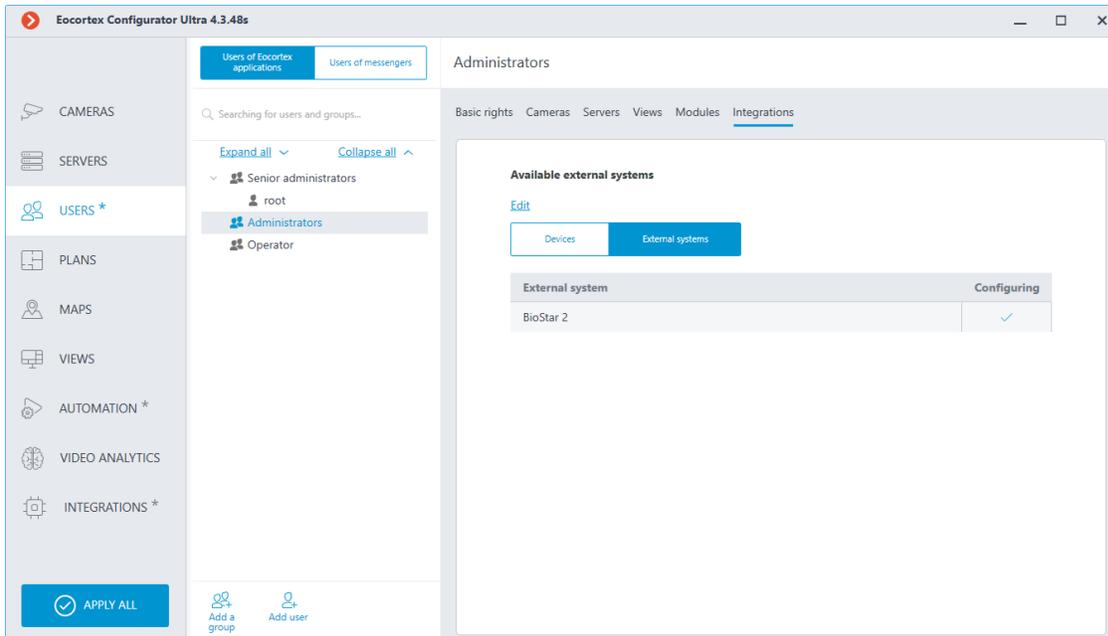
If the **Surveillance** right is unavailable, the **Control** right is automatically cleared.

For the **Senior administrators** group, it is not possible to change the device rights, because the rights for this group are not limited.

Also, changing device right settings is available on the  **Users** tab.

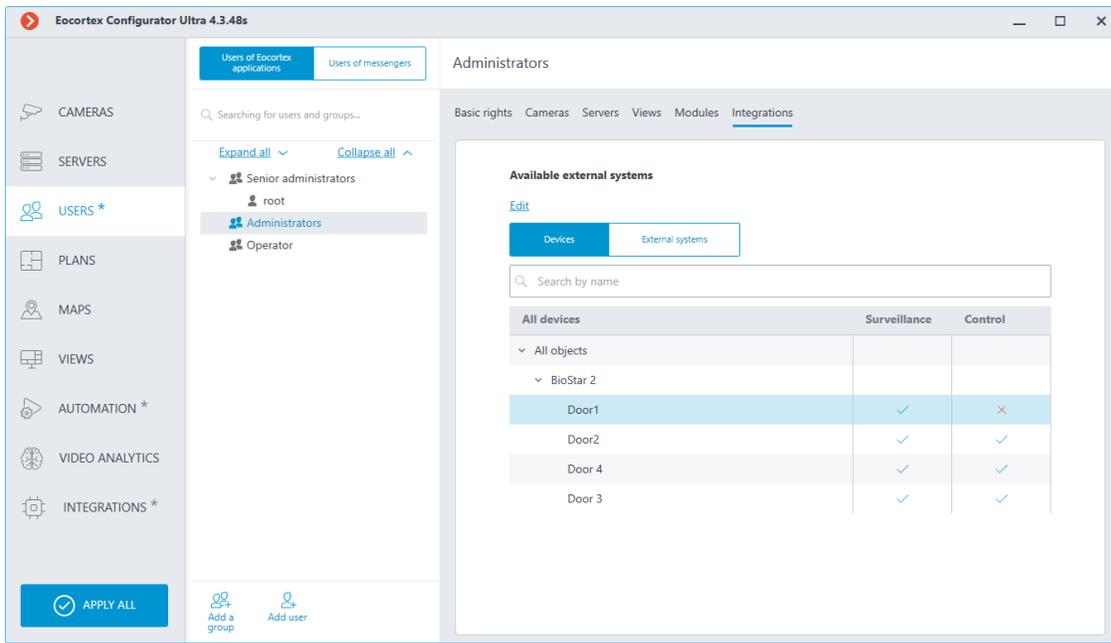
### Users tab

The  **Users** tab is available for setting rights for working with devices of the external system. When selecting a user group, the **Integrations** tab is displayed in the right part of the window.

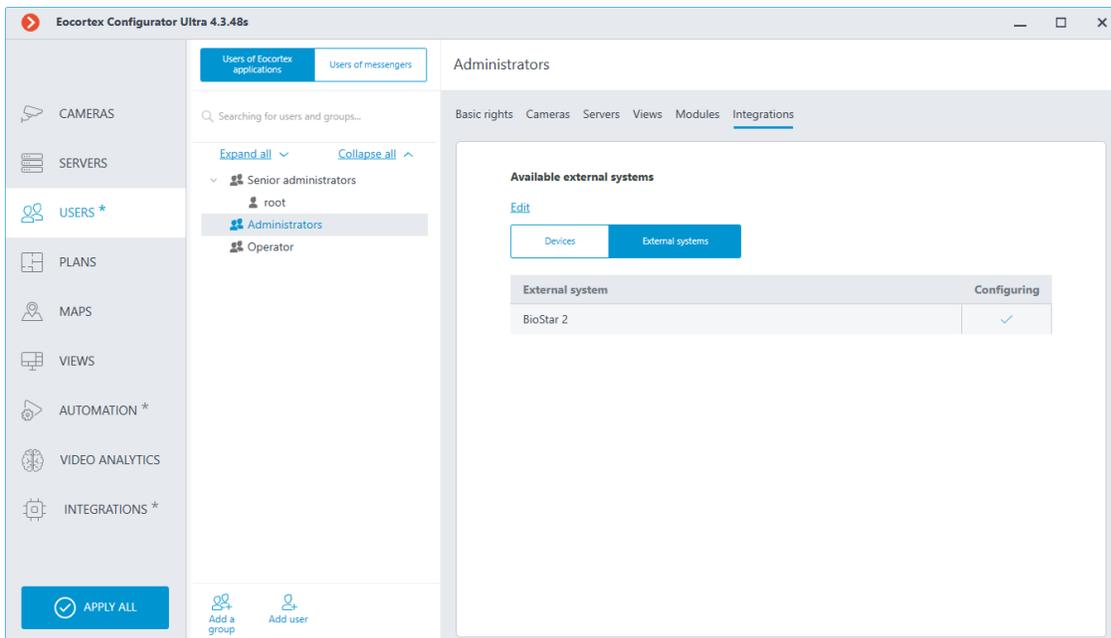


In this tab, you can see a button with switchable states: **Devices**, **External systems**.

When the **Devices** state is selected, a hierarchical structure of folders and devices is displayed with the **Surveillance** and **Control** right for the specific device.



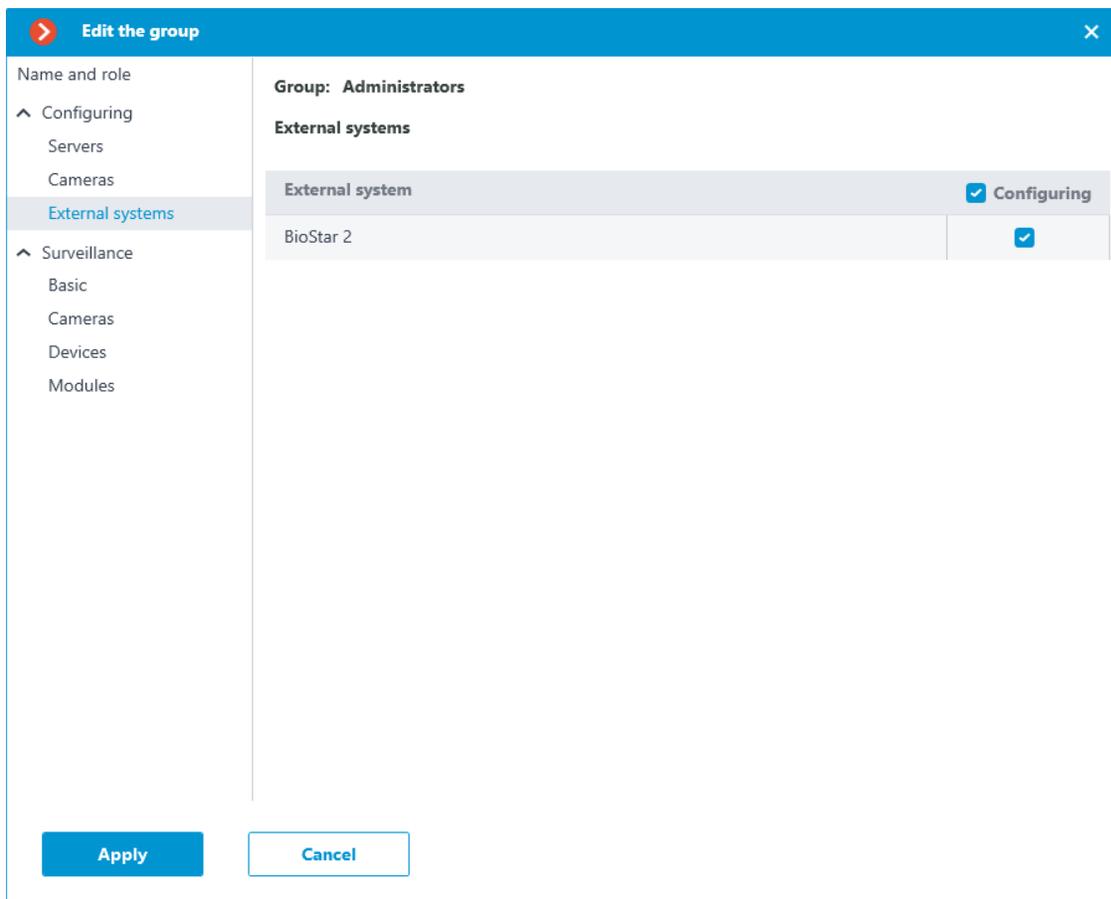
When the **External systems** state is selected, a flat list of external systems with the **Configuring** rights for a particular system is displayed.



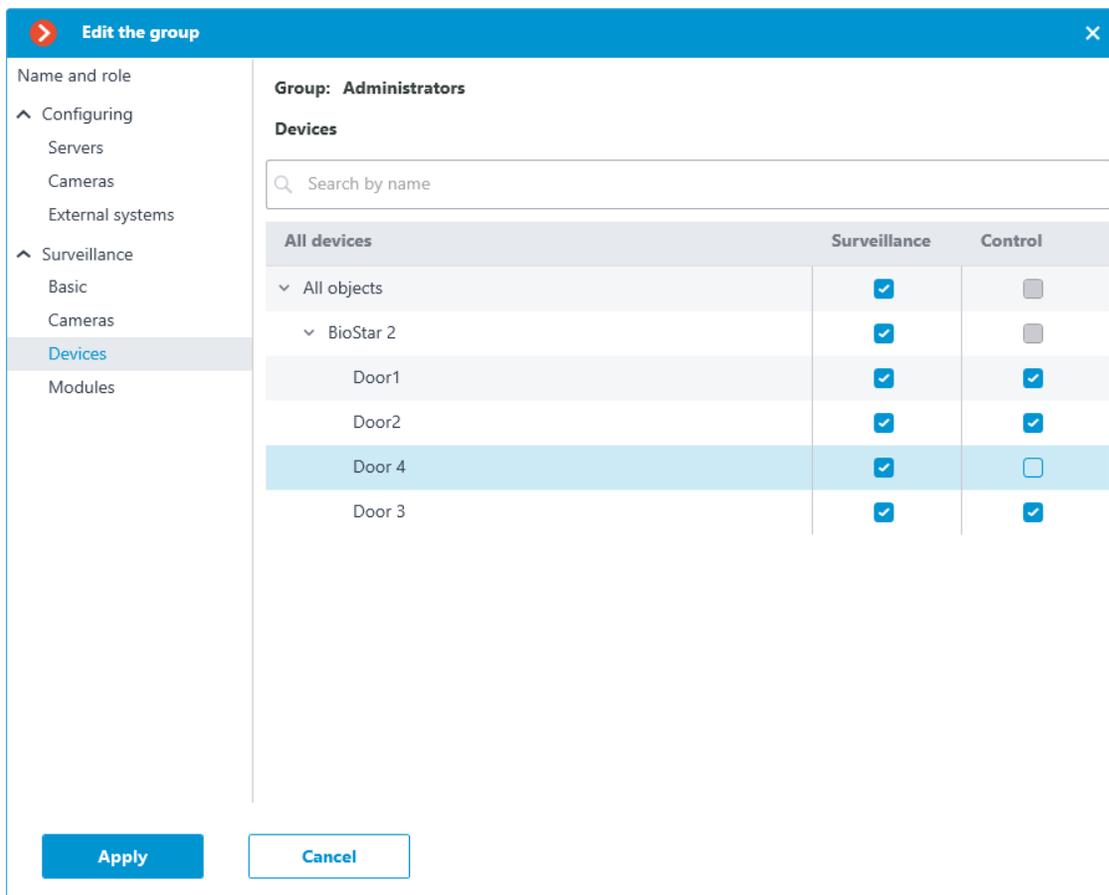
To change the rights settings for specific devices or systems, click the  **Edit** button.

Clicking on the **Edit** text button opens the **Group editing** window of the selected user group.

In **Configuring**, on the **External systems** tab, you can configure the rights to configure the external system connection.



In **Surveillance**, on the **Devices** tab, you can configure device monitoring and management rights.



### *Placement on Maps and Plans*

To work with the external system devices, it is necessary to place the added devices on **Maps** and **Plans**.

To add devices, for example, to a map, click on the  **Eocortex Configurator** tab **Maps** in the **Eocortex Configurator** application, then select the **Placement of devices** section. The created hierarchical structure of the devices added to the **Eocortex** system is displayed here.

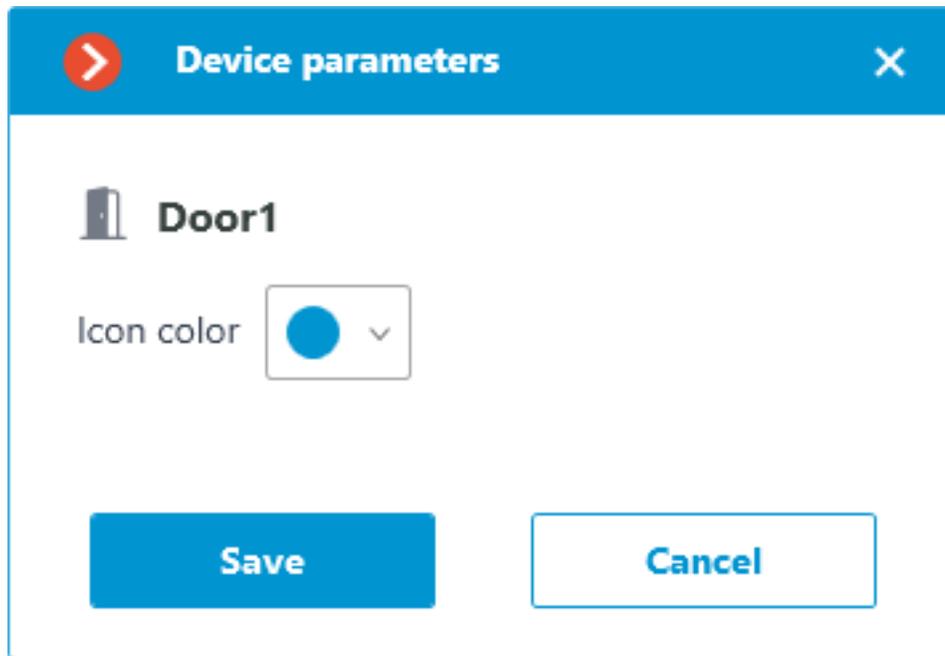
To place a device on the maps, you need to click the left mouse button on the device and drag it to the map.

### Note

The procedure for placing devices on **Plans** is similar.

The following commands are available for the device marker:

- **Show in tree.** Allows you to switch from a marker on a map or plan to the device tree displayed in the **Placement of devices**.
- **Edit parameters.** Opens a window with the ability to change the color of the device marker icon.



- **Delete.** Allows you to delete the device marker from the map or plan.

After you have added devices from external systems to the plan or map, it becomes available for operation in the **Eocortex Client** application.

*Use in Eocortex Client*

Devices of external systems configured and added to **Maps** or **Plans** in **Eocortex Configurator** are available for operation in **Eocortex Client** in **Maps** or **Plans** partitions.

Status of the device

The **Suprema BioStar 2** ACS device is displayed as a round marker with a door image. Status icons are displayed around the edges of the marker, depending on the device status:



**Closed.** Displayed as a closed door icon.



**Open.** Displayed as an opened door icon.



**Access point blocked.** Specifies the status of the door lock, displayed as a green closed lock.



**Unlocked.** Specifies the status of the door lock, displayed as a red open lock.



**Alarm.** Occurs when the door is broken in (event code 0x4000), forced open (event code 0x5600), or held open (event code 0x5800).



**Unknown.** No connection with the **Eocortex** server. Also displayed when **Eocortex Client** is started before the device status is received from the **Eocortex** server.



**Connection failed.** Occurs in case of connection errors between the **Eocortex Client** server and the external system server.

### Device commands

To control devices and zones, left-click on the marker, and the **Perform the command** button will become available. When you click it, the list of commands supported by the **Suprema BioStar 2** device is displayed:

- **Open.** Sends a command to open the door to **Suprema BioStar 2**.
- **Release.** Sends a command to change the access mode, in which the door access control will be determined by the ACS.
- **Manual lock.** Sends a command to set the access **Access point blocked** mode. In this mode, access to the door is denied to everyone. More detailed information can be found in the **Suprema BioStar 2 ACS documentation**.
- **Manual unlock.** Sends a command to set the access the **Unlocked** mode. In this mode, everyone is allowed access to the door. More detailed information can be found in the **Suprema BioStar 2 ACS documentation**.
- **Clear alarm.** Sends a command to clear alarms on the device.

Also, it is possible to show the corresponding device in the tree for a marker using the **Show in tree** command.

### Grouped markers

If there are several adjacent markers on the map or plan, the markers can be grouped into a **Grouped Marker** when you change the display scale.

**Grouped markers** display the number of grouped external system devices

The same commands are available for grouped markers of devices as for single markers.

### Warning

The selected command will be applied to each device in the grouped marker if the device supports the command.

### Integration with Honeywell's Pro-Watch®

**Eocortex** is integrated with the **Honeywell's Pro-Watch®** comprehensive security platform. The integration makes it possible to receive and display the **Honeywell's Pro-Watch®** events, as well as to set up responses to such events.

The integration will work with versions 4.3.5 and later of **Honeywell's Pro-Watch®**.

For the integration to work, it is required to properly set up both **Honeywell's Pro-Watch®** and **Eocortex**.

Note

- Integration is available in version **Eocortex 2.8 and higher**.
- Integration was performed with **Honeywell's Pro-Watch®** version **4.3.5**, will also be compatible with later versions of 4.X.

### Honeywell's Pro-Watch® Setup

The information regarding the setup of **Honeywell's Pro-Watch®** for integration purposes is found in the restricted API setup and operation documentation supplied together with the **Honeywell's Pro-Watch®** distribution kit. The brief list of conditions, requirements and actions aimed at ensuring the successful integration of **Honeywell's Pro-Watch®** is shown below.

- The availability of the activated **Pro-Watch Database Transfer Utility** and **Pro-Watch Database Transfer Utility via API** licenses.
- The **Pro-Watch API Service** is activated and launched by the user with the access to **Pro-Watch** database.
- The **REST** and **SignalR** ports (**8734** and **8735** by default, correspondingly) of **Pro-Watch** servers are available.
- There exists a **Pro-Watch** user for whom the **Web password** has been enabled in the user settings of the database. This password will be required to be indicated in the **Eocortex** settings.
- The capability of transferring events between the **Pro-Watch** workstations is enabled.

## Eocortex Setup

For setting up the response of the **Eocortex** server to the **Honeywell's Pro-Watch®** events, it is required to launch the **Eocortex Configurator**

application, go to  **Automation** tab, and select a camera in the list. Then, in the opened page, go to the **Integrations** tab and [set up the connection to the Honeywell's Pro-Watch® server](#). After that, it is required to go to the **Tasks by event** tab and [set up the responses to the Honeywell Pro-Watch event](#).

## Integration with intercoms

**Eocortex** allows the interaction with video intercoms connected with the network via the IP protocol. The outdoor panel acts as an IP camera with additional functionality — the ability to unlock the door lock. For interaction with the intercom, a special interface is used in the **Eocortex Client** application.

### Configuring TrueIP TI-6000WD Call Panel

To configure the **TrueIP TI-6000WD** Panel, log into the web interface of the panel (its default IP address is 10.5.22.89).

In the web interface, go to the LAN settings and set the Register to the MGT Centre flag.

Then in the **MGTCentreIPAddress** field specify the IP address of the **Eocortex** server.

#### Warning

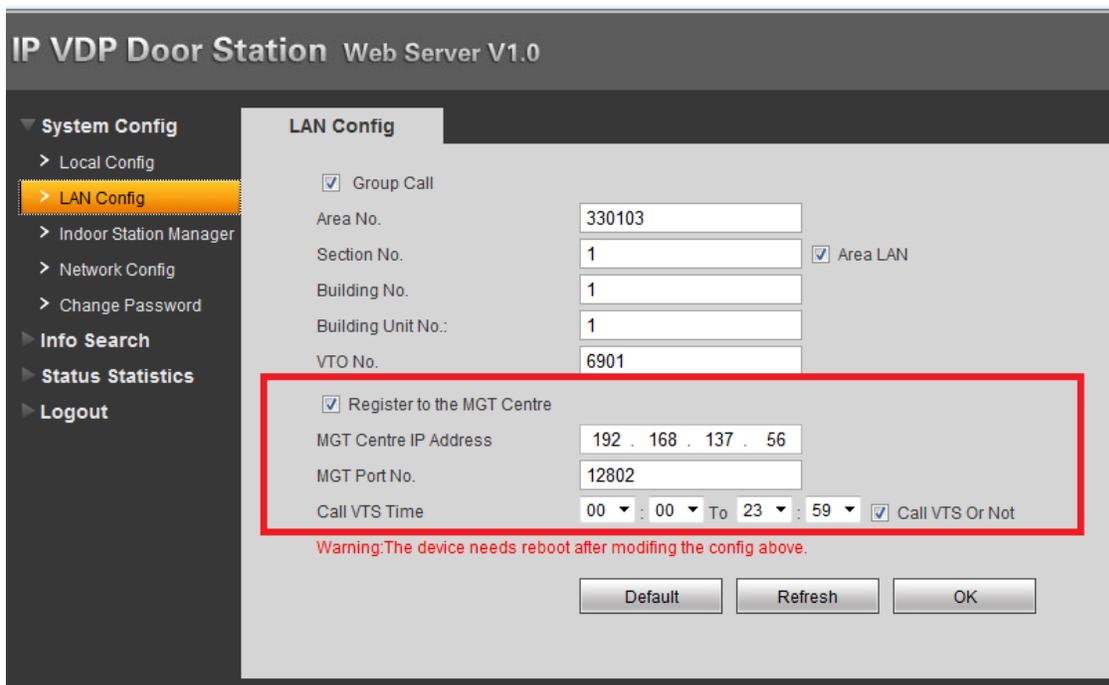
The IP address of the **Eocortex** server must be from the same subnet as the address of the call station.

In the **MGT Port** field, specify the UDP port that will be used for connecting the panel to the **Eocortex** server.

#### Warning

If there are several panels, the UDP ports for them must be different.

Also, set the flag **Call VTS Or Not** and set the **00:00 To 23:59** value to the **Call VTS Time** field.



Reboot the device for the settings to take effect.



### Settings in the Eocortex Configurator

To configure the intercom connection to the **Eocortex** server, start the **Eocortex Configurator** application and add the intercom in the **Cameras** tab, specifying the relevant connection parameters considering the specifics below.

**Address (IP address or URL)**

192.168.1.105 [IPv4](#) 

[Set network ports](#)

**Device**

Brand: TrueIP Device type: Door phone Model: TI-6000WD

**Authorization**

Username: admin Password: ●●●● 

**Servers**

Main server: Server 1

**Video streams**

Main

Format: H264 

- Eocortex Client
- Mobile and web clients

Stream for video analytics: Main

Stream for recording to archive: Main

Continuously receive all streams from camera 

**Additional**

Sound reception  
This option cannot be switched off for Door Phone-type device

Audio output  
This option cannot be switched off for Door Phone-type device  
[Test](#) [Select microphone](#)

Alarm inputs/outputs  
This option cannot be switched off for Door Phone-type device  
[Test](#)

Narrow bandwidth camera

Connection via server  
This option cannot be switched off for Door Phone-type device

 Test the camera after changing the settings

[▶ TEST CAMERA](#)

## Warning

For the **TrueIP TI-6000WD** call panel, specify a value for the **Outside panel communication port** setting by clicking **Set Network Ports** to open the settings window.

**Device network ports** ✕

Port for RTSP protocol data receiving

[By default](#)

Outside panel communication port

[By default](#)

[Check port availability](#)

[Apply](#) [Cancel](#)

To configure how the **Eocortex** server reacts to calls from the intercom, go to the  **Automation** tab, select the intercom in the camera list, then, on the page that opens, go to the **Tasks by event** tab and [configure actions](#) in response to **Emergency vehicle detected**.

## Integration with Paxton Net2

**Eocortex** is integrated with **Paxton Net2** systems.

**Eocortex** allows obtaining **Paxton Net2** events and register them in the event log, as well as to set up a response to these events in **Eocortex**.

It is also possible to set sending of an **Eocortex** event that initiates the opening of a door to **Paxton Net2**.

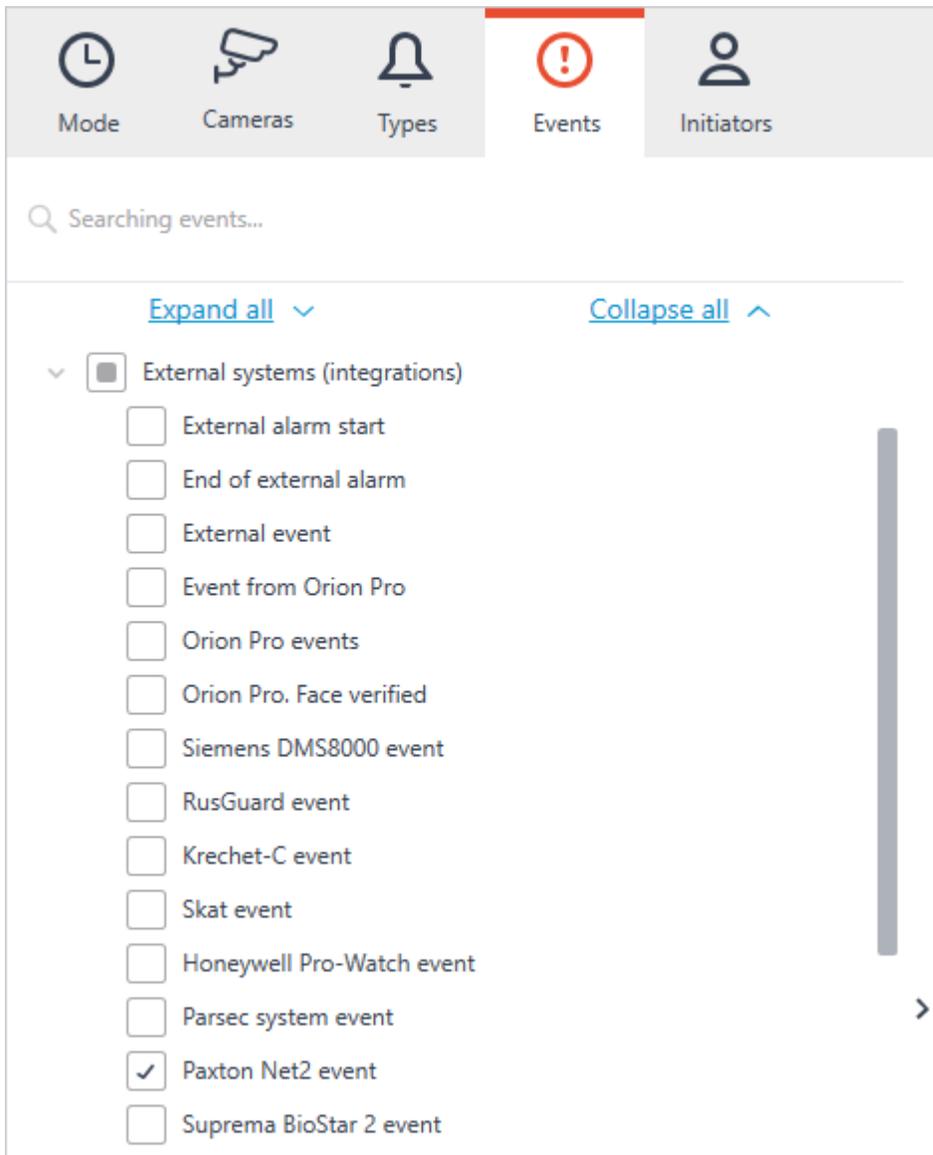
Note

Integration is available in version **Eocortex 3.3 and higher**.

### Events log

All received events from **Paxton Net2** ACS can be viewed in the **Eocortex Client** Events Log.

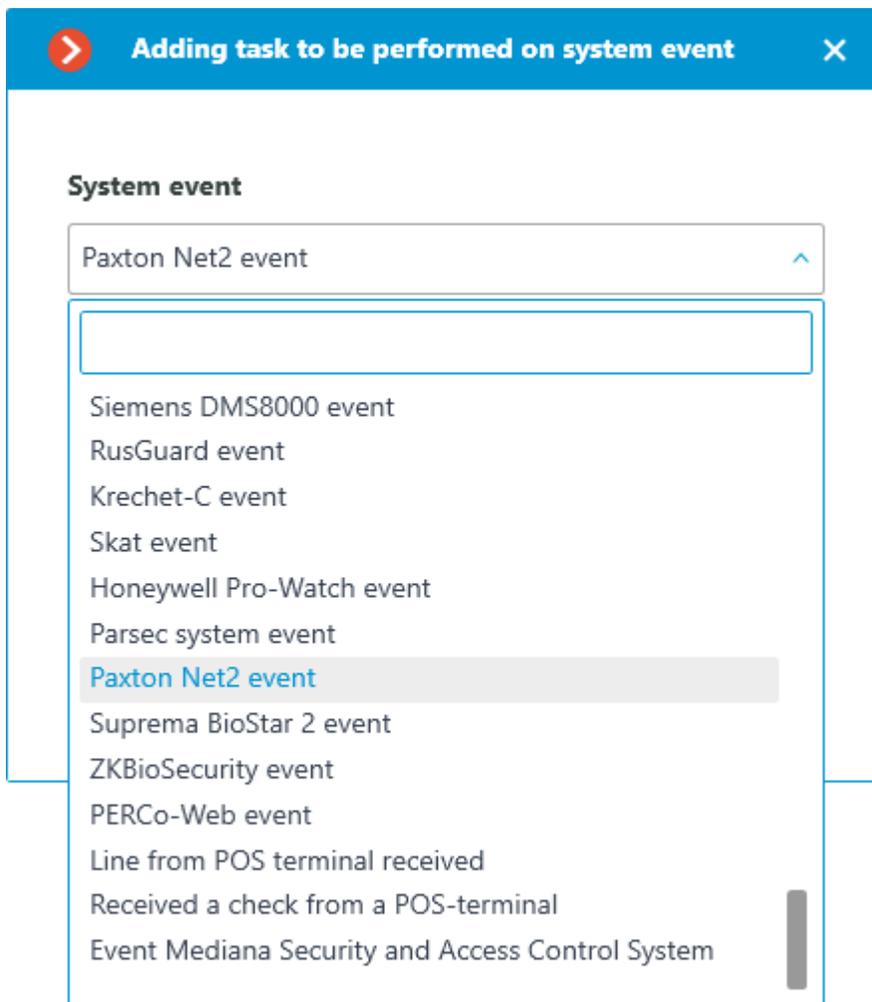
Additionally, **Paxton Net2** events can be filtered in the Events log.



### Configuring tasks by events

To configure tasks performed in response to events occurred in the **Paxton Net2 ACS**, open the **Eocortex Configurator** application and go to the **Automation** tab. Select an individual camera or entire folder in the camera tree and switch the **Tasks by event** tab on the page that opens.

Create a new task by event with the **Paxton Net2 event** selected in the top field.



All standard actions are supported for creation of tasks by **Paxton Net2 event**.

The event allows setting up various runtime conditions required to met for execution. If several conditions are set, the action will be performed only if all of them are met. If no conditions are set, the action will be performed when any event from **Paxton Net2** is received.

> Action settings
×

Actions Runtime conditions (6)

Event attribute	Comparison	Value	
Type of event	Equal	Door open	🗑️
Event subtype	Equal	Via door entrance syst...	🗑️
User ID	Equal	12345678	🗑️
User name	Equal	Smith	🗑️
Device ID	Equal	876543214	🗑️
Area name	Equal	WarehouseA1	🗑️

[Add condition](#)

Apply
Cancel

The following attributes are available as runtime conditions:

- **Type of event:** select from the listed types of events used by **Paxton Net2** ACS. The following types are available:
  - Door open (user action)
  - Door open
  - Door closed
  - Door did not open
  - Door unblocked
- **Event subtype:** select from the listed subtypes of events used by **Paxton Net2** ACS. The following types are available:
  - Open
  - Closed
  - Via network instruction

- Via door entrance system
- **User ID:** unique user identifier that is internal to the ACS;
- **Username:** the name of the employee or visitor as it is set in the **Paxton Net2** ACS;
- **Device ID:** numeric identifier of the device as it is set in the **Paxton Net2** ACS;
- **Area name:** the string value of the zone name where the event has occurred as it is set in the **Paxton Net2** ACS.

#### Configuring Open door Paxton Net2 action

To allow the **Eocortex** server sending commands to **Paxton Net2** ACS to open doors, run the **Eocortex Configurator** application and go to the  **Automation** tab. Select an individual camera or entire folder in the camera tree. On the page that opens, depending on the desired type of task, go to the tab **Scheduled tasks** or **Tasks by event** and create a new task with the **Open door Paxton Net2** action.

 Add action
×

**Action**

Open door Paxton Net2 ▼

Адрес сервера Paxton Net2 server address	<input style="width: 90%;" type="text" value="192.168.56.1"/>
REST port	<input style="width: 90%;" type="text" value="8080"/>
User name	<input style="width: 90%;" type="text" value="Admin"/>
Password	<input style="width: 90%;" type="password" value="•••••"/> 
Client ID	<input style="width: 90%;" type="text"/> 
Door name	<input style="width: 90%;" type="text" value="paxtonDoor"/>

OK

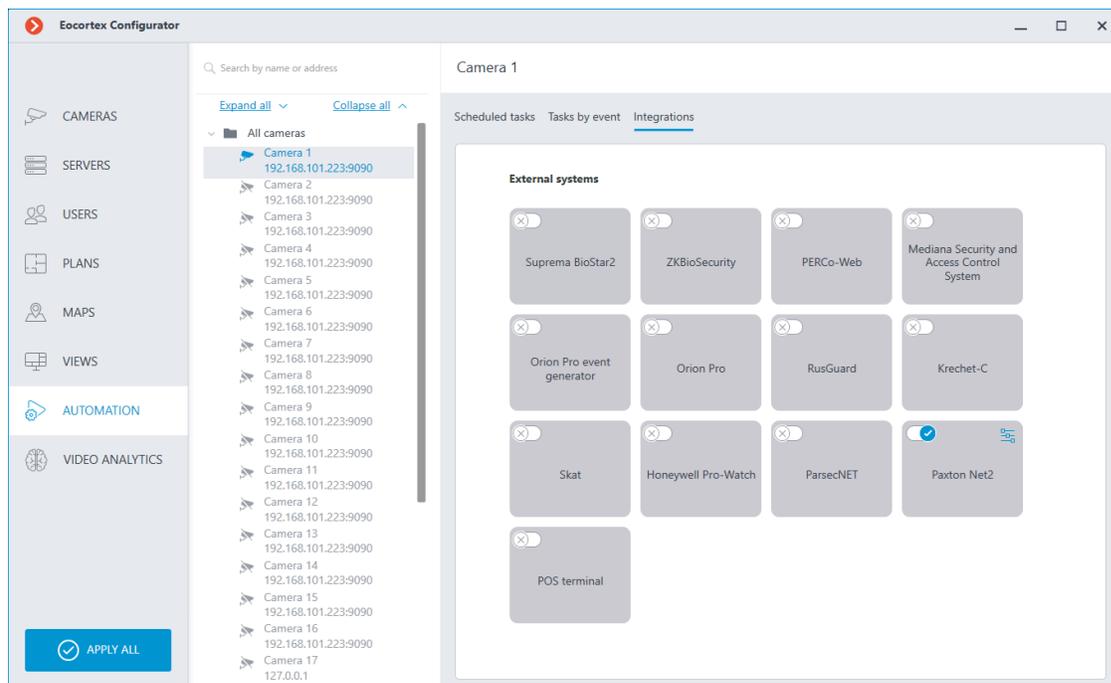
Cancel

When setting up the action, configure the following parameters:

- **Paxton Net2 server address:** IP address or domain name of the Paxton Net2 server
- **REST port:** Port for sending REST API requests to the Paxton Net2 server (usually the same as SignalR)
- **Username:** Name of the Paxton Net2 account used for connection
- **Password:** Password of the Paxton Net2 account used for connection
- **Client ID:** Identifier contained in the Paxton Net2 license filename
- **Door name:** The door name as it is set in the Paxton Net2 ACS

### Configuring events reception in the Eocortex Configurator application

To allow the **Eocortex** server responding to the **Paxton Net2** ACS events, run the **Eocortex Configurator** application and go to the  **Automation** tab. Select the camera in the list and switch to the **Integrations** tabs on the page that opens.



On the tab, enable integration with Paxton using  switch, then configure the integration by clicking  button.

The following tabs are available in the integration settings:

- **General settings;**

- **Camera settings.**

General settings

The **General settings** tab is used for setting up the connection to the **Paxton Net2** ACS server.

The screenshot shows a dialog box titled "Paxton Net2 settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "General settings" (which is selected and underlined) and "Camera settings". The main content area contains several input fields: "Paxton Net2 server address" with a lock icon and the value "192.168.100.103"; "SignalR port" with the value "8080"; "REST port" with the value "8080"; "Username" with the value "OEM Client"; "Password" with three dots and a visibility icon; and "Client ID" with a series of dots and a visibility icon. At the bottom left of the input area is a blue "Connect" button. Below the input area, the status is displayed as "Status: Successful connection." At the very bottom of the dialog are two buttons: a blue "Save" button and a white "Cancel" button with a blue border.

To configure the connection, specify the following parameters:

- **Paxton Net2 server address:** IP address or domain name of the Paxton Net2 server

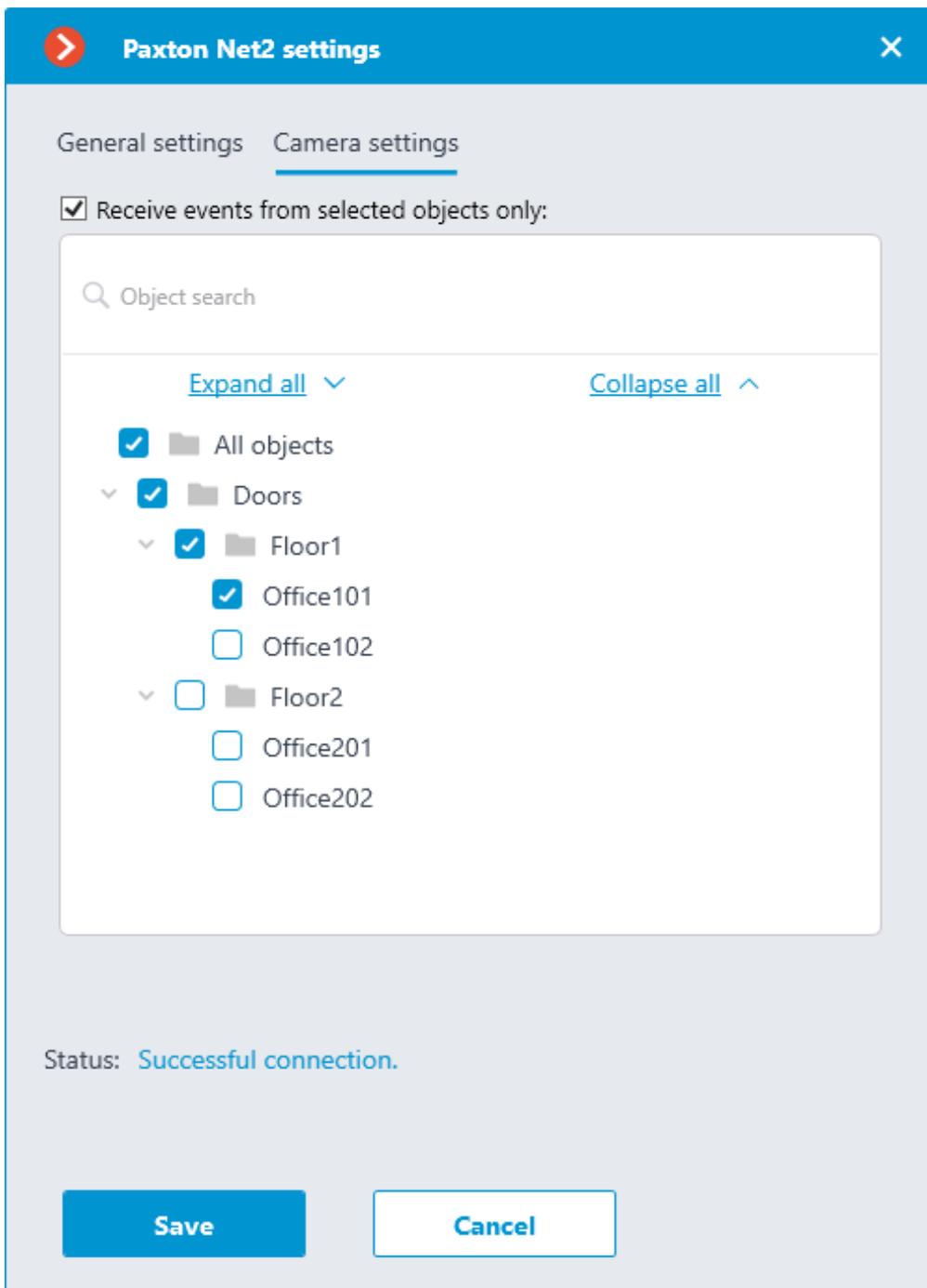
- **SignalR port:** Paxton Net2 server connection port
- **REST port:** Port for sending REST API requests to the Paxton Net2 server (usually the same as SignalR)
- **Username:** Name of the Paxton Net2 account used for connection
- **Password:** Password of the Paxton Net2 account used for connection
- **Client ID:** Identifier contained in the Paxton Net2 license filename

To test the connection with the provided settings, click the **Connect** button. The **Status** section will display the result of the test.

If the connection is successful, further settings should be made on the **Camera settings** tab.

Camera settings

The **Camera settings** tab is used for setting up the registration of events from Paxton Net2 objects in **Eocortex**.



To receive events only from certain objects, enable the **Receive events from selected objects only:** option and check the selected objects.

If the **Receive events from selected objects only:** option is disabled, **Eocortex** will register all Paxton Net2 events as related to the selected camera.

Warning

**Eocortex** registers events for the camera independently of the settings of other cameras, so the same Paxton Net2 object can cause the reaction of the

system and create an entry in the Events Log for multiple cameras simultaneously.

### Integration with POS terminals

The integration with POS terminals that allows to receive and display receipts from POS terminals has been implemented in **Eocortex**. This feature makes it possible to search for transactions and archive fragments for different purposes, e.g., to determine at which checkout an item was purchased.

Note

POS terminals are integrated as external devices, which means that they must be linked to cameras in **Eocortex** (one POS terminal per camera).

Note

The integration is available only for servers running on Windows OS.

Note

An additional license required to use the integration and connect a POS terminal.

Note

Integration is available in version **Eocortex** 3.5 and higher.

#### List of terms

- **POS (Point of sale)** — the place where the purchase occurs. This place is equipped with POS terminal.
- **POS terminal** — external device that sends text messages to the **Eocortex**. Such a device can be a cash register or any other that is capable of outputting text.
- **Receipt** — text message sent from the POS terminal to the **Eocortex**.
- **Transaction** — a sequence of data associated with an individual cash receipt. A transaction begins and ends with messages signaling the start and end of a receipt, respectively. If the message about the closure of the receipt is not received within the specified time, the transaction is terminated by a timeout. Also, the previous transaction may be terminated when a beginning message for a new receipt is received.
- **ESC/POS** — receipt printer control language developed to control POS terminals.
- **POS terminal transaction log** — log of all receipts received from POS terminals.

### Advantages

- Receive data from POS terminals about cash receipts.
- Store received cash receipts.
- View received cash receipts both in real time and in the archive.
- Filter stored cash receipts by cameras and content.
- Use data of cash receipts in Automation scenarios.
- Watch the video related to the transaction both frame-by-frame and step-by-step.
- Navigate through the archive on the timeline by data of received cash receipts.

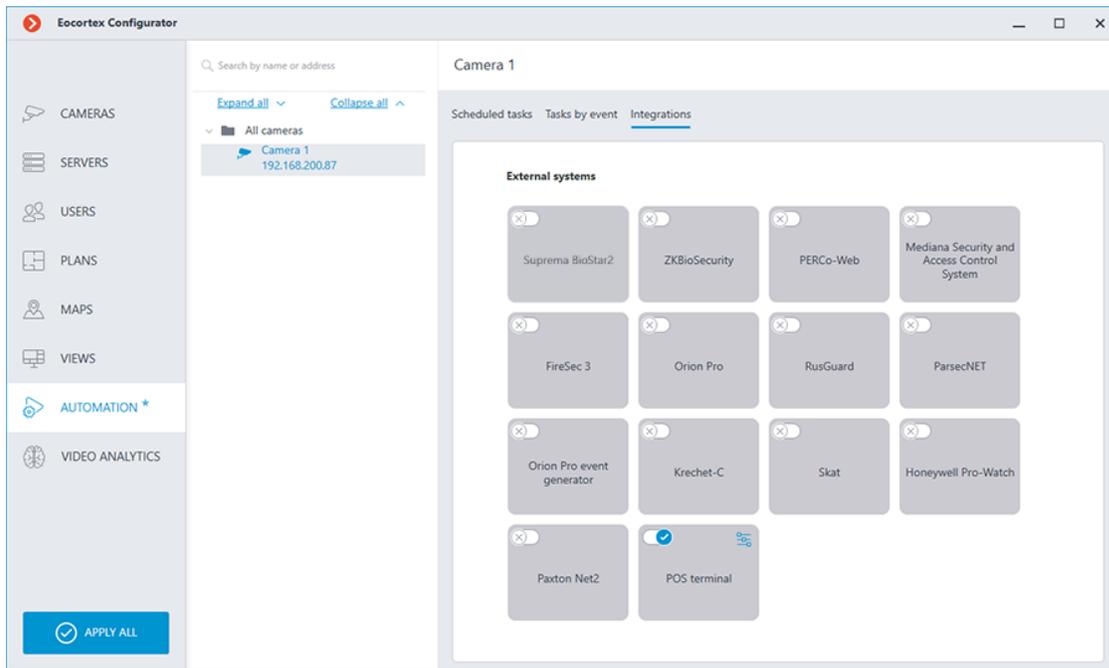
### Features

- Service commands of the ESC/POS protocol are removed from the message without affecting its display.
- Cash receipts from POS terminals can be received only via TCP/IP.
- POS terminal should operate in server mode. In other words, **Eocortex** initiates the connection.
- Displaying of graphical images in the cash receipt is not supported.

### Setting the integration in Eocortex Configurator

To set up integration with POS terminals, run the **Eocortex Configurator**

application and go to the  **Automation** section. Select the camera that will be associated with the terminal from the list, then switch to the **Integrations** tab on the page that opens and enable the slider for the **POS terminal** tile. To configure the integration, click the  button.



This will open the window with settings or the POS terminal integration for the selected camera.

The following tabs are available:

- **Connection;**
- **Receipt borders;**
- **Receipt total amount;**
- **General settings.**

Connection

The **Connection** tab contains settings for connecting to the terminal.

## Note

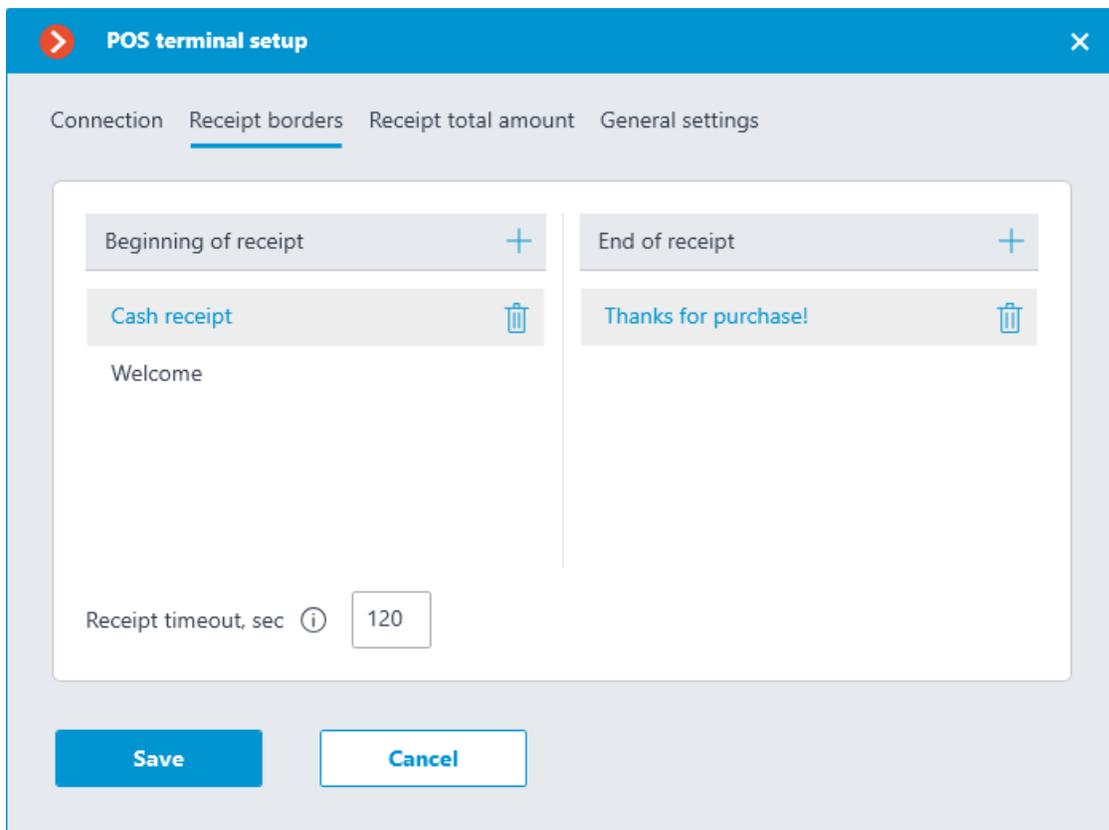
The POS terminal to be connected must operate in server mode.

The **Message coding** field requires to select the encoding in which the data comes from the POS terminal. Availability of encodings depends on the operating system of the computer where the **Eocortex Configurator** application is running. At the same time, it should be noted that the selected encoding must be supported by the server to which the camera is bound as well.

When the settings are defined, the connection can be tested by clicking on the **Connect** button.

## Receipt borders

The **Receipt borders** tab contains the rules for separating receipts from each other, since the data from the POS terminal comes as a continuous stream.



The **Beginning of receipt** and **End of receipt** lists allow specifying signal substrings indicating the opening (beginning) and closing (end) of a cash receipt, respectively. Each received line will be inspected for the presence of signal substrings. For the system, the check will start with a line containing any of the substrings specified in the **Beginning of receipt** list and will end with a line containing values from the **End of receipt** list.

#### Warning

The match between the text of the signal substring and the text in the received line of the cash receipt must be precise, including the case.

#### Note

As a beginning of a cash receipt there can be, for example, the name of the store, captions like **Welcome** or **Receipt**, and so on. The end of a cash receipt is often the store's website address or the caption like **Thanks for purchase!**

The **Receipt timeout, sec** field allows specifying the time of waiting between opening and closing the receipt. The receipt will be closed if no new line has come since the last line was received within this time period.

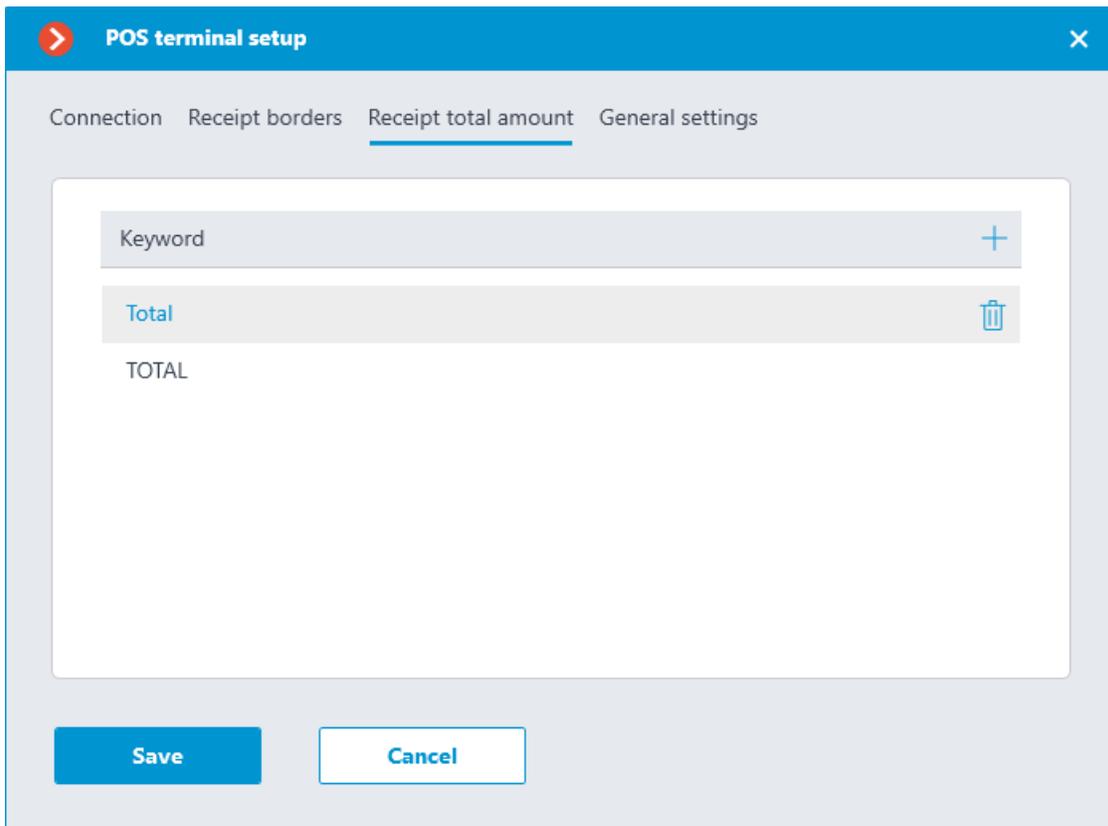
#### Note

A receipt will also be closed when one of the following commands is received from the POS terminal:

- Full cut (of paper).
- Partial cut (of paper).

Receipt total amount

The **Receipt total amount** tab allows specifying signal substrings that contain the total amount of a cash receipt.



As the total amount will be considered the value behind the specified signal substring.

Note

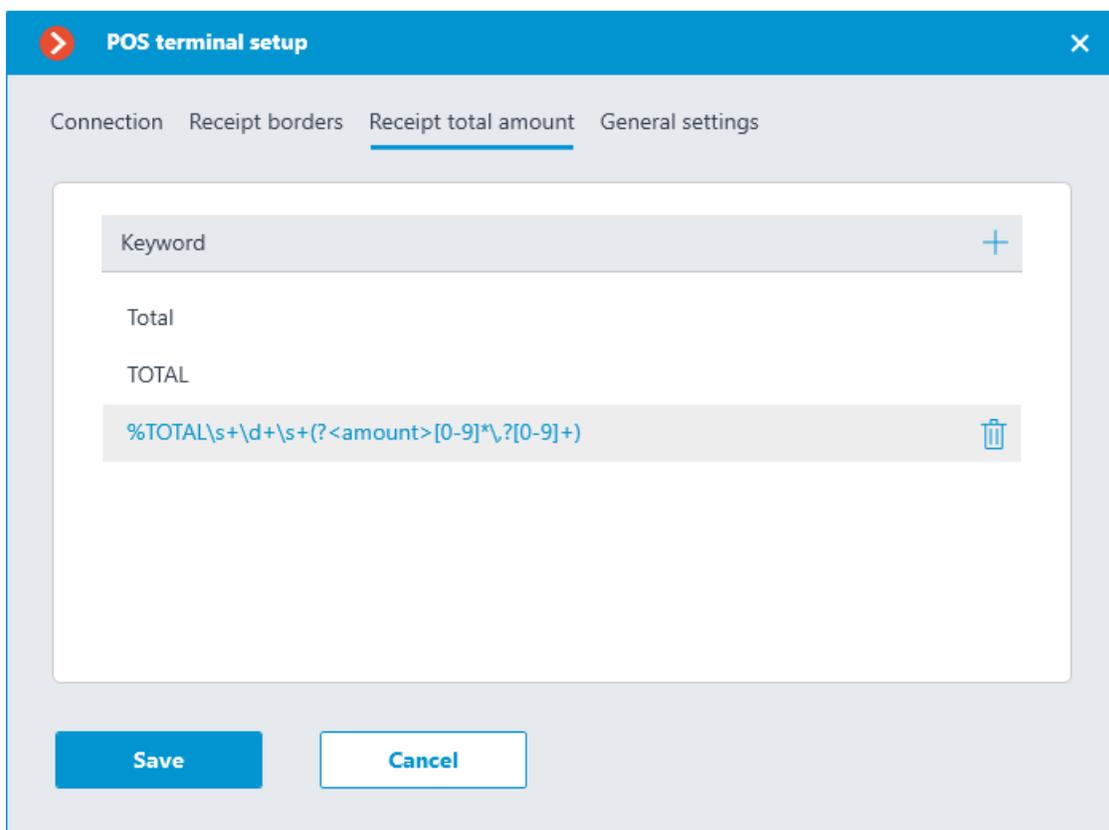
Signal substrings are case-sensitive. For example, the **Total** and **TOTAL** lines should be set as two different substrings.

For more flexible configuration for getting the total amount of the receipt, a regular expression can be used as a signal substring. Such line must start with the **%** sign and contain a named group with the **amount** name.

As an example, below is a receipt from which the value of the total amount can not be obtained using the signal string containing plain text — the value of the **TOTAL** line will be **164050**.

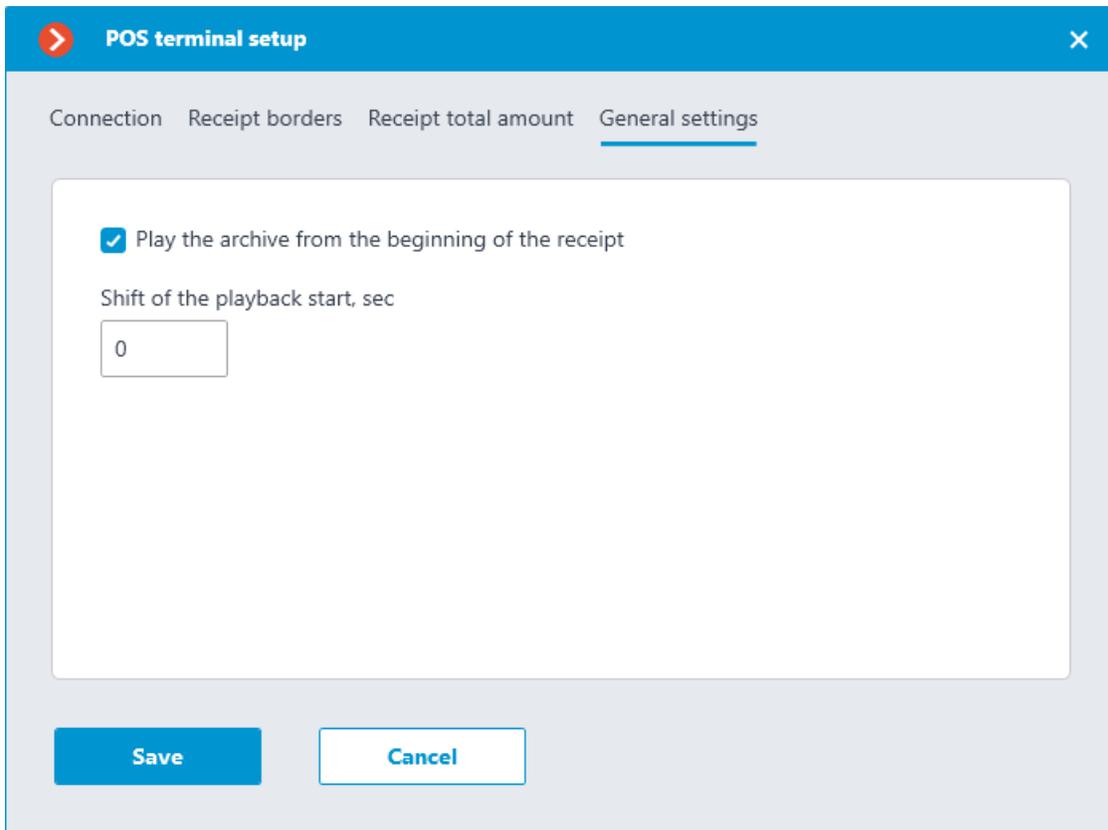
DENOMI.	PCS.	AMOUNT
500	5	2 500
200	5	1 000
100	5	500
50	1	50
<b>TOTAL</b>	<b>16</b>	<b>4 050</b>

In such case, to get the total amount as **4050**, the signal substring can be set as a regular expression as displayed below.



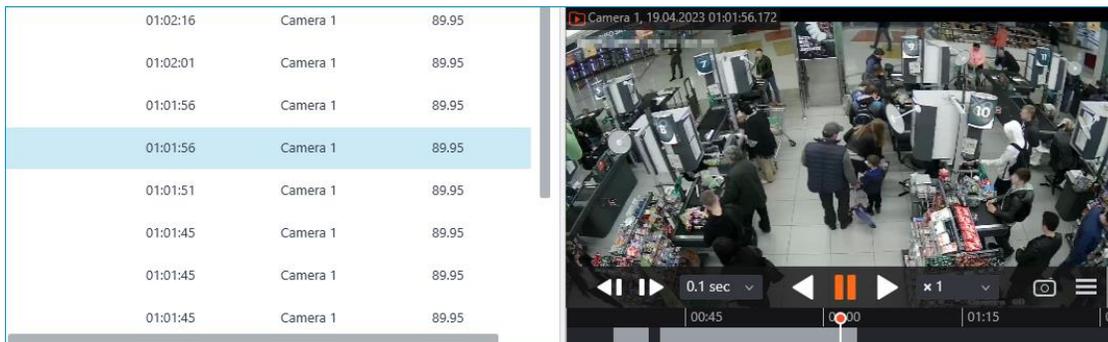
### General settings

The **General settings** tab contains the settings for pointing on the timeline in the archive of the video associated with the received cash receipt.



If the **Play the archive from the beginning of the receipt** option is enabled, the pointer to the beginning of such video will be set on the timeline to the time of the receipt beginning, including the time shift specified in the **Play the archive from the beginning of the receipt** field. If this option is disabled, the pointer to the beginning of the video will be set to end of the receipt.

For example, below is the pointer to the video with the time shift of 10 seconds from the beginning of the receipt.



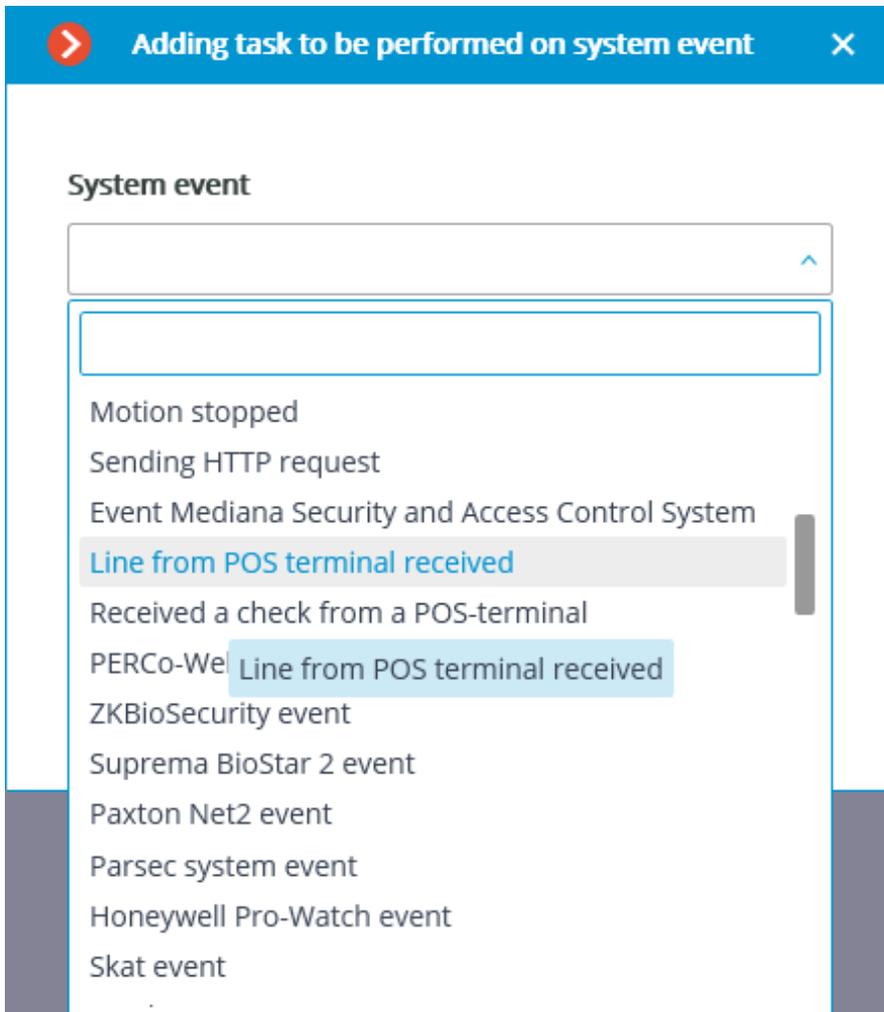
Position of the pointer on the timeline may have a slight inaccuracy.

## Setting tasks by events

The system can perform actions in response to events occurring with

Automation scenarios. To set up such a scenario, go to the  **Automation** section of the **Eocortex Configurator** application. Select a specific camera or a group of cameras in the camera tree and on the page that opens, select the **Tasks by event** tab.

For the **Line from POS terminal received** event, it is possible to set up any standard task.



For the scenario, the runtime conditions based on the content of the line can be set:

The screenshot shows a dialog box titled "Action settings" with a close button (X) in the top right corner. Below the title bar, there are two tabs: "Actions" and "Runtime conditions (1)". The "Runtime conditions (1)" tab is active. Inside the dialog, there is a table with three columns: "Event attribute", "Comparison", and "Value". The "Event attribute" column contains a dropdown menu with "Line of receipt" selected. The "Comparison" column contains a dropdown menu with "Equal" selected. The "Value" column contains a text input field with "milk" entered. To the right of the text input field is a trash icon. Below the table, there is a blue link labeled "Add condition". At the bottom of the dialog, there are two buttons: "Apply" and "Cancel".

Event attribute	Comparison	Value
Line of receipt	Equal	milk

[Add condition](#)

Apply Cancel

By this way, it is possible to make the scenario executable only in the specific cases. For example, enable the archive recording if the cash receipt contains an item that has any restrictions on the sale.

Also, the scenario can be set up for the **Received a check from a POS-terminal** event.

**> Adding task to be performed on system event** ✕

**System event**

Received a check from a POS-terminal ▾

**Action**

Alarm generation ▾

**Apply** **Cancel**

As a runtime condition for such task, the total amount value can be used.

**Action settings** ×

Actions Runtime conditions (1)

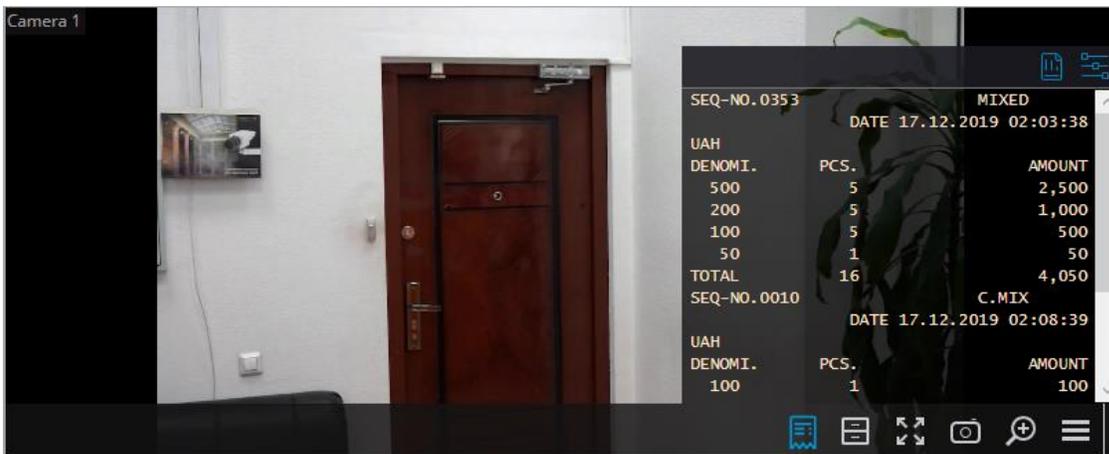
Event attribute	Comparison	Value	
Amount	Equal	1000	

[Add condition](#)

**Apply** **Cancel**

### Eocortex Client

When the integration with POS terminal is enabled, the new button  will appear in the bottom part of the camera cell. This button enables and disables the panel for displaying cash receipts in the camera cell.



By default, the panel is located in the upper right corner of the cell. The panel itself has two additional buttons  ; the first one opens the **POS terminal transaction log**, when the second opens the **Visualization settings** window.

Visualization settings

The 'Visualization settings' dialog box has the following settings:

- Text size:** 12
- Text color:** Orange
- Window position:** Top right
- Background transparency:** Slider set to approximately 50%
- Time of displaying the line, sec:** 10
- Maximum number of lines:** 20

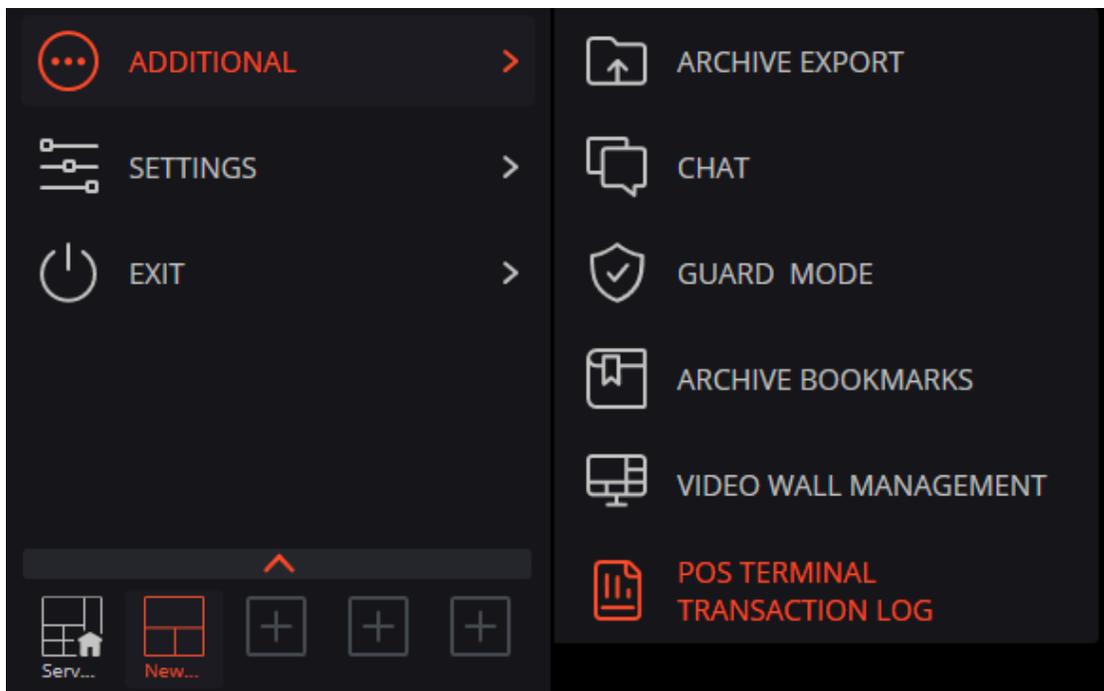
Buttons: Save, Cancel

Transaction log

In the **POS terminal transaction log**, the user is able to view cash receipts stored in the **Eocortex** database, filter cash receipts by various parameters, view the archive for the moment of time the cash receipt was generated.



The transaction log can be opened by the corresponding button in the **Additional** section of menu or from the panel for displaying cash receipts.



The transaction log is divided into three work areas (left to right):

- filtering area where search parameters for cash receipt are configured;
- list of transactions;
- display area of a cash receipt, which corresponds to the selected transaction.

Date	Time	Camera	Amount
21.03.2022	13:32:26	Camera 1	0.00
21.03.2022	13:32:26	Camera 1	0.00
21.03.2022	13:32:21	Camera 1	0.00
21.03.2022	13:32:21	Camera 1	0.00
21.03.2022	13:32:16	Camera 1	0.00
21.03.2022	13:32:16	Camera 1	0.00
21.03.2022	13:32:11	Camera 1	0.00
21.03.2022	13:32:06	Camera 1	0.00
21.03.2022	13:32:06	Camera 1	0.00
21.03.2022	13:32:01	Camera 1	0.00
21.03.2022	13:32:01	Camera 1	0.00
21.03.2022	13:31:56	Camera 1	0.00
21.03.2022	13:31:56	Camera 1	0.00
21.03.2022	13:31:51	Camera 1	0.00
21.03.2022	13:31:51	Camera 1	0.00
21.03.2022	13:31:46	Camera 1	0.00

Receipt

SEQ-NO:0353 MIXED  
DATE 17.12.2019 02:03:38

UAH

DENOMIN.	PCS.	AMOUNT
500	5	2,500
200	5	1,000
100	5	500
50	1	50
TOTAL	16	4,050

Stored cash receipts can be filtered by various parameters:

 **POS terminal transaction log**

Register by time

Period from  to   

New ones first

---

**Filter by words**

[By default](#)

---

**Filter by amount**

From  To  

---

 Search by camera name

---

[Expand all](#)  [Collapse all](#) 

 All cameras

 Camera 1

---

By filtering by keywords, only those cash receipts that contain the specified words will be displayed. The system will search for all the specified keywords in the cash receipt, and not just one of them.

With applying the filters, a search is carried out for cash receipts that match the filtering parameters. If the found cash receipt is related to any camera and previously was displayed in the camera cell, the list of transactions will contain this camera name. Each line in the list of transactions corresponds to a single cash receipt.

Date	Time	Camera	Amount
21.03.2022	13:32:26	Camera 1	0.00
21.03.2022	13:32:26	Camera 1	0.00
21.03.2022	13:32:21	Camera 1	0.00
21.03.2022	13:32:21	Camera 1	0.00
21.03.2022	13:32:16	Camera 1	0.00
21.03.2022	13:32:16	Camera 1	0.00

#### Note

If the total amount of the receipt cannot be determined, the value in the **Amount** column will be displayed equal to 0.00.

The total amount for all receipts collected in versions before 3.6 will always be displayed as 0.00.

The total amount of the receipt in the hundreds of millions may be slightly rounded off.

The right side of the transaction log displays the receipt corresponding to the selected position in the list of transactions.

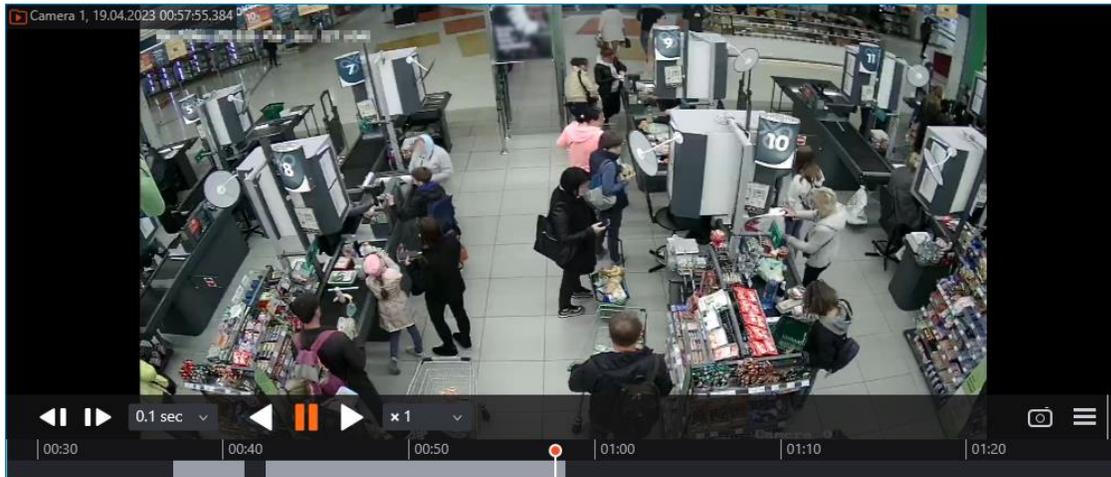
## Receipt

SEQ-NO.0353            MIXED  
                          DATE 17.12.2019 02:03:38  
UAH  
DENOMI.    PCS.            AMOUNT  
500        5            2,500  
200        5            1,000  
100        5            500  
50         1            50  
TOTAL      16           4,050

Below the cash receipt, an archive fragment that corresponds to the selected receipt in **Eocortex** can be viewed.

### Step-by-step transaction view

To view transactions step by step, select the view step length on the left side of the bottom cell panel.



### Warning

When viewing in step-by-step mode, transaction event filters will be disabled.

## Integration with ZKBioSecurity ACS

In **Eocortex**, it is possible to receive events from **ZKBioSecurity** ACS and configure the reaction to these events, as well as to view the received events in the **Events Log** of the **Eocortex Client** application.

Note

The integration is available on both Windows and Linux-based servers.

Note

- Integration is available in version **Eocortex 3.6 and higher**.
- Integration was performed with **ZKBioSecurity** version **4.1.2000**.

### Description

Information regarding an event may contain the following fields:

- Time (Event Time);
- Employee identifier (Pin);
- Employee (Name + Last Name);
- Name of department (Department Name);
- Name of area (Area Name);
- Card number (Card Number): number of the card swiped at the reader;
- Serial number (Device Sn): serial number of the device;
- Verification mode (Verify Mode Name) (e.g., Face, Other, Only Password);
- Description of event (Event Name): textual description of a **ZKBioSecurity** event;
- Event point (Event Point Name);
- Name of reader (Reader Name);
- Zone (Access Zone);
- Name of device (Device Name);
- Event identifier (LogId);
- Type of event (Event Number) (e.g., Opening by verification, Opening using emergency password, Prohibition of double passing);

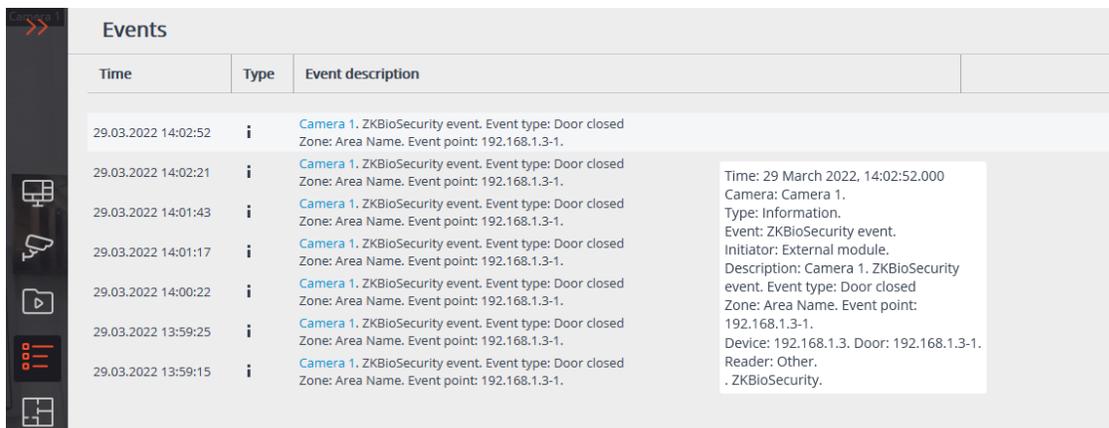
- Level of event (Event Level). The following values are available: Normal (Normal), Error (Exception), Alarm (Alarm);
- Name of door (DoorName).

### Events log

The events received from the **ZKBioSecurity** ACS are displayed in the event log of the **Eocortex Client** application.

The following event log information fields are displayed (if available for the given event):

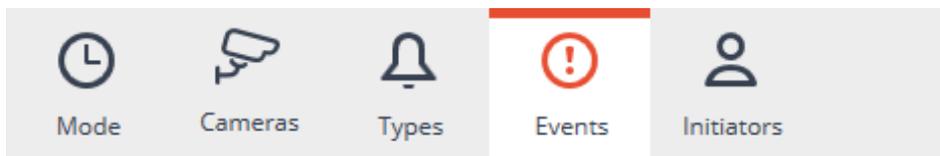
- Type of event (EventNumber): as a description of the event (Door closed);
- Area (Area);
- Point of event (Event Point);
- Employee (Name + Last Name);
- Device (Device);
- Door (Door);
- Reader (Reader).



Time	Type	Event description
29.03.2022 14:02:52	i	Camera 1. ZKBioSecurity event. Event type: Door closed Zone: Area Name. Event point: 192.168.1.3-1.
29.03.2022 14:02:21	i	Camera 1. ZKBioSecurity event. Event type: Door closed Zone: Area Name. Event point: 192.168.1.3-1.
29.03.2022 14:01:43	i	Camera 1. ZKBioSecurity event. Event type: Door closed Zone: Area Name. Event point: 192.168.1.3-1.
29.03.2022 14:01:17	i	Camera 1. ZKBioSecurity event. Event type: Door closed Zone: Area Name. Event point: 192.168.1.3-1.
29.03.2022 14:00:22	i	Camera 1. ZKBioSecurity event. Event type: Door closed Zone: Area Name. Event point: 192.168.1.3-1.
29.03.2022 13:59:25	i	Camera 1. ZKBioSecurity event. Event type: Door closed Zone: Area Name. Event point: 192.168.1.3-1.
29.03.2022 13:59:15	i	Camera 1. ZKBioSecurity event. Event type: Door closed Zone: Area Name. Event point: 192.168.1.3-1.

Time: 29 March 2022, 14:02:52.000  
 Camera: Camera 1.  
 Type: Information.  
 Event: ZKBioSecurity event.  
 Initiator: External module.  
 Description: Camera 1. ZKBioSecurity event. Event type: Door closed  
 Zone: Area Name. Event point: 192.168.1.3-1.  
 Device: 192.168.1.3. Door: 192.168.1.3-1.  
 Reader: Other.  
 . ZKBioSecurity.

Filtering **ZKBioSecurity** ACS events is available.



Searching events...

[Expand all](#) ▾

[Collapse all](#) ▴

- ▾  Server
  - >  Actions
  - >  Archive
  - ▾  Events
    - SSL certificate reset
    - SSL certificate changed
    - SSL certificate expired
    - Start of backup
    - End of backup
    - Episode saved
    - Error while saving an episode
    - The user saved the archived episode
    - Motion started
    - Motion stopped
    - Error at sending command to watchdog timer
    - Computer reboot by watchdog timer
    - Event Mediana Security and Access Control System
    - ZKBioSecurity event
  - ▾  Server application

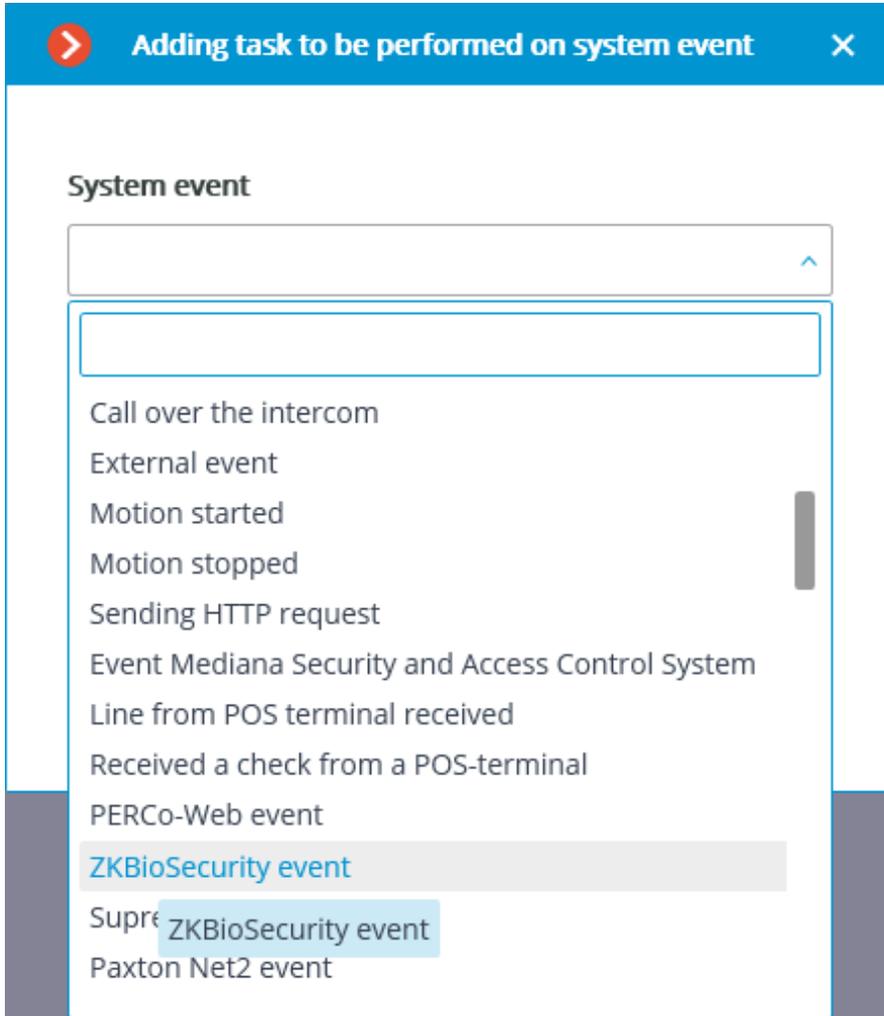
Apply filter

Export

### Setting up tasks by events

To configure the actions to be performed in response to events occurring in the video surveillance system, it is required to go to the **Automation**  tab in the **Eocortex Configurator** application, select an individual camera or folder in the camera tree, and then, on the page that opens, go to the **Tasks by event** tab.

Any standard **ZKBioSecurity event** tasks by event can be configured.



The following event fields are available as execution conditions:

- Event information:
  - Time (Event Time), string;
  - Event description (Event Name), string: textual description of **ZKBioSecurity** event;
  - Event point (Event Point Name), string;
  - Event ID (LogId), string;
  - Event type (EventNumber), enumeration: selecting out of several popular event types (e.g., Opening by verification, Opening using emergency password, Prohibition of double passing);
  - Event code (EventNumber), numerical code of **ZKBioSecurity** event;

- Event level (Event Level), enumeration: selecting out of several defined levels (may adopt the following values: Normal (Normal), Error (Exception), Alarm (Alarm)).
- Device data:
  - Serial number (Device Sn), string: device serial number;
  - Verification mode (Verify Mode Name), string: textual description (e.g., Face, Other, Only Password);
  - Reader name (Reader Name), string: textual description (e.g., SysproDemo-1-In);
  - Device name (Device Name), string.
- Door data:
  - Area name (Area Name), string;
  - Area name (AccZone), string;
  - Door name (Door Name), string.
- User data:
  - Employee ID (Pin), string;
  - Employee (Name + Last Name), string;
  - Department name (Department Name), string;
  - Card number (Card Number), string: number of the card swiped at the reader (e.g., 2596802013, 9251205323699455112).



## Action settings



Actions Runtime conditions (1)

Event attribute

Comparison

Value



- Event ID
- Employee ID
- Name
- Last name
- Department name
- Zone name
- Card number
- Serial number
- Verification mode
- Event description
- Event point
- Reader name
- Zone
- Device name

No conditions are set up

Apply

Cancel



## Action settings



Actions Runtime conditions (1)

Event attribute

Event level

Comparison

Equal

Value



Normal

Error

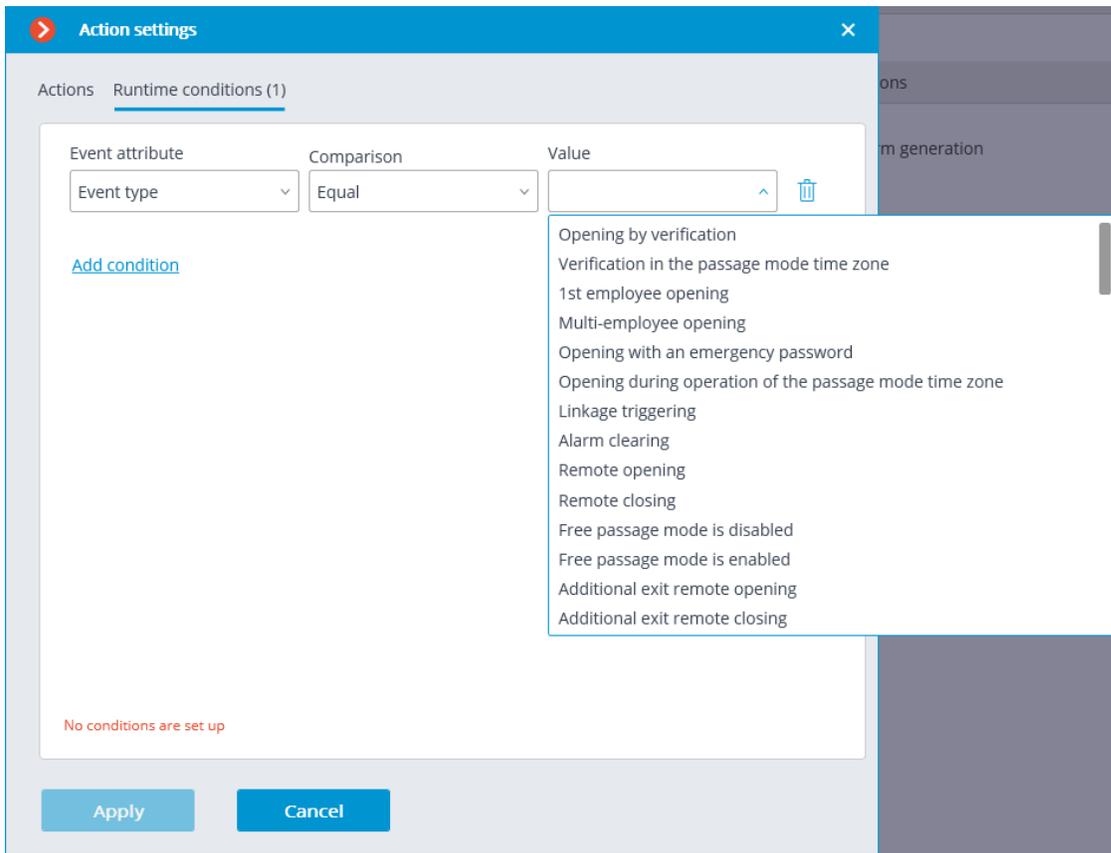
Alarm

[Add condition](#)

No conditions are set up

Apply

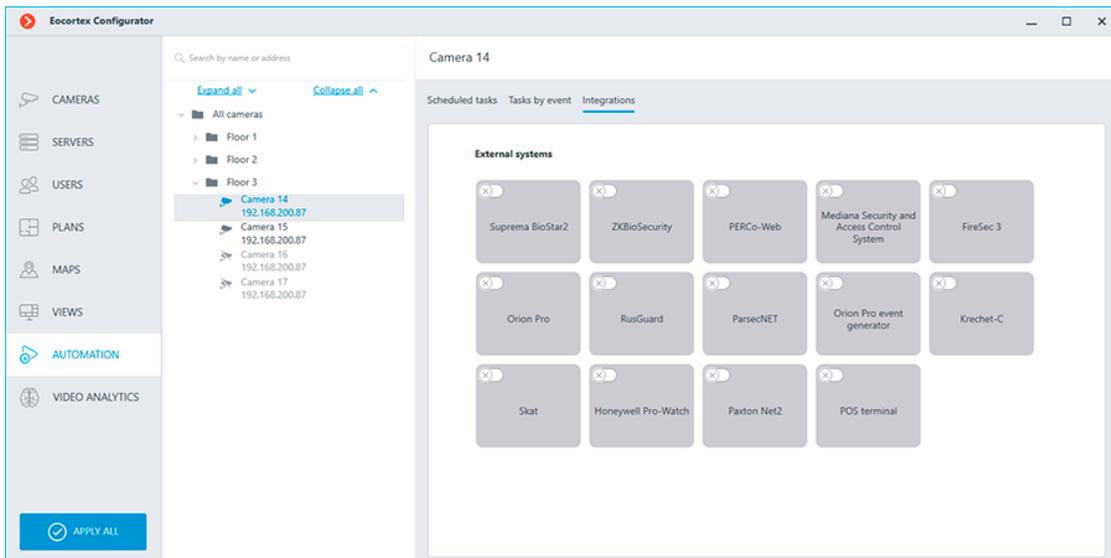
Cancel



## Configuring in Eocortex Configurator application

In order for the **Eocortex** server to respond to events from the **ZKBioSecurity** access control system, it is required to start the **Eocortex Configurator**

application, go to the **Automation**  tab, select the camera in the list, then, on the page that opens, go to the **Integrations** tab and enable **ZKBioSecurity**.



Two tabs are available in the integration settings:

- **General settings;**
- **Camera settings.**

General settings

The **General settings** tab is used to configure the system-wide connection to **ZKBioSecurity**.

Note

Setting up the connection to only one **ZKBioSecurity** server is available per one server system.

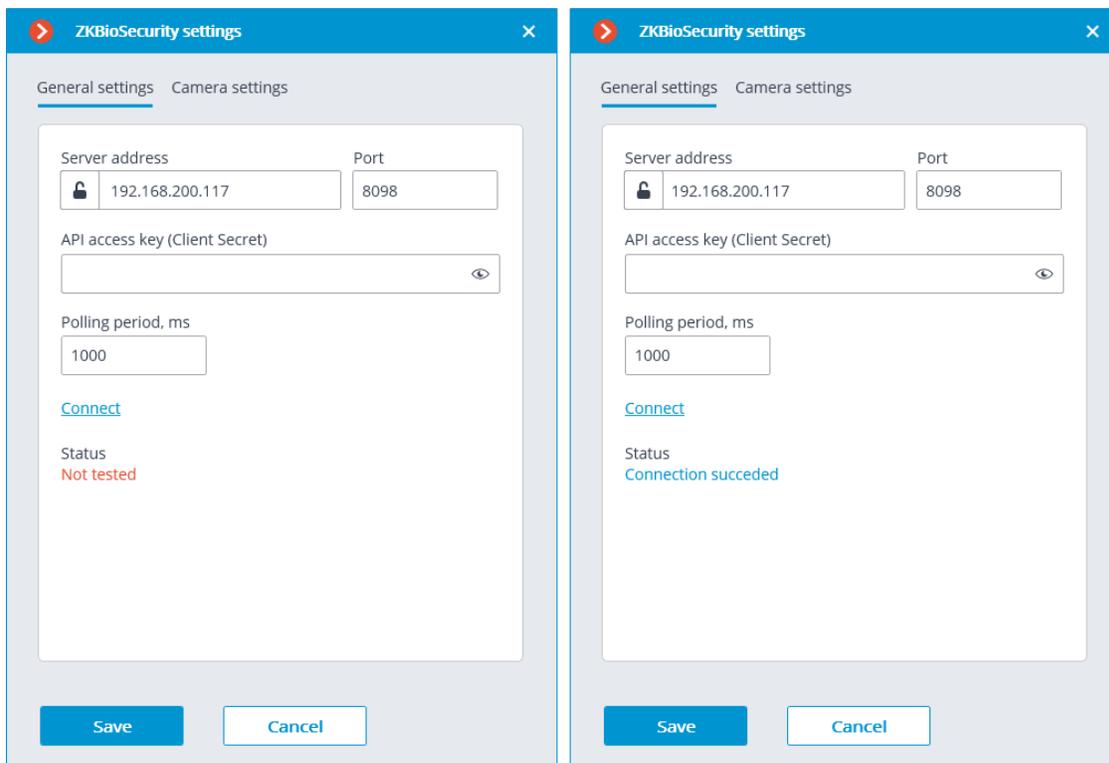
The following settings are available:

- **Server address** (IP address or URL. Prefixes as <http://> are not required to be specified in this field).
  - Use of a secure connection can be set here.
- **Port.** Interaction with **ZKBioSecurity** is performed via HTTP.
- **API access key (Client Secret).**

After making the settings, it is required to press the **Connect** button.

Note

The **Status** field will show the verification result.



## Camera settings

On the **Camera settings** tab, it is possible to specify the devices whose events are to be received for the given camera.

### Note

By default, all the **ZKBioSecurity** events are received from all devices.

### Note

Enabling integration on multiple cameras with the default setting will provide duplication of the events for all enabled cameras.

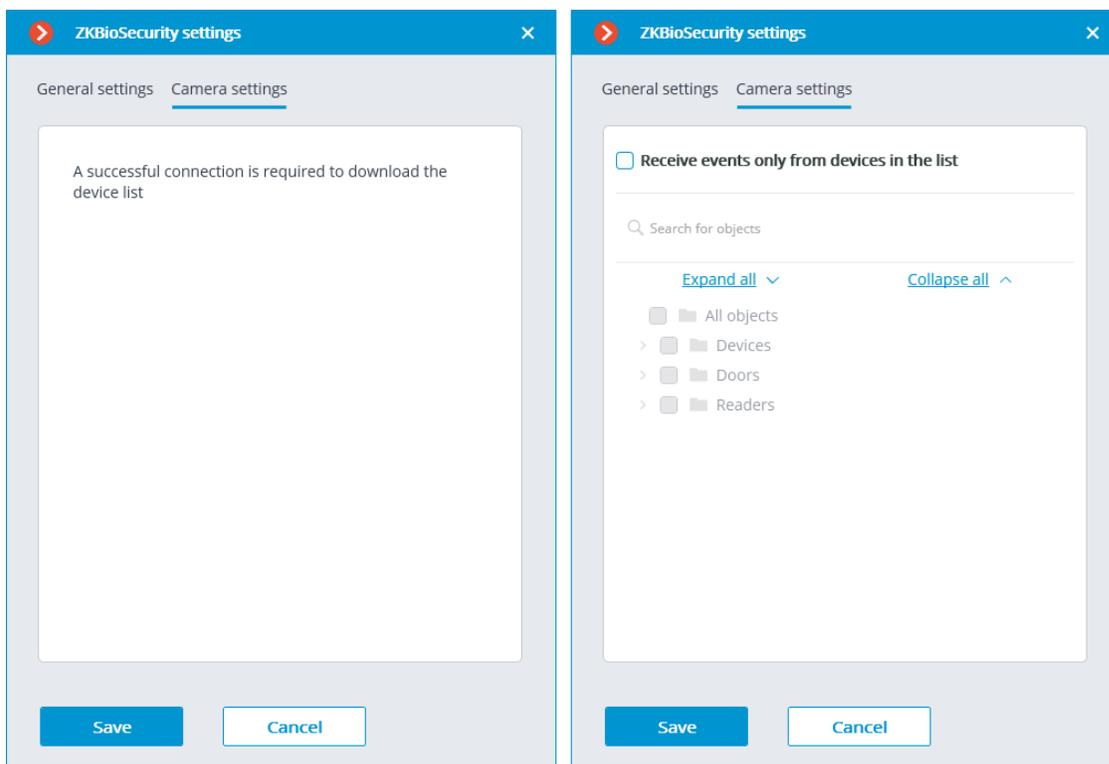
Three types of **ZKBioSecurity** objects are available for configuration (full text search is available):

- **Doors** . A high-level object whose rules are usually configured in **ZKBioSecurity**. Usually, the door is connected to a relay and a sensor of some device. Receiving events from specific doors allows for a more precise integration.
- **Readers** . A high-level object whose rules are usually configured in **ZKBioSecurity**. Typically, the reader is installed on doors, turnstiles and other access control points. Receiving events from specific readers allows to configure the integration more precisely.

- **Devices** . A lower-level **ZKBioSecurity** object. Setting up the reception of events from the device permits to configure the integration more flexibly. For example, if multiple doors are connected to the same device and **ZKBioSecurity** is in the process of being set up, and the doors are being connected and disconnected, the integration settings will have to be changed frequently when setting up the reception of events from the specific doors. In the process of configuring the reception of events from a device, the integration settings do not need to be modified when new doors are being connected to the device.

#### Note

Changing the names of **ZKBioSecurity** objects (devices, doors or readers) requires their manual reassignment in the device list every time. Otherwise, the events from the newly renamed object will not be registered.



#### Configuring ZKBioSecurity

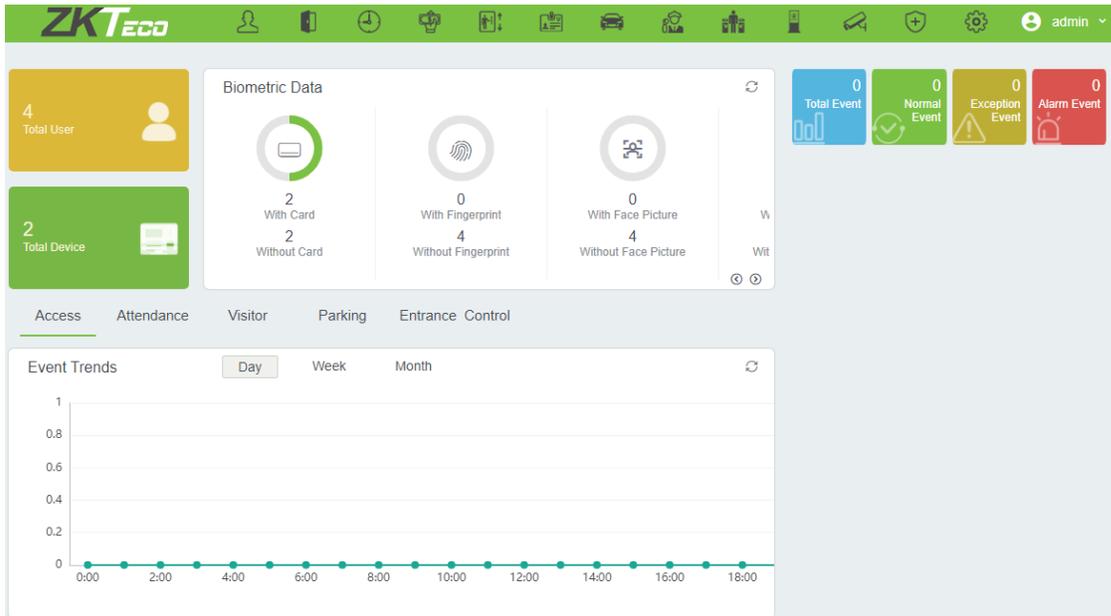
Configuring **ZKBioSecurity** for integration is performed via the web interface on the same port that is specified in the integration settings.

#### Warning

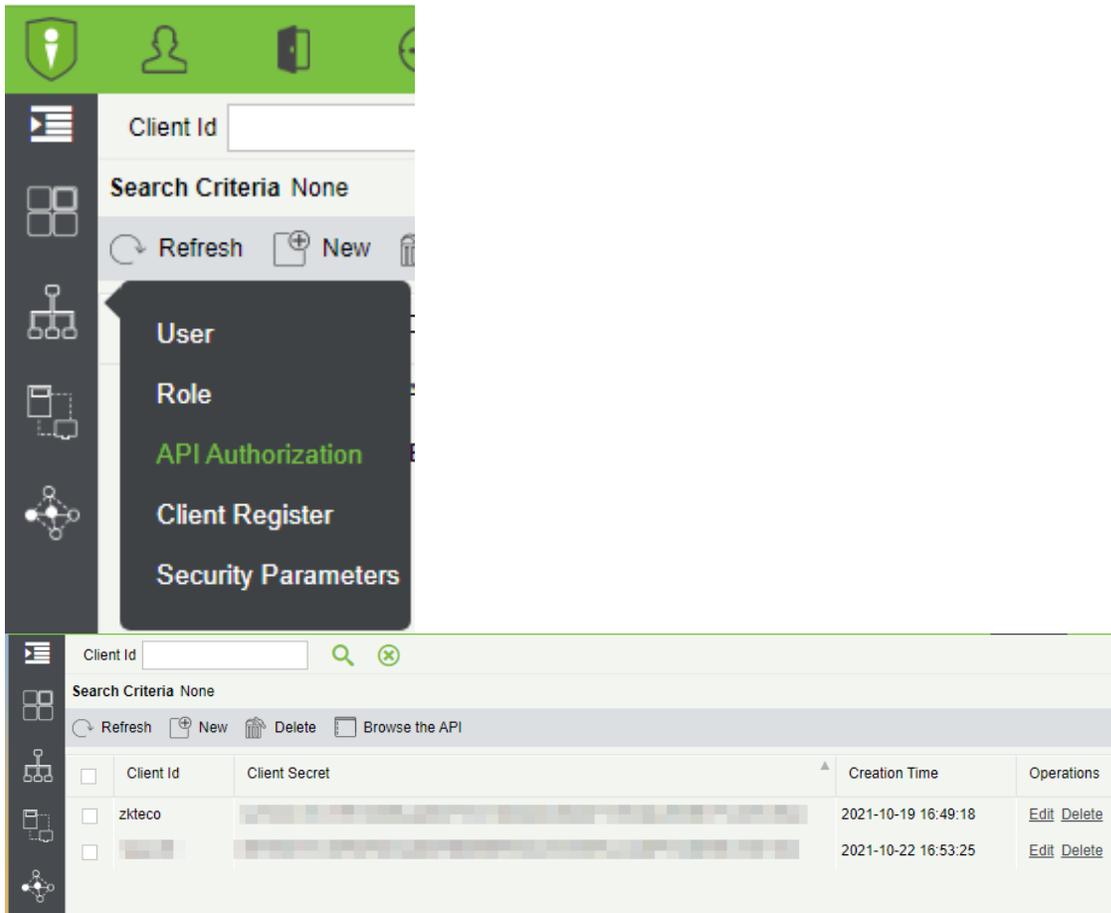
The time and the clock zone on the **Eocortex** Server and on the computer where **ZKBioSecurity** is installed must match.

#### Note

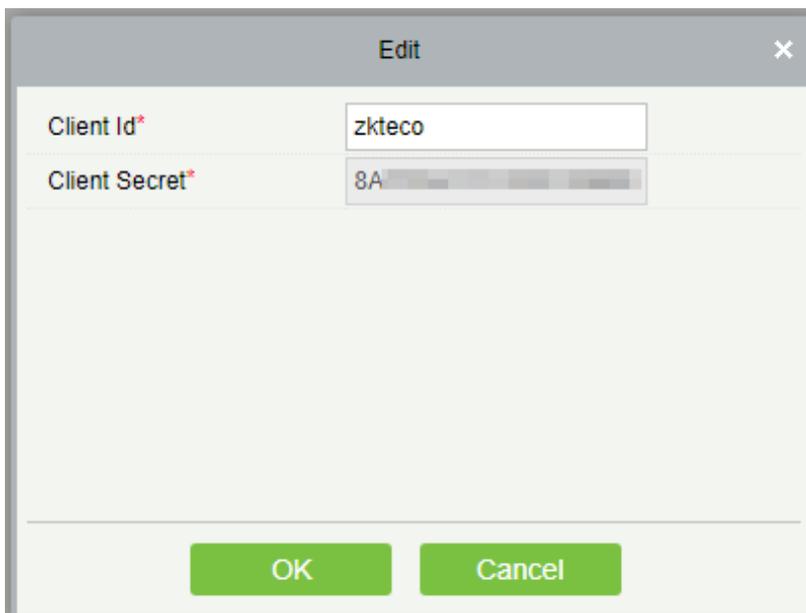
The lowest version of **ZKBioSecurity**: with the license activation on the API module.



To gain access via the API, it is necessary to create or use an existing **Client Secret**. To do this, it is required to go the **System**  tab, switch to the **Authority Management**  tab and select the **API Authorization** item.



Clicking the **Edit** button opens a window where the **Client Secret** field can be copied.



## Eocortex services

- Episode archive
- Long-term database
- Monitoring

### Episode archive

Keep important fragments of the archive without worrying that they will be deleted or overwritten using **Episode archive**.

Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

### Description

The system automatically deletes video fragments in the main archive without notification in the following cases:

- If the free disk space is not enough to write new data. The oldest recordings in such case will be overwritten with new ones.
- If the maximum fragment storage period set in settings is exceeded.

If certain archive fragments must be kept unchanged for longer than allowed by the system, transfer them from the main archive to the **Episode archive**.

### Episode archive:

- stores only video and sound without associated events.
- allows storing data without time limits.
- works as a separate application and requires a separate installation.

### Requirements and limitations

- The **Episode archive** service is a standalone application and must be installed individually.
- The **service** can be installed on any computer without installing the **Eocortex** Server on it.
- Only one **service** instance can be configured for the entire system.
- The **Episode archive** service can be used simultaneously with the **Long-term database** service, but they do not communicate with each other.
- Episodes are added to the **Episode archive** service database by system users and can only be added manually.
- **Eocortex** version 3.6 uses an additional service called **Episode Archive Agent** to connect servers to the service. The Agent installs automatically

during **Eocortex** Server deployment. In case of problems with saving episodes in the service database, it is recommended to check the status of this service. Name of the Agent depending on the operating system:

- Windows: EocortexArchiveEpisodesAgent
- Linux: eocortexarchiveepisodesagent.service
- Starting with version 4.0, **Eocortex** servers connect to the service directly without using the **Agent**.
- Episodes stored in the service database are bound to channels in the system configuration for access rights delimitation purposes. If a channel is deleted from the configuration or turned off in the **Eocortex Configurator** application, episodes associated with it will not be available for interactions. If it is necessary to delete a channel from the system, it is recommended to delete all episodes from the service database beforehand.

#### Note

Physical replacement of the camera within the existing channel, its transfer to another position or to another server within a multiserver system does not affect the availability of episodes.

#### Note

If a channel has been turned off or deleted without prior deletion of saved episodes, they can be accessed by turning the channel on or restoring it from the settings backup.

Only one disk can be selected to store episodes in the service database at a time.

- The service does not support network drives for storing episodes.
- **Episode archive** is not available for the **Eocortex Client** application connected via **Eocortex Cloud** or **Eocortex Union**.

#### Service installation

The **Episode archive** service provides the possibility to keep individual archive fragments for an unlimited time. Using the **Episode archive** service, you can be sure that important archive fragments will not be lost due to loop recording or corruption of the main archive.

#### Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

The **Episode archive** service supports the following operating systems:

- Windows 10, 11
- Windows Server 2012, 2016 and newer versions
- Debian 10, 11
- Ubuntu 20.04, 22.04
- CentOS 7

Work on other operating systems that are not listed is not guaranteed.

Depending on the selected operating system, the service installation process will differ. For details on how to install the **Episode archive** service on [Windows](#) or [Linux](#), see the corresponding instructions in the **Deployment** section.

### Service configuration

The **Episode archive** service provides the possibility to keep individual archive fragments for an unlimited time. Using the **Episode archive** service, you can be sure that important archive fragments will not be lost due to loop recording or corruption of the main archive.

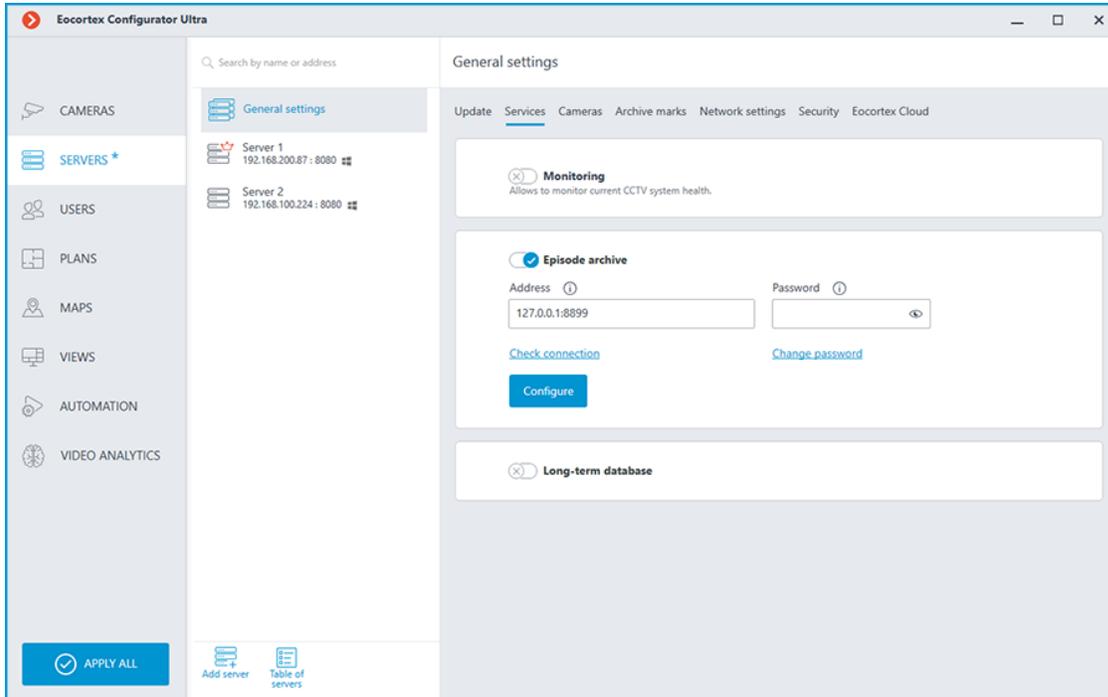
#### Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

To enable and configure the **Episode archive** service, follow these steps:

1. Launch the [Eocortex Configurator](#) application.
2. Go to the  **Servers** page.
3. Select the  **General settings** item in the list of servers.
4. Switch to the **Services** tab.
5. Enable the  **Episode archive** option.
6. Configure the interaction with the **Episode archive** service, such as the following:
  - Configure a network connection to the service.
  - Change the password of the service if needed.
  - Specify a disk for storing episodes.
  - Assign access rights to the service.

## 7. Apply settings.



### Connection settings

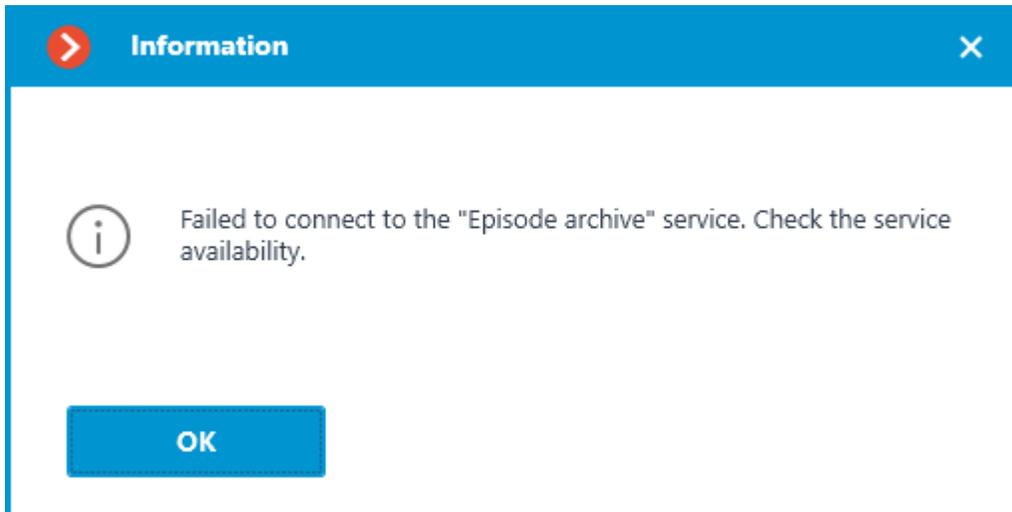
This setting can be changed on the **Services** tab, where the service was enabled.

Network connection to the service must be configured to make it possible to create and store archive episodes.

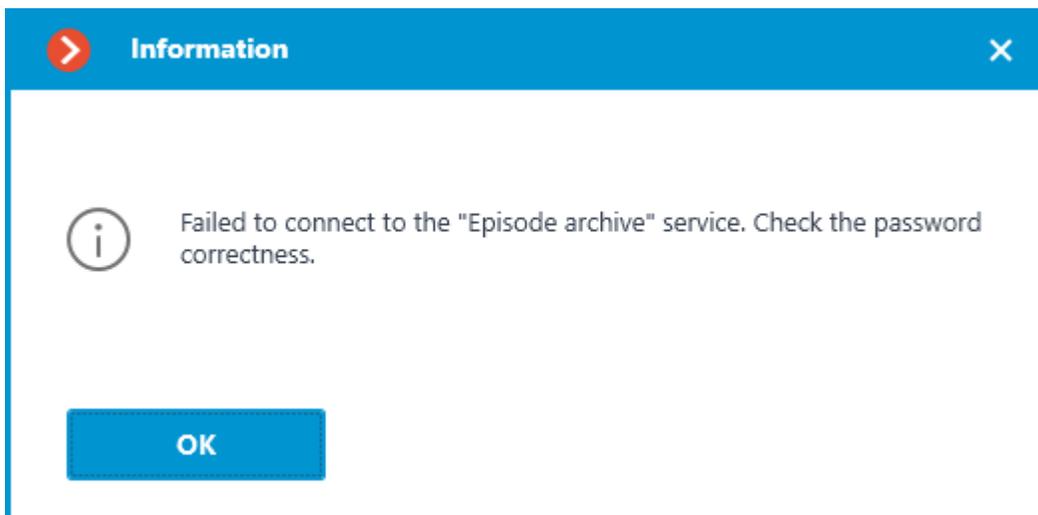
Below is a description of settings:

- **Address:** Address of the Episode archive service. This address must be accessible to all servers. If the connection port for the service has been changed, the new port must be specified in the same field, with a colon after the address.
- **Password:** Password of the Episode archive service. The default password is blank.
- **Check connection:** Clicking this link starts the test connection to the **Episode archive** service.
- **Change password:** Clicking this link opens a window that allows to change the password of the **Episode archive** service. It is recommended to change the password at the first service setup.
- **Configure:** Clicking this button opens the window with the disk selection for storing the content of the **Episode archive** service.

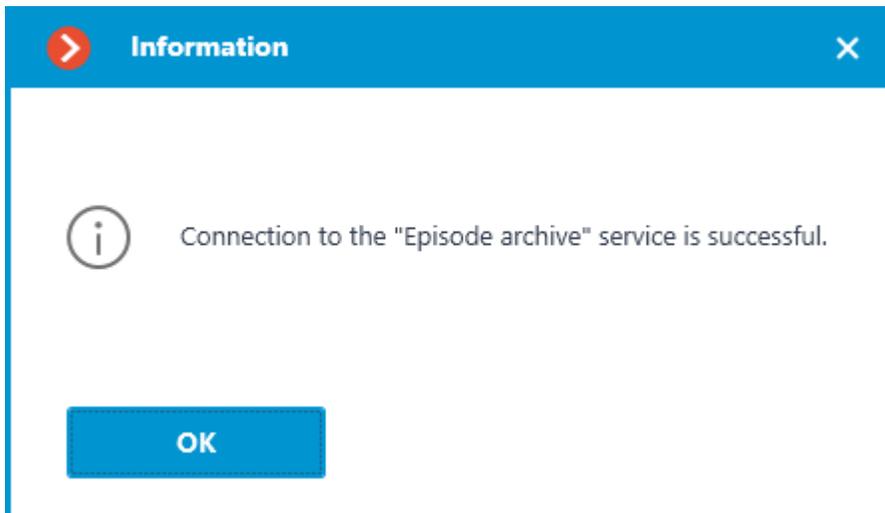
Once the **Address** and **Password** fields are filled in, it is recommended to test the connection to the service by clicking the **Check connection** link. Depending on the validity of the settings and availability of the service, the results may be as follows:



Failed to connect to the service at the specified address and port during the connection test. Check the validity of the specified data and the network availability of the service for the server and try again.



Connection to the service was successfully established during the connection test, but the used password does not match the one saved in the service settings. Check that the password you have entered is valid.



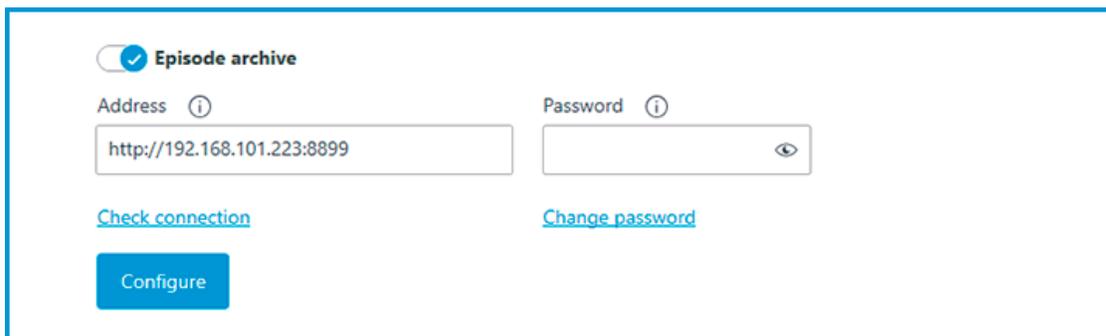
Connection test is successful, it is possible to proceed with further setup of interaction with the service.

#### *Changing service password*

Configuration can be made in a separate window that opens by clicking the **Change password** link on the **Services** tab.

The **Episode archive** service does not have a password by default and this may conflict with local security policies.

To set or change the password for the connection to the service, click the **Change password** link under the **Password** field on the **Services** tab.



In the window that opens, fill in the **New password** and **Confirm new password** fields with the password.

Change password

New password

Confirm new password

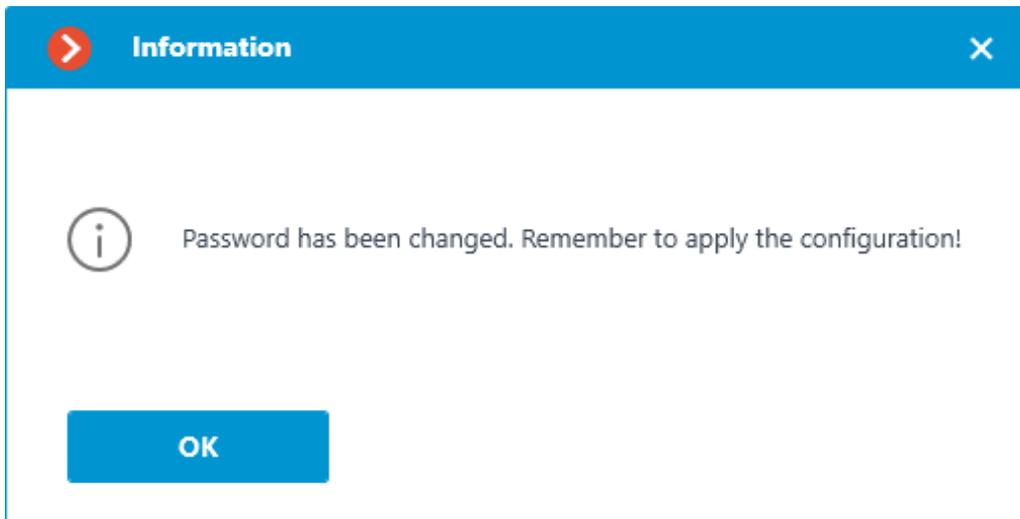
Apply Cancel

#### Note

When setting or changing a password, there are a few requirements that must be met:

- Service must be available when changing the password.
- The password and its confirmation must match.
- The new password must not be identical to the old password when it is changed.
- The password can contain characters of the Latin and Cyrillic alphabet.
- The password may include numbers.
- Only the following special characters are allowed in the password:  
**!@#\$%&()\_-**
- The password can be blank.

If all requirements have been met, clicking the **Apply** button will set a new password for the service and display the corresponding message.



### Warning

To save the settings and then synchronize them with the service, [apply the settings](#).

If any requirement is violated when setting a new password, the window will show a warning and the **Apply** button will be blocked.

**Change password** ✕

New password

Confirm new password

New password must differ from the current one.

**Apply** **Cancel**

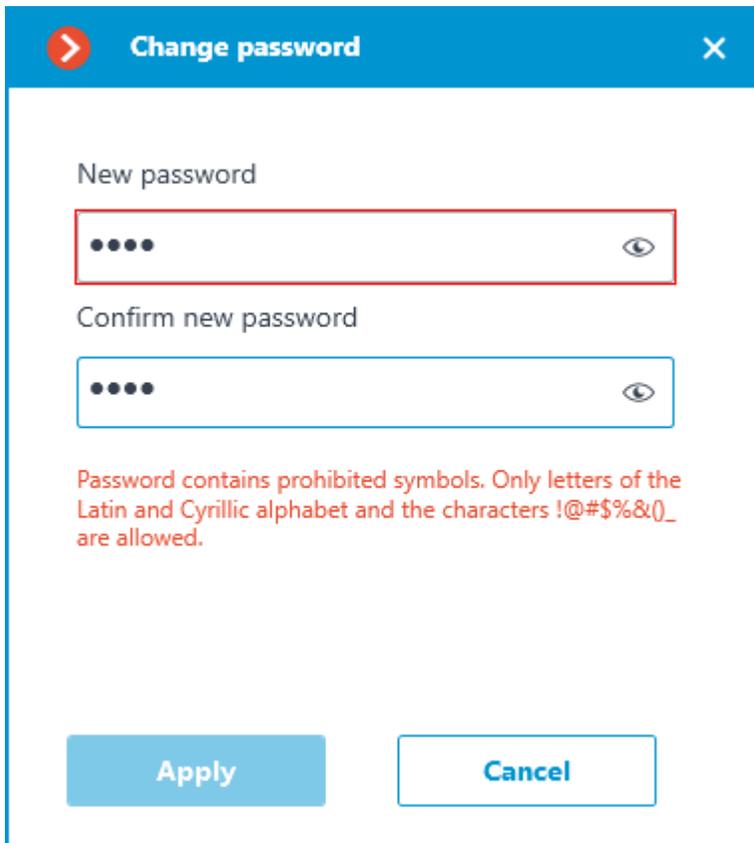
**Change password** ✕

New password

Confirm new password

New password and confirmation do not match.

**Apply** **Cancel**



The image shows a 'Change password' dialog box with a blue header. It contains two password input fields: 'New password' and 'Confirm new password'. Both fields are currently empty and have a red border. Below the fields is a red error message: 'Password contains prohibited symbols. Only letters of the Latin and Cyrillic alphabet and the characters !@#\$%&()\_ are allowed.' At the bottom, there are two buttons: 'Apply' (solid blue) and 'Cancel' (white with blue border).

#### *Storage disk settings*

Configuration can be made in a separate window that opens by clicking the **Configure** link on the **Services** tab.

The **Hosting the episode archive** window contains settings for selecting a drive to store the content of the service.

#### Note

Disks are selected for the device on which the service is installed.

Hosting the episode archive
✕

Set up disks for archiving, sizes are in Gb

Drive	Drive assignment	Available	Used	Size	Free	Drive type
C:\	Not used	0	0	237	106	Local (HDD)
D:\	Episode archive	300	0	931	505	Local (HDD)

Apply
Cancel

### Warning

Only one disk can be selected to store episodes in the service database at a time.

The minimum disk space allocated for the service should be at least 1,000 MB.

The service does not support network drives for storing episodes.

### Note

If the selected drive has already been used before by the **Episode archive** service, then users will have access to the episodes it already contains.

### *Access settings*

This setting can be done on the  **Users** page of the **Eocortex Configurator** application.

The **Episode archive** service allows granting users different access rights to the service and its contents.

To configure user access to the service, follow these steps:

1. Switch to the  **Users** page of the **Eocortex Configurator** application.
2. Make sure that the **Users of Eocortex applications** list type is selected. The list type selection is available directly above the list of users.
3. Select the user group and click the **Edit** button.
4. In the window that opens, switch to the **Basic** tab.

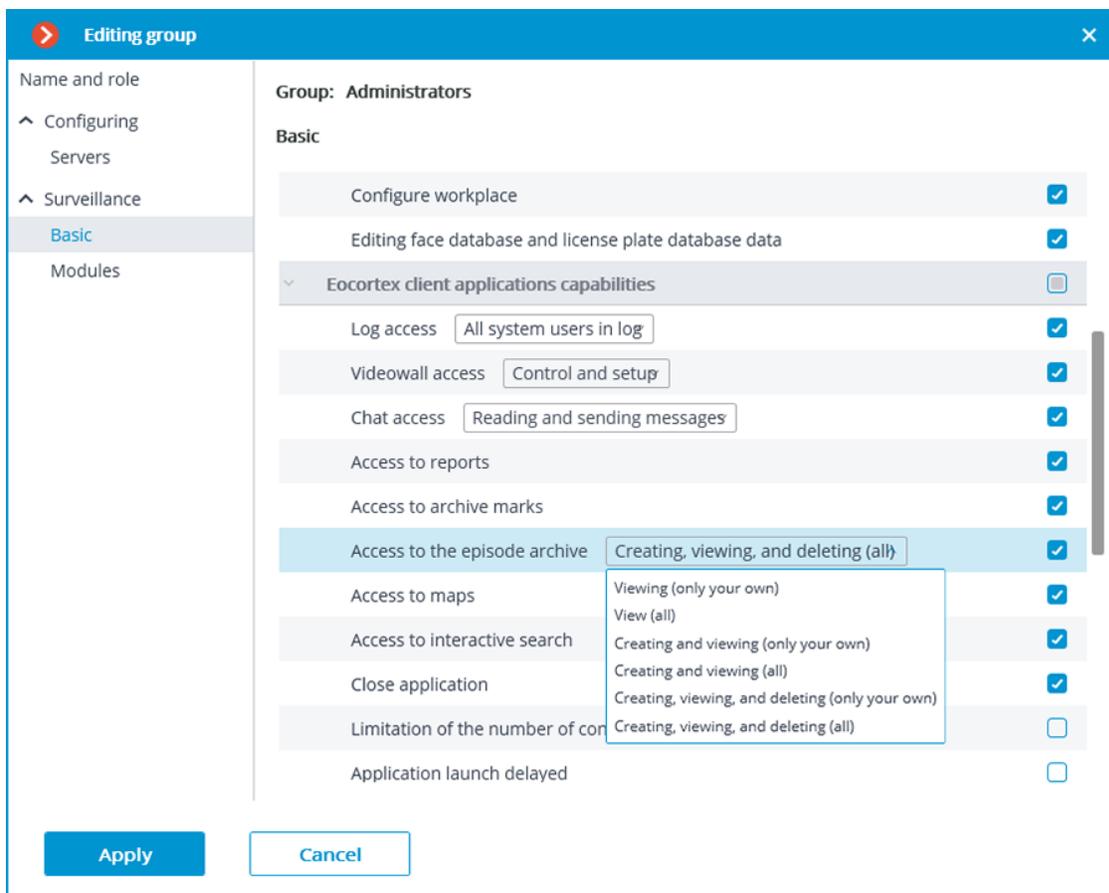
5. Enable the **Access to the episode archive** permission and set the needed type and level of the access.

Access types:

- **Viewing** — the user will be able to view episodes already created, but will not be able to delete existing episodes or create new ones.
- **Creating and viewing** — the user can create new episodes and view existing episodes, but cannot delete them.
- **Creating, viewing, and deleting** — the user will be able to create, view, and delete episodes.

Access levels:

- **(only your own)**: the user will only be able to interact with the episodes that were added by himself.
- **(all)**: the user will be able to interact with all episodes.



### Events log

The following events have been added to the **Events log** to monitor actions related to episodes:

- **The user saved the episode:** episode has been added to the saving queue;
- **Episode saved;**
- **Error while saving an episode**

If a user has access to the **Events log** with the **Access to the episode archive** right granted, then he will be able to view all episode archive events, regardless of who added the episode

But at the same time, if access to the **Events log** is limited for a user to view only his own events, then he will be able to view events only for those episodes that were added by this user.

Use cases:

Log access	Access to the episode archive	Availability of service events in the log
All system users in log	View (all)	All service events
All system users in log	Viewing (only your own)	All service events
Current user in log only	All system users in log	Only those service events that were created by this user
Current user in log only	Viewing (only your own)	Only those service events that were created by this user

If none of these access rights have been granted to the user by the system administrator, the user will not be able to view any service events at all.

### Service usage

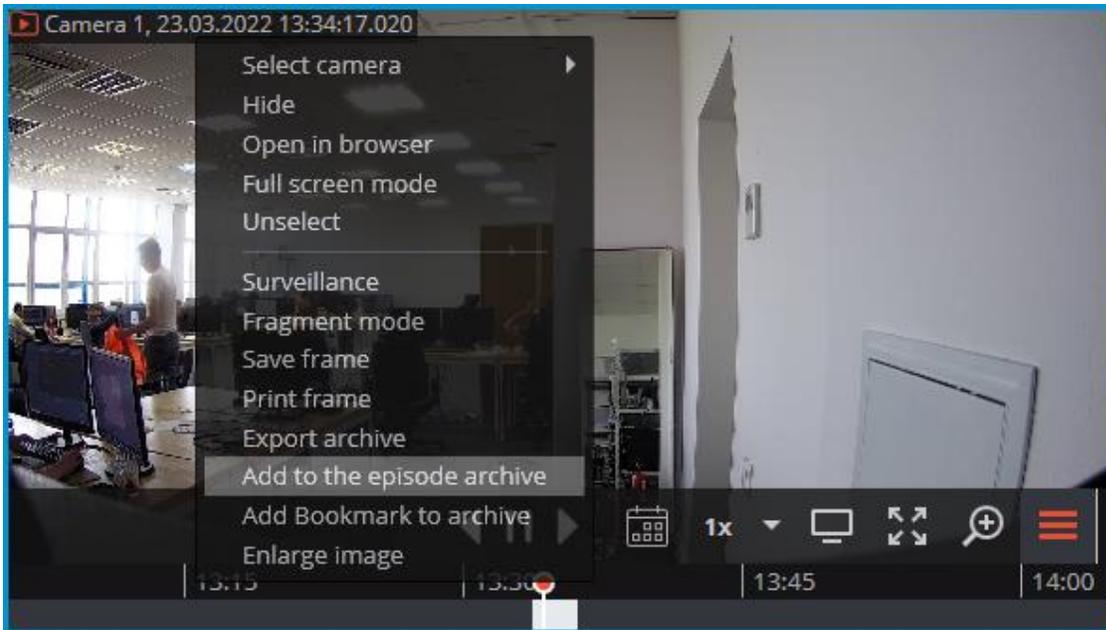
The **Episode archive** service provides the possibility to keep individual archive fragments for an unlimited time. Using the **Episode archive** service, you can be sure that important archive fragments will not be lost due to loop recording or corruption of the main archive.

### Warning

The **Episode archive** is available only to users with the appropriate access rights. The ability to view, add and delete episodes is controlled by different levels of rights.

### Adding the episode

To create an archive episode, switch the camera cell to [the viewing the single camera archive mode](#) in the **Eocortex Client** application and select the **Add to the episode archive** item in the context menu.

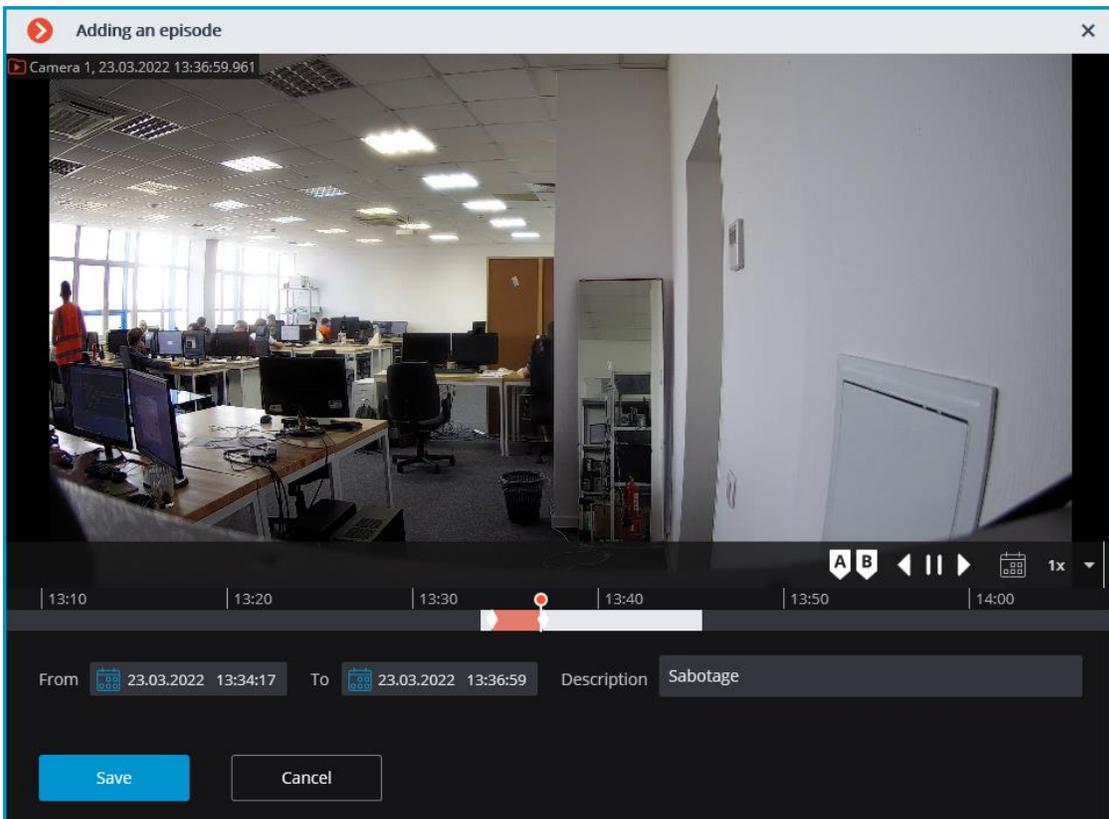


In the window that opens, it is needed to:

1. Select the fragment of the main archive to create the archive episode with one of the following options:
  - using markers on the timeline;
  - by selecting the start and end date and time in the respective time selection menus;
  - using **A** and **B** buttons, which correspond to the beginning and end of the episode.
2. Set the description of the archive episode;
3. Click the **Save** button.

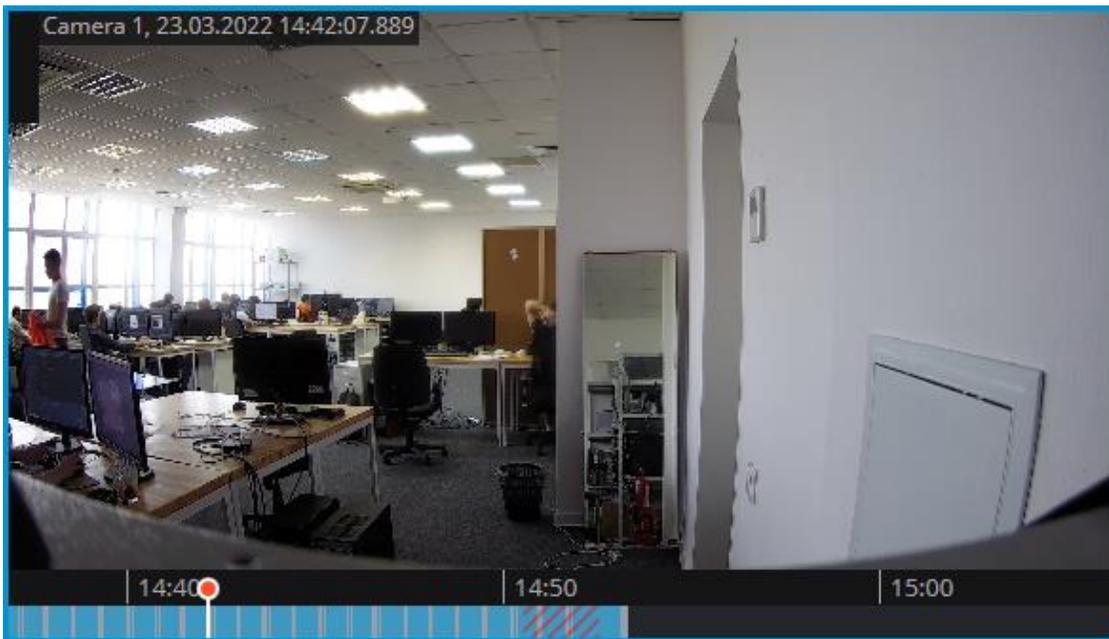
### Warning

The description and period of a fragment cannot be changed after saving the episode from the archive.



### Note

Successfully added archive episodes for the selected camera are displayed on the timeline in the archive viewing mode.



### Warning

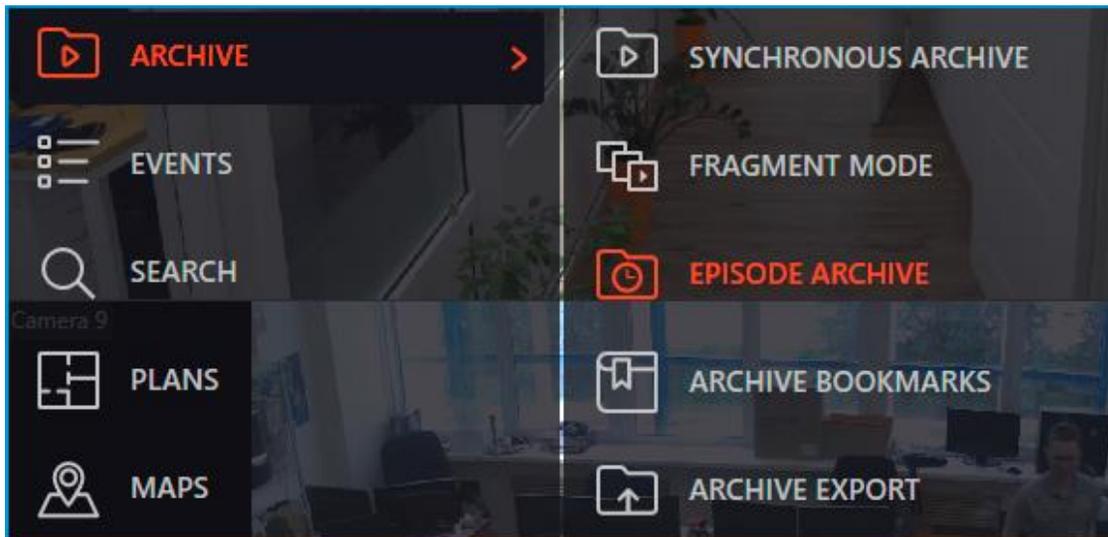
If a fragment used to create an archive episode has been deleted from the main archive, then the **Episode archive** should be used to play the episode.

### *Working with episodes*

**Episode archive** allows to:

- browse the list of episodes
- filter the list of episodes
- playback episodes
- delete episodes
- export episodes

To open the **Episode archive** window, select the **Episode archive** sub-item of the  **Archive** item on the control panel.



The Episode archive window consists of a filter panel (on the left) and a list of episodes (on the right).

The screenshot shows a window titled "Episode archive" with a table of episodes and a filter sidebar. The table has columns for Episode start, Camera, Description, User, and Status. The filter sidebar includes options for filtering by time, description, user, and camera, along with a search bar and a refresh button.

Episode start	Camera	Description	User	Status
23.03.2022 14:50:33	Camera 1		root	61 Mb
23.03.2022 14:02:15	Camera 1		root	81 Mb
23.03.2022 13:50:40	Camera 1		root	144 Mb
23.03.2022 13:50:31	Camera 1	motion	root	124 Mb
23.03.2022 13:46:35	Camera 2		root	150 Mb
23.03.2022 13:33:17	Camera 1	Sabotage	root	111 Mb

## Note

The list of episodes is not updated automatically. To update the list, it is needed to click the **Update** button in the left part of the window, after which the server will update the list with the currently selected filters.

The upper left part of the window contains a list of filters by which the user can search for archive episodes. The following filters can be used:

- filter by time: episodes that start within the specified period of time will be displayed;
- filter by description: episodes will be displayed, the description of which contains the searched text;
- filter by user: episodes added by the specified user will be displayed;
- filter by cameras: episodes added from the archive of the specified cameras will be displayed.

To view the needed archive episode, the user needs to select it in the list, after which the episode will be displayed in the preview window.

The screenshot shows the 'Episode archive' window. On the left, there are filters for time, description, and users. Below the filters is a search bar and a tree view for cameras. A video player is embedded at the bottom left, showing a scene from a camera. The main area is a table of episodes.

Episode start	Camera	Description	User	Status
23.03.2022 14:50:33	Camera 1		root	61 Mb
23.03.2022 14:02:15	Camera 1		root	81 Mb
23.03.2022 13:50:40	Camera 1		root	144 Mb
23.03.2022 13:50:31	Camera 1	motion	root	124 Mb
23.03.2022 13:46:35	Camera 2		root	150 Mb
23.03.2022 13:33:17	Camera 1	Sabotage	root	111 Mb

To delete an archived episode, select it in the list and click the  button.

To delete multiple episodes at a time, select the needed episodes using the hot keys **Control/Shift + left mouse button**, then click the **Delete** button in the bottom right corner.

This screenshot shows the same 'Episode archive' window, but with four rows selected (highlighted in blue). The 'Delete' button in the bottom right corner is highlighted with a red box. The text 'Selected: 4' is visible next to the button.

Episode start	Camera	Description	User	Status
23.03.2022 14:50:33	Camera 1		root	61 Mb
23.03.2022 14:02:15	Camera 1		root	81 Mb
23.03.2022 13:50:40	Camera 1		root	144 Mb
23.03.2022 13:50:31	Camera 1	motion	root	124 Mb
23.03.2022 13:46:35	Camera 2		root	150 Mb
23.03.2022 13:33:17	Camera 1	Sabotage	root	111 Mb

If an error occurred during the creation of the episode, then the entry for that episode in the list will have a status indicating this. To repeat an attempt to create an episode, select the entry in the list and click the  button.

Episode start ↓	Camera	Description	User	Status
23.03.2022 14:50:33	Camera 1		root	61 Mb
23.03.2022 14:02:15	Camera 1		root	81 Mb
23.03.2022 13:50:40	Camera 1		root	144 Mb
23.03.2022 13:50:31	Camera 1	motion	root	124 Mb
23.03.2022 13:46:35	Camera 2		root	150 Mb
23.03.2022 13:33:17	Camera 1	Sabotage	root	111 Mb
23.03.2022 13:13:41	Camera 1		root	Error

To export the episode, select it in the list, call the context menu and select the **Export** item.

Episode start ↓	Camera	Description	User	Status
23.03.2022 13:50:31	Camera 1	motion	root	124 Mb
23.03.2022 13:46:35	Camera 2		root	150 Mb
23.03.2022 13:33:17	Camera 1	Sabotage	root	111 Mb

### Note

Only the entire episode can be exported.

**Archive export**

Search by camera name

Expand all Collapse all

- All cameras
- Camera 1
- Camera 2

Camera 1, 23.03.2022 13:50:31.123

13:30 13:40 13:50 14:00 14:10

**Export interval**

From (A) To (B)

23.03.2022 13:50:31 23.03.2022 13:52:31

**Export format**

MCM (Eocortex Media), maximum speed

Export to a single file

**Main settings**

Copy Eocortex Player installer

Export sound

Open file after export

**Security**

Sign the file ⓘ

Insert watermark

Use encoding

Export status Export is not started.

Start export Stop export

## Events log

The following events have been added to the **Events log** to monitor actions related to episodes:

- **The user saved the episode:** episode has been added to the saving queue;
- **Episode saved;**
- **Error while saving an episode**

Events		
Time	Type	Event description
23.03.2022 16:19:22	i	Camera 1. Episode saved. root.
23.03.2022 16:19:19	i	Event log opening. Client type: Desktop, user: root, IP-address: 127.0.0.1, computer: [REDACTED].
23.03.2022 16:19:16	i	Camera 1. The user saved the episode. Client type: Desktop, user: root, IP-address: 127.0.0.1, computer: [REDACTED].

### Note

The system administrator can restrict access to both the entire event log and specific event categories.

## Long-term database

Store the events of selected categories in a dedicated **Long-term database** service database without concern that they will be wiped out if the archive is deleted or overwritten.

### Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

### Description

The events stored in the main database of the **Eocortex** server are limited by the archive records and exist as long as the archive for the time of the event exists. If the archive storage time has expired or the disk space for the archive recording has reached the limit, both the archive and the main database events associated with it will be deleted.

The **Long-term database** service allows to:

- Synchronize events of selected categories from the main databases and store them independently of the main database settings.
- Set up an individual lifetime for each category of events.
- Store full text information about the event in the same manner as in the main database.

- For some event categories, store frames associated with the event.
- Seamlessly view events from the main and service databases in the **Eocortex Client** application.
- Use events from the service database when building most of the reports in the **Eocortex Client** application.

#### Requirements and limitations

- The **Long-term database** service is a standalone application and must be installed individually.
- The **service** can be installed on any computer without installing the **Eocortex** Server on it.
- Only one **service** instance can be configured for the entire system.
- A single service instance can be connected to multiple **Eocortex** systems at the same time.
- The **Long-term database** service can be used simultaneously with the **Episode archive** service, but they do not communicate with each other.
- Only those events will be transferred to the service database that happened after completing the service setup in the **Eocortex Configurator** application.
- Events from the service database cannot be used to build a report for the **Search for Objects** module due to the fact that this module uses archive records in addition to the events when building a report.
- If one of the servers is disconnected from a multiserver system that is connected to the service, such a server will be treated by the service as a new system and will require reconfiguration of the interaction in the **Eocortex Configurator** application.

#### Service installation

The **Long-term database** service ensures storing of selected types of events and access to them regardless of the archive storage settings. With this service there is no need to be concerned that event data will be lost if the archive is deleted.

#### Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

The **Long-term database** service supports the following operating systems:

Running on other operating systems that are not listed is not guaranteed.

Depending on the selected operating system, the service installation process will differ. For details on how to install the **Long-term database** service on [Windows](#) or [Linux](#), see the corresponding instructions in the **Deployment** section.

### Service configuration

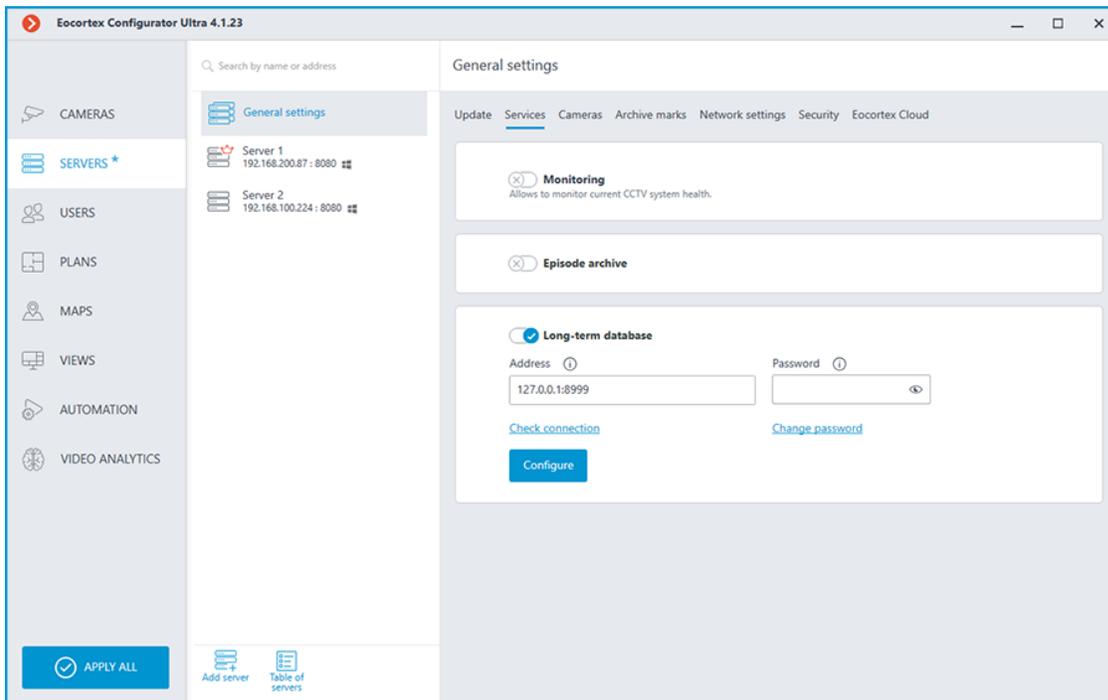
The **Long-term database** service ensures storing of selected types of events and access to them regardless of the archive storage settings. With this service there is no need to be concerned that event data will be lost if the archive is deleted.

#### Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

To enable and configure the **Long-term database** service, follow these steps:

1. Launch the [Eocortex Configurator](#) application.
2. Go to the  **Servers** page.
3. Select the  **General settings** item in the list of servers.
4. Switch to the **Services** tab.
5. Enable the  **Long-term database** option.
6. Configure the interaction with the **Long-term database** service, such as the following:
  - Configure a network connection to the service.
  - Change the password of the service if needed.
  - Select disks for storing events.
  - Configure the synchronization schedule for events between the servers and the service.
  - Select types of events and their period of storage in the service database.
  - Configure the sending of service e-mail notifications.
7. [Apply settings](#).



### Connection settings

This setting can be changed on the **Services** tab, where the service was enabled.

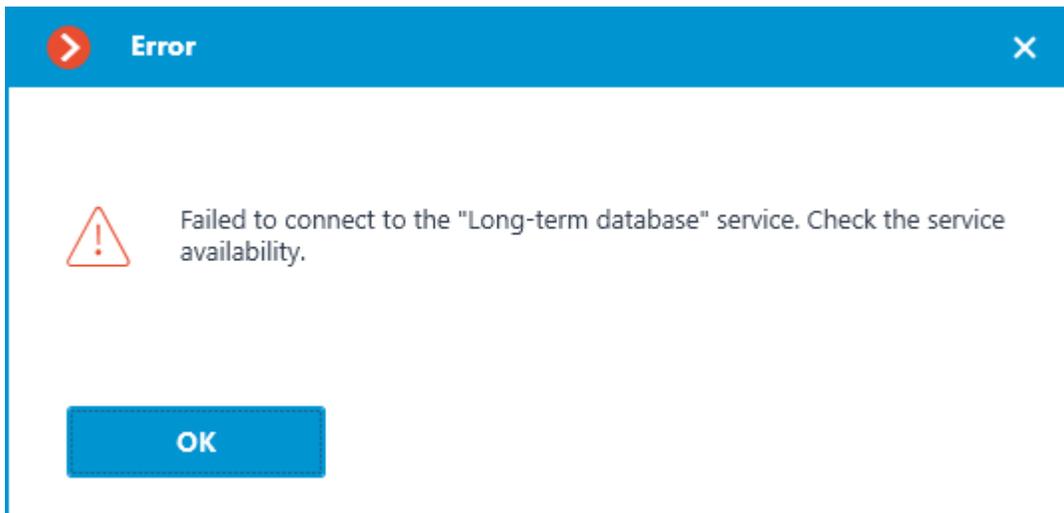
Network connection to the service must be configured to get access to the configuration of conditions for storing events in its database.

Below is a description of settings:

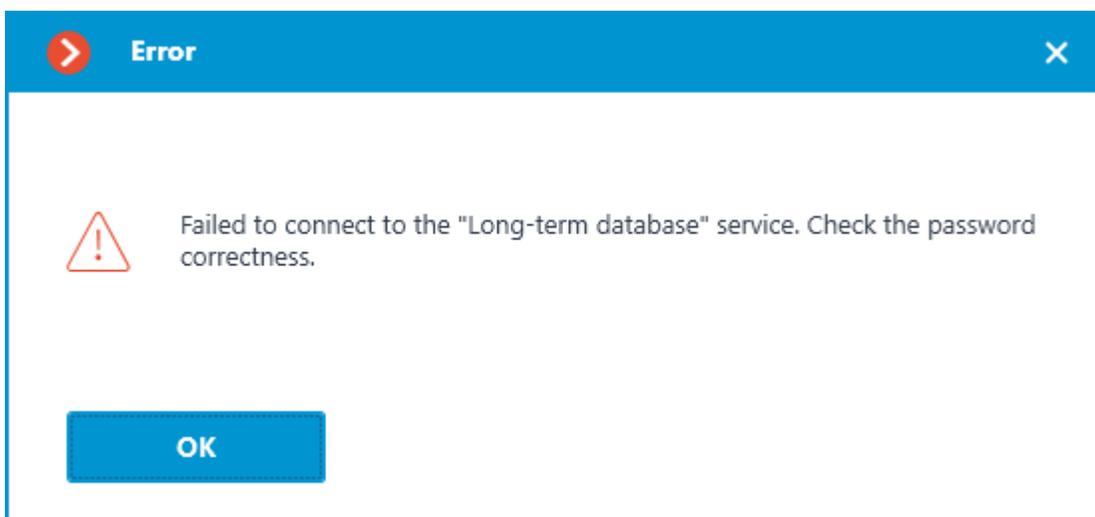
- **Address:** Address of the long-term database service. This address must be accessible to all servers. If the connection port for the service has been changed, the new port must be specified in the same field, with a colon after the address.
- **Password:** Password of the long-term database service. The default password is blank.
- **Check connection:** Clicking this link starts the test connection to the **Long-term database** service.
- **Change password:** Clicking this link opens a window that allows to change the password of the **Long-term database** service. It is recommended to change the password at the first service setup.
- **Configure:** Clicking this button opens the window with the **Long-term database** service settings.

Once the **Address** and **Password** fields are filled in, it is recommended to test the connection to the service by clicking the **Check connection** link.

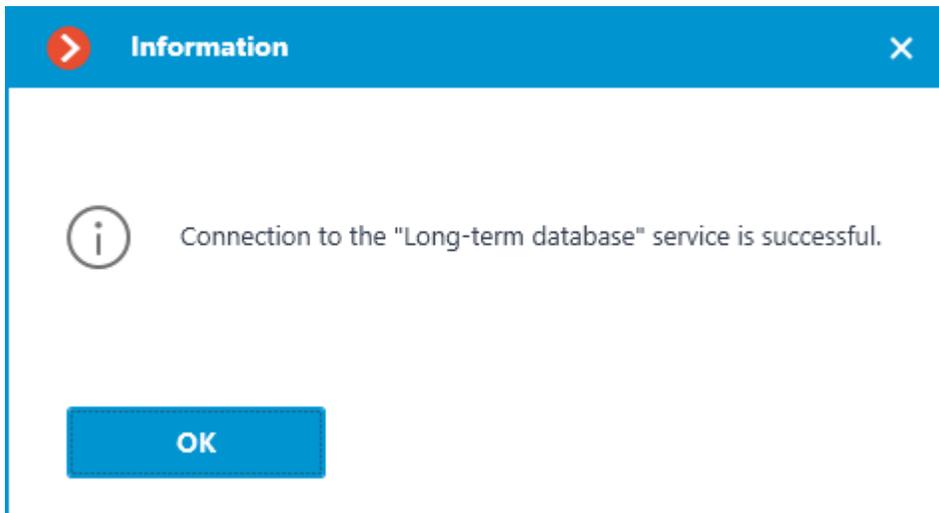
Depending on the validity of the settings and availability of the service, the results may be as follows:



Failed to connect to the service at the specified address and port during the connection test. Check the validity of the specified data and the network availability of the service for the server and try again.



Connection to the service was successfully established during the connection test, but the used password does not match the one saved in the service settings. Check that the password you have entered is valid.



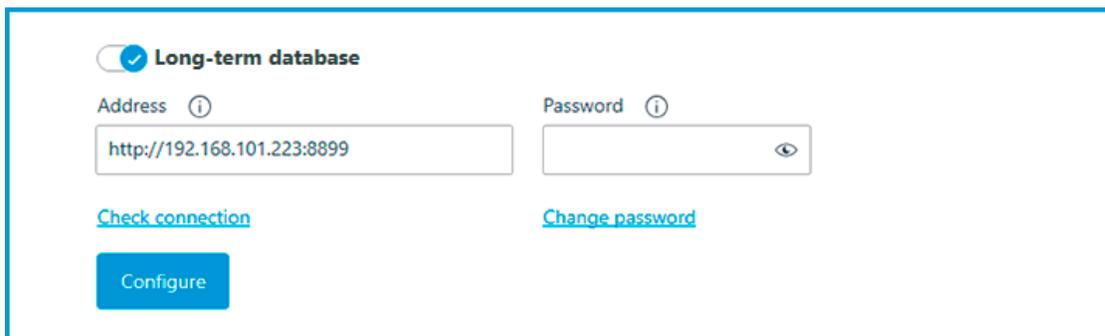
Connection test is successful, it is possible to proceed with further setup of interaction with the service.

#### *Changing service password*

Configuration can be made in a separate window that opens by clicking the **Change password** link on the **Services** tab.

The **Long-term database** service does not have a password by default and this may conflict with local security policies.

To set or change the password for the connection to the service, click the **Change password** link under the **Password** field on the **Services** tab.



In the window that opens, fill in the **New password** and **Confirm new password** fields with the password.

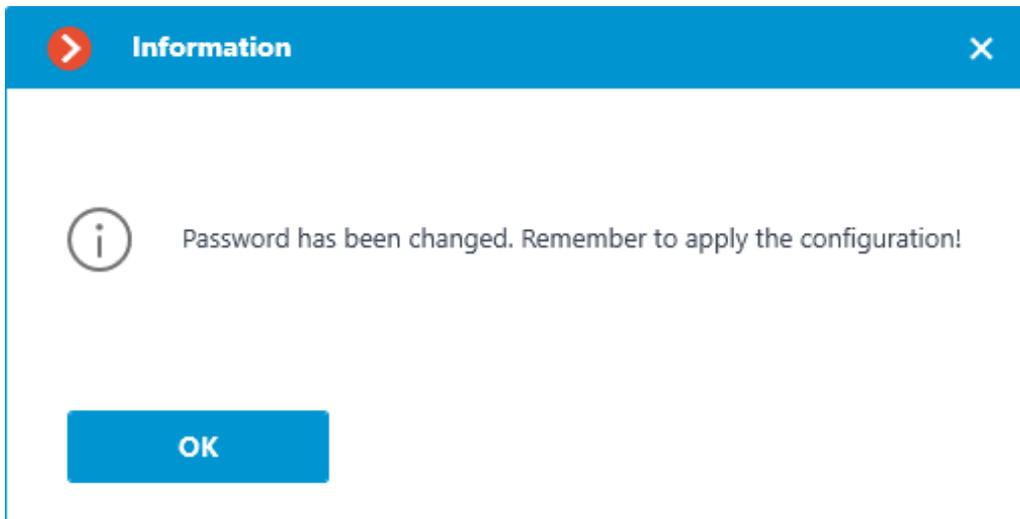
The image shows a 'Change password' dialog box. It has a blue header bar with a back arrow on the left, the text 'Change password' in the center, and a close 'X' button on the right. Below the header, there are two text input fields. The first is labeled 'New password' and the second is labeled 'Confirm new password'. Each input field has a small eye icon on the right side, indicating a toggle for password visibility. At the bottom of the dialog, there are two buttons: a solid blue 'Apply' button and a white 'Cancel' button with a blue border.

#### Note

When setting or changing a password, there are a few requirements that must be met:

- Service must be available when changing the password.
- The password and its confirmation must match.
- The new password must not be identical to the old password when it is changed.
- The password can contain characters of the Latin and Cyrillic alphabet.
- The password may include numbers.
- Only the following special characters are allowed in the password:  
**!@#\$%&()\_-**
- The password can be blank.

If all requirements have been met, clicking the **Apply** button will set a new password for the service and display the corresponding message.



### Warning

To save the settings and then synchronize them with the service, [apply the settings](#).

If any requirement is violated when setting a new password, the window will show a warning and the **Apply** button will be blocked.

**Change password** ✕

New password

Confirm new password

New password must differ from the current one.

**Apply** **Cancel**

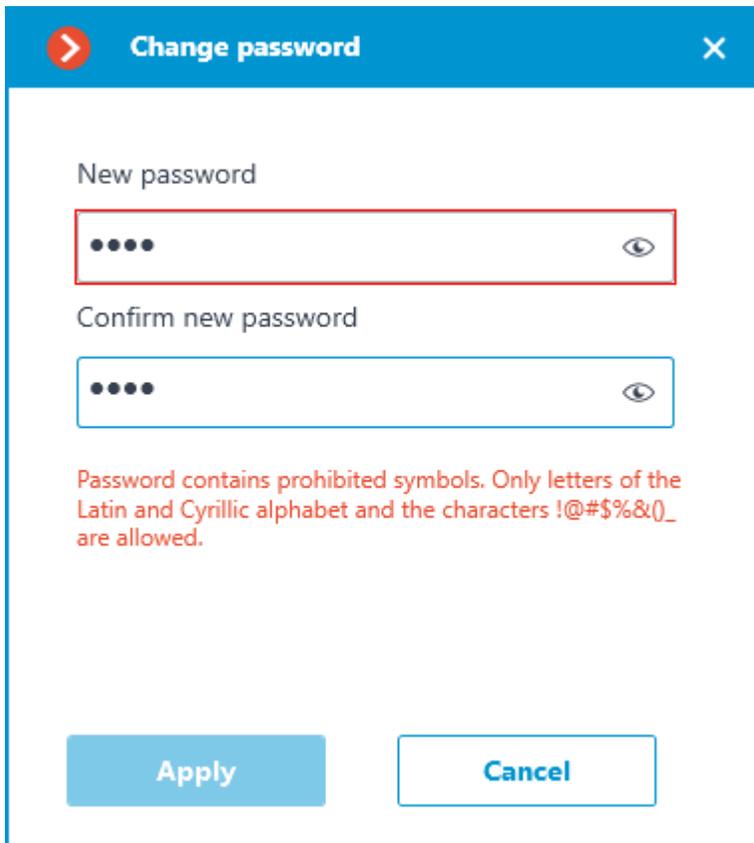
**Change password** ✕

New password

Confirm new password

New password and confirmation do not match.

**Apply** **Cancel**



The image shows a 'Change password' dialog box with a blue header and a white body. The header contains a red arrow icon on the left and a close 'X' icon on the right. The main content area has two password input fields. The first field is labeled 'New password' and has a red border; it contains four black dots and a toggle eye icon on the right. The second field is labeled 'Confirm new password' and has a blue border; it also contains four black dots and a toggle eye icon. Below the fields, a red error message reads: 'Password contains prohibited symbols. Only letters of the Latin and Cyrillic alphabet and the characters !@#%&()\_ are allowed.' At the bottom, there are two buttons: a solid blue 'Apply' button and a white 'Cancel' button with a blue border.

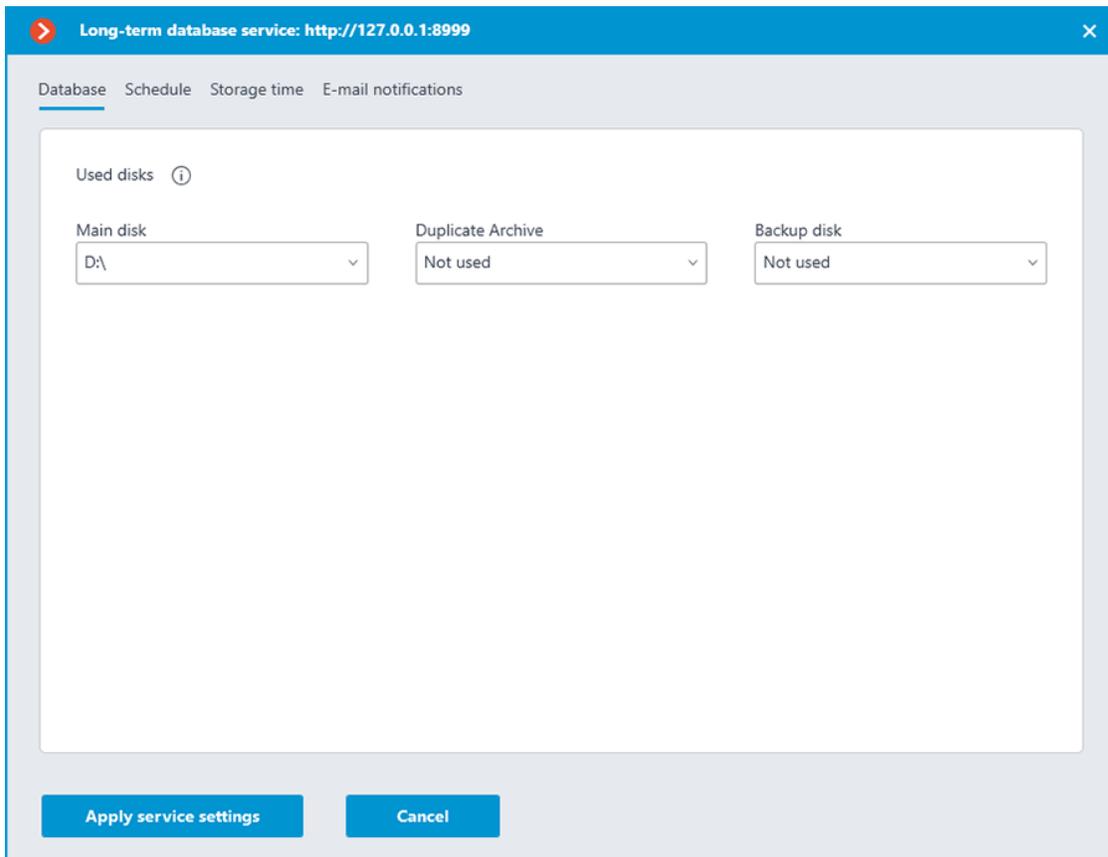
#### *Storage disks settings*

Configuration can be made in a separate window that opens by clicking the **Configure** link on the **Services** tab.

The **Database** tab contains settings for selecting drives to store events on the service.

#### Note

Disks are selected for the device on which the service is installed.



One of the following roles can be assigned to the disk:

- **Main disk**
- **Duplicate Archive**
- **Backup disk**

Main disk must be assigned in any case, duplicate and backup disks are assigned optionally. Events are recorded on the primary and backup disks all the time. The backup disk is to be used only when neither the primary nor the backup disk are available for recording. Events are being read simultaneously from all disks regardless of their role. Event duplicates are discarded from the display when reading disks. For example, if an event is detected on the Main disk, the same event from other disks will be discarded when displaying in the **Eocortex Client** application.

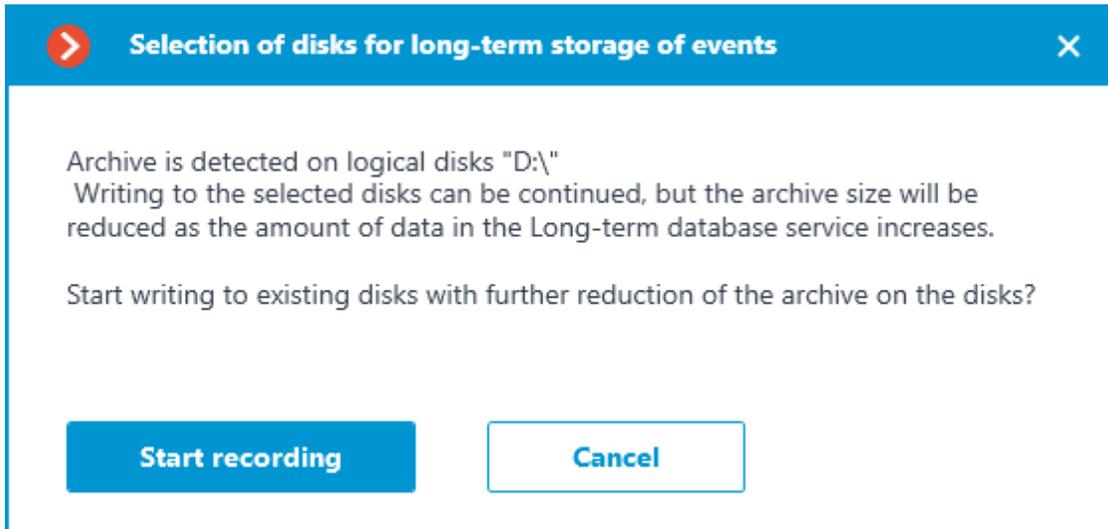
Events will not be synchronized between service disks. For example, events recorded to the Backup disk while the Main disk was unavailable will not be transferred to it after recovery.

#### Warning

It is not recommended using for storage of the service database disks that are already used for recording of the **Eocortex** archive. The archive can take up a large amount of disk memory and this may significantly reduce the number of

events that can be saved to such disk. For correct service work it is recommended to choose disks, which are not being used by other **Eocortex** applications for writing.

When applying the settings, the **Long-term database** service checks the drives for the presence of archive records. If such records will be detected on the disk selected for storing the service database, a window with the corresponding warning will open.



At this point it is possible to cancel applying the settings by clicking the **Cancel** button and return to the service settings to select another disk, or start recording on the selected disks without changing the settings by clicking **Start recording**.

#### *Event synchronization settings*

Configuration can be made in a separate window that opens by clicking the **Configure** link on the **Services** tab.

The **Schedule** tab contains settings for event synchronization schedule between the databases of the service and the **Eocortex** servers.

Long-term database service: http://127.0.0.1:8999

Database Schedule Storage time E-mail notifications

Synchronization frequency, hours  
12

Start time  
00:00

Time of the first synchronization of events is applied for each server according to its local time

Apply service settings Cancel

The synchronization schedule consists of the following settings:

- **Synchronization frequency, hours** is how often the service will synchronize events from the databases of servers.  
Available intervals, hours: 1, 2, 3, 4, 6, 12, 24.
- **Start time** is the time of first data synchronization between the service and servers.

Once the settings are applied, the server will perform the first synchronization with the **Long-term database** service at the time specified in the **Start time** field, and then continue performing synchronization according to the specified interval.

#### Note

First synchronization of events for each server happens according to its local time. If servers of the same system are located in different time zones, they will perform the first synchronization with the service at the time corresponding to the specified hour in their time zone.

For example:

Server 1 is in UTC+3 and Server 2 is in UTC+10. The setting is made at 16:00 UTC+3. If the first synchronization time is set to 20:00, Server 1 will start

synchronization on the same day when the setting was applied, when Server 2 will wait for the next day to start — for the UTC+10 time zone it will already be 23:00 at the moment of applying settings.

#### Warning

The **Eocortex** server synchronizes the settings with the **Long-term database** service every 10 minutes. **Start time** should be at least 10 minutes later than the current time. If synchronization of the settings happens after the time specified as **Start time**, event synchronization will be postponed to the next day.

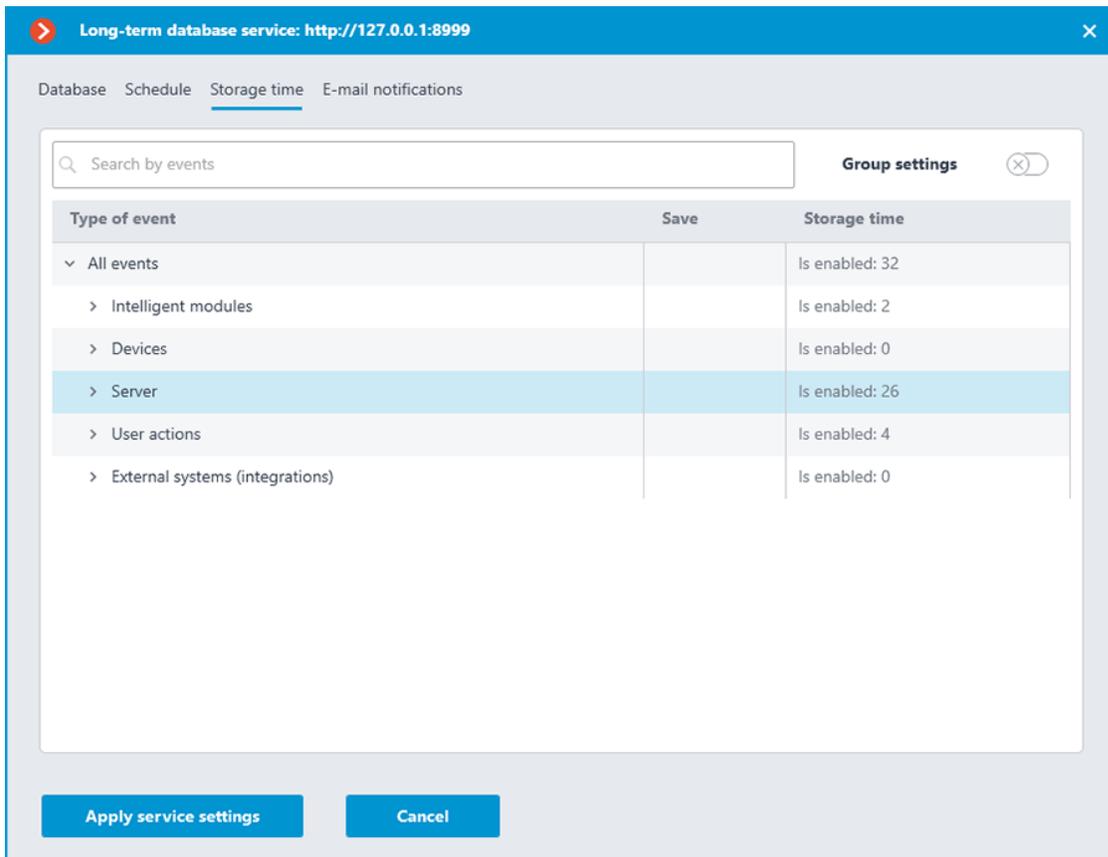
For example:

service started at 14:40, the next synchronization of settings will be performed at 14:50. At 14:41 service settings were changed, setting the first synchronization at 14:45. Synchronization will be performed at the specified time, but only on the next day — the synchronization of settings occurred later than the specified time of event synchronization.

#### *Event storage settings*

Configuration can be made in a separate window that opens by clicking the **Configure** link on the **Services** tab.

The **Storage time** tab contains settings for selecting event types and time limits for storing them in the service database.



This tab allows specifying the type of events to be stored in the **Long-term database** service database, as well as the storage period for them.

Settings on the **Storage time** tab are represented as a table with the following columns:

- **Event type** — the list of events available for synchronization with allocation by groups. Whether an event group is collapsed or expanded in the **Event type** column determines the contents of the other columns.
- **Save** — synchronization setting (enabled or disabled) for the selected event type.

The synchronization setting in the **Save** column is available only for individual event types. It is not possible to select in this column an entire group for saving — the space next to the group name will be empty.

- **Storage time** — the storage time of events of the selected type in the service database.

The storage duration setting in this column is available only for individual event types. For a group of events, the number of event types enabled and configured for synchronization will be displayed at this position.

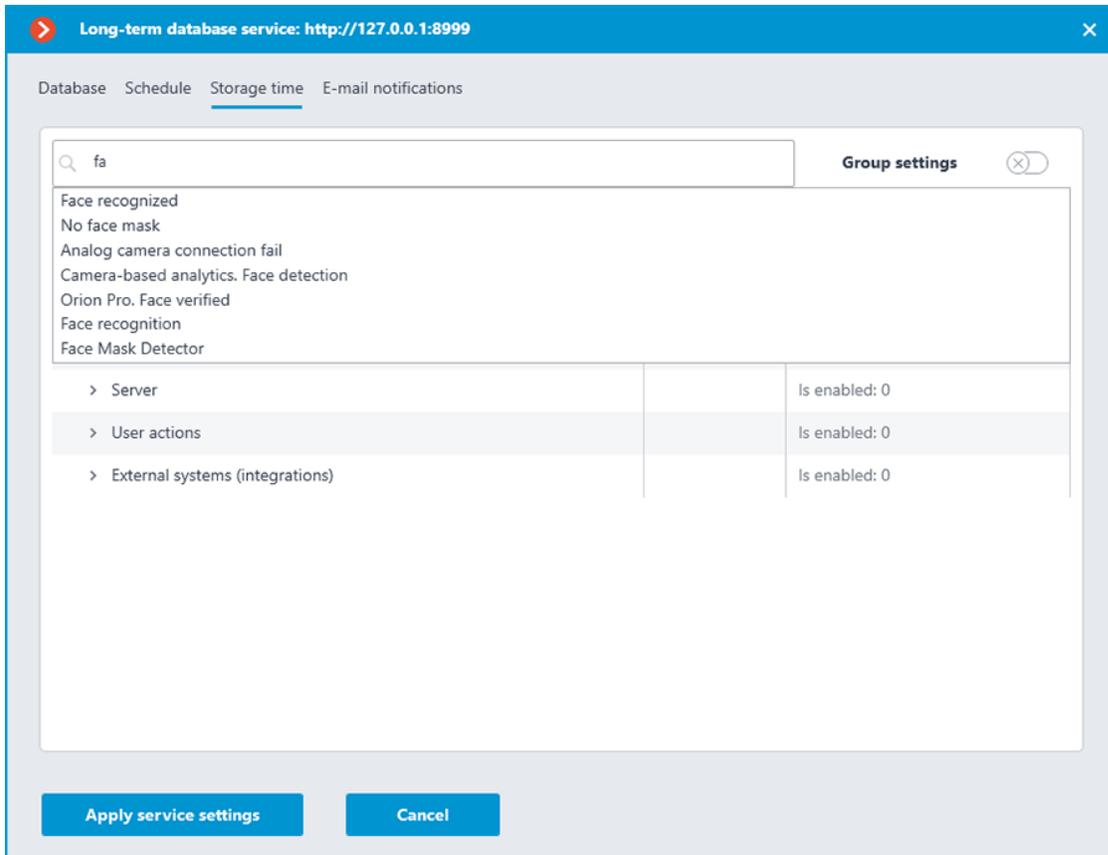
**Storage time** is set starting from the moment when the event was created in the **Eocortex** server database. So, for example, if the storage

period is set as 1 week, the **Storage time** service will delete the event from its database when it expires and will not synchronize it again even if the event will still exist in the **Eocortex** server database.

### Note

The maximum storage time of events in the **Storage time** service database is 100 months.

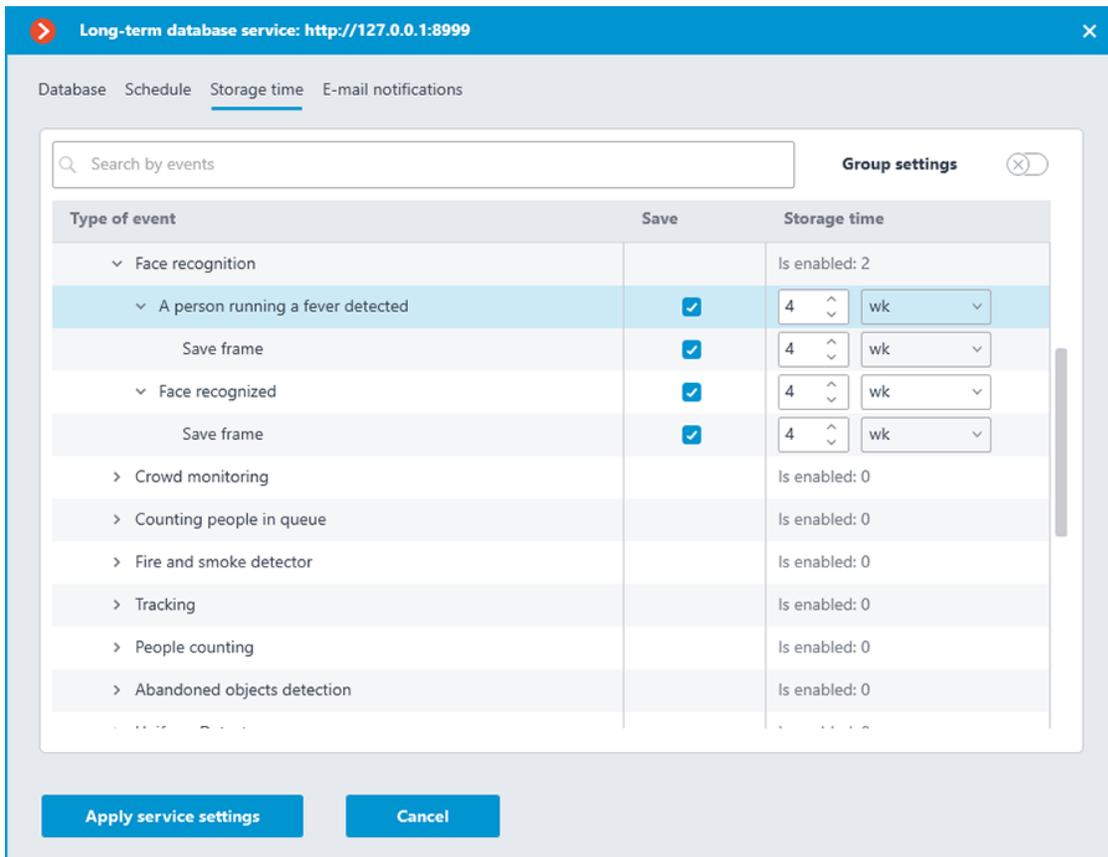
For the convenience of configuration, there is the text search field available on the tab, allowing to quickly navigate to the needed type of events.



Storage time can be set in one of the two available modes:

### Individual setting

The individual setting is the default mode, which allows selecting the wanted types of events to be stored and setting individual storage time for each of them.



To set up event storage in the individual setting mode, follow these steps:

1. Find the needed event type in the **Save** column by using the search field or manually, by expanding the event groups.
2. Enable storing events of the selected type in the **Save** column.

If the selected event type has the option of saving a frame associated with the event, this option will be automatically enabled when the event type is selected. It can be deactivated in the same **Save** column.

#### Warning

Frame storage relies on the event being stored, so it is not possible to choose to store a frame without storing the event.

3. Specify the storage time for events of the selected type in the **Long-term database** service database.

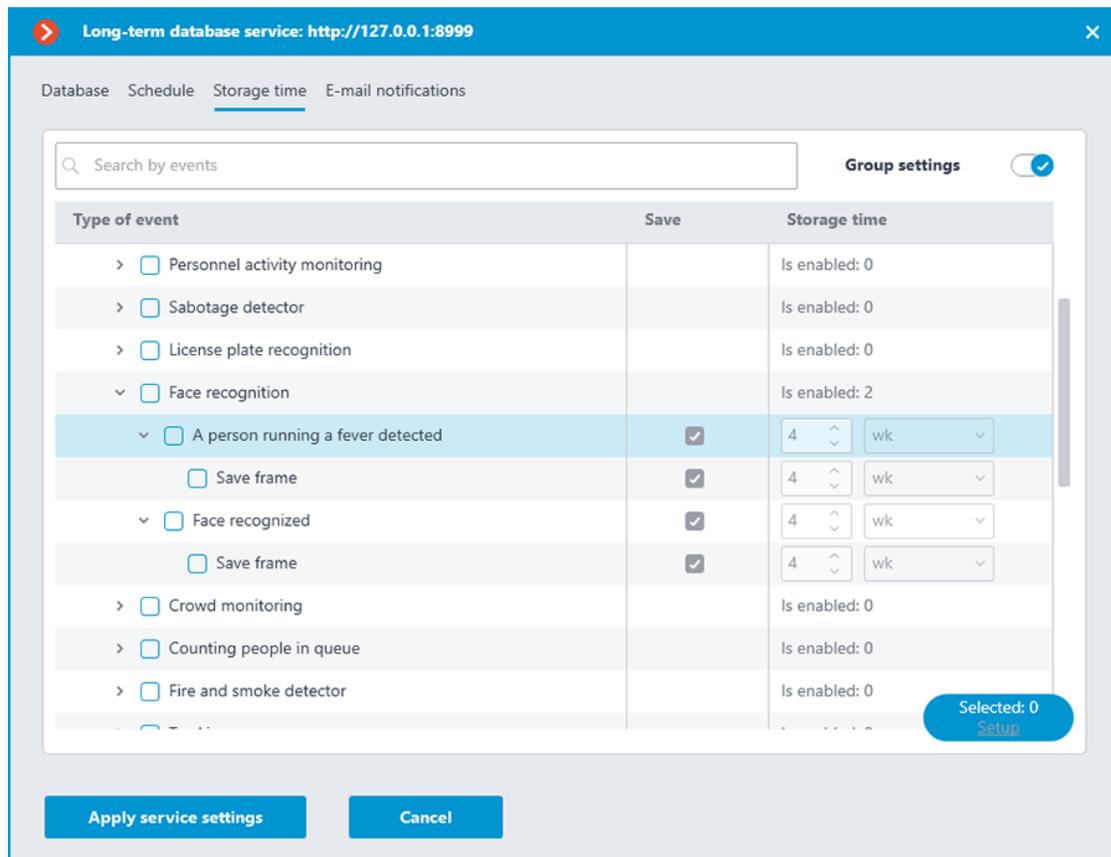
If the **Save frame** option is available and enabled for the event, it is also possible to set an individual storage time for the saved frames.

#### Warning

Storage time of a frame cannot exceed the storage time of the event to which it belongs.

## Group settings

Group settings is an additional mode that allows setting the same storage time for multiple event types simultaneously.



This mode can be activated by clicking the  **Group settings** switch in the upper right corner of the tab.

When this setting mode is enabled, the configuration window changes: settings in the **Save** and **Storage time** columns are locked, in the **Event type** column checkboxes for selection of event types appear to the left of their names, and in the lower right corner the **Configure** button appears for configuring the selected event types.

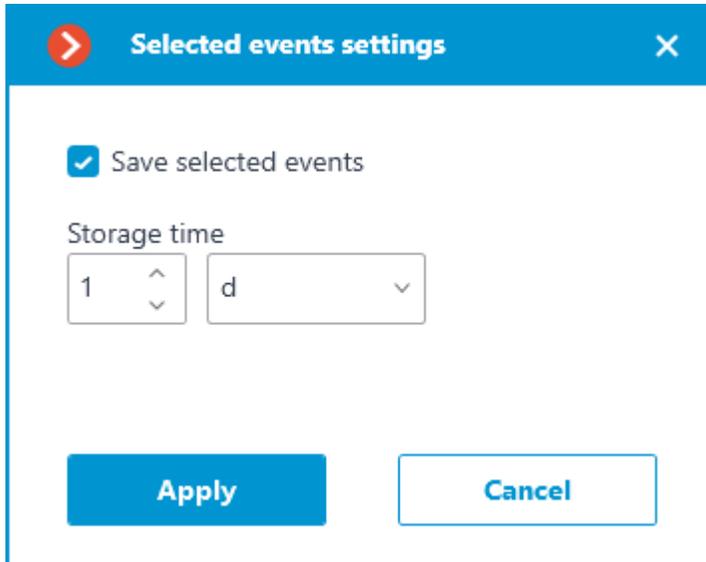
To configure event storage in Group settings mode, follow these steps:

1. Enable the Group settings mode with the  switch in the upper right corner.
2. Use the checkboxes in the **Event type** column to select the needed event types.

It is possible to select not only individual event types, but also entire groups, including the **All events** root group.

If frame storage is available for the event, this option is also will be flagged as selected.

3. Click the **Configure** button in the lower right corner.
4. In the **Selected events settings** window, set the event storage time.



The screenshot shows a dialog box titled "Selected events settings". It features a blue header bar with a back arrow on the left, the title "Selected events settings" in the center, and a close button (X) on the right. Below the header, there is a checked checkbox labeled "Save selected events". Underneath, the "Storage time" is set to "1" in a spinner box and "d" in a dropdown menu. At the bottom, there are two buttons: "Apply" (solid blue) and "Cancel" (outlined blue).

When configured as a group, the same storage time is set for all selected events. The **Save selected events** option allows to quickly enable or disable storage of selected event types. This can be useful if it is necessary to override storage settings for multiple event types. This option is enabled by default.

5. Apply settings.

If it is necessary to customize any of the event types, the Group settings mode can be disabled with the same switch in the upper right corner.

#### *Email notifications settings*

Configuration can be made in a separate window that opens by clicking the **Configure** link on the **Services** tab.

The **Long-term database** service has the ability to notify a user about encountered problems using email.

Long-term database service: http://127.0.0.1:8999

Database Schedule Storage time E-mail notifications

E-mail address server  
Google

E-mail of the sender  
[Change](#)

E-mail of the recipient ⓘ

Notification types

Free disk space limit is reached % 10 ⓘ

Possible service malfunction

Notifications language ru

[Apply service settings](#) [Cancel](#)

To send notifications, an SMTP server must be specified. The following options are supported:

- **Google**
- **Yandex**
- **Set manually**

When selecting the **Google** or **Yandex** options, clicking the **Change** link in the **E-mail of the sender** section will open the authorization window of the selected email service.

When selecting the **Set manually**, the SMTP server address and port, sender address and password must be set manually.

Long-term database service: http://127.0.0.1:8999

Database Schedule Storage time E-mail notifications

E-mail address server  
Set manually

SMTP server address Port of SMTP server

E-mail of the sender Password

E-mail of the recipient ⓘ

Notification types

Free disk space limit is reached % 10 ⓘ

Possible service malfunction

Notifications language ru

Apply service settings Cancel

The **E-mail of the recipient** section allows specifying one or more recipients of the notification by separating the addresses from each other with a comma, semicolon or adding a new line for each recipient.

The **Notification types** section allows specifying the types of notifications that the service should send to the recipients. The following notification types are supported:

- **Free disk space limit is reached** — will be sent when one or more disks used by the service have a percentage of free space less than the specified.
- **Possible service malfunction** — will be sent when the service has failed to save events to disk. Possible causes of the error:
  - The disk has run out of space to write.
  - PostgreSQL failed to add a record to the database. The database file may be corrupted.
  - Other recording problems have occurred.

Details about the error can be found in the service logs. It is also recommended attaching them to the message in case of contacting [technical support](#).

## Access settings >

### Note

The **Long-term database** service does not imply additional settings limiting user access to the stored content. If a user is allowed to access a camera, it will also have access to the events for that camera stored in the service database.

### Service usage

The **Long-term database** service ensures storing of selected types of events and access to them regardless of the archive storage settings. With this service there is no need to be concerned that event data will be lost if the archive is deleted.

Records stored in the **Long-term database** service can be used to build reports of video analytics modules and view the Events Log. Such records:

- Do not require additional settings from the user to be displayed.
- Displayed seamlessly to records from the databases of **Eocortex** servers.
- Marked with the  icon to determine whether the event belongs to the service base.

### Events

Events from the **Long-term database** service database can be displayed in the Events Log of the **Eocortex Client** application.

27.04.2023 21:50:53	i	Camera 5. Camera analytics. License plate recognized: C333CC99. Direction: Not determined. Lane number: 3. Country: Not determined .
27.04.2023 21:50:50	i	Camera 5. Camera analytics. License plate recognized: B222BB88. Direction: Backward. Lane number: 2. Country: TUR .
 27.04.2023 21:50:49	i	Camera 1. Signal from the input of the camera; input: 8, value: False.
 27.04.2023 21:50:49	i	Camera 1. Signal from the input of the camera; input: 1, value: True.

Records retrieved from the database of the service are additionally marked with the  icon next to the date and time the event was created, which allows to identify their source.

When displaying the Events Log, the **Eocortex Client** application gives priority to events from the servers' databases, loading records from the service database only if the event does not exist in the own database of the **Eocortex** server.

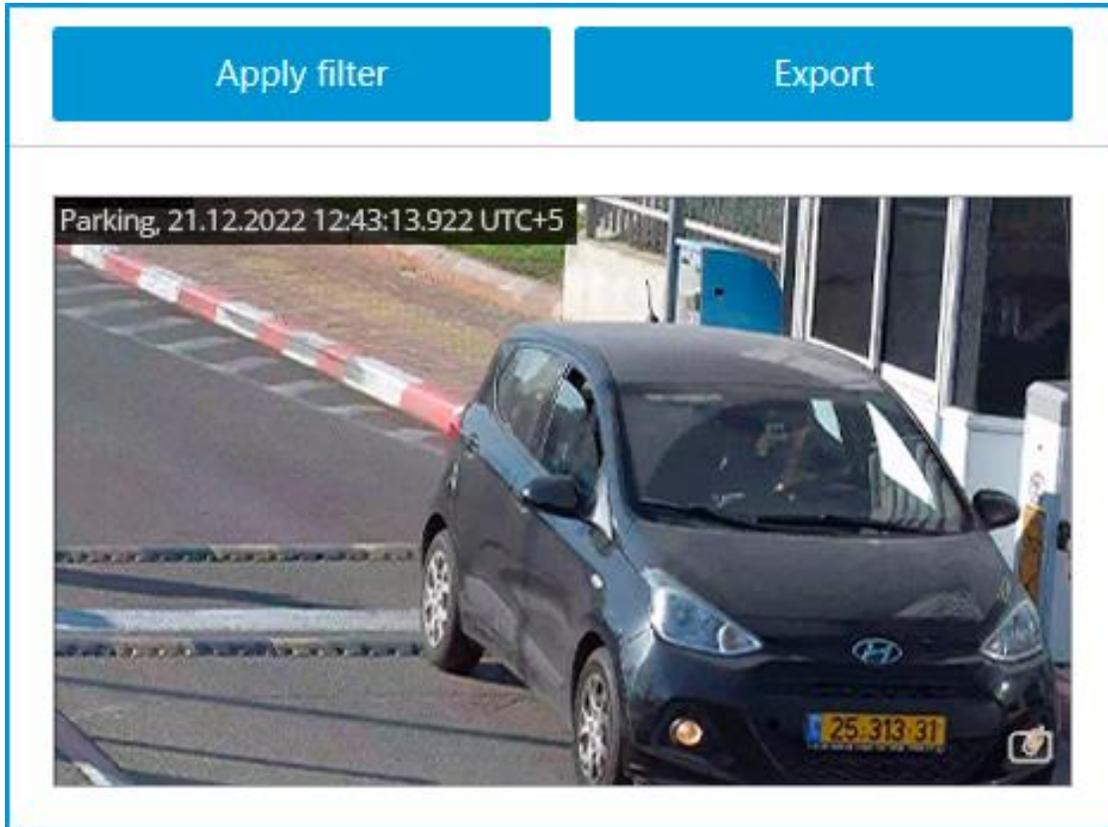
The described logic prevents duplication of events when viewing the Events Log in the **Eocortex Client** application, at the same time allowing to view events outside the archive available on the server.

For certain types of events, the service allows storing not only the events themselves, but also the frames associated with them.

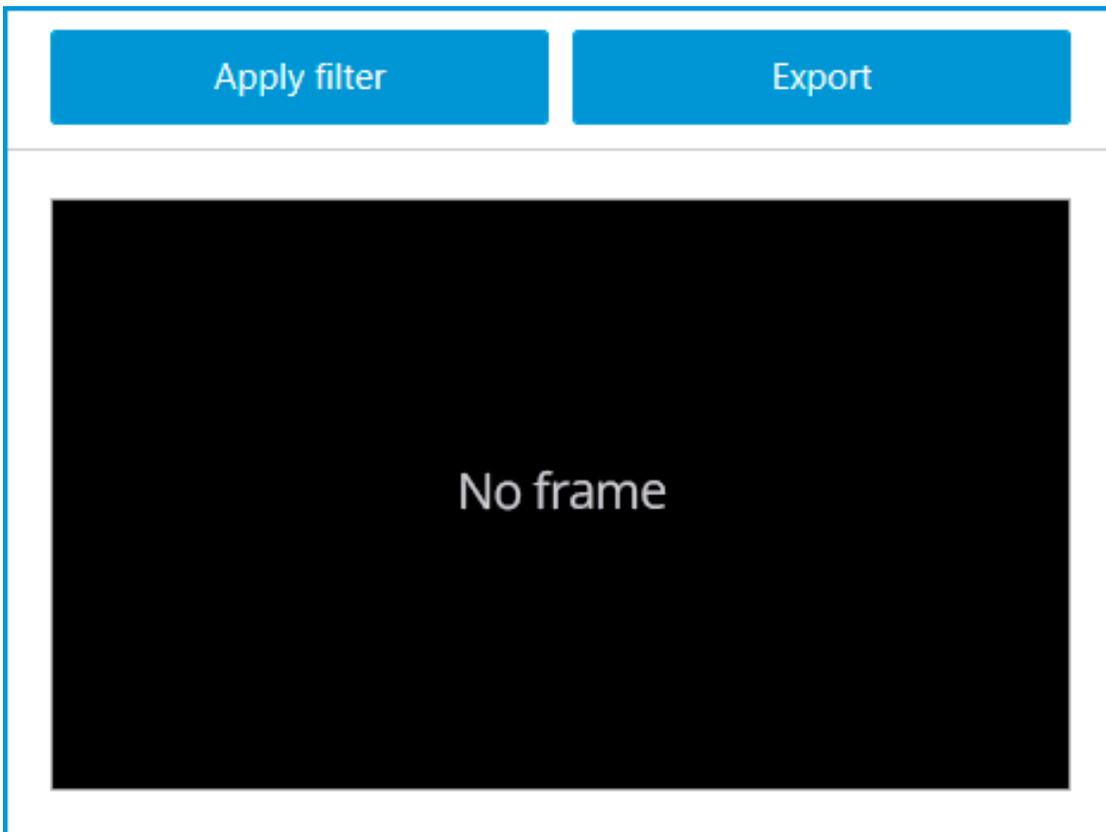
#### Note

At version 4.1, displaying of frames in the Events Log is available only for the **Recognized license plates** event type.

If an event has the option of saving an associated frame, it will be displayed in the preview window in the lower right corner when highlighting the event in the Events log.



Otherwise, the preview window will display the **No frame** message.



The retrieved frame can be displayed in full screen mode by double-clicking on it, or it can be saved to the device by clicking the  button in the lower right corner of the preview cell.

### *Reports*

Events from the **Long-term database** service database can be used to build reports in the **Eocortex Client** application.

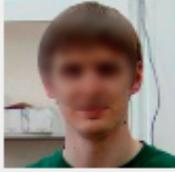
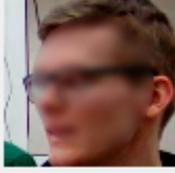
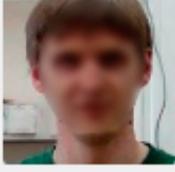
When building reports of video analytics modules, the **Eocortex Client** application primarily uses records from the database of the server. Events are loaded from the service database only if there are no events for the specified period in own databases of **Eocortex** servers.

The described logic prevents the possibility of multiple counting of the same event, while allowing to build reports for periods outside the existing archive.

For certain types of events the service allows storing not only the events themselves, but also the frames associated with them. If this option is enabled and configured, the report will display not only the text data, but also the frames related to the events.

### Note

At version 4.1, displaying of frames in reports is available only for the **Recognized license plates** and **Face recognized** event types.

	Not in database Add  	21.12.2022 13:03:04	Face Rec Camera
	Not in database Add  	21.12.2022 13:01:49	Face Rec Camera
	Not in database Add  	21.12.2022 13:01:49	Face Rec Camera
		21.12.2022 13:01:49	Face Rec Camera
	Not in database Add  	 21.12.2022 12:43:18	Face Rec Camera
		 21.12.2022 12:43:23	Face Rec Camera

Records retrieved from the database of the service are additionally marked with the  icon next to the date and time the event was created, which allows to identify their source.

Events from the service database cannot be used to build a report for the **Search for Objects** module due to the fact that this module uses archive records in addition to the events when building a report.

The retrieved frame can be displayed in full screen mode by double-clicking on it.

## Monitoring

Control the status of the **Eocortex** servers and the cameras connected to them with the **Monitoring** service.

## Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

### Description

The **Eocortex Monitoring** service allows to control:

- Availability of **Eocortex** servers
- Utilization rate of CPUs, RAM and network adapters of **Eocortex** servers
- Availability of cameras connected to **Eocortex** servers
- Status of **Eocortex** servers archive recording subsystem
- Active client connections to **Eocortex** servers

All information collected by the service from the servers is available for viewing in the [Web Client](#).

In addition to real-time monitoring, the service is also able to send email notifications about problems that occur in the system, such as:

- No connection with the server
- Audio / video stream processing problem
- Other server problems
  - Issues with drives for writing the archive
  - Errors when saving events of the log
  - Errors when recording video to the archive
  - Archive subsystem overload

### Structure of the service

The **Eocortex Monitoring** service consists of the following components:

- **Eocortex Monitoring** Server. The core of the service. An OS service that processes and maintains received data about the state of the system, as well as sends out notifications when problems occur. Deployment performs as part of a [separate installation process](#).
- **Eocortex Monitoring** Agent. Medium between the Eocortex Monitoring Server and Eocortex servers. Collects data about the system state and delivers it to the core of the service. Deployment performs as part of the Eocortex Server installation process.
- **Eocortex Monitoring** Web Client. User interface of the service. Allows viewing real-time information about the current state of the system

components. Being installed automatically together with the **Eocortex Monitoring** Server, it can be accessed at the address of the device where the server component of the service is installed.

#### Requirements and limitations

- The **Monitoring** service is a standalone application and must be installed individually.
- The **service** can be installed on any computer without installing the **Eocortex** Server on it.
- Only one **service** instance can be configured for the entire system.
- Only one system can be connected to the service at a time.
- The **Monitoring** service does not provide any options for transferring the received data to other monitoring systems.
- Data transfer between the Servers and the service is handled only by the **Eocortex Monitoring** Agent service, which installs automatically together with the **Eocortex** Server from the full distribution package.

#### Service installation

The **Eocortex System Monitoring** service allows controlling the status of the video surveillance system components and receiving immediate notifications about problems occurring with them.

Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

The **Monitoring** service supports the following operating systems:

- Windows 10, 11
- Windows Server 2012, 2016 and newer versions
- Debian 10, 11
- Ubuntu 20.04, 22.04
- CentOS 7

Work on other operating systems that are not listed is not guaranteed.

Depending on the selected operating system, the service installation process will differ. For details on how to install the **Monitoring** service on [Windows](#) or [Linux](#), see the corresponding instructions in the **Deployment** section.

## Service configuration

The **Eocortex System Monitoring** service allows controlling the status of the video surveillance system components and receiving immediate notifications about problems occurring with them.

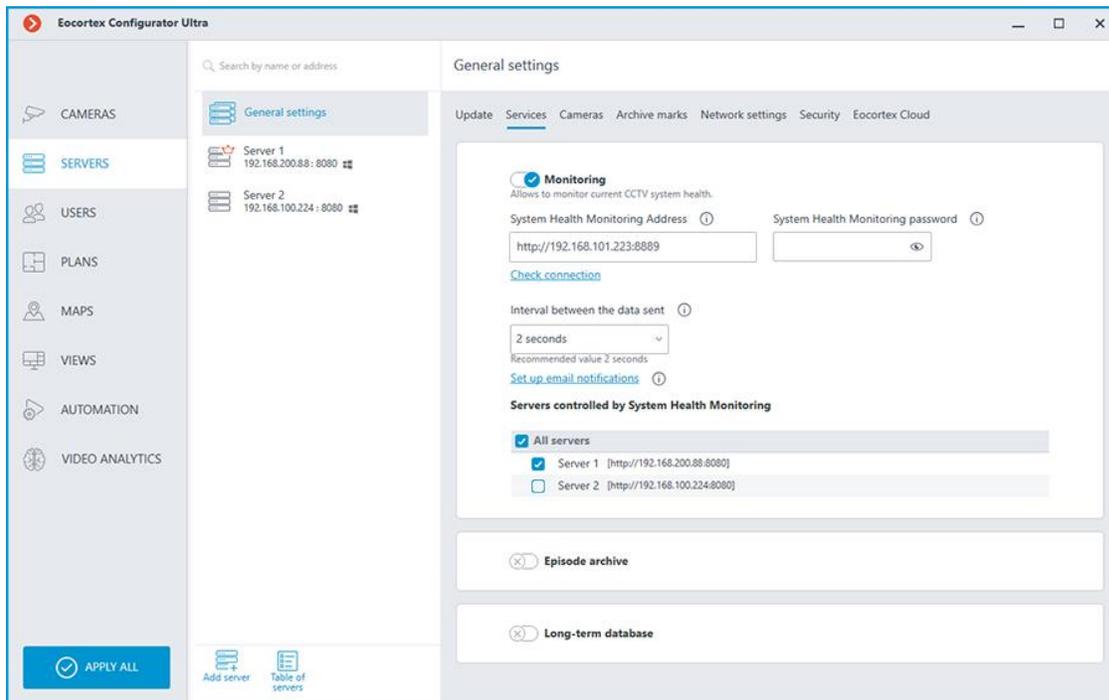
### Note

This feature is available only for **Enterprise** and **ULTRA** licenses.

To enable and configure the **Monitoring** service, follow these steps:

- Launch the [Eocortex Configurator](#) application.
- Go to the  **Servers** page.
- Select the  **General settings** item in the list of servers.
- Switch to the **Services** tab.
- Enable the  **Monitoring** option.
- Configure the interaction with the **Monitoring** service, such as the following:
  - Configure a network connection to the service.
  - Set the rate of data transfer to the service.
  - Set parameters for sending service notifications.
  - Select servers for monitoring.
- [Apply settings](#).

Changing the password for the service can be done through the **Monitoring Web Client**.



### Connection settings

#### Note

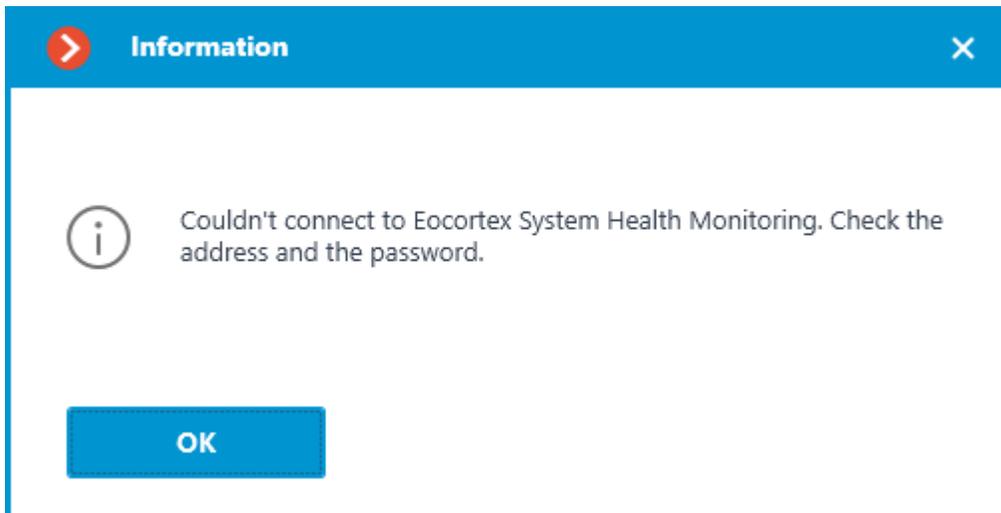
Configuration can be made on the **Services** tab, where the service was enabled.

Network connection to the service must be configured to get access to the configuration of conditions for storing events in its database.

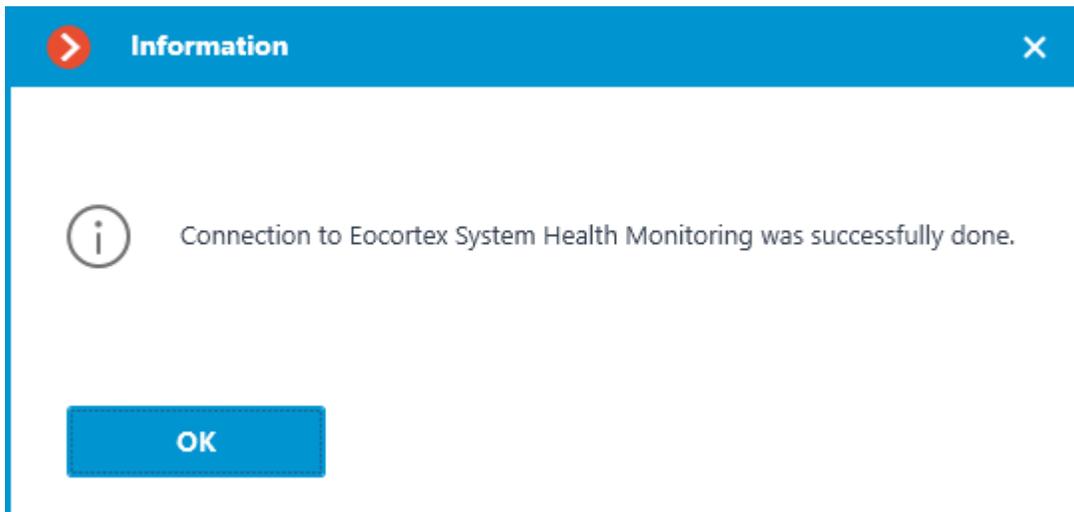
Below is a description of settings:

- **Address:** Address of the Monitoring service. The connection port for the service must be specified in the same field, with a colon after the address.
- **Password:** Password of the Monitoring service. The default password is blank.
- **Check connection:** Clicking this link starts the test connection to the **Monitoring** service.

Once the **Address** and **Password** fields are filled in, it is recommended to test the connection to the service by clicking the **Check connection** link. Depending on the validity of the settings and availability of the service, the results may be as follows:



Failed to connect to the service using specified parameters during the connection test. Check the validity of the specified data and the network availability of the service for the server and try again.



Connection test is successful, it is possible to proceed with further setup of interaction with the service.

#### *Interval of sending data*

Configuration can be made on the **Services** tab, where the service was enabled. The interval of sending data affects the speed of parameters check as well as the frequency of data update in Web-interface of Eocortex System Health Monitoring. It is advisable to have the interval equal to 2 seconds. The following options are available as the value of this setting:

- 2 seconds
- 5 seconds
- 10 seconds

- 30 seconds
- 45 seconds

The smaller the interval value, the more accurate will be the visualization of the status of servers and cameras in the Web Client and the faster will be the reaction of the service to possible problems. However, more frequent sending of data leads to a slight increase in the network load, which can have a negative impact in conditions of low bandwidth between the servers and the service.

#### *Notifications*

Configuration can be made in a separate window that opens by clicking the **Set up email notifications** link on the **Services** tab.

Clicking the **Set up email notifications** link opens the email notification settings window.

The following SMTP server options can be used to send notifications from the **Monitoring** service:

- **Google**

**Notifications via e-mail settings** ✕

**E-mail address server**

Google  Yandex  User SMTP server

**E-mail of the sender**

cctvmonitoring@mycompany.com [Change](#) [Delete](#)

E-mail of the receipient ⓘ

techsupport@mycompany.com  
admin@mycompany.com

**Notification types**

No connection with the server

Audio / video stream processing problem

Other server problems ⓘ

Notifications language en ▼

**Apply** **Cancel**

- **Yandex**

**Notifications via e-mail settings**

**E-mail address server**

Google  Yandex  User SMTP server

**E-mail of the sender**

cctvmonitoring@mycompany.com [Change](#) [Delete](#)

E-mail of the receipient ⓘ

techsupport@mycompany.com  
admin@mycompany.com

**Notification types**

No connection with the server

Audio / video stream processing problem

Other server problems ⓘ

Notifications language

**Apply** **Cancel**

- **User SMTP server**

**Notifications via e-mail settings** ✕

**E-mail address server**

Google  Yandex  User SMTP server

SMTP server address [Delete](#) Port of SMTP server

E-mail of the sender Password

E-mail of the recipient ⓘ

**Notification types**

No connection with the server

Audio / video stream processing problem

Other server problems ⓘ

Notifications language  ▾

If a **Google** or **Yandex** email account is used, clicking on the Change link will open a browser with an authorization form for the selected service. Use it to log in to the user account on whose behalf the notifications should be sent.

When using the **User SMTP server** option, the **SMTP server address** and **Port of SMTP server**, as well as the **E-mail of the sender** and **Password** must be specified.

In the **E-mail of the recipient** field, specify one or more addresses to which notifications should be sent. When specifying multiple addresses, separate them with commas, semicolons, or put each address on a separate line.

The **Notification types** section allows selecting the types of events about which the specified recipients will be notified, namely:

- No connection with the server
- Audio / video stream processing problem
- Other server problems
  - Issues with drives for writing the archive
  - Errors when saving events of the log
  - Errors when recording video to the archive
  - Archive subsystem overload

#### Warning

Event types will be selected simultaneously for all servers and recipients. Individual configuration of notifications for different event types is not available.

If necessary, the language of notifications can be changed. Available options are:

- English
- Russian

#### *Servers for monitoring*

Configuration can be made on the **Services** tab, where the service was enabled.

The **Servers controlled by System Health Monitoring** section allows selecting one or multiple servers of the system to be monitored by the service.

#### Warning

The whole **Eocortex** system can only be connected to one **Monitoring** service at a time. The task of monitoring different system servers cannot be shared between separate instances of the service.

#### *Access settings*

#### Note

The **Monitoring** service provides access to all received data via a separate [Web Client](#), and therefore does not require any additional access settings.

### *Changing service password*

The password for the service can be changed through the **Monitoring Web Client**.

### **Monitoring Web Client**

Data of the service can be accessed using the **Eocortex Monitoring** Web Client.

### *Launch*

To open the **Eocortex Monitoring** Web Client, type the address as follows into the address bar of web browser:

**http://address\_or\_name\_of\_monitoring\_server:8889/**. For example, **http://192.168.200.161:8889/** or **http://cctv.mycompany.com:8889/**.

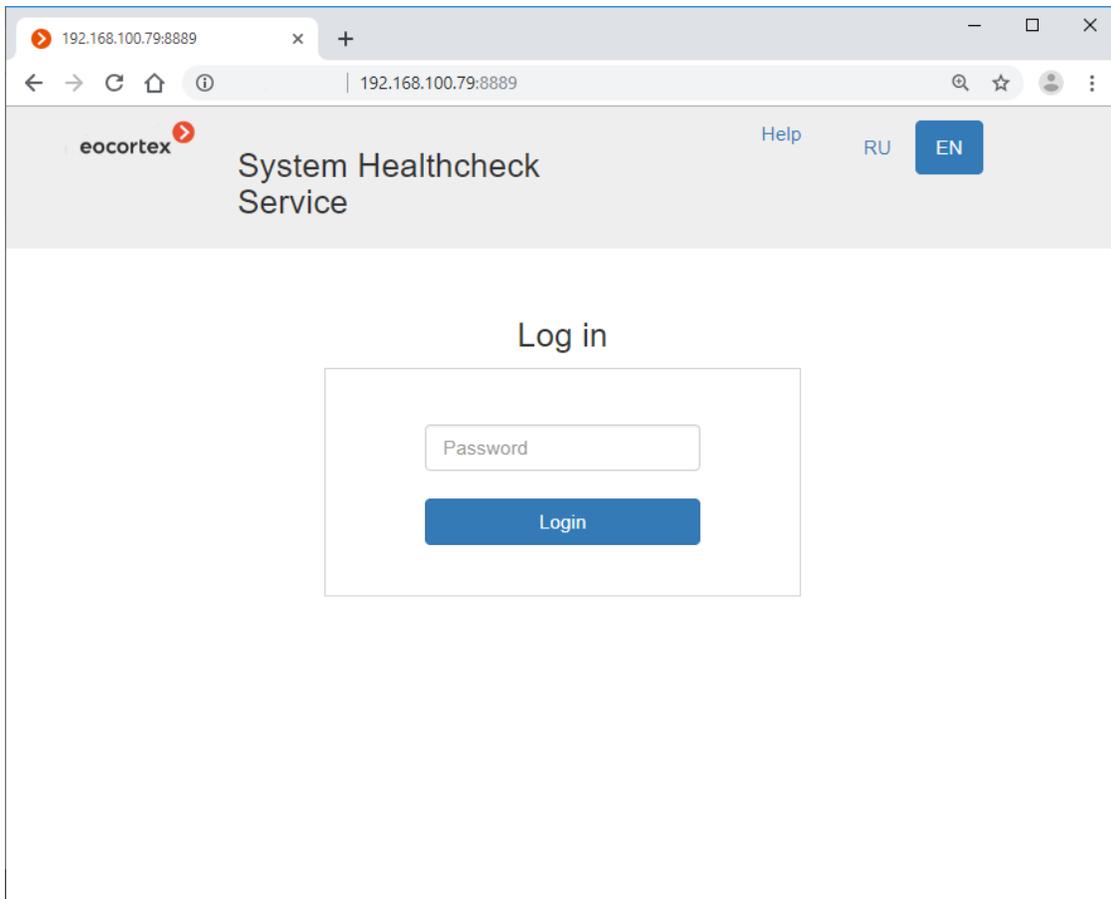
### Warning

Specification of the port **8889** in the address is required. The port number cannot be changed.

In the authorization form that opens, fill in the **Eocortex Monitoring** service password and click **Login**.

### Warning

The **Eocortex Monitoring** service does not have a password by default and this may conflict with local security policies. It is recommended to change password immediately after the first launch of the Web Client.



If any servers [are already connected](#) to the service for monitoring, the Home page will open when successfully logged in.

If no connection to the **Eocortex Monitoring** service is configured in the **Eocortex Configurator** application or no server is selected for monitoring, the **Help** page opens.

#### [Home page](#)

The top right corner of the page contains the **Settings**, **Help**, and **Logout** links, as well as language selection buttons. The working area of the page contains the List of Servers and the Events Log (digest).

Servers list:

State	Name	Address	Cameras	CPU
Ok	<a href="#">Server 1</a>	<a href="#">192.168.100.79:8080</a>	<a href="#">1/1</a>	<a href="#">22%</a>

Events log:

Time	Server	Description
21.03.2019 14:15:15	Server 1	Connection with the server is lost.

[More events...](#)

## Note

To go from any page back to the **Home page**, click on the Eocortex logo in the upper left corner.

List of Servers contains the servers of the video surveillance system with their names and network addresses, as well as the number of cameras attached to them and the CPU load level. Clicking on a server opens a page with detailed information about it.

Events Log contains information about the last five critical events, including the date and time of the event, the server where the event was registered, and a description of the event itself. Clicking the **More Events...** link opens the detailed Events Log.

## Events Log

The screenshot shows the 'Events log' page of the Eocortex System Healthcheck Service. The page is viewed in a browser at the URL 192.168.100.79:8889/log. The header includes the Eocortex logo, the service name 'System Healthcheck Service', and navigation links for 'Settings', 'Help', 'Logout', 'RU', and 'EN'. The breadcrumb trail is 'Eocortex System Healthcheck / Log'. On the left, there are three filter sections: 'Servers filter' with 'Server 1' selected; 'Cameras filter' with 'Non-cameras events' checked and 'Server 1' selected, including 'Camera 1' through 'Camera 4'; and 'Time filter' with 'All events' selected. A 'Refresh' button is located at the bottom left. The main content area displays an 'Events log' table with the following data:

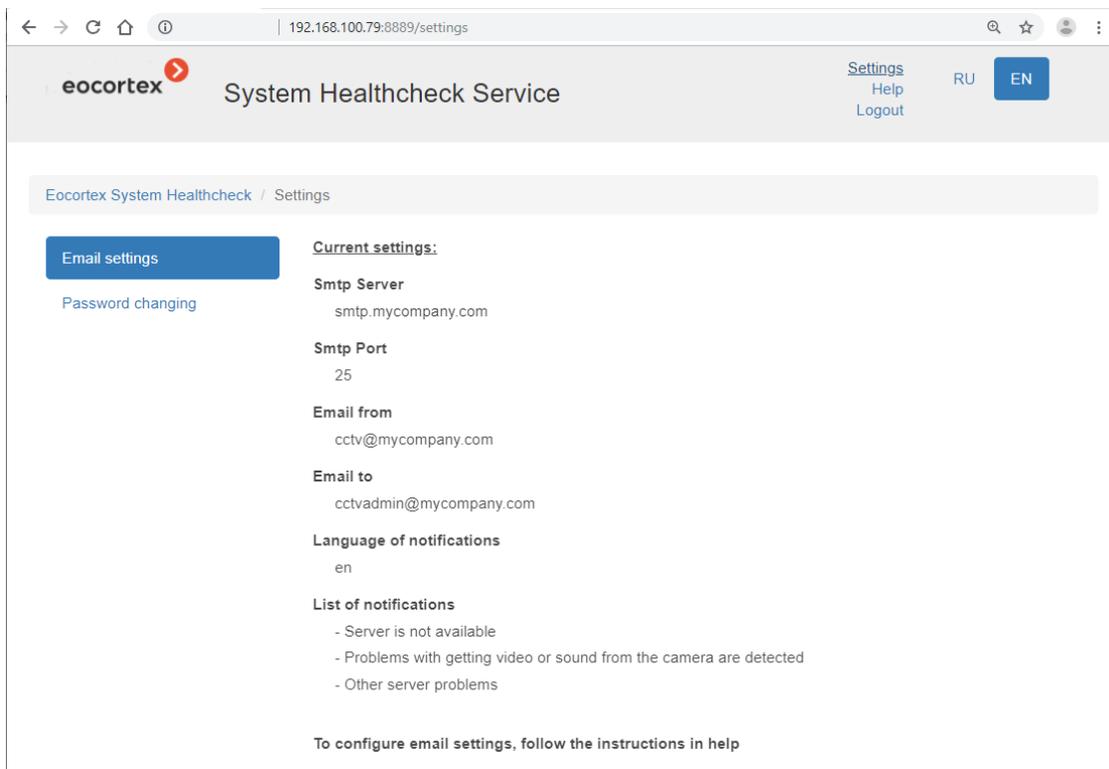
Time	Server	Description
21.03.2019 14:21:35	Server 1	Connection with the camera "Camera 1" (192.168.100.134) is lost: main stream.
21.03.2019 14:15:15	Server 1	Connection with the server is lost.

The right side of the page displays, in reverse chronological order, information containing the date and time of the event, the server where the event was registered, and a description of the event itself.

The left side of the page contains a panel that allows filtering events by various criteria. To display the filtered events, set the conditions, and then click the **Refresh** button.

## Email settings

To view the current notification settings, click the **Settings** link and then select **Email settings** from the menu on the left.

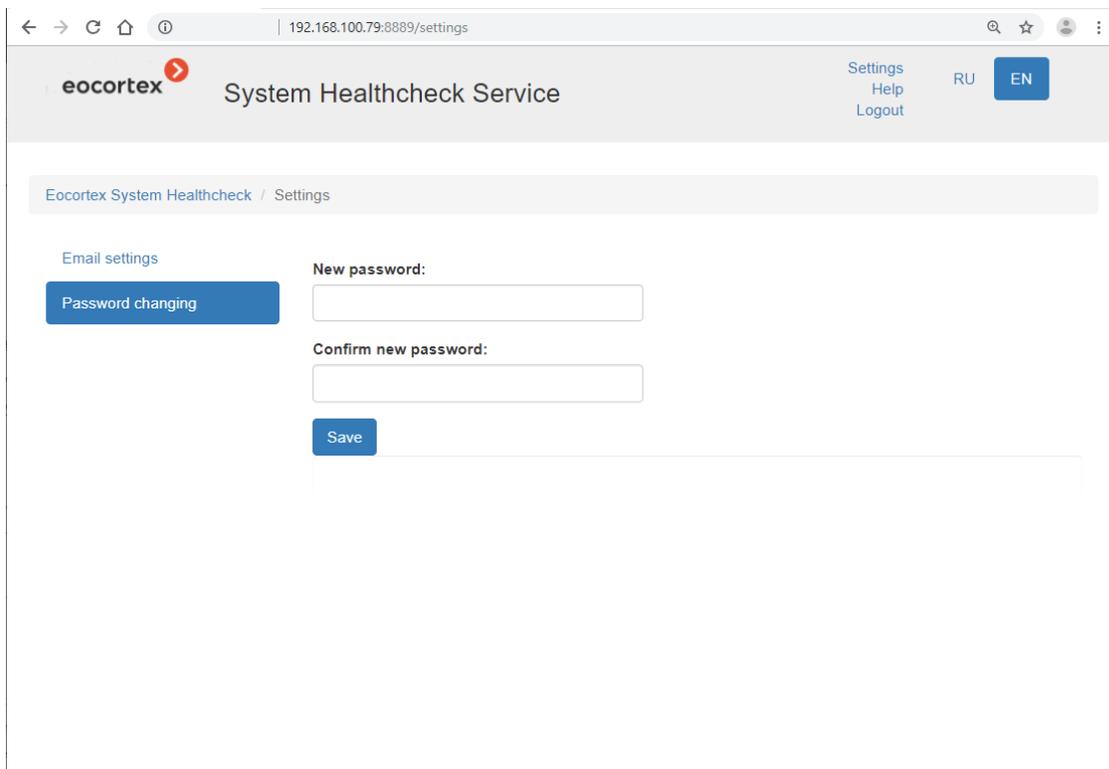


## Note

To change notification settings use the **Eocortex Configurator** application.

### *Password changing*

To change the password, click the **Settings** link and select the **Password changing** item in the menu on the left.



## Warning

If the service password has been changed, the new password must be specified in the service network connection settings in the **Eocortex Configurator** application.

### *Server information*

To view server information, click the line with this server on the **Home page**.

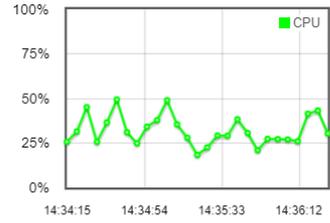
Eocortex System Healthcheck / Server "Server 1"

Main info

Main server's info:

- CPU loading
- Memory
- Cameras
- Clients
- Network

Server name: **Server 1**  
State: **Working**  
Address: **192.168.100.79:8080**  
Version: **1.5.124 (Windows)**  
Cameras: **2/4**  
Connected clients: **0**  
CPU loading: **32.6%**  
Memory: **6.6/8.0 GB**  
Archive writing: **0.8 MBytes/sec**  
Archive size: **9.6 GB**  
Archive depth: **9.0 days**  
Working time **0.35 hours**

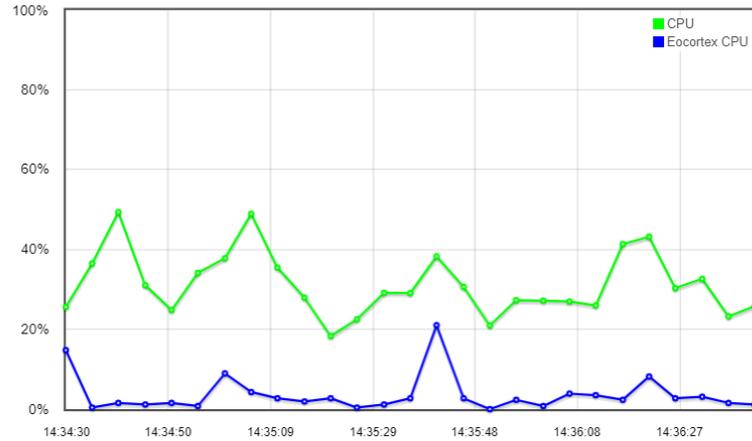


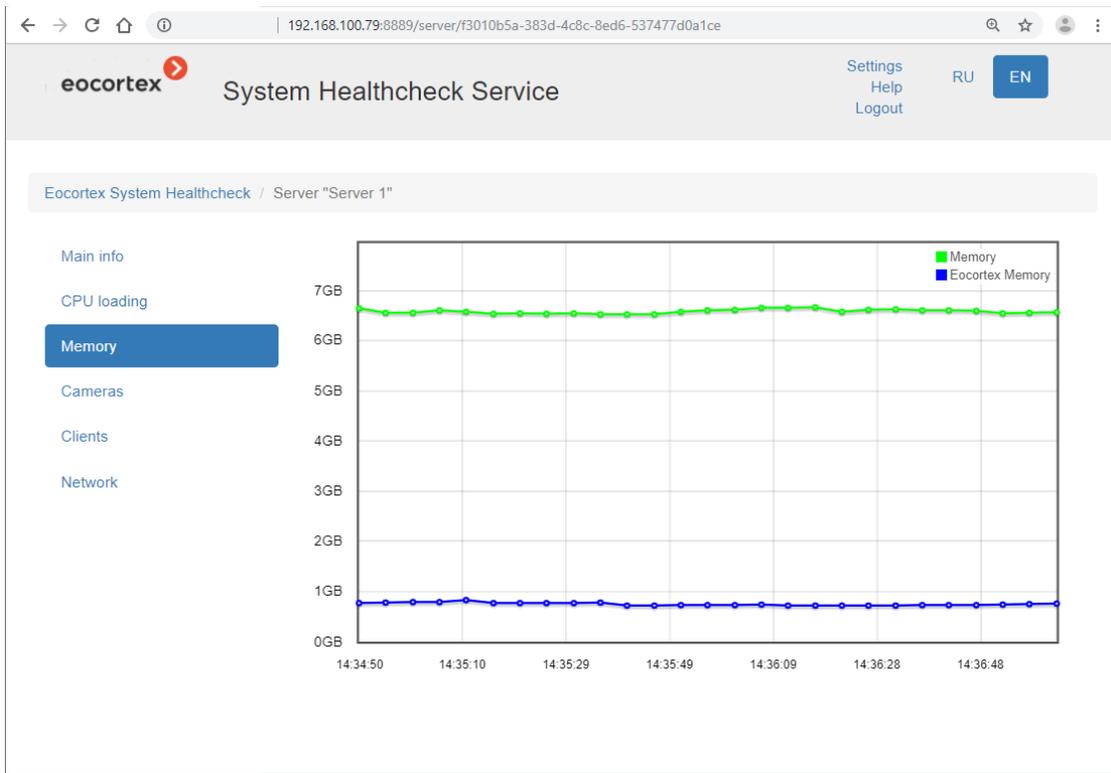
- List of problems:
- Disconnected cameras: **2**.

Eocortex System Healthcheck / Server "Server 1"

Main info

- CPU loading**
- Memory
- Cameras
- Clients
- Network





System Healthcheck Service

Eocortex System Healthcheck / Server "Server 1"

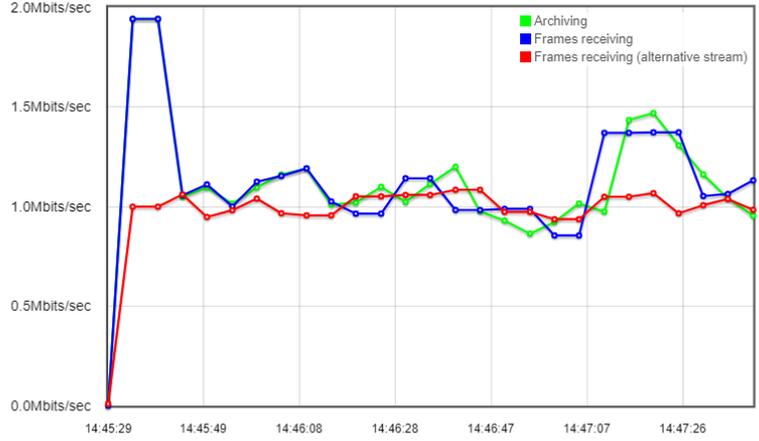
Cameras:

- Camera 1: There's a problem with getting the main stream
- Camera 2: OK
- Camera 3: OK
- Camera 4: There's a problem with getting the main stream

Clicking the camera opens the information page on this camera.

Eocortex System Healthcheck / Server "Server 1" / Camera "Camera 2"

### Camera "Camera 2"



Eocortex System Healthcheck / Server "Server 1"

- Main info
- CPU loading
- Memory
- Cameras
- Clients**
- Network

#### Connected clients:

🖥️ Login: root, Computer address:192.168.100.79

192.168.100.79:8889/server/f3010b5a-383d-4c8c-8ed6-537477d0a1ce

**System Healthcheck Service** Settings Help Logout RU EN

Eocortex System Healthcheck / Server "Server 1"

Main info  
CPU loading  
Memory  
Cameras  
Clients  
**Network**

**Network:**

- Realtek PCIe GBE Family Controller\_2 2.0/953.7 Mbits/sec
- Teredo Tunneling Pseudo-Interface 0.0/0.1 Mbits/sec
- VMware Virtual Ethernet Adapter for VMnet8 0.0/95.4 Mbits/sec
- VMware Virtual Ethernet Adapter for VMnet1 0.0/95.4 Mbits/sec

Clicking the name of the network adapter opens the information page on this adapter.

192.168.100.79:8889/server/f3010b5a-383d-4c8c-8ed6-537477d0a1ce/adapter/0

**System Healthcheck Service** Settings Help Logout RU EN

System Healthcheck Service / Server "Server 1" / Network interface "Realtek PCIe GBE Family Controller\_2"

**Network interface "Realtek PCIe GBE Family Controller\_2"**

Time (s)	Network Activity (Mbits/sec)
14:45:14	0.2
14:45:15	0.2
14:45:16	1.5
14:45:17	9.0
14:45:18	9.5
14:45:19	7.5
14:45:20	6.5
14:45:21	7.0
14:45:22	7.5
14:45:23	7.0
14:45:24	8.8
14:45:25	2.0
14:45:26	3.5
14:45:27	3.0
14:45:28	7.0
14:45:29	7.5
14:45:30	6.2
14:45:31	2.8
14:45:32	7.0
14:45:33	5.5
14:45:34	2.8
14:45:35	4.8
14:45:36	2.5
14:45:37	2.2
14:45:38	2.5
14:45:39	1.8
14:45:40	1.5