

Video analytics system for cities
and business

VEZHA

VEZHA

User Guide for Object Detection Plugin

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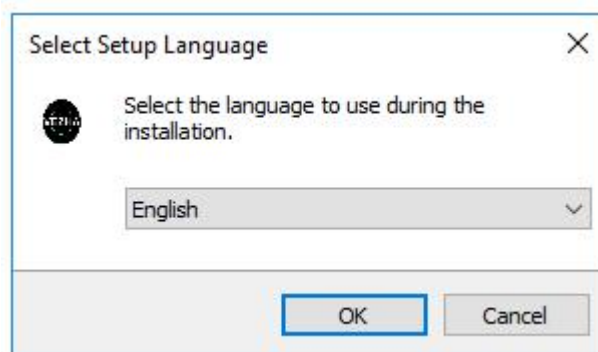
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VEZHA Object Detection Plugin Description

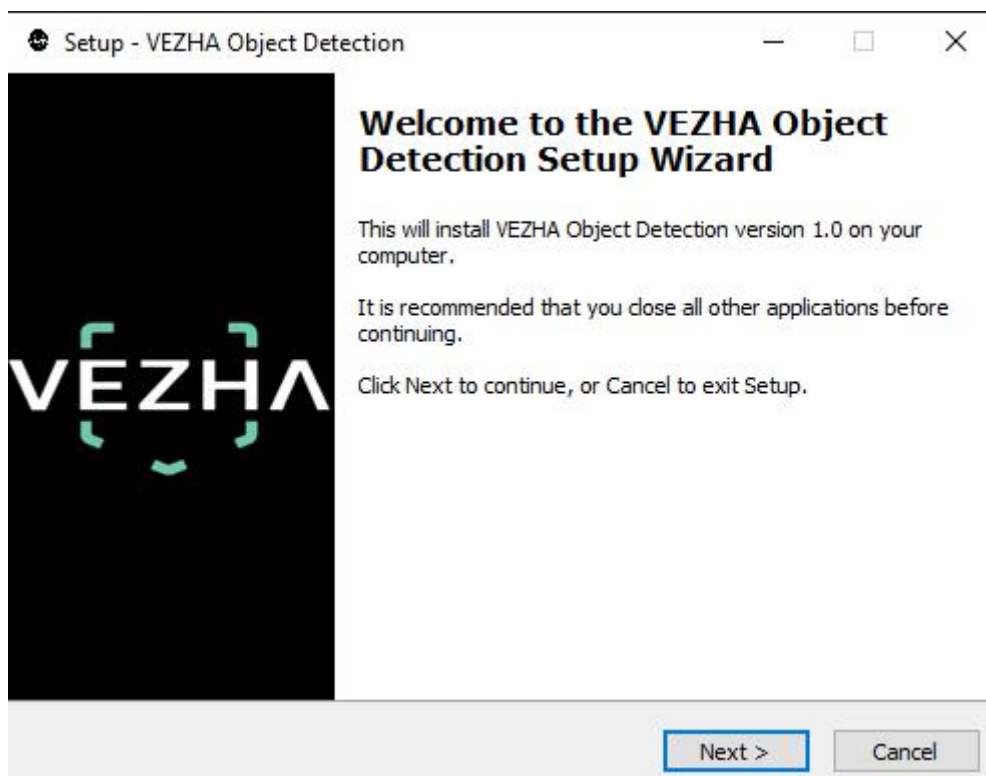
VEZHA Object Detection Plugin is developed to detect an object in a zone (person, animal, vehicle, thing). If the object is in the zone beyond the permissible time, the system sends a notification.

1. Installation

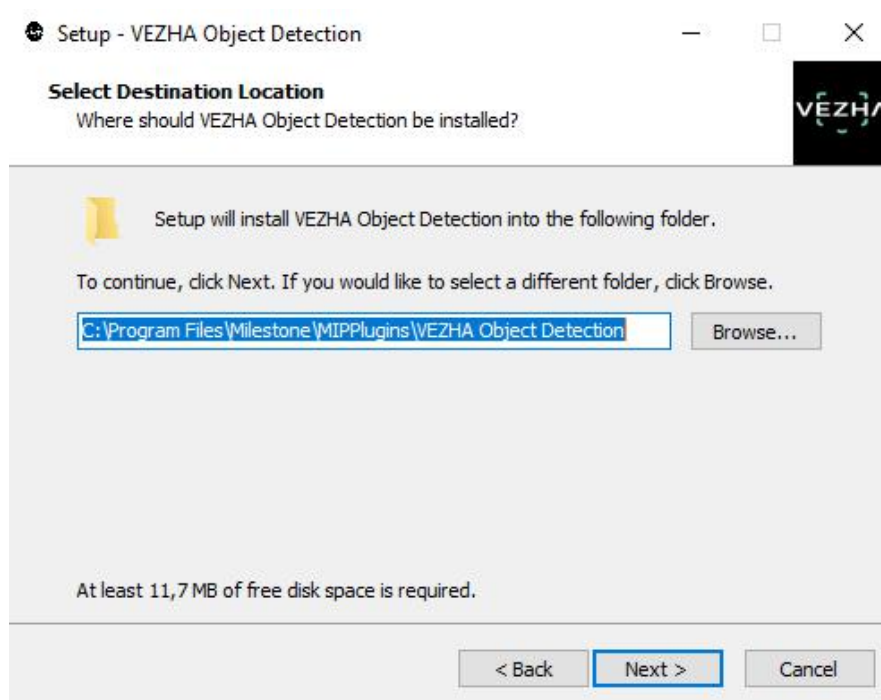
1. Launch the installer by double-clicking on the downloaded file **VEZHA_Object_Detection_Setup**.
2. In the window that opens, select the language that will be used during the installation process. To go further, click **OK**. To abort the installation, click **Cancel**.



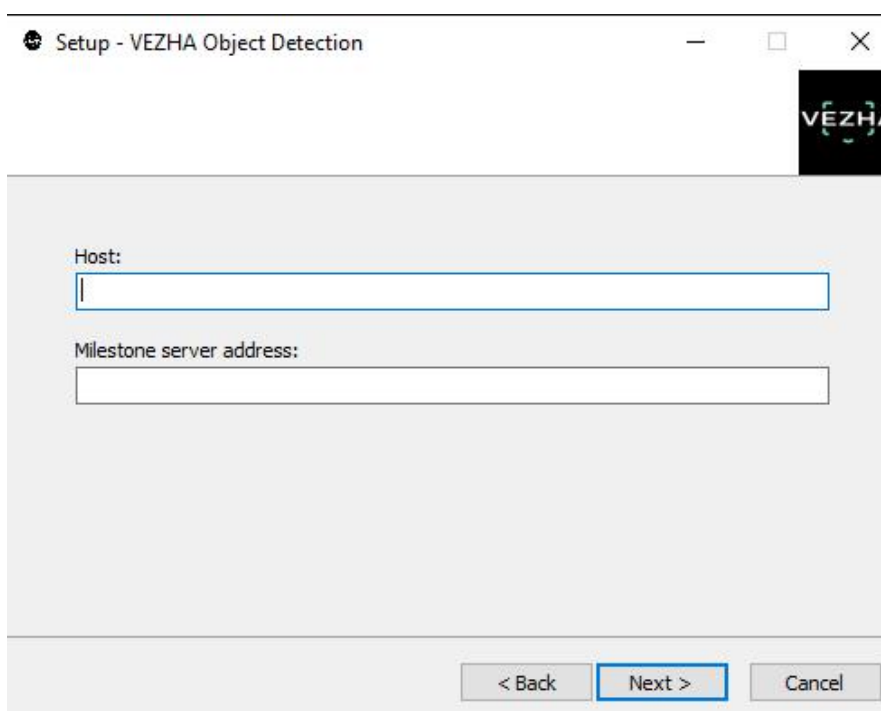
3. In the new window, read the installation recommendations and click **Next** to continue the installation, or the **Cancel** button to abort the installation.



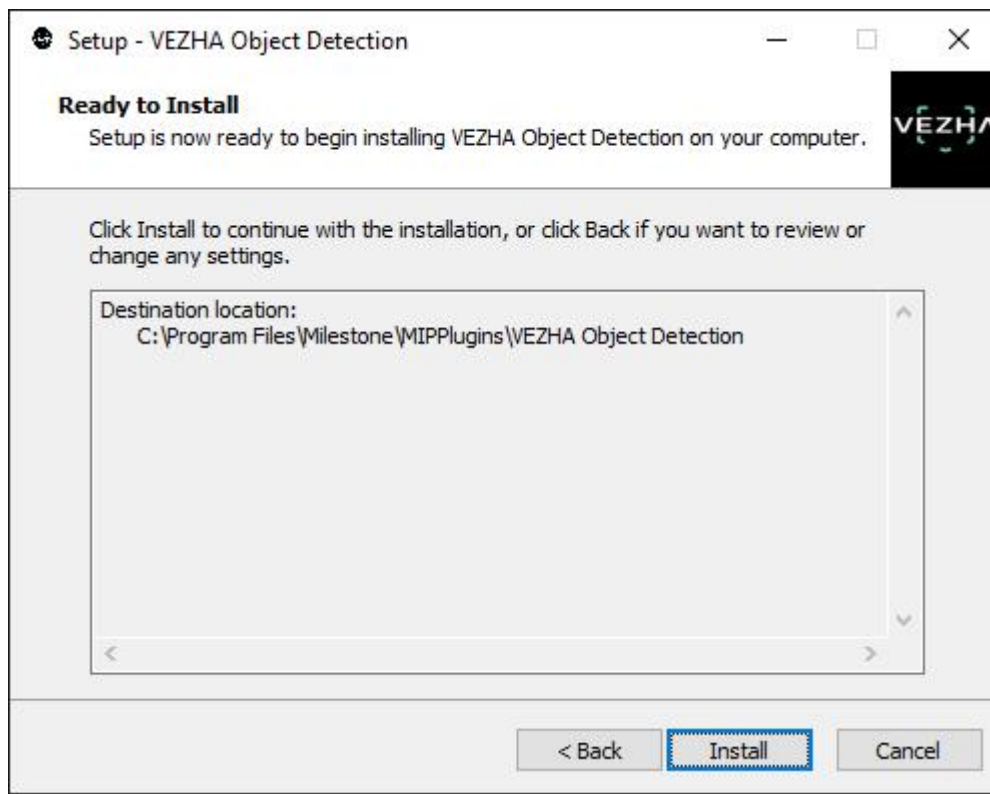
4. In the **Select Destination Location** window using the **Browse** button, specify the location where you want to install the plugin. The plugin must be installed in the Milestone folder with other plugins. After selecting the desired folder, click **Next** to continue the installation or **Cancel** to abort the installation.



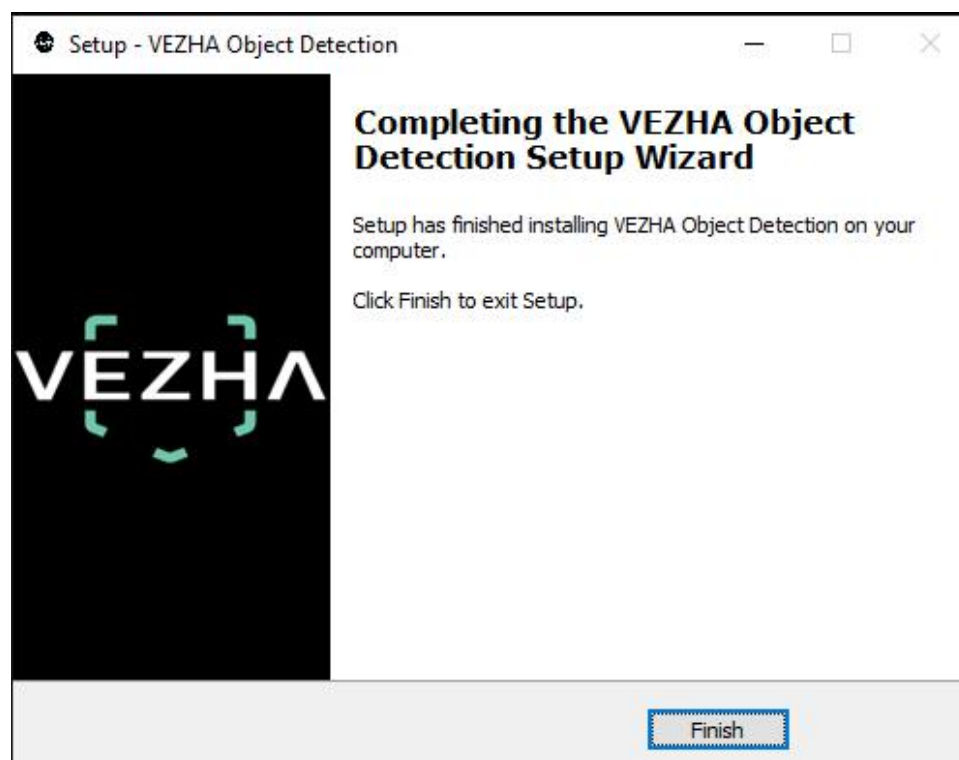
5. In this window, for the program to work correctly, you need to fill in all the fields correctly and click **Next** to continue the installation or **Cancel** to abort the installation.



6. Click **“Install”** to start the installation.

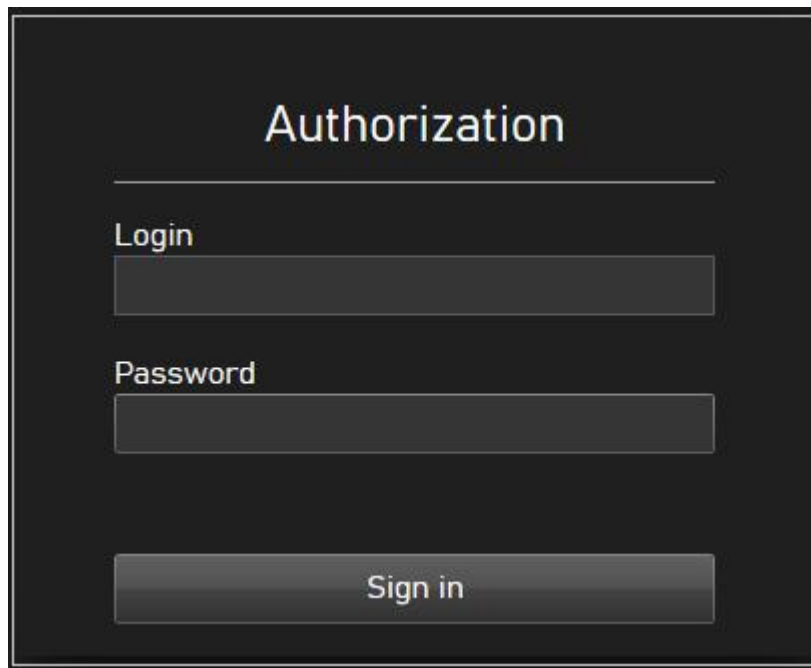


7. After the installation is completed, click **Finish**.




2. Log In

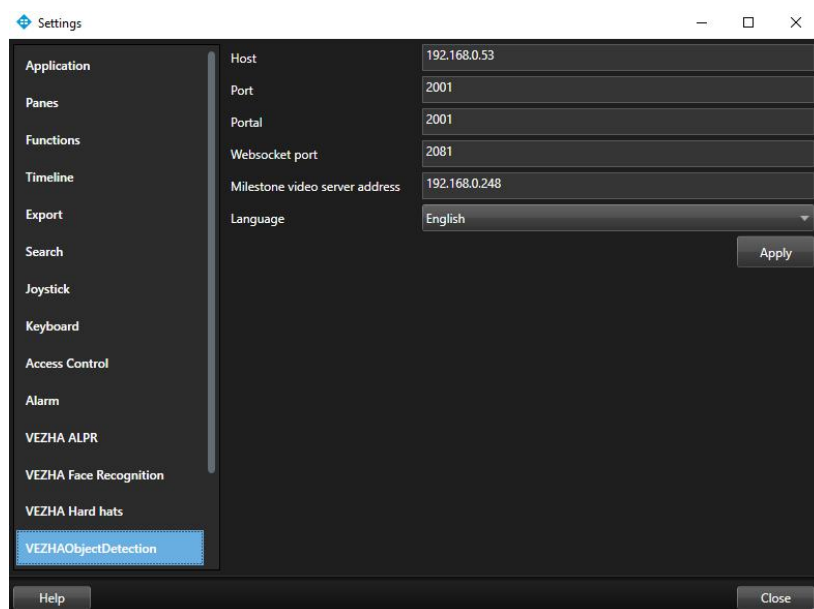
To enter the system you need to go through authorization. To do this, enter the **Login** and **Password** in the appropriate fields of the modal window and click **Login**.



The image shows a dark-themed modal window titled "Authorization". It contains two input fields: "Login" and "Password". Below these fields is a "Sign in" button.

3. Settings

In order to find **VEZHA Object Detection** settings, click the icon  in the upper right corner of the screen. Select and click **Settings**. In the window that opens, select the **VEZHA Object Detection**.



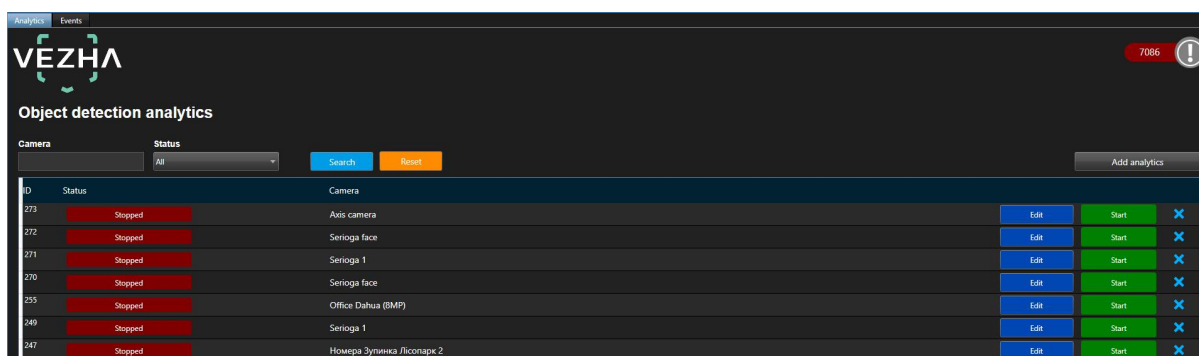
To change the server settings in the VEZHA Object Detection tab, you can edit the following fields: **Host, Port, Portal, Websocket port, Milestone video server address**.

To change the language, use the Language field and select from the list the most convenient for you.

To save the changes, click **Apply** and restart the plugin.

4. Object Detection Analytics

This tab is intended for adding, editing, viewing, deleting and changing the status of analytics.



| ID | Status | Camera | Edit | Start | |
|-----|---------|---------------------------|------|-------|---|
| 273 | Stopped | Axis camera | Edit | Start | × |
| 272 | Stopped | Serioga face | Edit | Start | × |
| 271 | Stopped | Serioga 1 | Edit | Start | × |
| 270 | Stopped | Serioga face | Edit | Start | × |
| 255 | Stopped | Office Dahua (BMP) | Edit | Start | × |
| 249 | Stopped | Serioga 1 | Edit | Start | × |
| 247 | Stopped | Номера Зупинки Лисопарк 2 | Edit | Start | × |

4.1. Analytics Search

At the top of analytics page are located search fields.



Object detection analytics

Camera: Status:

To find the analytics you need, enter the name of the camera or select the analytics status.

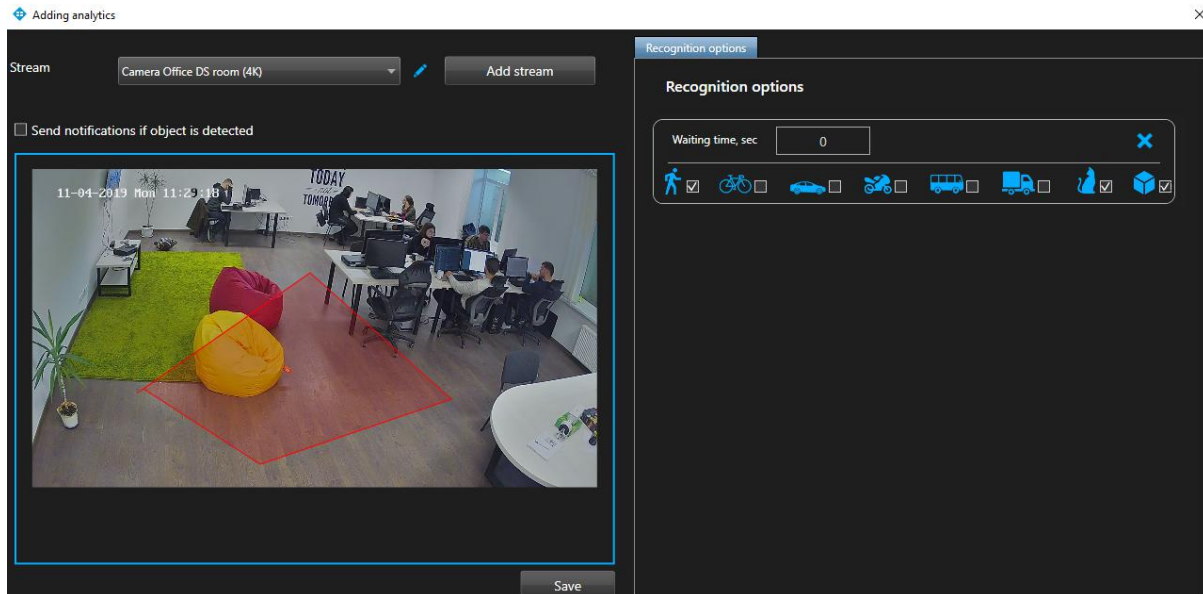
To start the search, click the **Search** button.

Click **Reset** to return to the initial list.


4.2. Adding of analytics

To add a new analytics for object detection, click **Add analytics** in the upper right corner of the screen.

In the opened window, fill the fields:



| Field name | Recommended Value |
|---|--|
| Stream | Click on the field and select a camera name from the drop-down list. The video stream will be used to create analytics. |
| Send notifications if object is detected | Fill out the Send notifications checkbox if an object is found to create your own event for sending notifications. |
| Events | The event tab is available when the checkbox for sending notifications in the add analytics window is checked. Select an event from the drop-down list. This event will receive notifications for the services indicated in the event. |
| Extra parameters | If necessary, you can add additional parameters for their further use when creating an event. Fill in the parameter fields. To add parameters, click the "+" button. To remove the parameters press "-". |

To edit video stream click edit icon  right of the name of video stream. In way to creat new video stream click **Add videos stream**.

Editing video stream

Name

Турнікет праве крило (63.73) Прозорий офіс пр.Косм.

Login

Password

Camera

Camera address

Kosmonavtiv Ave, 30, Vinnytsia, Vinnyts'ka oblast, Ukraine, 21000

Camera direction

Apply

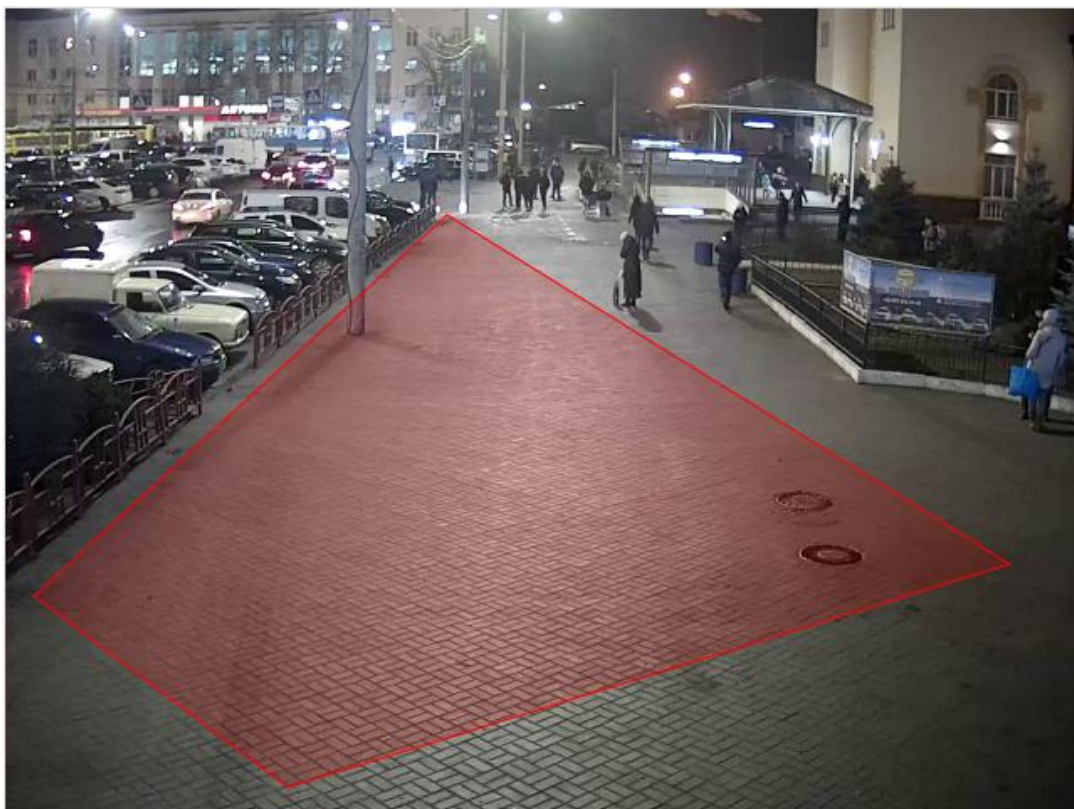
In the opened window fill the next fields:

- a. **Name** - enter the name of the video stream in the field. This field will be displayed in all components of the program that use video streams.
- b. **Login** – enter the name of current Milestone user .
- c. **Password** – enter password of current user Milestone.
- d. **Camera** – choose a camera from drop-down list.
- e. **Camera address** - enter the address in the field, or select on the map below the location of the camera (drag the camera icon). The system will automatically determine the location coordinates.
- f. **Camera direction** - drag the slider to change the direction of the camera. Indication of camera rotation helps in determining the direction of movement of a person.

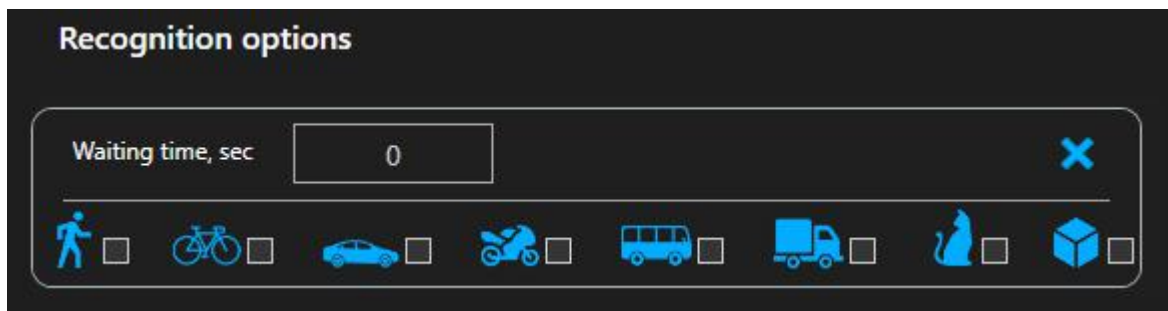
To apply changes click **Apply**.

Adding and area to detect objects

- Add a camera into a field **Stream**.
 - A frame from the added camera will appear below the **Video Stream** field.
 - Add an object definition area.
- a) Click on the frame from the added video with the left mouse button. By clicking more than two times in different places on the frame, click the right mouse button. Thus, you will create an area in which the definition of objects will be carried out. You can create an area of any shape by clicking in different places on the frame, any number of times with the left mouse button and, if necessary, pressing the right button.



b) A form will appear on the right side of the screen with the **Waiting time, sec** field and images of objects. In the field, specify the number of seconds how many objects are allowed to be in the created object definition area. Check the checkboxes of those objects that should be defined in the specified area.



The dialog box titled "Recognition options" contains a "Waiting time, sec" input field with the value "0" and a close button (X). Below the input field is a row of icons representing different objects: a person, a bicycle, a car, a motorcycle, a bus, a truck, a cat, and a cube. Each icon has a checkbox next to it, all of which are currently unchecked.

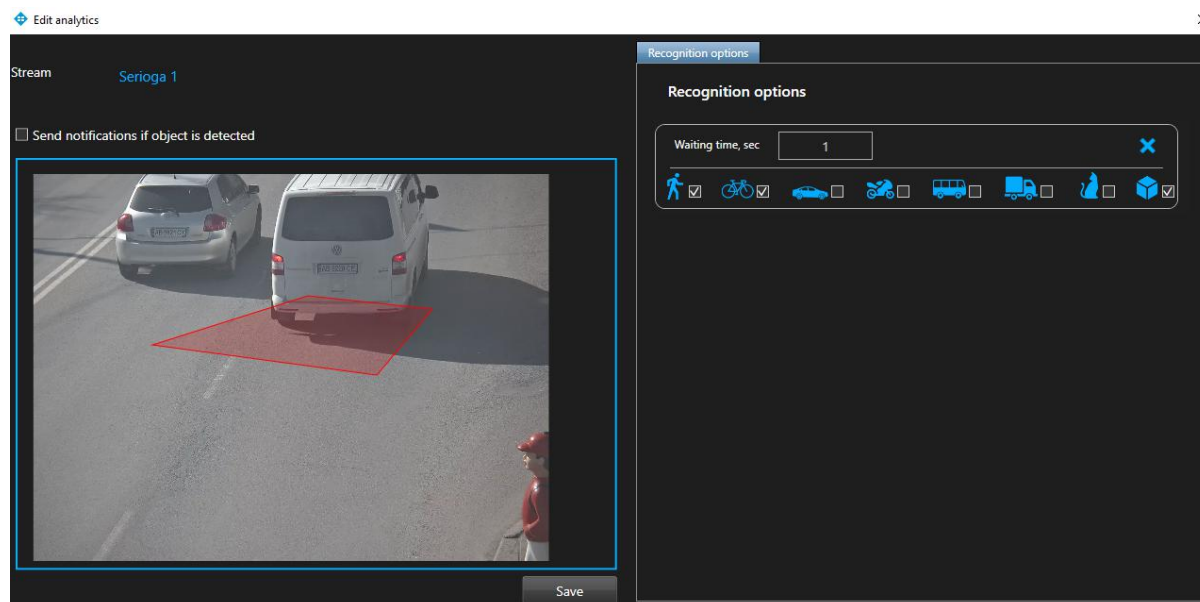
You can create more areas for object detection by repeating steps a) and b).

In way to create analytics click **Save**.

4.3. Editing, changing status, viewing and deleting analytics

To edit the video stream, click the **Edit** button on the right side of the recording.

In the opened window, fill the fields:



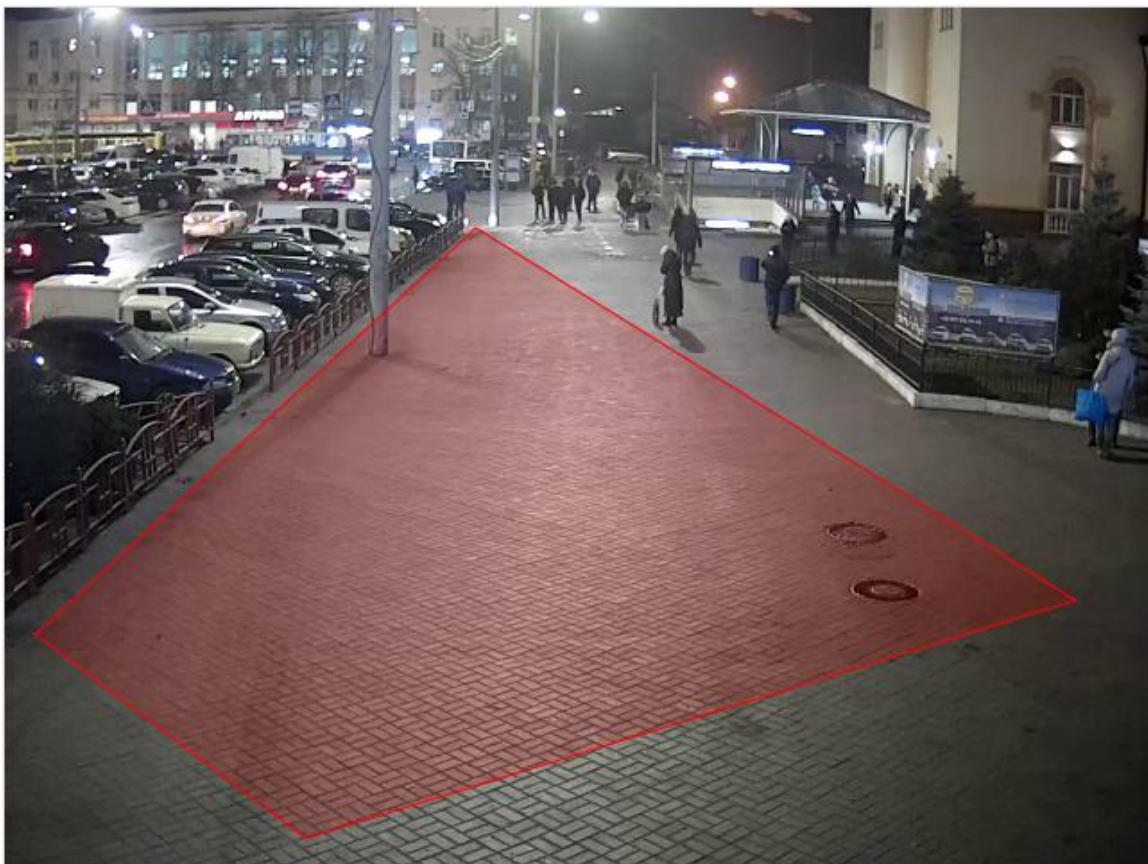
The "Edit analytics" window shows a video stream titled "Stream 1" with the name "Serioga 1". There is a checkbox labeled "Send notifications if object is detected" which is currently unchecked. The video frame shows a street scene with a white car and a white van, and a red rectangular detection area on the road. To the right of the video is a "Recognition options" panel. This panel has a "Waiting time, sec" input field with the value "1" and a close button (X). Below the input field is a row of icons representing different objects: a person, a bicycle, a car, a motorcycle, a bus, a truck, a cat, and a cube. Each icon has a checkbox next to it, all of which are currently checked.

| Field name | Recommended Value |
|--|--|
| Send notification if object is detected | Fill out the Send notification is object is detected to create your own event for sending notifications. |
| Events | The event tab is available when the checkbox for sending notifications |

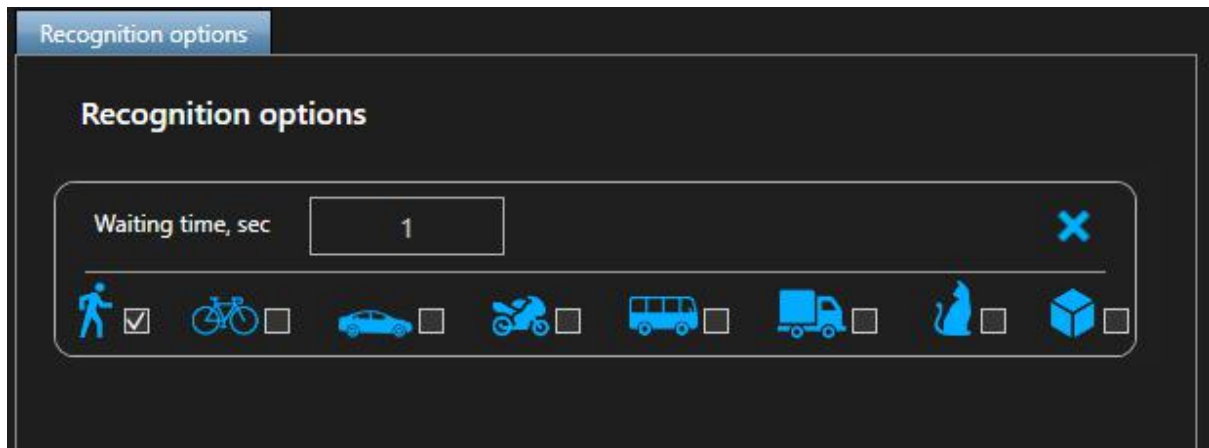
| Field name | Recommended Value |
|----------------------|---|
| | in the analytics editing window is filled. Select an event from the drop-down list. This event will receive notifications for the services indicated in the event. |
| Extra options | If necessary, you can add additional parameters for further use when creating events. Fill in the parameter fields. To add parameters, click the “+” button. To remove the parameters, click «-». |

Add an area of object detection

a) Click on the frame from the added video with the left mouse button. By clicking more than two times in different places on the frame, click the right mouse button. Thus, you will create an area in which the definition of objects will be carried out. You can create an area of any shape by clicking in different places on the frame, any number of times with the left mouse button and, if necessary, pressing the right button.



b) A form will appear on the right side of the screen with the **Waiting time, sec** field and images of objects. In the field, specify the number of seconds how many objects are allowed to be in the created object definition area. Fill the checkboxes of those objects that should be defined in the specified area.



You can create more areas for defining objects by repeating steps a) and b).
In way to create analytics click **Save**.

To start / stop analytics click **Start/Stop**.

To remove analytics, click .

5. Events

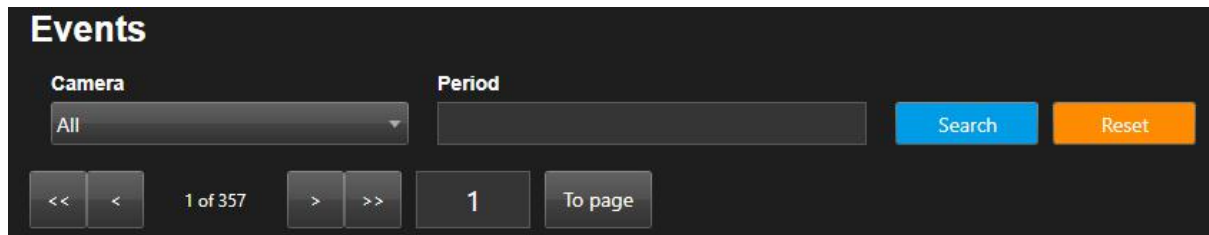
This section is intended for viewing the history of notifications about detected objects (person, animal, transport, things).

| Camera | Date | Period in zone | Video | Accepted by |
|--------------------|---------------------|----------------|-------|-------------|
| Office Dahua (BMP) | 16-03-2020 17:52:35 | 00:00:26 | | |
| Office Dahua (BMP) | 16-03-2020 17:52:25 | 00:00:16 | | |
| Office Dahua (BMP) | 16-03-2020 17:49:41 | 00:00:41 | | |
| Office Dahua (BMP) | 16-03-2020 17:46:30 | 00:00:27 | | |
| Office Dahua (BMP) | 16-03-2020 17:45:32 | 00:00:10 | | |
| Office Dahua (BMP) | 16-03-2020 17:45:30 | 00:00:15 | | |
| Office Dahua (BMP) | 16-03-2020 17:45:08 | 00:00:24 | | |
| Office Dahua (BMP) | 16-03-2020 17:44:47 | 00:02:04 | | |

Camera name: Office Dahua (BMP)

5.1. Event Search

At the top of the screen is located search field.



In order to find the necessary notifications you can use these fields:

1. Period

Click on the field and select the desired time period.

2. Camera

Click on the field and select the desired camera.


Click **Search** to display the search results. Click **Reset** to clear the input fields.

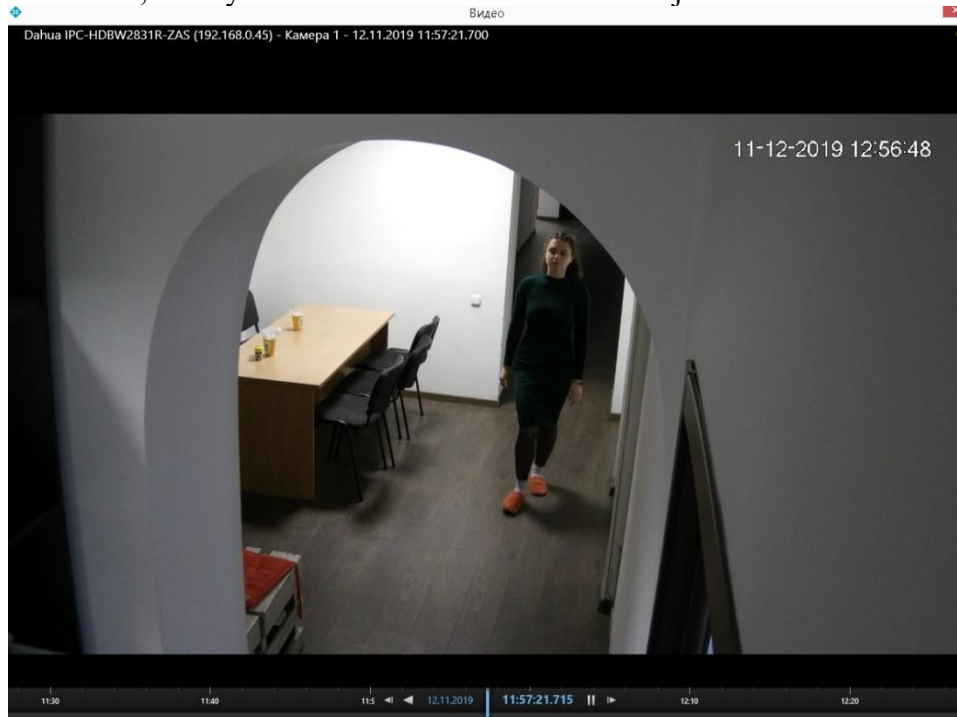
5.2. Work with object detection records



To change the format of records click

The list of notification records consists of the fields: camera, date, time in the zone, video, accepted by.

Click the icon , in way to receive video with detected object.



To accept changes click **Accept**.

About VEZHA:

Our mission is to create a safe environment
for residents of cities of all sizes
and to help Ukrainian businesses optimize their security
and safety management processes.

For more information visit: <https://vezha.io/>



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