Hanwha Vision

BLAZE User Guide

v1.3
2026-08-13



Contents

BLAZE **7**
Main features 7
System configuration 8
Logical terms 9
Server software 15
Server installation 16
Configuring a server 17
Running the server 18
Updating the server 20
Client software 20
Installing the client 20
Running the client 22
Updating the client 26
Client keyboard shortcuts 27
Cloud 31
Signing in with your cloud account 32
Web client 36
Mobile client 36
Installing the mobile client 36
Logging in to the mobile client 37
Monitoring videos in real time 39
Monitoring events in real-time 44
Searching recorded videos 45
Playing back recorded videos 49
Mobile client settings 52
BLAZE Appliance 54
Installation wizard 55
Using special cameras 58
Intercom 58
ANPR 66
Thermal camera 69
Speaker 73
Audio Beacon 75
View **80**
View tab 80
Monitoring video in real-time 82

Monitoring alerts in real-time....84
Controlling a video tile....85
Controlling PTZ mode....88
Setting fisheye dewarping mode....91
Managing a device....92
Adding a device to a layout....93
Configuring device settings....94
Changing a device's information....94
Managing a layout....96
Using a dynamic layout....96
Adding a layout....97
Using a layout....98
Modifying a layout....100
Deleting a layout....101
Managing a map....102
Creating a map....102
Using a map....104
Modifying a map....105
Deleting a map....106
Grouping maps....107
Alarm I/O overview....108
Viewing a file....109
Adding a file to layout....111
Configuring video file settings....111
Managing a webpage....113
Adding a webpage to the Webpages panel....113
Adding a webpage to a layout....113
Editing a webpage....114
Deleting a webpage....115
Receiving and outputting audio during monitoring....115
Searching for an object in the View tab....117
Searching for a motion in the View tab....118
Searching for an event in the View tab....120
Searching for a bookmark in the View tab....121
Setting playback mode....122
Playing the video....123
Timeline panel....125
Searching for video....127
Searching by time....128

Searching for a thumbnail....129
Exporting the video as a file....130
Settings....133
Devices....133
Viewing the list of devices....133
Adding a device....136
Configuring device settings....145
Grouping devices....182
Deleting a device....183
Servers....183
Viewing the list of servers....183
Adding a server....184
Clustering servers....186
System federation....186
Configuring server settings....187
Renaming a server....207
Detaching a server....207
General....208
Cloud....213
Using system federation in the cloud....216
Rules....218
Viewing the list of event rules....219
Adding an event rule....220
Modifying an event rule....231
Deleting an event rule....232
Backup and restore....232
Manual backup....232
Automatic backups....233
Restore....234
Updating software....235
Updating the program online....235
Updating the program using an update file....236
License....236
License type....236
Activating a license online....237
Activating a license offline....237
Deactivating a license....238
Extending licenses....239
Removing a license....240

Activating a free license....240
Monitoring licenses....240
Users....241
Viewing the list of users....242
Adding a user....243
Setting a user....246
Modifying a user....253
Deleting a user....254
Roles....255
Viewing the list of roles....256
Adding a role....257
Configuring role settings....258
Modifying a role....263
Deleting a role....264
LDAP....265
Adding an LDAP server....265
Managing the roles of LDAP users....269
Managing an LDAP user....270
Modifying LDAP server settings....271
Deleting an LDAP server....272
Client settings....272
Monitor display settings....274
I/O settings....275
Objects....277
Objects tab layout....277
Searching for an object....277
Viewing objects....279
Similarity search....281
Semantic AI search....282
Events....284
Events tab layout....284
Searching for an event....284
Viewing events....287
Bookmarks....289
Bookmarks tab layout....289
Searching for a bookmark....289
Viewing bookmarks....291
Setting a bookmark....292
Adding a bookmark....293

Editing a bookmark....294
Deleting a bookmark....294
Health monitoring....295
Viewing health monitoring alerts....295
System dashboard....297
Monitoring a server....298
Monitoring a device....299
Diagnostics....302
Audit log....305
Searching audit logs....305

BLAZE

BLAZE is a hybrid video management system (VMS) for monitoring and controlling video from network products installed at local sites and remote locations.

Connect various network devices such as cameras to BLAZE to monitor real-time video and control devices through client software, a mobile app, or the cloud. Recorded video and device data are stored on the server at local sites and can be quickly retrieved and played back either locally or over a network.

Main features

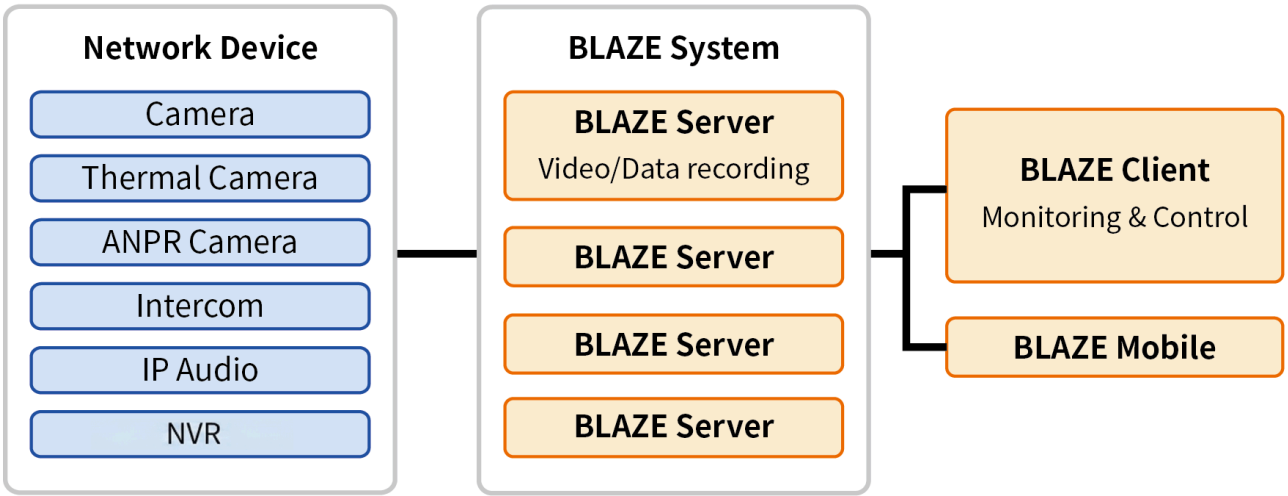
The main features available in BLAZE are as follows:

- Monitor various network devices, maps, and webpages in a single layout.
    - Add network devices, such as cameras, IP speakers, etc., and webpages to the layout and monitor them all at a glance.
    - When monitoring complex structures or multiple floors, use the map feature to efficiently monitor a wide area by adding devices and maps to a layout.
- Monitor device video in a dynamic layout in real time.
    - Adjust the size of video tiles as needed. Configure the layout according to the importance of each area — display critical areas in large tiles and less critical areas in smaller ones.
- Set up event rules to monitor various types of events.
    - Set rules using various event triggers and actions supported by BLAZE to monitor events and record video when an event is detected.
- Create user permission groups for efficient management.
    - Create various groups with different permissions to efficiently manage large numbers of users, and customize permissions for individual users.
- Search and play recorded videos stored on the server in various ways.
    - Quickly search and play recorded videos by applying filters by event, bookmark, or object. Search for and play videos in the Events, Bookmarks, and Objects tabs, as well as in the View tab.
- Save recorded video stored on the server as a file on the PC.
    - Search for recorded videos and save them as video files in formats such as .mkv and .mp4. Save in the BLAZE-exclusive playback format, .blzm, to instantly verify whether the file has been tampered with.

- Expand a system using server clustering.
    - Group up to 50 servers into a single clustered system. Clustered servers continue recording video using the failover feature when some servers fail.
- Enable centralized management using federation.
    - Federation is a group of BLAZE systems that share common users and settings. Use this feature to access resources (cameras, users, settings) from multiple systems in one UI, add or delete users, and grant permissions remotely for efficient management of large sites.
- Link the BLAZE system to the cloud to use various features such as video sharing.
    - Linking the BLAZE system to the cloud makes it easy to share video files with multiple users and access features previously available only locally.

System configuration

The BLAZE system consists of servers, network devices connecting to the servers, and clients capable of searching for and playing back videos from the servers. Monitor real-time videos from the server through a client or mobile app, and view or save stored videos. The client enables not only video monitoring and playback, but also adding devices, configuring server settings, and managing event rules and user information. Additionally, when the BLAZE system is linked to the cloud, remotely view videos stored on multiple local servers.



Adding devices and settings

After installing the server and client, add various network devices to monitor in the BLAZE system and configure detailed settings. Manage a variety of devices on the server, such as video detection devices connected to the network, IP speakers, and intercoms.

Server management

To set up the BLAZE system, first install server software on a PC where all video data and system settings will be stored. Once the server is running, check its status from the connected client and make necessary configurations for management. Additionally, view video files and image files such as maps stored on the PC where the server is installed, and add webpages from the client.

Client use

View videos from the server in the client software on a PC and configure various functions for management. Configure all server functions from the client, and if the system is linked to the cloud, view data stored in the cloud and check its status.

Cloud linking

Linking the BLAZE system to the cloud makes it possible to search for various videos and easily share them without connecting to a local server.

Mobile app use

When connecting to the BLAZE server from a smartphone or tablet, monitor real-time video from connected devices, and search and save recorded videos. The mobile app provides selected features most commonly used in VMS, but does not offer the full functionality of the client software.

User management

Users accessing the BLAZE system are assigned specific permissions based on their objectives. System administrators can set various permissions tailored to the objectives to manage users effectively. Register and integrate cloud accounts and easily manage user accounts from an existing LDAP server.

Logical terms

See the following terms when using BLAZE:

Key term	Definition	Use
Action	Action that is performed by the system as a response to event triggers. Can be set up in Rules. Include sending notifications, recording from cameras, and more.	• Event rules • Event tab

Key term	Definition	Use
Add bookmark	Action of creating bookmark.	
Add to layout	Adding camera or other items (file, webpage, etc.) to a layout.	View tab
Advanced PTZ	PTZ mode available on some PTZ cameras that enables features such as “Go to point” and “Zoom to area”.	Advanced PTZ camera item feature
Alert	Currently persistent issue with hardware or software within a BLAZE system.	• Health monitoring • Alerts tray
Archive	Video recorded from cameras and stored on BLAZE server.	Health monitoring tab
Archive retention	The span of time for which video archive can be kept.	
Attribute	Various elements identified by BLAZE the user can use to Search or Filter by.	AI video search and filters
Authentication	The act of verifying a user's identity through a password or other factors.	• Add device • log in • Reauthenticate
Available space	Space in the system’s storage devices available to the system for storing video or metadata.	• Health monitoring tab • Server settings

Key term	Definition	Use
Bookmarks	Sections of the archive stored and labeled for later retrieval or review.	• Timeline • Bookmarks panel • Bookmarks tab
Camera FOV	Camera field of view – angle that is visible from the camera.	Maps tab
Client	Application that can connect to a server and be used to manage the server settings, view and search recorded videos, etc. There can be different clients: • Desktop client: desktop application • Mobile client: mobile application • Web client: web-based application	• Log in • User management • Software updates
Cloud account	Hanwha Vision Cloud Portal accounts that can be invited to BLAZE systems.	• Log in • User management
Cloud system	System that is linked to the cloud and has enabled cloud features.	Cloud settings
Clustering / Detaching	Clustering is the act of adding additional servers into a BLAZE system. Detaching is the act of removing a server from a clustered BLAZE system (a system consisting of 2 or more servers).	Server settings
Connect to a system	Connect and disconnect are the used when referring to client and system or server interactions.	Log in

Key term	Definition	Use
Disconnect from a system Connect to a server Disconnect from a server	• Client connected to the server. • Client is disconnected from the server.	
Connections	Saved server connections scanned by BLAZE client, or linked to cloud account. Displayed on login screen.	Log in
Crop window	Camera item feature that lets the user draw a rectangle on the screen, creating a new camera item focused on the highlighted area.	
Custom role	Role added to a system that doesn't exist by default.	User management
Device	An umbrella term for an individual unit of hardware.	
Dewarping	The process of normalizing the view of a fisheye camera effectively turning it into a standard camera view.	• Layout • Fisheye cameras
Digital zoom	Feature that lets you zoom in on an area currently in the camera's view without editing the camera's optical zoom or affecting what is currently being recorded.	View tab
Drive	The addressable storage inside a server.	
Dynamic Grid	Drag videos to move them to the desired position. When the position of a video item changes, the item size (grid) automatically increases or decreases.	
Event	Events that occurred on the BLAZE system or server, or on devices such as cameras connected to BLAZE.	• Event rules • Events panel • Notifications

Key term	Definition	Use
Event trigger	Element in Rules that can trigger actions in the rule because of certain events.	
Excluding area	Areas on video where motion and/or object detection is not performed.	Device settings
Failover	Feature that enables servers to take cameras from other servers in the same systems in case of other servers failure. Allows to maintain user's access to the cameras and continuous recording in case of some servers failure.	Server settings
Federation	Group of BLAZE systems that share common users and settings. Can be used to access resources (cameras, users, settings) from multiple systems in one UI.	• Server settings • User permissions
Group / Ungroup	Act of grouping or ungrouping multiple devices into and out of folders on a device tree.	• View tab • Device lists
Health monitoring	A major feature tab that contains a series of tools and features that provide overviews and alerts for software and hardware issues within a system.	Health monitoring tab
Histogram	A style of graph used on the timeline panel to help display the quantity of object detection, motion detection, and events in line with the timeline.	View tab
I/O	Settings related to input/output devices.	Settings
Item	Any element than can be placed on the view tab. These include camera items, webpage items, and file items.	View tab
Layout	Set of cameras and other items (images, webpages, video files) that can be saved for a quick access, assigned to other users, and opened in a separate tab in BLAZE.	• View tab • Map tab

Key term	Definition	Use
Link / Unlink	Link and unlink refer to a system being added to or removed from an organization, linking the system so that the organization can view and manage it remotely.	Cloud settings
Map	In the client, display saved map images in the Scene panel. Cameras from the device list can be placed on the map, and when motion is detected by the camera, an animation effect is triggered, allowing you to quickly check the event.	
Metadata	The additional data related to the video – objects, motion, events.	• Health monitoring • Server settings
Permissions	Actions that user is allowed to do – like view live, create layouts, export video.	Settings
Playback	Play back recorded videos stored on the server using the playback function of the client software.	
Primary stream	Primary camera video stream. Typically has high resolution and quality.	• Settings • View tab
Role	Set of permissions and access lists (for layouts and devices) that can be assigned to a user.	User management
Rules	Section of the BLAZE application where users can set up if/then rules for the BLAZE system by selecting event triggers and tying them to actions.	Rules
Secondary stream	Secondary camera video stream. Typically has low resolution and quality.	
Server	Server application that connects to cameras and other pieces of Hanwha software and stores video archive, analytics database, users and settings.	

Key term	Definition	Use
	Multiple servers can be merged into a single System.	
Simple PTZ	Basic PTZ mode where continuous PTZ move is supported.	View tab
Storage	The total capacity from all drives in a server.	Server settings
System	One or more BLAZE servers connected together and sharing the same settings and users.	
Thumbnail	A feature on the timeline that adds a row of image previews from various points on the timeline.	View tab
2-way audio	Enabling the microphone and speaker functions of the camera allows for bidirectional audio communication between the client and the camera.	
User	A user or user account is a local or cloud account used to store user information and authenticate connections to BLAZE system.	Settings
Zoom to area	This advanced PTZ feature lets the user to click and drag to draw a rectangular area within the current camera view.	View tab

Server software

To use the BLAZE system, install a server where videos and configuration data of various network devices are stored. Install the server software on each PC to be used as a server, then configure the necessary settings for system operation. To add network devices to the server for monitoring or storing videos, purchase licenses and complete the authentication process. In addition to the channel licenses, purchase and authenticate a subscription plan for the BLAZE system.

A single server can store videos from up to 256 channels, and up to 50 servers can be clustered into one system. By clustering multiple servers, store and monitor videos from up to 12,800 channels.

Server installation

Download and install the BLAZE server software on a PC. If antivirus software and network firewall settings are enabled, they may affect PC performance and prevent the BLAZE software from operating smoothly (video recording, data storage, etc.).

Note: The default server port is 8000.

System requirements

Check the system requirements before installing the server. System specifications vary depending on the number of devices in use, and the program may not function properly if the minimum specifications are not met.

Supported operating systems

- **Microsoft Windows**: Windows 10/Enterprise, Windows 11, Windows Server 2019, Windows Server 2022, Windows Server 2025, Windows 10/11 IOT
- **Ubuntu Linux**: Ubuntu 22.04 LTS, Ubuntu 24.04 LTS

Recommended specifications

Type	Up to 32 channels	33 - 64 channels	65 - 128 channels	129 - 256 channels
CPU	Intel Atom Quad-core 12th Gen	Intel Pentium	Intel i3 12th gen	Intel i5 12th gen
RAM	8 GB	16 GB	16 GB	32 GB
Network	1 Gbps	1 Gbps	2 x 1 Gbps	10 Gbps
OS drive	SSD 128 GB	SSD 128 GB	SSD 128 GB	SSD 128 GB

Note:

- The system requirements are based on the recording status of devices added to the server, excluding real-time monitoring. (Video codec: 2MP 30 fps, H.264/H.265 compression)
- For Linux servers, disks with a total capacity under 100 GB cannot be used for recording and are not shown in the storage list in Server Settings.

Downloading the server installer

Download the server installer from the BLAZE product page on the Hanwha Vision website.

Installing the server

Run the installer to install the server. Installation time may vary depending on the installation environment.

Note: If you delete the installer and reinstall, the existing system's recorded video files are not automatically deleted. To delete recorded files, delete the storage folder or format the storage drive.

Configuring a server

After installing the server on the PC, change the settings required for optimizing BLAZE performance.

- Configuring storage drive settings

  Set up your storage to ensure a minimum of 70 GB of free storage space. (To ensure stable operation, at least 100 GB of free disk space is recommended)

  - It is recommended to set up the server storage disk as a separate disk from the system disk. If your PC only has the C:\ drive, you can set the system drive as the storage drive.

- Disabling storage drive indexing

  It is recommended to disable indexing after installing the server. See the following to disable indexing:

  - Stop the **Windows Search** service and change the **Startup type** to **Disabled**.
  - Uncheck the drive path in **Indexing Options** > **Modify**.
  - Disable file properties and content indexing for this drive in the drive's properties.

- Configuring virus scan software

  To optimize server performance, it is recommended to adjust the settings of the virus scanning software. Add any items to exclude from scanning or set as exceptions that may impact the operation of the server.

- Configuring network firewall

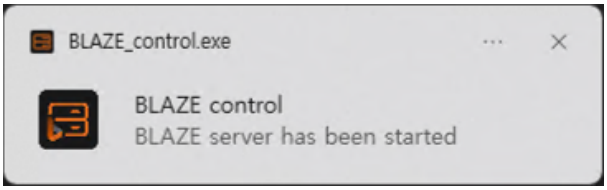
The network communication of the server may be blocked by a firewall. It is recommended to set BLAZE application software and network ports as exceptions in the firewall. Some antivirus software includes firewall functions, so make sure to check the antivirus software you are using as well.

Running the server

The server automatically starts when the PC is turned on and shuts down when the PC is turned off. Manually start or stop the server independently of the PC's operation.

Starting the server

When the PC starts, the server automatically launches. Once the server is running, an information message will be displayed on the Windows taskbar.



To restart the server

Restart the server that has stopped working.

1. Click the up (^) arrow to show hidden icons on the Windows OS taskbar.
2. Select  and right-click it.
3. Click **Start server** in the shortcut menu.

Stopping the server

Stop the operation while the server is running.

To stop the server

1. Click the up (^) arrow to show hidden icons on the Windows OS taskbar.
2. Select  and right-click it.
3. Click **Stop server** in the shortcut menu.

Quitting the server

If a server needs to be restarted, shut down the running server.

To quit the server

1. Click the up (^) arrow to show hidden icons on the Windows OS taskbar.
2. Select  and right-click it.
3. Click **Quit** in the shortcut menu.

Changing server ports

Change the service ports used by the BLAZE server (for example: client connection port, HTTP/HTTPS ports).

Note:

- Only users with super admin or admin privileges can change the server IP or ports.
- Changing the IP and port of one server does not interrupt system operation — all other servers in the BLAZE system automatically recognize the change and maintain their connections.
- Be sure to check for conflicts with other services that use the existing ports.
- After changing ports, bookmarked webpages may become inaccessible, so notify users as needed.

The method for changing the IP and port differs between BLAZE Desktop and BLAZE Appliance.

BLAZE Desktop

For BLAZE Desktop, change the port through the system tray when a port conflict occurs (for example: port 8000 is already in use).

To change server ports

1. Click the up (^) arrow to show hidden icons on the Windows OS taskbar.
2. Select  and right-click it.
3. Click **Change ports** in the shortcut menu.
4. In the **Server port settings** window, enter the port numbers and click **Set port**.

BLAZE Appliance

On appliance systems, change the IP address and port through the server settings menu.

1. Click **Settings** > **Servers**.
2. Select the server to modify, then edit the IP address or port number.

3. When you enter an IP address, the subnet mask and gateway are filled in automatically for convenience.
    - **Subnet mask**: Automatically set based on the class of the entered IP address (for example: 255.0.0.0).
    - **Gateway**: When IP address a.b.c.d is entered, the gateway is automatically set to a.b.c.1.

Updating the server

Update the server when a new server version is released.

- Navigate to **Settings** > **Software update** to update the server. For more information on updating, see Updating software *(page 235)*.

Client software

To use the BLAZE system, install the client software to monitor videos and use various functions. After installing the client software on your PC, configure the necessary items for system operation.

Connect to the server from the client to monitor videos. To save videos on the server and search for videos, purchase a BLAZE license and authenticate it. Monitor up to 256 channels (Quad-monitor) simultaneously on one client, and access independent systems via federation.

Installing the client

Download and install the BLAZE client on your PC, then configure the settings required to run BLAZE.

System requirements

Check the system requirements before installing. Requirements vary depending on the number of monitored devices. If the minimum specifications are not met, BLAZE may not function properly.

Supported operating systems

- **Microsoft Windows**: Windows 10/Enterprise, Windows 11
- **Apple macOS**: macOS 11.0, 11.1, 11.2 (Big Sur), macOS 12 (Monterey), macOS 13 (Ventura)
- **Ubuntu Linux**: Ubuntu 22.04 LTS, Ubuntu 24.04 LTS (embedded appliance only)

- **Google Android**: Android 8, 9, 10, 11, 12, 13
- **Apple iOS**: iOS 16.0 or later

Recommended specifications for Windows OS

Type	Single Monitor (- 32 Ch)	Single Monitor (- 64 Ch)	Dual Monitor (64 - 128 Ch)	Quad Monitor (128 - 256 Ch)
CPU	Intel Atom Quad-core 12th Gen or higher	Intel i5 12th Gen or higher	Intel i7 12th Gen or higher	Intel i9 12th Gen or higher
RAM	8 GB	16 GB	16 GB	32 GB
Network	1 Gbps	1 Gbps	1 Gbps	1 Gbps
GPU	Intel HD Graphics onboard GPU	Intel HD Graphics onboard GPU	Intel HD Graphics onboard GPU	GeForce GTX 3070

Recommended specifications for Mac OS

Type	Single Monitor	Dual Monitor
CPU	Apple M2	Apple M2 Pro
RAM	16 GB Unified Memory	16 GB Unified Memory
Network	1 Gbps	1 Gbps
GPU	Apple M2 GPU (8-core)	Apple M2 Pro GPU (8-core)

Note:

System requirements are based on the following:

- A supported 64-bit operating system
- 64 channels of live monitoring in a single layout
- Video output to a secondary stream (H.264, 640x360, 7 fps, 512 kbps)

Installing the client

Run the installation program to install the client. Installation time may vary depending on the environment.

Note: Download the client installation program from the BLAZE product information page on the Hanwha Vision website.

Windows N edition

Windows N edition users must install the Media Feature Pack to enable media features. After installing, restart the system.

- **Windows 10 N**
  - Path: **Start** > **Settings** > **Apps** > **Apps & features** > **Optional features** > **Add a feature**
  - Select **Media Feature Pack** from the list and install it.
- **Windows 11 N**
  - Path: **Start** > **Settings** > **Apps** > **Optional features**
  - Click **Add an optional feature**, click **View features**, and select **Media Feature Pack** from the list to install it.

Running the client

Once the BLAZE client is installed, run the program to set up the login information for the Super administrator.

Note: When you install the client, log in, and set a password, you are automatically set as a Super administrator. For more information about user permissions, see Roles *(page 255)*.

Starting a client

Run the client installed on the PC.

- Double-click the **BLAZE client** icon on the desktop of your PC.

Note: The first time you run the client after installing it, a Terms of Use agreement dialog appears. Review the license agreement and privacy policy, then provide consent to proceed.

Note: If the installed versions of the client and server programs are different, you cannot connect to the server. Install the same versions of the client and server, and then run them again.

Initial BLAZE setup

After installing the client and running it for the first time, set the Super administrator password for the server and client to connect.

Note: The server information and Super administrator password set during initial setup can be changed in the Settings menu in BLAZE.

- Server > Configuring general settings *(page 187)*
- Users > Configuring general settings *(page 248)*

Configuring server connection

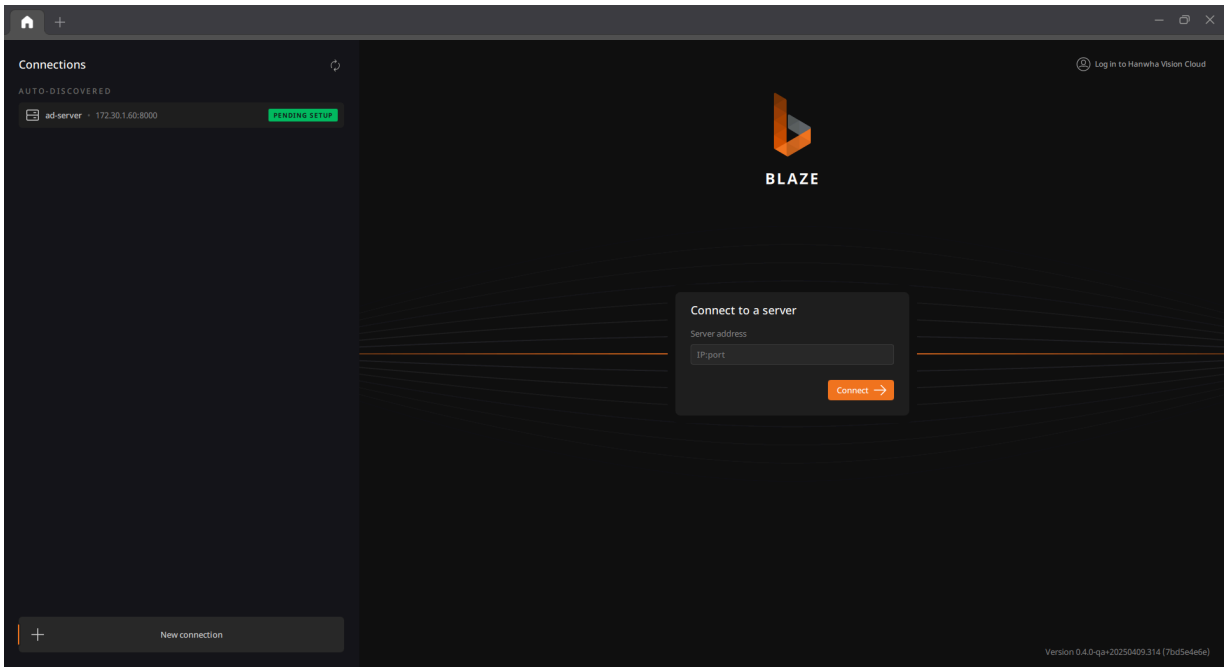
Enter the IP address and port of the server to connect to the client.

Note: If the client is restarted, the previously connected server information is displayed in the server list on the Login page.

- Servers are automatically discovered and displayed in the list.
- Check the connection status between the client and server in the server list.
  - **Online**: The server is connected to the client.
  - **Offline**: The server and client are disconnected. Logging in to an offline server is not possible.
  - **Pending setup**: The server setup is not complete. Enter the system name and the Super administrator password to finalize the setup.
- Select the desired server from the list of servers and right-click to access the shortcut menu.
  - **Connect**: Establish a connection to the selected server.
  - **Edit server address**: Edit the address of the selected server for connection.
  - **Delete connection**: Remove the selected connection from the list.

To connect to the server

1. Click **+ New connection** at the bottom of the server list on the Login page.
    - If the system or server is not in the list, click ＋ at the bottom left to add a new system or server.
2. When the **Connect to a server** window appears, select the server to connect using one of the following methods:
    - Select the system or server from the server list on the left.
    - Click the server address displayed in the **Log in to** window to open the **Connect to** window. Enter the address and port of the system or server to connect.
        - If you enter only the server IP, the server default port (8000) is used automatically.
        - If you change the server port, enter it in the following format: 192.168.1.1:8080.
3. Click **Connect**→.



Setting up BLAZE VMS initially

Set the system name and the Super administrator password for logging in to the client.

To set up BLAZE initially

1. When the **Welcome to BLAZE VMS** dialog appears, click **Begin setup** → .
2. Enter the system name and click **Next**→.
3. Enter the Super administrator password and click **Next**→.

- The password setting rules are as follows.
  - Set the password between 8–32 characters.
  - If the password length is 8–9 characters, the password must include at least three of the following: uppercase letters, lowercase letters, numbers, and special characters.
  - If the password length is 10 characters or more, the password must include at least two of the following: uppercase letters, lowercase letters, numbers, and special characters.
  - The username cannot be used as the password.
  - Password cannot contain 4 or more sequential characters (e.g., 1234, abcd).
  - Password cannot contain the same character 4 or more times in a row (e.g., !!!!, 1111, aaaa).
  - Accepted special characters are ~`!@#$%^&*()_-+={}[]|;:'"<>,.?/.
  - Spaces cannot be used.

4. When the completion dialog appears, click **Finish**.

Logging in to the client

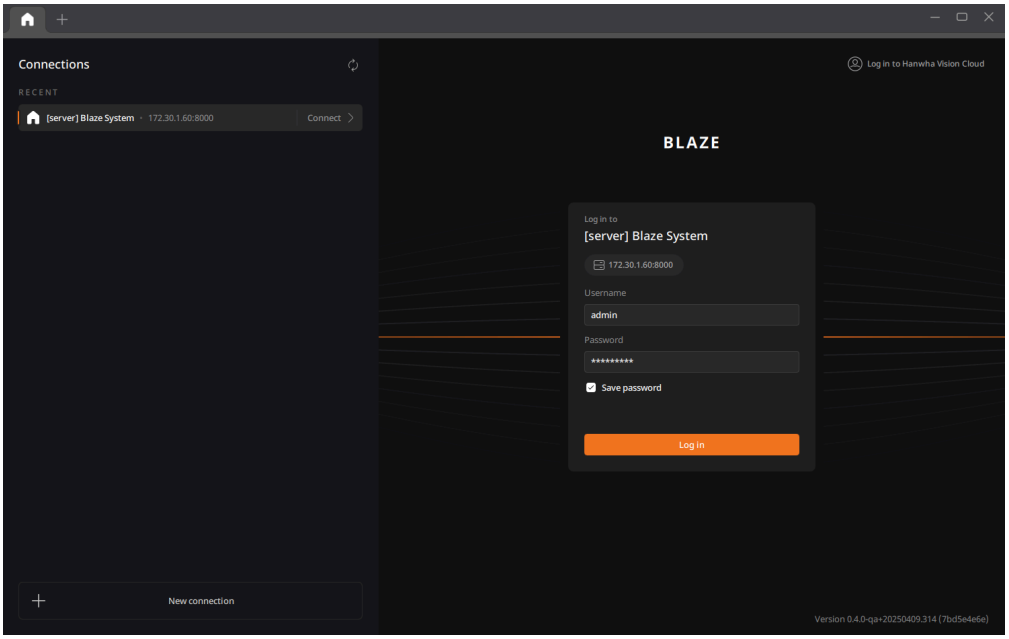
After launching the client, log in by selecting a connected server from the list or by entering the server address manually.

Note: With a cloud account, connect your cloud account to BLAZE to log in. For detailed instructions on logging in with a cloud account, see Signing in with your cloud account *(page 32)*.

To log in to the client

1. Select a server to connect to on the Login page.
2. Enter your username and password, then click **Log in**.

◦ Select **Save password** to save the entered credentials. Future logins will not require re-entering this information.



Logging out from the client

Log out from the client. To log in with a different user account or server, log out and then log in with a different account.

To log out from the client

1. Click at the top of the client.
2. Click next to the server name on the Home page.

Closing the client

Close the running client.

- Click at the top of the Tab bar to close the program.

Updating the client

Update the client when a new version is released.

- Update the client in **Settings** > **Software update**. For more information, see Updating software *(page 235)*.

Client keyboard shortcuts

The keyboard shortcuts available for the client are as follows.

Shortcut name	Windows Key	Mac Key
Scroll horizontally	Alt + scroll	Alt + scroll
Context menu	Right click	Right click
Select all	Control + A	Command + A
Copy	Control + C	Command + C
Cut	Control + X	Command + X
Paste	Control + V	Command + V
Navigate focus next	Tab	Tab
Click focused element	Enter || Space	Enter || Space
Close client	Alt + F4	Option + F4
Close current tab	Control + W & Control + F4	Command + W & Command + F4
Window full screen	F11	Control + Command + F
Close full screen	ESC	Escape
Save/apply changes	Control + S	Command + S
Undo last action	Control + Z	Command + Z
Redo last action	Control + Y	Command + Y
Page backward	Mouse 4	Mouse 4
Page forward	Mouse 5	Mouse 5
Manual focus next	Tab + [→]	Tab + [→]
Manual focus previous	Tab + [←]	Tab + [←]
Help page	F1	F1
AI assistant	Control + ?	Control + ?
Keyboard shortcut Guide	Control + Shift + ?	Control + Shift + ?
Refresh page	Control + R || F5	Command + R || F5
Go to next tab	Control + Alt + [→]	Command + Option + [→]

Shortcut name	Windows Key	Mac Key
Go to previous tab	Control + Alt + [←]	Command + Option + [←]
Notification Panel	Control + N	Command + N
Open new View tab	Control + T	Command + T
Go to tab #	Control + [# key]	Command + [# key]
[When list is selected] Navigate through list	[↑] || [↓]	[↑] || [↓]
[When list is selected] Select focused list item	Enter	Enter
Rename list item	F2	F2
Delete list item	Delete || Backspace (All selected items)	Delete || Backspace (All selected items)
Group list items	Control + G	Command + G
Select multiple list items	Shift + Left Click	Shift + Left Click
Close camera item	Delete || Backspace (All selected cameras)	Delete || Backspace (All selected cameras)
Save layout	Control + S	Command + S
Save layout As	Control + Shift + S	Command + Shift + S
Item spacing	Control + Scroll	Command + Scroll
Camera full screen	Enter (Primary camera selected)	Enter (Primary camera selected)
Show info	I	I
ROI search	A	A
Create crop window	C	C
Check temperature	T	T
Face zoom	F	F
PTZ	P	P
Speak through camera	V	V
Speak through all cameras on layout	Control + Shift + Space	Control + Shift + Space

Shortcut name	Windows Key	Mac Key
View tab full screen	Shift + F	Shift + F
Camera Screenshot	Alt + S	Option + S
Object panel	Control + O	Command + O
Motion panel	Control + M	Command+ M
Events panel	Control + E	Command + E
Bookmarks panel	Control + B	Command + B
Camera list	Alt + D	Option + D
Layout list	Alt + L	Option + L
Map list	Alt + M	Option + M
Alarm I/O	Alt + A	Option + A
File list	Alt + F	Option + F
Webpage list	Alt + W	Option + W
Open camera in new tab	Control + Shift + T (All selected cameras)	Command + Shift + T (All selected cameras)
Timeline	Shift + Space	Shift + Space
Pause / Play	Space (if in playback mode)	Space (if in playback mode)
Go to live	L	L
Sync playback	S	S
Histogram	H	H
Skip forward	[→]	[→]
Skip backward	[←]	[←]
Jump forward	Shift + [→]	Shift + [→]
Jump backward	Shift + [←]	Shift + [←]
Zoom timeline in	Shift + [↑]	Shift + [↑]
Zoom timeline out	Shift + [↓]	Shift + [↓]
1 frame forward	Control + Shift + [→]	Command + Shift + [→]
1 frame backward	Control + Shift + [←]	Command + Shift + [←]

Shortcut name	Windows Key	Mac Key
Increase playback speed	Control + [→]	Command + [→]
Decrease playback speed	Control + [←]	Command + [←]
Increase volume	Control + [↑]	Command + [↑]
Decrease volume	Control + [↓]	Command + [↓]
Mute	M	M
PTZ - Zoom in	+	+
PTZ - Zoom out	-	-
PTZ - Pan right	(when camera is selected and in PTZ mode) [→]	(when camera is selected and in PTZ mode) [→]
PTZ - Pan left	(when camera is selected and in PTZ mode) [←]	(when camera is selected and in PTZ mode) [←]
PTZ - Tilt up	(when camera is selected and in PTZ mode) [↑]	(when camera is selected and in PTZ mode) [↑]
PTZ - Tilt down	(when camera is selected and in PTZ mode) [↓]	(when camera is selected and in PTZ mode) [↓]
Preset (1-9)	(when camera is selected and in PTZ mode) [# key]	(when camera is selected and in PTZ mode) [# key]
Home position	(when camera is selected and in PTZ mode) 0	(when camera is selected and in PTZ mode) 0
Group (1-9)	(when camera is selected and in PTZ mode) Alt + [#]	(when camera is selected and in PTZ mode) Option + [#]
Stop	(when camera is selected and in PTZ mode) Alt + Q	(when camera is selected and in PTZ mode) Option + Q
Move to point (Advanced PTZ only)	Shift + Left click (while in an active camera with PTZ on)	Shift + Left click (while in an active camera with PTZ on)
Zoom to area (Advanced PTZ only)	Shift + Left click and drag (while in an active camera with PTZ on)	Shift + Left click and drag (while in an active camera with PTZ on)
Dewarping - Pan right	(when camera is selected and in Dewarping mode) [→]	(when camera is selected and in Dewarping mode) [→]

Shortcut name	Windows Key	Mac Key
Dewarping - Pan left	(when camera is selected and in Dewarping mode) [←]	(when camera is selected and in Dewarping mode) [←]
Dewarping - Tilt up	(when camera is selected and in Dewarping mode) [↑]	(when camera is selected and in Dewarping mode) [↑]
Dewarping - Tilt down	(when camera is selected and in Dewarping mode) [↓]	(when camera is selected and in Dewarping mode) [↓]
Select camera - right	Alt + [→]	Alt + [→]
Select camera - left	Alt + [←]	Alt + [←]
Select camera - above	Alt + [↑]	Alt + [↑]
Select camera - below	Alt + [↓]	Alt + [↓]
Switch PTZ mode	Alt + P	Option + P
Temp switch PTZ mode	Shift	Shift
Thumbnails	U	U
Calendar	D	D

Cloud

Combined with the BLAZE Cloud platform, seamlessly connect on-premises systems with Hanwha Vision organizations. Cloud users can access video content and centrally manage connected devices without complex network configuration.

When integrated with the cloud, the following features are available in BLAZE:

- Connect local BLAZE system (including clusters) to cloud organization
- Centrally control permissions for cloud users and global users
- Use server federation to connect and access all systems within an organization
- Remote login via BLAZE Web Client and mobile app

Note: To use cloud features, connect the system to Hanwha Vision Cloud. For details, see **Settings** > Cloud *(page 213)*.

Network requirements

To communicate with Hanwha Vision Cloud, outbound access to the following domains and ports, including port 443, must be allowed.

General communication (portal access, authentication, management, etc.)

Function	Domain	Protocol/Port
Portal/API/Authentication	*.hanwhavision.cloud	TCP/443 (HTTPS)
IoT messaging	messaging.platform.hanwhavision.cloud	TCP/443 (MQTTS)
License management	ulicense.saleshub.hanwhavision.cloud	TCP/443 (HTTPS)

Live video streaming

Function	Domain	Protocol/Port	Description
Connection negotiation (STUN/TURN)	link.platform.hanwhavision.cloud	TCP/443	Initial signaling exchange for WebRTC connection
Address resolution (STUN)	link.platform.hanwhavision.cloud	UDP/3478-3479	Resolves the client's public IP address and port
Data relay (TURN)	link.platform.hanwhavision.cloud	UDP/49152-65535	Relays media data through a server when a direct connection is not possible due to firewalls or other restrictions

Signing in with your cloud account

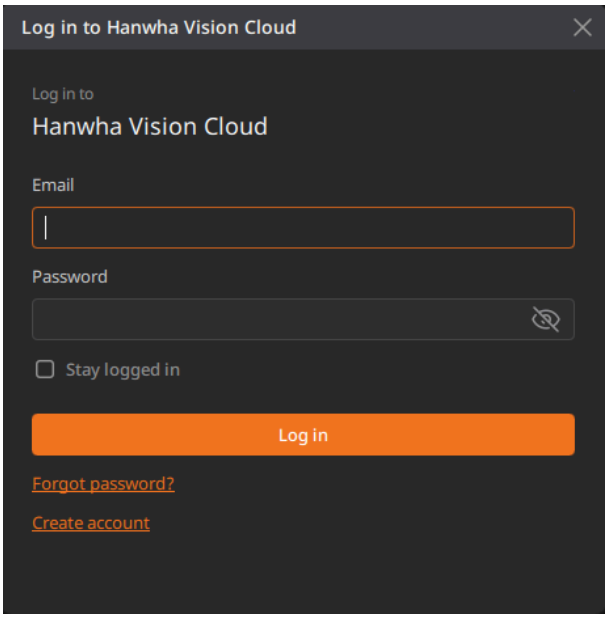
Log in to BLAZE using a Hanwha Vision Cloud account.

To log in with your cloud account

1. Click **Log in to Hanwha Vision Cloud** on the login page.
2. Enter your email address, then click **Continue**.

a. If you select **Remember me** when logging in, you will be logged in automatically the next time you start the client.

3. Enter your password, then click **Log in**.
   - Click **Forgot password** to go to the password reset page. If your account is locked, you can unlock it yourself by resetting your password through this menu without having to contact technical support.
   - Click **Create account** to create a cloud account.



Setting up two-factor authentication on Hanwha Cloud Portal

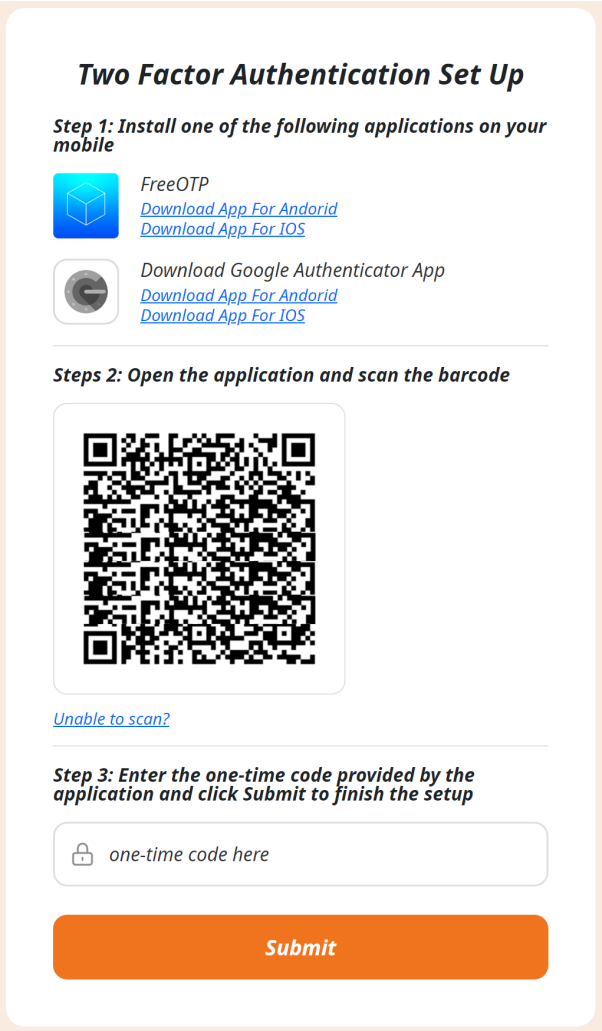
When using BLAZE with a cloud account, set up two-factor authentication (2FA) at login to enhance security. When 2FA is enabled, both a password and an authentication app code are required to log in.

Set up 2FA for cloud login in the Cloud Portal. Once enabled, an authentication code must be entered at every login.

To set up two-factor authentication on Cloud Portal

1. On the Cloud Portal login screen, enter your email address and password, then click **Login**.
2. In the Cloud Portal, click ⓐ at the top right, then click **Organization Settings**.
3. Set the **Enable 2FA** toggle to **On**.
4. Click **Save** at the top right.
5. Click ⓐ at the top right, then click **Logout**.
6. On the Cloud Portal login screen, enter your email address and password, then click **Login**.

7. When the 2FA setup screen appears, launch the authentication app and scan the QR code shown on screen.
    - The 2FA setup screen appears only on the first login after enabling 2FA. Follow the instructions on the screen.



8. When authentication succeeds, the 2FA setup is complete.

Cloud connection errors

If you fail to log in to or connect to the cloud system, the following connection error messages and notifications may appear.

System access error

Error type	Error message and notification	Cause and solution
No internet	**Failed to connect to {system name}**	Check whether Wi-Fi is turned off or airplane mode is enabled on your mobile device, or whether your

Error type	Error message and notification	Cause and solution
	Unable to connect to the cloud. Check your internet connection and try again.	internet service provider (ISP) is experiencing an outage.
Server offline	**Failed to connect to {system name}** This system is currently unavailable. Contact your administrator.	Check whether the server is powered off, whether there is an issue with the on-site network, or whether the BLAZE service is running normally.
MQTT is not connected	**Failed to connect to {system name}** Temporarily unable to connect due to a network issue (MQTT). Try again or use a different network.	This can occur when a firewall is blocking required ports or the MQTT broker is restarting. It can also occur when the network connection is unstable or immediately after switching networks.
Failed to connect p2p	**Failed to connect to {system name}** Temporarily unable to connect due to a network issue (P2P error). Try again or use a different network.	This can occur when NAT or a firewall on the corporate network is blocking the connection, or when even the TURN relay connection fails. This error can also occur when the system is offline.
Cannot access to the system	**Failed to connect to {system name}** You do not have access to this system. Contact your administrator.	This can occur if the user is not registered in the system, permissions have been removed, the user logged in with an incorrect account, or the account is disabled. Contact your system administrator.

Federation connection error

Error type	Error message and notification
No internet	**Failed to connect to {organization name}**

Error type	Error message and notification
	Unable to connect to the cloud. Check your internet connection and try again.

Web client

Access the BLAZE Web Client from a supported web browser without installation.

Note: At least one system must be connected to the cloud, and the user must be assigned a cloud role. For cloud connection settings, see **Settings** > Cloud *(page 213)*.

After the BLAZE system is successfully connected to the cloud organization, access the BLAZE Web Client using one of the following methods:

- Sign in to the Cloud Portal to access the BLAZE Web Client.
- Enter the following URL directly into your browser's address bar:
  - https://blaze.hanwhavision.cloud

Mobile client

View video in real time from devices connected to the server on the BLAZE app on your mobile device, and search for and play videos stored on the server.

Note: User access permissions for the mobile client are applied in the same way as the permissions set on the desktop client. See Setting permissions *(page 260)* for detailed user permissions.

Installing the mobile client

Download the BLAZE mobile client and install it on your device, such as a smartphone or tablet.

System requirements

Before installing the mobile client, check the system requirements. If the minimum specifications are not met, the client may not function properly.

Item	iOS	Android
Version	iOS 16.0 or over	Android 8.0 or over

Downloading and installing the mobile client

Download the mobile client and install it on your device.

- Android OS users: Download and install the BLAZE mobile client from **Google Play**.
- iOS users: Download and install the BLAZE mobile client from the **App Store**.

Logging in to the mobile client

Run the mobile client and select either "Cloud" or "Local" as the login type. If the mobile client and server are on the same network, the server is automatically discovered and displayed. If you have a cloud account, you can log in to the mobile client using that account. If you have a cloud account, you can log in to the mobile client using that account.

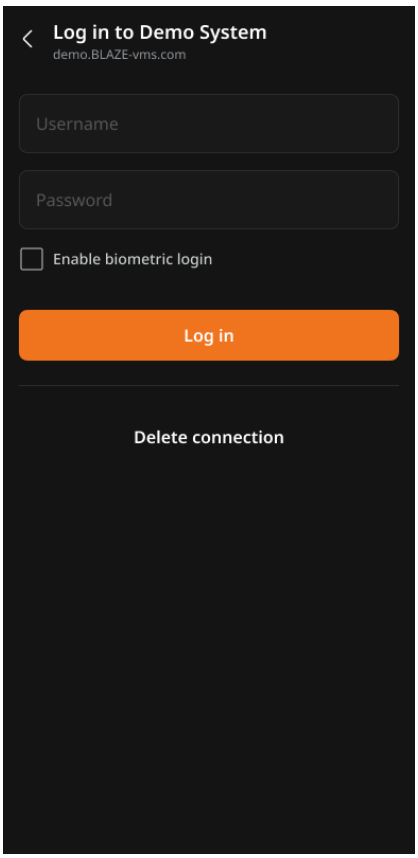
Note:

- If you have a cloud account, you can connect it to BLAZE and log in. For detailed instructions on logging in with a cloud account, see Signing in with your cloud account *(page 32)*.
- In addition to using a password, you can log in using facial recognition or fingerprint authentication. For detailed instructions on configuring login methods, see Mobile client settings *(page 52)*.

To log in to the mobile client

1. Select the server to connect to on the login page of the mobile client.
    - If no server is available, tap **Connect to server**, enter the server information, and then tap **Connect**.
    - Check the server status by the banner color.
        - Green: You can connect after completing the server settings.
            - **PENDING SETUP**: Indicates that server setup has not been completed.
        - Yellow: The server and mobile client versions are different, but you can still connect.

        - Red: Cannot connect to the server.
            - **OFFLINE**: Indicates that the server is not connected to the network and cannot be accessed.
    - If recently connected servers are available, press and hold a server in the recent connections list to display the shortcut menu.
        - **Edit connection**: Change the IP address of the server or update the saved username and password.
        - **Delete connection**: Delete the selected server.
2. Enter your username and password, then tap **Log in**.
    - When you log in to the server from the mobile client for the first time, you must enter your password.
    - Tap **Enable biometric login** to save user information. Once biometrics information is authenticated, access will be granted on the mobile device without asking you to enter a password from the next login onwards.
    - Tap **Delete connection** to remove the saved connection information and password.



Logging into system using Hanwha Vision Cloud

If you have a Hanwha Vision Cloud account, you can log in by entering your email address and password. When you log in with a cloud account, you can access cloud-connected systems to search for and play videos.

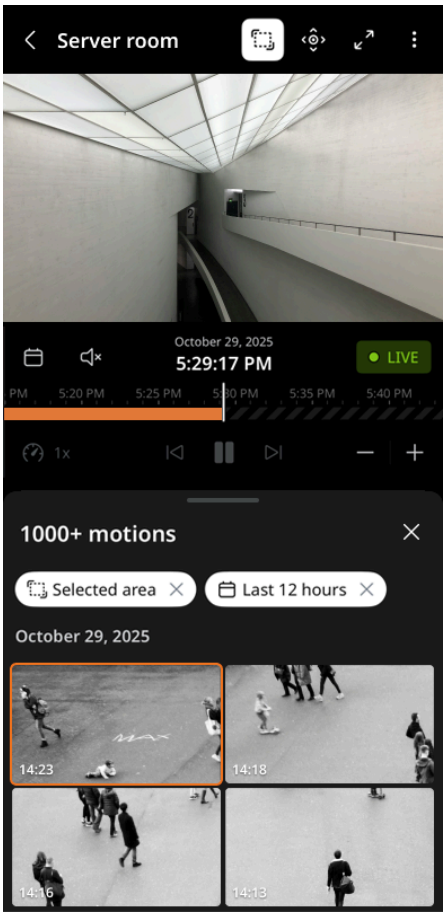
1. Tap **Log in to Hanwha Vision Cloud** in the upper-right corner of the Login page.
2. Enter the email address and password for your Hanwha Vision Cloud account, and then tap **Log in**.
    - If you forget your password, tap **Forgot password** to open the Hanwha Vision Cloud website and reset your password.
3. Open the authenticator app, check the 6-digit verification code, and enter it.
    - The authentication code prompt appears only when 2FA is enabled for the cloud account.

Monitoring videos in real time

Monitor devices connected to the server in real-time from the mobile client.

To monitor videos in real time

1. Tap **Devices** at the bottom of the mobile client.
2. Select the device to monitor from the list of devices.
    - Tap the search icon at the right top and enter the device name to quickly find it.
    - Tap ⋮ to choose how to sort by.
        - **Name**: Sorts the list of devices in order.
        - **Status (online first)**: Displays devices connected to the server at the top.
        - **Status (offline first)**: Displays devices that are disconnected from the server at the top.
3. Monitor video from the device in real time.



- : View the device video in full screen.
- Tap in the upper-right corner while monitoring a device to access the shortcut menu.
  - **Add bookmark**: Select a specific section of the video and add it as a bookmark.
  - **Export**: Save the selected portion of the video as a file on the mobile device.
  - **Screenshot**: Save a screenshot of the current video as an image on the mobile device.
  - **Motion**: Search recorded video from the currently selected device for motion events.
  - **Events**: Search recorded video from the currently selected device by event.
  - **Objects**: Search recorded video from the currently selected device for objects (person, face, vehicle, and license plate).
  - **Bookmarks**: Search recorded video from the currently selected device by bookmark.
  - **Preferred video stream**: Choose the device's video stream between **Primary** and **Secondary**.

        - **Display metadata**: Choose how metadata is displayed on the video: **Hide**, **Only when panel is open**, or **Always**.
        - **Trigger button**: Tap the button to remotely execute actions defined in a designated rule, such as sounding an alarm or starting recording. (The trigger button must be configured in the BLAZE desktop client.)
            - The button is displayed only to mobile users whose role has permission to access the corresponding trigger rule.
            - The feature is available in both local (directly connected) and cloud-connected mobile environments.

Using the tab panel

After selecting a device, tap ✕ at the center of the screen to open the Tab panel for live monitoring or video playback. The menus available in the tab panel may vary depending on the device specifications.

- **Motion**: Search for motion video from the selected device. For more details, see Searching for motion *(page 46)*.
- **Objects**: Search for object video from the selected device. For more details, see Searching for objects *(page 45)*.
    - The **Objects** tab is available only when an AI camera is connected.
- **Events**: Search for events from the selected device. For more details, see Searching for events *(page 47)*.
- **Bookmarks**: Search for bookmarked video from the selected device. For more details, see Searching for bookmarks *(page 48)*.
- **Add bookmark**: Select a specific section of the video and add it as a bookmark.
- **Info**: View detailed information about the selected device, such as the model, resolution, and FPS.
- **PTZ**: Control the PTZ functions of a PTZ camera.
    - The **PTZ** tab is available only when a PTZ camera is connected.
- **Export**: Save the selected video as a file on your mobile device. For more details, see Saving video as a file *(page 51)*.
    - The **Export** tab is available only to users with permission to save video.
- **Screenshot**: Save a screenshot of the current video as an image on your mobile device.
    - Tap **Open photos** to view saved screenshots on your mobile device. Images are saved in the Gallery app on Android and the Photos app on iOS.
- **Image settings**: Configure the focus, zoom, flip, and rotation of the video screen.

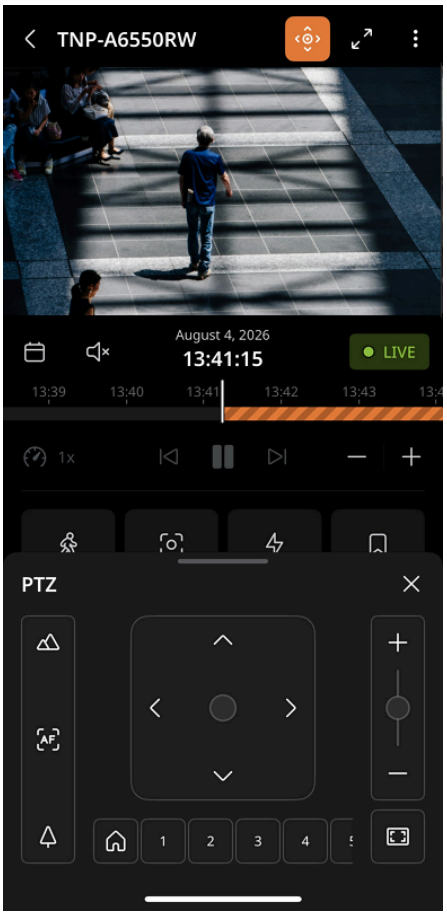
    - The **Image settings** tab is displayed only for users who have permission to configure image settings.
- **Talk**: Output audio through the speaker.
    - The **Talk** tab is displayed only when an intercom camera is connected.
- **Open door**: Open the entrance door.
    - The **Open door** tab is displayed only when an intercom camera is connected.
- **Trigger button**: Tap the button to remotely execute actions defined in a designated rule, such as sounding an alarm or starting recording.
    - Trigger buttons configured in the BLAZE desktop client are displayed.

Controlling the PTZ camera

Control the PTZ camera during real-time monitoring.

To control the PTZ camera

1. Tap **Devices** at the bottom.
2. Select the device to monitor from the list of devices.
3. Tap the PTZ control icon next to the camera name. Then the PTZ control panel appears at the bottom.
4. Tap the control buttons (, , ,) to control the PTZ camera.



- Focus: Tap to set the focus to far, tap to set the focus to near.
  - Tap **AF** to activate the auto focus feature, which automatically sets the focus.
- Control PTZ: Tap or long press the arrow button to move the PTZ camera to the desired direction.
- Tap + to zoom in the camera and — to zoom out.
  - The **Zoom to area** feature is only available on Advanced PTZ devices.
  - When you double tap on the desired direction on the video, the camera will pan or tilt to the selected position.
    - The **Pan/Tilt to Point** feature is only available on advanced PTZ devices.
- : Minimizes the camera image.
- Home( ): Moves to the PTZ home position set on the device.
- PTZ presets: Tap the preset number set on the device to execute it.

Note: To pan, tilt, and zoom in or out the camera on the video, set it to full screen to use gestures for zooming in and out.

Dewarping the video

During real-time monitoring, dewarp the video of the fisheye camera.

To dewarp the video

1. Tap **Devices** at the bottom of the mobile client.
2. Select a fisheye camera to monitor from the list of devices.
3. Pinch out or in to enlarge or shrink the selected video.

Monitoring events in real-time

Receive real-time push notifications for events occurring on devices connected to BLAZE. Even when not actively monitoring in real-time on the mobile client, a notification banner appears at the top of the mobile device when an event occurs. Tap the banner to immediately view the corresponding event.

To receive push notifications, set **Send mobile notifications** in the event rules. These notifications are only available to cloud account users. When multiple systems are connected to a cloud account, push notifications from System B are available while logged into System A.

Note:

- To receive push notifications on your mobile client, you must be logged into your cloud account to remotely connect to the system. You will not receive push notifications if you are logged out of the cloud.
- After setting **Send mobile notifications** in the event rules, set up push notification settings on the mobile client. For more detailed instructions, see Mobile client settings *(page 52)*.
- It may take a few seconds to receive push notifications after the event occurs.

To monitor videos in real time

1. Tap the notification banner at the top of your mobile device.
2. The selected event video will play on the device's video playback panel.
    - For detailed instructions on video playback, see Playing back recorded videos *(page 49)*.

Searching recorded videos

Search and play recorded videos stored on the connected server. Search for and play videos stored on the server by event type, object, bookmark, and other criteria, or save them as files.

Tapping the desired search menu on the Home screen will take you to the search screen.

- **Objects**: Search for objects (person, face, vehicle, and license plate)
- **Motion**: Search for motion after setting the desired ROI
- **Events**: Search for events that occurred according to the set event rules
- **Bookmarks**: Search for bookmarks

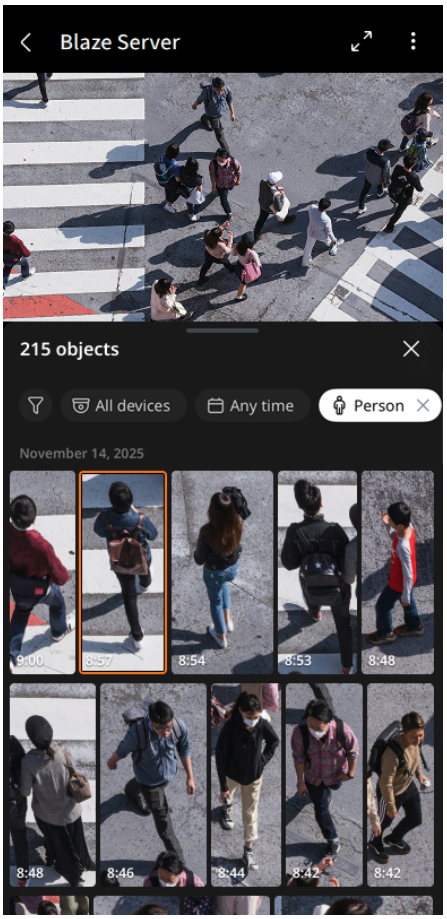
Searching for objects

Search for objects saved on the server by date, device, and object type, and select filters to apply. Play videos where objects were detected and save them as video files.

To search for objects

1. Tap **Objects** at the bottom of the mobile client.
    - Tap **Objects** in the tab panel to navigate to the **Objects** tab.
2. Tap the filter icon to select filters and tap **OK**:
    - **Object type**: Select the object type to search for among **Person, Face, Vehicle, and License plate**.
    - **Devices**: Select the device to search for. Multiple devices can be selected.
    - **Time period**: Set the time range to search among **Any time, Last 1 hour, Last 12 hours, Last 24 hours, Last 7 days**. To customize a time range, select **Custom period** and enter start and end date and time.
    - Tap at the top-right to create a region of interest (ROI). To create an ROI, tap and drag anywhere on the video to search for objects in the set area.
3. When you select an object type in the search filter, set the attributes of the object type.
    - **Person**: Gender (male, female, other), Upper clothing color, Lower clothing color, Bag (yes, no)
    - **Face**: Gender (male, female, other), Age (young, adult, middle, senior), Mask (yes, no), Glasses (yes, no)
    - **Vehicle**: Subtype (car, bus, truck, motorcycle, bicycle), Color
    - **License plate**: Number

4. Once the search results are displayed, select the desired object to play the video.



Searching for motion

Search for motion events in specific areas during real-time monitoring. Play back the recorded events and save them as video files.

Note: Motion search is only available when the motion detection feature is enabled.

To search for motion

1. Tap **Devices** at the bottom of the mobile client.
2. Select the device to monitor from the list of devices.
3. Tap ✕ at the center of the page to display the tab panel. Tap **Motion** in the tab panel.
    - Tap ⊡ at the top-right to create a region of interest (ROI). To create an ROI, tap ⊡ and drag anywhere on the video to search for motion in the set area.

4. Once the motion results are displayed, select the desired motion to play.



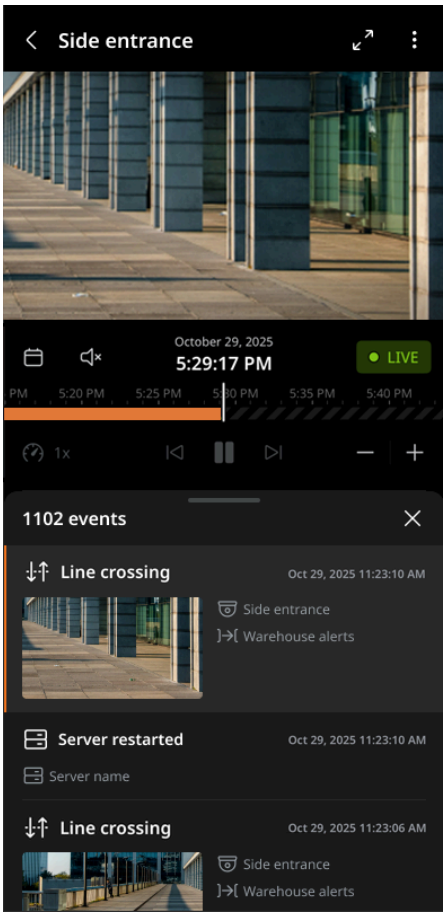
Searching for events

Search for events stored on the server by date, device, and event type. Play the filtered events and save them as video files.

To search for events

1. Tap **Events** at the bottom of the mobile client.
    - Tap **Events** in the tab panel to navigate to the Events tab.
2. Tap the filter icon to select filters and tap **OK**:
    - **Devices**: Select the device to search for. Multiple devices can be selected.
    - **Time period**: Set the time range to search among **Any time, Last 1 hour, Last 12 hours, Last 24 hours, Last 7 days**. To customize a time range, select **Custom period** and enter start and end date and time.
    - **Event types**: Select the event type to search for. Multiple events can be selected. For more information, see Setting an event trigger *(page 223)*.

3. Once the search results are displayed, select the desired event to play.



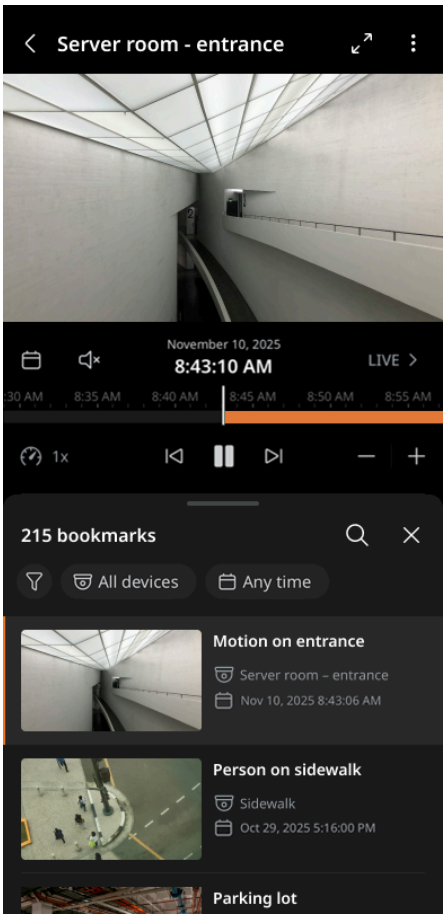
Searching for bookmarks

Search for bookmarks stored on the server by date and device. Play the filtered bookmarks and save them as video files.

To search for bookmarks

1. Tap **Bookmarks** at the bottom of the mobile client.
    - Tap **Bookmarks** in the tab panel to navigate to the **Bookmarks** tab.
2. Tap the filter icon to select filters and tap **OK**.
    - **Devices**: Select the device to search for. Multiple devices can be selected.
    - **Time period**: Set the time range to search among **Any time, Last 1 hour, Last 12 hours, Last 24 hours, Last 7 days**. To customize a time range, select **Custom period** and enter start and end date and time.
    - : Tap the search icon to quickly find bookmarks by entering the name.
3. Once the filtered bookmarks are displayed, select the desired bookmark to play.

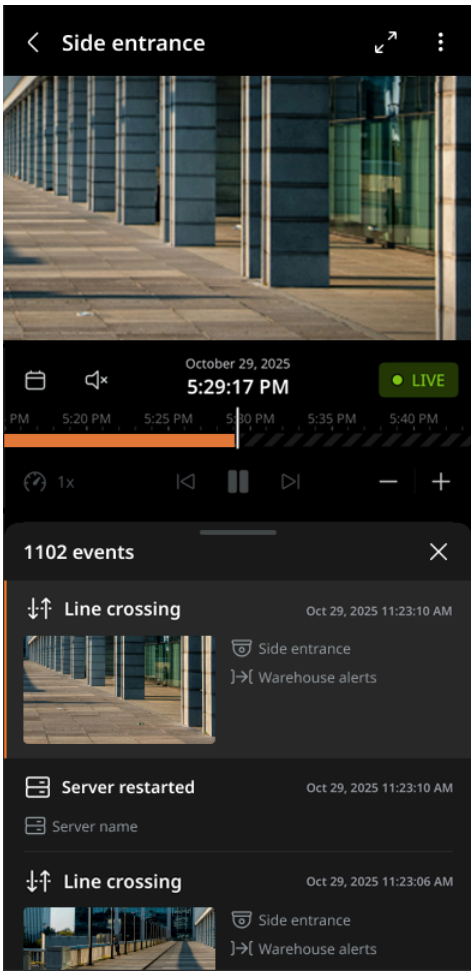
◦ The bookmarks will be highlighted in blue on the timeline.



Playing back recorded videos

Search for and play recorded videos stored on the server, or save them as video files in the mobile client.

Note: To switch to **LIVE** mode while viewing videos in Playback mode, tap **LIVE** above the timeline panel.



To access recorded videos

Tap and drag right or left to where you want to play or tap the video you want to play.

- In the timeline, tap and drag right or left to navigate to the desired playback point.
  - Tap and drag right or left to display time information. Tap **Playback(** ▷ **)** to play the section.
  - Tap the Fast forward icon ▷| to move forward quickly; tap the Rewind icon |◁ to move backward.
  - Tap the Plus ＋ to zoom out on the timeline; tap the Minus — to zoom in.

Timeline search

Set a date range to play the video on the timeline.

- Tap 🗓 to display a date selector above the timeline. Select the date and time where videos to be searched are recorded and tap **OK**.

Timeline colors

Identify the type of event or whether it has been bookmarked by viewing the color of the timeline.

Color	Item	Description
	No recordings	No recorded videos
	Recordings - no event	No events in the recorded videos
	Recordings - with event	There are events in the recorded videos
	Events	There are events.
	Objects	There are events where objects are detected
	Motion	There are events where motion is detected
	Bookmarks	There are bookmarked sections

Fast playback

While playing video, increase or decrease the playback speed. The default playback speed is 1x, and the playback speed can be set to forward or reverse. Tap + or - to adjust the time display scale.

- Forward playback speeds: 1x. 2x, 4x, 6x, 8x
- Reverse playback speeds: -1x. -2x, -4x, -6x, -8x

Saving video as a file

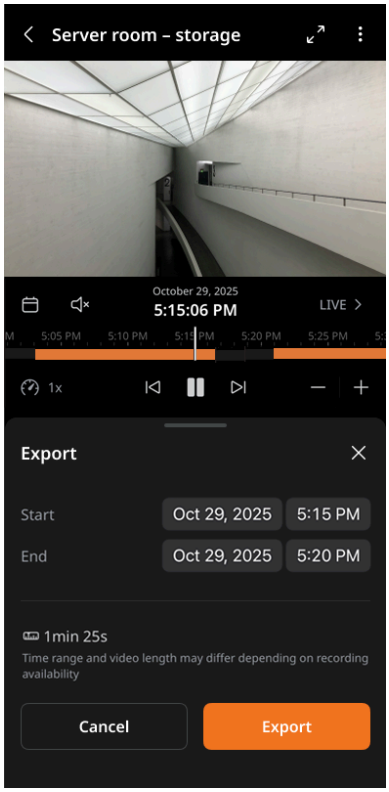
Select the desired section in the timeline panel and save it as a file on your mobile device.

Note: To save video as files, you must have an Administrator permission or video-saving permission.

To save video as a file

1. Select a video.
2. Select the start and end time on the timeline for the section to save, then tap ⋮ > **Export**.
3. Check the storage status in **More** > **Download**.

- Once the video is saved, tap **Open Photos (Open Gallery)** to view the saved files.
  - Tap **More** > **Download** at the bottom to view the list of saved files.
  - Video files are saved in the Gallery app for Android OS and the Photos app for iOS.



Mobile client settings

Log in to the mobile client to configure live preview settings and view downloaded files.

To set up the mobile client

1. Log in to the mobile client.
2. Tap **More** at the bottom of the screen.
3. Change the desired settings:
   - **Server information**: Displays information about the connected local server or cloud.
     - If you are logged in to Hanwha Vision Cloud, information about the connected systems and the current cloud account is displayed.
   - **Live previews in the devices list**: Displays live preview video in the camera list. If you turn off this option, screenshot images are displayed instead.
   - **Enable biometric authentication**: Toggle it on to log in to the client using facial or fingerprint recognition. This feature is only available if the device where the client is installed supports facial or fingerprint recognition.

- **Downloads**: Check the download progress of videos, and tap a completed download to view it directly in the Photos or Gallery app on your mobile device.
- **Disconnect / Change system**: Disconnect from the currently connected server or cloud and connect to another system.

> **Note:** If you are logged in with a cloud account, tap the cloud account to configure the following settings:
>
> - **Push notifications**: Turn on this option to receive notifications from BLAZE.
>   - There may be a delay of several seconds before recorded video is saved to the database and becomes available in the mobile client.

Push notification setup

Configure BLAZE push notifications on the mobile client. Push notifications can be received even when the mobile client is closed. Push notifications are triggered by rules assigned in the BLAZE desktop client.

- In the **More** tab, turn on **Push notifications**.
  - To receive push notifications, you must grant the app permission to access **Notifications** in your mobile device settings.

> **Note:** Even if push notifications are enabled, notifications are not delivered when the user is logged out of the cloud account.

Status diagnostics

If an error occurs while using the mobile app, press and hold the app version number at the bottom of the startup screen to start collecting troubleshooting logs. You can then export the logs by email or another method for error analysis.

- You can select a log collection duration of 1 minute, 3 minutes, 10 minutes, 30 minutes, or 1 hour. During the selected period, all logs are collected automatically without requiring a log type selection.
- While log collection is in progress, the version number remains visible together with a status message showing the remaining time.
- You can manually stop log collection by pressing and holding the version number again. When the collection period ends or you stop the collection manually, the log file is

automatically saved to the device. Logs collected up to the point of termination are saved even if the app is force-closed.

- If there is insufficient storage space, a warning message appears indicating that the file cannot be saved.
- When log collection is complete, information about the file location is displayed.
    - **iOS:** You can open the Files app. Because direct navigation to the target folder is not supported, a share sheet appears at the bottom of the screen. You can send the file directly by email or through your preferred messaging service.
    - **Android:** The folder where the file is saved opens directly.

Mobile client permissions setup

Configure permissions for the device on which the mobile client is installed.

> **Note:** If the required permissions are not granted, you may be unable to save screenshots or videos.

- To use the BLAZE mobile client properly, allow access to the following items in your mobile device settings. (When you log in to the client for the first time, the notification settings page appears automatically. Tap **Enable notifications** to allow notification access.)
    - **Android**: Notifications, Gallery app
    - **iOS**: Notifications, Local network access, Photos app

BLAZE Appliance

The BLAZE Appliance is a hardware product that comes with the BLAZE server and client software pre-installed. Use the appliance to set up and operate the BLAZE system quickly and conveniently, without separate hardware configuration or software installation.

BLAZE installed on the appliance provides the same interface and features as the desktop version of BLAZE.

Checking CPU and memory information

Click to check real-time CPU and memory status. To prevent system overload, video output is automatically limited to I-frames only when CPU usage exceeds 90%.

Time display

When using the local client on a monitor connected to the BLAZE Appliance, the current system date and time are shown in the top-right corner of the screen. The date format follows the format configured in Client settings *(page 272)* > **General** > **Time format**.

The BLAZE Appliance applies the system date/time format and time zone configured by the user (e.g., Dec 30, 2025 4:05:02 PM), and the time is updated in real time down to the second.

Screenshot

While using BLAZE Appliance, you can capture the current screen and save it as an image file. Captured screenshots can be viewed immediately in the **Files** panel. The captured image is saved at the same resolution and size as the screen currently being viewed.

Note:

- The **Default export path** must be configured before you can capture screenshots. If you attempt to capture a screenshot without a configured export path, an error message is displayed.

To capture a screenshot

1. Click the Help icon (?) in the upper-right corner of BLAZE Appliance.
2. Select **Screenshot** from the shortcut menu.

Installation wizard

The installation wizard runs automatically when you power on the BLAZE Appliance for the first time or after a factory reset to perform initial setup.

After accepting the **License agreement**, click **Start setup** on the wizard start screen to begin configuration.

Screen layout

- Navigate between items with the mouse or the [Tab] and [Enter] keys.
- Use **Next** to go to the next step and **Back** to return to the previous step.

Step 1: Language settings

Select the language from the dropdown menu (default: **English (US)**). The wizard text updates to the selected language.

Step 2: Network settings

Before configuring the system, set the IP and DHCP settings for each network port.

To configure network settings later, click **Skip network configuration**. Steps 1–4 below will be skipped.

1. Check physical connection

The wizard provides images to ensure correct port connections.

1. **Connect appliance to the internet**: Use the **Network 2** port to connect the appliance to the internet. When the cable is connected, the port icon turns green and **Connected to internet** is displayed.
2. **Connect devices to appliance**: Connect cameras to the PoE ports or **Network 1**. The status changes to **Connected to LAN** depending on connection status.

2. Network 1 settings (Camera network)

Under **IP assignment**, choose **Manual** or **DHCP**.

- **Manual**: Enter the IP address, subnet mask, and other values (default: Manual).
- **DHCP server**: Enable the appliance DHCP server to assign IPs to cameras. Set IP ranges and lease times for each port. If another DHCP server is detected on the network, a warning is shown and activation is not recommended.
    - If another DHCP server is detected, the enable switch is set to OFF by default to prevent conflicts. If you attempt to enable it, a warning is displayed.
    - Do not enable the DHCP server on ports connected to the internet.

3. Network 2 settings (External network)

- This port is for internet connection and is typically connected to the external network; keep the DHCP server disabled.
- Under **IP assignment**, choose **Manual** or **DHCP**.

4. Network common settings

- **Default gateway**: Select the network interface to use as the default gateway (default: Network 2).
- **Server port**: Default is 8000.

5. Review configuration summary

When all network settings are complete, a summary screen is displayed. The summary includes:

- The connection status of network ports supported by each model (Not connected, Connected to LAN, Connected to internet)
- IP assignment method (Manual, DHCP)
- Whether the DHCP server is enabled

Step 3: Time settings

Set the server time.

- **Automatically adjust for daylight saving time**: Apply daylight saving time (DST) automatically (default: checked).
- **Synchronize with NTP server**: If checked, enter an external NTP server address (e.g., ntp.ubuntu.com) to synchronize time. If unchecked, manual date and time pickers are enabled (default: unchecked).
- **Time zone**: Select from the time zones supported by BLAZE (default: GMT +00:00).

Step 4: System name

- Enter the system name shown on the network (default: DESKTOP-XXXXXX).

Step 5: Account settings

- Set the password for the Super administrator (**admin**) account.
    - The password must be 8–32 characters and include uppercase and lowercase letters, numbers, and special characters.
    - Re-enter the same password in **Confirm password**.

Step 6: Setup complete

- When the "You're all set!" message appears, click **Finish**.

Using special cameras

In the BLAZE system, you can register and use special devices such as intercom cameras, automatic number plate recognition (ANPR) cameras, thermal cameras, and Audio Beacons.

This section describes how to use special cameras and devices in BLAZE.

Intercom

An intercom camera is a device that integrates 2-way audio communication, enabling video calls with visitors and remote access control.

In BLAZE, make real-time video calls with visitors and remotely control doors using an intercom camera. When you register an intercom camera in BLAZE, a **Call Request** event rule is automatically created to monitor events and keep records.

Use intercom cameras in BLAZE to perform the following functions.

- Send and receive intercom calls
- Remote door control
- Simultaneous broadcast to remote speakers at multiple locations
- Locate and use intercoms on map images
- Monitor intercom-related events

Settings

Settings are required to use intercom cameras in BLAZE. Modify the initial settings assigned when registering an intercom camera.

Intercom camera registration

For instructions on registering an intercom camera with BLAZE, see Adding a device *(page 136)*.

Note: When you register an intercom camera with BLAZE, a **Call Request** event rule is automatically created. For information on configuring event rules, see Call request event rule *(page 62)*.

2-way audio settings

Configure the audio input and output of the intercom camera.

1. Click **Settings** > **Devices**.
2. Select the intercom camera from the device list on the Device settings page.
3. In the Device settings panel, click the **Audio** tab.
4. Set the toggle for **Audio input** to **On**.
    - **Audio from**
        - To receive audio from the camera's internal microphone, select **Internal microphone**.
        - To receive audio from an external microphone connected to the camera, select **External microphone**. If the external microphone is not powered, select **Power to external mic** to supply power from the camera.
    - **Codec**: Choose the audio codec to use when monitoring live video or recording. G.711 and G.726 codecs are suitable for recording at voice-call quality, while AAC is suitable for high-quality audio or video streaming.
    - **Sampling rate**: The frequency at which audio samples are taken per second. Higher values improve audio quality but increase file size.
    - **Bitrate**: The amount of audio data processed per second. Higher values improve audio quality but increase file size. Available settings depend on the selected codec.
    - **Gain**: Sets the input level for incoming audio. Higher values increase the input volume.
    - **Noise reduction**: Select **Enable** to configure how much noise is removed from the incoming audio.
5. Set the toggle for **Audio output** to **On**.
    - **Audio to**:
    - **Gain**: Sets the output volume level. Higher values increase the output volume.
6. Click **Apply**.

User permission settings

To use the intercom feature in BLAZE, grant users or user groups permission for the 2-way audio feature.

Note: Among user roles, **Administrator** and **Operator** have permission to use the 2-way audio feature by default.

To grant a user 2-way audio permission

1. Click **Settings** > **Users**.
2. On the Users page, select the user to whom you want to grant 2-way audio permission.

3. In the User settings panel, click **Role** and then select **Custom permissions**.
    - The selected user will be moved under Custom permissions in the user list.
4. Click the **Permissions** tab.
5. Under **Video** > **View live**, select the **2-way audio** checkbox.
6. Click **Apply**.

To create and apply a role with 2-way audio permissions

1. Click **Settings** > **Roles**.
2. On the Roles page, click **Add role**.
3. Enter a role name (e.g., Intercom control) in the text box at the top of the Role settings panel.
4. In the Role settings panel, click the **Permissions** tab.
5. Under **Video** > **View live**, select the **2-way audio** checkbox.
6. Click **Apply**.
7. Click **Settings** > **Users**.
8. On the Users page, select the user who will use the intercom feature.
9. In the User settings panel, click **Role** and select the role name you specified in step 3 (e.g., Intercom control).
    - The new role name (e.g., Intercom control) will be added to the user list, and the selected user will be moved under that role.

Managing intercom calls

Make and receive intercom calls.

In the Timeline panel, click **Volume** to adjust the call volume or mute.

Receiving a call

When a visitor presses the intercom call button, a call notification appears in the Notification panel and a ringtone plays. You can also preview the intercom video in the Notification panel.

For intercom models that support Face zoom, you can configure the visitor's face to be enlarged when the video is opened from a video item or an event notification in the Notification panel.

Note: Intercom call notifications always appear at the top of the Notification panel, even when other events occur.

When an intercom call is received, the following options are available:

- **Take call**: Click to start 2-way voice communication with the visitor. Click the video in the Notification panel to open it in the screen panel.
- **Reject call**: Click to reject the call.

> **Note:** Rejected calls are automatically recorded in the event log.

- **Open door**: Click to remotely open the door.
- **Pause call**: Click to pause the call. Click again to resume.
- **End call**: Click to end the call.
- **Hold**: If another call is received during an active call, accepting the new call automatically places the current call on hold.

Missed calls

If a call is not answered, a missed call notification appears in the Notification panel. Select the missed call notification to play the call video and identify the visitor.

Multiple calls

If a call is received from another intercom during an active call, a notification appears. If the active call video is displayed in the screen panel, an answer button appears on the video screen.

Accepting a new call automatically places the current call on hold. After ending a call, the call on hold can be resumed.

Starting a call

An operator can initiate a call to the intercom for 2-way communication. During a call, the microphone icon is active to indicate that audio is being transmitted.

In the intercom camera view, click (**Speak through this device**) to output sound through the intercom speaker.

Monitoring intercom events

When an intercom camera is registered to BLAZE, a **Call request** event rule is automatically added. Modify the Call request event rule and monitor event occurrences.

Call request event rule

The **Call request** event rule that is automatically added when registering an intercom camera to BLAZE is as follows. (The Call request event rule can be viewed in **Settings** > **Rules**.)

- **When**: **Incoming call**
  - Clicking **All devices** shows only intercom cameras among registered devices. Select the desired intercom camera.
- **Do**: **Show call notification**
  - **Select users**: Selecting **All users** displays all registered users. Choose which users will receive call notifications.
  - **Automatically open notification panel**: If this option is selected, the notification panel automatically opens and notifies when a Call request event occurs. The **Call request** event is always positioned at the top of the notification panel.
  - **Play sound in client**: If this option is selected, a sound plays when a **Call request** event occurs.

Event list

Call-related events can be viewed in the event panel. All call-related events are shown as **Call request** in the **Rule** column, and detailed event information is recorded in the **Description** column as follows.

- **Incoming call**: When a visitor presses the call button
- **Call accepted**: When a specific operator accepts the call
- **Call missed**: When no operator answers the call
- **Call declined**: When an operator rejects the call
- **Door opened**: When an operator opens the access door

Note: Both the event log and notification panel display this as a **Call request** event, and detailed actions are recorded in the event description.

Event search

For information on how to search events in the Events tab and how to view event video, see the following.

- Searching for an event *(page 284)*
- Viewing events *(page 287)*

Door access control

Control doors remotely from BLAZE.

Opening a door when an intercom call is received

To open the door when a visitor calls through the intercom, perform one of the following.

- In the notification panel, check the preview video and click **Open door** .
- On the screen panel, in the intercom's live video view, click **Open door** .

Opening a door without a call

1. On the **Home** page, click **View**.
2. In the View tab's navigation bar, click **Devices**.
3. Drag the intercom camera from the device panel list into the layout. The intercom device's live video will be displayed in the screen panel.
4. Hover the mouse over the video. When **Open door** appears, click **Open door** .

Advanced features

Perform simultaneous broadcasts to multiple speakers or locate intercom cameras that have received calls on the map image.

Simultaneous broadcasting

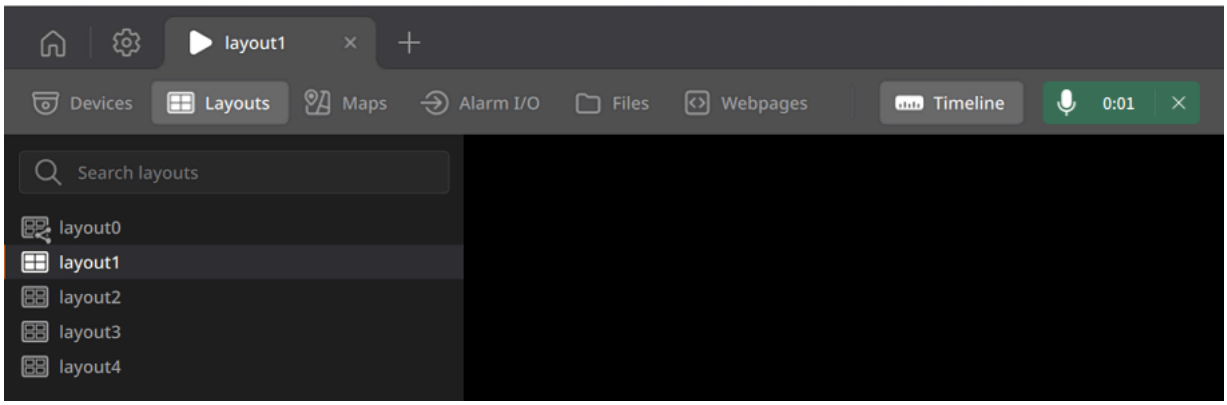
Transmit audio simultaneously to speakers at multiple locations.

Remotely broadcast at the same time through the speakers of multiple intercom cameras grouped in the same layout. When audio is input through the PC microphone where BLAZE is installed, it is output through the intercom cameras' speakers.

1. On the **Home** page, click **View**.
2. In the View tab's navigation bar, click (**Layouts**).
3. Double-click the desired layout that has devices registered in the Layout panel, or drag the layout to the Screen panel to load it.

- In the navigation bar, click (**Devices**), then in the **Devices** panel select the desired device and drag it to the Screen panel to add the device to the current layout.
- For information on creating a new layout, see Adding a layout *(page 97)*.

4. In the navigation bar, click (**Speak through all devices on layout**).
5. The audio transmission time is displayed. When the audio transmission is finished, click to stop.



Note: To broadcast sound to a single intercom device only, in the live view of that intercom click (**Speak through this device**) and transmit audio through the individual intercom camera's speaker.

Managing intercom devices on the map

View and manage the location of intercoms on the map image.

For information on adding a map, see Creating a map *(page 102)*.

1. On the **Home** page, click **View**.
2. In the View tab's navigation bar, click (**Map**).
3. In the Map panel list, double-click the desired map or drag the map to the Screen panel to load it.
   - In the navigation bar click the **Devices** panel, then drag the intercom you want to place from the device list to the desired position on the map background image.
4. The map displays the following:
   - Intercom locations are easily identified on the map background image.
   - If a visitor attempts to call an intercom, the icon for the called intercom will blink on the map image.

> **Note:** Icon blinking occurs only if **Show motion detection flash** is selected in map edit mode.

    - Clicking an intercom device icon opens the Details panel where the intercom's live video is displayed.

Troubleshooting

Resolve issues that occur when using the intercom camera.

When call notifications are not received

- Verify that the event rule is enabled and configured correctly.
    - Go to **Settings** > **Rules**, click **Call request**, and confirm that the **toggle** at the top-right corner is turned on.
    - In the **Show call notification** rule, under **Do**, confirm that the checkboxes for **Automatically open notification panel** and **Play sound in client** are selected.
- Confirm that the user has permission to access the Notification panel.

When audio is not heard during a call

- Confirm that 2-way audio is enabled.
    - Go to **Settings** > **Devices**, select the intercom camera, then on the **Audio** tab confirm that the **toggles** for **Audio input** and **Audio output** are turned on.
- Confirm that the speaker volume is enabled in the sound settings of the PC where the BLAZE client is installed.
- Confirm that the speakers on the PC where the BLAZE client is installed are functioning properly.
- Confirm that network bandwidth and firewall settings are configured correctly.

When speaker audio is not output

- Confirm that the user has 2-way audio permission.
    - Go to **Settings** > **Users**, select the user, then on the **Permissions** tab confirm that the **2-way audio** checkbox is selected.
    - Confirm that the microphone device is correctly configured in the sound settings of the PC where the BLAZE client is installed.

ANPR

ANPR (Automatic Number Plate Recognition) cameras automatically recognize vehicle license plates, collect and analyze data, and are used for vehicle access control, security screening, or traffic monitoring.

Configure license plate recognition event rules in BLAZE and search and analyze those events.

- Real-time events containing vehicle information
- Search by plate, vehicle color, or model

Note: The Road AI app must be installed on the ANPR camera, and the detailed settings for license plate detection must be completed.

Settings

The cameras registered in BLAZE must have the RoadAI app installed, and detailed settings for license plate detection must be configured in RoadAI.

ANPR camera registration

See Adding a device *(page 136)* for information on how to register ANPR cameras in BLAZE.

To configure RoadAI app settings

Configure vehicle and license plate recognition settings in more detail through the RoadAI app on the camera.

1. Click **Settings** > **Devices**.
2. Select the ANPR camera in the device list on the Device settings page.
3. In the Device settings panel, click the **Webpage** tab.
4. In the top-left of the camera web viewer, click ☰, then select **Open platform**.
5. On the **Open platform** page, in the **App list**, click RoadAI's **Go app**.
6. Configure vehicle and license plate detection on the app page.

Note: For instructions on using the RoadAI app for vehicle and license plate detection, see the RoadAI manual.

Creating an event rule

Configure rules for vehicle detection and license plate detection.

To create an event rule

1. On the **Home** page, click **Settings**.
2. Click **Rules** > **Add rule**. Enter the event rule name in the text box at the top of the Rules page.
3. Under **When**, click **Add event** and select **Vehicle detection**.
4. Click **Select devices**. Only devices that support vehicle detection are displayed; select the desired device.
5. In the **Select devices** dialog, configure the following options, then click **Select**.
    - **Type**: Select the vehicle types to detect (car, bus, truck, SUV, passenger van, pickup, bike). Multiple selections are allowed.
    - **Color**: Select the vehicle colors to detect. Multiple selections are allowed.
    - **Brand**: Enter the vehicle manufacturer or brand name to detect.
    - **Model**: Enter the vehicle model to detect.
6. Under **When**, click **Add event** and select **License plate detection**.
7. Click **Select devices**. Only devices that support license plate detection are displayed; select the desired device/channel.
8. In the **Select devices** dialog, configure the following options, then click **Select**.
    - **Number**: Enter the license plate number to detect.
    - **Country**: Enter the country of the license plate.
    - **State/Province**: Enter the state or province of the license plate.
9. Under **Do**, click **Add action** and choose the action to perform when the event occurs.
    - If you select **Show notification**, the license plate information and a snapshot appear in the notification panel when a vehicle or license plate detection event occurs. Click the notification to view full event details and video.
    - For details on other actions, see Event action settings *(page 228)*.
10. Click **Apply**.

Searching for vehicles and license plates

Search for objects using vehicle or license plate information.

To search for vehicles and license plates

1. On the **Home** page, click **Objects**.
2. Click the **Time** filter to display the date selection panel. In the date selection panel set the start/end date and time range to search for events and click ✓.
3. Click the **Devices** filter to open the **Select Device** window and view the device list. Select the device to search for video and click **Select**.

4. In **Type**, select **Vehicle** or **License Plate** and specify detailed filters.
    - If **Vehicle** is selected
        - **Subtype**: Select the type of vehicle to detect (passenger car, bus, truck, SUV, van, pickup truck, bicycle, etc.). Multiple selections allowed.
        - **Color**: Select the color of the vehicle. Multiple selections allowed.
        - **Brand**: Enter the vehicle manufacturer brand to detect.
        - **Model**: Enter the model name of the vehicle to detect.
    - If **License plate** is selected
        - **Number**: Enter the license plate number to detect.

        > **Note:** License plate number searches support the following matching options.
        >
        > - Searches are performed even when only part of the license plate number is entered. (e.g., AB, C1, or C123)
        > - Searches are not case-sensitive. (e.g., abc123 or Bc)

        - **Country**: Enter the country of the license plate to detect.
        - **State/province**: Enter the state or province of the license plate to detect.
5. Search results with the applied filters are shown as thumbnails in the results panel. Selecting a result opens the event status panel.

For details on object detection filter settings, see Searching for an object *(page 277)*.

Troubleshooting

Resolve common problems that occur when using ANPR cameras.

Low license plate recognition rate

- Check the camera installation angle and mounting height.
- Check the RoadAI app settings on the camera.

Incorrect license plate recognition

- Check that the country and region settings are correct.
- Check that the detection area is configured correctly.

Thermal camera

Unlike regular cameras that detect visible light, thermal cameras detect infrared energy (heat) emitted by objects and display it on the video screen.

In BLAZE, use thermal cameras to perform the following functions:

- Real-time thermal video monitoring
- Temperature detection event management

Settings

Register thermal cameras in BLAZE and configure color palettes and other settings used to represent detected temperature distributions.

Registering a thermal camera

For information on how to register a thermal camera in BLAZE, see Adding a device *(page 136)*.

For single-channel cameras

- Only one thermal channel is registered; the number of channels is not shown separately.
- The thermal camera is shown in the device list with the thermal camera icon.

For multi-channel cameras

- Both visible-light and thermal channels are registered; users cannot select only desired channels to register.
- Each channel is displayed individually in the device list, the same as for general multi-channel cameras.
- Typically channel 1 is the visible-light video channel and channel 2 is the thermal channel.
- In the device list it is shown with the multi-channel camera icon.

To configure the color palette

Set the color palette used to display the temperature distribution detected by the thermal camera in various colors.

1. Click **Settings** > **Devices**, then select the thermal camera in the device panel.
2. In the device Details panel, click the **Webpage** tab.
3. On the camera webpage, click ☰ in the top-left, then choose **Video & Audio** > **Temperature image setup**.
4. Click the **Temperature setup** tab and select the desired color palette from the **Color palette** list. The selected palette is applied immediately in the thermal camera preview in the web viewer.
    - **White hot**: Represents high-to-low temperatures from white to black.
    - **Black hot**: Represents high-to-low temperatures from black to white.
    - **Rainbow**: Represents high-to-low temperatures in red, orange, yellow, green, blue, and indigo.
    - **Rainbow2**: Represents high-to-low temperatures in red, orange, yellow, green, blue, indigo, and violet.
    - **Custom**: Represents high-to-low temperatures from orange to black.
    - **Sepia**: Represents high-to-low temperatures from yellow to black.
    - **Red**: Represents high-to-low temperatures from black to red.
    - **Iron**: Represents high-to-low temperatures from yellow to purple.
    - **Red-WH**: The configured temperature range is displayed in red; other areas use white-to-black for high-to-low temperatures.
    - **Iron-WH**: The configured temperature range is shown from yellow to purple; other areas use white-to-black for high-to-low temperatures.
    - **Midrange-WH**: The configured temperature range is shown from yellow to orange; other areas use white-to-black for high-to-low temperatures.

Note: Color palette settings are applied to BLAZE live video in real time.

Monitoring temperature detection events

Receive automatic alerts when the configured temperature threshold is exceeded.

To create a temperature detection rule

Create temperature detection rules in BLAZE. The detection area and temperature threshold are configured on each device's webpage.

1. On the **Home** page, click **Settings**.
2. Click **Rules** > **Add rule**, then enter the event rule name in the text box at the top of the Rules page.

3. Under **When**, click **Add event** and select **Temperature detection** from the trigger list.
4. Click **Select devices**, then select the camera channel(s) to apply the temperature detection rule; only channels that support the temperature detection trigger will be shown.
5. Click **Open webpage**, then in the **Camera webpage** window click **Analytics** > **Temperature detection**.
6. On the Temperature detection page, configure the temperature detection settings. For example, to trigger a temperature detection event when the average temperature in a specific area is 100°F or higher for 5 seconds, configure as follows.
    - Draw the area to detect temperature on the video by dragging the mouse. The area number is assigned automatically in **Area**.
    - Enter a desired name in **Area name**.
    - Select **Avg** in **Temperature type**.
    - Select **Above** in **Detection condition**.
    - Enter **100** in **Detection**. The temperature unit can be changed in **Video & Audio** > **Temperature setup** > **Temperature Settings** > **Temperature Unit**.
    - Enter **5** in **Minimum duration (s)**. This is the minimum duration time the detected temperature must be maintained to trigger a temperature detection event.
    - In **Area emissivity**, enter the emissivity reference value the camera uses to analyze temperature. Emissivity varies depending on surface treatment, color, measured temperature, ambient temperature, and other factors, so determine the appropriate value through repeated testing. Entering an accurate emissivity value yields more accurate temperature measurements. For detailed emissivity information, see the camera help.
7. Close the **Camera webpage** window.
8. In the **Select devices** window, click the **Select** button.
9. Under **Do**, click **Add action**, then choose the action type to execute when a temperature detection event occurs.
    - If the temperature threshold is exceeded in any of the configured detection areas, BLAZE will trigger an alert.
    - If you select the **Show notification** option, a snapshot is displayed in the notification panel when a temperature detection event occurs. Click it to view full event information and video.
    - For more information on actions, see Event action settings *(page 228)*
10. Click **Apply**.

Monitoring temperature detection events

In the Events panel, view the event list, search for temperature detection events, and play the associated video. For detailed instructions on using the Events panel, see Events *(page 284)*

Temperature check

Check the temperature at a specific point in real time on the live video screen.

To check the temperature at a specific point

1. **Home** page, click **View**.
2. In the navigation bar, click **Devices** to open the device panel.
3. In the device panel, double-click the thermal camera channel or drag the thermal camera channel to the display panel.
4. When the thermal camera's live video appears in the display panel, hover the mouse over the video screen.
5. Click the  (**temperature**) icon, then click the point on the video where you want to measure the temperature; the temperature will be displayed immediately. The temperature unit is Fahrenheit (℉) by default.
6. Click another point to display the temperature at that point.

Troubleshooting

This section explains how to troubleshoot problems that occur while using the thermal camera.

If temperature detection is not working

- Make sure the temperature detection feature is enabled. Settings are synchronized between BLAZE and the device webpage.
    - **Settings** > **Devices** — click and select the thermal camera in the device panel. In the device Details panel, click the **Events** tab, then the **Temperature** tab and ensure the **Temperature Detection toggle** is set to on.
    - **Settings** > **Devices** — in the device Details panel click the **Webpage** tab. When the webpage appears, click  , then **Analysis** > **Temperature Detection**. In the **Temperature Detection** tab, verify the **Use Temperature Detection** checkbox is selected.

If event alerts do not appear in the notification panel

- Make sure temperature detection is enabled.
    - See the solution in If temperature detection is not working *(page 72)*.
- Re-check the event rule settings.
    - In **Settings** > **Rules**, click the temperature detection rule you configured and ensure the toggle button in the top-right of BLAZE is set to on.
    - Ensure **Show Notification** is selected as an action for that rule. Also, in the **Show Notification** action, click **All Recipients** and verify the users who should receive notifications are selected.
- On the thermal device's webpage, ensure thresholds and detection areas are configured correctly.
    - See the Webpage settings *(page 71)* section in Thermal_Event.dita.

Speaker

An IP speaker is an intelligent audio device that sends and receives audio signals over an Internet Protocol (IP) network, can be remotely controlled, and provides various functions such as real-time broadcasting and voice announcements.

Register an IP speaker in BLAZE to do the following:

- Event-based automatic sound playback
- Map-based speaker management and control
- Live broadcasting

Settings

Register IP speakers and IP audio modules to BLAZE and configure their detailed settings.

Registering a speaker

For instructions on registering a speaker to BLAZE, see Adding a device *(page 136)*.

Speakers are displayed with the icon.

Note: To register an IP speaker, the IP speaker must be set to **speaker mode**.

To adjust the speaker volume

Adjust the speaker output volume.

1. Click **Settings** > **Devices**.
2. Select the speaker from the device list on the Device settings page.
3. In the Device settings panel, click the **Webpage** tab.
4. Enter the ID and password for the speaker device's webpage.
5. Select **Operation Setting** > **Audio Setting**, then in the **Operation Information** section adjust the slider in **Volume** to the desired level and click **Apply**.

Using map images

Use the map feature to visually manage and control speaker locations on a facility floor plan.

To add speakers to map images

For information on adding a map, see Creating a map *(page 102)*.

1. **Home** page, click **View**.
2. In the View tab's navigation bar, click (**Map**).
3. In the Maps panel list, double-click the desired map or drag it to the screen panel to load it.
    - To add a new map, click ＋ in the lower-left of the Maps panel, select **Add map** from the shortcut menu, click **Add background** to add a background image, and then click **Save**.
4. Click **Edit map** at the top-right, then open the **Devices** panel from the navigation bar and drag the speaker you want to place from the device list to the desired location on the map background image.
    - Speaker devices on the map background image are shown with , making it easy to identify installed speaker locations on the map background image.
    - After selecting a speaker, change the size of the speaker icon displayed on the map from the Details panel.
    - Check the speaker's network connection status (online, offline).
5. Click **Save**.

To control speakers on map images

Control speakers directly from the map to start a live broadcast.

1. Click the speaker icon you want to control on the map.
2. The details pane will open automatically.
3. In the details pane, click **Speak through this device** icon to transmit real-time voice and start broadcasting.

Troubleshooting

This section describes how to troubleshoot issues that occur when using IP speakers and IP audio modules.

When a speaker device cannot be registered

- If the speaker is not auto-detected or manual registration fails, make sure the speaker device is set to **Speaker Mode**.
    - Access the speaker device's webpage to change the mode.

If sound is not playing

- Check that the speaker is online.
- Check whether the volume is set to 0.
    - On the device's webpage, go to **Operation Setting** > **Audio Setting** > **Operation Information** > **Volume** and check the volume level setting.

When the speaker cannot be controlled from the map

- Verify that map permissions have been granted.
    - In **Settings** > **User**, select the user and then, on the **Permissions** tab, ensure **Map Management** is selected.

Audio Beacon

Audio Beacon is a dedicated audio device that detects configured sounds. You can register an Audio Beacon with BLAZE to monitor sound classification events and manage audio clips.

With the Audio Beacon feature, you can do the following:

- Detect sound classification events and receive notifications
- Play, download, and manage audio clips

- Monitor Audio Beacons on the map
- View sound classification events in the event log

Note:

- For general cameras, whether recording occurs depends on the license, but for audio beacons, which do not provide a video stream, whether event reception occurs is the criterion.
  - When license is activated: Recording, event reception, and audio clip storage are available
  - When license is deactivated: Recording and event reception are restricted, and audio clip storage is unavailable
- Since Audio Beacons do not provide a video stream, the video export feature is not supported

Settings

Register and manage Audio Beacon devices in BLAZE.

Registering an Audio Beacon

For information on how to register an Audio Beacon with BLAZE, see Adding a device *(page 136)*.

Audio Beacon devices are displayed with the icon.

Note: Audio Beacon is a dedicated audio detection device. When the device is registered, a profile with **Audio input** enabled is automatically created.

Setting sound classification

1. Click **Settings** > **Devices**.
2. In the device list on the Device settings page, select an Audio Beacon device.
3. In the Device settings panel, click the **Event** > **Sound classification** tab, and then turn on **Sound classification**.
4. Configure the sound types to detect and audio clip storage. For detailed settings, see Sound classification *(page 168)*.
5. Click **Apply**.

Setting event rules

You can set event rules that include the sound classification event trigger for Audio Beacon devices. For more information on setting event rules, see Setting an event trigger *(page 223)*.

When an Audio Beacon device is registered in BLAZE, the following default event rule is automatically created if no existing rule uses the **Sound classification** trigger.

- Event rule name: Audio Beacon event
- Trigger: Sound classification
- Action: Show notification

Note: This does not apply to all-in-one cameras.

Searching for a sound classification event

Search the event log for sound classification events, view detailed event information, and play associated audio clips.

To search for a sound classification event

1. Click **Events** on the **Home** page.
2. In the event trigger filter, select **Sound classification**.
3. Click the desired event in the search results list to display the Details panel.

Event details

The sound classification event Details panel displays the following information:

- **Event name**: The name of the detected event.
- **Time**: The time when the event occurred.
- **Source device**: The Audio Beacon device that detected the event.
- **Confidence**: The confidence level of the detection.
- **Volume**: The volume of the detected sound.
- **Audio clip**: The audio clip captured when the event occurred.
- **Direction**: The direction from which the sound originated (if available).
- **Rule**: The rule that triggered the event.

Managing audio clips

When an event occurs, the server receives and stores the audio clip captured by the device. Users can play audio clips to determine whether an abnormal situation occurred.

> **Note:** An audio clip is saved only when a license is activated for the channel and the event is defined as a trigger in an event rule.

Playing and checking audio clips

- The supported codec formats are WAV and MP3.
- If the audio clip is still being downloaded or cannot be retrieved due to a network error or another issue, a message indicating that the audio clip is unavailable is displayed.

Downloading audio clips

- Only users who have access to the device and the **View archive > Video metadata > Events** permission can download audio clips.
- You can specify the file name and save location. The default file name format is `{Channel name} yyyy-MM-dd at hh.mm.ss ({Event type}).wav` or `{Channel name} yyyy-MM-dd at hh.mm.ss ({Event type}).mp3`.
- You can check the download progress in the Export tray.
- Downloaded audio files are saved in their original format in the `Audio` folder under the default export path and can be viewed in the **Files** panel. (To access the Files panel, click **View** on the Home page, then click **Files** on the navigation bar in the View tab.)
- Options such as specifying a time range, converting the file format, or applying security settings (such as digital signatures and password protection) are not supported.

> **Note:** If an event log is deleted, its associated audio clip is also removed from the system.

Sound classification event notifications

When a sound classification event occurs, you can immediately view the event details through a notification.

Event notifications

When a sound classification event occurs, a notification containing the event details and an audio clip is displayed in the Notification panel. To open the Notification panel, click the icon at the top.

You can play audio clips in the Notification panel.

- When a new audio clip starts playing, the currently playing clip stops automatically.
- If you double-click an event item to add its channel, audio clip playback stops.

Monitoring an Audio Beacon on the map

You can monitor Audio Beacon devices on the map.

Checking an Audio Beacon on the map

Audio Beacon devices are displayed with a dedicated icon that distinguishes them from regular cameras on the map. For more information about using maps, see Managing a map *(page 102)*.

View

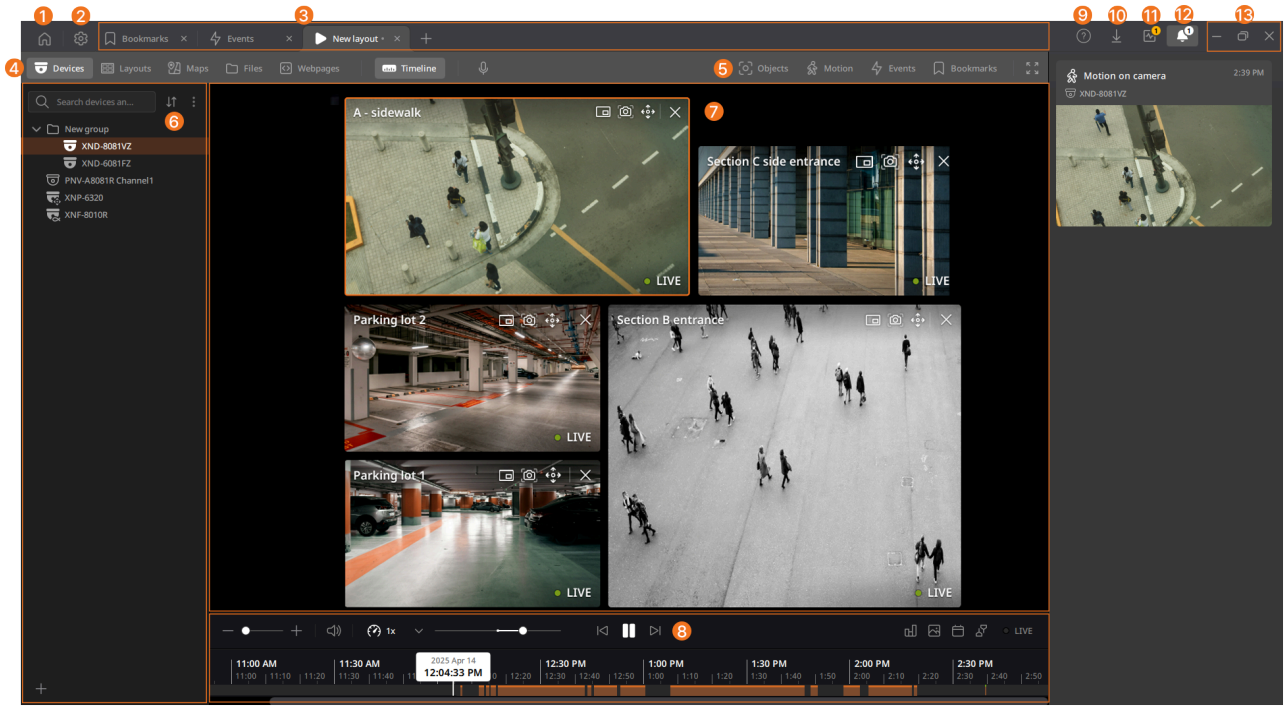
Monitor videos from multiple devices connected to BLAZE in real-time.

Monitor videos in the highest resolution quality supported by the camera, record events, and easily change the position or size of video tiles in the layout during real-time monitoring. Add devices and webpages to a layout to monitor them alongside live video. Create digital maps that reflect your system's installation by uploading map images and placing devices in their actual locations.

View tab

To open the View tab, select **View** on the **Home** page or click ＋ on the tab bar. Run a saved layout or assign devices and other items to the Scene panel for real-time monitoring.

The View tab consists of the following elements:



No.	Item	Description
❶		Navigate to the Home page.
❷		Open the Settings menu.
❸	Tab bar	View the currently open layout tabs and menu tabs.

No.	Item	Description
❹	View tab navigation bar	View various function tabs available during real-time monitoring. • Devices: The list of devices added to BLAZE. • Layouts: The list of layouts added to BLAZE. • Maps: The list of maps added to BLAZE. • Alarm I/O: The list of alarm input and output ports. • Files: The list of video and image files stored in the Media folder. • Webpages: The list of webpages added to BLAZE. • Timeline: Play recorded videos, export files, and set bookmarks. •  : Output audio to cameras assigned to the layout. • Objects: Search for objects and play video. • Motion: Search for motion and play video. • Events: Search for events and play video. • Bookmarks: Search for bookmarks and play video. •  : View the video in full screen.
❺	Objects/Motion/Events/Bookmarks panel	The list of objects, motion, events, and bookmarks.
❻	Devices/Layouts/Maps/Files/Webpages panel	The list of devices, layouts, maps, files, and webpages.
❼	Scene panel	Area of the View tab where cameras and other items can be placed.
	Tile	A single element that can be placed in the Scene panel, such as a camera tile, webpage tile, file tile, or speaker tile.
	Layout	A set of cameras and other items (images, webpages, video files) that can be saved for quick access.
❽	Timeline panel	Play recorded videos and save them as files.
	Timeline	Section of the Timeline panel with recordings and time markers.

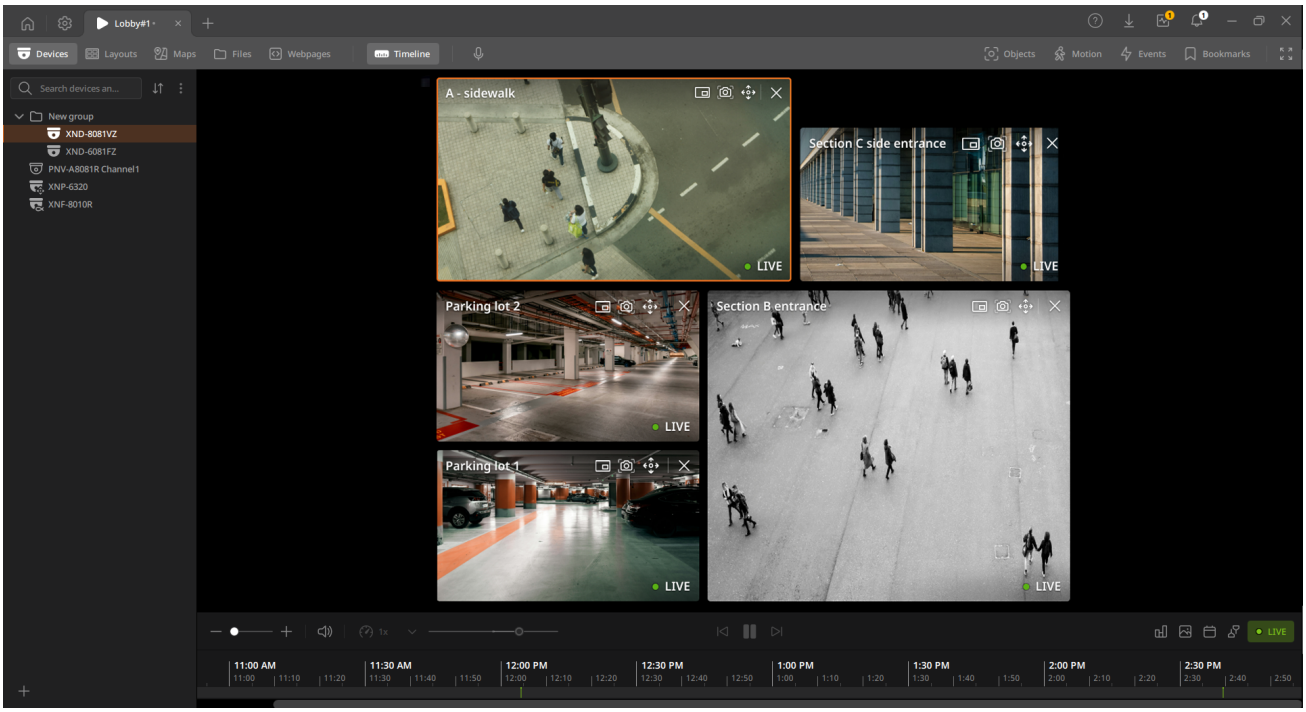
No.	Item	Description
	Time marker	White or gray block showing the current playback time or the time at the mouse pointer position.
	Histogram	Section of the Timeline panel showing histograms for objects, motion, and events.
	Thumbnails	Section of the Timeline panel showing preview images for different moments in the video archive.
❾	Help	Access the BLAZE user guide and program information.
❿	Export tray	Click to view the save history for videos, screenshots, diagnostic files, and logs.
⓫	Health monitoring alert tray	Check alert items displayed to administrators in the Health monitoring tab for monitoring system status. • **Open health monitoring**: Navigate to the Health monitoring tab to check the current server and device status.
⓬	Events notification panel	Check notifications in real time when events with a notification action occur according to the configured event rules. • When a real-time event occurs, the number of alerts is displayed on the icon at the top of the client. Click the icon to open the Events notification panel.
⓭	Client control	Control the client window. • —: Minimize the client window. • ▢: Maximize the client window. • ×: Close the client.

Monitoring video in real-time

Monitor cameras and other devices connected to BLAZE in real-time.

To monitor video in real-time

1. On the **Home** page, click **View**.
    - Click ＋ button on the Tab bar to open the New Layout tab.
2. Click **Devices** or **Layouts** on the View tab navigation bar to open the Devices or Layouts panel. And drag the desired camera or layout to the Scene panel.
    - In the **Devices** panel, select a device to add to a layout.
    - In the **Layouts** panel, select a layout to add to a layout.
    - In the **Maps** panel, select a map to add to a layout.
3. In the Scene panel, the real-time video of the device is displayed.
    - Right-click in the Scene panel to open a shortcut menu. The settings in the shortcut menu are applied universally to all items currently being monitored.
        - **Show info**: Displays information, such as the video codec and resolution.
        - **Show metadata overlay**: Displays metadata in the video.
        - **Always show name**: Displays the device name in the video.
        - **Save layout**: Save the current layout.
        - **Save layout as...**: Save the current layout with a specific name.
        - **Video stream**: Set the stream of the device added to a layout. Choose between Auto, **Primary**, and **Secondary**. The default is **Auto**.
    - Control each item individually during real-time video monitoring. For more information on controlling tile video, see Controlling a video tile *(page 85)*.
    - Click the green section on the Timeline during real-time video monitoring to play back the recorded video of the selected device in the layout. For more information on playing video, see Playing the video *(page 123)*



Monitoring alerts in real-time

View currently active issues with devices connected to BLAZE in the Alerts panel. Even when not actively monitoring the Scene panel, the number of real-time events is always displayed in the Alerts tray at the top of the client.

Note: Administrator role is required to access **Edit rule** in the shortcut menu of the Alerts panel.

To check real-time events

1. Click the in the Tab bar.
2. In the Alerts panel, double-click the desired event.
    - Right-click an event in the Alerts panel to open the shortcut menu, where you can play the event video or modify event rules.
        - **Open device**: Play the event video.
        - **Open device in new tab**: Play the event video in a new tab.
        - **Show previews**: Set whether to display previews of events. This setting applies to all events in the Alerts panel.
        - **Show descriptions**: Set whether to display event descriptions. This setting applies to all events in the Alerts panel.

- **Edit rule**: Modify the rule for the selected event in the Rule settings screen. Administrator privileges are required.
- **Event detailed info**: View detailed information about the selected event in the Event search screen.
- **Clear notification**: Remove the selected event from the Alerts panel.
- **Clear all notifications**: Remove all events from the Alerts panel.

3. The event video plays in the Scene panel.
    - If the device is included in a layout, the video is played in that layout.



Controlling a video tile

Monitor the video of devices connected to BLAZE and control the video tiles.

Note:

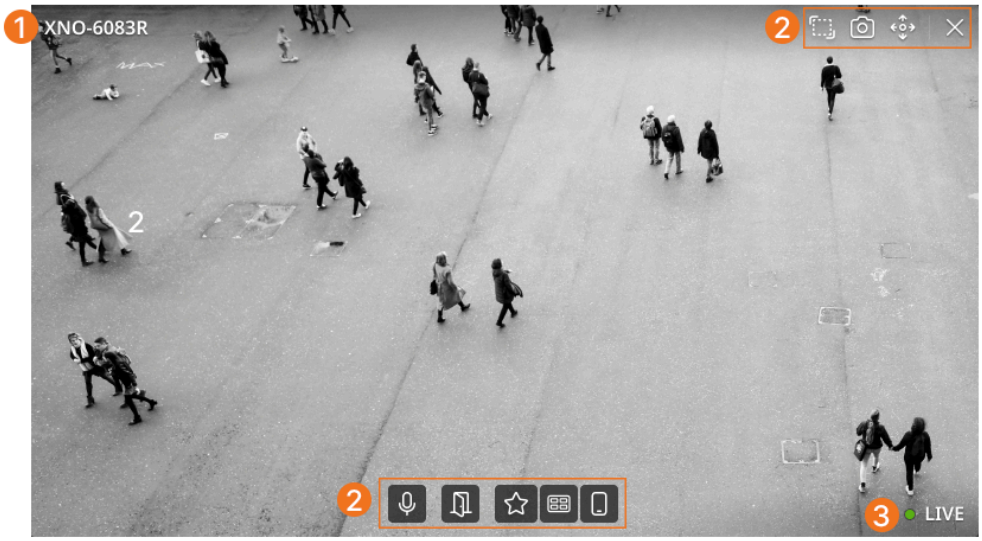
- The items that can be controlled vary depending on the connected device.
- When controlling video tiles, the following options may not be displayed or accessible depending on the user's permissions.
    - PTZ
    - Device settings
    - Temperature detection (thermal camera)
    - Face zoom

To control a video tile

1. On the **Home** page, click **View**.
    - Click ＋ on the tab bar to open the new layout tab.
2. Click **Devices** or **Layouts** on the View tab navigation bar to open the **Devices** or **Layouts** panel. Drag the desired device or layout to the Scene panel.
3. The video tile of the device is displayed in the Scene panel.
4. Select the desired icon on the video tile to control it.

Video tile control functions

Select a video tile to control.



No.	Item	Description
❶	Device name	Displays the device name.
❷	Tile control functions	Displays the control function icons available for the video tile. • : Select an area in the video tile to search for events. • : Zoom in on the video using digital zoom to enlarge the video and display it in a new tile. Multiple crop windows can be created, and each crop window border is displayed in a different color. • : Capture the current video and save it as a PNG file. Saved screenshots can be viewed in **Files** on the navigation bar. • : Control the video using PTZ functions.

No.	Item	Description
		• : When an intercom that supports the face zoom feature is connected, switch between full video view and face zoom mode. • : Output audio from the connected device. • : Manually trigger a one-time event to execute a predefined event action. The icon displayed may vary depending on the user's settings. The icon appearance can be changed in Setting an event trigger *(page 223)*'s **Trigger button** settings. • : Open the door when an intercom is connected. • : When a device that supports the heater function is connected, activate the camera heater. • : When a device that supports moisture removal is connected, the camera rotates rapidly three times in one direction to remove moisture. • : When a device that supports the wiper function is connected, operate the camera wiper. • : Close the video tile. Closing a video tile does not remove it from the layout or device list.
❸	Live mode indicator	Displays the current live mode status.

Using the video tile shortcut menu

Select a video tile and right-click it to open the shortcut menu. You can use the following control functions from the shortcut menu.

- **Open in new tab**: Play the current video tile in a new tab.
- **Open in new window**: Play the current video tile in a new BLAZE window. This feature is useful when monitoring specific channels in a multi-monitor environment.
- **Close**: Close the video tile.
- **Show info**: Display information such as the video codec and resolution.
- **Show metadata overlay**: Display metadata on the video.
- **Fit mode**: Configure the video tile to fit the screen while maintaining the original aspect ratio, or stretch it to fill the screen.

- **Always show device name**:Always display the device name on the video.
- **Video streams**: Configure the stream for the device added to the current layout. The default setting is **Auto**, and you can select **Primary** or **Secondary**.
- **PTZ**: Control the video using PTZ functions. You can also run PTZ groups and presets.
- **Dewarping mode**: Configure the dewarping mode for fisheye camera video.
- **Screenshot**: Capture the current video and save it as a PNG file.
- **Create crop window**: Use digital zoom to enlarge the video and display it in a new tile.
- **Device settings**: Open the Device settings page to configure detailed device settings.

Controlling PTZ mode

When a camera's PTZ mode is enabled, you can control its Pan/Tilt/Zoom (PTZ) functions. To turn PTZ mode on or off, click (Simple PTZ) or (Advanced PTZ) at the top of the video item.

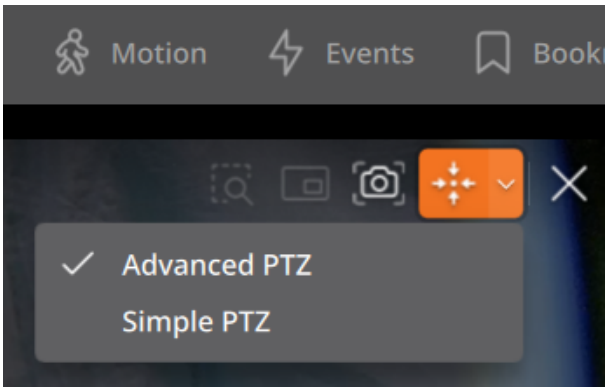
When PTZ mode is turned on, the PTZ controls and presets are displayed as follows:



Note: The functions available in PTZ mode may vary depending on the connected camera.

Selecting a PTZ mode

There are two PTZ modes: Simple PTZ and Advanced PTZ. If the camera supports Advanced PTZ mode, it is set as the default.



The behavior of Simple PTZ and Advanced PTZ modes differs as follows.

The full zoom out function is always available regardless of the selected mode. While using Simple PTZ mode, press and hold the [Shift] key to temporarily access Advanced PTZ functions such as moving to a point and area zoom.

Item	Simple PTZ	Advanced PTZ
Cursor on item hover	Move	Cross
Action on click	Default (camera gets selected)	Go to point mechanics are activated
Action on drag	Drag arrow is displayed, and continuous PTZ is activated	Zoom to area frame is displayed, and camera zooms to selected area after drag is finished
Action on mouse wheel	Camera zooms in/out (physical zoom)	Camera zooms in/out (physical zoom)

Moving to home position

Click on the PTZ video tile to move the camera to its configured home position.

Auto-tracking

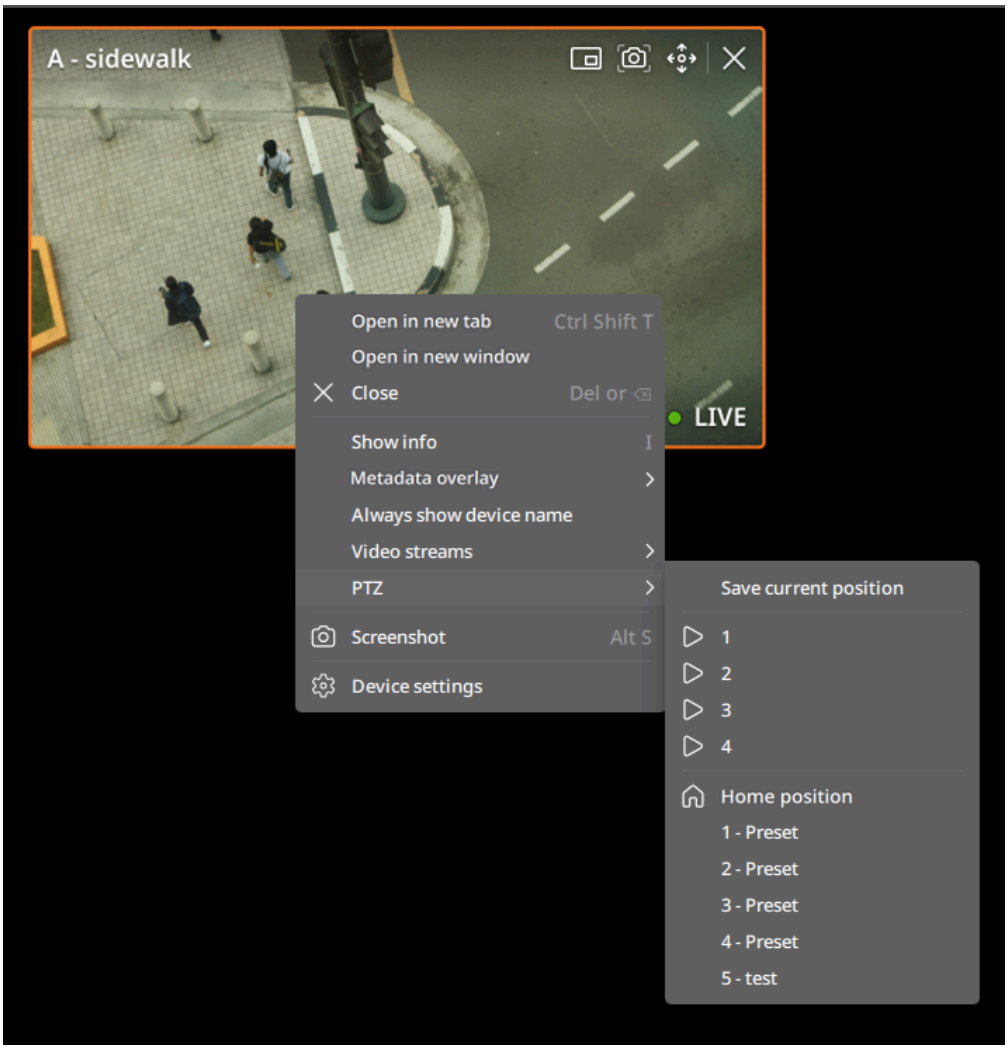
This function sets the PTZ camera to automatically track moving objects.

- Click on the PTZ video tile to enable auto-tracking.
- To disable auto-tracking, click the icon again (highlighted in orange) to deselect it.

PTZ group and preset execution

Right-click a video tile and select **PTZ** to execute a PTZ group or preset. Select a group or preset number from the shortcut menu to execute it on the tile.

Note: PTZ group and preset settings are configured in the camera's PTZ tab. For more information, see Configuring PTZ settings *(page 173)*.



- **Save current position**: Save the current position as a preset. In the Preset settings dialog, enter the preset number and name, then click **Save**.
    - The added presets can be found in the PTZ tab of the camera.
- Execute PTZ group: Select a PTZ group number to initiate the registered group.
- Move to PTZ Home position: Move to the camera's Home position.
- Move to PTZ preset: Select a PTZ preset number to move to the preset position.

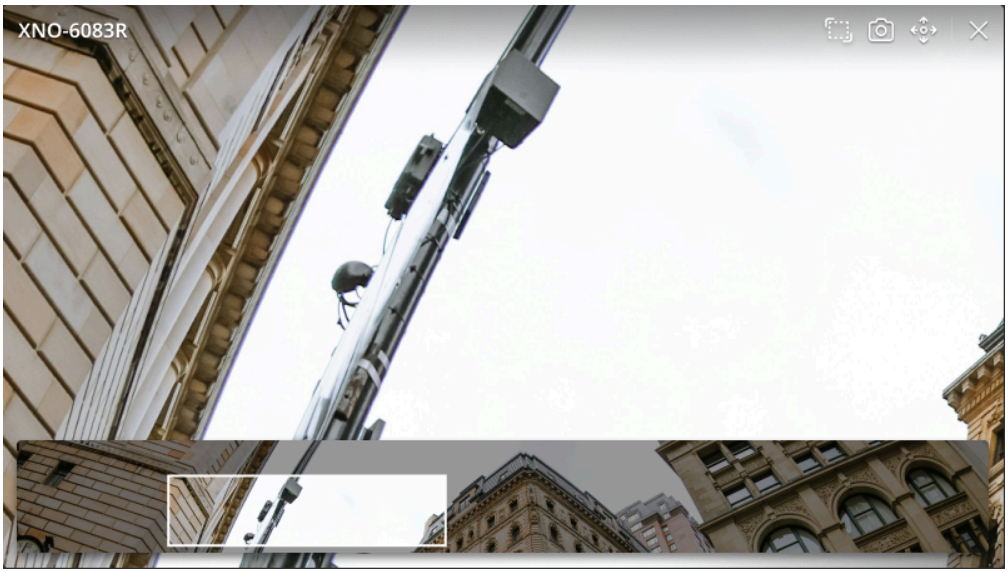
Setting fisheye dewarping mode

When a fisheye camera is connected, set the dewarping display mode in the video item. Dewarp video immediately without any additional setup, and choose the desired dewarping mode.

- Right-click the video item and select the desired mode in **dewarping mode**.
  - **Regular**: Displays the fisheye full view in a circular shape. Use the mouse wheel to zoom in and out of the video, and drag the mouse to move to the desired area.



  - **Panoramic**: View fisheye video in panoramic mode, which displays the fisheye video in a rectangular format. By selecting a section in the panoramic view at the bottom of the item, the selected area will be shown in the video.



Managing a device

Manage devices added to BLAZE in the View tab.

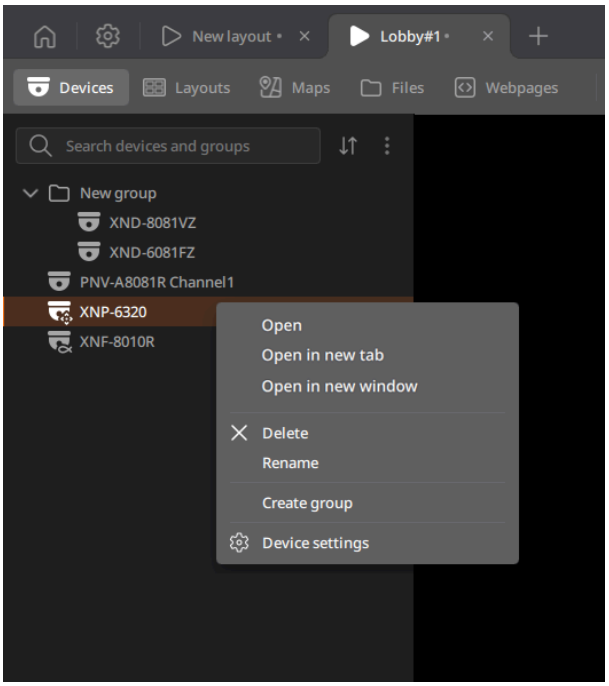
Viewing a device tree

The Devices panel displays a device tree. Hover over a device to see a thumbnail preview.

- In the search bar, enter a camera, server, or group name to quickly find your devices.
- ⇅: Sort the list by device name or by recently added devices.
- ⋮: Click **Show IP** to display the IP addresses of all devices in the list, or click **Show deleted devices** to display deleted devices.

- Select a device from the list and right-click to open the shortcut menu. Use the shortcut menu to add or manage the device.
    - **Open**: Adds the selected device to a layout.
    - **Open in new tab**: Opens the selected device in the new layout.
    - **Open in new window**: Opens the selected device in a new window.
    - **Delete**: Deletes the selected device.
    - **Rename**: Renames the selected device.

- **Create group**: Group multiple devices together. Grouping devices enables adding or managing multiple devices at once on a tile.
- **Device settings**: Configure detailed settings of the selected device. Device-setting permissions are required.



Adding a device to a layout

Assign devices added to BLAZE to a layout for monitoring.

Note: Add multiple devices to a layout for monitoring. If you do not save the layout, the device information will not be stored. For more information on adding layouts, see Adding a layout *(page 97)*.

To add a device to a layout

1. On the **Home** page, click **View**.
2. In the View tab, click **Devices** on the View tab navigation bar.
3. Drag the desired device from the list of devices to a layout.
    - To select multiple consecutive devices in the list, press and hold [Shift] and select devices. Press and hold [Ctrl] to select multiple devices that are not adjacent in the list.

Configuring device settings

In **Settings** > **Devices**, configure devices connected to the server or set up groups in the **Devices** panel under the **View** tab.

> **Note:** Users with an Administrator role or device-setting permissions can configure device settings.

Adding a device

Click ＋ at the bottom of the Devices panel and select **Add device**.

> **Note:** Only users with an Administrator role can add a device. For more information, see Adding a device *(page 136)*.

Device settings

Select the desired device from the device tree and right-click to display the shortcut menu. Click **Device settings** to configure detailed settings. For more information, see Configuring device settings *(page 145)*.

Grouping devices

Select multiple devices from the device tree and right-click to display the shortcut menu. Click **Create group** to group devices. For more information, see Grouping devices *(page 182)*.

Renaming a device/device group

Select a device or device group from the device tree and right-click to display the shortcut menu. Click **Rename** to change the name. For more information, see Changing a device's information *(page 94)*.

Deleting a device

Select the desired device from the device tree and right-click to display the shortcut menu. Click **Delete** to delete the device. For more information, see Deleting a device *(page 183)*.

Changing a device's information

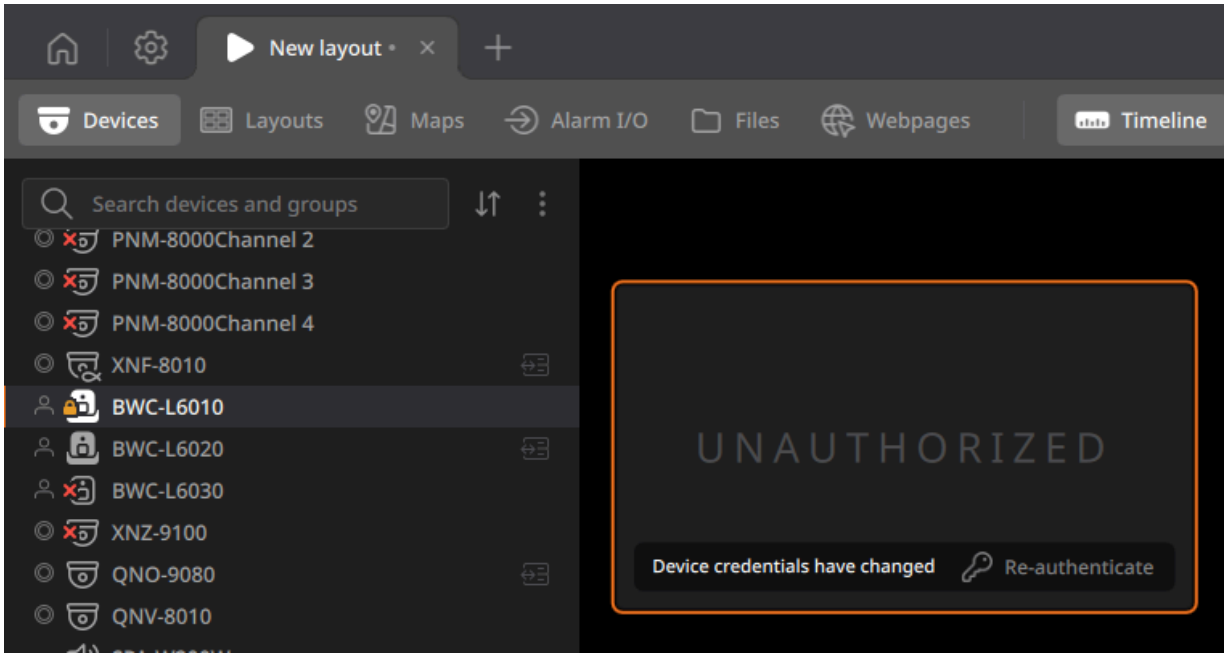
Re-authenticate the password or rename cameras and devices registered in BLAZE.

To re-authenticate a device password

BLAZE requires camera authentication when viewing live video or configuring recording and event rules. If a device's password was changed externally and the connection was lost, or if authentication failed, re-authenticate immediately from the screen panel in View mode.

> **Note:** Re-authentication is not supported in Playback mode; it is only available in live streaming.

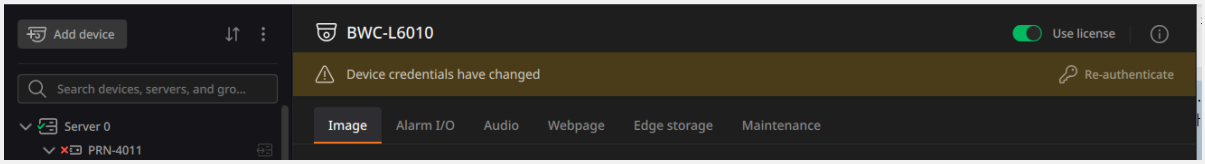
1. On the **Home** page, click **View**.
2. In the View tab navigation bar, click **Devices**.
3. From the device panel list, select the device with a failed authentication and place it in a layout.
4. In the screen panel for that device, click **Re-authenticate**.



5. In the **Re-authenticate** dialog, enter the device ID and the updated password.
6. Click **Apply** to attempt authentication.
    - If authentication succeeds, live video plays immediately.
    - If authentication fails, try again. Entering the wrong password repeatedly will lock the camera account. (For Hanwha Vision cameras, the account is locked after 5 or more failed attempts.)

Note:

In **Settings** > **Devices**, select a device with failed authentication and re-authenticate it using the alert banner at the top of the Device settings panel.



To rename a camera

1. Click **Settings** > **Devices**.
2. In the list of devices, select the desired device and right-click it.
3. From the shortcut menu, click **Rename** and enter a new name.
    - Device names can contain up to 64 characters.

Note: A device can also be renamed by clicking the device name at the top of the Camera settings panel. Enter the new name and click **Apply**.

Managing a layout

Monitor devices registered in BLAZE on a single layout. Add devices, webpages, videos, and images to a layout, and customize the size and arrangement of each item as needed.

Note:

- The recommended number of items for optimal performance is 64.

Using a dynamic layout

Use a dynamic layout to freely adjust the size and position of items and arrange devices, webpages, videos, and images in the layout.

Use the mouse wheel over a device tile to zoom in or out, centered on the area where the mouse pointer is located.

Adding video tiles to the layout

Add one or multiple devices to a layout at once. Video tiles are automatically added from left to right and top to bottom.

Note: The order in which devices are added to the Scene panel may vary depending on the aspect ratio of the device.

Moving items in the layout

Freely move and arrange video tiles added to the Scene panel. Drag a video tile to move it to a new position. Dragging a video tile onto another video tile swaps their positions.

Resizing items in the layout

Enlarge or reduce the size of video tiles added to the Scene panel. Hover over a video tile to display the resizing arrows, then drag the arrows to adjust the size vertically, horizontally, or diagonally.

Adding a layout

Add devices, webpages, videos, and files to BLAZE and organize them into a single layout in the Scene panel for easy access. Configuring layouts with devices specific to certain areas, such as lobbies, entrances, or floor plans, enables efficient monitoring.

Note:

- Layouts created by users with the System administrator or Administrator role are automatically shared with all users who have the Administrator role by default. System administrators and administrators cannot create unshared layouts.
- Shared layouts can be selected in **Open layout** for an event action, and can be assigned to users below the Administrator role.

To add a layout

1. On the **Home** page, click **View**.
    - Click ＋ on the tab bar to open the new layout tab.
2. Click **Layouts** on the View tab navigation bar.
3. Click ＋ at the bottom left of the panel, then click **Add layout** from the shortcut menu.
4. Click **Devices** on the View tab navigation bar to add the desired device to the layout.

- To add a webpage, click **Webpages**. Drag the desired item from the list in the Webpages panel to the Scene panel.
- To add a video or image file, click **Files**. Drag the desired item from the list in the Files panel to the Scene panel. Alternatively, drag a media file directly into the Scene panel.

5. Right-click in the Scene panel and select **Save layout**.
   - Enter a name and click **Save**.
6. To save a copy of the same layout under a different name, right-click on an empty area of the Scene panel and select **Save layout as...**.
   - Enter a name and click **Save**.

Using a layout

A layout is a set of cameras and other items (images, webpages, video files) that can be saved for a quick access, assigned to other users, and opened in a separate tab in BLAZE.

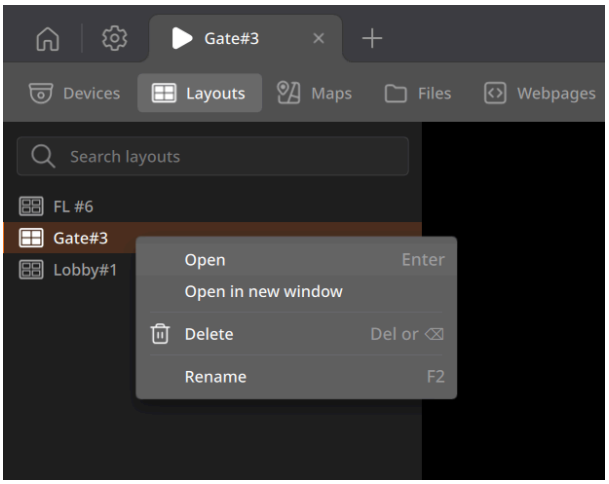
Users can view layouts they have created by default, as well as shared layouts assigned to their role. Users with layout-setting permissions can add layouts to BLAZE in their desired configuration and share them with other users. By utilizing the layout sharing feature, multiple users can monitor with the same layout.

Note: Only users with an Administrator role can share layouts. For more information about shared layouts, see Setting a layout *(page 263)*.

To use a layout

1. On the **Home** page, click **View**.
   - Click ＋ button on the Tab bar to open the New Layout tab.
2. Click **Layouts** on the View tab navigation bar.
3. Drag the desired layout from the Layouts panel list onto the Scene.
   - Alternatively, double-click the layout or right-click it and select **Open** to add it.
   - Enter the layout name in the top search bar to quickly find it; the search is not case-sensitive.
   - Only one layout can be run in the **Layouts** tab. Even if you add multiple layouts to the Scene panel, each selected layout will run on its own tab.

4. The layout will run in the Scene.



Setting a layout

After assigning a layout, use features such as displaying video information and saving the layout.

- Right-click an empty area of the Scene panel to display the shortcut menu. From the shortcut menu, save the layout or configure video stream settings.
    - **Show info**: Display information such as the video codec and resolution.
    - **Show metadata overlay**: Display metadata on the video.
    - **Item spacing**: Adjust the spacing between items in the layout (**Normal**/**Narrow**/**No spacing**).
    - **Fit mode**: Set the video tile to fit the screen while maintaining the aspect ratio of the original video, or stretch it to fill the screen.
    - **Always show device name**: Always display the device name on the video.
    - **Save layout**: Save the current layout.
    - **Save layout as...**: Save the current layout with a specified name.
    - **Video streams**: Set the stream of the device added to the layout. Choose between **Auto** (default), **Primary**, and **Secondary**.

Setting the video ratio

Set the video ratio for individual video items or the entire layout.

- **Fixed ratio**: Maintain the original aspect ratio of the video.
- **Stretch**: Stretch the video to fill the panel.

Applying to individual items

- Right-click an item and select the desired ratio option from the shortcut menu.
- You can select multiple items and apply the setting to all selected items at once.

Applying to the entire layout

- Right-click an empty area of the layout and select a ratio option from the shortcut menu to apply it to all items in the current layout.

Note: This setting does not apply to dewarped fisheye video, cropped items, or webpage items.

Using a shared layout

When an Administrator shares a layout with another user, the shared layout appears in the Layouts panel. Both the Administrator and the assigned users can monitor the shared layout. To learn how to share layouts by user or role, see Roles > Setting a layout *(page 263)* or Users > Viewing the layouts a user can access *(page 252)*.

- will be displayed on the shared layout.
- If any of the devices included in a layout are not assigned to a user or that the user does not have permission to access, those devices cannot be monitored in the layout.

Closing a layout

To exit a running layout tab, click the ✕ button on each tab.

- Right-click the tab you want to close in the Tab bar to display the shortcut menu. Click **Close** to close the current tab; click **Close other tabs** to close all other running tabs besides the current one.

Modifying a layout

Modify and save detailed configurations of items in a layout.

Note:

- Shared layouts can be modified only by users with the System administrator or Administrator role. Users with roles below Administrator cannot modify shared layouts.

To modify a layout

1. On the **Home** page, click **View**.
    - Click ＋ button on the Tab bar to open the New Layout tab.
2. Click **Layouts** on the View tab navigation bar.
3. Drag the desired layout from the Layouts panel to the Scene panel.
4. Modify the desired layout, such as device settings and item arrangement.
5. Right-click on an empty area of the Scene panel and click **Save**.

Renaming the layout

Rename and save the layout.

To rename the layout

1. Select the desired layout in the Layouts panel.
2. Right-click it and select **Rename**.
3. Change the layout name.
4. Press **Enter** or click outside the layout area to save the changes.

Deleting a layout

Delete layouts that are no longer needed.

Note:

- Shared layouts can be deleted only by users with the System administrator or Administrator role. Users with roles below Administrator cannot delete shared layouts.

To delete the layout

1. On the **Home** page, click **View**.
    - Click ＋ button on the Tab bar to open the New Layout tab.
2. Click **Layouts** on the View tab navigation bar.
3. Select the desired layout in the Layouts panel.
4. Right-click it and select **Delete**.
5. In the **Delete layout** dialog, click **Delete**.

Managing a map

The Maps tab provides an alternative way to monitor the system. Upload a map to create a digital representation of the system installation with devices placed accurately on it. Click a device on the map to quickly navigate to or monitor that device. Move between sections, layouts, and floors of the system quickly and easily.

The Maps tab has two modes controlled by the mode switch toggle in the navigation bar. In view mode, monitor maps and devices; in edit mode, create and update maps.

Note: Only users with an Administrator role can create, modify, and delete maps.

Creating a map

Place various devices on the map.

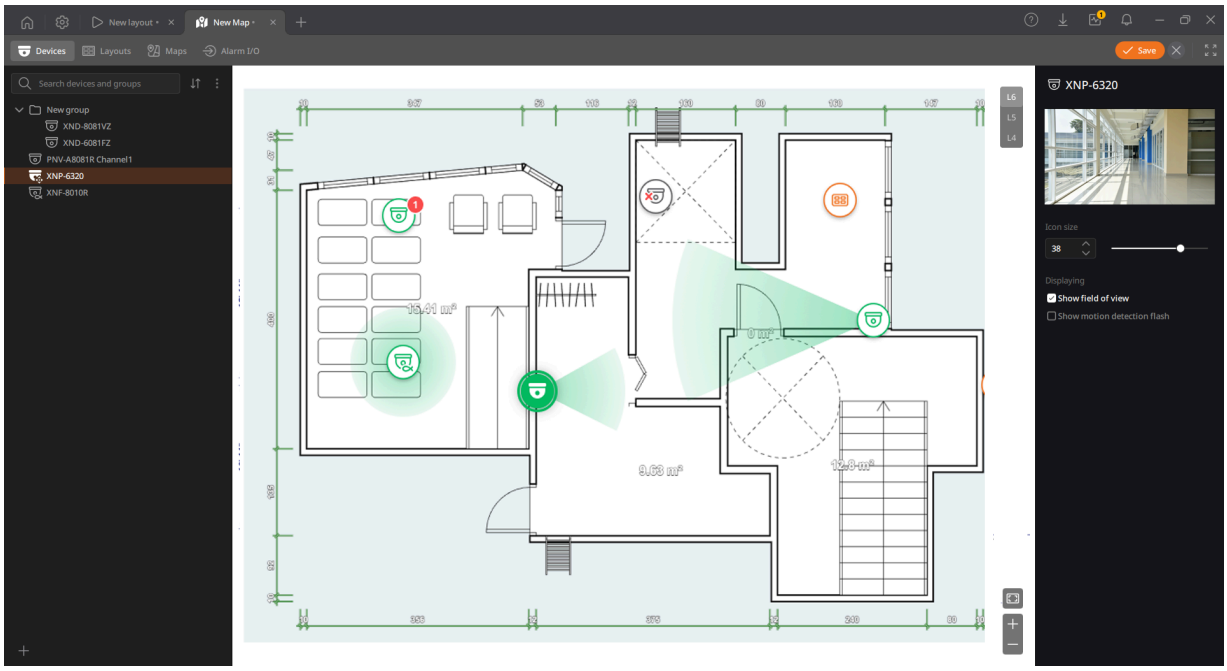
Note: Administrator role is required to create a map.

To create a map

1. On the **Home** page, click **View**.
    - Click ＋ button on the Tab bar to open the New Layout tab.
2. Click **Maps** on the View tab navigation bar.
3. Click ＋ button at the bottom left of the Maps panel, then select **Add map** from the shortcut menu.
4. In the **New Map** tab appearing, click **Add background** to add a map.
    - The image formats that can be added as map images are .jpg, .png, and .bmp files.
    - To change the added image, click **Change background**.
5. Set the background color behind the map image.
    - Choose a color using the color picker or input a color value.
6. Click **Devices** on the navigation bar, then drag the desired device from the Devices panel to the target position.
    - The added devices are indicated by a green icon.
    - When a device is selected, the Info panel appears. The device's video can be viewed, and detailed display options such as icon size, direction arrow, and the field of view (FOV) can be configured. The available settings may vary depending on the device specifications.

- **Icon size**: Set the size of the device icons to be displayed on the map.
- **Show field of view**: After placing the device, set the angle and radius of the field of view (FOV). Directly adjust the angle and radius by moving the device's arrow and fan-shaped indicator.
- **Show motion detection flash**: When motion is detected, the device icon blinks green.

7. Click **Layouts** on the View tab navigation bar, then drag the desired item in the Layouts panel to the target position.
   - The added layout will be indicated by an orange icon.
   - When a layout is selected, the Info panel appears on the right. The layout image can be viewed, and detailed display options for the layout icon shown on the map can be configured.
     - **Icon size**: Set the size of the layout icons displayed on the map.
8. Click **Maps** on the View tab navigation bar and drag the desired map in the Maps panel to the desired position.
   - The added map will be indicated by an orange icon.
   - When a map is selected, the Info panel appears. The map can be viewed, and detailed options for the map icon can be configured. The available settings may vary depending on the device specifications.
     - **Icon size**: Set the size of the map icons to be displayed on the map.
9. Click **Save**.

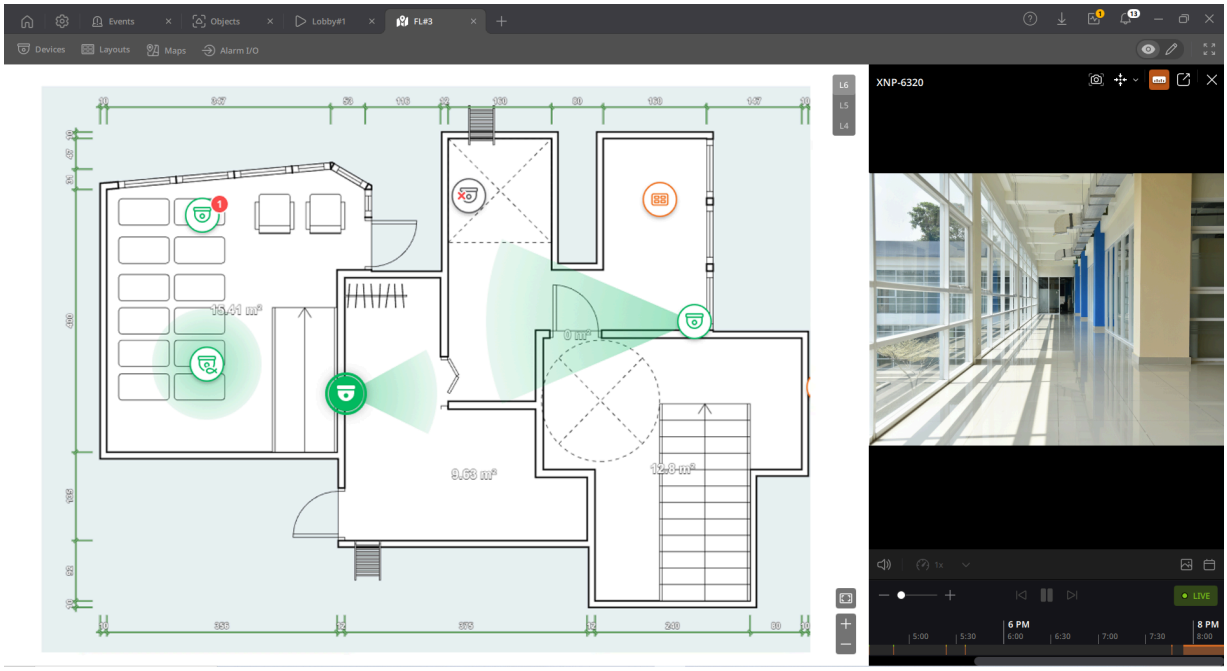


Using a map

Use the registered map to monitor your environment.

To use a map

1. On the **Home** page, click **View**.
    - Click ＋ button on the Tab bar to open the New layout tab.
2. Click **Maps** on the View tab navigation bar.
3. Drag the desired map in the Maps panel to the Scene panel.
    - Double-clicking the desired map will also add it.
    - Enter a map name in the search bar to quickly find a map; the search is not case-sensitive.
    - In the Maps tab, only one map can be executed. Even if you select multiple maps to add to the screen, the selected map will be executed in each map tab.
4. The map is displayed in the Scene panel.



Viewing the group of maps

When you group multiple maps, a floor selector icon will appear at the top-right. Click the map of the desired floor to view.

- For more information on grouping maps, see Grouping maps *(page 107)*.

Zooming in/out the map

Zoom in or out the map.

- ＋ / —: Zoom in or out the map.
- : Automatically adjust the size of all items placed on the map and the map to display the entire map at a glance.

Playing recorded videos on the map

When a device placed on the map is clicked, a Map info panel appears. Watch the video from that panel.

- For more information about how to play the video, see Playing the video *(page 123)*.

Modifying a map

Modify an added map.

Note: Only users with an Administrator role can modify maps.

To modify the map

1. On the **Home** page, click **View**.
    - Click ＋ button on the Tab bar to open the New layout tab.
2. Click **Maps** on the View tab navigation bar.
3. Drag the desired map from the Maps panel to the Scene panel.
    - Map can also be opened by double-clicking the desired item or by right-clicking a selected item in the list and choosing **Open** from the shortcut menu.
    - Enter a map name in the search bar to quickly find a map; the search is not case-sensitive.
4. Select on the navigation bar of the Maps tab.
5. Modify the desired item in the map.
    - When a device or layout item placed on the map is selected, right-clicking it will display a shortcut menu.
        - **Open**: Opens the selected layout or map. If the corresponding tab is already open, focus moves to that tab; otherwise, a new tab is created.
        - **Open in new tab**: Always opens the selected map in a new tab.
        - **Bring to front**: Bring the selected map to the front.

- **Send to back**: Sends the selected map to the back.
- **Remove from map**: Removes the selected device from the map.
- **Device settings**: Navigate to the Device settings menu to configure detailed settings for the device.

6. Click **Save**.

Renaming the map

Change the name of the map.

Map names can contain up to 64 characters.

To rename a map from the Map Details panel

1. Select the tab of the map to be renamed.
2. In the upper-right corner of the map tab navigation bar, select .
3. In the Details panel on the right that appears when clicking the map, click the current map name, enter a new name, then press Enter or click .
4. Click **Save** in the upper-right corner.

To rename a map from the Maps panel

1. Select the desired map in the Maps panel on the left.
2. Right-click it and select **Rename**.
3. Change the map name.
4. Changes are automatically saved when pressing the Enter key or clicking on the Maps tab.

Deleting a map

Delete an added map.

Note: Only users with an Administrator role can delete maps.

To delete the map

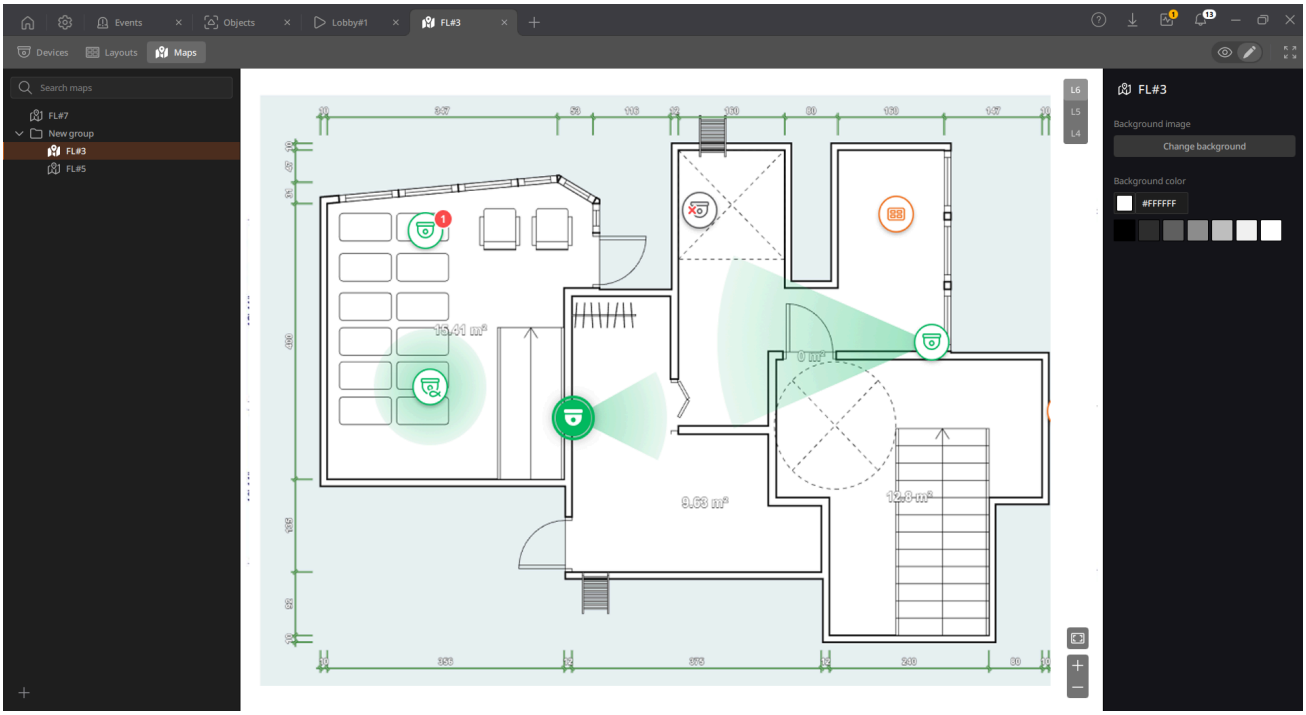
1. On the **Home** page, click **View**.
    - Click + button on the Tab bar to open the New Layout tab.
2. Click **Maps** on the View tab navigation bar.
3. Select the desired map in the Maps panel.

4. Right-click it and select **Delete**.
5. In the Delete confirmation dialog, click **Delete**.

Grouping maps

Organize each floor of the same building as a map and add them as a group. Setting maps as a group displays a floor selector in the Map settings panel for convenient floor-by-floor monitoring.

> **Note:** Only users with Administrator role can group maps.



To group maps

1. On the **Home** page, click **View**.
    - Click the ＋ button on the Tab bar to open the New layout tab.
2. Click **Maps** on the View tab navigation bar.
3. In the map list, press and hold [**Shift**], select multiple maps, and then right-click the selected maps.
4. Click **Create group**. A group icon is added to the map list.
5. To rename a group, right-click the group icon and select **Rename**.

- When a group is created, it is added as “New group”. Rename it to a descriptive name, such as a location or area, to make it easier to identify.
- Group names can contain up to 64 characters, including letters, numbers, special characters, and spaces.
- Groups in the map list can have the same name. However, it is recommended that you use distinct names to make them easier to identify.

Ungrouping maps

Select the map group, right-click it, and then click **Ungroup**. Once the maps are ungrouped, the map will be displayed in the list of maps in order of their names.

If no maps are included in a map group, clicking **Ungroup** deletes the map group.

Deleting map groups

When you delete a map group, all maps included in that group are also deleted.

1. Select the map group to delete, right-click, and choose **Delete** from the shortcut menu.
2. In the confirmation dialog, click **Delete**.

Alarm I/O overview

Monitor the device's alarm input and output status. Both the camera's internal I/O ports and external I/O ports connected via an I/O box are displayed.

For the displayed icons and port name settings, see Alarm I/O settings *(page 170)*.

To view the Alarm I/O list

1. On the **Home** page, click **View**.
2. In the View tab navigation bar, click **Alarm I/O**.
3. The left panel displays alarm outputs and inputs categorized by output and input.
   - The active/inactive status of each port is displayed.
   - The current connection status of each port is displayed.
   - Select a port, right-click, and click **I/O settings** to go to the event rule settings page.

Monitoring Alarm I/O on the map

Use the map feature to monitor the following states of each output/input port on the map:

- Connection status: Disconnected, Unauthorized
- Post-connection status: Active, Inactive
- Unused status: Disabled

To monitor Alarm I/O on the map

For how to add a map, see Creating a map *(page 102)*.

1. On the **Home** page, click **View**.
2. In the View tab navigation bar, click **Maps**.
3. From the map list, double-click the desired map or drag it to the Scene panel to load it.
    - To add a new map, click + at the bottom left of the map panel, click **Add map** > **Add background**, then **Save**.
4. Click **Edit map** at the top right. Then, click **Alarm I/O** in the navigation bar. Drag an alarm input or output from the list and drop it into position on the map.
5. Click **Save**.
6. Select an alarm input item on the map and right-click to display the following shortcut menu:
    - **Open**: Opens the source device video for the corresponding alarm input or output port in a new tab.
    - **Open in new window**: Opens the source device video for the corresponding alarm input or output port in a new BLAZE window.
    - **I/O settings**: Goes to the settings page for the corresponding alarm input or output port.

Manual alarm output

Control alarms connected to the device to manually trigger alarm outputs when needed.

If an added alarm item's state is Active or Inactive, click the alarm output item to toggle its active state.

This feature only works when the map is in View mode.

Viewing a file

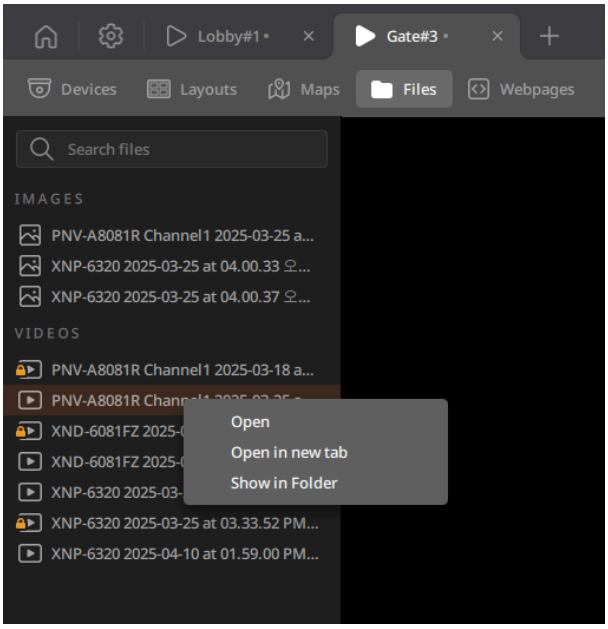
Click **View** on the Home page and click **Files** on the View tab navigation bar to view image snapshot, video, or audio files stored in the folder set in the **Client settings** menu. Drag desired files from the Files panel to the Scene panel to preview them instantly.

Note:

- In the Client settings, files located in the BLAZE export path folder are automatically updated.
- To view the storage path of BLAZE's images, video, or audio files, see Client settings *(page 272)*.
- Only the following file formats supported by BLAZE are displayed under the Files tab.
    - Image formats: .jpeg, .jpg, .png, .bmp, .svg
    - Video formats: mkv, .mp4, .avi, .mov, .webm, .gif, .blzm, .exe
    - Audio formats: .mp3, .wav

To view files stored in the default export path

1. Click **View** on the **Home** page.
2. Click **Files** on the View tab navigation bar.
3. The Files panel will display a list of files stored in the default export path.
    - When you select a file in the Files panel and right-click it, a shortcut menu will appear.
        - **Open**: Adds the selected file to a layout.
        - **Open in new tab**: Opens the selected file in a new tab.
        - **Show in folder**: Displays the folder where the selected file is saved.



Adding a file to layout

Add images or videos from the Files panel to a layout for review.

Note: Find files quickly by entering the file name in the search bar in the Files panel.

Adding a file from the Files panel

Drag the desired file from the Files panel to a layout on the Scene panel.

- Select a file and right-click it. In the shortcut menu, select **Open** to add it to the layout.

Adding a file from the PC

Drag the desired video or image files stored on your PC to a layout on the Scene panel.

Note: If the file is not supported by BLAZE, it may not work properly. For the supported file formats, see Viewing a file *(page 109)*.

Configuring video file settings

When adding a video file from the Files panel to a layout in the Scene panel, verify the digital signature or configure the settings for fisheye dewarping. If adding a password-protected video file to a layout, enter the video password to play the video.

Video file password authentication

Enhance security by entering a password when saving a video. If you do not enter the password set for the video or enter it incorrectly, the video file added to the layout will not play.

To authenticate a video file password

1. Double click the desired video file from the Files panel or drag it to a layout.
    - Video files with passwords set will be indicated as  .
2. In the **Open file** dialog, enter the video password.

3. Click **OK** to play the video.

> **Note:**
> - If the wrong password is entered, click **Re-authenticate** on the file item to re-enter the password.
> - When saving videos stored in BLAZE as files, set a password by saving them in .blzm or .exe format. For more information on saving videos, see Exporting the video as a file *(page 130)*.

Digital signature verification for video files

If you set a digital signature when saving a video file, an authentication certificate will be included in the file. By checking the status of the certificate included in the file, verify whether the video has been tampered with or altered. Add the video file to a layout to verify the digital signature.

To verify digital signatures for video files

1. Drag the desired video file from the Files panel to a layout in Scene.
2. Right-click on the layout and select **Verify digital signature** from the shortcut menu that appears.
3. In the **Verify digital signature** dialog, the verification result is displayed.
   - **Successfully verified**: The video file includes a digital signature using the certificate, and the authentication information has been successfully verified.
   - **Video has been altered**: The file has been tampered with abnormally, making it impossible to verify the authentication information.
   - No certificate: When saving the video, if the digital signature function is not used, the file will not include certificate information, making it impossible to determine whether the file has been tampered with.
4. Click **OK** to close the dialog.

> **Note:** When saving a video stored in BLAZE as a file, set a digital signature by choosing the .blzm or .exe format. For more information on saving videos, see Exporting the video as a file *(page 130)*.

Fisheye dewarping settings

When adding recorded video files from a fisheye camera, enable the fisheye dewarping feature.

To dewarp fisheye camera video

1. Drag the desired video file from the Files panel to the layout in Scene.
2. Right-click on the layout to open the shortcut menu, then select **File settings**.
3. Toggle **Fisheye dewarping** to **On**.
4. Configure detailed settings for fisheye dewarping.

> **Note:** For more information about fisheye dewarping settings, see Configuring fisheye settings *(page 177)*.

Managing a webpage

Register frequently visited webpages or device management webpages to add them to a layout. The added webpages can be monitored alongside device videos.

> **Note:** Only users with Administrator role or webpage editing permission can use the webpage panel.

Adding a webpage to the Webpages panel

Enter the URL of a webpage to add it.

To add a webpage to the Webpages panel

1. On the **Home** page, click **View**.
2. Click **Webpages** on the View tab navigation bar.
3. In the Webpages panel, click **Add webpage** or click ＋ button at the bottom of the panel and select **Add webpage**.
4. In the **Add webpage** dialog, enter the URL and name of the webpage to be added.
    - If you do not enter a webpage name, the URL you entered will be automatically saved as the webpage name.
    - Webpage names and URLs can be entered within 1-32,767 characters.
5. Click **OK**.

Adding a webpage to a layout

Add a webpage to a layout to monitor it with the device.

To add a webpage to a layout

1. On the **Home** page, click **View**.
2. Click **Webpages** on the View tab navigation bar.
3. Double-click or drag the desired webpage from the Webpages panel to a layout in the Scene panel.
    - When you select a webpage in the Webpages panel and right-click it, a shortcut menu appears. Select from the following options.
        - **Open**: Adds the selected webpage to a layout.
        - **Open in new tab**: Opens the selected webpage in a new tab.

Setting a webpage

After adding a webpage to a layout, use features such as zooming in and out.

- ←: Moves to the previous page.
- →: Moves to the next page.
- ↻: Refreshes the webpage.
- ⛶: View the webpage in full-screen.
- ×: Removes the webpage from the layout.

Editing a webpage

Modify the URL or name of the added webpage.

To edit a webpage

1. On the **Home** page, click **View**.
2. Click **Webpages** on the View tab navigation bar.
3. Select the webpage to edit from the Webpages panel, then right-click it. Click **Edit webpage** in the shortcut menu.
    - After adding a webpage to a layout, right-click to open the shortcut menu.
        - **Open in new tab**: Opens the selected webpage in a new tab.
        - **Close**: Removes the webpage from the layout.
        - **Back**: Moves to the previous page.
        - **Forward**: Moves to the next page.

- **Reload**: Refreshes the webpage.
- **Edit webpage**: Edit webpage information.

4. In the **Edit webpage** dialog, modify the webpage URL or name.
5. Click **OK**.

Deleting a webpage

Delete the added webpage.

To delete a webpage

1. On the **Home** page, click **View**.
2. Click **Webpages** on the View tab navigation bar.
3. Select the webpage to edit from the Webpages panel, then right-click it. Click **Delete webpage** in the shortcut menu.
4. In the Delete webpage confirmation dialog, Click **Delete**.

Receiving and outputting audio during monitoring

During real-time monitoring, audio input from microphones connected to devices such as cameras or IP speakers can be received, and audio output can be delivered through speakers. When illegal littering is detected in the surveillance area, when someone is found smoking in a no-smoking zone, or when unauthorized individuals enter restricted areas, output audio through the speaker to take necessary actions. Additionally, for notifications or broadcasting needed in the surveillance area, such as gunshot detected, output audio through the speaker of the connected device.

Note:

- Only users with 2-way audio setting permission can receive or output audio.
- The audio output feature can only be used when a speaker and microphone are attached to the connected device.
- To output audio via the device's speakers, the Desktop client must have a microphone connected and set to send voice.
- The audio output feature needs to be configured in detail in the **Audio** tab in the **Devices** menu. For more information, see Audio settings *(page 172)*.

To input audio through one device in the layout

1. On the **Home** page, click **View**.
2. Drag the desired device from the Devices or Layouts panel to a layout in Scene.
3. Select the desired device in the layout to hear the sound.
    - Set the incoming volume by selecting in the Timeline panel.

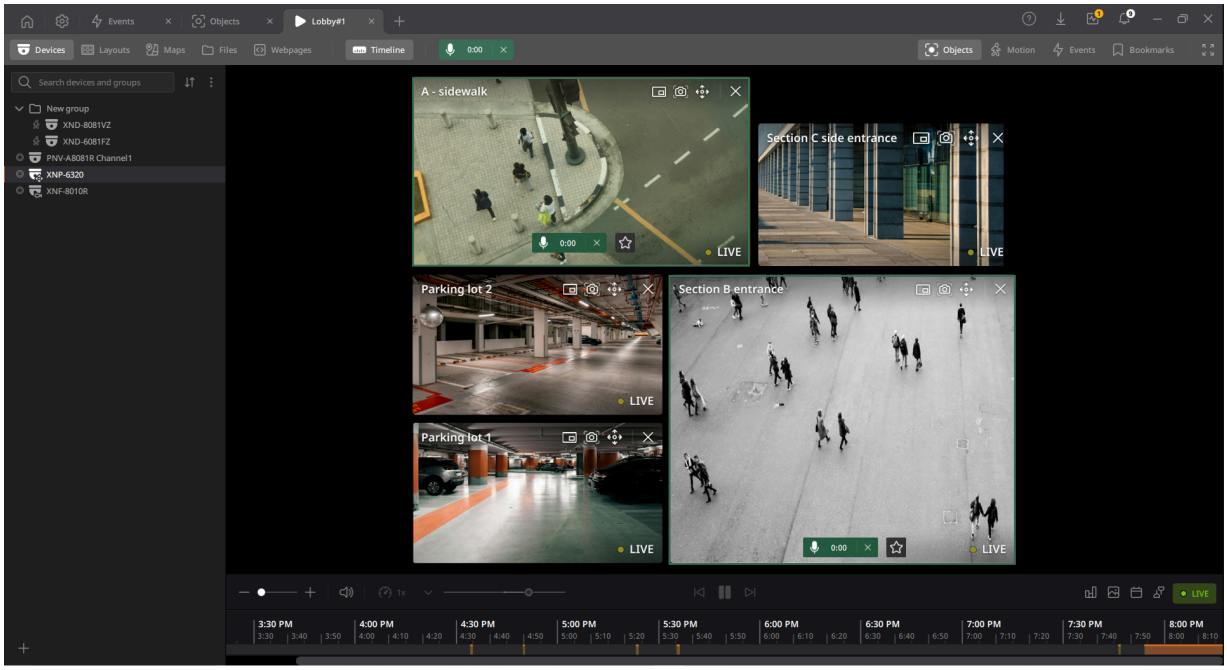
To output audio through one or multiple devices in a layout

1. On the **Home** page, click **View**.
2. Drag one or multiple desired devices from the Devices or Layouts panel to a layout in Scene.
3. Select the desired device in the layout and click to output audio.
    - Click **Speak through this device** on the item to output your voice through the speakers of the selected camera.
4. Proceed to broadcast into the microphone.
5. To turn off the audio of a specific device, Click on the device item in the layout.

To output audio through all devices in a layout

1. On the **Home** page, click **View**.
2. Drag one or multiple desired devices from the Devices or Layouts panel to a layout in Scene.
3. Click on the View tab navigation bar.
    - Select **Speak through all devices on layout** to output your voice through the speakers of all cameras added in the layout. The audio output will be triggered for all items in the layout, with and output duration displayed.
4. Proceed to broadcast into the microphone.

5. Click in the View tab navigation bar to turn off the audio of the entire devices in the layout. To turn off the audio of a specific device, Click on the device item in the layout.



Searching for an object in the View tab

The **Objects** panel immediately displays object detection events within the timeline range of the selected device, so important events are not missed. Click an object in the **Objects** panel to play the recorded video on the device item in the layout.

Right-click an event in the Objects panel to open the shortcut menu. Select **Open in Objects tab** to navigate to the Objects tab. If no results appear based on the current filter, use the Objects tab to perform the search.

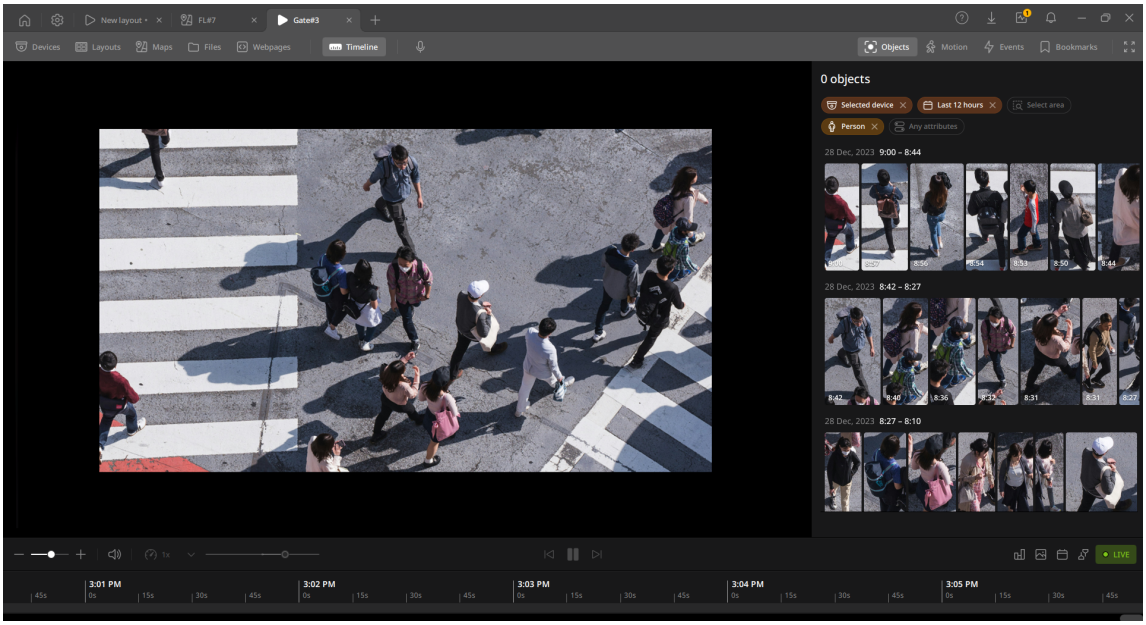
Note: Object detection is a feature supported by AI cameras only. To use the Object detection feature, set up details on the Objects or Video analytics tab of the Devices settings menu. For more information, see Configuring objects settings *(page 162)*.

To search for an object in the View tab

1. On the **Home** page, click **View**.
2. Click **Objects** on the View tab navigation bar.
3. In the **Objects** panel, select filters.

- Filter by device: Select **Selected device** to search for objects from only the selected device; select **Devices on layout** to search for objects from all devices added to the layout.
- Filter by area: Select **Select area** to set the object detection area in the item. Only events that occur within the selected area item will be searched.
- Filter by time: Select a time range to search for events. The default is **Last 12 hours**.
- Filter by object: Select the desired object among **Person**, **Face**, **Vehicle**, and **License plate**. If no object is selected, all object events are searched.

4. Click an object in the Objects panel to play it in the Scene panel.
   - Objects are displayed with the most recently detected objects at the top.
   - Right-click an object to open a shortcut menu.
     - **Open in Objects tab**: View detailed information of the selected object in the Objects tab and perform additional searches.
     - **Export video**: Save the video as a file.
   - For more information on searching for and viewing objects, see Searching for an object *(page 277)*.



Searching for a motion in the View tab

The **Motion** panel immediately displays motion detection events within the timeline range of the selected device, so important events are not missed. Click a motion in the **Motion** panel to play the recorded video on the device item in the layout.

Note: To use the motion search feature, configure the detailed settings in the Motion tab in the Devices menu. For more information, see Configuring motion settings *(page 159)*.

To search for a motion in the View tab

1. On the **Home** page, click **View**.
2. Click **Motion** on the View tab navigation bar.
3. In the **Motion** panel, select filters,
    - Filter by device: Select **Selected device** to search for motion from only the selected device.
    - Filter by area: Select **Select area** to create a detection area in the device item. Only motion events that occurred in the selected area will be searched.
        - Even if you do not set a detection area, motions will be displayed based on the motion detection settings of the selected device you set in the **Devices** menu. If you have set the detection area in the Motion settings to **Entire view**, events occurring on the entire screen will be displayed, not just in specific areas.
    - Filter by time: Select a time range to search for motion. The default is **Last 12 hours**.
4. Click a thumbnail in the Motion panel to play it in the Scene panel.
    - Right-click the event to display a shortcut menu. Click **Export video** to save the video as a file.
    - For more information about how to play the video, see Playing the video *(page 123)*.



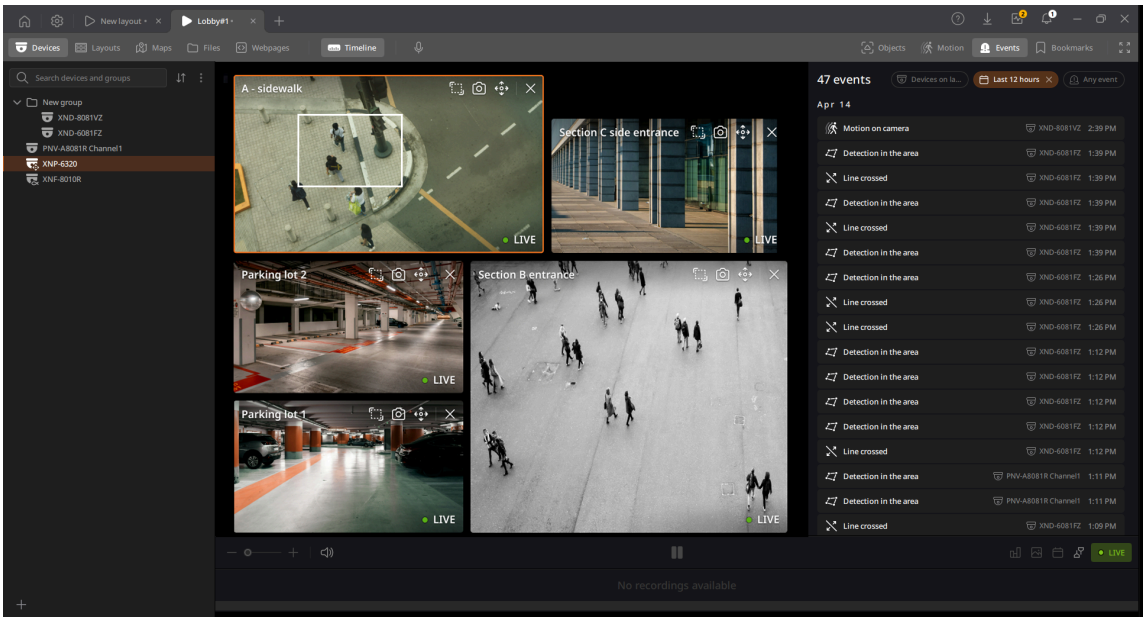
Searching for an event in the View tab

In the **Events** panel, the event details within the timeline range of the selected device are immediately displayed, allowing you to monitor important events without missing them. Click an event in the **Events** panel to play the recorded video on the device item in the layout.

To search for an event in the View tab

1. On the **Home** page, click **View**.
2. Click **Events** on the View tab navigation bar.
3. In the **Events** panel, select filters.
    - Filter by device: Select **Selected device** to search for events from only the selected device; select **Devices on layout** to search for events from all devices added to the layout.
    - Filter by time: Select a time range to search for events. The default is **Last 12 hours**.
    - Filter by event: Select the desired event type among the event attributes. Select **Any event** to search for all events.
        - The available event attributes may vary depending on the connected device.
4. Click an event in the Events panel to play it in the Scene panel.
    - If there are no search results, click **All events history** to navigate to the **Events** tab.
    - Events are displayed in different colors based on their priority. Typically, system events that require immediate action have a higher priority, while device events for monitoring have either no priority or a lower one.
        - Priority 0 (Red): Device disconnected, Server stopped, Storage error, License expired
        - Priority 1 (Yellow): Server started
        - Priority 2 (green): Device connected
        - Priority 3 (white): Other remaining events
    - Right-click an event to open a shortcut menu.
        - **Open in events tab**: View the selected event in the **Events** tab.
        - **Add bookmark**: Set the selected event video as a bookmark.
        - **Export video**: Save the selected event video as a file.

- For more information about playing the video, see Playing the video *(page 123)*.



Searching for a bookmark in the View tab

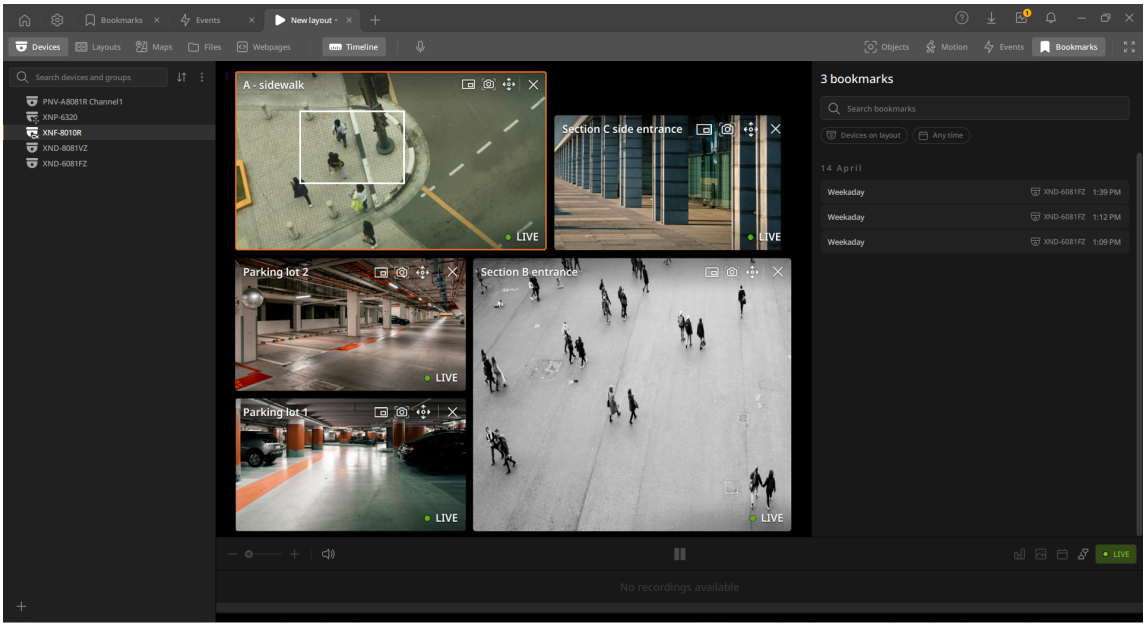
Add bookmarks with notes to recorded videos in BLAZE to find them quickly later. In the **Bookmarks** panel, view the list of bookmarks and edit or delete them as needed. Double-clicking a bookmark in the **Bookmarks** panel plays the bookmarked video in the device tile in the layout.

Note: For more information on adding bookmarks, see Adding a bookmark *(page 293)*.

To search for a bookmark in the View tab

1. On the **Home** page, click **View**.
2. Click **Bookmarks** on the View tab navigation bar.
3. In the **Bookmarks** panel, set the search attributes.
   - Enter a bookmark name or device information in the search bar.
   - Filter by device: Select **Selected device** to search bookmarks from only the selected device; select **Devices on layout** to search bookmarks from all devices added to the layout.
   - Filter by time: Select a time range to search for bookmarks. The default is **Last 12 hours**.
4. Click a bookmark in the Bookmarks panel to play it in the Scene panel.

- Right-click a bookmark to open a shortcut menu.
  - **Open in Bookmarks tab**: Open the selected bookmark in the **Bookmarks** tab.
  - **Edit bookmark**: Modify the selected bookmark.
  - **Delete bookmark**: Delete the selected bookmark.
  - **Export video**: Save the selected bookmark as a file.
- If there are no search results, click **All bookmarks history** to navigate to the **Bookmarks** tab.



Setting playback mode

Clicking the timeline panel at the bottom of the View tab during live monitoring switches the system to playback mode. In playback mode, play recorded videos from the selected device.

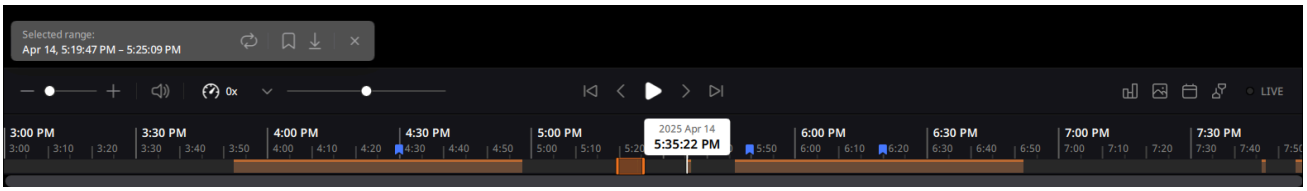
Note: To return to live mode, click **Live** on the timeline.

Recorded videos from devices connected to BLAZE are stored on the server. Search and play these videos, and export specific sections as video files.

Note: Only users with Administrator privileges or with the **View archive** and **Export video** permissions can play back or export recorded videos.

Playing the video

Play videos stored in BLAZE in the Scene panel in the View tab. Set the playback speed or select synchronization for playback. Devices being monitored in real-time and added to the layout will play videos on their respective items, while videos from devices not included in the layout will be played on an item in the layout.



To play the video

Click the timeline of the device or click the video in the Devices panel to play the video in the layout.

1. On the **Home** page, click **View**.
2. Click **Devices** on the View tab navigation bar.
3. Select the device to play the video in the Scene panel.
4. Click **Timeline** on the View tab navigation bar.
    - Change the time scale of the timeline by scrolling the mouse wheel. The timeline can be zoomed in or out within a range of 1 second to 1 year.
5. Select the desired section and play the video.
    - Move the mouse over the timeline to display a time marker. Move the mouse to change the playback position.
    - Click ⏮ / ⏭ to navigate to the previous event/next event.
    - Click ❮ / ❯ to navigate to the previous frame/next frame.

Adjusting audio volume

Devices capable of audio input store both video and audio together. Adjust the audio volume while playing the video.

- Audio is only saved on devices that allow audio input.
- When playing the video at 1x speed, only the audio is played, and the audio formats supported by BLAZE are G.711U, G726, and AAC.
- Setting the audio slider to the minimum value will mute the sound with 🔇 displayed.

Fast playback

While playing video, increase or decrease the playback speed. The default playback speed is 1x, and the playback speed can be set to forward or reverse. Playback speeds of 0.25x, 0.5x, 1x, 1.5x, 2x, and 4x are supported for playing the entire frames, while only I-frames are played at 8x and 16x speeds.

- Forward playback speeds: 0.25x, 0.5x, 1x. 1.5x, 2x, 4x, 8x, 16x
- Reverse playback speeds: -0.25x, -0.5x, -1x. -1.5x, -2x, -4x, -8x, -16x
- Select the playback speed from the drop-down menu or adjust it using the slider.

Viewing the event histogram

In the Timeline panel, view the histogram that reflects the amount and trend of events occurring for each type of motion, event, and object.

- Click in the timeline to display the number of events occurring in the current playing timeline and their trend on a graph. The values and sizes of the graph may vary depending on the time scale of the timeline.
- If an object is selected, event histograms are displayed per person, face, vehicle, and license plate.

Synchronizing and playing videos

Click to synchronize and play all videos in the current layout based on the selected device's time. When synchronized, the icon changes to . Controlling video playback in the selected channel will also control other videos in the same way.

- Channels without recorded videos at the synchronized time are displayed as "No data."

Adding a bookmark

Bookmark a section of the recording in the timeline.

- Select the section where you want to bookmark and click **Bookmark** in the shortcut menu.
- Bookmarks set will be indicated by an icon in the Timeline panel, and can be viewed in the **Bookmark** Details panel or the Bookmarks log panel.

Exporting the video

Export the selected section as a file in the Timeline panel.

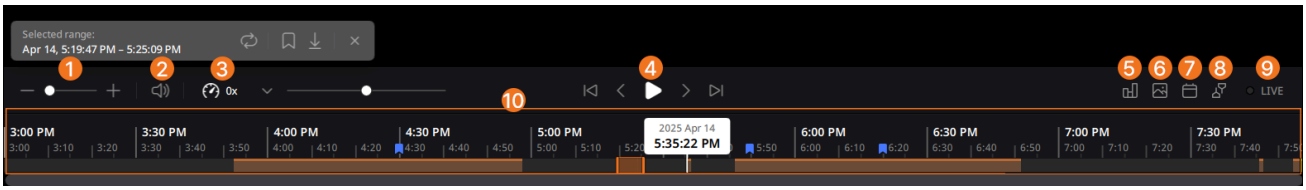
- Select the section to export as a file and Click **Export video** in the shortcut menu.
- Saved videos can be viewed in the **Files** panel.

Timeline panel

In the Timeline panel, play the video of the selected device and use various functions while playing.

Understanding timeline features

The timeline features used for playing recorded video are described below.



No.	Item	Description
❶	Zoom in or out on the timeline	Zoom in or out on the timeline to adjust the time display scale. • Adjust the time display scale on the timeline by scrolling the mouse wheel.
❷	Adjust the volume	Adjust the audio volume of the video.
❸	Adjust the playback speed	Choose from available options to adjust the playback speed of the video. • Forward playback speeds: 0.25x, 0.5x, 1x. 1.5x, 2x, 4x, 8x, 16x • Reverse playback speed: -0.25x, -0.5x, -1x. -1.5x, -2x, -4x, -8x, -16x • Select the speed from the dropdown list or set it with a slider.
❹	Control the playback	Play or pause the video.

No.	Item	Description
		• Navigate to the previous event/next event while playing a video. • Navigate to the previous event/next event, or to the previous frame/next frame while the video is paused.
❺	Display the histogram	Show or hide a histogram of the Objects, Motion, and Events occurrence frequency on the timeline.
❻	Search thumbnails	Show or hide thumbnails of the currently playing video. Display thumbnails by evenly dividing the timeline display range.
❼	Search time	Select the date and time to search for the video. Choose the date from the Calendar panel and enter the time directly. • Dates with recorded videos are indicated by a green line.
❽	Synchronize and play videos	Synchronize and play videos from multiple devices at the same time. • Only videos from devices with recorded footage will play, and devices without recorded footage at the synchronized time will display “NO DATA” on the video file item.
❾	Choose Live mode	Switch to Live mode for real-time monitoring.
❿	Section display bar	Indicates the current playback position of the video. If there is recorded video, a section display bar in green will appear. • Select a specific point on the timeline to play the video from that point; keyframes displaying time data will appear. Drag the keyframes to change the playback position. • No recordings available: If there is no recording video, it will be displayed in dark gray. • Archive: If there is a recording video, it will be displayed in lime green.

No.	Item	Description
		• Generic event: Sections where events are recorded based on set event rules will be displayed in white. • Objects: Sections where objects are recorded will be displayed in yellow. • Motion: Sections where motion events are recorded will be displayed in red. • Bookmarks: A bookmark icon will be displayed at the start point of a bookmark. • Timeline sections with bookmarks are displayed in blue, and a bookmark icon is shown at the starting point.

Timeline shortcut keys

When you select a section on the timeline, a shortcut menu bar will appear at the top left corner.

- **Selected range**: Display the date and time information of the selected range on the timeline.
- (Loop playback): Repeatedly plays the video in the selected section.
- (Add bookmark): Sets the video of the selected section as a bookmark.
- (Export video): Exports the selected section of video to a file.
- (Clear selection): Deselects the selected range.
- (Use selected range in time filter): Applies the selected range to the time filters in the right panel (Objects, Motion, Events, Bookmarks).

Searching for video

Search for recorded videos stored in BLAZE using various methods. Events generated by devices connected to BLAZE are stored as video according to event rule settings. In addition to device video analysis events, system events such as device disconnection and server disconnection are also recorded. Search event videos stored on the server by criteria such as event type, object, and bookmark, then play them back or export them to a file.

Note: Depending on the assigned user role, the ability to play recorded videos or export searched videos may be limited.

MAC address-based recorded video management

The BLAZE system manages recorded videos based on the MAC address, a unique identifier of the device. Even if device settings are changed or disks are moved, recordings can be searched and played without interruption as long as the device has the same MAC address.

- If a camera is deleted and re-registered, or if the IP address changes during registration, previous recorded data can be accessed as long as the MAC address is the same.
- If a camera with the same MAC address is currently registered on the server, past recordings on that disk can be connected and viewed.

Note: Continuity is guaranteed only for video data; object, event, and IVA data are not linked.

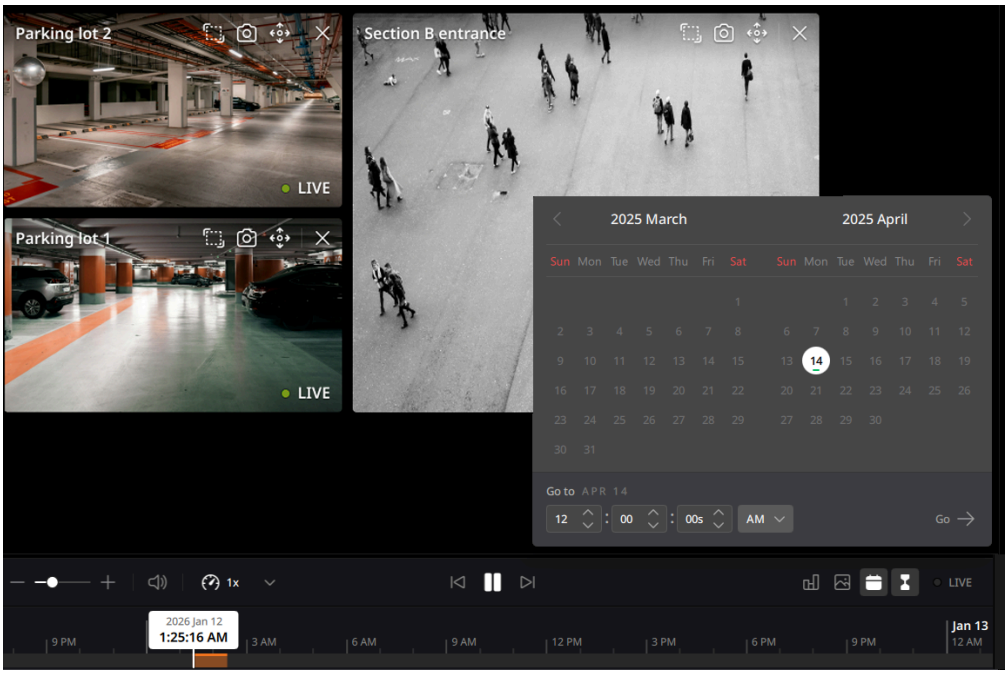
Searching by time

Search for videos stored in BLAZE by selecting the date and time.

To search by time

1. On the **Home** page, click **View**.
2. Click **Devices** on the View tab navigation bar.
3. Select the device to play the video in the Scene panel.
4. Click the **Timeline** on the View tab navigation bar.
5. In the Timeline panel, click the date selector .
6. In the Date selector panel, select the date and time you want to search for.
    - The dates with recorded video are indicated by green lines.
    - Enter the time directly. If a time later than the current time is entered, real-time monitoring footage will be displayed.
7. Click **Go** → to move to the selected time and play the video. Then the panel disappears.

◦ To close the Date selector panel, click .



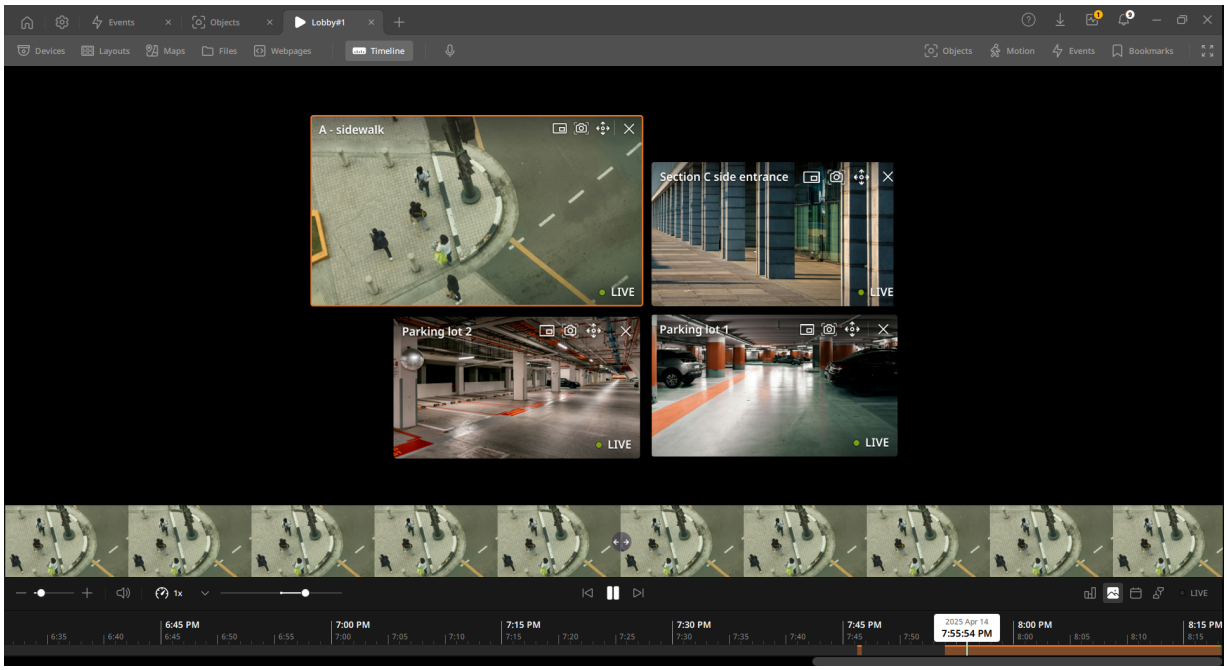
Searching for a thumbnail

Play videos stored in BLAZE while viewing thumbnails. When a thumbnail is selected, it is displayed with the timeline. Search for a specific moment by adjusting the timeline scale.

To search for a thumbnail

1. On the **Home** page, click **View**.
2. Click **Devices** on the View tab navigation bar.
3. Select the device to play the video in the Scene panel.
4. Click the **Timeline** on the View tab navigation bar.
5. Click in the Timeline panel.
6. When the thumbnail appears, select the image at the desired moment.
    ◦ Evenly divides the current timeline and displays thumbnails of the central time of each segment. Thumbnails are displayed based on the time scale of the timeline, and clicking [←|→] between thumbnails enlarges the time scale.

7. Double-click the image to play the video.



Exporting the video as a file

Play videos, search for events to view videos, and then export them as files on your PC. When saving videos as files, choose from video formats such as blzm, mkv, mp4, or an exe format that includes a viewer. For mkv or mp4 format, select the desired video stream to export; the stream information is automatically added to the file name.

Apply digital signatures to verify whether the video has been tampered with or altered, and set passwords to enhance security. When a password is set for a video file, the video plays only when the correct password is entered.

Note: Only users with Administrator role or video saving permission can export files.

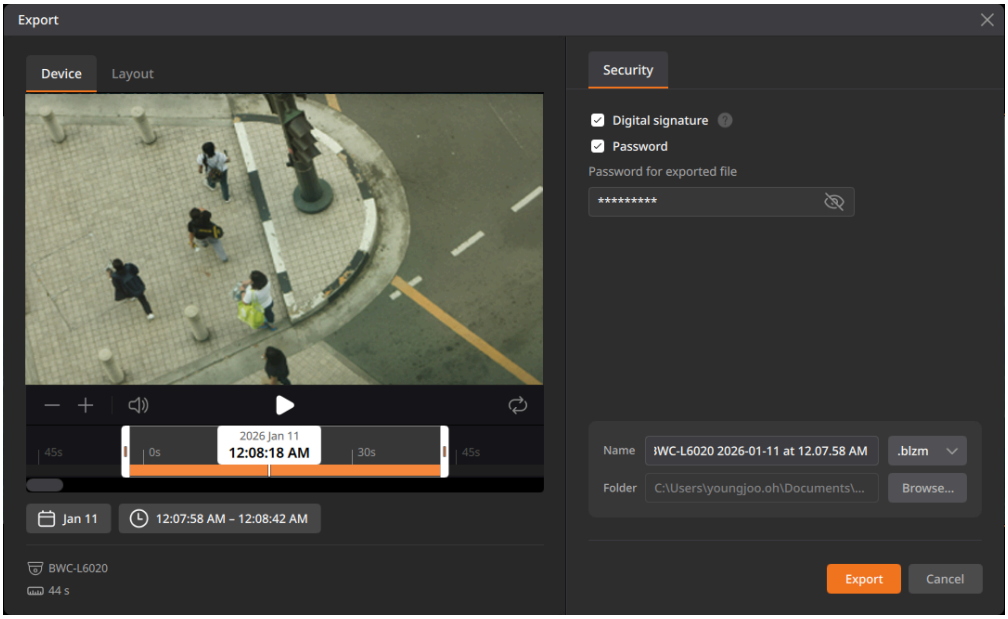
To save the video as a file

1. Select the video after using your preferred search method.
2. Select the section to save in the Timeline panel and click in the shortcut menu.
3. In the **Export** dialog, select the type of video to export.
    - **Devices**: Save the video of the selected device.
    - **Layout**: Save videos from multiple devices included in the selected layout.
4. Select the section you want to export as a file in the Timeline panel.

- Play the video in the Scene panel.
- Move the bar to adjust the start and end of the section to be exported.
- Click the date or time at the bottom of the timeline to manually select a specific range.

5. Click the **Security** tab to select digital signature and password.
   - The options under the Security tab can only be configured when you select the .blzm or .exe format.
   - **Digital signature**: Verify the file's authenticity and ensure that the video has not been tampered with or altered.
   - **Password**: Set a password to enter when playing the video. will be displayed on the file when you set a password.
6. Click the **Streaming** tab to select the video stream to export.
   - When you select the .mkv or .mp4 format, you can select the streams to export on the Streaming tab. Files are saved separately by the type of stream you select.
     - **Primary stream**: Primary camera video stream. Typically has high resolution and quality.
     - **Secondary stream**: Secondary camera video stream. Typically has low resolution and quality.
7. Enter the video file name and select the file format.
   - Choose a file format from .blzm, .mkv, .mp4, and .exe.
   - .blzm is a video format exclusive to BLAZE that allows for setting digital signatures and passwords.
   - The .exe file includes a video viewer in the .blzm format, allowing for digital signatures and password protection.
   - mkv and .mp4 are video formats that can be played in general video player programs.
8. Check the folder to export the video to.
   - Video files are saved in the Media folder located at the path set in Client settings. To change the storage folder, click **Browse...** and select a different folder.
9. Click **Export**.
   - When the file export starts, the progress status is displayed in **Export tray**. Click to view the history of the file export.
   - The videos stored in the Videos folder can be viewed in **Files** panel.

Note: When exporting video in .mkv and .mp4 formats, if the video codec or resolution changes, the files will be created separately.



Settings

Add and manage cameras, network devices, servers, event rules, and user information on the server.

Access the Settings tab by clicking **Settings** or in the tab bar on the Home page.

Devices

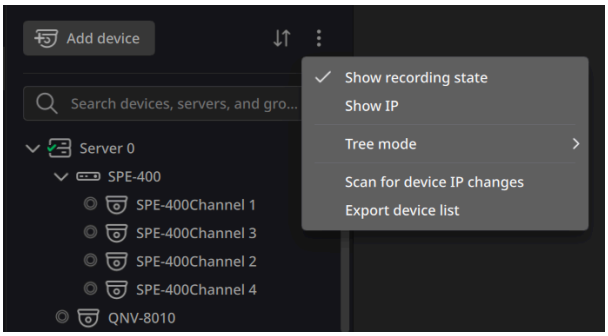
In BLAZE, add and manage devices to connect to the server. Add cameras and network devices, and check IP addresses.

The following devices can connect to the server

- Network cameras
- IP speakers
- Video encoders
- Intercoms
- NVR

Viewing the list of devices

Click **Settings** > **Devices** to open the Device settings page, where the entire list of network devices added to the server is displayed. Select a device from the list to open the settings panel. The available settings vary depending on the selected device.



- In the search bar, enter a camera, server, or group name to quickly find devices.
- : Choose how to sort the device tree.
    - **Custom order**: Sort the device list in the desired order.
    - **Alphabetical**: Sort the device list in alphabetical order (A–Z).

- **Last added**: Sort the list by the most recently added.
- **By IP address**: Sorts the device list by IP address.

- ⋮ : Set what to display in the device list.
  - **Show recording state**: Displays the recording state of all devices, such as Record always, Record motion/objects, By schedule, that appears next to the device name with an icon.
  - **Show IP**: Displays the IP addresses of all devices in the list. When IP addresses are displayed, devices can be searched by IP address.
  - **Tree mode**: Select how the list of devices is displayed. Select **Physical** to display groups of devices by server, or **Logical** to display a simple list of devices.
    - If you select ⋮ > **Tree mode** > **Logical** and ⋮ > **Custom order**, drag a device to change its position in the list. Physical mode does not support Custom order.
  - **Export device list**: Export the registered device list as a CSV file.
  - **Scan for device IP changes**: If a device's IP address has changed and the connection is lost, scans the network for the device based on its MAC address.

Note: In a system configured with two or more servers, devices can be moved to another server. Select the device to move, right-click it, and select **Move to another server**. Then choose the target server.

Exporting the device list

For maintenance and management, export the list of registered devices and their details to a CSV file.

Note: Only users with Administrator privileges can export the device list.

Note: The same device list can be downloaded by clicking (**Export to CSV**) at the top-right of the **Devices** tab in **Health monitoring**.

To export the device list

1. Click the menu icon ⋮ at the top of the device list and select **Export device list**.
2. In the **Download device list CSV** dialog, select one or more servers to extract the list from.
3. Click **Browse...** next to **Folder** to choose the destination folder, then click **Download**.

File format and included information

- **File format**: CSV
- **File name**: Saved using client time in the format `BLAZE_DeviceList_YYYY-MM-DD at HH.MM.SS AM/PM.csv`.
- **Sort order**: Sorted the same as the physical order of the device tree (Server > Camera). (e.g., Server1's Camera1, Camera2, Server2's Camera3, Camera4)
- **Included items**: Vendor, device name, IP address, MAC address, serial number, model name, firmware version, server name, server IP, parent group (full path), license usage, recording mode, health status, bitrate, recording video, recording retention period, FPS information

Note:

- Deleted devices are not included in the list.
- When device information cannot be retrieved (e.g., due to failover), some information such as bitrate may be excluded.

Managing camera connections

If a registered camera's IP address changes and the connection is lost, the system attempts to reconnect automatically or a manual reconnect can be triggered. For reconnection, the system scans the network based on the camera's MAC address.

Automatic reconnect

When a camera disconnects, the system starts a network scan automatically.

- The system attempts reconnection up to 5 times at 10-minute intervals from the time of disconnection.
- If a new IP address is found, the system automatically restores the connection and updates the device settings.
- When the connection is restored, the live video stream is restored automatically and recording resumes if it was configured.

Manual reconnect

Manually scan the network to reconnect an offline device. Manual reconnect uses the same logic as automatic reconnect (MAC-based discovery, settings update, stream and recording restoration).

Note: The manual reconnect feature is available only to users with device settings permission.

To manually reconnect:

- In the device tree, right-click the offline camera and select **Scan for device IP changes**.

Understanding device status icons

The icon displayed next to each device in the list indicates the status of the device connected to BLAZE.

Item	Description
	Camera running properly
	Camera disconnected
	Camera authentication required
	PTZ camera
	Fisheye camera
	NVR
	Video encoder
	IP speaker
	Intercom
	Multi-channel camera

Adding a device

Add network devices, including cameras, using these methods:

- Auto scan: Scans the connectable network to find all devices. (Adding a device with auto scan *(page 137)*)
- Manual scan: Enter an IP range to scan and find devices. (Adding a device with manual scan *(page 141)*)
- Known address: Enter a specific IP address to find a device. (Adding a device using an IP address *(page 142)*)
- Stream URL: Enter an RTSP or HTTP URL to add a stream device. (Adding a device by stream URL *(page 144)*)

Note: Only users with the Administrator role or device settings permission can add devices.

NVR (Network Video Recorder) devices

Adding an NVR to BLAZE enables playback of recorded footage stored on the NVR. The video is played directly from the NVR and is not stored separately on the BLAZE server.

When registering an NVR, you cannot select individual sub-channels. All channels included in the NVR are registered together (e.g., a 64-channel NVR registers all 64 channels at once).

After registration, NVR channels appear in the device list in one of the following states:

- White: The camera is registered with the NVR and is connected.
- Gray with an X icon: The camera is not registered with the NVR.
- White with an X icon: The camera is registered with the NVR but is currently disconnected.

Note: If a new camera is added to a registered NVR, previously gray channels change to white and the X icon is removed.

Adding a device with auto scan

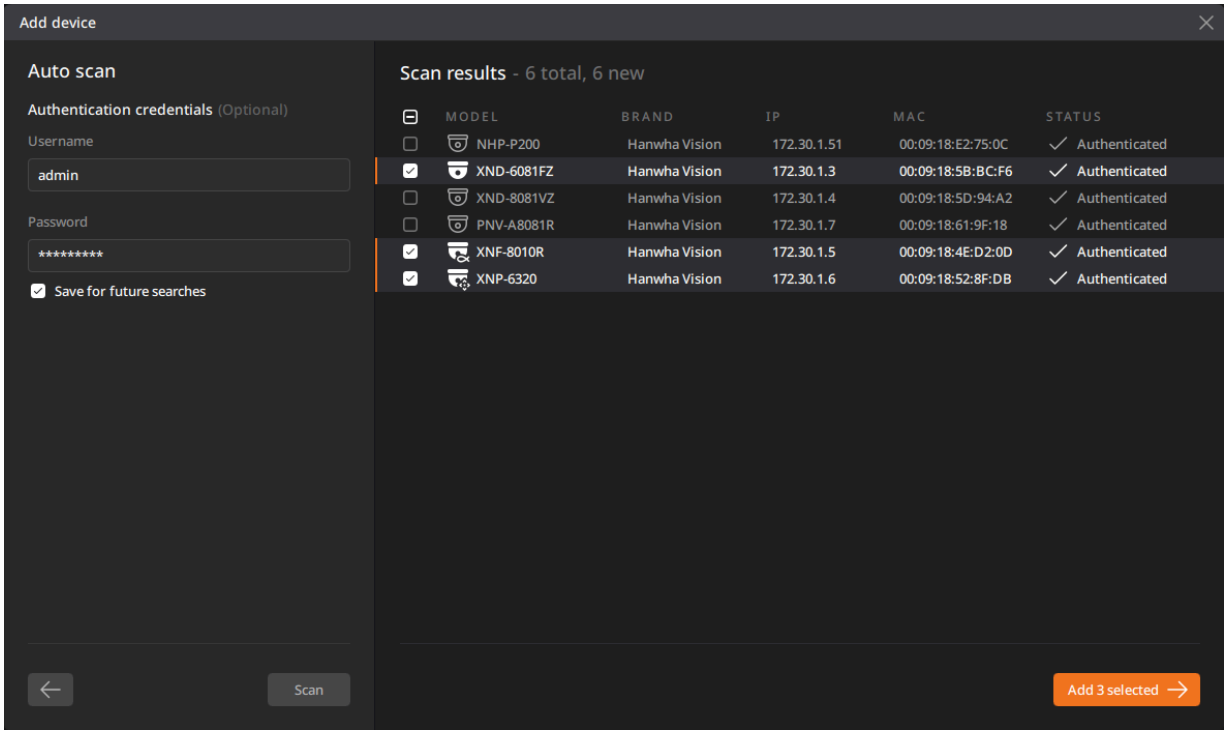
Automatically search for cameras or devices connected to the local network and quickly register them by adding them to the selected server. The auto-scan feature includes devices not only on the same local network as the server but also devices on other networks that are separate from the server.

Depending on the network and device environment, some devices may be omitted during large-scale scans; for environments with thousands of devices, adding devices by IP address is recommended.

Note: To enhance security, BLAZE prioritizes the use of the HTTPS protocol when attempting to connect to registered devices that support HTTPS.

To add a device with auto scan

1. **Settings** > **Devices**.
2. On the Device settings page, click **Add device** > **Auto scan**.
3. In the **Add device** dialog, under **Search with and add to**, select the server to add the device to.
    - This step applies only when the system is configured as a cluster with two or more servers.
4. If necessary, under **Authentication credentials**, enter the device username and password, then click **Scan**.
5. From the scan results list, select the desired devices and click **Add N selected**.
    - **Keyword search**: If 10 or more devices are found, a search menu appears at the top. You can search by model, brand, IP, MAC, or status using keywords. Only devices that contain the entered string as a continuous sequence (without breaks) are shown in the results. (e.g., searching for "AB" matches "ABCDE" but not "A B".)
    - **Multi-selection**: Hold [Shift] and click to select a range of multiple devices at once.
6. Click **Finish**.



Viewing the status of devices in auto scan results

When devices are discovered by auto scan, you can view the model, brand, IP address, MAC address, and status of each camera or device in the scan results. Depending on the device status, you may need to set an initial password or enter authentication credentials to register the device to the server successfully.

- Entering authentication credentials such as username and password is optional. If you do not enter them, the device status in the scan results will be shown as **Not authenticated**.
    - Enter the username and password and select **Save for future searches** to store the credentials. Future scans will not require re-entering these credentials.
- Click ☐ at the top of the scan results list to select all addable devices. If you do not select specific devices, all devices in the list will be added.
    - Disabled devices in the list cannot be selected or added.
- The statuses of devices that appear in the scan results are as follows:

Item	Description
Added	The device is already added to the server and is disabled in the list.
Authenticated	The device has been authenticated.
Needs password	The device's initial password has not been set. ◦ When you select a device with the status "Needs password", the Set password dialog appears. Set the device's password and complete the addition. ◦ When setting a password, follow the device-specific password rules.
Not authenticated	The device has not been authenticated. ◦ Selecting a device with the status "Not authenticated" opens the Authenticate dialog. Enter the device username and password to authenticate and add the device.
Network error	The device is powered off or disconnected from the network. The device will also show a status of "Network error" if:

Item	Description
	◦ The PC where the server is installed and the device are on different IP bands. ◦ The device's IP address is duplicated. ◦ The device is located externally and its port is blocked by the router's firewall. ◦ The device's driver or firmware has been updated, causing compatibility issues.
3/4 channel added	For multi-channel cameras, 3 out of 4 channels are added. ◦ If some channels of a multi-channel camera are registered to a specific server, the remaining channels can only be added to the same server.
Account blocked	If the camera password is entered incorrectly 5 times or more, the camera will enter a locked state for a period of time. During this time, the camera cannot be accessed.
Ready	The device can be added immediately. A device with the status "Ready" meets the following conditions: ◦ The device has been authenticated. ◦ The device's initial password has been set. ◦ The network is connected using a static IP address.

Adding a device with an authenticated username and password

Devices with authenticated usernames and passwords can be registered immediately after auto scan. Unauthenticated devices require setting an initial password and IP address before registration.

- Set an IP address after setting a password for devices with factory default settings. When setting the IP address, enter the subnet mask, gateway, port, etc.

Adding a multi-channel device

Multi-channel cameras equipped with multiple sensors can monitor multiple areas while efficiently utilizing network bandwidth and storage space. For multi-channel cameras without user authentication, initial password and IP information must be configured before registration.

- When you add a multi-channel camera, all channels of the camera are added. You cannot select individual channels to add.
- Channels of a multi-channel camera are listed in order under one model name.

Adding a device with manual scan

If devices, including cameras, connected to your network aren't automatically discovered, add multiple devices to the selected server at once by entering the IP range of the desired devices. Devices found within the entered IP range will appear in the scan results. For example, if you enter 192.168.1.10 as the starting IP and 192.168.1.20 as the ending IP, all devices within that range will appear in the list.

Select devices in the list and add them to the server using the same steps for auto scan. For more information, see Adding a device with auto scan *(page 137)*.

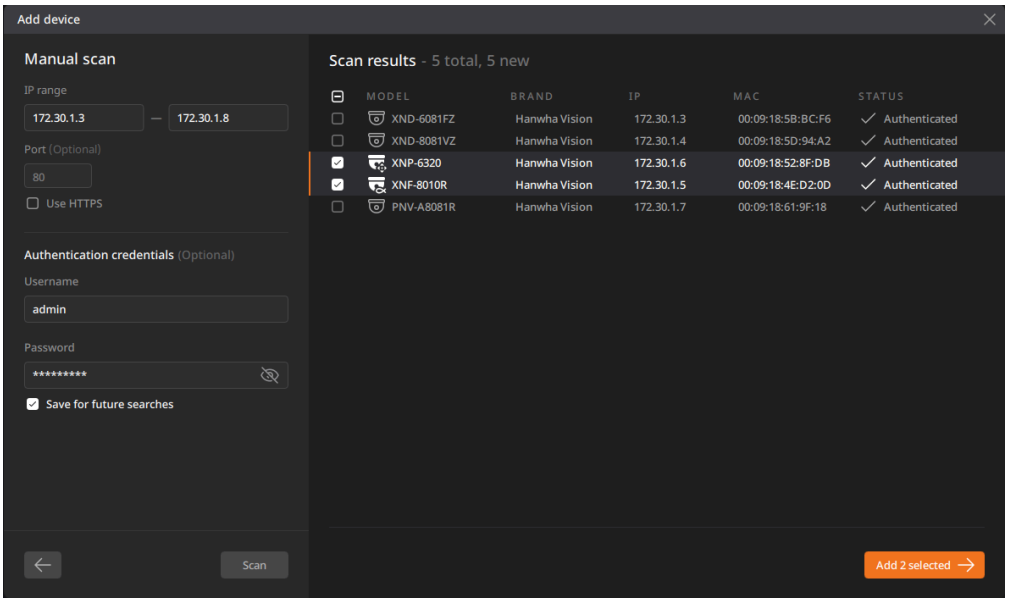
Note:

- Only IPv4 format addresses can be entered. Enter IP addresses as shown in the following example:
  - e.g., Starting IP 192.168.0.2 – Ending IP 192.168.0.254
  - The starting IP and ending IP addresses must be in the same subnet range, up to the 192.168.0 range. The last octet is limited to 0–255.
- The default port is 80. Change the port only if needed.
- If the device is on a different network than the server, adding it may be restricted. To register a device on a different network, use the Adding a device with auto scan *(page 137)* feature.

To add a device with manual scan

1. Click **Settings** > **Devices**.
2. Click **Add device** > **Manual scan**.

3. In the **Add device** dialog, under **Search with and add to**, select a server to add the device to, then enter the starting and ending IP addresses.
    - The server list is only displayed when there are multiple connected servers. If there is only one connected server, the server list is not displayed.
4. To register the device using the HTTPS protocol for enhanced security, select **Use HTTPS**.
5. If necessary, under **Authentication credentials**, enter the device's username and password, then click **Scan**.
6. Select the desired device from the list of scan results and click **Add N selected**.
7. Click **Finish**.



Setting an IP address for an initialized device

For an initialized device, set a static IP address to add it to the server. Failure to set a static IP may cause IP conflicts.

To set an IP address for an initialized device

1. In the list of scan results, select a device with the status "Needs password".
2. In the **Add device** dialog, set the password, then click **Next**.
3. Select **Set IP address** > **Advanced IP settings** to enter detailed information.
4. Enter the subnet mask, gateway, DNS, etc., then click **Apply IP settings**.

Adding a device using an IP address

If the device you want to add and the desired server are not on the same network, or if you are adding a device to a running system, directly enter the IP address of the device to add it to the server. Manual scan searches for multiple devices within an IP range. Known address searches for a specific device by its IP address.

Note: When adding devices by entering IP addresses, only IPv4 format addresses can be entered. For more information, see Adding a device with manual scan *(page 141)*. If the device is on a different network than the server, adding it may be restricted. To register a device on a different network, use the Adding a device with auto scan *(page 137)* feature.

To add a device using an IP address

1. Click **Settings** > **Devices**.
2. Click **Add device** > **Known address**.
3. In the **Add device** dialog, select the server to which you want to add the device, then enter the device IP address.
    - The server list is only displayed when there are multiple connected servers. If only one server is connected, the server list is not displayed.
4. To register the device using the HTTPS protocol for enhanced security, select **Use HTTPS**.
5. If necessary, under **Authentication credentials**, enter the device's username and password, then click **Search**.
6. Select the desired device from the list of scan results and click **Add N selected**.
7. Click **Finish**.

Adding a device using a DDNS URL

You can manually register a device using a DDNS (Dynamic DNS) URL instead of an IP address. The system handles the following two types of DDNS hosts differently.

- **Standard DDNS (e.g., iptime)**: As with a regular IP address, HTTP and HTTPS ports can be configured separately.
- **Wisenet DDNS (Hanwha service)**: Operates using a single host-based address (e.g., `ddns.hanwha-security.com/sample`). Separate port settings and HTTP/HTTPS selection do not apply. The server ignores the port setting and **Use HTTPS** option configured in the client and determines connectivity using only the entered address.

To add a device using a DDNS URL

1. Click **Settings** > **Devices**.
2. On the Device settings page, click **Add device** > **Known address**.
3. Enter the DDNS URL in the **Address** field. Configure the settings according to the DDNS type.

- **Standard DDNS**: Enter the domain name (for example, `sample.iptime.org`) in the **Address** field, and enter the protocol port to use (for example, `8080` or `8443`). To use HTTPS, select **Use HTTPS**.
- **Wisenet DDNS**: Enter the full service address (for example, `ddns.hanwha-security.com/sample`) in the **Address** field. Because the connection is established using only the entered address, the **Port** field and **Use HTTPS** option are ignored.

4. Click **Search** to validate the address and search for the device.
5. Click **Finish**.

Adding a device by stream URL

Add a device that provides a video stream by directly entering an RTSP or HTTP URL. This method is useful for registering third-party cameras, encoders, NVR channels, and other devices that do not support standard protocols such as ONVIF or SUNAPI for live monitoring and recording.

Devices added by stream URL are identified by the dedicated icon in the device tree and on the map.

Note:

- Devices added by stream URL support video streaming only and do not support snapshots.
- If no secondary stream is configured, the client displays **NO DATA** when a secondary stream is requested. The primary stream is not used as a fallback. For information about configuring a secondary stream, see Device > Stream settings *(page 147)*.
  - Devices added by stream URL do not support server-side motion detection (server-side MD).
- Depending on the specifications of the RTSP device, the video information provided by the RTSP stream may not match the actual video information.

To add a device by stream URL

1. Click **Settings** > **Devices**.
2. On the device settings page, click **Add device** > **Stream URL**.
3. In the **Add device** window, under **Search with and add to**, select the server to add the device to.

    - The server list appears only when multiple servers are connected. If only 1 server is connected, the server list is not displayed.
4. Enter the primary stream in **Stream URL**.
5. If necessary, enter the username and password in the **Authentication credentials** section.

> **Note:** For security, avoid using URLs that include credentials (e.g., rtsp://user:pass@ip...). Use the provided input fields. Only Digest authentication or addresses that do not require authentication are supported.

6. Click **Search** to verify the stream connection.
7. Review the discovered device information, select the devices to add, and click **Add N selected**.
8. Click **Finish**.

Limitations

- Semantic search is not supported.
- Supported only in event rules for motion detection, device connection, and device disconnection triggers.

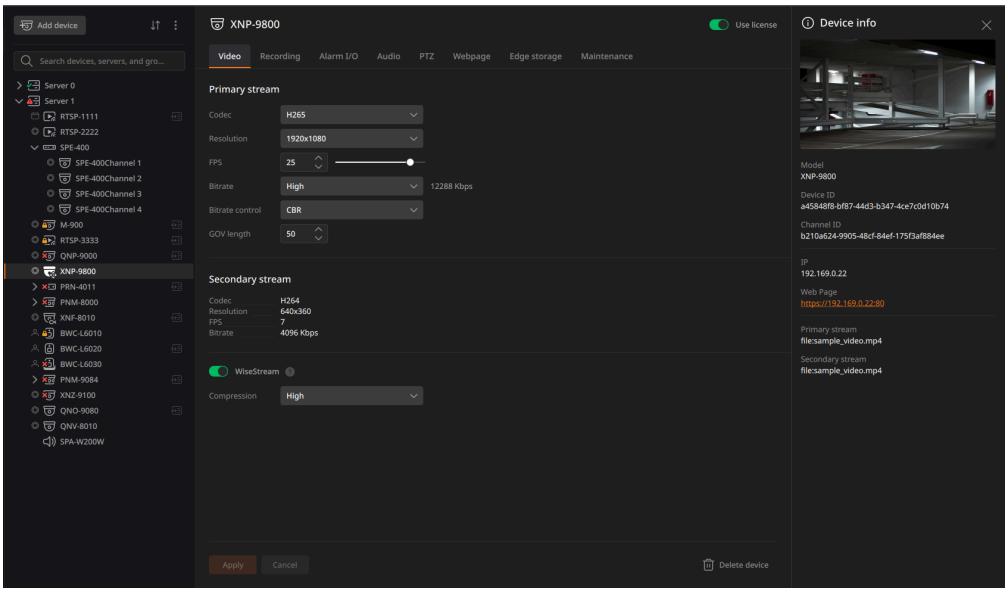
Configuring device settings

Configure detailed settings for devices added to BLAZE.

> **Note:**
>
> - Only users with the Administrator role or device settings permission can change camera settings. However, only an Administrator can add or delete devices.
> - Availability and configuration options may vary depending on the camera's type or specifications.

Device settings page

On the Device settings page, select a device from the device list to open the Settings panel and set device details.



Viewing device information

View device details in the **Device info** panel.

Viewing tabs on the Device settings page

The settings panel consists of multiple tabs. The available tabs vary by device.

- Select a tab to display detailed settings. Above the tabs, the status banner for the selected device appears.
  - Info banner (blue): Provides reference information.
  - Warning banner (yellow): Appears when user action may be required due to changes or potential issues, even though no error has occurred.
  - Error banner (red): Appears when a problem affects system functionality.
- After completing settings in a tab, click **Apply** to save the changes.
  - Selecting multiple cameras and changing settings configures common specifications for the selected cameras at once.
- The available settings depend on the number and types of selected devices.
-
  - Single device selected: All setting tabs supported by that device are displayed.
  - Multiple devices selected: Only tabs for features commonly supported by the selected devices are displayed. If there are no common settings, a "There are no common settings to display" message is displayed and configuration is not available.
  - More than 256 devices selected: The settings function is unavailable. A "Selection limit exceeded" message is displayed.

Stream settings

When a device is added by entering an RTSP or HTTP URL directly to send a video stream, the main stream information can be viewed, the sub stream enabled, and the RTSP address configured. Providing video with two streams delivers live video in high resolution while multi-channel split live video is delivered in low resolution to use the network efficiently.

Note:

- The Stream tab is enabled only for devices registered with a stream URL.
- If the sub stream is not registered, clients requesting the sub stream will see "No Data (NO DATA)" and it will not be replaced by the main stream.

To use the sub stream

1. **Settings** > **Devices**.
2. On the Device Settings page's device list, select the camera registered with a stream URL. indicates this.
3. In the device settings panel, click the **Stream** tab.
4. Turn on the **Sub stream** toggle and enter the RTSP address.
5. Click **Apply**.

Configuring video settings

BLAZE supports primary and secondary streams. The primary stream is the default video stream that typically provides high-resolution video and is applied to live viewing and recording. The secondary stream provides lower-resolution video and is applied to multi-split live viewing and continuous recording. By providing video in two streams, the network resources can be used efficiently. BLAZE provides the user with live or recorded video by adjusting the resolution according to the usage environment based on the values set in **Devices** > **Video**.

Note: Changing the camera's video settings affects the quality of live and recorded video. When changing the settings, please ensure they are appropriate for your environment.

To configure video settings

1. Click **Settings** > **Devices**.
2. In the Device settings page, select the desired device from the list of devices.
3. Click the **Video** tab.
4. Set the primary stream for video.
5. When finished, click **Apply**.

Primary stream

- **Codec**: Set the video compression method. H264 uses lower bandwidth than previous compression standards and supports most devices and browsers. H265 compresses video at the same quality level using lower bandwidth but requires higher-spec devices, so device or browser limitations may apply.
    - Settings: **H265** (default), H264

      Note: For BLAZE appliance, the default codec setting is H264.

    - Selecting H265 can reduce data usage by about 10% compared to H264, making it useful when you need to use disk space for recorded video efficiently. However, the PC running BLAZE must have higher specifications to monitor multiple videos simultaneously at the split-screen quality provided by H264.
- **Resolution**: Set the video resolution. Higher resolutions yield better quality video.
    - Settings: Highest resolution (default), 1920x1080, 640x360, Lowest resolution
    - The highest resolution supported by the camera is set as the default.
- **FPS**: Set the number of frames displayed per second. More frames per second result in smoother video playback but increase file sizes.
    - The default FPS for the primary stream is **15**.

      Note: If FPS is set below 1 fps, decoding may be delayed resulting in unsmooth video playback. It is recommended to set FPS to at least 1 fps.

- **Bitrate**: Set the amount of video data transmitted per second. Higher bitrate settings deliver higher-quality video but increase file sizes; choose a value appropriate for the resolution.

- Settings: Best, High, **Medium** (default), Low
- Selecting **Custom bitrate** allows a bitrate value to be entered manually instead of using the system-suggested values. The allowable bitrate range depends on the selected codec and resolution, and is determined based on the recommended BPP (Bits Per Pixel) for the chosen settings.

- **Bitrate control**: Select the method of controlling the amount of video data. The default is **VBR**.
  - **CBR**: Constant Bitrate transmits the data for all frames at a fixed size. When CBR is selected, a target bitrate is set to determine the size of the data to be transmitted. Because CBR transmits data at a fixed size, it is easy to predict the overall data size of the system, which allows for stable system operation.
  - **VBR**: Variable Bitrate transmits frames without fixing data size within a maximum bitrate, conserving storage and bandwidth while maintaining quality; however, complex scenes may increase network load.
- **GOV length**: Set the GOV length. The maximum GOV length varies with FPS and the default value is **30**. Set a short GOV length for unstable network environments and a long GOV length for environments with narrow network bandwidth.
  - GOV (Group Of Video) is a set of video frames for H264/H265 compression, representing frames from an I-frame to the frame before the next I-frame. GOV consists of I-frames, P-frames, and B-frames.
    - I-frames are key frames that contain a complete image. P-frames only contain the changes from the previous frame, reducing the amount of data. B-frames are the most efficient, as they only contain the changes between the previous and subsequent frames, using the least data. Therefore, a longer GOV length reduces the number of I-frames and the overall data size. Conversely, a shorter GOV length increases the number of I-frames and the data size.

      Note: BLAZE does not support B-frames. Check the codec settings on the connected camera's webpage to disable B-frames. For more information, see the camera manual.

Secondary stream

The secondary stream is automatically set to the camera's lowest resolution. The default settings for the secondary stream are as follows:

- Codec: H264
- Resolution: Video resolution
    - The resolution is set to closely match 640x360 while keeping the primary stream's aspect ratio. For example, if the primary stream is set to 1920x1080 (16:9), the secondary stream is automatically set to 640x360 (16:9).
- FPS: 7
- Bitrate: 512 kbps

WiseStream

Toggle **WiseStream** on to automatically adjust bitrate based on activity in the video, reducing network and storage usage. WiseStream mode relies on motion detection, reducing bitrate when there is no motion. AI-based WiseStream mode relies on object detection, reducing bitrate when there are no significant objects detected.

- **Compression**: Low, Medium, High

Configuring recording settings

Configure when camera video is recorded in BLAZE. Set the retention period and recording schedule for each camera.

Note:

- Recording settings can be applied to a maximum of 50 servers per system and up to 256 cameras per server.
- The recording feature operates after a license is activated. To enable recording for a device, turn on the **Use license** toggle. Add and manage licenses from **Settings** > **Licenses**.
- BLAZE Appliance includes base licenses equal to the number of channels.

To configure recording settings

1. Click **Settings** > **Devices**.
2. In the Device settings page, select the desired device from the list of devices.
3. In the Device settings panel, click the **Recording** tab.
4. Select the recording mode for your video.
5. When finished, click **Apply**.

Recording modes

There are 4 recording modes. When you select a recording mode, the corresponding icon appears next to the camera in the device list. For multi-channel cameras, the icon is displayed per channel. Check the camera's recording status via these icons.

Note: To record video, a channel license is required for each camera. A 30-day free trial for the channel license is available after the BLAZE server is installed. For more information on purchasing a paid license after the free trial period ends, contact our Customer support center.

- **Do not record**: Does not record video; only monitors live video.
- **Record always**: Records video 24 hours a day. When this mode is selected, video is recorded using the primary/secondary dual streams configured in the **Video** tab.
- **Motion/objects/events**: Records video only when motion, objects, or events are detected. When this mode is selected, video is recorded using the primary/secondary dual streams configured in the **Video** tab.
- **By schedule**: Records video according to a configured schedule.

Motion/objects recording settings

Record video when motion or selected objects are detected.

Note: Recording for object detection can only be configured on cameras that support the feature. If you select a camera that does not support the feature, the option will not be shown.

- **Record motion**: Records video when motion is detected.
- **Record objects**: Records video when the selected object is detected. Objects can include person, face, vehicle, and license plate.
    - Objects that are not selected will not trigger recordings even if an event occurs. Changing object detection recording settings in BLAZE does not change settings configured on the camera itself.
    - Motion or object detection events are recorded in high quality; when no event occurs, video is recorded in low quality.
- **Record events**: Records video when events from the IVA *(page 164)* tab or detection events from the Configuring event settings *(page 167)* tab are detected.

- **Always record secondary stream (recommended)**: Always records and saves video using the secondary stream specification regardless of event detection.
- Click **Advanced settings** at the bottom to configure detailed recording options.
    - **Events recording**: Set the recording duration for video captured before (pre-event) and after (post-event) a motion or object detection is triggered. This ensures the full context of an event is recorded for later review. The duration can be set between 0–400 seconds.
    - **Keep recording for**: Set how long recorded video is retained. The default setting is **Auto**. When not using Auto mode, set the retention period manually between 1 and 999 days.

      CAUTION: Videos from cameras with minimum/maximum storage periods will be prioritized over videos from cameras set to Auto. If storage space runs low, older videos from cameras set to Auto will be deleted first.

        - **Maximum**: Set the maximum storage period for videos. Recordings are automatically deleted after this period expires. For example, a value of 1 means videos will be stored for one day before being deleted.

Recording schedule

Set a schedule to define when video is recorded. Configure continuous recording for specific time frames or event-based recording (e.g., motion detection) active only during a set period. Once saved, schedules run automatically.

Adding a recording schedule

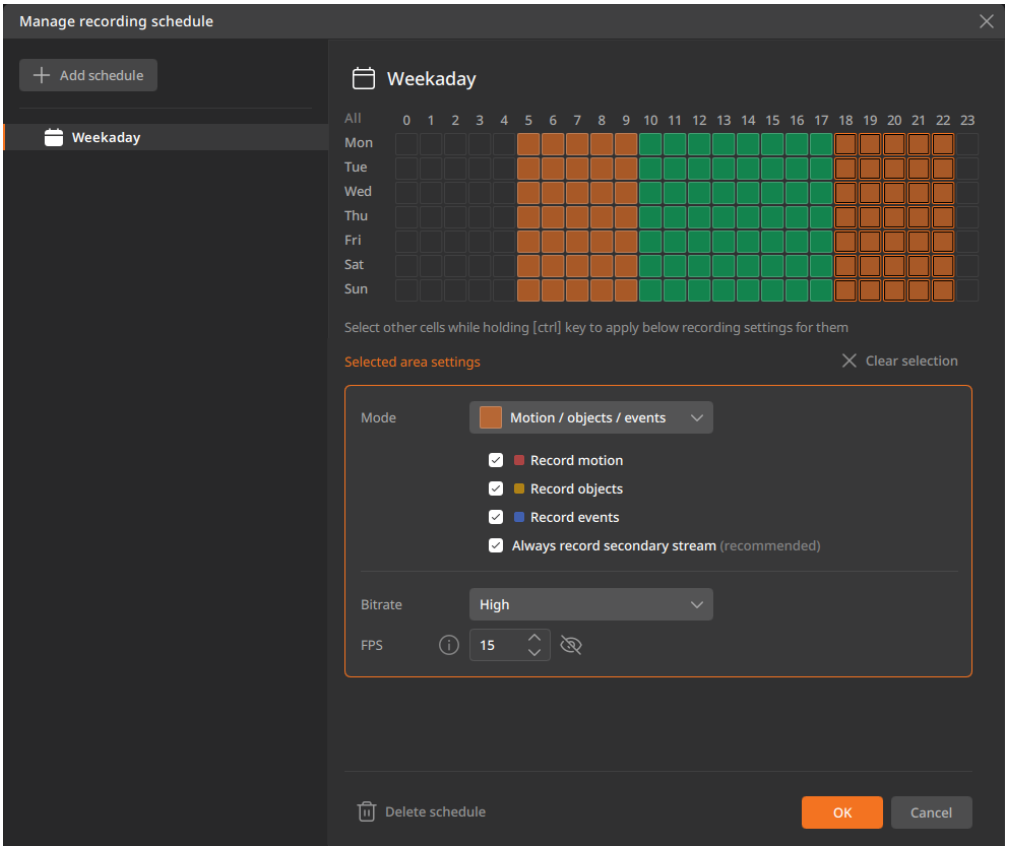
Create custom recording schedules for each camera, defining different recording modes and video quality settings for specific days and times. Once a schedule is applied, the camera will record based on these settings.

To add a recording schedule

1. Click **By schedule** > **Create schedule**.
    - Right-click a schedule in the list of schedules to display a **Duplicate** option. Import an existing schedule setting, modify some items, and add it as a new schedule.
2. Enter a schedule name.
    - Schedule name must be unique and cannot exceed 64 characters.
3. Click and drag to select the desired cells for the day and time.

- To select multiple separate cells, press and hold [Ctrl] or [Command] while clicking on each one. The selected cells are marked with a dark orange line.

4. Set the recording mode, bitrate, and FPS for the selected schedule.
   - Specify recording details for each cell.
   - In **FPS**, click or to show or hide the FPS for each cell.
   - Click **Clear section** to reset the selected recording settings.
5. Click **OK**.



To edit a recording schedule

Select a registered recording schedule from the drop-down list and click **Edit schedule**. After completing the changes, click **OK**.

To delete a recording schedule

Select a registered recording schedule from the drop-down list and click **Edit schedule**. In the **Manage recording schedule** dialog, click **Delete schedule**.

- Alternatively, right-click a schedule in the list and click **Delete**.

Note: Schedules currently in use cannot be deleted.

Configuring image settings

Adjust the brightness, sharpness, and exposure of the camera to monitor and record clearer video. Use image settings to adjust specific areas of the video during monitoring, and also when the camera is not positioned properly, necessitating adjustments for the field of view or lens corrections.

Note:

- The setting options may vary depending on the specifications of the connected camera.
- If multiple cameras are selected, the image will not appear under the Image tab.

To configure image settings

1. Click **Settings** > **Devices**.
2. In the Device settings page, select the desired device from the list of devices.
3. In the Device settings panel, click the **Image** tab.
4. Under the tab, click other tabs to configure detailed settings.
5. After completing the settings, click **Apply**.

PTRZ / focus settings

Adjust the field of view (FOV) of the PTRZ camera and set the zoom and focus. Click the **PTRZ / Focus** tab at the bottom in Scene to make settings.

Note:

- The PTRZ/Focus tab is only visible on PTRZ devices. For a detailed description, see Configuring PTZ settings *(page 173)*.
- Each control item displayed may vary according to the device specifications.
- For multichannel devices, PTRZ/Focus settings can be configured for each channel.
- Cameras equipped with variable focus lenses that allow focus distance adjustment do not support PTZ features. The PTZ tab will not be displayed; only the Zoom and Focus setting options will appear in the **Focus** tab.

- Pan tilt joystick: Adjusts the camera lens in the horizontal (pan) or vertical (tilt) direction. Click the direction keys on the pan tilt joystick to adjust the lens direction.
- Lens rotation: Rotates the camera lens clockwise () or counterclockwise () to view the image. Holding down the rotation icon will continuously rotate the image by 1 degree in the selected direction.
- Zoom: Manually adjusts the zoom magnification of the video. Select the number on the bar to zoom in or zoom out.
- Focus: Manually adjusts the focus of the camera. Selecting the number on the bar to zoom in or zoom out.
    - **Auto focus**: Automatically sets the focus of the camera to the video.
- **Initialize PTRZ**: Initializes the Pan/Tilt/Rotate position you set.
- **Initialize Focus**: Initializes the focus of the video.

Rotation

If the video appears upside down after installing the camera, apply the video flip and mirror features. Rotate the input video without physically rotating the camera to enable normal monitoring.

To configure rotation settings, click the **Rotation** tab under the video.

> **Note:** Setting the rotation of the video will affect any previously set detection or analysis areas and line information, requiring a camera to restart. After applying the rotation, reset the detection and analysis areas as needed.

- **Flip vertical**( ): Flips the image vertically.
- **Mirror horizontal**( ): Displays the video flipped horizontally.
- **Flip/Mirror**( ): Displays the video flipped vertically and horizontally.
- **Rotate left**( ): Rotates the image 90 degrees to the left.
- **Rotate right**( ): Rotates the image 90 degrees to the right.

Backlight settings

In backlit environments where light shines directly into the camera lens, it can be challenging to see the monitored area clearly. Select the BLC (Back Light Compensation) mode to adjust the background or monitored area settings accordingly. Click the **Backlight** tab to configure detailed settings.

Note: Backlight setting options may vary depending on the specifications of the connected camera.

Choose from the following options:

- BLC (Backlight Compensation)
- HLC (High Light Compensation)
- WDR (Wide Dynamic Range)

BLC

The BLC (Back Light Compensation) feature compensates for backlit footage by setting a specific area to enhance visibility of objects in that area. This feature is useful for monitoring areas or objects that appear dark in footage with a light background, such as in front of a window or entrance.

- Setting options for BLC: Low, Medium, High
- Selecting High will make the set area brighter.

HLC

The HLC (High Light Compensation) feature compensates for strong lighting, such as streetlights or car headlights, by effectively blocking them out so that nearby objects, such as license plates, are clearly visible. In the detailed settings, set the brightness level to block highlight areas and the color of the blocked area.

- Setting options for HLC: Low, Medium, High
- Setting options for Mask: On, Off, Night only, All day
    - **Night only**: Applies the Mask setting only during times when light levels decrease. HLC activates as it gets darker after the camera sensor detects light levels.
    - **All day**: Applies the Mask setting at all times, but this setting will not be applied during very bright and very dark times of the day.

- **Mask tone** can be set within a range of 1 to 100, affecting the mask color applied for video correction. The color of the image changes depending on the mask color, so adjust the mask color according to the camera's operating environment.
- Mask tone and color cannot be set when Off is selected.

Note:

- HLC only works when highlights illuminate a specific area in a dark environment at night.
- HLC will not function during overall bright or excessively dark conditions at night. This feature will also not work in very dark conditions during the day.
- The setting options may vary depending on the specifications of the connected camera. For more information, see the camera manual.

WDR

The WDR (Wide Dynamic Range) feature uses the camera’s dual shutter to capture 2 images: one with a shorter shutter speed to clearly depict bright areas, and another with a longer shutter speed to illuminate dark areas. These images are combined to improve visibility in both bright and dark areas.

- Setting options for WDR: Low, Medium, High

Note:

- Using the WDR mode will reduce the framerate by half.
- WDR is recommended for cameras installed indoors in environments with strong backlighting.
- Noise may occur between bright and dark areas in WDR mode.
- Noise may also occur in areas of motion while in WDR mode.
- The performance of WDR may vary depending on the size of the bright area in the video, so adjust the installation angle for optimal WDR performance.
- Setting the WDR level high may result in unnatural artifacts appearing in the video.

IR

Use the IR feature to monitor video clearly even in low-light environments. This is particularly useful for capturing clear black-and-white images at night, where appropriate brightness is essential.

To configure detailed settings, click the **IR** tab under the video.

Choose from the following IR setting options:

- **Off**: Disables IR LEDs.
- **On**: Enables IR LEDs.
- **Auto**: Automatically adjusts the brightness of the IR based on the brightness of the object in the center of the image.
- **Auto 1**: Automatically adjusts the brightness of the IR based on the brightness of the object in the center of the image.
- **Auto 2**: Automatically adjusts the brightness of the IR based on the brightness of objects in both the center and surrounding areas of the image.
- **Manual**: Uses the Manual option set in the camera.
- **Schedule**: Runs IR only during the times set in the camera.
- **Sensor**: Switches to IR and Day/night mode based on the light sensor's detection.
- **Day/night**: Turns IR on or off according to the Day/night mode. When the video is in color, the LED is off; when it is in black and white, the LED is on.

Note:

- The setting options may vary depending on the specifications of the connected camera.
- Set IR to **On** to set the image to black and white when the LED is on, or to **Off** to turn the IR LED off to enable the **Day/night** feature.
- If you change the zoom magnification while using the IR dimmer, the IR dimmer will work with the zoom magnification.
- If the surrounding temperature becomes too high, the IR LED may be forcibly turned off to protect the product.

Enhancement

Adjust the brightness, contrast, and sharpness of the camera.

To configure detailed settings, click the **Enhancement** tab under the video.

- **Brightness**: Adjusts the brightness of the camera's image.
- **Contrast**: Adjusts the shading contrast, making bright areas brighter and dark areas darker.
- **Sharpness**: Adjusts the overall sharpness of the image by emphasizing edges and details. Higher sharpness settings make the outlines of objects more visible, but too high can increase noise.

Configuring motion settings

BLAZE analyzes video streams from registered cameras directly on the server to detect motion.

To configure camera motion detection settings

1. Click **Settings** > **Devices**.
2. On the Device settings page, select the desired camera from the device list.
3. Click the **Motion** tab.
4. Toggle **Motion detection** to **On**.
5. Configure the motion detection area and exclusion area for the video.
6. When finished, click **Apply**.

You can select multiple cameras in the device list and apply motion detection settings to all selected cameras at once.

Enabling motion detection

Set **Motion detection** to **On** to enable the configured motion detection areas and motion exclusion areas. If motion detection is not enabled, the detailed settings are not displayed.

Enabling server-side motion detection

All cameras registered in BLAZE (including SUNAPI and ONVIF devices) use server-side motion detection. This feature detects motion by analyzing video streams directly on the server rather than relying on the camera's built-in motion detection settings.



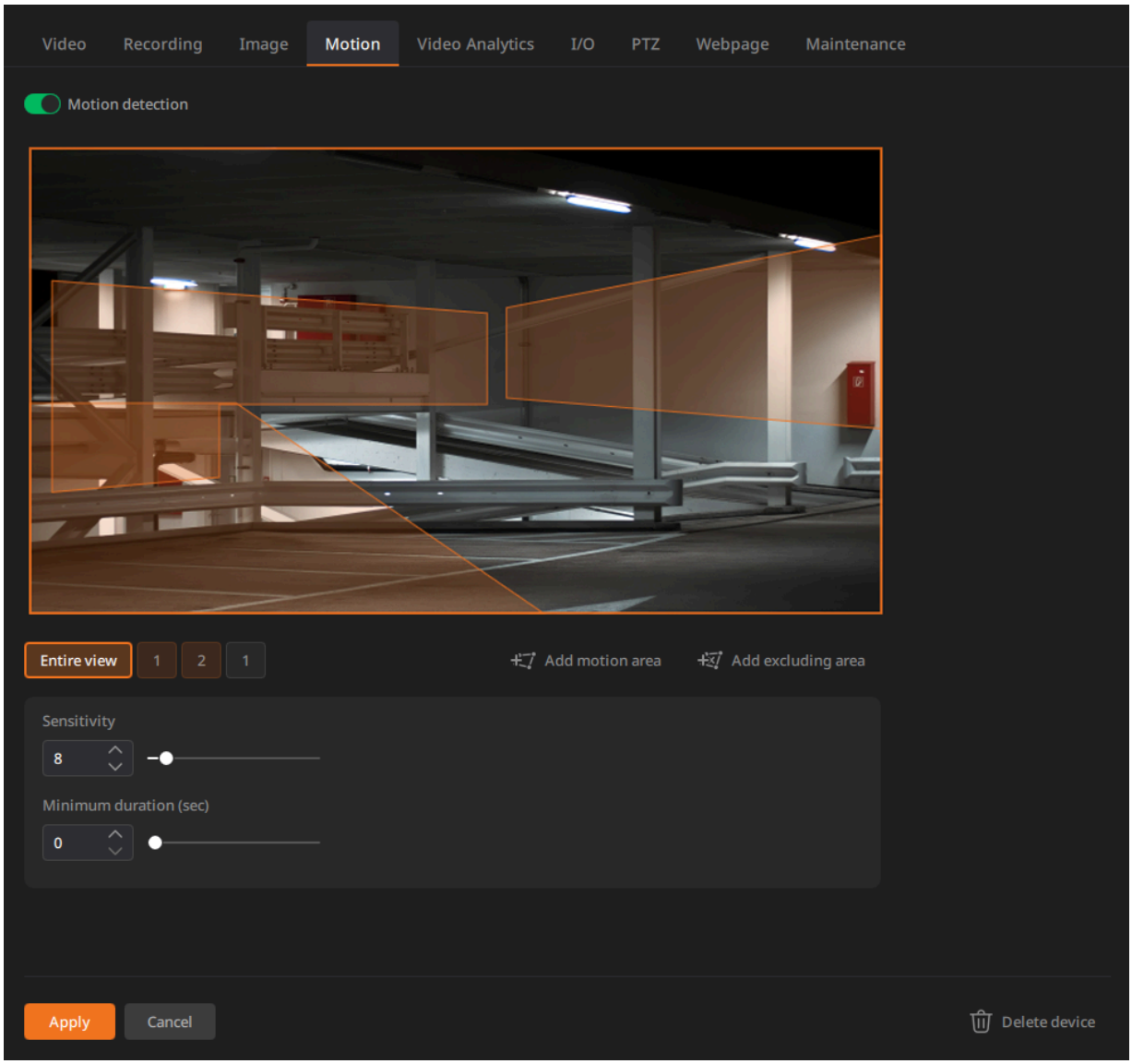
Note: A secondary stream is required to use server-side motion detection. Motion detection is supported only at resolutions of 640x640 or lower.

Motion areas

Add areas in the video where motion should be detected. Motion areas are numbered in the order they are added. The number of areas you can add depends on the camera's specifications.

To add a motion area

1. Click **Add motion area**.
2. Click or drag on the video to create an area.



   - Click to add vertices. After adding vertices to outline the area, double-click or click the starting point to complete the area.
   - To move a vertex, drag it to the desired position. Only one vertex can be moved at a time.
   - Click the midpoint between two vertices to add a new vertex. You can move vertices to reshape the polygon; the polygon can have up to 8 sides.

- To resize the entire area, drag the polygon edge.
- To delete a vertex, select it and either right-click and choose **Delete vertex** or press the **Delete** key.

3. Set the sensitivity and minimum duration for the motion area.
   - **Sensitivity**: Set sensitivity from 1–100.
     - Higher sensitivity may detect unreliable objects that blend with the background. Lower sensitivity triggers events only for more distinct objects.
   - **Minimum duration (sec)**: Set the minimum continuous detection time. An event triggers only if motion persists for the configured duration (0–5 seconds).
   - **Object types**: Select the object types to detect. Multiple types can be selected.

     Note: Object type options are enabled only when the WiseAI application is installed on the device. The available types and options vary by camera model and the WiseAI application version.

4. Click **Apply**.

Note: Sensitivity options may vary by camera model.

Excluding areas

Use excluding areas to ignore motion in locations with moving trees or where privacy must be protected. Motion events detected inside excluding areas are ignored, reducing false alarms and saving storage. You can add up to 8 excluding areas, numbered in the order they are added.

To add an excluding area

1. Click **Add excluding area**.
2. Click or drag on the video to create an excluding area.
3. Click **Apply**.

Changing area settings

Change settings for an area by clicking the area on the video or selecting it from the list below the video.

- Click **Entire view** to show all areas on the camera image.
- Select the orange number for a detection area or the white number for an excluding area to edit its settings.

Deleting an area

Select the area on the video or from the list and click **Delete area**.

Note: The Entire view area, which covers the entire camera image, cannot be deleted.

Configuring objects settings

Set and manage which areas to exclude from detecting faces, persons, vehicles, and license plates. All objects (Face, Person, Vehicle, License plate) are set to be detected by default. Deselect any object type if needed. When the selection of a specific object is canceled, the settings will be applied to the Recording settings, meaning that the object type will not be recorded even if events occur. When setting event rules, objects that have been excluded from detection in the event conditions are indicated with ⚠ icon.

Note:

Object detection is only available on AI cameras.

To configure the camera's object

1. Click **Settings** > **Devices**.
2. In the Devices settings page, select the desired camera from the list of devices.
3. In the Device settings panel, click the **Object** tab.
4. Set object types, sensitivity, and minimum duration.
5. To modify the excluding areas, click **Edit excluding areas**.
6. Once configuration is complete, click **Apply**.

Configuring object detection

Set the sensitivity level and minimum duration for object detection.

- **Object types**: Select the type of object to detect. Multiple object types can be selected.
- **Similarity search**: Enable Similarity search to track people who are similar to previously searched individuals by using the similar person search feature.

  Note: This option is available only on cameras that support Similarity search. To use biometric data, such as facial data, to improve the accuracy of similarity search results, select **Use biometric information for Similarity search** in **Settings** > **General**.

- **Sensitivity**: Set the sensitivity level used to distinguish detected objects from the background in the detection area. Set a value between 1 and 100.
- **Minimum duration (sec)**: Set the minimum duration required to detect an object event condition. Set a value between 0 and 5 seconds.

BestShot

BestShot analyzes detected object data and generates a thumbnail image of the most reliable detection result.

- **Object types**: Select the object type for which BestShot images will be generated.
- **Sensitivity**: Set the object detection sensitivity.

DetectionShot

DetectionShot analyzes detected object data and generates a full image at the most reliable detection moment.

- **Object types**: Select the object type for which DetectionShot images will be generated.
- **Sensitivity**: Set the object detection sensitivity.

Configuring excluding areas

Add areas to exclude from object detection. Events will not be triggered in excluding areas even if object event conditions are met.

Click **Edit excluding areas**, then in the settings dialog window, click **Add excluding area** and drag on the preview screen to define the area. Excluding areas are numbered in the order of addition, and up to 8 areas can be configured.

To delete an excluding area, select the desired area from the preview screen or list, then click **Delete area**.

Note:

- Even if event rules are configured, events will not be triggered within the defined excluding areas. These areas are applied to the configured event rules.
- Excluding areas edited in the **Objects** tab are synced with the excluding area settings in the **IVA** tab.

IVA

Object detection is performed based on virtually defined detection areas. The system can detect different event types including Enter, Exit, Intrusion, and Loiter. Additionally, objects can be detected when they cross user-defined lines in specified directions.

Note: The number of areas and lines that can be added may vary depending on the camera specifications.

To configure IVA

1. Click **Settings** > **Devices**.
2. From the device list on the device settings page, select the desired camera.
3. In the Device settings panel, click the **IVA** tab.
4. Click the **Areas** tab, then configure the detection areas and set rules to detect object entry, exit, intrusion, and loitering within those areas.
5. Click the **Lines** tab, then configure the virtual lines and set rules to detect objects crossing those lines.
6. To edit areas to exclude from detection, click **Edit excluding areas...**.
7. Once configuration is complete, click **Apply**.

Configuring areas

Detects object entry (enter, exit), intrusion, or loiter within detection areas. When a detection area is added, it is numbered in the order of addition. The number of areas that can be added may vary depending on the camera specifications.

Note: When detection areas are added or modified in BLAZE, the changes are reflected in the camera settings.

To add a detection area

1. Click the **Areas** tab under IVA.
2. Click **Add area**.
3. Drag on the preview screen to define the motion detection area.
    - Click to add vertices at desired positions. Complete the area by double-clicking the last point or the starting point.
    - Drag a vertex to move it. Only one vertex can be selected at a time.
    - Click the midpoint between two vertices to add a new vertex. The shape can be adjusted by moving vertices. Up to 8 sides can be created.

    - Drag the edge of the polygon to resize the entire area.
    - To delete a vertex, select it, right-click, and choose **Delete vertex** or press the [**Delete**] key.
4. Configure object detection rules for the area.
    - Enter a name in the **Name** field for the area of interest. (This feature may not be supported depending on the camera model.)
    - **Appear (disappear)**: Triggers an event when an object that was not present stays in the area for a certain duration, or when an object disappears from the area for a certain duration. The minimum duration for trigger can be set.
    - **Enter**: Triggers an event when a moving object enters the detection area.
    - **Exit**: Triggers an event when a moving object exits the detection area.
    - **Intrusion**: Triggers an event when a moving object is detected within the detection area. The minimum duration for triggering can be set.
    - **Loiter**: Triggers an event when a moving object is detected loitering within the detection area. The minimum duration for triggering can be set.
    - **Object types**: Select the type of object to detect in the area. Event are triggered only for the selected object types.
        - This setting is available only on AI cameras. It is not displayed on standard cameras.
5. Click **Apply**.

To delete a detection area

- Select the desired area from the preview screen or area list, then click **Delete area**.

Configuring lines

Detect objects crossing the configured lines.

Note: Lines can be configured on the camera. Changes made on the camera are reflected in BLAZE, and vice versa.

To add a line

1. Click the **Lines** tab under IVA.
2. Click **Add line**.
3. Click two points on the preview screen to draw the line.
4. Configure detection rules for objects crossing the line.

    - Enter a name in the **Name** field for the line. (This feature may not be supported depending on the camera model.)
    - Under **Object types**, select the type of object to detect when crossing the line.
        - This setting is available only on AI cameras. It is not displayed on standard cameras.
    - Under **Directions**, set the direction of detection across the line. Options include **A→B**, **B→A**, or both. Events are triggered based on the selected direction.
5. Click **Apply**.

Lines can also be added from the Webpage tab.

- From **Settings** > **Devices**, select a camera, then go to the **Webpage** tab in the **Settings** panel to access the camera's webpage. From the camera's webpage, click ≡, then go to Analytics > IVA (Intelligent Video Analytics) to add or configure lines.
- For cameras with an app that supports line features, access the app's webpage via the camera webpage. Click ≡ and go to **Open platform** > **App list** > **Go app**. In the app's webpage, go to **Analytics** > **Lines** to add or configure lines.

To delete a line

- Select the desired line from the preview screen or line list, then click **Delete line**.

Configuring excluding areas

Excluding areas can be defined to prevent IVA events from being triggered within those regions, even if event conditions are met.

Click **Edit excluding areas...**, then in the settings dialog window, click **Add excluding area** and drag on the preview screen to define the area. Excluding areas are numbered in the order of addition, and up to 8 areas can be configured.

To delete an excluding area, select the desired area from the preview screen or list, then click **Delete area**.

Note:

- Even if event rules are configured, events will not be triggered within the defined excluding areas. These areas are applied to the configured event rules.
- Excluding areas edited in the **IVA** tab are synced with the excluding area settings in the **Objects** tab.

Configuring event settings

Configure detailed event detection options for devices in BLAZE.

Note:

- Event types and available options vary by device model and specifications.
- When multiple devices are selected, BLAZE shows only events commonly supported by all selected devices. Configure those shared options for all selected devices at once.

To configure detailed event detection settings

1. Click **Settings** > **Devices**.
2. On the Device settings page, select the camera from the device list.
3. In the Device settings panel, click the **Events** tab.
4. Click the desired event tab.
5. When finished, click **Apply**.

Temperature

A temperature detection event triggers when the measured temperature exceeds the camera's configured threshold.

Shock

Shock detection triggers when the device detects impact, vibration, or displacement.

- **Sensitivity**: Set sensitivity from 1–100.

Fog

Fog detection triggers when visibility is reduced due to fog.

- **Sensitivity**: Set sensitivity from 1–100.
- **Minimum duration (sec)**: Specify the minimum continuous duration required for detection (1–60 seconds).

Tampering

Tampering detection triggers when the camera view is obstructed or the camera's position changes.

- **Sensitivity**: Set sensitivity from 1–100.
- **Minimum duration (sec)**: Specify the minimum continuous duration required for detection (1–60 seconds).

Defocus

Defocus detection triggers when the camera lens loses focus and the image becomes blurred.

- **Sensitivity**: Set sensitivity from 1–100.
- **Minimum duration (sec)**: Specify the minimum continuous duration required for detection (1–60 seconds).

Early fire

Early fire detection triggers when analysis of flame, smoke, and temperature indicates a possible fire. For detailed detection conditions, see the camera help.

Audio

Audio detection triggers when sound exceeds the configured level while the camera records video.

Sound classification

Detected sounds are classified by type, and sound classification events are generated accordingly.

- **Type**: Select the type of sound to detect.
    - **Scream**: Detects sudden loud sounds such as screams or shouts from an adult male, adult female, or child.
    - **Crashing glass**: Detects the sound produced when a glass object (e.g., glass, mirror, or window) breaks. Laminated glass and other types of glass that do not shatter when broken are not detected.
    - **Vehicle horn**: Detects vehicle horn sounds from cars, buses, trucks, motorcycles, and other vehicles. Recorded horn sounds played through a speaker may not be detected.
    - **Tire screech**: Detects the friction noise generated between tires and the road surface during sudden braking.
    - **Extreme decibel**: Detects extremely loud sounds of 120 dB or higher. (Supported only on the SPS-A100M and SPS-A8016 models.)
    - **Aggression**: Detects loud or threatening voices intended to attract attention.
    - **Keyword**: Detects specific words. You can select the words to detect.
        - Detectable words: Gun, Police, Shooter, Emergency, Stop it, Fire, Help/Help me, 살려주세요 (Save me), 도와주세요 (Help me).
        - Note: Detection accuracy is highest when the words are spoken with native-level pronunciation and intonation. Detection may be limited when pronunciation is inaccurate or speech includes a strong regional accent.
    - **Voice**: Detects human speech or vocal activity, including talking to oneself.
        - **Duration**: Set the detection duration. For example, if set to 3 seconds, an event is generated only when human speech continues for 3 seconds or longer.
- **Audio clip**: Records audio when an event occurs.
    - **Pre-recording duration**: Set the pre-recording duration based on the point at which the audio is detected.
    - **File type**: Select the file format (WAV or MP3) used to save audio clips.

Face mask

An event is generated when the selected face mask status is detected.

- **Mask status**: Select either **Mask on** or **Mask off**.
- **Minimum duration** : Set the minimum duration that the selected face mask status must be detected before an event is generated.

Alarm I/O settings

Configure and control alarm input and output ports for devices registered in BLAZE. Use this feature to centrally manage sensors and alarm devices connected to cameras.

The number of supported alarm I/O ports varies by device model and by the specifications of a connected I/O box. BLAZE displays the I/O list according to the port configuration supported by the device.

Note: For multi-channel devices, all channels share the same I/O settings.

To configure alarm I/O

1. Click **Settings** > **Devices**.
2. Select the camera from the device list on the Device settings page.
3. Click the **Alarm I/O** tab in the Device settings panel.
4. Configure alarm inputs and outputs. The number of I/O ports depends on the device.
    - **I/O mode**: Select whether to use the port as an input or an output. After selecting a mode, configure the settings for each alarm I/O.
        - When **Input** is selected:
            - **Name**: Set a name. By default, the name is "{Model name} Input #{Number}". Up to 64 characters can be entered. The name appears in the Alarm I/O panel on the **View** screen.
            - **Icon**: Choose an icon to display in the Alarm I/O panel on the **View** screen.
            - **Type**: Select the alarm input method.
                - **Normal open**: The sensor is open by default. When it closes, the system registers an alarm input event.
                - **Normal close**: The sensor is closed by default. When it opens, the system registers an alarm input event.
        - When **Output** is selected:
            - **Name**: Set a name. By default, the name is "{Model name} Output #{Number}". Up to 64 characters can be entered. The name appears in the Alarm I/O output list on the **View** screen and in the audit log.
            - **Icon**: Choose an icon to display in the Alarm I/O panel on the **View** screen.
            - **Type**: Select the alarm output method.

        - **Normal open**: The output is open by default. When it closes, the system registers an alarm output event.
        - **Normal close**: The output is closed by default. When it opens, the system registers an alarm output event.
    - **Mode**: Set the control method for the alarm output.
        - **Pulse**: The alarm outputs for the duration set in **Duration**, then turns off automatically.
        - **Active/inactive**: Activating the alarm output from the live view keeps it active until manually deactivated. In this mode, **Duration** is set to **Always** and cannot be changed.
    - **Duration**: When **Mode** is set to **Pulse**, set the alarm output duration.
5. Click **Apply** to save changes.

Manual alarm output control

Activate or deactivate alarm output from the device tree in View mode.

Control alarm output by clicking the alarm output icon on the map. For more information, see Manual alarm output *(page 109)*.

Event rule integration

Use alarm input and alarm output as triggers and actions in event rules. For example, create a rule that activates a siren (alarm output) when a door opens (alarm input). For more information, see Rules *(page 218)*.

Status monitoring

Check Alarm I/O status in real time. For more information, see Alarm I/O overview *(page 108)*.

Alarm I/O statuses include:

- Connection status (connected, not connected, unauthorized)
- Activation status (activated, deactivated)

Audit log

Alarm output control history is recorded in the Audit log *(page 305)*.

- User who performed the action
- Time of the action

- Device and port information
- Command executed (activate, deactivate)

Audio settings

Configure the camera's audio input and output settings in BLAZE. When audio input is enabled, audio is audible during video monitoring. When audio output is enabled, audio plays through the camera's speaker.

Note: The I/O settings tab is shown only when a camera that supports microphone and speaker functions for audio input and output is connected. The available input/output detailed settings may vary depending on the camera specifications.

To set the device's audio input and output

1. Click **Settings** > **Devices**.
2. On the device settings page, select the camera you want from the device list.
3. In the device settings panel, click the **Audio** tab.
4. Configure the audio input and output.
5. When finished, click **Apply**.

Audio input settings

Configure the camera's audio input options. To configure audio input, set the toggle to **on**. If the audio input feature is not enabled, the detailed settings screen will not be displayed.

- **Source**: select the audio input source.
    - **Line**: receive audio by connecting an audio device with a cable. (e.g., connecting an MP3 player to the camera with a cable allows the recorded audio to be output through the camera.)
    - **Internal microphone**: receive audio using the camera's internal microphone.
    - **External microphone**: receive audio using an external microphone connected to the camera. If you select **provide power to external microphone**, the camera supplies power to the external microphone when it is not provided.
- **Codec**: select the audio codec used to store audio when monitoring live video or recording. G.711u and G.726 codecs are suitable for recording at voice-call quality, while AAC can be used for high-quality audio or video streaming. (Supported codec types may vary by device.)

- **Sampling rate**: the rate at which audio samples are taken per second. A higher value improves audio quality but increases file size.
- **Bit rate**: the amount of audio data processed per second. A higher value improves audio quality but increases file size. Available settings depend on the selected codec.
- **Gain**: set the input level for incoming audio. A higher value increases the input volume.
- **Noise reduction**: if you select **enable**, set how much noise in the incoming audio is reduced.

Audio output settings

Configure the camera's audio output options. To configure audio output, set the toggle to **on**. If the audio output feature is not enabled, the detailed settings screen will not be displayed.

- **Gain**: set the output volume level. A higher value increases the output volume.

Configuring PTZ settings

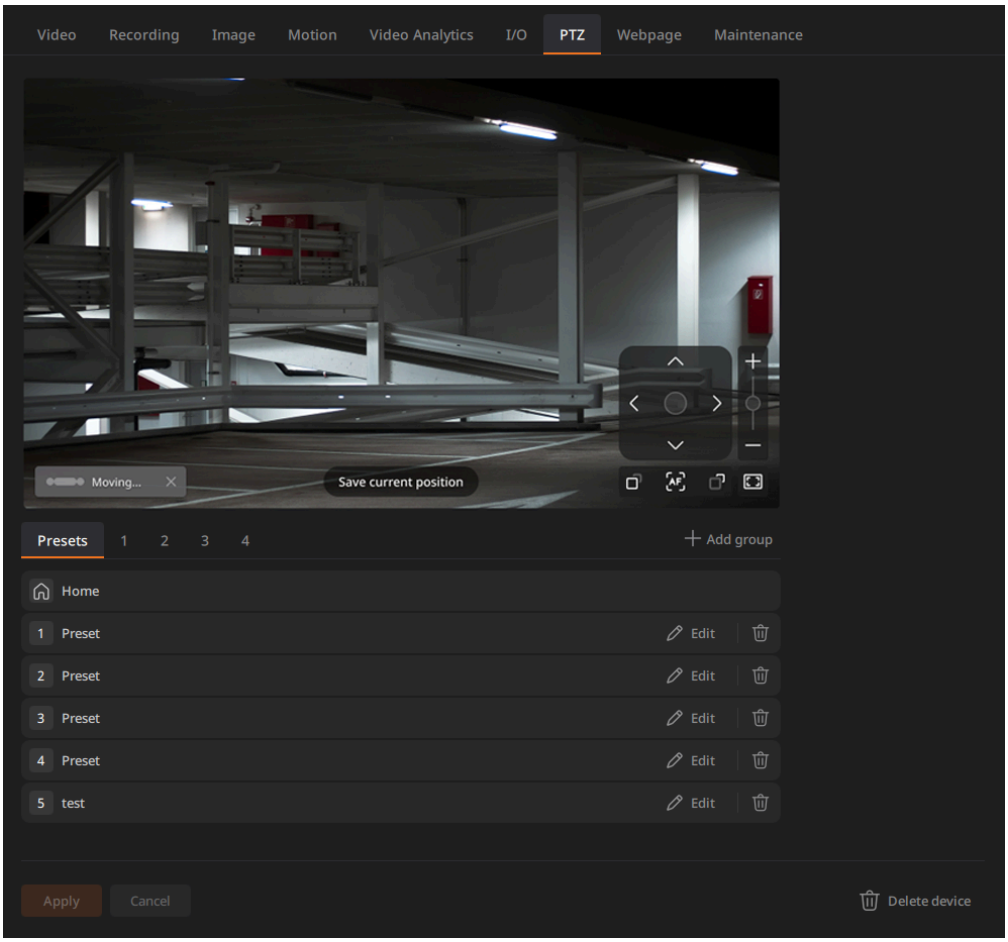
The camera's view can be panned (left/right), tilted (up/down), and zoomed. A PTZ preset saves a specific camera position, enabling quick monitoring of key areas when an event occurs. Additionally, 2 or more presets can be grouped to create a tour that cycles through major areas at set intervals.

To configure PTZ settings

1. Click **Settings** > **Devices**.
2. On the Device settings page, select the camera from the device list.
3. In the Device settings panel, click the **PTZ** tab.
4. Set PTZ presets and groups.
5. When finished, click **Apply**.

PTZ preset settings

Save PTZ positions for key areas such as lobbies, corridors, and exits. Selecting a preset immediately moves the camera to the saved position. Presets are useful for live monitoring and can be used as actions in event rules to focus the camera when an event occurs.



Adding a preset

Set and save a PTZ preset for the desired position.

Note:

- The maximum number of presets depends on the device specifications.
- For cameras that do not support presets, the **Save current position** button will not be displayed.

To add a PTZ preset

1. Under the **PTZ** tab, click the **Presets** tab below the video.
2. On the preview screen, set the desired position.
    - Drag on the preview to zoom in, or click the preview to move to the desired position.
    - Use the pan/tilt joystick to set the view position.

- Click + or — or drag the zoom control bar to zoom in or out.
- Click the AF to focus near, or click to focus far.

3. Click **Save current position** to save the PTZ position as a preset.
4. In the Preset dialog, choose a number and enter a name.
   - **Home**: If supported, save the current position as Home. The Home option appears in the **Save as** drop-down menu when available.
   - If you select an existing preset number when adding a new preset, the existing preset is replaced by the new one.
   - To display a preset button on the image, select **Show button on device view**. Click the button to jump to the preset.
5. Click **Save**.

To modify a preset

Modify a preset from the preset list at the bottom of the Presets tab.

To modify a PTZ preset

1. In the preset list, click **Edit** for the preset you want to modify.
2. Change the settings in the Preset dialog.
3. Click **Save**.

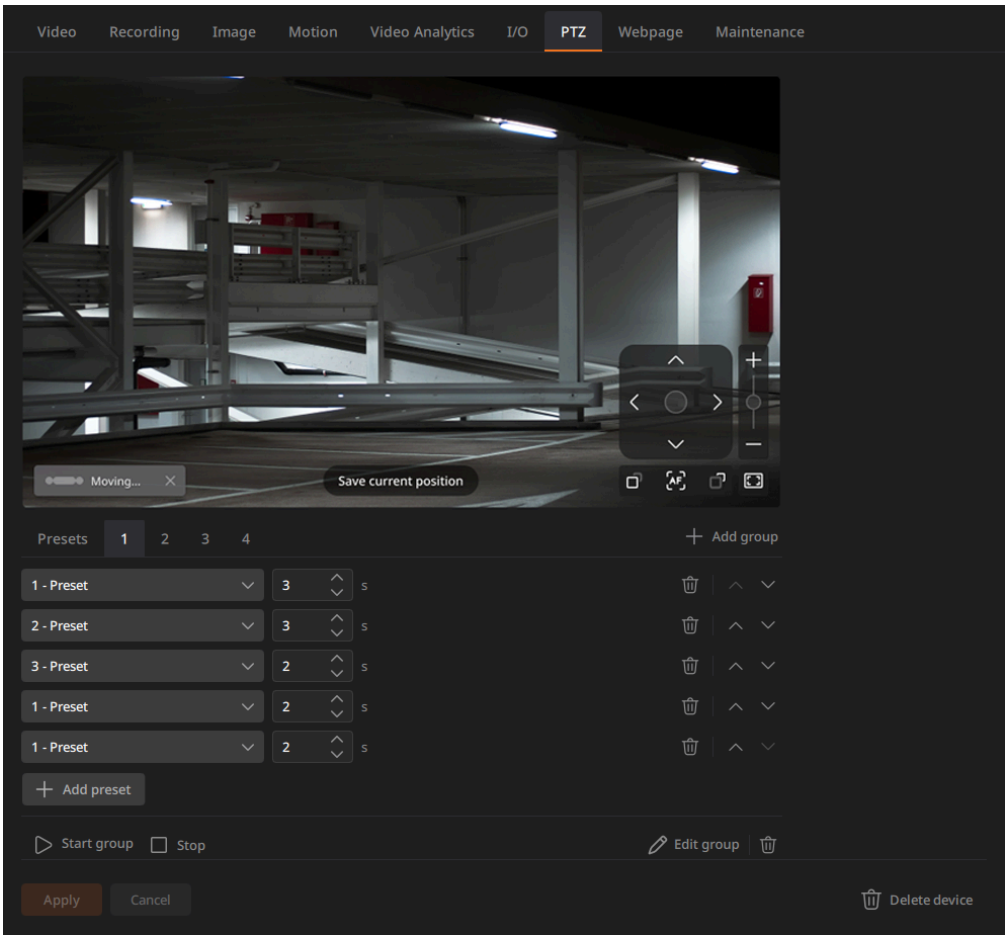
To delete a preset

In the preset list, click to delete the selected preset.

Group settings

Use groups to cycle through multiple presets at specified intervals to monitor key areas automatically. For example, adding 4 presets to a group and setting the interval to 10 seconds makes the camera show each preset for 10 seconds in sequence.

- Click **Start group** in the **Group** section to start the tour. The tour runs through the presets in the group at the set interval until you click **Stop**.



Adding presets to a group

Create a group from the PTZ presets registered on the camera.

Note: The maximum number of groups and presets you can add depends on the camera's specifications.

To add presets to a group

1. Under the **PTZ** tab, click **Add group**.
2. In the **Add group** dialog, enter a group name and click **Add group**.
3. Under the new group tab, click **Add preset** to add presets and set the interval.
    - The default interval is 10 seconds. Set the interval within the range 1–100 seconds (the supported range may vary by device).
    - Change the order of group presets by clicking ^ to move up and v to move down.
    - To delete a group, click 🗑.
4. Click **Apply**.

To edit a group preset

Added groups appear in the list at the bottom of the Group tab. Change the order or interval of presets in a group.

To edit a group preset

1. Click ^ or v to the right of the group to change the order. Clicking ^ moves the item up and clicking v moves it down.
2. Click ^ or v on the interval to change it.
3. Click **Apply**.

To delete a group preset

In the group, click to delete the selected preset, then click **Apply**.

To rename a group

At the bottom-right of the Group tab, click **Edit group**. In the **Edit group** dialog, change the name and click **OK**.

To delete a group

At the bottom-right of the Group tab, click . In the **Delete group confirmation** dialog, click **Delete**.

Configuring fisheye settings

BLAZE processes images from fisheye cameras to allow monitoring without distortion.

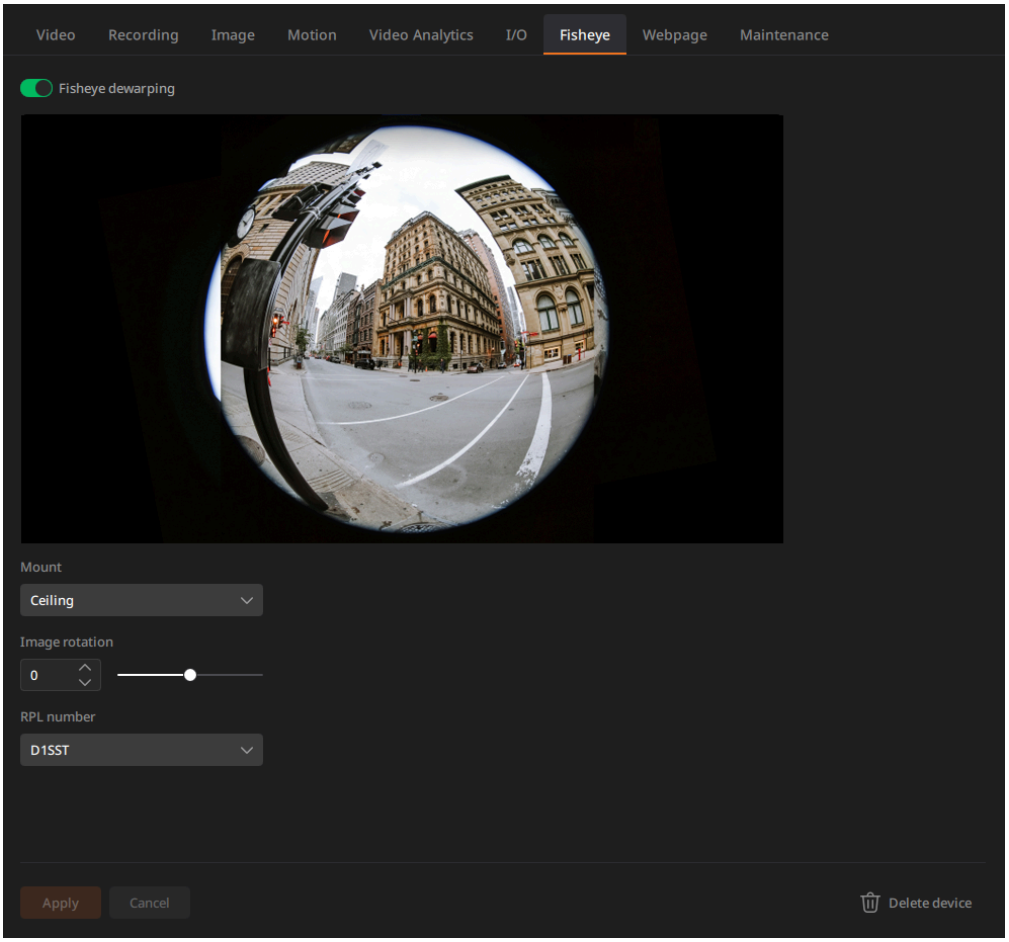
Note: The Fisheye feature is only available on fisheye cameras.

To configure fisheye settings

1. Click **Settings** > **Devices**.
2. In the Device settings page, select the desired device from the list of devices.
3. Click the **Fisheye** tab.
4. Configure the detailed settings.
5. After completing the settings, click **Apply**.

Fisheye dewarping settings

- Toggle **Fisheye dewarping** to **On** to use the fisheye feature. The setting options will not be displayed if **Fisheye dewarping** is not activated.
- In the image, zoom in or out and change the position left or right.
    - The image is displayed in a circular view by default. Scroll the mouse to zoom in to see a rectangular view dewarped according to the settings for the Mount, Image rotation, and RPL number options.
    - When you zoom in on the image, you'll see a mini view next to it. Drag the view to the desired direction to rotate the image.



- **Mount**: Select the installation position of the camera. The distorted image will be corrected and displayed according to the selected position.
    - **Ceiling**: Camera installed on the ceiling
    - **Wall**: Camera installed on the wall
    - **Ground**: Camera installed on the ground

- **Image rotation**: Rotate the video to the desired orientation for monitoring. The video can be rotated vertically or horizontally, with a setting range of -180 to 180 degrees.
- **RPL number**: Set the lens code required for dewarping. The lens codes currently supported by the camera are displayed by default.

Edge storage

Edge storage backup records video continuously to the camera's SD card. If video cannot be saved to the server because of network issues, this feature enables recovery from the SD card and helps prevent loss of recorded footage.

Note: This feature is supported on cameras registered via SUNAPI or ONVIF. However, when devices are registered via ONVIF, methods for configuring SD card recording vary by manufacturer and may limit BLAZE control. For reliable operation, complete the recording settings on the camera's web configuration page before use.

To enable edge storage

1. Click **Settings** > **Devices**.
2. Select the camera from the device list on the Device settings page.
3. In the Device settings panel, click the **Edge storage** tab.
4. Toggle **Edge storage backup** to On and click **Apply**.

SD card status

Check the SD card status for cameras with edge storage backup enabled without accessing the camera's web interface.

- **SD card insertion status**: Indicates whether the SD card is inserted.
- **SD card status**: Displays the SD card status.
- **SD card capacity**: Displays the SD card's total capacity.

Note: Only cameras registered via SUNAPI support SD card status monitoring.

Backup from SD card

When the network connection is restored after a disconnection, video segments not saved to the server are automatically recovered from the camera's SD card.

Backup may fail in the following cases:

- No response from the camera during the backup request.
- No video available for the requested backup period.
- SD card video is being played back or backed up by another user.
- Camera connection is lost during the backup request.

Note:

- Channels undergoing backup cannot be transferred to another server.
- If backup fails, a health alert is sent and a manual retry is possible.

Backup video playback

Recovered video from edge storage plays seamlessly along the timeline with server-recorded footage.

Note: Event marking and histogram features are not supported for recovered video.

SD card format

To ensure stable backup performance, format the camera's SD card remotely when necessary.

- Select the camera from the device list and click **Format storage** to format the SD card.

Note: Only cameras registered via SUNAPI support SD card format functionality.

Navigating to the webpage

Most network cameras have a webpage for configuring their video, audio, and network settings. The **Webpage** tab provides access to this page for viewing and adjusting camera settings.

Note:

- Disable your web browser's popup blocker for the software, or the camera webpage will not open.
- Accessing the camera webpage requires camera setting permissions.
- The **Webpage** tab will not be displayed if multiple cameras are selected from the list of devices.
- The webpage is inaccessible if the camera is disconnected. In this case, "The camera is offline" message is displayed.

To access the webpage

1. Click **Settings** > **Devices**.
2. In the Device settings page, select the desired device from the list of devices.
3. Click the **Webpage** tab.
4. After completing the settings, click **Apply**.

Executing maintenance

Restart the camera if it stops running or encounters an error. If necessary, reset the camera to the factory settings.

To execute maintenance

1. Click **Settings** > **Devices**.
2. In the Device settings page, select the desired device from the list of devices.
3. Click the **Maintenance** tab.

- **Restart**: Restarts the camera.
- **Reset to factory defaults**: Applies the factory default settings to the camera. Network settings and open platform settings are not reset during a factory reset.

Note: Executing a factory reset will disconnect the camera. After restarting the camera, reconfigure the necessary settings.

Grouping devices

Group devices added to BLAZE. For example, if multiple cameras are installed in the same area such as the 1st-floor lobby or 2nd-floor corridor, group devices by area or location. Dragging the group to the Scene panel adds all cameras in the group, enabling quick monitoring of multiple cameras. Creating a group also enables adding or removing multiple cameras at once.

Note: Devices can be grouped only when you select ⋮ > **Tree mode** > **Logical**.

To group devices

1. Click **Settings** > **Devices**.
2. Press and hold [Ctrl] or [Shift] and select multiple devices from the list of devices. Then, right-click the selected devices.
3. Click **Create group**. The group icon will then be added to the list.
    - Shortcut keys can also be used: [Shift] + [G] or [Command] + [G].
4. To rename a group, right-click the group icon and select **Rename**.
    - When a group is created, it is added as “New group”. Rename it to a descriptive name, such as a location or area, to make it easier to identify.
    - Group names can contain up to 64 characters, including letters, numbers, special characters, and spaces.
    - Groups in the device list can have the same name. However, it is recommended that you use distinct names to make them easier to identify.

    Note: To move a device in a group to another group, drag it to the desired group. To move multiple devices, press and hold [Ctrl] or [Shift] and drag them to the desired group.
        - Move a group to another group by dragging it to the target group. All devices within the original group will be included in the new group.

Multiple devices can also be selected from the **Devices** panel in the **View** tab to create a device group. For more details on the Device panel, see View tab *(page 80)*.

Configuring detailed settings of a group

Select a group of devices to apply the same settings to all cameras within that group. Click a group to set common settings, then configure settings in the tabs on the right. To configure settings separately for each device, click each device.

- Changing the settings of a selected device group applies the same configuration to all cameras of the same model.
- For different camera models, the settings will only bulk apply to features that are equally supported.
    - For example, if you select a group and select Highest resolution in Resolution, each camera's resolution will be set to Highest.

To ungroup devices

Select the desired group, right-click it, and click **Ungroup**. Once ungrouped, the devices will be displayed in order by device name.

Deleting a device

Delete a device added to BLAZE.

To delete a device

1. Click **Settings** > **Devices**.
2. Select the desired device from the list of devices. Right-click it and click **Delete**.
    - A device can also be deleted by clicking **Delete device** at the bottom of the Camera settings panel.

To delete multiple devices

Press and hold Ctrl or Shift, select multiple cameras, and right-click them. Then click **Delete selected devices** to remove all selected cameras.

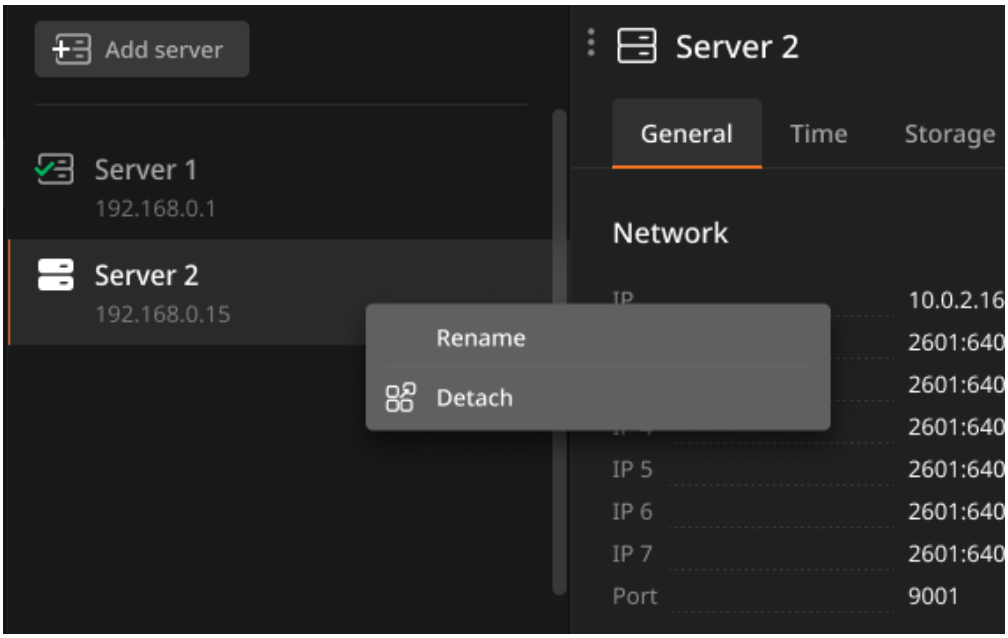
Note: Deleting a device does not remove it from the device tree; recorded data and logs for the deleted device remain accessible.

Servers

In the Server settings page, view a list of servers in the system and adjust settings.

Viewing the list of servers

Click **Settings** > **Servers** to open the Server settings page. View the entire list of BLAZE servers and select a server from the list to adjust its settings.



- Currently connected servers are displayed at the top of the list. Remaining servers are automatically sorted alphabetically by name.
- A maximum of 50 servers can be displayed in the server list.

Tip: Right-click a server to rename or detach it.

- Renaming a server *(page 207)*
- Detaching a server *(page 207)*

Understanding server status icons

The icon displayed next to each server in the list indicates the status of the server connected to BLAZE.

- : A server registered in the system where the client is connected
- : A server registered in the system that is offline
- : A server registered in the system that is online

Adding a server

To use BLAZE, first install the BLAZE server on the PC and then connect to the server with the client. The PC with the installed server is set as a local server, and video or data from devices connected to the server is stored on the PC's storage disk. Once connected, the client

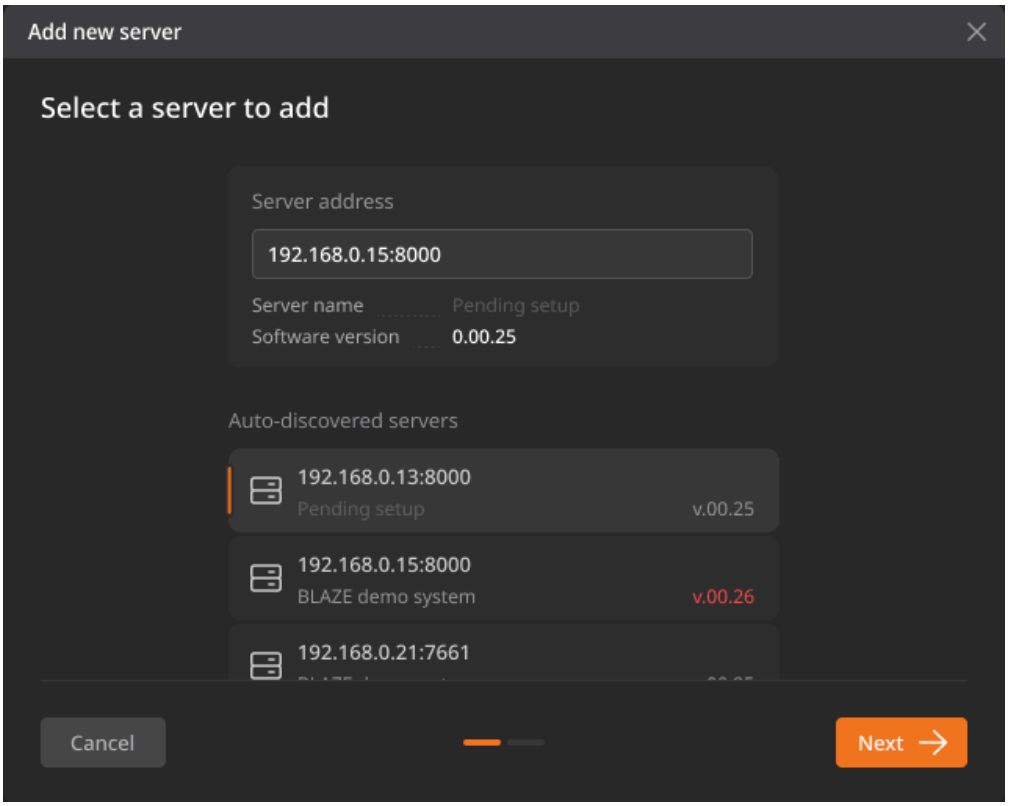
enables playback of recorded camera video and access to various settings, such as event rules, user permissions, and more. Up to 50 servers can be added to the client by searching by the server's IP address and port.

Note:

- Only users with the Super administrator or Administrator role can add servers.
- For more information about server installation and initial configuration, see Server installation *(page 16)*.

To add a server

1. Click **Settings** > **Servers**.
2. On the Servers settings page, click **Add server**.
3. In the **Add server** dialog box, enter the IP address and port of the server to add.
    - Only IPv4 addresses are supported. Enter the server IP address and port in the format 192.168.0.1:8000.
    - Servers on the same network as the client are automatically discovered and displayed.
    - If the client and server are on different networks, enter the IP address and port to search for the server.
4. Select the server to add from the search results, and click **Next** →.



5. Enter the Super administrator's password, and then click **Add server**.
6. In the confirmation dialog box, click **Finish**.
    - To continue adding servers, click **Add another server**.

Clustering servers

Combine multiple BLAZE servers into a single system to create a cluster. Clustering is completed automatically without any separate server clustering process. A BLAZE system can include up to 50 servers, and added servers are displayed in the list of servers. Once connected, monitor video from devices connected to multiple clustered servers and play back recorded video in the client.

Note: Only Super administrators and Administrators can add a server or change server information.

System federation

By connecting the Cloud and BLAZE, you can create a federation by linking one server or two or more systems consisting of a group of servers. In the federation system, you can use devices from all systems in the organization with a single global account.

When you select an organization on the client login screen and log in with your cloud account, all systems in your organization will appear in a drop-down list. When managing a large-

scale system, federation mode allows you to efficiently manage and monitor many devices connected to the system, as you can view devices from multiple systems in a single layout.

Note:

- For detailed instructions on connecting server cloud and using federation, see Cloud *(page 213)*.
- If the individual sub-system of the federation system is selected in the login screen, even if BLAZE is connected to the cloud, connected is not a federation but a general mode. Only the devices in the corresponding system will be displayed in the device tree.

Configuring server settings

View the list of BLAZE servers and configure detailed server settings.

Note:

Only users with the Administrator role can modify detailed server settings.

Viewing tabs in the Server settings panel

The settings panel consists of multiple tabs.

- Select a tab to view detailed configuration options. If issues such as time synchronization errors or insufficient disk space occur, a banner message appears at the top of the tab.
- After completing the configuration in a tab, click **Apply** at the bottom to save the settings.

Configuring general settings

You can view the IP address, port, and software version of the selected server, and manage the licenses and certificates.

To configure the server's general settings

1. Click **Settings** > **Servers**.
2. In the Server settings page, select the desired server from the list of servers.
3. Click the **General** tab.

4. Configure the general settings.
5. After completing the settings, click **Apply**.

Viewing health monitoring results of the server

Click **View server in health monitoring** to see the status of the current server in the Health monitoring tab.

- For more information, see Monitoring a server *(page 298)*.

Info

Displays the server's IP address and port number. The IP address that client is currently using to connect to the server is displayed at the top of the list with the icon .

- If multiple IP addresses are configured on the PC where the server is installed for network segmentation, all of the PC's IP addresses will be displayed.

Note: Supported only on BLAZE desktop.

Hardware

Displays the hardware model name and serial number of the BLAZE appliance.

Note: Supported only on BLAZE Appliance.

Software

Displays the software version of the server.

Cloud

You can check the status of the cloud connected to the server.

- Cloud availability: Indicates the connection status between the server and the cloud. When connected, "Available" is displayed.
- Server status: Indicates whether you registered the server for use in other portal apps.

Note: Cloud items display only if the system is linked to the cloud. For more information, see Cloud *(page 213)*.

Certificate

BLAZE uses SSL certificates to authenticate the server ID. This encryption enhances security for communication between the client and server. In the Certificate section, you can check the status, validity period, and issuing authority of the certificate stored on the server.

- Click the BLAZE icon to open the Server Certificate dialog. In the Server certificate dialog, you can view the certificate type, fingerprint, and serial number.

Understanding the server's authentication status

The icon displayed next to each server indicates the server status.

- **Valid**: Server authenticated
- **Expired**: Server certificate expired or revoked
- **Invalid**: Server certificate unavailable

Replacing the certificate

The SSL certificate for the BLAZE server can be replaced by copying a new certificate file (.crt) and its corresponding private key file (.key) to the designated folder, followed by restarting the server.

1. Prepare a new pair of certificate (.crt) and private key (.key) files.
2. Delete the currently used certificate file (.crt), and copy the new certificate pair to the following folder:
    - Windows: <%INSTALLER.NAME%>\cert
    - Ubuntu: <%INSTALLER.NAME%>/cert



Note: To apply the new certificate, the BLAZE server must be restarted after the file copy is completed.

If multiple certificate pairs (.crt and .key) are copied to the designated folder, the BLAZE server validates each certificate and selects the one with the longest validity period among the valid certificates. Any unused files are automatically deleted.

Configuring network settings

Configure the network settings of the selected server. Set the IP address, subnet mask, gateway, DNS, and other network parameters appropriate for your environment. Enable or disable the DHCP server for each network port.

Note:

- The **Network** tab is available only on BLAZE appliances.
- Configuration changes can only be made from the appliance's local client.

To configure the server's network

1. Click **Settings** > **Servers**.
2. In the Server settings page, select the desired server from the server list.
3. In the Server settings panel, click the **Network** tab.
4. Configure the server's IP and port information, and DHCP server settings.
5. When finished, click **Apply**.

Network settings

View and modify the current settings for Network 1 and Network 2.

Changes to network settings are applied immediately and reflected in the system without requiring re-login.

To configure the network

1. Click the **IP & port** tab.
2. In Network 1 or Network 2, click **Network settings**, then configure the following items and click **Apply**.
    - IP assignment: Choose between Manual and DHCP. The default is Manual.
    - IP address: Set the IP address for each network port.
        - 128.0.0.100 and 128.0.0.101 are reserved for special purposes under RFC 5735 and cannot be used.
    - Subnet mask: Set the subnet mask.
    - Gateway: Set the gateway address.
    - DNS: Set DNS1 and DNS2 addresses.
3. Set the port number in Port.
    - Port numbers must be between 1024 and 65535.
    - 61000 cannot be used.
4. In **Default gateway**, select either **Network 1** or **Network 2**. The gateway address specified in the selected network will be used as the default gateway.

Note:

- Changing the server's IP address or port in a cluster system may temporarily disrupt connections to other servers.
- Changes to network settings are recorded in the audit log.

DHCP server settings

Configure the BLAZE appliance as a DHCP server to automatically assign IP addresses to connected cameras. This setting can be configured individually for each network port.

Viewing assigned IP address list

The BLAZE appliance displays a list of IP addresses assigned to DHCP clients.

- Click **DHCP assignment list** to view clients that have received IP addresses from the DHCP server. The list shows the IP address, MAC address, and the network port through which the IP was assigned.
- Click **Refresh** to update the list with the latest assignment information.
- Enter text in the search bar to filter clients by matching information. If no text is entered, all clients are displayed.

Note:

- Clients with expired IP lease times are automatically removed from the list.
- Only clients connected to ports with a network status of Up (physically connected and actively communicating) are displayed.

To configure DHCP settings

1. In the DHCP server tab, toggle the switch for Network 1 or Network 2 to enable it.
2. Click **Network settings**, then configure the following:
    - Internal IP address: Automatically assigned within the configured address range.
    - Subnet mask: Automatically populated from the IP settings.
    - Dynamic IP address range: Set the range of IP addresses to assign to DHCP clients.

- Lease time: Set the lease time for IP addresses.
  - Valid range: 1 hour (3,600 seconds) to 48 hours (172,800 seconds). The default is 86,400 seconds.

3. Click **OK**.

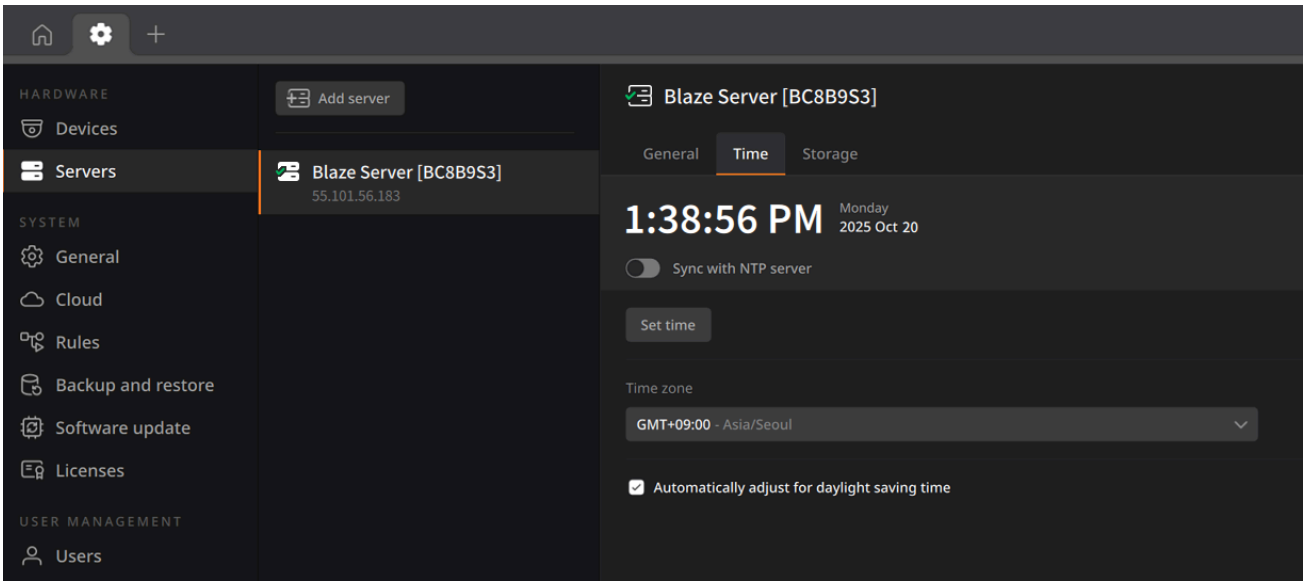
Configuring time settings

The method for setting the server time varies depending on the system configuration.

- **Single server**: Set the time in the individual server settings panel.
- **Multiple servers (clustering)**: Time synchronization is essential for accurate operation across all servers. A synchronization reference must be configured in the system settings.

CAUTION: Reverting the time to an earlier point may result in duplicate timestamps, causing recorded footage to be overwritten or deleted. It is recommended to back up recordings from the overlapping time range before making such changes. Deleted footage cannot be recovered.

Configuring time on a single server



Automatic time synchronization options

- Sync with NTP server
- Sync with PC time (where the server is installed)

Set the time manually using the local time zone or by entering the time directly. Manual configuration may result in time discrepancies; therefore, synchronization with an NTP server is recommended.

To configure server time

1. Click **Settings** > **Servers**.
2. In the server settings panel, click the **Time** tab.
3. Configure the server time information.
4. Click **Apply** to save the settings.

Server time configuration options

In the **Time** tab, the following options are available.

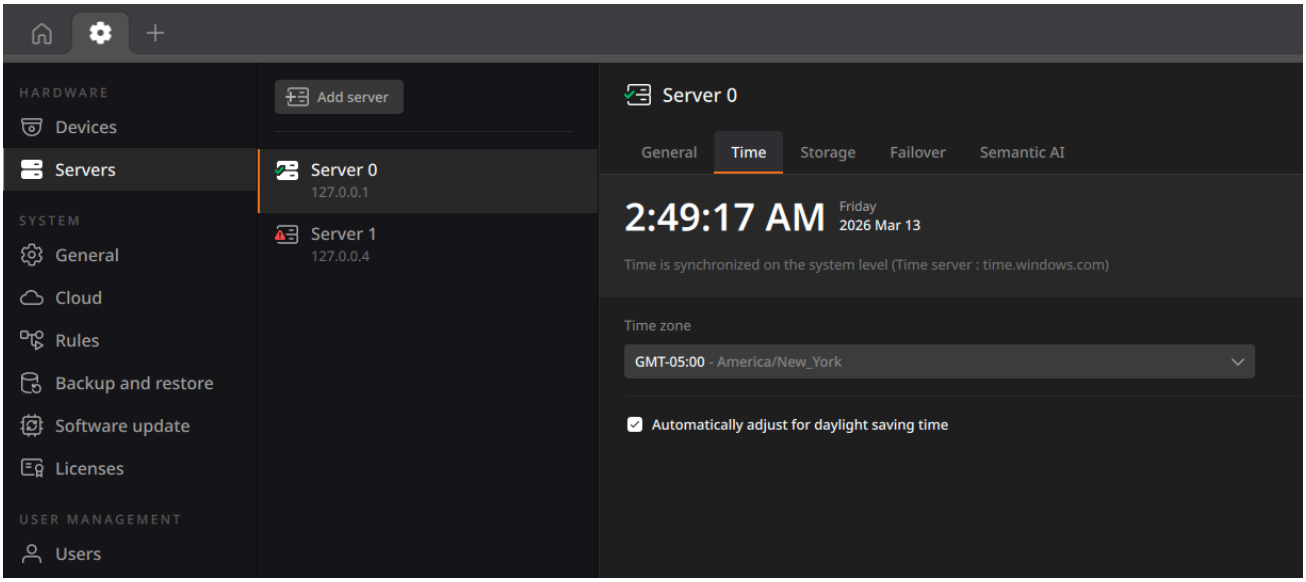
- **Set time**: When Sync with NTP server is set to **Off**, time can be manually set. The BLAZE system uses Coordinated Universal Time (UTC) for the selected time zone.
- **Sync with NTP server**: When the toggle button is set to **On**, it synchronizes server time with the selected NTP server every minute.
    - **NTP server**: Select the NTP server to synchronize with.
        - **time.windows.com**: Synchronizes with the Windows OS NTP server of the host PC.
        - **ntp.ubuntu.com**: Synchronizes time with the Linux OS NTP server of the host PC. Displayed only when the PC OS is Linux.
        - **time.nist.gov**: Synchronizes time with the NTP server of the National Institute of Standards and Technology (NIST) in the United States.
        - **Custom NTP server**: Allows manual input of an NTP server's IP address or URL (IPv4 format only). After input, click **Test** to verify connectivity.
    - **Sync now**: Immediately synchronize time with the configured external NTP server.
        - The button is enabled only when the NTP server settings have been saved and applied.
        - Clicking the button immediately requests synchronization, and the synchronization progress status is displayed on the screen.
        - When synchronization is complete, the last synchronization time is updated.
        - If manual synchronization is attempted excessively within a short period of time, the request may be blocked according to the external NTP server's policy.
- **Time zone**: Select the time zone to apply to the server.

- **Automatically adjust for daylight saving time**: Enables automatic application of daylight saving time.

> **Note:** BLAZE servers synchronize time with the OS and Greenwich Mean Time (GMT) during installation. If the OS time is changed after installation, synchronization is based on UTC.

Configuring time in a multi-server environment

In a clustered system with multiple servers, all servers synchronize to a designated reference time. Time synchronization is mandatory, and a synchronization reference must be configured for all servers.



To set time synchronization reference

1. Click **Settings** > **General**.
2. In the **System time server** section, select the synchronization reference.
    - **Synch with NTP server**: All servers synchronize with the selected NTP server (time.windows.com, ntp.ubuntu.com, time.nist.gov).
    - **Sync with another server in the system**: Designate a specific server as the time server. Other servers synchronize based on its time.

> **Note:** The time of the designated time server can be configured via **Settings** > **Servers** > **Time** tab. See To set the time of the time server *(page 195)*.

- **Sync with custom server input**: All servers synchronize with the user-defined external NTP server IP address or URL.

3. Click **Apply** to save the settings.

To set the time of the time server

1. Click **Settings** > **Servers**.
2. Select the desired server from the list and configure its time settings.
   - **Time zone**: Select the time zone to apply to the server.
   - **Automatically adjust for daylight saving time**: Enables automatic application of daylight saving time.
3. Click **Apply** to save the settings.

Configuring storage settings

In the **Storage** tab, you can view the list of HDD devices installed on the server, their storage locations, capacity, and status.

> **Note:**
>
> - If no storage drive is connected or enabled, video will not be recorded. Be sure to enable at least one storage drive.
> - On Linux servers, disks with a total capacity of 100 GB or less cannot be used for recording and do not appear in the storage list in Server settings.
> - On Windows and Linux servers, physical or logical disks with less than 100 GB of free space are displayed as **Low capacity** and are disabled by default. These disks cannot be enabled as BLAZE storage.
> - Storage space currently used by BLAZE is excluded when calculating free space.
> - If disk information (location, capacity, and so on) cannot be retrieved because of a network or hardware error, the message "Cannot load disk information" is displayed.
> - Only users with the Administrator role can check and manage disk activation status.

To configure the server's storage

1. Click **Settings** > **Servers**.
2. In the Server settings page, select the desired server from the server list.
3. Click the **Storage** tab.
4. Configure the server's storage drives.
5. When finished, click **Apply**.

Viewing server storage information

In the **Storage** tab, activate the desired storage or refresh storage information.

- Activate storage: Turn on the toggle for a storage drive to save recorded video to that drive. Turn off the toggle to prevent recorded video from being saved to that drive.

  > **Note:** On BLAZE Appliance, this feature is always enabled and cannot be changed.

- Refresh: Click **Refresh** at the bottom to update the storage entries.

In the **Storage** tab, view the following items:

- **Location**: Displays the location of the server's storage drive. If the PC has multiple drives, the system drive (C:\) where the OS is installed cannot be used to store footage and will be shown as disabled.
  - If the PC where the server is installed has only the system drive, footage can be saved to C:\.
  - It is recommended to set the BLAZE storage drive as a separate drive from the system drive.

    > **Note:** On BLAZE Appliance, an index number for the storage location is shown instead of the drive name. Check this number on the storage map image.

- **Capacity**: Displays the available and used storage space of the drive. The orange portion of the status bar indicates used storage space, and the gray portion indicates available storage space.
- **Status**: Displays the current status of the storage drive. Status information is updated via periodic S.M.A.R.T. checks.

- **OK**: The disk is healthy and usable for recording.
- **Disabled**: The disk is disabled and cannot be used for recording.
- **SMART error**: A problem has been detected on the disk, but the disk can still be used. Hover over the status to view detailed information.
  - Bad sectors have occurred but are below the threshold (36).
  - An error was detected in a non-critical S.M.A.R.T. attribute.
  - The NVMe controller has reported warnings such as temperature rise.
  - The disk temperature exceeds 60°C.
  - Pending or uncorrectable sectors were detected (Linux).
- **Failed**: The disk has encountered a critical error and cannot be used for recording.
  - The number of bad sectors exceeds 36.
  - There is at least one pending sector (Windows).
  - There is at least one uncorrectable sector (Windows).

Note:

- In SMART error status, recording continues, but a system event notifies the user that disk inspection is required.
- In Failed status, recording stops to protect data, and a system event notifies the user that recording is no longer possible.

Formatting appliance storage

Format HDDs installed in the appliance individually or multiple drives at once.

To format storage

1. In the Server settings panel, click the **Storage** tab.
2. Click **Format**.
3. In the **Format storage** window, select the checkboxes for the disks to format, then click **Next**.
4. Reconfirm the disks to format and click **Format**.

Note:

- The storage format function is supported only on BLAZE Appliance.
- Executing a format will temporarily pause all recording operations.
- You cannot navigate to other menus while formatting is in progress.
- After formatting, a portion of the disk space may still appear as used. This is because the file system reserves approximately 5% of the space for stable OS operation.

Checking appliance status

Click **Storage map** to open a new window that visually displays the HDD layout of the appliance. HDDs are identified by numbers and their physical locations can be confirmed via the storage map.

Note: The storage map function is supported only on BLAZE Appliance.

Appliance RAID

RAID (Redundant Array of Independent Disks) is a technology that combines multiple hard disks into a single logical unit to improve data protection and reliability. You can configure the appliance's disks as RAID to ensure data redundancy and protect against drive failures. BLAZE Appliances support RAID 1, 5, and 6.

Create RAID

1. In the server settings panel, click the **Storage** tab.
2. Click **Create RAID**.
3. In the **Create RAID** window, select the desired RAID level and click **Next**.
4. Available volume configurations are automatically displayed. When you select a volume configuration, the volume is automatically configured based on the physical slot positions. (Users cannot arbitrarily select disks.) Click **Next**.
5. Review the configuration details, and then click **Create RAID**.

   Note: Disks are formatted when creating RAID. All existing data will be deleted.

6. The formatting and RAID creation progress is displayed. When the process is complete, you can verify whether it succeeded or failed.

Information about created volumes (location, capacity, status, member disks, etc.) can be viewed.

Note: Even if a factory reset is performed from the client's menu, the configured RAID array settings are not reset. If a hardware initialization button is used to perform a hardware reset, the RAID settings will be reset.

Note:

- If disks of different sizes are used together, the RAID array is configured based on the smallest disk capacity.
- If disks of different models are mixed, performance may be limited.
- Only one RAID level can be operated at a time, but recording can be performed using both RAID storage and normal HDD mode simultaneously.

Delete RAID

You can delete a configured RAID volume and revert it to individual disks.

- Volumes can be deleted per volume, and when deleted the disks belonging to that volume are formatted.
- When all volumes are deleted, the system reverts to normal HDD mode and recording becomes available.
- Deleting some volumes still allows recording on the remaining volumes, and the disks that made up the deleted volume are formatted so that they can also record in normal HDD mode.

Format RAID

Clicking the **Format** button, as with a normal HDD, displays the full list of volumes. You can select and format individual volumes. Formatting a volume deletes all data in the selected volume. However, the existing RAID level and volume configuration are retained after formatting.

Monitoring RAID status

Monitor the status of RAID volumes and individual disks to prevent data loss and respond promptly to failures.

Status	Description
OK	All disks are functioning normally.
Degraded	One or more disks have failed, putting the array at risk of data loss (RAID 1/5: 1 disk failed, RAID 6: 1–2 disks failed). You can identify problematic disks via Health Alert notifications.
Failed	The RAID volume is lost because of multiple disk failures (RAID 1/5: 2 disks failed, RAID 6: 3 or more disks failed). If a RAID failure occurs during operation, the system automatically reboots. After booting is complete, a health status alert is generated.
Rebuilding	Data recovery is in progress after replacing a failed disk. Progress (%) and remaining time are displayed.

Replacing failed disks and automatic recovery

1. Physically remove the failed disk and replace it with a healthy disk whose capacity is at least as large as the original disk.
2. When the new disk is installed, the system automatically detects it and begins rebuilding (data synchronization).

   Note: Any existing data on the new disk will be erased.

3. When recovery is complete, the RAID status changes to **OK**.

Health monitoring

On the Health monitoring *(page 295)* tab, you can view the following information.

- Total usage and read/write performance of RAID storage
- Temperature and Power-On Hours information for the individual disks in the RAID array

Configuring PoE settings

PoE (Power over Ethernet) delivers power directly to devices through the network cable, without requiring a separate power source. Administrators can configure and monitor power delivery for each port.

Note: PoE configuration is supported only on BLAZE Appliances.

PoE status monitoring and configuration

View the appliance's total power capacity and current consumption, and view information for each port and change settings. Click **Apply** to save changes.

- **On/Off**: Enables or disables PoE power delivery for each port. The default is On.
- **Port**: Displays the port number.
- **Device**: Displays information about the device connected to the port. (If the device is registered in BLAZE, the device name and IP are shown.)
- **Consumption**: Displays the power consumption of the port. Hover to see current usage and total capacity.
- **Status**: Indicates the current status of the port.
    - **OK/Disconnected**: Indicates the connection status of the device.
    - **Loop blocked**: Indicates that a network loop has been detected and the port has been blocked. (If two ports are connected to form a loop, a port is automatically blocked.)
    - **Overpowered**: Indicates a power overload condition. An alert is triggered if the supplied power exceeds the allowable limit. If the total allowable power is exceeded, a port is automatically disabled.
    - **External power**: Indicates that the connected device is using an external power source.

Configuring failover settings

If any of the clustered servers disconnects or fails to record video, the cameras or devices connected to the affected server are automatically assigned to the failover server, allowing live video monitoring and recording to continue. Enable failover and set the device failover priority. It is recommended to configure the server's failover settings for a stable monitoring environment.

Note:

- The **Failover** tab is displayed only when 2 or more servers are clustered.
- When failover occurs, the server that takes over the devices from the failed server must be designed to have sufficient performance to record all of the transferred devices.
- When configuring failover, all servers in the cluster must be located in the same network subnet.

To configure server failover settings

1. Click **Settings** > **Servers**.
2. In the Server settings page, select the desired server from the server list.
3. In the Settings panel, click the **Failover** tab.
4. Configure the failover settings.
5. After completing the settings, click **Apply**.

Server failover setting options

In the **Failover** tab, configure the following options:

- **Activate failover**: Toggle **Enable this server to take devices from offline servers** to **On** to designate the selected server as a failover server. If failover is not enabled, the setting options below are not displayed.
- **Max channels on this server**: Set the number of channels that can be connected to the selected server.
    - The maximum number of channels is the sum of the number of channels registered on the selected server and the number of channels that can be received for failover from the failed server. For example, setting the maximum number of channels to 100 when the server already has 70 channels registered allows failover for only 30 additional channels.
    - The maximum number of channels that can be connected to the server may vary depending on the server's specifications.

      Note: For BLAZE Appliances, the number of channels that can be connected during failover is fixed.

- **Currently on this server**: Displays the number of channels currently connected to the selected server.
- **Can take**: Displays the number of additional channels that can be connected to the selected server.
- **Failover priority**: Set the failover priority for devices.

Setting device failover priority

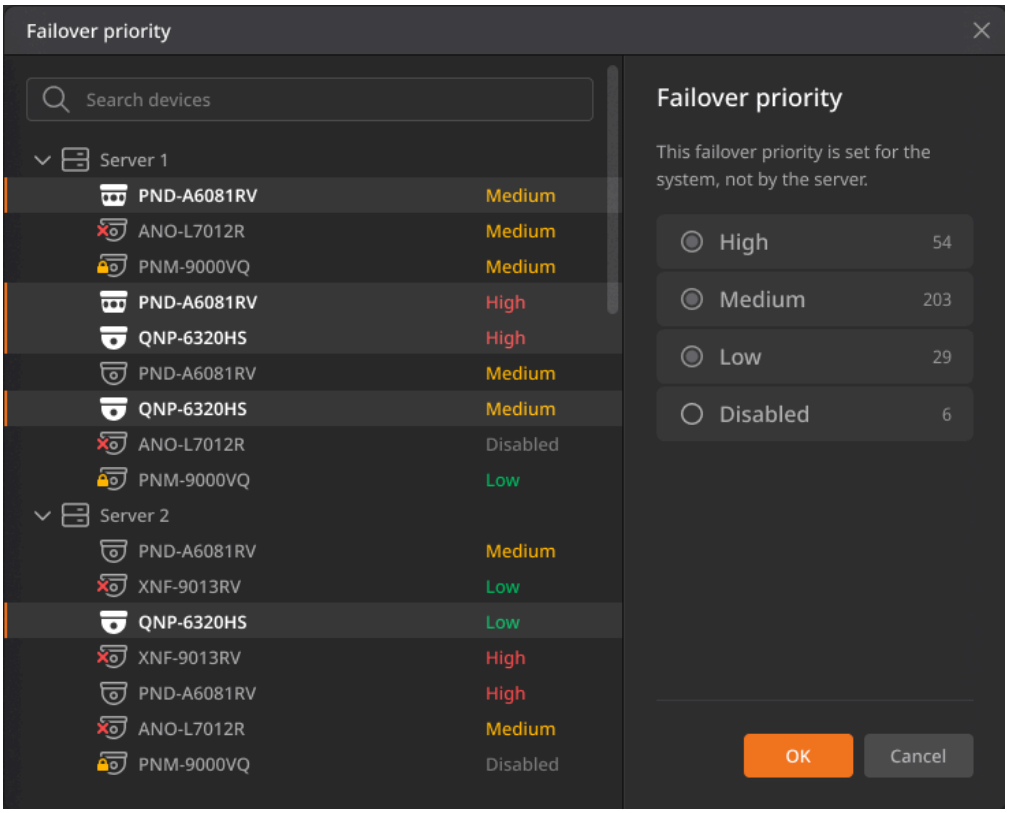
Set the failover priority for devices connected to the clustered servers. If an issue occurs with a server, the devices connect to another server based on their failover priority, allowing monitoring and video recording to continue.

Note: Device failover priority is a system-wide priority that shows all servers.

To set device failover priority

1. In the **Failover** tab, toggle **Enable this server to take devices from offline servers** to **On**.
2. Click **Failover priority**.
3. In the **Failover priority** dialog, set the priority for the device.
    - Choose from **High**, **Medium**, **Low**, or **Disabled**.
        - If you select **Disabled**, the device will not be moved to a failover server when the server fails, and it will not be available for monitoring or video recording.
        - If there are insufficient quantities to move to another server in the event of a server failover, a caution icon appears next to the server. In this case, devices with higher priority will be moved first, and devices can be moved randomly if their priorities are equal.
        - Even if the priority is set to **High**, the Failover function won't work if there are not enough devices available to connect to the failover server.
    - To select multiple devices, press and hold [Shift] or [Ctrl] and select devices.

4. After completing the settings, click **OK**.



Failover due to storage failure

In addition to failover caused by general network disconnections, the BLAZE system performs failover when a serious problem occurs in a server's recording storage (main storage).

Conditions for operation

- Failover starts when all main hard drives mounted in the server become unwritable.
- If even one hard drive is functioning normally, failover does not occur.
- The state of backup storage does not affect this failover.

Checking server status and notifications

- The failed server itself remains active on the network and functions such as live monitoring continue to operate, but recording is not performed.
- A storage failure notification is generated. However, if the server's network connection is lost, the notification message is replaced with a network disconnection failover message.

Semantic AI

To use the Semantic AI search feature, install the Semantic AI app and manage banned words used for searches.

The app can be uninstalled and reinstalled.

Note: For instructions on using semantic search, see Object_Appliance_GenerativeAI.dita. To use Semantic AI search, first install the Semantic AI app and turn on the **Enable Semantic search** toggle.

Note: Semantic search is supported only on specific models of the BLAZE Appliance.

Updating the Semantic AI app

You can update the Semantic AI app installed on the BLAZE server.

Note: Only users with Super administrator privileges can install or update the Semantic AI app.

Note: On BLAZE Appliance systems, the AI app is pre-installed and does not require separate installation.

To update the app

1. Click **Settings** > **Servers**.
2. Select the desired server from the server list on the Servers settings page.
3. In the server settings panel, click the **Semantic AI** tab.
4. Click **Update AI app**.
5. In the **Update AI app** dialog box, click **Browse**, select the app file, and then click **Next**.
6. When the app update is complete, click **Finish**.

Managing banned words

The BLAZE system includes a built-in list of banned words. However, the complete list is not disclosed for security reasons. System administrators can add specific words to supplement the list.

Note: Only System administrators can manage the banned words list. Individual server administrators do not have permission to access it.

To add banned words

1. Click **Manage banned words**.
2. Add banned words in the input field.
    - You can add multiple words at once by using commas (,) or pressing Enter. For example, enter words separated by commas, such as "word1, word2", or enter one word per line and press Enter to add it to the list.

    > **Note:** Only alphabetic characters are allowed. Special characters are not permitted.

3. Click **Save**.

You can delete individual words from the custom list or clear the entire list by using the Delete all feature.

Maintenance

Control the system operations of the appliance from within the client. Perform operations such as shutting down or restarting the system without using hardware buttons.

> **Note:** Maintenance features are supported only on BLAZE Appliances.

Restart and initialization

All reset operations require user confirmation before execution and are irreversible. Reset actions are recorded in the audit log.

- **Restart**: Reboots the appliance system.
- **Shutdown**: Safely powers off the appliance.
- **Reset to factory defaults**: Restores all appliance settings to factory defaults.

> **Note:** The HDD (hard disk drive) is not formatted; stored video data and audit logs are preserved. However, you must perform a Restore operation to access the video data again after the reset is complete.

- **Reset to factory defaults (except network parameters)**: Resets system settings while retaining network configuration such as the IP address.

  Note: The HDD (hard disk drive) is not formatted.

Note: If the device is reset using the physical hardware button, all network settings are reset and the HDD (hard disk drive) is formatted, deleting all data.

Renaming a server

Rename a BLAZE server.

To rename a server

1. Click **Settings** > **Servers**.
2. In the Server settings page, select the desired server and right-click it.
3. From the shortcut menu, click **Rename** and enter a new name.
   - Server name can contain up to 64 characters.

Note: A server can also be renamed by clicking the server name at the top of the Server settings panel. Enter the new name and click **Apply**.

Detaching a server

Detach a clustered server in BLAZE. Once detached, the server is removed from the list of servers and will no longer be accessible. All network devices connected to the server, such as cameras, will be unavailable, and recorded footage stored on the server cannot be played back or managed.

Note:

- You must have a Super administrator role to detach a server, and the Detach option will appear in the drop-down list when you as a Super administrator connect to the server.
- When a Super administrator detaches a clustered server, all users with access permissions to that server will be automatically logged out.

CAUTION: Detach a server only during initial system setup or when absolutely necessary, as determined by the system Administrator.

To detach a server

1. Click **Settings** > **Servers**.
2. In the Server settings page, select the desired server from the list of servers. Right-click it and click **Detach**.
    - A server can also be detached by clicking **Detach** at the bottom of the Settings panel.
3. In the confirmation dialog, click **Detach**.
4. In the user authentication dialog, enter Super administrator's password and click **Detach**.

    Note: To re-add a detached server, re-install the server software on that server first.

General

Configure general settings to apply to the system in BLAZE.

Note: Only users with Administrator privileges can modify general settings.

To configure general settings

1. Click **Settings** > **General**.
2. Configure the desired general options.
3. Click **Apply**.

General settings options

- **Do not allow changes to camera settings outside of BLAZE**: When enabled, BLAZE will ignore any changes to camera stream settings (e.g., resolution, bitrate, FPS) made from outside sources, such as the camera's webpage or another VMS. This ensures that the settings configured within BLAZE are always enforced.
    - This option applies to all items of the primary stream but does not apply to changes to WiseStream settings.

Note: Changing camera settings in BLAZE will also update the settings on the camera webpage.

- **Limit user login session to maximum**: When enabled, this setting automatically logs users out after a configured period of inactivity. The default duration is 30 days. When the session expires, the user is logged out, but any open work is automatically saved. To continue, the user must log in again.
    - This setting is managed by the server and applies to all connected clients simultaneously. For example, changing the session time to 30 minutes logs out all currently connected clients after 30 minutes.
- **Use biometric information for Similarity search**: Configure the system to use biometric data, such as facial data, to improve the accuracy of Similarity search results on cameras that support the feature. When enabling this feature for the first time, you must consent to the use of biometric information. For more information, see Similarity search *(page 281)*.
- **System time server**: Set the system time server. When the system includes multiple servers in a cluster, time synchronization is required, and the system time server serves as the synchronization reference for all servers. For more information, see Configuring time in a multi-server environment *(page 194)*.
- **Audit log retention**: The default retention period is 90 days and can be configured from 1 to 999 days. Audit log records older than the configured period are automatically deleted.

Configuring ONVIF event settings

You can map unique event topics generated by devices that comply with the ONVIF standard to one of the events supported by BLAZE, allowing them to be used for monitoring and rule-based automation. Mapping settings are managed at the system level.

- Mapped ONVIF events are treated the same as the corresponding BLAZE event across all BLAZE event-related features, including event notifications, recording, and rule actions. (For example, if the ONVIF event topic "tns:VideoAnalytics/Tampering" is mapped to the BLAZE "Tampering Detected" event, the occurrence of that topic is processed as a Tampering Detected event.)
- Multiple different ONVIF event topics can be mapped to the same single BLAZE event.
- Unmapped ONVIF events are neither received nor processed by BLAZE. Additionally, changing mapping settings does not retroactively apply to events that have already occurred.

Mapping ONVIF events

1. Click **Settings** > **General**, then click **ONVIF event settings**.
2. The **ONVIF event settings** window displays a deduplicated list of event topics supported by the ONVIF devices registered in the system.

   Note: Once an ONVIF event topic has been collected by the system, it remains in the list even if the device is deleted.

3. For each ONVIF event topic, select the BLAZE event to associate with it from **Mapping Target**.
   - You can use the following features to easily search for events.
     - **Search events**: Enter a keyword to search for the desired event topic.
     - **Filter events**: Click the filter button at the top to filter the event list by a specific device, or check **All Devices** and **Any event**.
     - **Sort**: Click the **Events (Topic)** or **Mapped to** header to sort the list in ascending or descending order.
4. After completing the mapping, click **OK**.

Event log

When a mapped ONVIF event occurs, the event is logged as follows.

- **Event name**: The name of the mapped BLAZE event
- **Description**: The original ONVIF event topic

Note:

- Enabling or disabling individual events on ONVIF devices cannot be controlled.
- Devices that do not comply with the ONVIF standard are not supported.

Import DesignPro profile

Import CCTV system settings designed in DesignPro into BLAZE and apply the configuration to registered cameras in bulk. This shortens initial setup time and improves consistency between the design and the actual environment.

Note: Before using this feature, physical cameras must already be registered on the BLAZE server and the DesignPro design must match the registered camera configuration. If no cameras are registered or the design does not match, the import cannot be performed.

1. Click **Settings** > **General** > **Import DesignPro profile**.
2. In the **Import DesignPro profile** dialog, click **Browse** and select the profile file downloaded from the DesignPro webpage, then click **Next**.
3. On the comparison screen, verify the system and project names and device counts for BLAZE and the DesignPro file, then click **Next** to proceed to matching.
4. Map the imported design information to actual devices by model.
    - **Screen layout**
        - **BLAZE list:** Displays information about cameras currently registered on the server (e.g., model, name, IP, thumbnail).
        - **DesignPro settings:** The list of device names and profile settings included in the design file.
    - **Matching rules**
        - **Automatic matching:** When model and quantity exactly match and a single DesignPro profile exists, matching is performed automatically.
        - **Manual matching:** When the model matches but quantities differ, or multiple DesignPro profiles exist, manual selection is required.
        - **Exclude from matching:** If the model does not match, the profile cannot be applied.

    Note: Matching simulation results are reflected on the screen in real time. DesignPro device quantities do not need to match exactly with BLAZE device quantities to perform matching (e.g., 5 design items can be mapped to 3 or 7 actual devices).
5. Click **Apply profiles** to validate compatibility and send settings to physical devices.

Note:

- If you cancel during application, settings already applied to devices remain, and only pending devices are canceled.
- If applying to a specific camera fails, the failure is recorded and the process continues for other valid devices.
- If a severe error occurs (e.g., process hang, no response, etc.), the operation result and the IP of the affected device are displayed.

6. When the application is complete, a summary dialog appears. Click **Finish**.

Reindex archive

When a mismatch is detected between the index file and the actual stored data during video playback, a notification is displayed, allowing direct access to the reindexing menu for recorded video from the notification.

Note:

- Reindexing is only accessible to authorized users.

To reindex archives

1. Click **Settings** > **General**.
2. Click **Reindex archive**. A warning message is displayed, indicating technical limitations such as possible data loss and performance degradation.
3. If needed, select the **Limit to selected time range** checkbox, then enter the period (start date/time, end date/time) for which the index will be rebuilt.
4. Click **Start reindex archive**.
   - Once reindexing begins, the progress (progress bar, percentage, status message, etc.) is displayed on the screen in real time.
   - You can click **Cancel** at any time during reindexing to stop the process, and only the results processed up to the point of cancellation are displayed.

Note:

- If the recorded video includes video files from multiple systems, those files are not processed. This feature applies only to the currently operating system.

Checking reindex results

After the reindexing operation (completed or canceled), a detailed result report is displayed. This allows you to clearly identify the final result of the recovery operation.

The report includes the following information.

- **Reindexed period**: The search period configured by the user or specified by the system
- **Final status**: Displayed as **Completed** if all channel scans were processed successfully, **Canceled by user** if the process was stopped by the user before completion, or **Canceled by server** if drive usage increased during reindexing
- **Channel statistics**: A summary of the total number of channels included, the number of channels scanned, and the number of channels to which reindexing was successfully applied
- **Device list**: A list of names and IP addresses of the cameras to which reindexing was applied

Cloud

Link to or unlink from the Hanwha Vision Cloud and check the connected organization information.

To connect to a specific local server from an external network, you typically need to enter the PC's IP address and port information and make changes to network settings such as port forwarding. In BLAZE, users can log in with a cloud account to monitor devices on multiple local servers linked to the cloud and view stored videos without entering the server address. When the system is linked to the cloud, all connected devices are automatically synchronized and added to the cloud. Cloud features also include remote network connection, federation, video sharing, and push notifications for efficient monitoring.

Note:

- Select an organization in Hanwha Vision Cloud and pre-register the BLAZE server.
- Super administrator role is required to link to or unlink from the cloud.

To link to Hanwha Vision Cloud

1. Click **Settings** > **Cloud**.
2. In the Cloud settings panel, click **Link to Hanwha Vision Cloud**.
3. In the **Link to Hanwha Vision Cloud** dialog, enter the email address and password of the cloud super administrator account (Organization Owner) and click **Log in**.
    - Click **Forgot password** to change your password.
    - If you don't have a cloud account, click **Create account** at the bottom of the connection window to create a cloud account and log in.
    - When two-factor authentication is activated, you will need to receive and enter an authentication code from the authenticator app. Two-factor authentication can be activated in Hanwha Vision Cloud. For detailed instructions on setting up two-factor authentication, see Setting up two-factor authentication on Hanwha Cloud Portal *(page 33)*.
4. When the list of organizations with currently registered servers in the cloud appears, select the desired organization and click **Next** →.
5. The status of linking the cloud to the server will be displayed.
    - Only the servers displayed in the connection dialog will be linked to the Cloud; other servers not shown can be linked later.
6. When the connection completion dialog appears, click **Close**.

Viewing cloud information

The name and URL of the linked cloud are displayed.

- When the cloud is linked, 🔗 will appear below the cloud name.

Checking connection status

Log in as a cloud administrator to check the system's connection status.

- Go to **Settings** > **Servers**.
- Check the Cloud section for each server. If **Cloud availability** is active (Available) and the **server status** is normal (Connected), the connection is valid.

Synchronization

You can synchronize data between the system and the cloud or check the current status.

> **Note:** Only local administrators, cloud administrators, and Global super administrators can perform synchronization.

Whenever data synchronization occurs, the current status is displayed in the Cloud settings panel.

- **Synced now**: Data synchronization has been completed. The date and time of the last successful data synchronization are displayed.
- **In progress**: Data synchronization is in progress and the progress rate is displayed.
- **Failed to sync**: An error occurred during data synchronization.

Clicking **Sync now** synchronizes data for the following items, and you can check the synchronization progress status.

- Global user list
- Cloud user list (system roles)
- Global roles
- Username
- Portal account status

Unlinking from Hanwha Vision Cloud

Unlink from Hanwha Vision Cloud.

> **Note:** If the system is offline, to unlink from the cloud you must access the BLAZE Web Client, go to the All systems page, find the system, and unlink it.

1. In the Cloud settings page, click **Unlink from Hanwha Vision Cloud**.
2. In the **Unlink system from Hanwha Vision Cloud** dialog, enter the password for your Hanwha Vision Cloud account, then click **Next** →.
3. Enter the 6-digit authentication code from your authenticator app and click **Next** →.

    - The authentication code is only required if two-factor authentication (2FA) is enabled in Cloud Portal.
4. Review the detailed information in the dialog and click **Unlink system**.
5. Once it is unlinked, click **Close**.

> **Note:** If you are using services linked to the cloud, you cannot unlink from the cloud. Before unlinking from the cloud, terminate or stop all connected services.

> **Note:**
>
> - Unlinking from cloud will disable features, such as remote server access, video sharing, federation, and push notifications.
> - Even if BLAZE and cloud are unlinked, the camera, user settings, and video archives stored on cloud's server can still be accessed locally.

Using system federation in the cloud

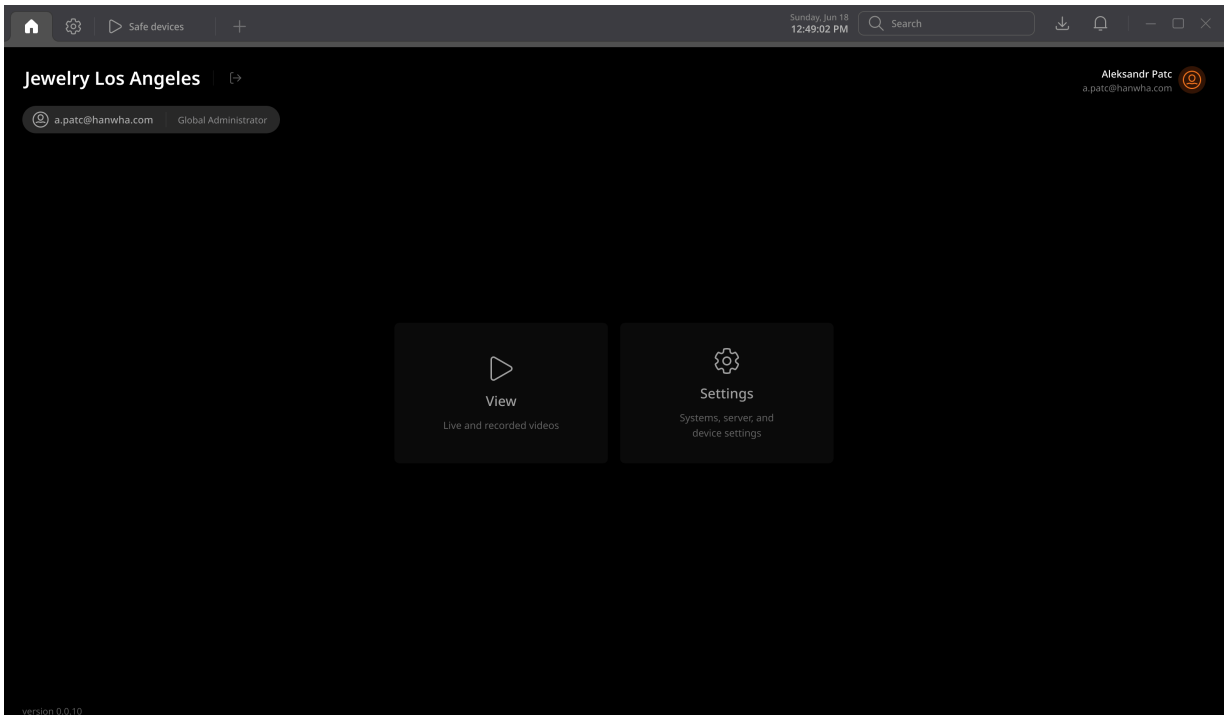
Connecting Hanwha Vision Cloud with BLAZE enables federation mode, which links a single server or a cluster of two or more servers. While a standard BLAZE client can only connect to one system at a time, federation mode enables selecting devices from multiple systems within an organization for monitoring and video playback.

To enter federation mode, select an organization on the BLAZE login screen and sign in with a cloud account. In the connection list, select the organization name, indicated by a building icon, and click **Connect**. In federation mode, only the **View** and **Settings** menus are available.

- On the **View** tab, selecting a system within the organization shows all devices for that system. Use the cross-system layout feature to monitor cameras from different systems simultaneously in a single layout.

- On the **Settings** page, only **Users**, **Roles**, and **Client settings** menus are available, which are used for functions such as global user management. Device management

functions, like managing cameras or recording servers, are not supported in federation mode. To configure such devices, you must be connected to the individual system.



Note: Selecting an individual system under a federation on the login screen connects in standard mode, not federation mode. In standard mode, the available client menus are determined by user permissions, just as they are for a local user.

Federation mode and user permissions

When connected in federation mode after selecting an organization, view and manage global account users. The list of users displayed depends on the permissions of the logged-in user.

- In federation mode, users can only access the client's **View** and **Settings** menus.

Note:

- Only a Global super administrator or a Global administrator can add global privileged users.
- Global privileged users can be added when a system is added to the organization.
- Global privileged users can only be managed from the BLAZE desktop client while in federation mode.

- Global privileged users: Users who sign in with a global account have automatic access to all systems and devices within the organization. The Global super administrator can manage Cloud system users and change their roles.
    - **Global super administrator**: The user who registered the organization in the cloud. This role has all permissions and is unique—it can only be held by one user. The Global super administrator can assign and manage administrators and users with other roles.
    - **Global administrator**: Has full permissions except for registering an organization. Global administrators can assign operators and regular users, but cannot add or remove other administrators.
    - **Global operator**: Can only manage layouts for remote monitoring and related tasks.
    - **Global regular user**: Can only create and delete layouts for remote monitoring.

Monitoring devices from multiple systems in a single layout

In federation mode, add devices from multiple systems to a single layout for monitoring. Saving the layout makes it accessible from multiple clients through your cloud account.



Note: Only the Global super administrator and Global administrator can add devices to or remove them from a layout that contains devices from multiple systems.

Rules

The Rules page allows selecting event triggers to detect specific events and configuring actions to execute when these events occur. In the **Rules** page, add, modify, or delete event rules.

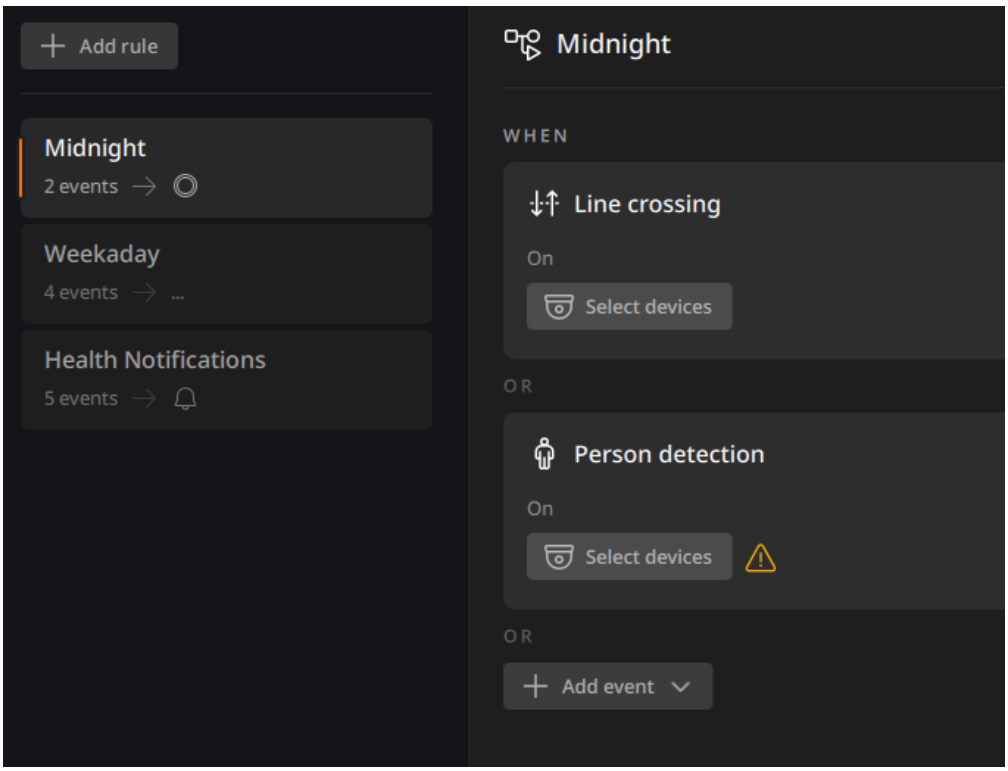
When event rules are applied to devices including cameras added in BLAZE, they detect event triggers, such as motion during monitoring, channel disconnection, or face detection, and execute the configured actions to notify users of the event. Check event notifications or actions and take necessary measures.



Note: Only users with an Administrator role can add, modify, or delete event rules.

Viewing the list of event rules

By clicking Rules in the menu, you can view a complete list of added event rules. In the **Rules** page, when you select a rule card, the rule card (Under the **WHEN** section) and the event trigger card (Under the **DO** section) will be displayed.



- When a card represents an active rule, the card displays the rule's name, trigger and action settings. When a card represents an inactive rule, it displays a message **Disabled**.
- If the event rule requires verification for trigger or action settings, a warning icon ⚠ will be displayed. This warning icon may appear in a rule card, event trigger card, or action card.
    - Warning icon for event triggers:
        - If a detection area, excluding area, or virtual line is not set for the event trigger.
        - If the device for the selected event trigger is not chosen.
        - If the device for the selected event trigger has been deleted.
    - Warning icon for event actions:
        - If the device or user for the selected event action is not selected.
        - If an event action is set but no execution item is selected, such as opening a layout.
        - If an event action is set but no user is selected.

Note: Health notifications rules are system event rules for monitoring system status. These are automatically created when BLAZE is installed and can be modified or deleted.

- If an error or issue occurs in BLAZE, a notification will be sent to all users.

Adding an event rule

Add and manage event rules in BLAZE. An event occurs when the system or a device detects a specific event trigger. Set event actions to notify users, ensuring that key monitoring events are tracked and necessary actions are taken.

When adding event rules, add multiple event triggers and actions, including duplicates of the same trigger or action. If multiple event triggers are set, the event occurs if any of the triggers are detected. For example, if you set two triggers, "Motion detection" and "Person detection," for Camera A, and set actions "Record video" and "Activate PTZ preset," if motion or a person is detected by Camera A, the event is recorded and the camera view shifts to the selected PTZ preset. When the system detects the motion trigger, the "Motion detection" event is logged, and when a person is detected, the "Person detection" event is logged.

Note:

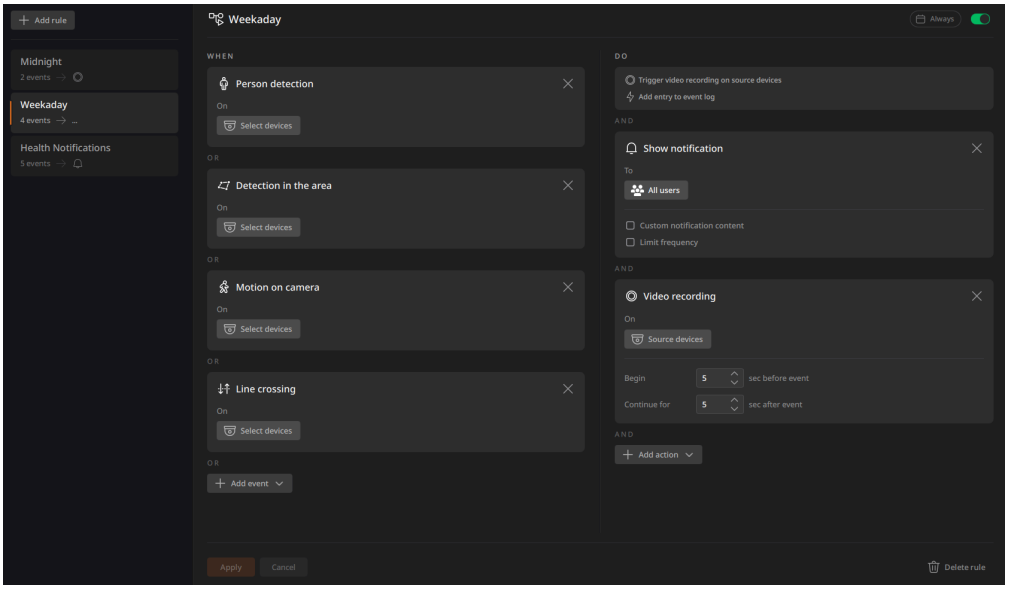
- Only users with Administrator role can add event rules.
- Device events can be viewed in the Event log even without configured event rules. Event log is available in the Events *(page 284)* tab.
- Multi-channel cameras can have event rules added for each channel.
- There is no limit to the number of event rules that can be added. However, if a large number of event rules are added to BLAZE, system performance may be degraded.

To add an event rule

1. Click **Settings** > **Rules**.
2. Click **Add rule**.
3. Enter a new event rule in the text box at the top of the Rules page.
4. In the **WHEN** section, select the desired event trigger card.

- Click **Add event** to add multiple event triggers. Configure detailed settings for devices or areas to which each added event applies.
- Click ✕ button to delete the added trigger.

5. In the **DO** section, select the desired action card.
   - Click **Add action** to add multiple event actions. Configure detailed settings for the devices or users to whom notifications will be sent for each added action.
   - Click ✕ button to delete the added action.
6. Click **Apply**.



Enabling an event rule

Choose whether to enable the added event rules. When an event rule is added, it is set to **On** by default.

> **Note:** If the toggle button for the event rule is set to **Off**, a notification bar will appear at the top, and the added events will not occur. To stop using the added events, toggle it to On.

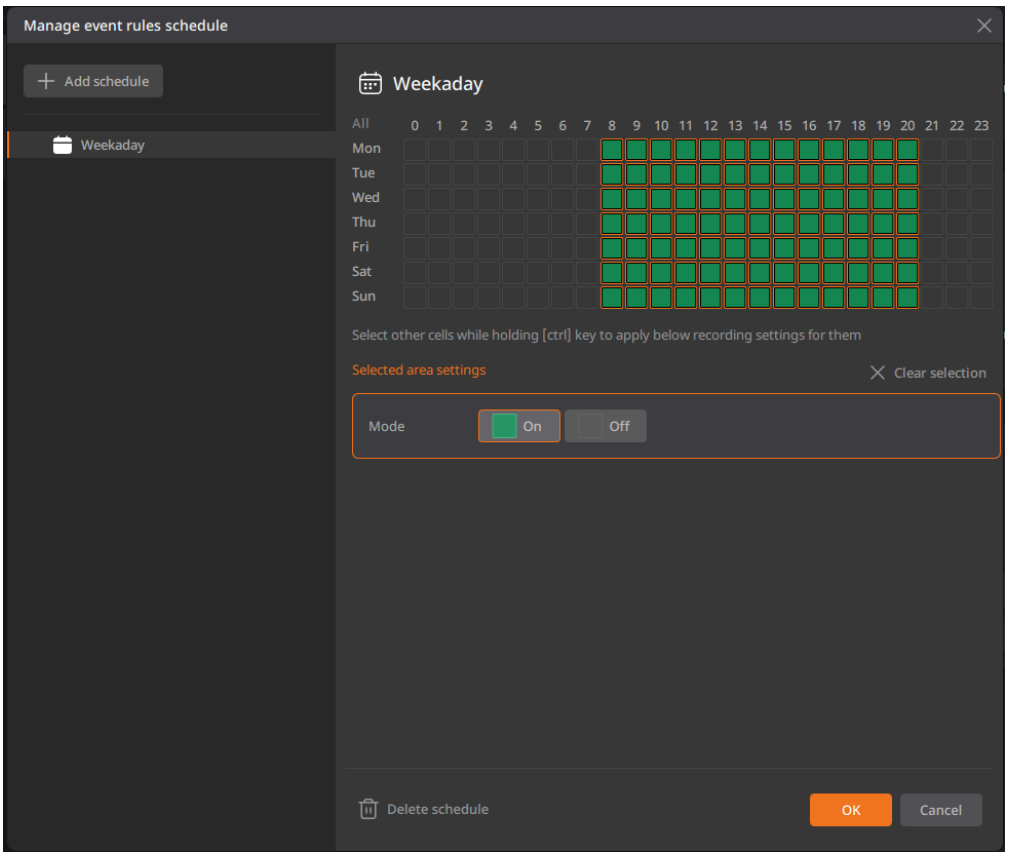
To set a schedule for an event rule

Set the schedule for the added event rules. When an event rule is added, the schedule is set to Always by default. Configure the rule to be used only at specific times or on specific days, rather than always.

To set a schedule for an event rule

1. In the **Rules** settings panel, click **Always** at the top.
2. In the **Manage event rules schedule** dialog, click **Add schedule**.

3. Enter the schedule name in the text box above the calendar.
4. Drag the cells (desired days and times) to set a schedule.
    - To select multiple cells, press and hold [Ctrl] and select multiple cells. The selected cells will be highlighted with a dark orange line.
5. Select **On** or **Off** in **Mode**.
    - Click **Clear selection** to reset the selected cells.
6. Click **OK**.



To edit a schedule for an event rule

Modify the schedule for an event rule to run.

To edit a schedule for an event rule

1. In the **Rules** page, click **Always** at the top or configured event rule schedule.
2. In the **Manage event rules schedule** dialog, select the set schedule and modify it.
3. After completing the modifications, click **OK**.

To delete a schedule for an event rule

Delete a schedule for an event rule to run.

To delete a schedule for an event rule

1. In the **Rules** page, click **Always** at the top or configured event rule schedule.
2. In the **Manage event rules schedule** dialog, select the event rule schedule you want to delete and click **Delete schedule**.
3. After completing the modifications, click **OK**.

Note: If there are event rules using event rules schedules, the schedule cannot be deleted.

Setting an event trigger

When adding a rule card, select an event trigger card, such as **Motion detection**, **Device disconnected**, or **Storage error**. Add multiple key monitoring elements as event triggers to manage event rules.

Note: The available event triggers may vary depending on the types of devices connected to BLAZE.

Setting a device event trigger

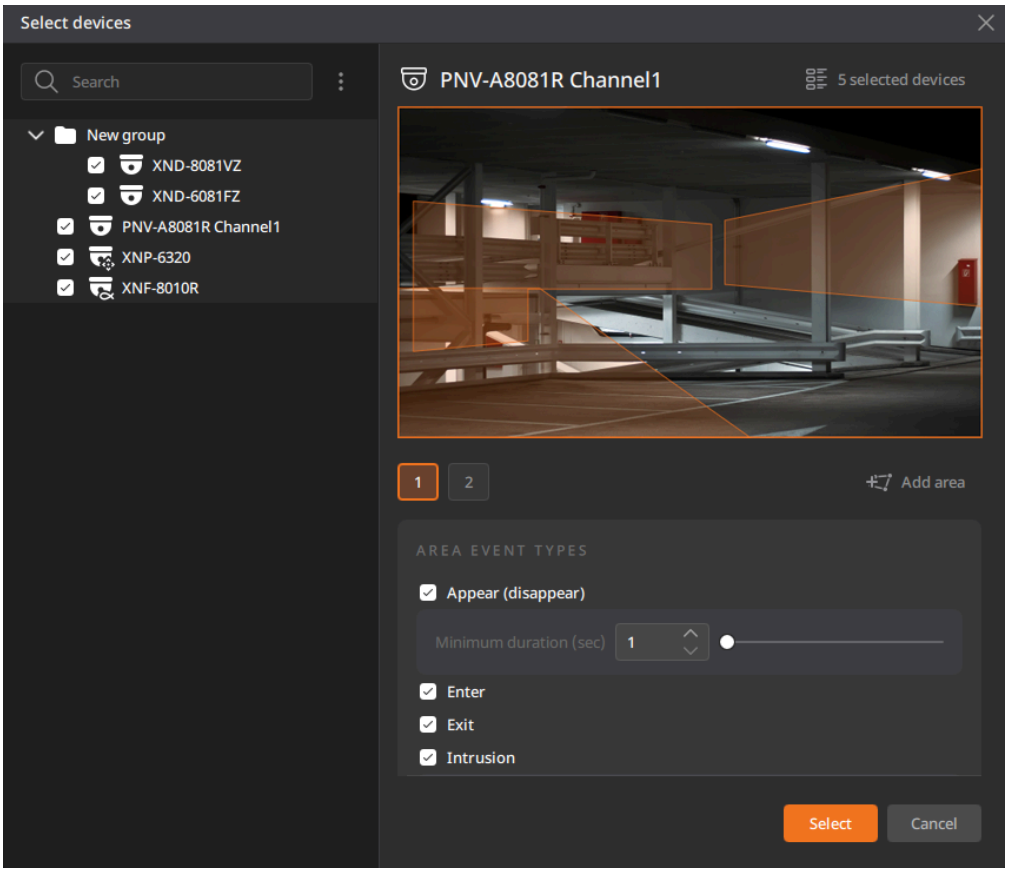
Device event triggers occur or are detected by devices connected externally to BLAZE. Device event triggers include real-time monitoring elements, such as intrusion detection, that are primarily checked in the VMS.

Note: When selecting a trigger and devices for applying event triggers, if you click **Select devices** > **All devices**, all devices where the event trigger can be configured are selected. Devices that cannot be configured with the event trigger are displayed as deactivated at the bottom of the device list.

- When you select a menu that appears by clicking ⋮ in the device list, the devices where the event trigger cannot be set are displayed as disabled.

Note: WiseAI triggers, such as forklift detection, are additional features that need to be separately configured. If you remove a camera capable of using these events from BLAZE, the previously used event triggers are not deleted. Although the event triggers remain, they cannot be applied to new event rules since the connected devices have been removed, and will only be displayed during event searches or video playback.

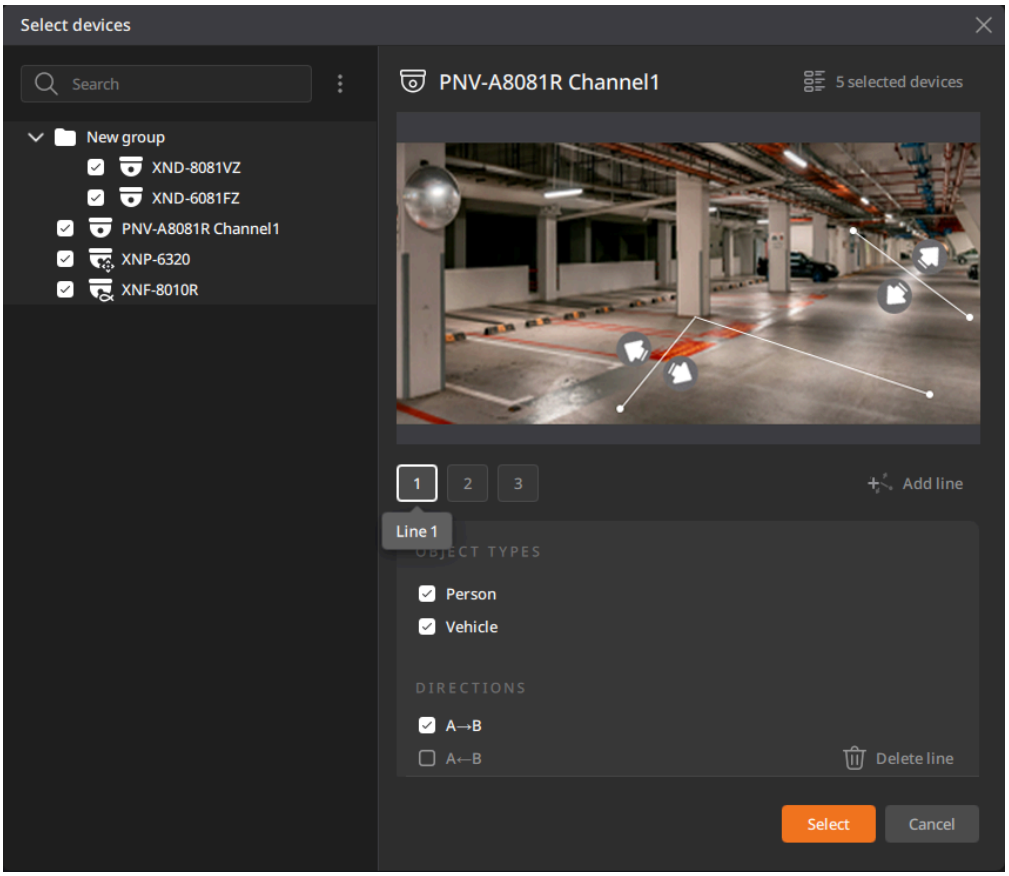
- **Person detection**: An event occurs when a person is detected.
    - Available only when an AI camera is connected.
- **Face detection**: An event occurs when a face is detected.
    - Available only when an AI camera is connected.
- **Vehicle detection**: An event occurs when a vehicle is detected.
    - Available only when an AI camera or a camera with the Wisenet Road AI app installed is connected.
    - Select the type, color, brand, and model of the vehicle.
- **License plate detection**: An event occurs when a license plate is detected.
    - Available only when an AI camera is connected.
    - Set the numbers, country, and region to be detected on the license plate.
- **Detection in the area**: An event occurs when specific motion is detected within the defined detection area of the camera. Selecting this option allows you to configure detailed video analytics (VA) settings.



Note: Adding or modifying the detection area in BLAZE is reflected in the camera settings.

- Click **Add area** to add detection areas for each camera. The number of detection areas that can be added may vary depending on the camera's specifications.
    - Click **Delete area** to delete the selected detection area.
    - To set an excluding area, go to **Settings** > **Devices**, select the desired camera, and click the **IVA** or **Objects** tab. For more information, see Configuring objects settings *(page 162)*.
- **Appear (disappear)**: An event occurs if an object that was not present in the detection area stays within the area for a certain period, or if an object that was present in the area disappears for a certain duration. Set the minimum duration required for the event trigger to be detected.
- **Enter**: An event occurs when a moving object enters the set detection area from outside.
- **Exit**: An event occurs when a moving object exits from inside to outside the set detection area.
- **Intrusion**: An event occurs when a moving object is detected within the set detection area. Set the minimum duration required for the event trigger to be detected.
- **Loiter**: An event occurs when the movement of an object loitering within the set detection area is detected. Set the minimum duration required for the event trigger to be detected.
- **Area object types**: Select the types of objects to be detected within the set detection area. An event occurs when the selected objects are detected.
    - Object detection can only be set with AI cameras; standard cameras will not display the **Area object types** option.

- **Line crossing**: An event occurs when an object crosses the set virtual line.



Note: The virtual line can be set on the camera, and any changes made on the camera are reflected in BLAZE. Similarly, adding or changing the virtual line in BLAZE is reflected in the camera settings.

- In **Object types**, select person or vehicle as the object crossing the virtual line.
  - Objects can only be set with AI cameras; the **Object types** option is not displayed on standard cameras.
- Set the virtual line on the selected camera. Click **Add line** and drag in the preview to add a virtual line. Select the crossing direction — **A→B**, **B→A**, or both directions. The event trigger operates according to the set direction.
  - Click **Delete line** to remove the selected virtual line.
  - The number of virtual lines that can be added may vary depending on the camera's specifications.

- **Motion detection**: An event occurs when motion is detected within the detection area set for the camera.
  - To add **Motion detection** as an event trigger, set a motion detection area. Go to **Settings** > **Devices**, select the desired camera, and click the **Motion** tab in the Settings panel. Enable **Motion detection** and set a detection area. For more information, see Configuring motion settings *(page 159)*.

- **Alarm input detection**: An event occurs when the state of an alarm input connected to a device changes. Click **Select inputs** to choose the input that will trigger the event. The displayed name and icon correspond to the alarm input settings; see Alarm I/O settings *(page 170)* for details.
- **Temperature detection**: An event occurs when the temperature exceeds the set threshold.
    - To add **Temperature detection** as an event trigger, set a temperature detection area on the camera. Go to **Settings** > **Devices**, select the desired camera, and click the **Webpage** tab in the Settings panel. In the camera webpage, click ≡, then go to **Analytics** > **Temperature detection** to add an area or modify the settings.
- **Shock detection**: An event occurs when shock or vibration is detected on the camera or if there is a physical change in location.
- **Fog detection**: An event occurs when fog or cloudy conditions are detected in the camera feed.
- **Defocus detection**: An event occurs when the focus of the camera lens becomes blurred.
- **Early fire detection**: Analyzes flames, smoke, and temperature; an event occurs when flames or smoke are detected.
- **Incoming call**: An event occurs when a call is received if an intercom is connected.
    - If the **Incoming call** event trigger is set for multiple devices, the devices are recognized as a single event. Set a single event action for this event trigger.
- **Audio detection**: An event occurs when audio above the level set for the camera is detected.
- **Sound classification**: The type of detected sound is classified, and an event occurs.
    - You can select the sound classification types to detect (Scream, Glass breaking, Car horn, etc.).
- **Vessel detection**: An event occurs when a vessel is detected. Vessels include small boats, fishing boats, and cargo ships.
- **Face mask detection**: An event occurs when the camera detects a person wearing or not wearing a face mask.
    - Both face mask on and face mask off conditions are supported.
- **Trigger button**: Manually triggers a one-time event when needed. Once an icon is configured, the button appears on the monitoring screen. Clicking the icon triggers the event and executes the associated action.
    - When the trigger button is configured, it appears on the monitoring screen and functions as an event trigger when clicked.

Setting a system event trigger

The system event trigger detects events or issues occurring within the BLAZE system. Events such as network disconnection or failure to store video on the server act as triggers. This trigger is used for monitoring system status.

Note: In BLAZE, a **Health notifications** rule can be created and applied for system monitoring. This event rule includes device connection and disconnection event triggers, with the **Show notification** action executed.

Note: System event triggers detect events occurring across all devices connected to BLAZE, so all devices are automatically selected by default. Deselect the auto-selected devices and select specific devices individually as needed.

- **Device disconnected**: An event occurs when the network connection between the server and device is lost or is functioning improperly.
- **Device connected**: An event occurs when a network connection between the server and device is reconnected after being disconnected.
- **Server started**: An event occurs when the server starts.
- **Server stopped**: An event occurs when the server stops running.
- **Storage error**: An event occurs when the server cannot store or transmit recorded video from the camera.

Event action settings

When adding an event rule card, select the event trigger card and configure the event action card. When the event trigger is detected, the configured action executes to notify users of the event by performing preconfigured actions such as triggering an alarm, sending an email, moving a preset, or recording video. The event actions that can be configured are as follows.

Note:

- The options available for event actions may vary depending on the types of devices connected to BLAZE. For example, the **Show call notification** action is available only when an intercom device is connected to BLAZE.
- While event actions apply to all users by default, they can be configured to run only for specific users.

- **Show notification**: When an event occurs, an alarm is displayed on the top bar of BLAZE, along with detailed information in the Events tab.
    - Set a user to display the event alarm for.
    - Select **Custom notification content** to enter the title and description to be displayed in the alarm. For example, if there is a significant event that a monitoring operator needs to verify, set the title to the actions the operator should take and the description to the relevant details.
    - Select **Limit frequency** to set the occurrence interval for event alarms. The interval can be set within the range of 1–999. For example, if the interval is set to 5 minutes, even if the same event occurs multiple times within 5 minutes, only one alarm is displayed. If alarms occur excessively at certain locations, setting the occurrence interval can help reduce the number of alarms.
- **Record video**: The recording of the selected device starts when the event occurs.
    - **Begin** and **Continue for** settings allow configuration of pre-recording and post-recording times. Enter the duration for recording video before and after an event occurs. Pre-recording can be set between 0–30 seconds, and post-recording between 1–400 seconds.
    - In **Source devices**, add other devices in addition to the source device. The source device refers to the camera where the event trigger occurred. When the configured event trigger occurs, the source device camera records the event video. If other cameras are installed near the source device, select those cameras to additionally record footage. Video from cameras in other locations can also be checked, allowing for more accurate verification of the event.
    - The source camera records the event by default, even if no separate event action is configured.
- **Open layout**: When an event occurs, the specified layout is executed.
    - A layout is a set of cameras and other items configured on a single screen. In a layout, monitor live video from multiple devices, play back saved recordings, and use various search functions.
    - When selecting the **Layout** to execute, only shared layouts are displayed. If there are no shared layouts, the message "No shared layouts" is displayed.
    - Set the **User** for executing the action.
    - If the layout set in the event action is deleted, a warning icon appears in the action card.
- **Set to fullscreen**: The event is displayed in full screen when it occurs.

- Switches to full screen when the selected **Layout** is being monitored and includes a camera.
- Only shared layouts are displayed in the selection list.

- **Create bookmark**: When an event occurs, the video from the selected device is recorded and set as a bookmark.
  - Set pre-recording and post-recording times in **Begin** and **Continue for**.
- **Trigger alarm output**: When an event occurs, the alarm output connected to the device activates. For details on each alarm output, see Alarm I/O settings *(page 170)*.
  - Click **Select outputs** to choose the output ports that will be triggered when the event occurs.
  - In **Set to**, select whether the alarm output should be turned on (**Active**) or off (**Inactive**) when the event occurs.
  - In **Duration**, choose the length of time the action set in **Set to** will remain active.
- **Activate PTZ preset**: The PTZ preset of the selected device executes when the event occurs.
  - Click **Select devices** to select the preset of the PTZ camera.
- **Send HTTP request**: Sends an HTTP request to an external system when the event occurs.
  - **URL**: Enter the target URL to send the request to. Required; up to 500 characters, spaces not allowed, special characters allowed, case-sensitive. If the URL contains a space, a warning message is displayed.
  - **HTTP method**: Select the HTTP method. You can choose from **POST** (default), **GET**, **PUT**, and **DELETE**.
  - **Request body**: Enter the data to send. Optional; up to 500 characters, spaces allowed, special characters allowed, case-sensitive. The Content-Type is determined automatically based on the entered value. (Supported formats: text/plain, text/html, application/html, application/json, application/xml)
  - **Variable guide**: Inserting the variables below into the URL and Request body fields automatically substitutes them with actual event information when the action is executed.
    - `{rule.name}`: Event rule name
    - `{event.type}`: Event type identifier (e.g., motion_detection, person_detection)
    - `{event.name}`: Event name. May vary depending on the language setting. (e.g., "Motion detection", "사람 감지")
    - `{event.timestamp}`: UTC time the event occurred
    - `{event.caption}`: Caption field of a custom event

        - `{event.description}`: Description field of a custom event.
        - `{source.type}`: Event source type (device or server)
        - `{source.name}`: Name of the source where the event occurred (device and channel name, or server name)
        - `{source.id}`: ID of the source where the event occurred
    - **Authentication**: Select the authentication method and enter the corresponding credentials.
        - **None**: No input required
        - **Basic**: User ID (up to 500 characters), Password (up to 500 characters)
        - **Digest**: User ID (up to 500 characters), Password (up to 500 characters)
        - **Bearer token**: Token (up to 2048 characters)
    - **Action limit time**: Limits the frequency of HTTP requests when the same event occurs repeatedly. The default and minimum setting is limit enabled (1 second).
- **Send email**: An email is sent to the registered email address when the event occurs.
    - The send email action is available only if the system is connected to the cloud.
- **Send mobile notification**: An event push is delivered to mobile devices connected to the cloud when the event occurs.
    - The send mobile notification action is available only if the system is connected to the cloud.
- **Show call notification**: If an intercom is connected, a call reception alarm is displayed when a call comes in.
    - The **Show call notification** action is available only when the **Incoming call** event trigger is selected.

Modifying an event rule

Change the event triggers or actions of added event rules and change the devices to which they apply.

Tip: For more information on event rules, see the following sections:

- Adding an event rule *(page 220)*
- Setting an event trigger *(page 223)*
- Event action settings *(page 228)*

To modify an event rule

1. Click **Settings** > **Rules**.
2. Select the desired rule from the rule cards.
3. In the Rules page, change event triggers and actions.
4. Click **Apply**.

Deleting an event rule

Delete event rules that are no longer in use or are outdated.

To delete an event rule

1. Click **Settings** > **Rules**.
2. Select the desired rule from the rule cards.
3. Click **Delete rule** at the bottom of the Rules page.
4. In the confirmation dialog, click **Delete**.

Backup and restore

Back up and restore system settings to preserve the current configuration and recover it when needed.

Note: Only users with Administrator privileges can perform backup and restore operations.

Manual backup

Manually back up system settings as needed. Backup files can be encrypted and saved to the client device.

- Backup file name format: ManualBackup_YYYYMMDD_hhmmss_[SW version].bbu
- Default backup file location:

- Windows: %LOCALAPPDATA%\Hanwha Vision\Blaze Client\backup (%LOCALAPPDATA% typically refers to C:\Users\[username]\AppData\Local)
- macOS: ~/Library/Application Support/Hanwha Vision/Blaze Client/backup (~ refers to the home directory of the currently logged-in user.)

> **Note:** The backup file storage path can be changed in **Client settings** > **Default configuration backup save path**. For BLAZE Appliance, the default path is not supported when backing up system settings.

To perform a manual backup

1. Click **Settings** > **Backup and restore**.
2. Click **Backup now**.
3. In the System backup dialog, enter the following:
   - **Description**: Enter a description for the backup file.
   - **Password for backup file**: Enter a password to encrypt the file.
4. Click **Create backup**.

Automatic backups

To prevent data loss, the system performs regular automatic backups. Automatic backup files (*.bbu) are encrypted and stored. The initial automatic backup password is set to match the Super administrator password entered during system setup. The administrator password and the automatic backup password can be changed independently.

> **Note:** License information is not included in automatic backup files.

Automatic backups

- Backup schedule
  - Daily at midnight: If any configuration changes have occurred, the system performs a backup at midnight.
  - Before update: The system performs a backup automatically before software updates.
  - Before clustering: The system performs a backup automatically before server clustering.
- Backup file management

- The system retains up to five backup files for each backup type (scheduled, pre-update, pre-clustering).
- Automatic backup files are created on all disks owned by the server (in a clustered environment, they are created across the entire system).

- Backup file location
  - Windows: C:\Hanwha Vision\BLAZE server\Archive
  - Linux: /opt/hanwha Vision/media server/backup

> **Note:** The storage path for automatic backup files cannot be changed.

Automatic backup file password

- Initial password policy
  - The Super admin password entered during initial system setup is set as the initial automatic backup file password.
- **Password management**
  - In **Settings** > **Backup and restore**, click (**Auto backup settings**) next to **Next backup is scheduled at** to change the automatic backup file password.
  - Changing the password does not require authentication of the previous password; enter only the new password.
  - The new password applies to backup files created after the change. To restore a previous backup file, enter the password that was in effect when that file was created.
  - During system restoration, enter the automatic backup file password that was applied to the backup file being restored — not the current Super administrator password.

To view and download automatic backup files

The Automatic backup tab lists generated backup files.

Select a file and click **Download file** to save it to the client PC. The default download path is the same as for manual backup files.

Restore

Restore system settings from a backup file.

Warning: During restoration, all user sessions are terminated, recording stops, and both the server and client restart.

To restore the system

1. Click **Settings** > **Backup and restore**.
2. Select the desired backup file from the list and click **Restore**.
    - To restore from a separately saved file, click **Restore from a file** and select the backup file (.bbu).
3. In the **Restore from backup** window, enter the backup file password.
4. Verify version compatibility. Restoration is possible only when the major, minor, and patch versions match.
5. For clustered systems, map the backup server to the target server.
    - If IP addresses match, mapping is automatic. If not, map servers manually.
    - Monitor restoration progress in real time.
6. When restoration completes, the login screen appears.

Note: If restoration fails, the system automatically rolls back to the previous state.

Updating software

Update client or server software. Connect to the update server to update online, or upload the update installation file to update offline.

Note: Only users with an Administrator role can update the software.

Updating the program online

Update server and client programs to the latest version online.

To update the program online

1. Click **Settings** > **Software update**.
2. When a new version is available, a notification badge appears on the Software update menu and in the Health notification area at the top right of BLAZE.
    - Check the latest update version and release notes available to update.
3. Click **Download update** to download the update file.

4. Once the update file is downloaded, click **Install update** to update the program.
5. Once the update is complete, the server restarts automatically. The client can choose to restart at the final step of the update process.

> **Note:** On BLAZE Appliance, the system restarts automatically when the update is complete.

Updating the program using an update file

Update server and client programs to the latest version using the BLAZE update file.

To update the program using an update file

1. Click **Settings** > **Software update**.
2. In the Settings panel, click **Upload update file**.
3. When the file selection window appears, choose the update file and click **Open**.
4. Once the selected file is uploaded, click **Install update** to update the program.
5. Once the update is complete, the server restarts automatically. The client can choose to restart at the final step of the update process.

> **Note:** On BLAZE Appliance, the system restarts automatically when the update is complete.

License

BLAZE provides various license types to activate and expand features according to user requirements. Licenses are applied system-wide, and administrators assign licenses to individual cameras to activate recording functionality.

> **Note:** Only users with Administrator privileges can access and manage license features.

> **Note:** BLAZE Appliances is an integrated models with built-in licenses; you cannot delete a license or arbitrarily change its activation/deactivation status.

License type

The BLAZE system offers four main types of licenses.

- **Free**: A temporary license that allows recording from up to five cameras for up to 30 days without license registration after installing BLAZE. It is intended for testing purposes. Once registered, the license cannot be extended or reused on the same device (e.g., PC).
- **Trial**: Provided to allow system evaluation prior to purchasing a software license. It can be activated with administrator privileges and enables full functionality for up to 30 days. If additional testing time is required after expiration, a new trial license can be activated.
- **Premium**: Offers permanent recording capabilities. The number of supported camera channels corresponds to the license key purchased. Even after the support period ends, recording and all features remain available, but BLAZE software updates are no longer accessible.
- **Software Update Plan (SUP)**: A license that extends the support period for the Premium license.

Activating a license online

In an environment with internet access, the license code can be entered directly into the system to activate the license.

To activate the license online

1. Log in to the system with Administrator privileges.
2. Click **Settings** > **Licenses**.
3. Click the **Add license key** button.
4. In the **Add license key** dialog, select **Online activation**.
5. Enter the license key in the **License key** field, then click the **Next** button.
6. Select the server to apply the license, then click the **Activate** button.
    - If only one server is installed, this step is skipped.
7. Review the activated license information and click **Close** to exit the window.
    - Click the **Add another key** button to continue activating additional licenses.

Activating a license offline

In environments with limited internet connectivity, licenses can be activated using a mobile device.

To activate the license offline

1. Log in to the system with Administrator privileges.
2. Click **Settings** > **Licenses**.
3. Click the **Add license key** button.
4. In the **Add license key** dialog, select **Offline activation**, and click **Next**.
5. Enter the license key and click **Next**.
6. When the QR code appears:
    - Scan the QR code using a mobile device, or click **Copy URL** below the QR code and open the activation page on a device with an internet connection. After opening the page, check the authentication code and activation code, or enter an email address to receive them by email.
    - On the BLAZE system screen, enter the authentication code and click **Next**.
    - Enter the activation code and click **Activate**, or click **Upload activation file** to upload the activation file received by email.

Deactivating a license

The Premium license can be deactivated and transferred to another server or system.

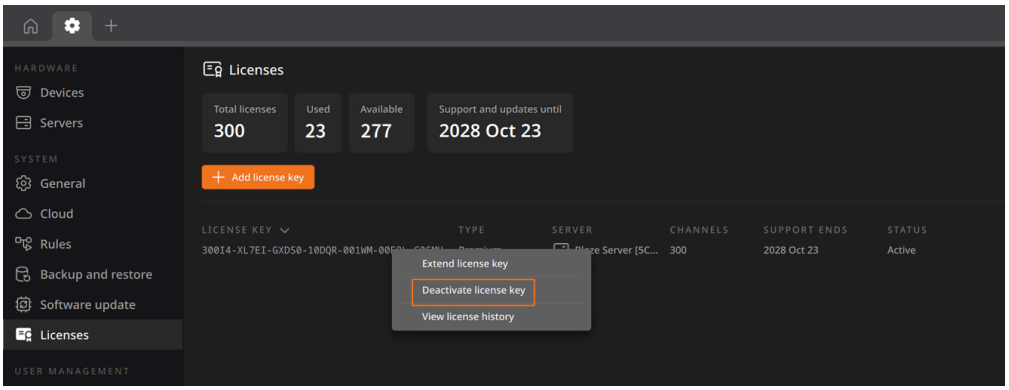
Once deactivated, the license is unlinked from the original server and can be reactivated and used on any system, including other servers.

Note:

- If the licensed server is malfunctioning and cannot be deactivated, please contact the technical support team for assistance.
- License deactivation is only possible when the client PC is connected to the internet.

To deactivate a license

1. Select the license to be deactivated from the licenses list.
2. Right-click and select **Deactivate license key** from the shortcut menu.



3. In the **Deactivate license key** dialog, review the license information and then click **Next**.
4. Review the deactivated license information and click **Close** to exit the dialog.

The license will be removed from the licenses list.

Extending licenses

The Software Update Plan (SUP) license can be used to extend the support period of a Premium license.

> **Note:** The SUP license key must match the number of channels in the existing Premium license.

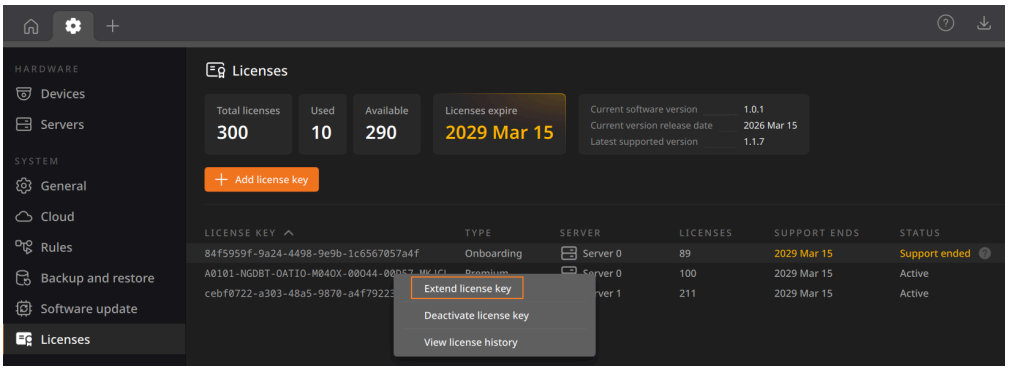
If a SUP license is applied after the Premium license has expired, the new support end date is calculated based on the extension date. (e.g., if a license that expired in 2020 is extended in 2025 with a 3-year SUP license, the new support end date will be 2028.)

Even if the extended license is deactivated and reactivated, the extended support end date remains unchanged.

To extend a license

License extension can be performed either online or offline, similar to license activation. The following steps describe how to extend a license in an online environment where the client PC is connected to the internet:

1. Log in to the system with Administrator privileges.
2. Click **Settings** > **Licenses**.
3. Select the license to extend from the list and right-click.
4. From the shortcut menu, select **Extend license key**.



5. In the **Extend license key** dialog, select **Online activation**, enter the license key, and click **Next**.
6. Review the extended license information and click **Close** to exit the window.

License grace period

If the server with an applied license experiences a failure, a 30-day grace period is provided. After this period, the license will be suspended.

Removing a license

If a license has expired or the server is offline, the license can be removed from the licenses list.

> **Note:** Only users with administrator privileges can remove a license.

A license can be removed if it meets the following conditions:

- Expired license
- Invalidated license

> **Note:** If the license to be removed is still within the grace period, the license may be automatically restored when the server comes back online.

Activating a free license

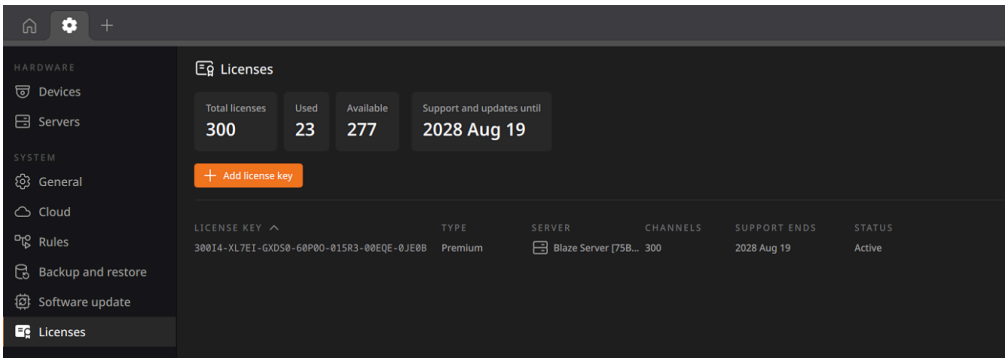
Click the **Activate free license** button in **Settings** > **Licenses** to activate a license that allows recording from up to 5 cameras for a maximum of 30 days.

Monitoring licenses

The BLAZE system provides a comprehensive overview of license status.

- **Total licenses**: The total number of licenses registered in the system
- **Used**: The number of licenses currently in use. (When license usage is enabled for a specific device via **Settings** > **Devices** > **Recording**, the number of used licenses increases by one.)
- **Available**: The number of licenses currently available for activation
- **Update eligibility**: The date until which license support and updates are available (displayed based on the earliest expiration date among the currently used license keys. If no license is in use, the latest expiration date among the available license keys may be displayed instead.)

Registered licenses and their details are displayed for reference.



- **License key**: License key number
- **Type**: License type (displayed as ‘Onboarding’, ‘Trial’, ‘Premium’, ‘SUP’)
- **Channels**: Number of channels activated under the license
- **Support ends**: Support and update expiration date
- **Status**: Current status of the License
    - **Active**: The license is activated and functioning normally
    - **Expired**: The license period has ended, and recording functions are disabled. (Applies only to free and trial licenses.)
    - **Support ended**: Recording functions remain available, but software updates are no longer supported after the license end date.
    - **Invalid**: The license has been invalidated and is no longer usable

Users

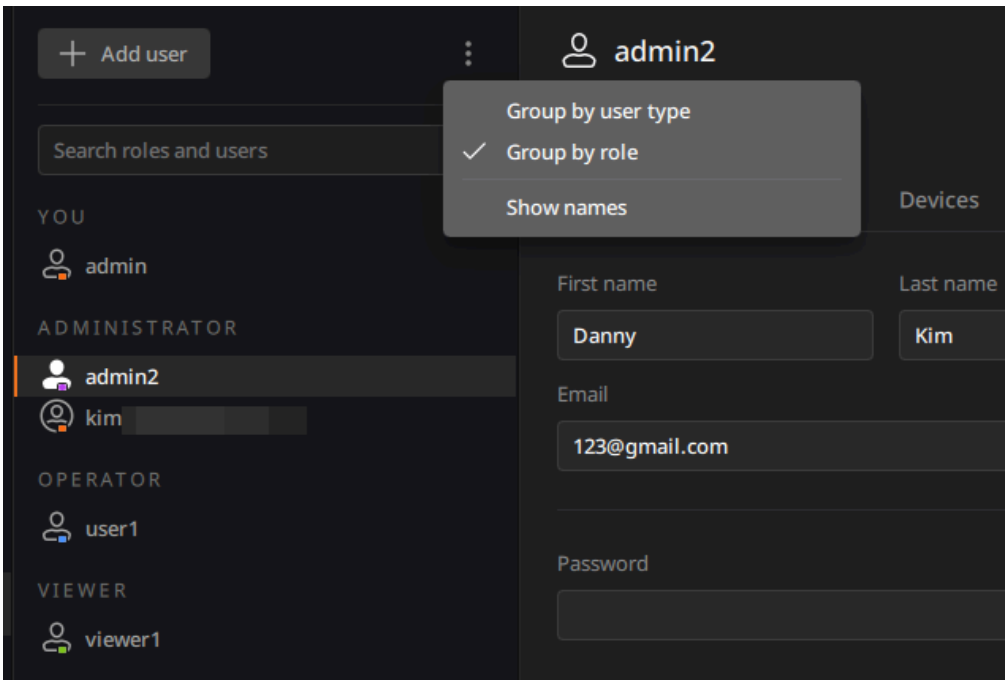
To use BLAZE, log in using a username and password registered by an administrator. Logged-in users can access specific menus or functions according to their assigned roles. Use the **Users** page to add, modify, or delete users.

Note: Only users with Administrator privileges can add, modify, or delete users.

Note: To manage or delete cloud users, you must log in as a cloud administrator on a system where the user has permissions. If you remove or disable a user, that user will no longer be able to access the system.

Viewing the list of users

On the **Users** page, view a complete list of users registered in BLAZE. Select a user from the list to configure detailed settings for that user. The setting options may vary depending on the selected user.



- Enter roles or usernames in the search bar to quickly find users.
  - If you are logged in with a Hanwha Vision Cloud account with Global administrator permissions or higher, select **Any system** at the bottom of the search bar to filter users by specific system. When you select a specific system (multiple selections allowed), both system users and global users belonging to that system are displayed. Cloud users with access permissions to two or more systems may appear duplicated in the lists of each selected system.
- Click ⋮ next to the **Add user** button to arrange the list of users or display usernames. Regardless of the sorting method, your information will always be displayed at the top of the list.

    - **Group by user type**: Sorted by user type
        - Cloud users who are added in the cloud will only be displayed when the cloud is connected to the server.
    - **Group by role**: Sorted based on roles
    - **Show names**: Displays user names. If the user's first name or last name is not registered, names will not be displayed.
- The users displayed in the list may vary depending on the permissions of the logged-in user.
    - Super administrator: Displays all users with permissions registered in BLAZE.
    - Administrator: Displays users with permissions other than Super administrator, including Administrator permissions.
    - Operator: Displays users only with Operator permissions
    - Viewer: Displays users only with Viewer permissions

Viewing user types

There are two types of users in the BLAZE system.

- Local user: A user registered in the BLAZE desktop client who can manage user information and all permissions. Displayed as a icon in the user list.
- Cloud user: A user logged in with a Hanwha Vision Cloud account who can manage user permissions, but user information can only be modified by the user in the cloud portal. Displayed as a icon with a circle in the user list.

> **Note:** In federation mode, a global user group is available. Global users can access all federated systems. User information is visible in general mode, but user information or permissions can only be modified in the federation system. They are displayed as a icon in the user list.

Adding a user

The BLAZE system supports adding both Cloud users and Local users. Cloud users can access multiple systems with a single account when BLAZE is connected to the Hanwha Vision Cloud, while Local users can access only the current connected system.

Users are assigned to roles that define permissions for each function, and logged-in users can only use the functions allowed by their assigned role. Applying permission groups defined in roles lets you manage many users conveniently by grouping them by permission.

Note:

- Only users with Super administrator or Administrator privileges can add other users.
  - Super administrators can add Administrators, Operators, and Viewers.
  - Administrators can add Operators and Viewers.
- For detailed information about user permission groups, see Roles *(page 255)*.

To add a user

1. **Settings** > **Users**.
2. On the Users page, click **Add user**.
   - When adding users in federation mode, select the desired type between **Cloud** user and **Local** user. For details on federation mode, see System federation *(page 186)*.
3. In the **Add new user** dialog, enter user information and click **Next**→.
   - If you select **Cloud** user, enter the Hanwha Vision Cloud account email address. Invited users will receive an email invitation to create and activate their account.

     Note: Cloud users are assigned per-system; Global User accounts can access all systems within the organization.

     Note:

     The following error messages may appear when adding a Cloud user. Check the account's role and system access permissions in the Cloud Portal, then try again.

     - **Failed to create user on Cloud Portal**: This may appear when the entered email is not registered in the Cloud Portal and an attempt was made to create a new user, but the currently logged-in account lacks permission or the Cloud Portal request failed to process.
     - **Failed to assign a BLAZE role**: This may appear when the user account already exists in the Cloud Portal or was successfully created, but assigning the BLAZE role to that user failed.

   - If you select **Local** user, enter the local user information.

- **Username**: Enter the username to sign in to BLAZE.
  - Usernames may include letters, numbers, and special characters, and can be up to 64 characters long.
  - Spaces and tabs can be used between letters, numbers, and special characters, but any spaces or tabs entered at the beginning or end of the username are automatically removed.
  - Usernames are not case-sensitive.
  - You cannot enter a username that is already registered.
- **Password**: Enter the password to sign in to BLAZE. Follow the password rules shown when you click the text box.
- **Email**: Enter the user's email address.
- **First name**: Enter the user's first name. The entered first name is shown in the user list.
- **Last name**: Enter the user's last name. The entered last name is shown in the user list.

> **Note:**
> - Username and Password are required fields; you must enter them according to the rules to proceed to the next step.
> - When entering first and last names, uppercase letters and spaces are allowed.

4. In the **Assign permissions** section of the **Add new user** dialog, select a role and click **Create user**.
   - **Custom permissions**: Configure detailed permissions for the selected user directly. Instead of assigning a pre-defined role, you can set different permissions for each user.
     - A user not belonging to a separate role who can have different permissions per user.
   - **Administrator**: Assign the Administrator role to the user.
   - **Operator**: Assign the Operator role to the user.
   - **Viewer**: Assign the Viewer role, which allows only live view monitoring, to the user.
   - **New role**: Assign the user to a permission group previously created by an Administrator in Roles.
5. Click **Apply**.

Enabling a user

You can enable or disable an added user account. When a user is added, it is set to **On** by default.

- If you toggle the **Enable user** switch to **Off**, a notification bar appears at the top.
- Select multiple users and toggle **Enable user** to **On** to enable them all at once.

> **Note:**
>
> Users set to Off will have their accounts deactivated and will not be able to log in to BLAZE. Be cautious when changing a user's status.
>
> - Disabling a user registered in BLAZE allows you to restrict their access while keeping the account intact. For users who regularly use BLAZE, you can manage them by enabling or disabling the account rather than adding or deleting it.

Setting up synchronization with LDAP groups

You can import user information from an LDAP server and register it in BLAZE. When you add users imported from the LDAP server, the **Link roles with LDAP groups** option is shown and set to **On** by default.

- Synchronizing LDAP groups with BLAZE roles causes changes to LDAP user groups to be reflected in BLAZE roles. Additionally, deleting a user from an LDAP group automatically removes their information from BLAZE.
- If you toggle **Link roles with LDAP groups** to **Off**, changes in LDAP user groups will not be reflected in BLAZE roles.
- Mapping information between LDAP groups and BLAZE roles can only be modified or deleted when synchronization is set to **Off**.

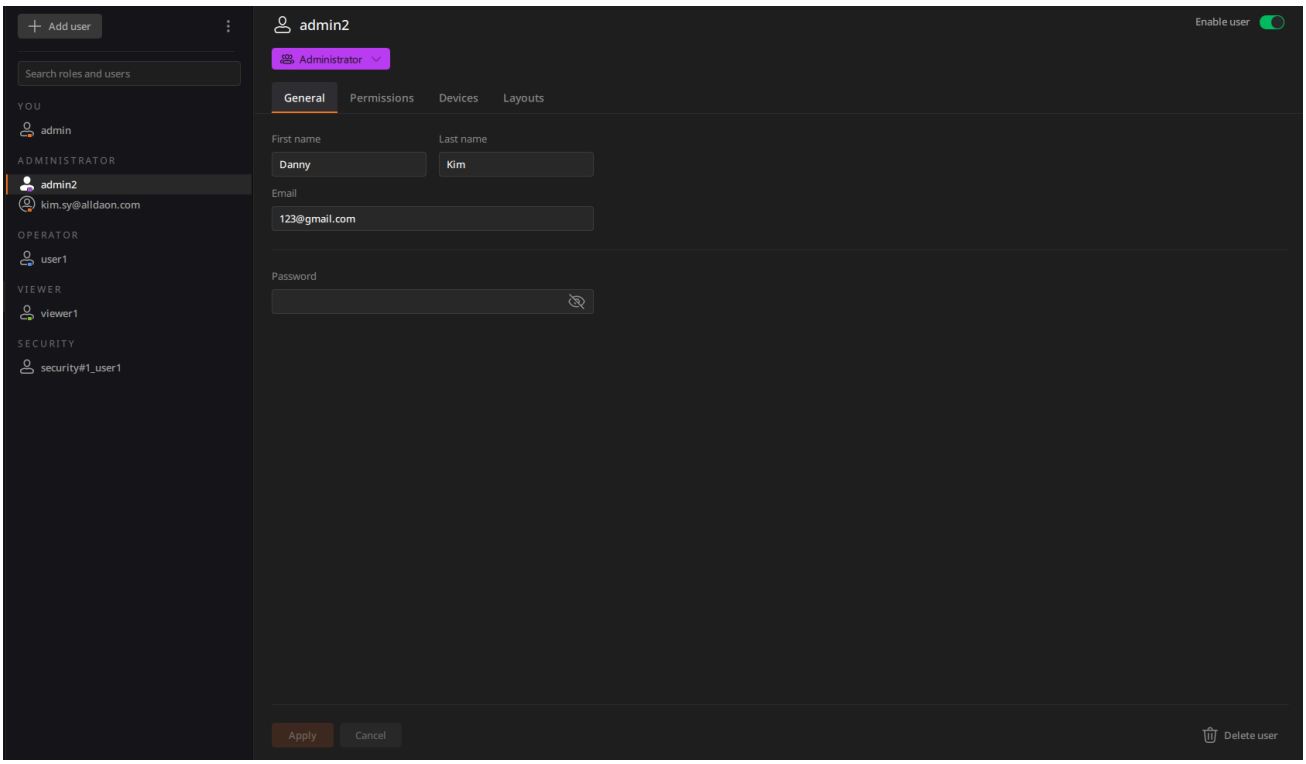
Setting a user

Configure the detailed settings for the user added to BLAZE.

> **Note:** An Administrator role is required to change user settings.

Users page

In the Users page, select a user from the list of users to configure specific settings about the user.



Viewing the tabs in the User settings panel

There are various tabs for user settings:

- Selecting a tab displays detailed configuration options. In special cases, such as when the selected user is inactive, a banner message appears at the top of the tab.
- After completing the settings, click **Apply** at the bottom to save the settings.
- Select multiple users to modify or delete common settings.
    - When selecting users with different permissions, the tabs are displayed based on the user with higher authority. For example, if you select Administrators and Viewers, a message **"Others"** will appear at the top of the page to notify you that users with different permissions have been selected. And only the **Permissions**, **Devices**, and **Layouts** tabs are displayed, with the **General** tab not being shown. The setting options in the tabs are displayed based on the Administrator user, and in the **Permissions** tab, functions that Viewers cannot access are marked with an ✕.

- Press and hold [**Ctrl**] and select users in the list to select individual users who are far apart in the list. Press and hold [**Shift**] and click users to select all users up to the last one selected.
- Currently logged-in users cannot be selected with other users.

Configuring general settings

Set the name, email, and password for the selected user.

To set a user’s information

1. Click **Settings** >**Users**.
2. Select the desired user from the list of users.
3. In the User settings panel, click the **General** tab.
4. Set the user’s general information.
5. When finished, click **Apply**.

Entering user information

Enter user information.

- **First name/Last name**: Enter the user's first name and last name.
- **Email**: Enter the email address where you want to receive email notifications, push notifications, and various alerts.
- **Password**: Enter the BLAZE login password according to the password guidelines.
  - Only Super administrators can click **Change password** to modify the password.

Allow digest authentication

Enable digest authentication to designate a local user as an RTSP user so that external systems can access streams via RTSP with security and role-based control.

When digest authentication is enabled, the user is designated as an RTSP user, allowing external systems to access video streams via RTSP.

Note:

- Only Super administrators and Administrators can set digest authentication.
- Digest authentication cannot be set for the Super administrator account.
- Users cannot change their own digest authentication setting; digest authentication can only be set for users with lower roles.

To enable digest authentication

1. Click **Settings** > **Users**.
2. Select the local user for whom you want to enable digest authentication from the user list.
3. In the **General** tab, click the **Enable digest authentication** button.
4. In the **Enable digest authentication** dialog, set the password and click **Enable digest authentication**. The **Allow digest authentication** checkbox will be selected.
5. In the **Devices** tab, select the video devices to be output via RTSP. This step applies only to users with custom permissions.

To disable digest authentication

1. Click **Settings** > **Users**.
2. Select the local user for whom you want to disable digest authentication from the user list.
3. In the **General** tab, clear the **Allow digest authentication** checkbox.
4. Click **Apply**.

When RTSP connections are disconnected

RTSP connections are automatically disconnected in the following situations:

- Digest authentication is disabled.
- The user with digest authentication enabled is deleted.
- The user with digest authentication enabled is disabled.
- The password of the user with digest authentication enabled is changed.
- If a device assigned to a user with digest authentication enabled is de-allocated, the RTSP connection for that device is disconnected.

- If the role of a user with digest authentication enabled is changed (assigned devices may change), the RTSP connection may be disconnected.
- If a user role is set to custom permissions and the permissions are changed, RTSP connections may be disconnected.

Viewing a user’s permissions

Permissions are actions that a user is allowed to do, like view live, create layouts, export video. View the access rights of the selected user in BLAZE. Users are assigned to specific permissions either by default role in BLAZE or roles registered by administrators, enabling them to utilize only the functions set in the roles. Options that users do not have permission to access will either not be displayed on the client or will be disabled, making them unavailable for use.

Note: The **Permissions** tab displays a list of permissions configured in the **Roles** page. To modify the detailed settings for roles, see Configuring role settings *(page 258)*.

To view a user’s permissions

1. Click **Settings** >**Users**.
2. Select the desired user from the list of users.
3. In the User settings panel, click the **Permissions** tab.
4. Check the permissions of the user.

Viewing a user’s permissions

The role to which a user is assigned can be found at the top of the Users page.

- To see the detailed permissions of a role, see Setting permissions *(page 260)*.

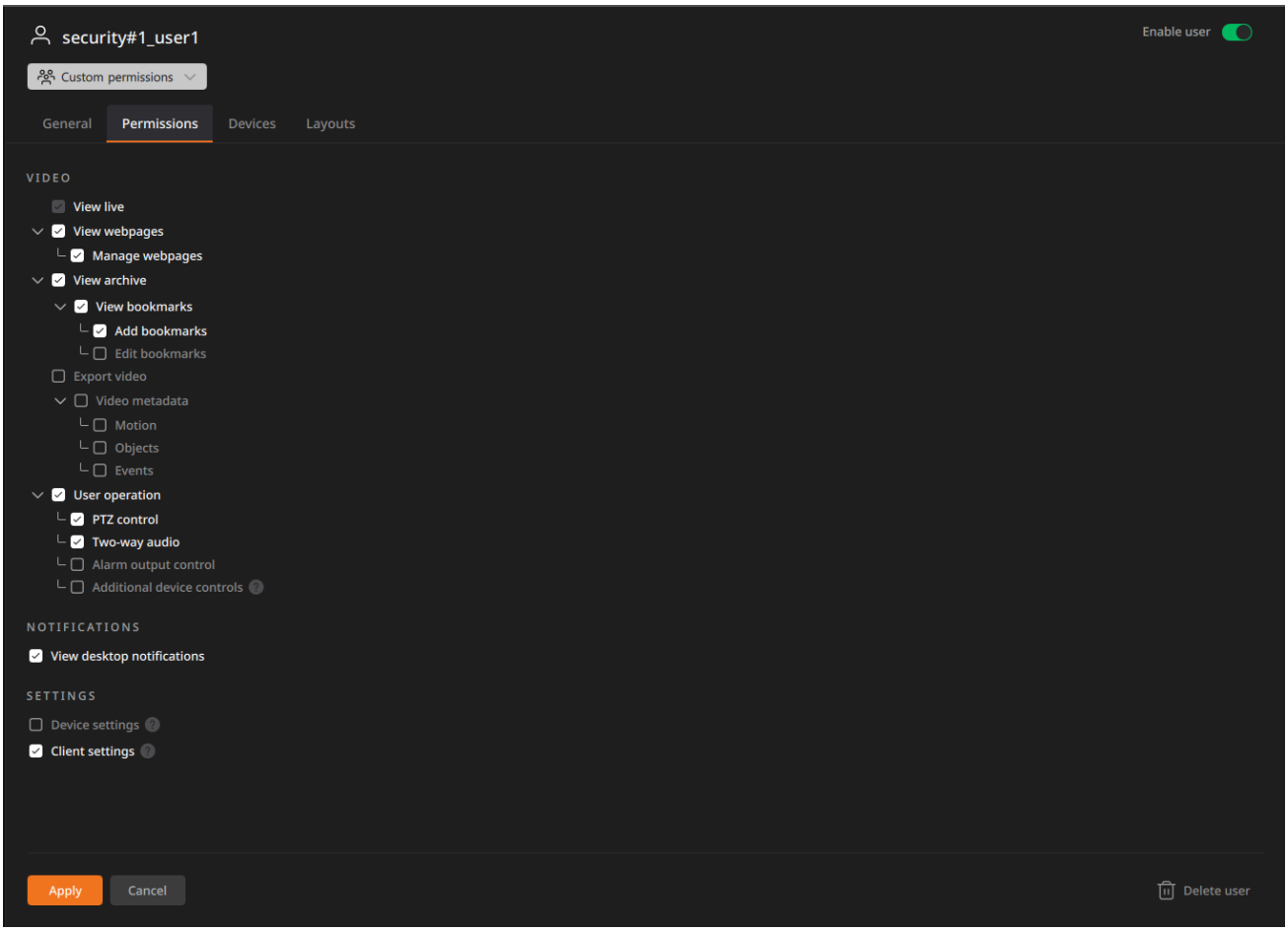
Setting custom permissions

When selecting **Custom permissions** upon adding a user, set different permissions for each user.

Note: Custom permissions are different from Custom roles. The Custom Permissions option allows direct configuration of each user's permissions, rather than assigning them to a specific role created in the **Roles** page.

To set custom permissions

1. Select the desired user from the list of users.
2. In the User settings panel, click the **Permissions** tab.
3. Select the permissions you want to assign to the user.
4. After completing the settings, click **Apply**.



Viewing the devices a user can access

View the list of devices, including cameras, that the selected user can access. Users can view live streams from the assigned devices and can only use the features selected in Permissions.

Note:

- Super administrator and Administrator can use all devices. The **Devices** tab displays the complete list of devices registered in BLAZE.
- In the **Devices** tab, only the list of devices available to the role assigned to the user is shown. To modify the detailed settings of the role, see Configuring role settings *(page 258)*.

To view the devices a user can access

1. Click **Settings** > **Users**.
2. Select the desired user from the list of users.
3. In the User settings panel, click the **Devices** tab.
4. View the devices assigned to the user.

Setting custom permissions for a user device

When **Custom permissions** is selected in the **Assign permissions** section in the **Add new user** dialog, devices can be assigned differently for each user.

To set custom permissions for a user device

1. Select the desired user from the list of users.
2. In the User settings panel, click the **Devices** tab.
3. Select the permissions you want to assign to the user.
    - Toggle **All devices** to **On** to select all devices connected to BLAZE. With the **All devices** toggle in the **On** state, all devices are selected, and individual devices cannot be selected.
    - Enter the device name in the search bar to quickly find the desired device.
    - If the selected device belongs to a device group, the device group will be displayed together.
    - Click ⋮ to choose what to display in the list.
        - **Show IP**: Displays the IP address of the device.
        - **Filter...**: Displays the list of devices by applying filter options.
            - **None**: Displays all devices without applying filters.
            - **Selected**: Only displays devices that have been selected in the list of devices.
            - **Unselected**: Displays only the devices not selected in the list of devices.
4. After completing the settings, click **Apply**.

Viewing the layouts a user can access

A layout is a set of cameras and other items (images, webpages, video files) that can be saved for quick access, assigned to other users, and opened in a separate tab in BLAZE. In the **Layouts** tab, view the list of layouts available to the selected user.

Note:

- Super administrator or Administrator can access all layouts they have created and all shared layouts.
- In the **Layouts** tab, only the list of layouts available to users with their roles is shown. To modify the detailed settings of the role, see Configuring role settings *(page 258)*.

To view the layout that the user will use

1. Click **Settings** > **Users**.
2. Select the desired user from the list of users.
3. In the User settings panel, click the **Layouts** tab.
4. View the layout the user created.
    - Move the mouse over a layout to see the names of the devices included in it.

Setting custom permissions for a user's layout

When adding a user and selecting **Custom permissions** in the **Assign permissions** section in the **Add new user** dialog, layouts can be set differently for each user.

Note: Custom permissions differ from Custom roles in the Roles page. Custom permissions allow direct configuration of each user's access rights, rather than being assigned to a specific role created in **Roles**.

To set custom permissions for a user's layout

1. Select the desired user from the list of users.
2. In the User settings panel, click the **Layouts** tab.
3. Select the layout you want the user to use.
    - Enter the layout name in the search bar to quickly find the desired layout; the search is not case-sensitive.
4. After completing the settings, click **Apply**.

Modifying a user

You can modify the information of added users and change their permissions, devices, and layouts. Users can change their personal information, such as email address or password, but only Super administrator or Administrator can modify users’ permissions and device settings.

Note:

- While a user's password, email, and other personal information and permissions can be changed, the username cannot be modified.
- Super administrator cannot be changed to another role. Administrator can be changed to another role, and a user with any other role can also be changed to Administrator.

Note: For more information on users, see the following sections:

- Adding a user *(page 243)*
- Setting a user *(page 246)*

To modify a user’s settings

1. Click **Settings** >**Users**.
2. Select the desired user from the list of users.
3. In the User settings panel, modify user information and settings.
4. Click **Apply**.

Note: If you change the user's role to **Custom permissions**, the permissions, devices, and layout assigned to the previous role can still be utilized.

Deleting a user

Delete a user added to BLAZE.

Note:

- Super administrator cannot be deleted since Super administrator is a system admin.
- Administrator cannot delete other administrator users. They can only delete Operator and Viewer users.

To delete a user

1. Click **Settings** >**Users**.
2. Select the desired user from the list of users.
3. Click **Delete user** at the bottom of the User settings panel.

To delete multiple users

Press and hold Ctrl and select multiple users and click **Delete user** at the top of the User settings panel.

Roles

In the **Roles** page, create, delete, and update permissions for roles within the system. A role is a set of permissions and access lists (for layouts and cameras) that can be assigned to a user. By assigning predefined roles when registering users, administrators restrict which BLAZE features each user can access.

Note: Only users with Administrator role can add, modify, or delete roles.

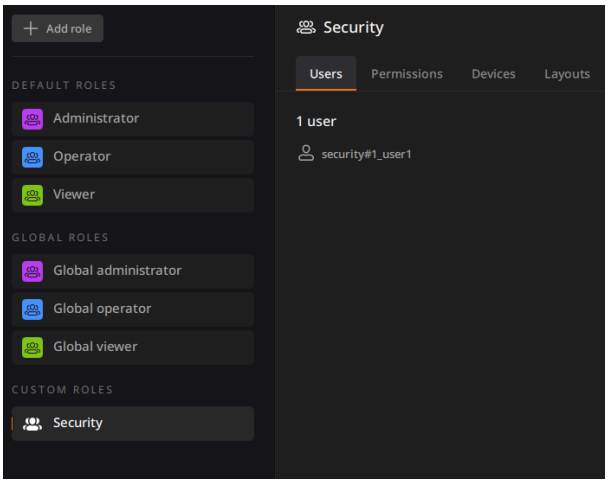
Users logged into the client are inherently assigned one of the following roles. In addition to the default permissions, custom roles can be added to allow access to specific functionalities. For more information on available features by role, see Viewing the function available for each role *(page 256)*.

- Super administrator: One and only Super administrator in BLAZE, who holds the highest authority and can access all functionalities of the client, server, and Cloud.
    - The user who logs in for the first time and configures the server after installation is automatically designated as the Super administrator and cannot be added or removed. Super administrator can add and manage other administrators.
    - No other user can be added to the Super administrator role (only one exists in the system).
- Administrator: Except for specific features reserved for Super administrator, Administrators can use all features of BLAZE. They can add and manage users with roles other than Administrator permissions.
    - Multiple users can serve as Administrators.

- Operator: Operators can use functions such as live monitoring and playback of recorded videos, in addition to alarm verification and device settings like cameras. Bookmark management is also available.
- Viewer: Viewers can only perform live monitoring and playback of recorded videos, manage device webpages, and configure the client.

Viewing the list of roles

In the **Roles** page, view a complete list of roles registered in BLAZE. Select a desired role from the list to display the Role settings panel. The setting options may vary depending on the selected role.



- Under **DEFAULT ROLES**, default roles provided by BLAZE are displayed, while roles created by administrators are shown under **CUSTOM ROLES**.
    - Roles in the custom roles list are displayed in the order in which they were added.

Viewing the function available for each role

See which features are available by role. Roles can be categorized into two types.

- Default roles: A role provided by BLAZE or created by an Administrator and applied to a group of users, such as Super administrator, Administrator, Operator, Viewer, and Custom role.
    - If connected in federation mode, the Global super administrator, Global administrator, Global operator, and Global viewer roles are available. The role-specific permissions of global users are the same as those of local users. For details on global users, see Federation mode *(page 186)* and User permissions *(page 242)*.
- Individual user role: A role that applies to an individual user, such as custom permissions.

Permissions				Super admin	Admin	Operator	Viewer	Custom roles	Custom permissions
Video	View live			O	O	O	O	O	O
		Manage shared layouts		O	O	-	-	-	-
		Manage maps		O	O	-	-	-	-
		Manage webpages		O	O	O	O	O	O
		View archive		O	O	O	-	-	-
		View bookmarks		O	O	O	-	-	-
			Add bookmarks	O	O	O	-	-	-
			Edit bookmarks	O	O	O	-	-	-
		Export video		O	O	O	-	-	-
		Video metadata		O	O	O	-	-	-
			Motion	O	O	O	-	-	-
			Objects	O	O	O	-	-	-
			Events	O	O	O	-	-	-
		User controls							
		PTZ control		O	O	O	-	-	-
		2-way audio		O	O	O	-	-	-
		Alarm output control							
		Other controls							
Notifications	View desktop notifications			O	O	O	O	O	O
Settings	Device settings			O	O	-	-	-	-
	Client settings			O	O	O	O	O	O
	Server settings			O	O	-	-	-	-
	System settings			O	O	-	-	-	-
	User management			O	O	-	-	-	-
	Edit device tree			O	O	-	-	-	-

Adding a role

In addition to the default roles provided by BLAZE, Administrators can create custom roles by setting permissions, devices, and layouts. While the detailed settings for Administrator, Operator, and Viewer can be modified, managing users with diverse permissions has its limitations. Administrators can set necessary permissions added to roles, and users a

role assigned to will have the same permissions. Permissions, devices, and layouts can be configured differently for specific teams or users accessing the system.

Note: Only users with an Administrator role can add roles.

To add a role

1. Click **Settings** >**Roles**.
2. Click **Add role**.
3. In the Role settings panel, enter the role name at the top.
    - Role name should not exceed 64 characters, including letters, numbers, special characters, and spaces or tabs.
    - You cannot enter a name that is already in use.
4. In the Role settings panel, configure the settings for permissions, devices, and layouts.
5. Click **Apply**.

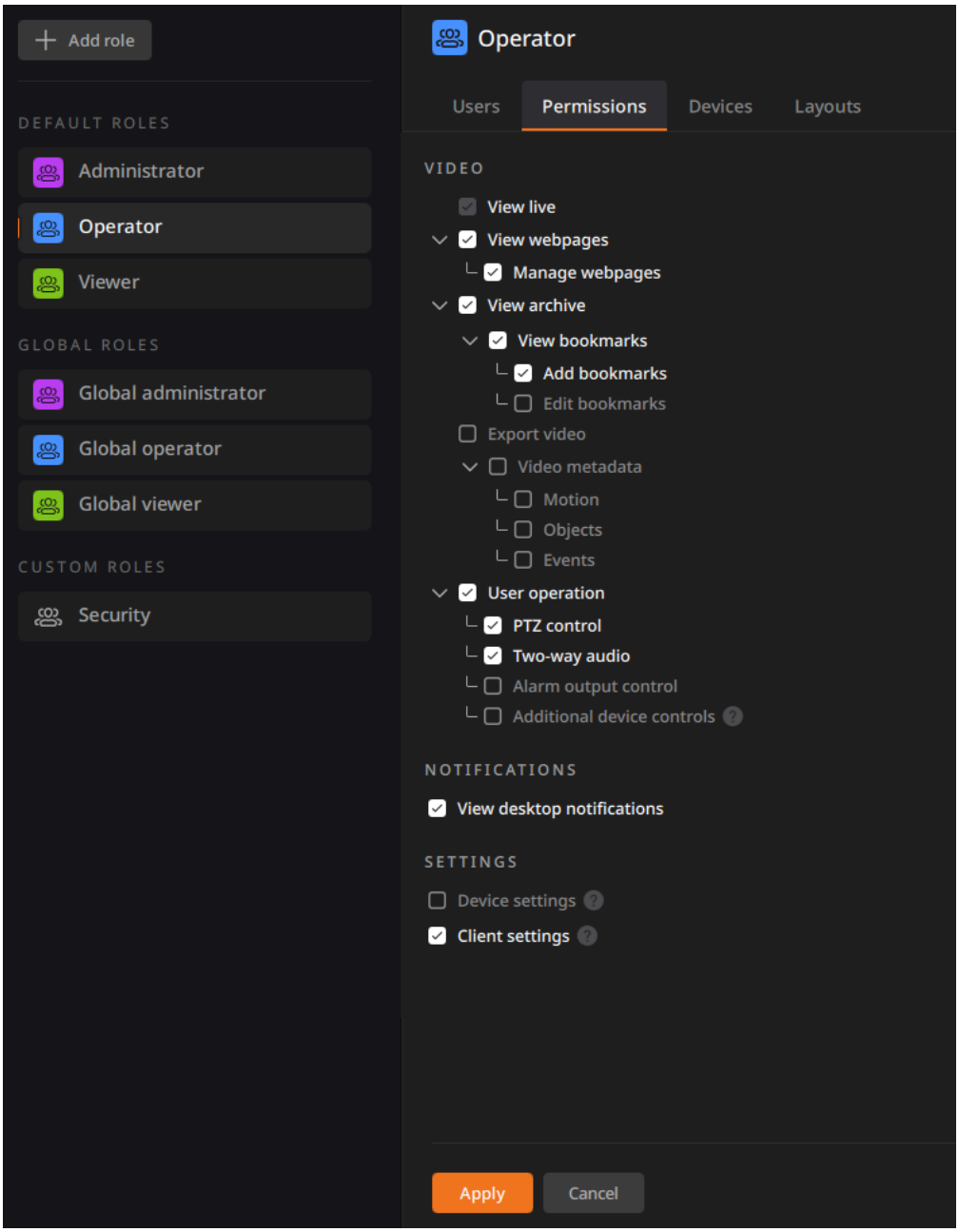
Configuring role settings

Configure detailed settings for roles added to BLAZE.

Note: Only users with an Administrator role can change these settings.

Roles page

Select a role from the role list on the **Roles** page to display the Role settings panel where detailed role settings are configured.



Tabs in the Role settings panel

The settings panel consists of multiple tabs.

- Select a tab to display its detailed settings.
- After completing the settings in a tab, click **Apply** to save.

Viewing a user

View the list of users assigned to the selected role.

Note:

- The **Users** tab displays user permissions and names applied in **Settings** > **Users** only, with no separate configuration functions available. To modify or add users assigned to roles, see Setting a user *(page 246)*.
- Disabling a user in **Settings** > **Users** will similarly reflect this change in the list of the users in the **Users** tab.

To view the role of a user

1. Click **Settings** >**Roles**.
2. Select the desired role from the list of roles.
3. In the Role settings panel, click the **Users** tab.
4. View the list of users assigned to the role.

Setting permissions

Set the permissions for users assigned to the selected role in BLAZE. The permissions set in **Settings** > **Roles** will be reflected in the **Permissions** tab in **Settings** > **Users**.

To set permissions of a role

1. Click **Settings** >**Roles**.
2. Select the desired role from the list of roles.
3. In the Role settings panel, click the **Permissions** tab.
4. Configure detailed permissions of the role.
5. After completing the settings, click **Apply**.

Setting permissions

Set the permissions for users in the role.

Note: Super administrator or Administrator can access all menus, so only the list of permissions is displayed.

- **VIDEO**: Can monitor live video in real-time, play and export recorded video, and perform searches.
    - **View live**: Can monitor live video from devices such as cameras connected to BLAZE.
    - **Manage webpages**: Can manage webpages by adding the webpages of devices such as cameras to BLAZE.
    - **View archive**: Can play videos from devices stored on the server in the timeline panel. Bookmarks can also be added to videos or videos can be exported.
        - **View bookmarks**: Can check bookmarks set in recorded videos. Selecting **Create bookmarks** allows adding bookmarks to recorded videos, while selecting **Edit bookmarks** allows modifying or deleting bookmarks.
        - **Export video**: Can export the selected video as a file.
        - **Video metadata**: Can check the metadata of recorded videos stored in BLAZE. Select the motion, object, or event options to place those items on the Scene panel for searching and playing videos.

          For example, when a thermal camera is connected, enable the video metadata permission to view information such as temperature trends in graphs from the video's temperature metadata.
    - User controls
    -
        - **PTZ control**: Can control the pan, tilt, and zoom of the camera to view real-time video.
        - **2-way audio**: During real-time monitoring, controls bidirectional audio to communicate with devices and audio.

          Note: Managed shared layouts, Manage maps are features available only to Administrator or Super administrator so these features only appear in the permissions list for Super administrator and Administrator.

        - **Alarm output control**: Can control alarm outputs.
        - **Other controls**: Controls AUX functions of the camera, such as heater, spinning dry, and wiper. On cameras that support AUX functions, this can be used without entering PTZ mode. This menu is displayed only on supported devices, and only users with AUX control permission can use it.
- **NOTIFICATIONS**: Can check the notifications received when an event occurs.

- Even if you select the Notification event action in the event rule, users will not be able to view event notifications if they do not have the necessary permissions assigned to their roles.

- **SETTINGS**: Can configure some settings for devices and the client.
  - **Device settings**: Can use the Video, Recording, Image, and Fisheye tabs.
    - Only users with Administrator role can use the **Motion**, **Object**, and **Maintenance** tabs.
  - **Client settings**: Can configure the time mode and file storage path for the client. If **Client settings** is not selected, this option will not be displayed when a user with that role logs in.

> **Note:** Server settings, System settings, User management, and Edit device tree are features available only to Administrator or Super administrator so these features only appear in the permissions list for Super administrator and Administrator.

Configuring device settings

Configure devices such as cameras that users assigned to specific roles can access. Configure different devices for each role from among those connected to BLAZE. Users view real-time video from assigned cameras and play back and search recorded video.

> **Note:** Super administrator and Administrator can use all devices. The Devices tab displays the complete list of devices registered in BLAZE.

To set a role for a user's device

1. Click **Settings** >**Roles**.
2. Select the desired role from the list of roles.
3. In the Role settings panel, click the **Devices** tab.
4. Select the checkbox for the device to assign to the role.
   - Toggle **All devices** to **On** to select all devices connected to BLAZE. With the **All devices** toggle in the **On** state, all devices are selected, and individual devices cannot be selected.
   - Quickly find the desired device by entering the device name in the search bar.
   - Click ⋮ to choose what to display in the list.
     - **Show IP**: Displays the IP address of the device.
     - **Filter...**: Displays the list of devices by applying filter options.

- **None**: Displays all devices without applying filters.
- **Selected**: Only displays devices that have been selected in the list of devices.
- **Unselected**: Displays only the devices not selected in the list of devices.

5. After completing the settings, click **Apply**.

Setting a layout

Customize the layouts available to the selected role.

Note: Super administrator or Administrator has access to all layouts. The **Layouts** tab displays the complete list of layouts registered in BLAZE.

To set the layout of a role

1. Click **Settings** >**Roles**.
2. Select the desired role from the list of roles.
3. In the Role settings panel, click the **Layouts** tab.
4. Select the checkbox for the layout to assign to the role.
    - Quickly find the desired layout by entering the layout name in the search bar; the search is not case-sensitive.
    - Hover over a layout to display the names of the devices included in the layout.
5. After completing the settings, click **Apply**.

Modifying a role

Modify the functions, features, and layout assigned to the selected role.

Note:

- Super administrator and Administrator’s permissions cannot be modified, only the detailed settings for Operator or Viewer permissions can be modified.
- The names of the default roles, Administrator, Operator, and Viewer, cannot be changed.

Note: For more information on users, see the following sections:

- Adding a role *(page 257)*
- Configuring role settings *(page 258)*

To modify role settings

1. Click **Settings** >**Roles**.
2. Select the desired role from the list of roles.
3. In the Role settings panel, modify user information and settings.
4. Click **Apply**.

Note: When an Administrator changes a user's role, the user with the role assigned will be automatically logged out of BLAZE. Upon logging in again, the updated role will be applied.

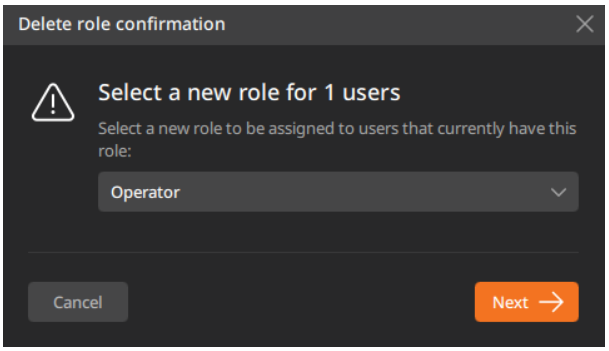
Deleting a role

Delete a role registered in BLAZE. To delete a role, no users can be assigned to it. If users are assigned to the role you want to delete, change their permissions to another role before deleting.

Note: The default roles in BLAZE, namely Administrator, Operator, and Viewer, cannot be deleted. The option to **delete a role** is not available on the Role settings panel for default roles.

To delete a role

1. Click **Settings** >**Roles**.
2. Select the desired role from the list of roles.
3. Click **Delete role** at the bottom of the Role settings panel.
4. After changing the user assigned to the role to different permissions, click **Next**→.



5. In the Delete role confirmation dialog, click **Delete**.

LDAP

LDAP (Lightweight Directory Access Protocol) is a directory service that stores and retrieves user, file, or device information in a tree structure over a network, and is used when centrally managing specific data in bulk. BLAZE can be connected to various LDAP servers such as Active Directory and OpenLDAP. Additionally, by configuring SSL/TLS (LDAPS) settings on both the LDAP server and BLAZE, LDAP communication can be encrypted to enhance security.

When the information in the LDAP server synchronizes with the BLAZE VMS user database, the Single Sign-On (SSO) feature enables logging in to the client using the username and password registered in LDAP. If the user groups configured in the LDAP server have the same names as the roles in BLAZE, they are automatically mapped, enabling efficient management.

Note: Only users with an Administrator role can add, modify, or delete LDAP servers.

Adding an LDAP server

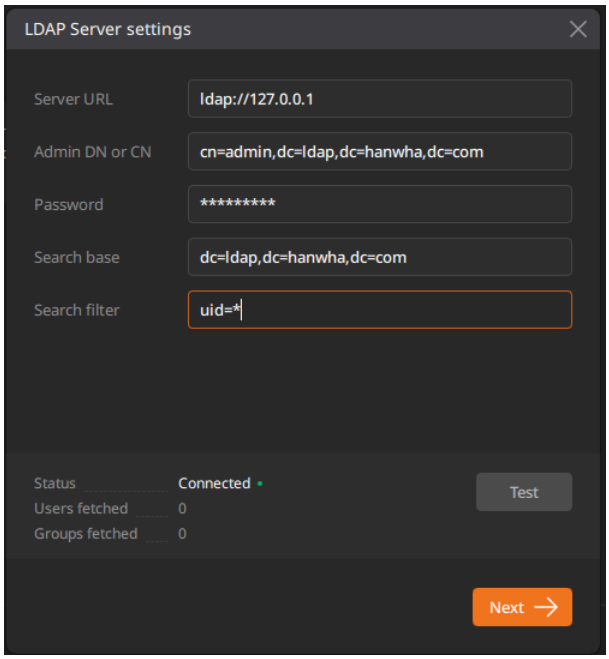
Enter the LDAP server information configured in BLAZE to add it. LDAP server groups with the same name as roles created in BLAZE are automatically matched and registered. Users included in LDAP server groups are assigned the matched roles.

Note: Only users with an Administrator role can add LDAP servers.

To add an LDAP server

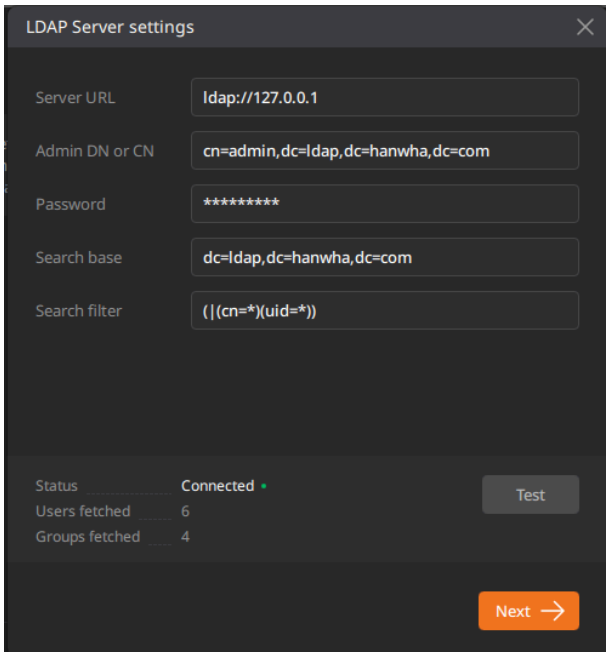
1. Click **Settings** >**LDAP**.
2. In the LDAP settings page, click **Settings**.
3. In the **LDAP server settings** dialog, enter the LDAP server information and click **Next**→.

- **Server URL**: Enter the IP address or domain name of the LDAP server.
  - The port number can also be included in the Server URL. The default port is 389, and to use SSL/TLS, enter 636.
  - Example: ldap://ldap.company.com, ldap://192.168.1.100, or ldap://ldap.company.com:389
- **Admin DN or CN:**: Enter the DN or CN of the LDAP server administrator account.
  - The DN (Distinguished Name) represents a domain component, while the CN (Common Name) signifies a general name.
  - Example: cn=admin,dc=company,dc=com
- **Password**: Enter the password for the LDAP server administrator account.
- **Search base**: Enter the DN of the group from which to retrieve user information from the LDAP server. This denotes the starting point for user searches within the LDAP directory.
  - Example: ou=users,dc=company,dc=com
- **Search filter**: Specifying a particular attribute value reflects it in the LDAP server search results for users. Search results differ when searching without group information versus with group information. Use the examples below to select the desired search filters.
  - When you search for users without group information, enter as follows:
    - Example: uid=*



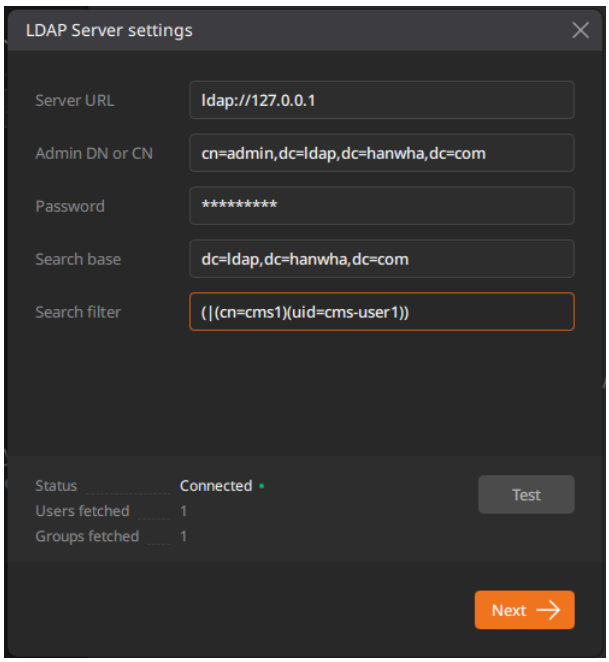
    - Search results will be: Users fetched = 0 , Group fetched = 0
  - When you enter group information and search for a user, enter as follows:

- Example: (|(cn=*)(uid=*))



- Search results will be: Users fetched = 6 , Group fetched = 4

- When you use a specific user, enter as follows:
  - Example: (|(cn=cms1)(uid=cms-user1))



- Search results will be: Users fetched = 1 , Group fetched = 1

- **Test**: Test the connection using the LDAP server information entered.

- When successfully connected, "Connected" will be displayed in the **Status**. **Users fetched** indicates the number of users found, while **Groups fetched** shows the number of groups found.
- If the LDAP server fails to connect properly, further steps cannot be proceeded with.

Note: If the connection to the LDAP server fails, check the following items.

- Firewall and port settings for the LDAP server.
- Hostname, port number, and protocol of the LDAP server.
- Domain name of the LDAP server.
- Information regarding the administrator account of the LDAP server.

4. Once the LDAP server is connected, select the user groups and users to synchronize, and then click **Save**.
   - Enter a user group or username in the search bar at the top to quickly search.
   - Only LDAP users included in the user group can be registered. LDAP users not included in the group cannot be added individually.
5. Click **Apply**.

Note:

- When an LDAP user is a member of multiple groups, information within the group with the same name as the role created in BLAZE takes precedence and is added first.
- When the LDAP username matches the BLAZE username, an alert message will be displayed at the top of the screen. Click **Replace local users** in the alert message to delete the local user information in BLAZE and register new information with LDAP users.
- LDAP users that don't belong to a group on the LDAP server don't appear in search results.

Setting up synchronization with an LDAP server

When you register an LDAP server and configure synchronization with BLAZE, any changes to user groups and user information on the LDAP server will be consistently reflected in BLAZE with each synchronization cycle. Click **Apply** after setting the synchronization cycle.

- Select **Never** to synchronize the LDAP server and BLAZE manually, click **Refresh** to manually execute the synchronization.
- The default automatic synchronization cycle is **24 hours**, with options ranging from 10 minutes to 7 days. Setting a shorter synchronization cycle may increase system load, so choose an appropriate cycle.
- When BLAZE is synchronized with an LDAP server, changes such as user group modifications and user information updates are consistently reflected at each synchronization cycle. Furthermore, deleting a user from the LDAP server will also result in the user being removed from BLAZE accordingly.



Note: If synchronization is disabled, changes made on the LDAP server will not be reflected in BLAZE.

  - Only when synchronization is not enabled, Administrator can modify or remove mappings between LDAP groups and BLAZE roles.

Managing the roles of LDAP users

Synchronizing BLAZE with an LDAP server maps user group information registered on the LDAP server to roles in BLAZE. User groups registered as Administrator on the LDAP server are mapped to Administrator permissions in BLAZE, with user information included in the group being added. User group information retrieved from the LDAP server can be viewed and modified in Roles in the left sidebar. If the group on the LDAP server doesn't exist in the BLAZE role, create a new role with the same name as the group on the LDAP server.

To check the role of the LDAP server

1. Click **Settings** >**Roles**.
2. Check the desired role from the list.

Modifying the role of the LDAP server

Modify the roles retrieved from the LDAP server.

- The Permissions, Devices, and Layouts items managed on the Roles page are editable. For a detailed description of role settings, see Configuring role settings *(page 258)*.

Deleting the role of the LDAP server

Roles retrieved from the LDAP server are deleted in the following cases:

- Turn off the synchronization setting in LDAP server settings and deleting the LDAP server role
- Deleting the role from the LDAP server while the LDAP server is synchronized
- Deleting the LDAP server from the BLAZE server

Note:

- You cannot delete a role imported from an LDAP server when synchronization with the LDAP server is enabled.
- If an LDAP role contains BLAZE users that were not imported from the LDAP server, even if you delete the LDAP server, the LDAP role cannot be deleted.

Managing an LDAP user

When BLAZE synchronizes with the LDAP server, user information registered in the LDAP server is added to BLAZE. View and modify the information of users retrieved from the LDAP server in **Users**.

Even without a separate user account in BLAZE, log in to the client with LDAP user credentials to monitor.

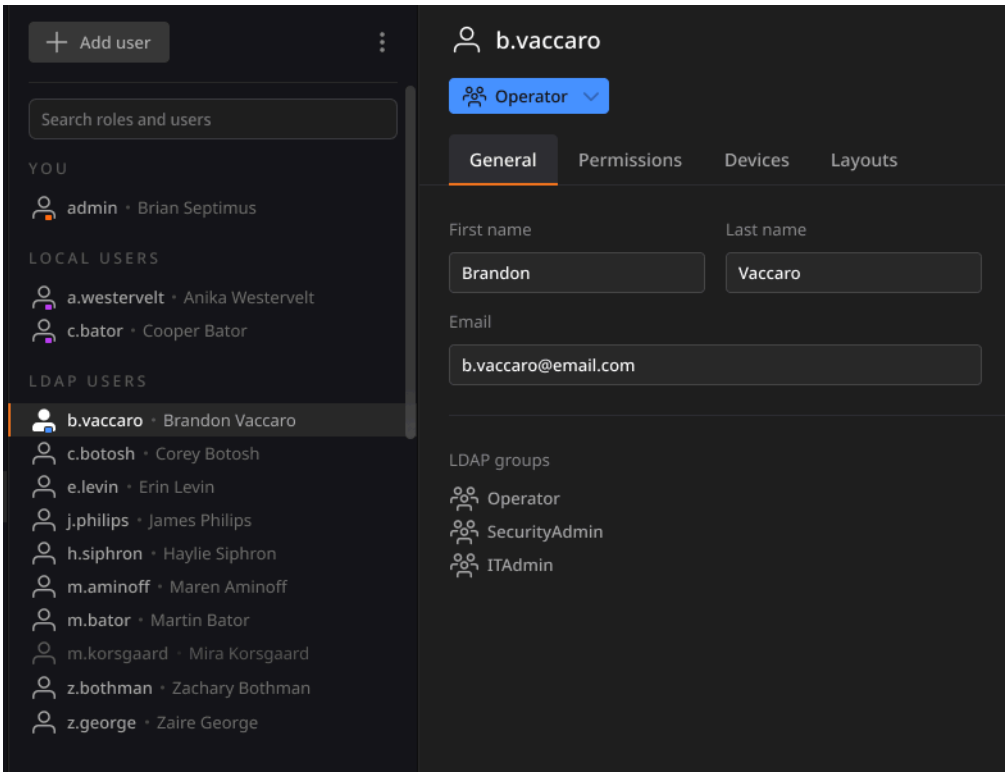
Note: If login fails using LDAP credentials, check the following:

- The network connectivity status between the LDAP server and BLAZE
- Whether the password input rules match between the LDAP server and BLAZE
- Mapping between LDAP UID and BLAZE user ID
- Whether the user authentication methods supported by the LDAP server match the authentication settings in BLAZE.
    - Ensure that authentication methods such as Simple bind and SASL bind are set consistently.

To check user information on the LDAP server

1. Click **Settings** >**Users**.
2. Check the list in the **LDAP USERS** section at the bottom of the list of users.

◦ Users added in BLAZE will be displayed in the **LOCAL USERS** section.



Note: User information imported from an LDAP server cannot be modified or deleted.

- However, if you select **Disable** for **Link roles with LDAP groups**, you can change the user's role only.

Modifying LDAP server settings

Modify the LDAP server information associated with BLAZE or make changes to user groups and users. When the LDAP server information is updated, synchronized user groups and user information are updated accordingly.

Note: For more information on LDAP server settings, see Adding an LDAP server *(page 265)*.

To modify LDAP server information

1. Click **Settings** >**LDAP**.
2. In the LDAP settings page, click **Settings**.
3. In the **LDAP Server settings** dialog, enter the LDAP server information and click **Next**→.

4. Once the LDAP server is connected, select the user groups and users to synchronize, and then click **Save**.
5. In the dialog, click **OK**.

To modify user groups on an LDAP server

1. Click **Settings** >**LDAP**.
2. In the LDAP settings page, click **Groups**.
3. Select the user groups and users to synchronize from the LDAP server, then click **Save**.
4. In the dialog, click **OK**.

Deleting an LDAP server

Delete an LDAP server connected to BLAZE. Deleting the LDAP server removes synchronized user groups and user information in BLAZE, making it impossible to log in to BLAZE with LDAP credentials.

Note: If synchronization is disabled, an Administrator should delete the LDAP user information registered in BLAZE when the LDAP server is deleted.

To delete an LDAP server

1. Click **Settings** >**LDAP**.
2. In the LDAP settings page, click**Delete LDAP server**.
3. In the confirmation dialog, click **OK**.

Client settings

Configure BLAZE client settings for the time and date display format, export path, and other options.

Note: Client settings can be configured by users with any permission level, and these settings are stored on the PC rather than the server so they apply to each user environment.

To configure client settings

1. Click **Settings** > **Client settings**.
2. Configure the desired client options on the client settings page.
3. Click **Apply**.

Client settings options

- **Date and time**: Set the client's time mode. Time and date settings apply to all videos and events in BLAZE.
    - **Time mode**: When the client and server are in different time zones, choose the time reference to display on the client. Server time is the default. Changing the time mode is applied immediately to all videos and events in BLAZE.

      Note:
        - If the client is not connected to the server, it will not display the time.
        - When connected to the server, the client time may change according to the time mode setting, and this change also applies to other connected systems. For example, if a user changes to client time on system A and logs out, then logs into system B, the time will be displayed in client time.

    - **Time format**: Choose the time format to display on all videos and events. The default follows the OS setting of the PC where the client is installed.
    - **Date format**: Choose the date format to display on all videos and events. The default follows the OS setting of the PC where the client is installed.
- **Language**: Set the language to use in the client. After selecting the desired language, click **Apply** to immediately switch to the selected language without restarting the client.
- **Default export path**: When exporting video from BLAZE, set the file export path on your PC. Click **Browse...** to change the path.
    - Mac OS default export path: \Users\user\Documents\BLAZE media
    - Windows OS default export path: C:\Users\user\Documents\BLAZE media

      Note: The BLAZE media folder contains separate folders for videos and screenshots with the following paths:
        - Video: BLAZE media\Videos
        - Screenshot: BLAZE media\Images

    Note: On appliances, the default export path is empty and must be configured by the user.

- **Show information overlay over the screenshot**: Choose whether to display channel and time information on screenshots generated from video.

- **Default backup save path**: Specifies the location where backup files are stored. Click **Browse...** to change the save path. Default backup save paths by OS are listed below.
    - Windows: %LOCALAPPDATA%\Hanwha Vision\Blaze Client\backup (%LOCALAPPDATA% typically refers to C:\Users\[username]\AppData\Local)
    - Mac: ~/Library/Application Support/Hanwha Vision/Blaze Client/backup
- **Automatically connect to previous system on startup**: Configure the client to automatically reconnect to the server it was connected to before shutdown when starting up.
- **Prevent computer from going to sleep**: Prevents the computer from entering sleep mode or activating the screensaver while the BLAZE client is running so critical events are not missed.

    Note: Supported only on BLAZE Desktop.

- **Enable hardware video decoding**: Enable hardware acceleration to smoothly play multiple high-resolution video streams.

    Note:
    - Performance varies by computer hardware; systems that do not support hardware decoding will automatically use software decoding.
    - Supported only on BLAZE Desktop.

Monitor display settings

Configure the display settings of monitors connected to the appliance. After making changes, click **Apply** to save.

Note:

- Monitor display settings are supported only on the local client of the BLAZE appliance.
- The primary monitor is determined automatically based on which output port of the appliance is connected and cannot be changed by the user.

To configure monitor display settings

1. Click **Settings** > **Client settings**.
2. Click the **Monitor** tab.

Display mode

If two monitors are connected, select a display mode.

- **Duplicate**: The same screen is shown on both monitors.
- **Extend**: The two monitors act as a single wide display, with different content on each.

Note:

- If a monitor is disconnected, the system automatically adjusts the settings to match the remaining monitor configuration.
- In **Extend** mode, the Monitor and I/O settings window is displayed only on the primary monitor (monitor 1).

Resolution settings

Set the screen resolution for each monitor.

- The resolution list shows only resolutions supported by the connected monitors.
- Only resolutions larger than 1200×640 are shown.
- In **Duplicate** mode, only resolutions supported by both monitors are listed.

I/O settings

Configure audio input and output settings for the microphone and speakers connected to the appliance. Administrators can select the desired devices to control and monitor audio.

Note: I/O settings are supported only on the local client of the BLAZE appliance.

To configure appliance I/O settings

1. Click **Settings** > **Client settings**.
2. Click the **I/O** tab.

Audio input

Set the audio input device and adjust the volume.

- **Source**: The drop-down list shows all audio input devices (microphones) connected via the appliance's USB ports. Select the desired device.
- **Volume**: Adjust the microphone volume. The default is 90.

Audio output

Set the audio output device.

- **Source**: Select a speaker from the drop-down list of devices connected to the appliance.

Objects

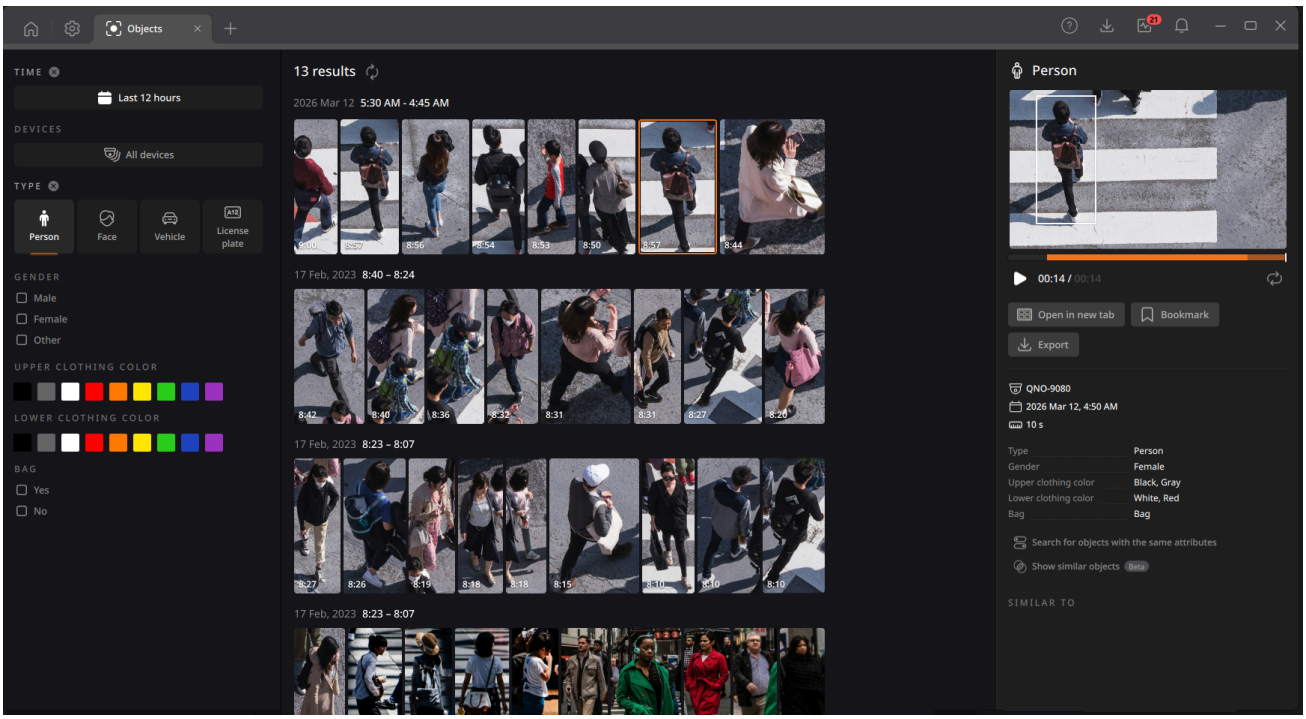
Filter and search for specific objects and related details.

In the Objects tab, you can search all object event videos. Use object type filters or Semantic AI search to find videos containing specific objects.

Note: Semantic AI search is available only on P Series BLAZE Appliance products.

Objects tab layout

The Objects tab consists of a Filter panel, Results panel, and Details panel. Select filter conditions in the Filter panel. The Results panel displays a list of objects categorized by the selected filter conditions. The Details panel displays detailed information about the object selected in the Results panel. The available filter options in the lower section vary depending on the selected object type.



Searching for an object

Object events occur when connected AI devices detect object event conditions such as person, face, vehicle, or license plate. You can search object event videos stored in BLAZE by date, device, and object type. You can also apply filters based on the selected object type to refine the search results. Searched event videos can be played and exported as video files.

To search for an object

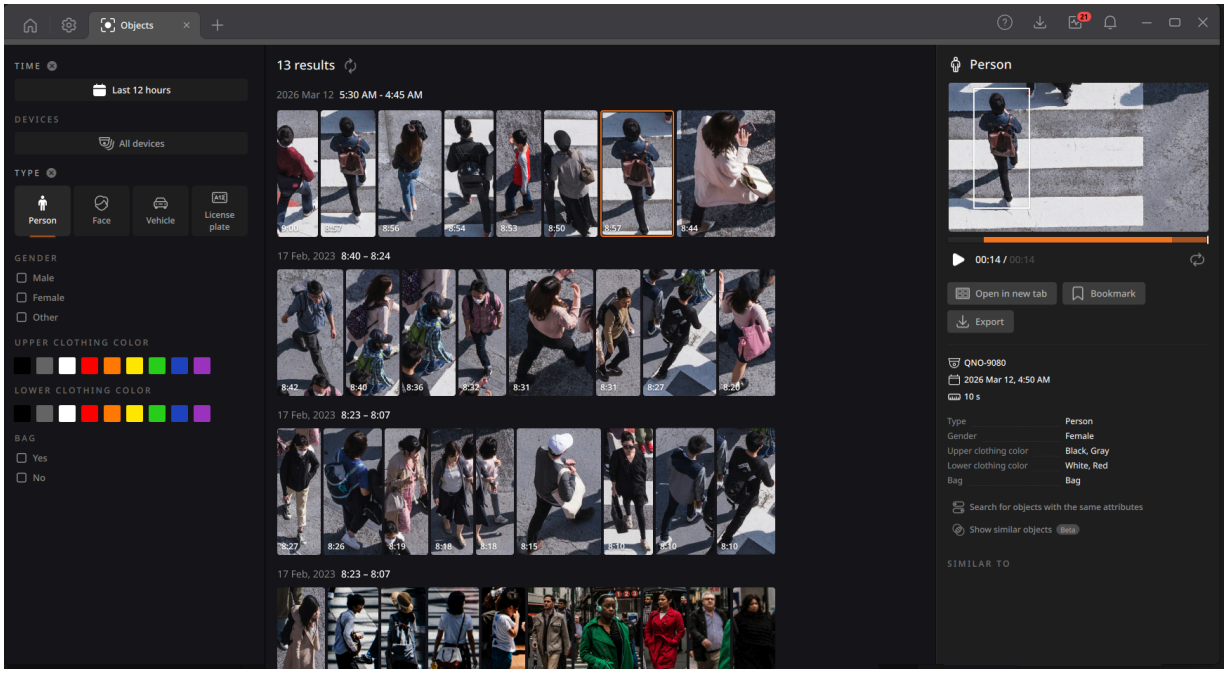
1. On the **Home** page, click **Objects**.
2. Select the filters to use for the search.
    - **Time**: Click the Time filter to open the date selection panel. Set the start and end date and time range for the event search, and then click ✓.
        - Select **Any time** to search across the entire video storage period on the server.
        - You can also select a predefined range based on the current time, such as **Last 1 hour**, **12h**, **24h**, or **7d**.
    - **Devices**: Click the Devices filter to open the list of devices that support semantic search. Select the device to search and click **Select**.
        - Click **All devices** to select all cameras or devices configured for semantic search.
        - Enter the device name in the search bar to quickly search.
        - Because object event conditions can be detected only on AI-enabled devices, devices that are not configured for semantic search do not appear in the list. To display them, click ⋮ and select **Show devices without analytics**.

          Devices that do not support semantic search are listed under **Devices without analytics**.
    - **Type**: Select the object type to search for. Only one object type can be selected at a time. The available filters for each object type are as follows.
        - **Person**: gender, upper clothing color, lower clothing color, bag
        - **Face**: gender, age, mask, glasses
        - **Vehicle**: vehicle type, color, brand, model
        - **License plate**: number, country, state/province

      Note: Vehicle brand, model, license plate number, country, and state/province can be searched only when using Hanwha AI cameras that support these features.
3. Event thumbnails that match the selected filters are displayed in the Results panel.
4. When you select detailed filters for the selected object type, the filtered search results are displayed in the Results panel.
5. Click an item in the Results panel to open the Event Details panel.

- In the Details panel, you can view detailed event information and play the video. You can also add bookmarks or export the video as a file.



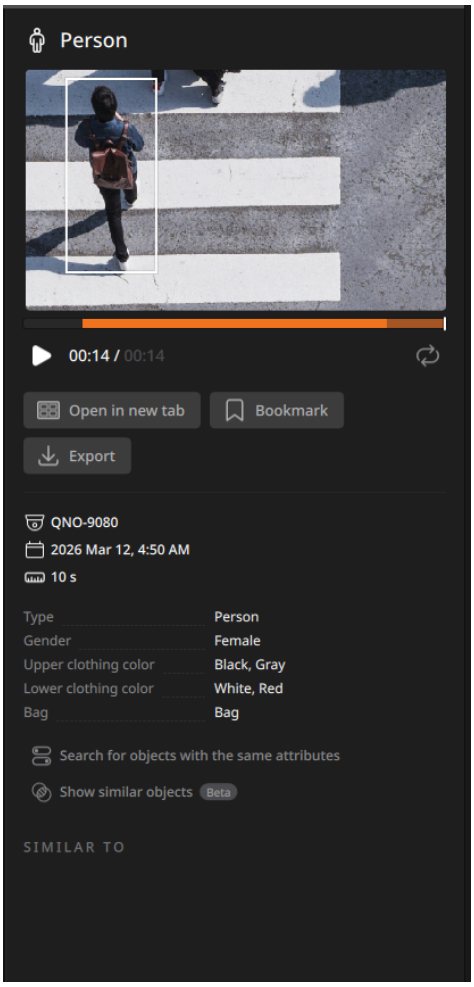
Viewing objects

Click an event item in the results panel to play the video, add a bookmark, or export the video as a file in the Details panel.

- Playback bar: Indicates the playback position of recorded video.
  - The playback bar consists of two sections: a light green section and a dark green section. The light green section represents the recorded portion of the actual event video, while the dark green section represents the pre-recorded and post-recorded portions of the video. The pre-recorded and post-recorded portions are displayed for 2 seconds each.
- / : Play or pause the video.
- : Repeat playback of the current video.
- **Open in new tab**: Play the video in a new tab. For more information on video playback, see Playing the video *(page 123)*.
- **Bookmark**: Add the current video as a bookmark. Added bookmarks can be viewed in the **Bookmarks** tab. For more information on adding bookmarks, see Adding a bookmark *(page 293)*.
- **Export**: Export the current video as a video file. The file is saved in the Videos folder of the path configured in Client settings. For more information on saving videos, see Exporting the video as a file *(page 130)*.

- If the video to be saved is 5 seconds or shorter, the file may not be saved correctly.

- Details
  - Device name: Displays the name of the device where the event occurred.
  - Event time: Displays the time when the event occurred.
  - Event duration: Displays the duration of the event from start to end.
  - Object event information: Displays information about the selected object filters.
- **Search for objects with the same attributes**: Search for objects using all object attribute values from the video displayed in the Results panel.
- **Show similar objects**: Search for objects similar to the selected object. For more details, see Similarity search *(page 281)*.
  - Objects that support the similar object search feature display a icon in the lower-left corner of the thumbnail in the Results panel.
  - This feature is available only for cameras that support similarity search. Similarity search must be enabled on the camera. To enable it, go to **Settings** > **Devices** > Configuring objects settings *(page 162)*.



Similarity search

The Similarity search feature finds people who are similar to a selected person from existing search results.

You can search for people who are similar to the selected person from object search results.

Note: This feature is available only on cameras registered in the BLAZE system that support Similarity search.

To search for similar objects

1. On the **Home** page, click **Objects**.
2. Select the filters to use for the search. (For detailed options, see Searching for an object *(page 277)*.)
3. Event thumbnails that match the selected filters are displayed in the Results panel.
4. Select the thumbnail image of the object you want to use for the Similarity search in the Results panel.

   Note: This feature is available only for cameras that support Similarity search.

5. Click the icon on the selected image, or right-click the image and select **Show similar objects**.
   - Only similar objects are displayed in the Results panel.
   - Results are displayed in real time in the Results panel as they are found, without waiting for the entire search to complete.
   - By default, results are grouped by confidence level and displayed in descending order of confidence.
   - Each search result displays the exact time (hour and minute) when the object was detected.
   - You can stop the search at any time. Results displayed before the search is stopped remain visible.
6. Adjust the confidence level in 5 steps from the left panel.
   - The default value is **Medium**. Adjust the confidence level to fine-tune search accuracy.

Selecting a search result thumbnail in the Results panel immediately plays the recorded video from the moment the object was detected in the Preview panel.

Enabling Similarity search

To use Similarity search, the feature must be enabled on the corresponding camera in advance.

1. On the **Home** page, click **Settings** or click ⚙ on the tab bar.
2. In the left menu panel, select **Devices**, and then select a camera that supports Similarity search from the camera list.
3. In the right settings panel, select the **Objects** tab, and then select the **Enable similarity search** checkbox.

Note: To use biometric data, such as facial data, to improve the accuracy of similarity search results, select **Use biometric information for Similarity search** in **Settings** > **General**.

Semantic AI search

The BLAZE Appliance provides semantic search functionality. This feature allows you to quickly find desired video events using natural language without knowing specific search conditions or timestamps.

Note: Semantic search is supported only on specific models of the BLAZE Appliance.

Note: Semantic search settings and banned term settings can be viewed and modified in **Settings** > **Servers** > **Semantic AI**.

To search for object events using semantic search

1. On the **Home** page, click **Objects**.
2. Click **Semantic search**.
3. Select filters before performing the search.
    - **Time**: Click the Time filter to open the date selection panel. Set the start and end date and time range for the event search, and then click ✓.
        - Select **Any time** to search across the entire video storage period on the server.
        - You can also select a predefined range based on the current time, such as **Last 1 hour**, **12h**, **24h**, or **7d**.
    - **Devices**: Click the Devices filter to open the list of devices that support semantic search. Select the device to search and click **Select**.

        - Click **All devices** to select all cameras or devices configured for semantic search.
        - Because object event conditions can be detected only on AI-enabled devices, devices that are not configured for semantic search do not appear in the list. To display them, click ⋮ and select **Show devices without analytics**.

          Devices that do not support semantic search are listed under **Devices without analytics**.
    - **Confidence level**: Adjust the confidence level to fine-tune search accuracy.
4. Enter a search query.
    - Describe the situation you want to find using natural language. (e.g., Find the person in a red jacket sitting on a chair)

      Note: Input must be in English.

    - If the query contains banned terms, the search will be blocked. Banned terms include the following (users can configure banned terms in Semantic AI *(page 205)*):
        - Explicit sexual content or provocative language
        - Defamatory or demeaning statements about individuals
        - Dehumanizing comparisons of people to animals
        - Subjective evaluations of personal traits such as appearance, wealth, or social status
        - Statements that infer or speculate about individuals based on their appearance
        - Disclosure of private information related to education or religious beliefs
        - Use of real names of specific individuals, including public figures
        - Disclosure of information related to race, ethnicity, or nationality
        - Content that promotes or glorifies self-harm or suicidal behavior
        - Descriptions or incitement of physical harm or violent acts
5. Semantic search results are displayed in the panel.
6. Adjust the confidence level in 5 steps from the left panel.
    - The default value is **Medium**. Adjust the confidence level to fine-tune search accuracy.
7. Click an item in the results panel to open the Event Details panel.
    - View detailed event information and play the video. You can also add bookmarks or export the video as a file.

Events

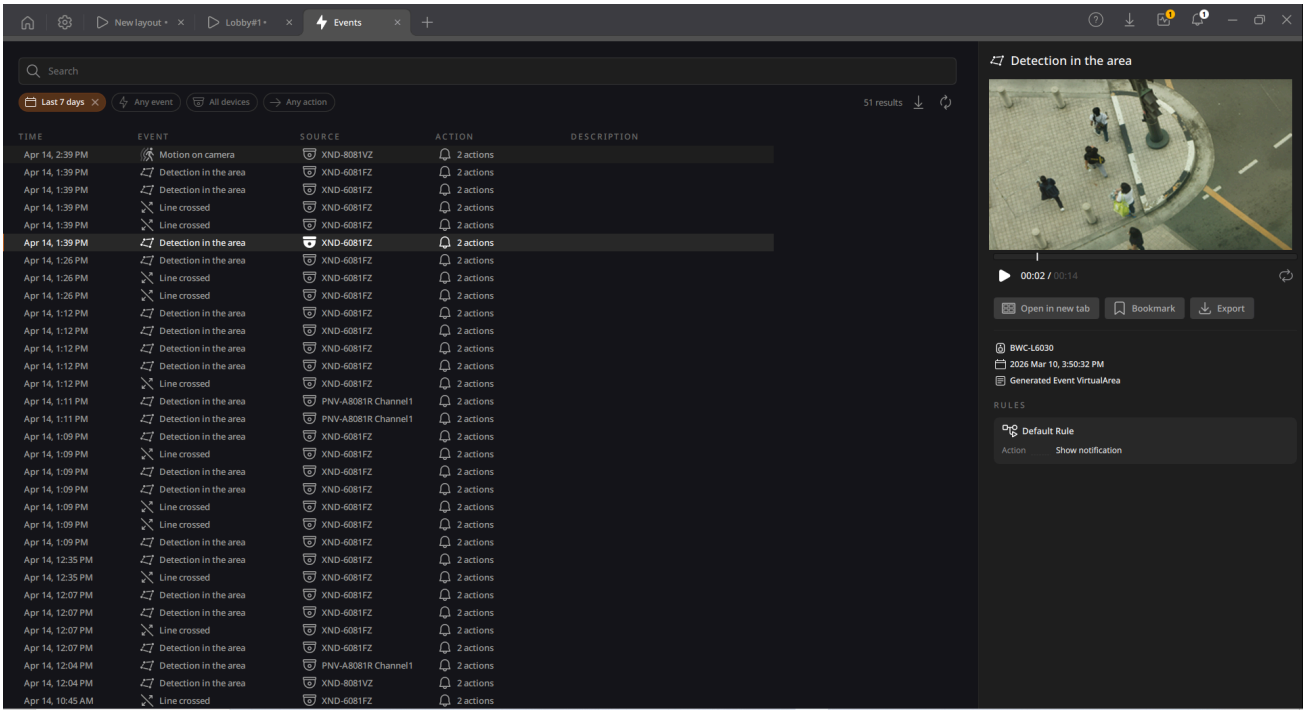
Events log can be searched, with options for details filtering by specific events or information.

The Events tab allows filtering of specific events. All event logs can be searched, and detailed searches can be performed based on specific events or related information.

Note: Event rules can be configured in **Settings** > **Rules**. For more information, see Rules *(page 218)*.

Events tab layout

The Events tab consists of the Event Log panel and the Event Details panel. When a specific event is selected in the log panel, the corresponding information is displayed in the Details panel.



Searching for an event

Search for events stored in BLAZE by date, event trigger and action, and device. Once you find the desired event, play it back and save it as a video file.

Note:

- Motion detection and object detection events are not displayed in the event list by default. They are displayed in the list only when a rule that uses these events is configured.

To search for an event

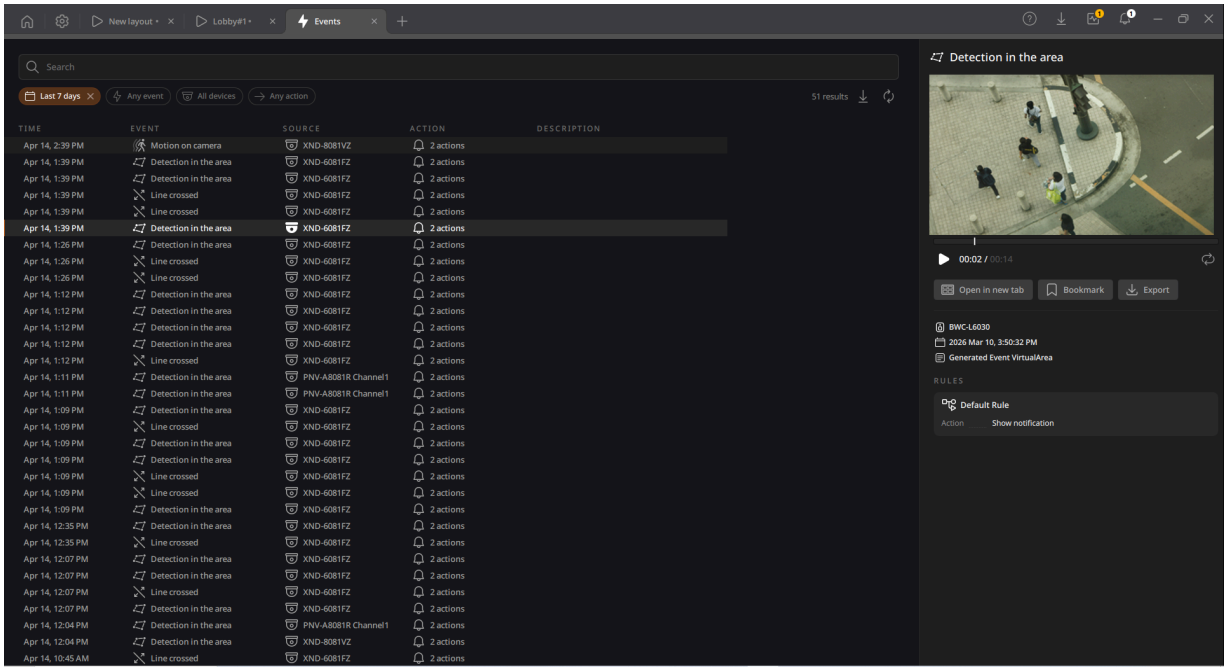
1. Click **Events** on the **Home** page.
    - In the **Events** panel in the View tab, select the desired event and right-click to open the shortcut menu. Click **Open in Events tab** to navigate to the Events tab.
2. In the Event log panel, select the filters to use to search for events.

    Note: The default setting for search filters is "Any" for each item.

    - Search for the desired event by entering event information, such as event triggers, actions, source names, or keywords from event descriptions, in the search bar at the top of the Event log panel.
    - Date and time: Click the date filter to display a date selector. Set the start/end date and time range to search for events in the calendar window and click ✓.
        - Select **Any time** to set the search range from the start to the end of the videos stored on the server. Select a search range from **Last 1 hour**, **12h**, **24h**, or **7d** based on the current time.
    - Event trigger: When you click the Event trigger item, a list of event triggers to apply to the search will appear. Select the desired event trigger and click ✓.
        - For more information on Event trigger, see Setting an event trigger *(page 223)*.
    - Device: Click the device filter, and a list of devices to search will appear. Select the device you want to search for videos and click **Select**.
        - Select **All devices** to select all devices connected to BLAZE.
        - Quickly search by entering the device name in the search bar.
    - Event action: When you click on the Event action item, a list of event actions to apply to the search will appear. Select the desired event action and click ✓.
        - For more information on Event action, see Event action settings *(page 228)*.
3. Events with selected filters applied will be displayed in the search results.

- **Time**: Displays the time of occurrence of an event.
- **Source**: Displays the name of the device where the event occurred.
- **Events**: Displays the name of the event trigger.
- **Description**: Displays the explanation of the event.
- **Rule**: Displays the event rule.
- **Action**: Displays the name of the event action.
- : Save the search results for events as a CSV file. The CSV file will be stored in the Media folder at the path specified in the Client settings.
- : Refresh the event search results.

4. Click the desired event in the panel, and the Event Details panel appears.
   - In the Details panel, view the event details and play the video. Bookmark it or export it to a file as needed.



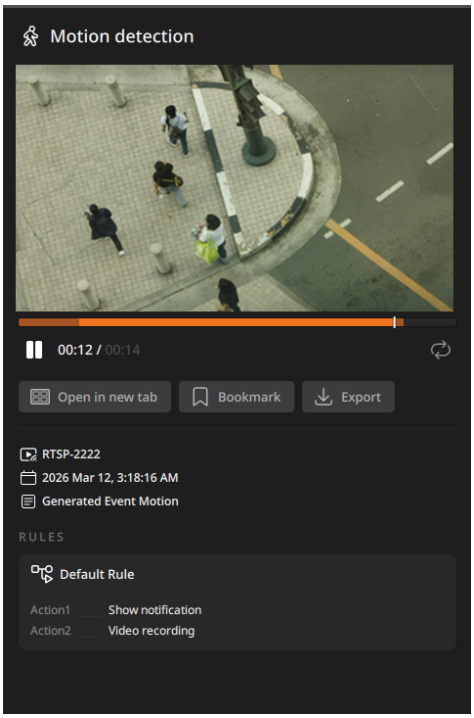
Note:

- The video will only play if there is a recorded video when the event occurs. Even if the video recording action is set up, the event will not be recorded when system events like "Device disconnected" occur.
- Clicking **Play** starts playback from the pre-recording time (2 seconds before the event).

Viewing events

In the Event log panel, click an event to play the video, set bookmarks, and save the video as a file in the Details panel.

- Playback bar: Indicates the playback position of recorded videos.
    - The playback bar consists of two sections: a light green section and a dark green section. The light green section represents footage associated with the event, while the dark green section represents the pre-recorded and post-recorded segments configured in the event action. Both segments are displayed for 2 seconds.
- / : Play or pause the video.
- : Repeat video playback.
- **Open in new tab**: Play the event in new tab. For more information on video playback, see Playing the video *(page 123)*.
- **Bookmark**: Bookmark the current video. View the bookmark in the **Bookmarks** tab. For more information on setting bookmarks, see Adding a bookmark *(page 293)*.
- **Export**: Export the current video as a video file on your PC. The file will be saved in the Videos folder of the path you have set in Client settings. For more information on saving videos, see Exporting the video as a file *(page 130)*.
    - If the length of the video you are trying to save is less than 5 seconds, the file may not be saved properly.
- Device name: Displays the name of the device where the event occurred.
- Event time: Displays the time at which the event occurred.
- **Rules**: Displays the event rule name and the set event action.


Motion detection
00:12 / 00:14
Open in new tab
Bookmark
Export
RTSP-2222
2026 Mar 12, 3:18:16 AM
Generated Event Motion
RULES
Default Rule
Action1 Show notification
Action2 Video recording

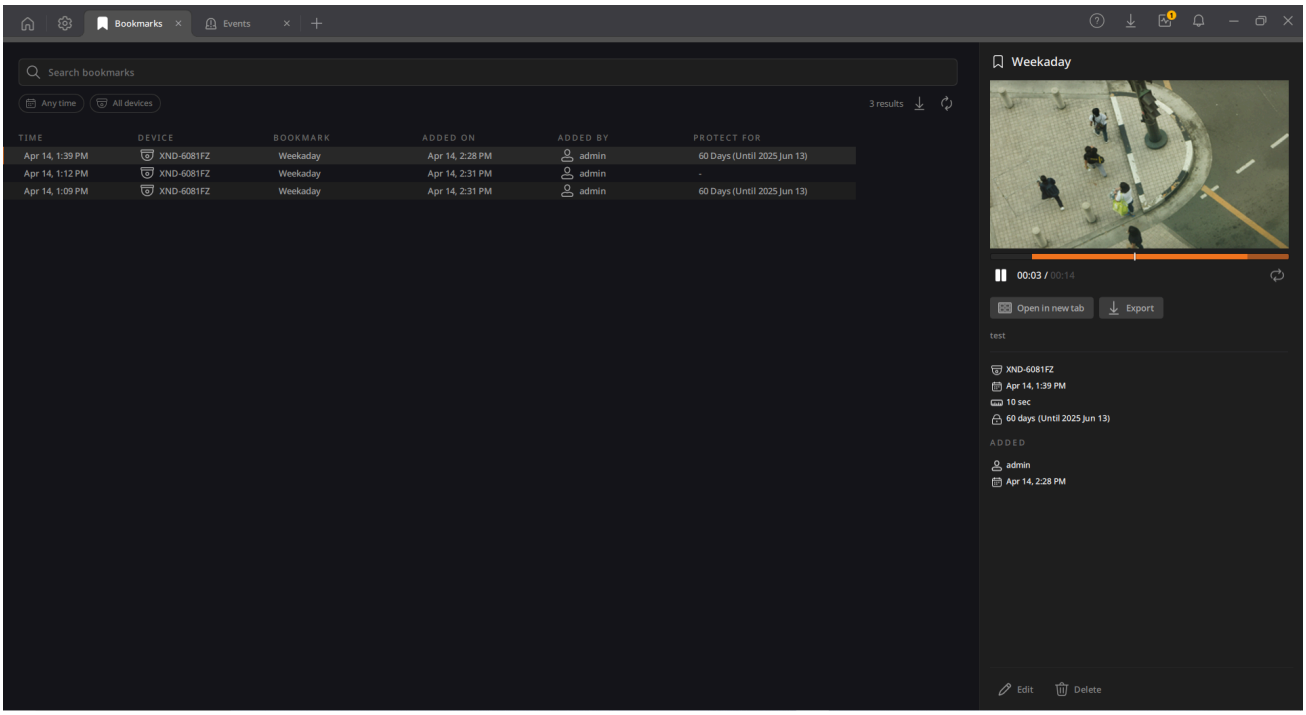
Bookmarks

Videos with bookmark can be searched, and the selected bookmarks can be played or saved.

In the Bookmarks tab, filter and search for specific bookmarks. All videos with bookmarks are searchable, and selected bookmarks can be played or saved.

Bookmarks tab layout

The Bookmarks tab consists of the Bookmark Log panel and the Bookmark Details panel. When a specific bookmark is selected in the log panel, the corresponding information is displayed in the Details panel.



Searching for a bookmark

Search for added bookmarks. Play the bookmarked videos you find and export them as video files.

To search for a bookmark

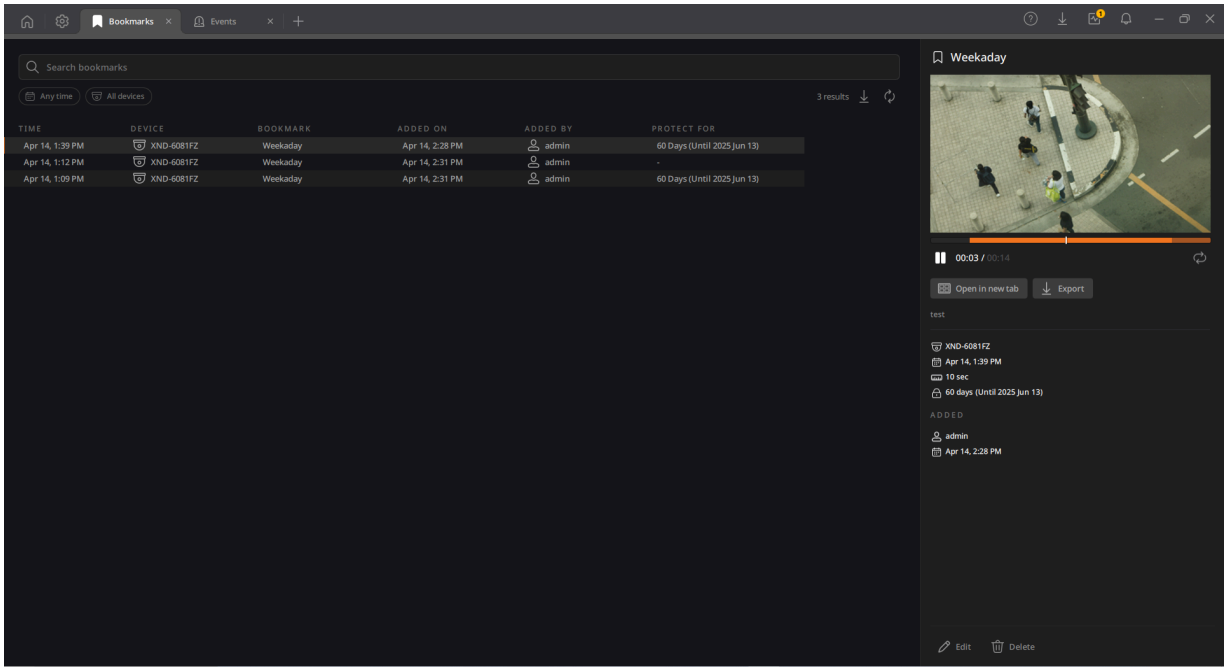
1. On the **Home** page, click **Bookmarks**.
    - In the **Bookmarks** panel on the View tab, select the desired bookmark from the list and right-click it to display the shortcut menu. Click **Open in bookmarks tab** to move to the Bookmarks tab.

2. In the Bookmarks log panel, select a filter to use to search for events.

> **Note:** The default setting for each search filter is All.

   - Search bar: Enter bookmark information such as bookmark name, device name, or description to search for the desired bookmark.
   - Date and time: Click the date filter to display a calendar window. Set the start/end date and time range to search for events in the calendar window and click ✓.
     - Select **Any time** to set the search range from the start to the end of the videos stored on the server. Select **Last 1 hour**, **12h**, **24h**, or **7d** to search based on the current time.
   - Device: Click the device filter, and a list of devices to search will appear. Select the device you want to search for videos and click **Select**.
     - Select **All devices** to select all devices connected to BLAZE.
     - Enter the device name in the search bar to quickly search.
3. Events with selected filters applied will be displayed in the Bookmarks log panel.
   - **Time**: Displays the time of occurrence of an event.
   - **Devices**: Displays the name of the device on which the event occurred.
   - **Bookmark**: Displays the name of the bookmark.
   - **Added on**: Displays the time the bookmark was added.
   - **Added by**: Displays the user who added the bookmark.
   - **Protected for**: Displays the deletion protection period set for the bookmark.
   - : Saves the bookmark search results as a CSV file. The CSV file is saved in the Media folder in the path set in Client settings.
   - : Refreshes the bookmark search results.
4. Click the desired bookmark in the Results panel, and the Bookmark Details panel appears.

- In the Details panel, view the bookmark details and play the video or export it to a file.

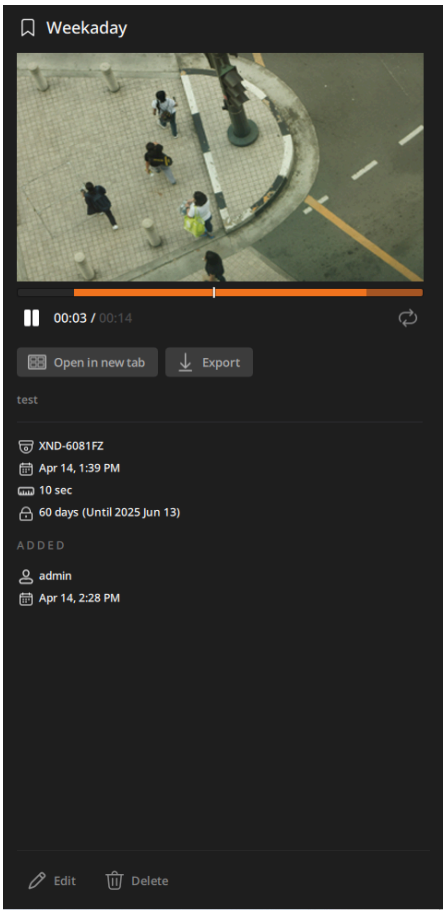


Viewing bookmarks

Double-click a bookmark in the Bookmarks log panel to play the video and save it as a file in the Details panel.

- Playback bar: Indicates the playback position of recorded videos.
- ▷/▯▯: Play or pause the video.
- ↻: Repeat a video playback.
- **Open in new tab**: Play the video in a new tab. For more information on video playback, see Playing the video *(page 123)*.
- **Export**: Export the current video as a video file on your PC. The file will be saved in the Videos folder of the path you have set in Client settings. For more information on saving videos, see Exporting the video as a file *(page 130)*.
  - If the length of the video you are trying to save is less than 5 seconds, the file may not be saved correctly.
- Device name: Displays the name of the device where the event occurred.
- Bookmark time: Displays the start time of the bookmark.
- Bookmark video length: Displays the total length of the bookmark in seconds.
- Bookmark retention period: Displays the retention period set for the bookmark.

- Added: Displays the username and timestamp of the user who bookmarked.



Setting a bookmark

Add bookmarks to important or interesting sections of videos stored in BLAZE. Bookmarks make it easy to quickly find specific events or videos, and bookmarks can be shared with other users. For videos that are critical data, set a retention period to prevent deletion.

View set bookmarks in the **Bookmarks** panel on the **View** tab, or in the **Bookmarks** tab on the **Home** page.

Note:

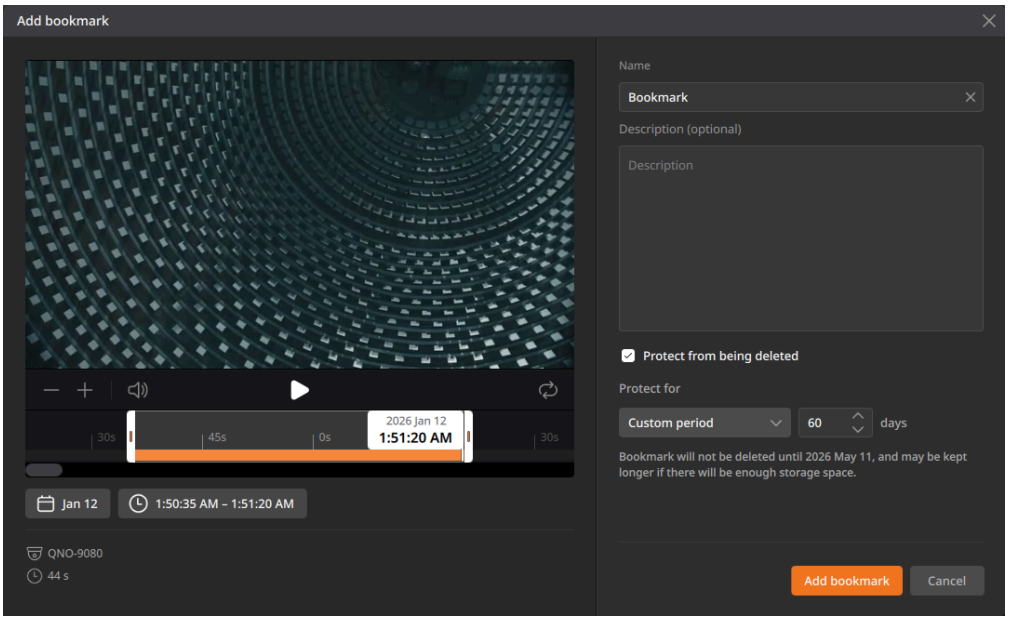
- You must have an Administrator role or bookmark-setting permission to add, modify, or delete bookmarks.
- If there are a large number of bookmarks that are protected from deletion, this will use up data capacity on your storage drive and may reduce the recording duration of your entire system.

Adding a bookmark

Select a section of stored video and add a bookmark. A bookmark can be added by selecting the desired segment on the Timeline panel or by selecting a specific event in the Events panel. Added bookmarks can be viewed in the Timeline panel, the Bookmarks panel, or the Bookmarks tab.

To add a bookmark to a video

1. Select the device in the Devices or Layouts panel.
2. On the Timeline panel, select the section to save and click in the shortcut menu.
    - In the Events panel, select the event, right-click to open the shortcut menu, and click **Add bookmark**.
3. In the **Add bookmark** dialog, drag to select the section on the timeline where you want the bookmark.



    - Play the video on the preview screen.
    - Drag the start and end handles on the timeline to adjust the selection.
    - Click the date or time at the bottom of the timeline to select a specific range.
4. Enter a name and description for the bookmark.
5. Select **Protect from being deleted** to set a retention period to prevent deletion.

- **Custom period**: Enter a value between 1 and 9999. If no retention period is set, the bookmark may be deleted along with the recorded video. If the server has enough storage, bookmarks can be retained longer than the set period.
- **Indefinitely**: Prevent the bookmark from being deleted without specifying a period.

6. Click **Add bookmark**.

Editing a bookmark

Modify the section, name, and retention period of an added bookmark. Search for the desired bookmark in the Bookmarks panel or Bookmarks tab to edit it.

To edit a bookmark

1. Search for the bookmark to edit.
2. Select the desired bookmark in the Bookmarks panel and click **Edit**.
    - In the Bookmarks panel, select the desired bookmark and right-click it to open the shortcut menu. Edit the bookmark by clicking **Edit bookmark**.
3. In the **Edit bookmark** dialog, modify the bookmark information.
4. Click **Save**.

Deleting a bookmark

Delete a bookmark that has been added.

To delete a bookmark

1. Search for the bookmark to delete in the Bookmarks tab or Bookmarks panel.
2. Select the desired bookmark in the Bookmarks log panel and click **Delete** in the Bookmark Details panel.
    - To select multiple bookmarks, press Shift and Ctrl to select the bookmarks to delete. Delete multiple bookmarks at once by clicking **Delete** in the Bookmark Details panel.
    - In the Bookmarks panel, select the desired bookmark and right-click it to open the shortcut menu. Delete a bookmark by clicking **Delete bookmark**.
3. In the confirmation dialog, click **Delete**.

Health monitoring

Monitor system health and diagnose issues.

In the **Health monitoring** tab, check the server's storage space, CPU status, and read/write speeds of the storage drives at a glance.

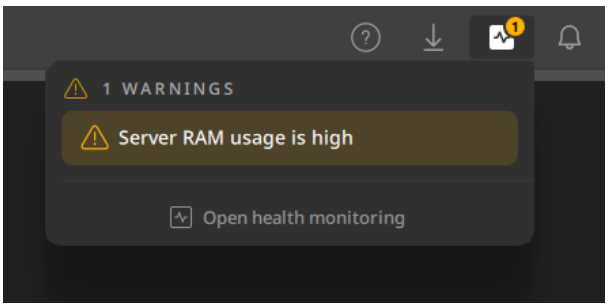
Note: Only users with an Administrator or Super administrator role can access health monitoring.

Viewing health monitoring alerts

When an issue occurs in the BLAZE system, an alert appears in the Alert tray in the Tab bar. Use the Alert panel to review system health and diagnose issues.

To view health monitoring alerts

1. Click in the Tab bar.
2. Check detailed information in the Alert panel.
    - Click **Open health monitoring** to open the **Health monitoring** tab.



Alert items

Use the items displayed in the Alert panel to check issues detected in the system.

Alert	Appears when	Resolved when
Camera “[Camera name]” is offline	Camera goes offline	Camera is back online
Server “[Server name]” is offline	Server goes offline	Server is back online

Alert	Appears when	Resolved when
“[Disk name]” disk write failure	A disk write failure occurs due to physical damage or a permission issue	There is no more read/write error
Server “[Server name]” - “[disk name]” disk write error	A write operation is rejected on a specific disk installed in the server	There is no more read/write error
Server CPU usage is high	Average CPU usage over the last 10 seconds exceeds 80%	Average CPU usage over the last 10 seconds drops below 80%
Server RAM usage is high	RAM usage reaches 90%	RAM usage drops below 90%
Disk "[Disk name]" SMART error occurred	A storage device reports a S.M.A.R.T. error and its status is "At risk"	The S.M.A.R.T. status is no longer "At risk"
Server "[Server name]" - disk "[disk name]" SMART error occurred	A storage device on the server reports a S.M.A.R.T. error and its status is "At risk"	The S.M.A.R.T. status for the disk is no longer "At risk"
Disk "%1" is nearing its I/O limit	Disk I/O usage is approaching the threshold that may affect system performance. Factors such as the number of channels assigned to the server, recording quality, and HDD hardware performance can affect disk I/O usage.	Disk I/O usage returns to the normal range
Disk "%1" has exceeded its I/O limit	Disk I/O usage has exceeded the threshold that may affect system performance. Factors such as the number of channels assigned to the server, recording quality, and HDD hardware performance can affect disk I/O usage.	Disk I/O usage returns to the normal range

Alert	Appears when	Resolved when
Server certificate expires in [number] days	The certificate expires in [number] days	• The certificate expires OR • A valid certificate is installed on the server
Server certificate has expired	Server certificate has expired	A valid certificate is installed on the server
Cannot connect to NTP server	The server fails to connect to NTP server	The server restores connection to NTP server
Failover - [number] devices have been moved to server “[Server name]” temporarily	There is failover and cameras are moved temporarily to another server	The failover/fallback has ended
Software update is available	Software update is available	The software has been updated to the latest version

System dashboard

Check the main status of the currently connected BLAZE system.

- **Devices**: Displays the total number of devices connected to the system, along with their status (normal, warning, error). Clicking a device card navigates to device dashboard.
- **Server info**: Displays key status indicators for each registered server, including CPU, memory, network usage, and disk health. Clicking a server card navigates to server dashboard.

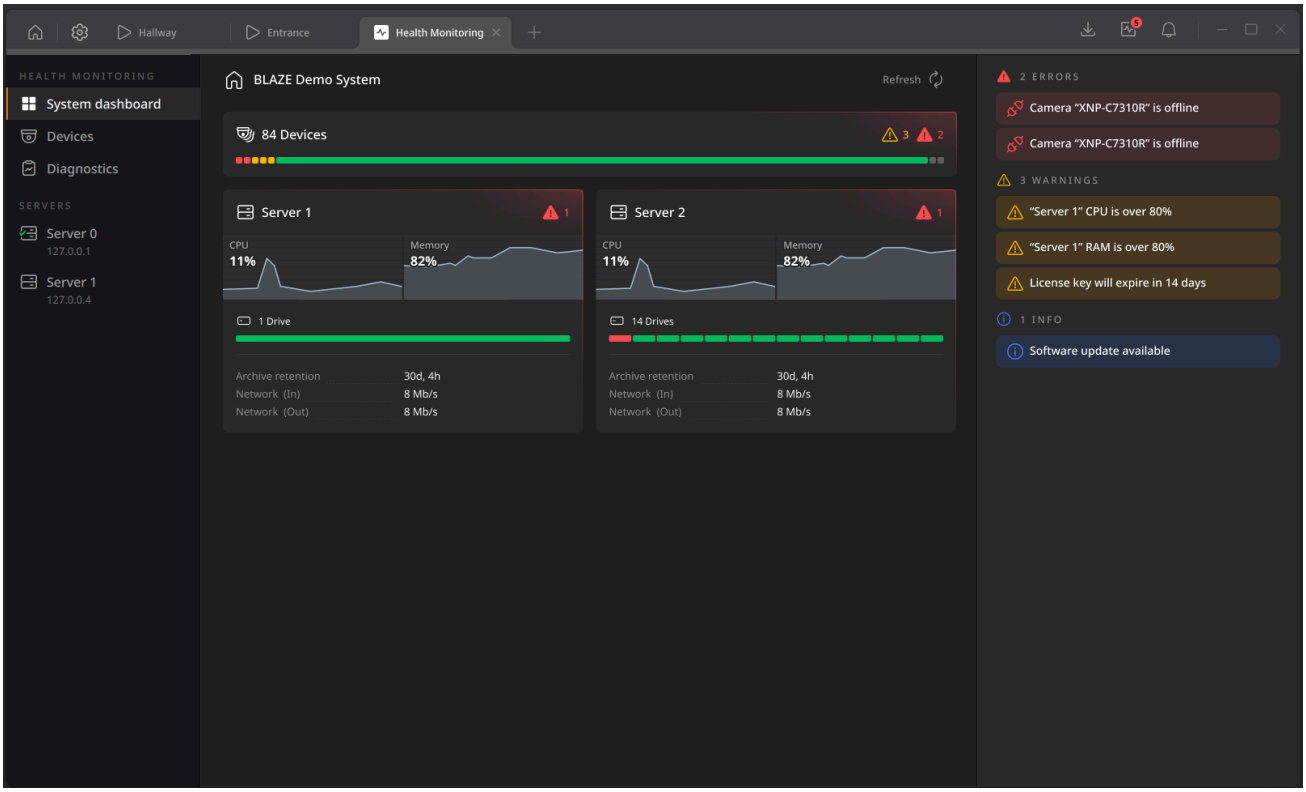
> **Note:** For systems configured with a single server, the server dashboard is displayed instead of the system dashboard.

To view the system dashboard

1. On the **Home** page, click **Health monitoring**.
2. Click **System dashboard**.

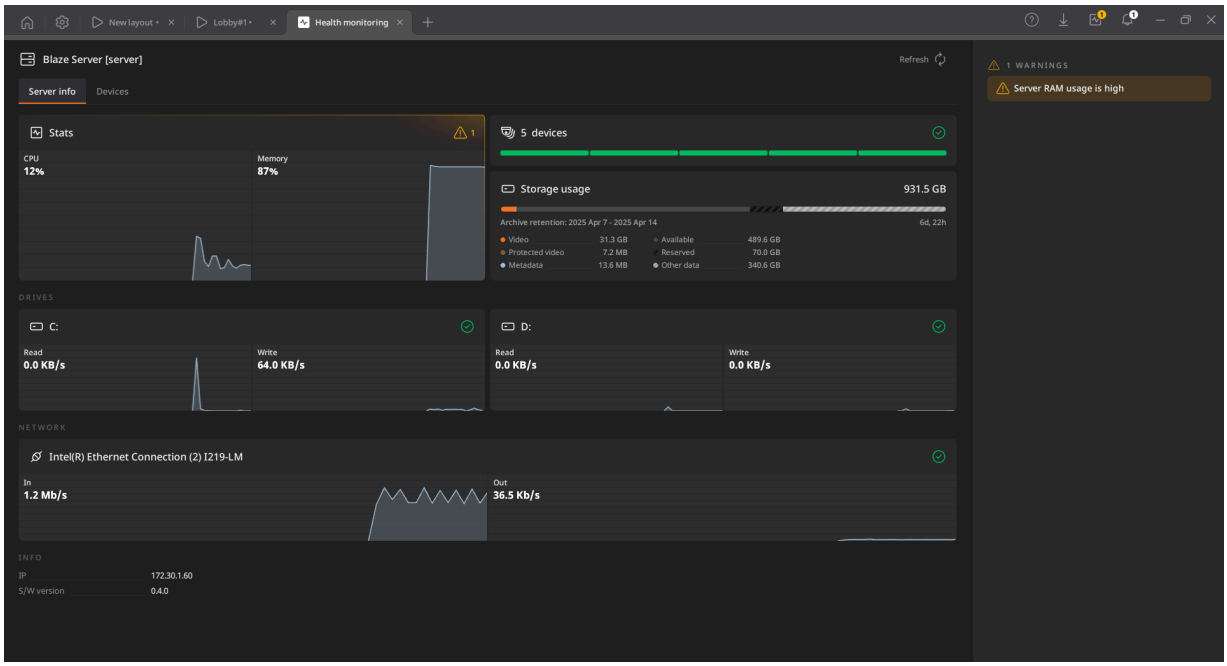
Monitoring a server

Monitor CPU usage, storage space, and other details for the BLAZE server.



To view server monitoring information

1. On the **Home** page, click **Health monitoring**.
2. Select a server from the server list on the left.
    - Status icon appears at the top of each card.



Server information

View detailed information for the BLAZE server. Click **Refresh** at the top to update the data.

- **Stats**: CPU and memory usage of the server.
- **Devices**: The number of devices connected to the server and their status (normal, warning, or error).
- **Storage usage**: A chart showing storage utilization on the server, including recorded videos, protected videos, metadata, and more.
    - Also shows the archive retention period (days/hours of recordings available for playback) across all devices in the system.
- **Drives**: Read/write speeds for each drive on the PC where the server is installed.
- **Network**: Network traffic for the system.
    - **In**: Total incoming traffic from camera video and metadata. **Out**: Total video traffic sent from the server to the client.
- **Info**: The IP address and software version of the server.
- **System status**: Real-time monitoring results for server and device issues.

To view devices per server

View the device list for a specific server rather than the entire system.

1. Select the desired server from the list on the left.
2. On the Server dashboard, click the **Devices** tab.

To view devices across all servers, click the **Devices** tab in the left menu.

Monitoring a device

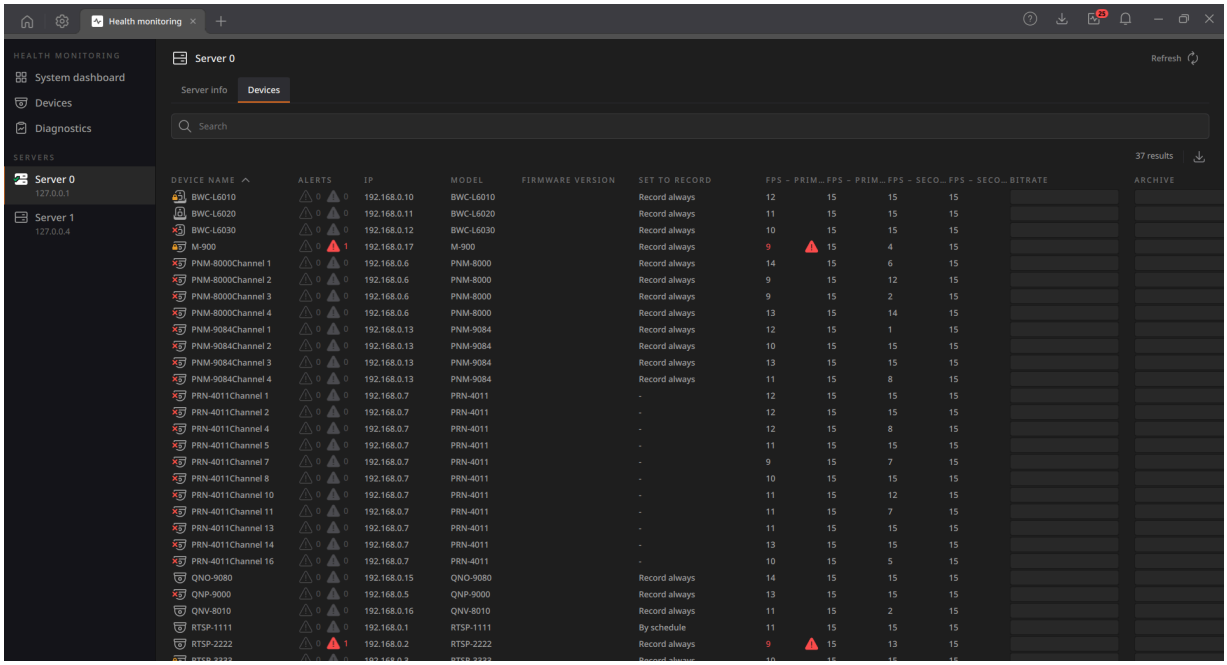
Check information for devices connected to the BLAZE server, including the file size and duration of stored videos per device.

To view monitoring information of a device

1. On the **Home** page, click **Health monitoring**.
2. In the **Health monitoring** tab, perform one of the following depending on the system configuration:

- Single-server system: Click **System dashboard**, then click the **Devices** tab.
- Multi-server system (all servers): In the left panel, click **Devices**. The device list for all servers is displayed.
- Multi-server system (per server): In the left panel, select the desired server from the **Servers** list, then click the **Devices** tab.

3. Review the device list and detailed information.
   - To quickly find a device, enter a search term in the search bar at the top of the list.



Device information

View information for devices connected to the BLAZE server, such as cameras and IP speakers. Click **Refresh** at the top to update the data.

- **Device name**: The name assigned to the device.
- **Alerts**: The types and number of alerts generated by the device.
- **Server**: The server the device is connected to.
- **IP**: The IP address of the device.
- **Model**: The model name of the device.
- **Firmware version**: The firmware version installed on the device.
- **Set to record**: The recording mode configured for the device.
  - For more information, see Configuring recording settings *(page 150)*.
- **FPS - Primary (Target)**: The target frame rate configured for the primary stream.
- **FPS - Primary (In)**: The actual incoming frame rate of the primary stream.

- **FPS - Secondary (Target)**: The target frame rate configured for the secondary stream.
- **FPS - Secondary (In)**: The actual incoming frame rate of the secondary stream.
- **Bitrate**: The average bitrate of the video stream.
- **Archive**: The storage capacity used by recorded videos per device.
- **Archive retention**: The total duration of recorded videos stored per device.

Device ping test

You can run a ping test on a registered device to check the network connection status between the server and the device.

Note: A ping test can only be performed on one device at a time.

Running a ping test

1. In the device list of the **Health monitoring** tab, right-click the device to test, then select **Ping** from the shortcut menu.
    - You can also run the test from the following locations by right-clicking the desired device and selecting **Ping** from the shortcut menu.
        - **Settings** > **Devices** > device list
        - **View** > **Devices** > device list
        - The device-related alert card in the **Health monitoring** Alert panel
2. You can check the test results in the **Ping test** window.
3. After the test is completed or stopped, click **Retry** to run the ping test again on the same device IP.

Exporting the device list

Administrators can export the registered device list to a CSV file for maintenance and management purposes.

The exported file includes device name, IP address, MAC address, model name, firmware version, connected server, group path, license usage, recording mode, health status, FPS, and bitrate. During certain conditions such as failover, some fields (e.g., bitrate) may be excluded.

Note: Only users with the Administrator or Super administrator role can export the device list.

1. Click **(Export as CSV)** at the top-right.
2. When the file save dialog appears, choose the save location and click **Save**.
    - The default filename follows the format `BLAZE_DeviceList_YYYY-MM-DD at HH.MM.SS AM.csv` based on the current time of the client PC.

Diagnostics

BLAZE provides a diagnostics feature for obtaining technical support when system issues occur. Diagnostics reports include logs, system details, device lists, and network configuration, all saved as a single compressed file. A dump file captures system information at the time of an abnormal termination.

Note: Only users with the Administrator role can access the diagnostics feature.

To generate a diagnostics report

1. On the **Home** page, click **Health monitoring**.
2. In the **Health monitoring** tab, click **Diagnostics**.
3. In the **Diagnostics report** section, click **Download**.
4. In the **Download diagnostics report** window, under **Date**, select the start and end dates for the debug log collection period. The minimum range is 1 day. Log files are stored by file size rather than by date, so data outside the selected range may be included to ensure complete coverage.
5. Under **Source**, select the items to include in the diagnostics report.
    - **Client**: Collects diagnostic information for the currently active client only.
    - **Server**: Lists all servers in the current system. Select the servers to include. Logs from cloud-connected servers are also collected.
6. Click **Browse...** to select the save location for the diagnostics report.
    - The collected files are compressed in ZIP format.
7. Click **Download**.

Diagnostics report information

The diagnostics report includes the following information:

- Environment information: OS version, network card status and settings, disk status, and the current date and time
- VMS information: Version, installation path and files, license details, configuration files, and debug logs
- Camera information: Model, firmware version, app version, connection status, current settings (including network, event, image options, etc.), and system and event logs

To download dump files

A dump file is a file that automatically saves the memory state and execution information at the moment an error occurs in a program or system.

1. On the **Home** page, click **Health monitoring**.
2. In the **Health monitoring** tab, click **Diagnostics**.
3. In the **Dump files** section, click **Download**.
4. In the **Download dump file** window, select the source.
    - **Client**: Collects dump files generated by the currently running client.
    - **Server**: Lists dump files stored on all servers in the current system. Select specific dump files to include.
5. Click **Browse...** to select the save location.
    - The collected files are compressed in ZIP format.
6. Click **Download**.

To set the log level

Configure how debug logs are saved to manage storage usage. The default log level is **Info**.

Note: Only users with the Administrator role can access the diagnostics feature.

1. On the **Home** page, click **Health monitoring**.
2. In the **Health monitoring** tab, click **Diagnostics**.
3. In the **Log level** section, click **Settings**.
4. In the **Log level settings** window, select the client or server to configure.
5. Select a log level for the chosen client or server from the options below.

Note: Selecting a level of **Debug** or higher will display the following message: "Increasing log level may affect performance and storage. Restore it to [Info] after collecting logs."

- **Trace**: Records all detailed internal operational information.
- **Debug**: Records detailed debugging information for diagnosing the cause of a problem.
- **Info (recommended)**: Records major system operational events and all important information. This is the recommended option.
- **Warning**: Records anomalies that could lead to issues, as well as critical errors.
- **Error**: Records error logs generated by the program.
- **Disabled (not recommended)**: Disables all logging, which saves disk space. This option is not recommended.

6. Click **OK**. The new setting is applied immediately without requiring a system restart.

Audit log

Provides essential information for security audits and issue resolution by tracking and recording all user activities within the system.

On the **Home** page, click **Audit log** or click the icon in the Tab bar.

Note: The Audit log tab is accessible only to users with Administrator privileges.

Searching audit logs

Audit logs record all user activity in the system. They provide essential information for security audits, troubleshooting, and regulatory compliance.

To search audit logs

1. On the **Home** page, click **Audit log**.
2. In the Audit log panel, select filters to refine the search.

   Note: By default, each filter includes all conditions.

   - Search bar: Enter keywords such as username, action, description, or client information. Partial matches are supported.
   - Date and time: Click the date filter to open the date selection panel. Set the start and end date/time range, then click ✓.
     - Options include the entire period or recent intervals based on the current time: 1 hour, 12 hours, 24 hours, or 7 days.
   - Event action: Click the event action filter to view available event actions. Select the desired actions and click ✓.
     - Device configuration
       - Add device: Adds a device to the system.
       - Delete device: Removes a device from the system.
       - Edit recording settings: Changes the recording settings of a device.
       - Enable license: Activates the device license.
       - Disable license: Deactivates the device license.
       - Edit PTZ settings: Changes PTZ (pan/tilt/zoom) settings.

        - Restart device: Restarts the device.
        - Reset device: Restores the device to factory default settings.
    - Server settings
        - Add server: Adds a server to the system.
        - Detach server: Removes a server from the system.
        - Edit time settings: Modifies the server time configuration.
        - Edit storage settings: Changes the storage configuration.
        - Format storage: Formats the storage (BLAZE Appliance only).
        - Edit failover settings: Changes the failover configuration.
        - Edit network settings: Changes the network configuration (BLAZE Appliance only).
        - Edit PoE settings: Changes PoE (Power over Ethernet) settings (BLAZE Appliance only).
        - Restart server: Restarts the server (BLAZE Appliance only).
        - Shut down server: Shuts down the server (BLAZE Appliance only).
        - Reset server: Resets the server to factory defaults (BLAZE Appliance only).
        - Start backup: Initiates backup.
        - Start restore: Initiates a restore from a backup file.
        - Edit recording video backup settings: Edits recording video backup settings (BLAZE Appliance only).
        - Create RAID: Creates a new RAID volume. (BLAZE Appliance only.)
        - Delete RAID: Deletes an existing RAID volume configuration. (BLAZE Appliance only.)
        - Rebuild RAID: Rebuilds a RAID volume after a disk replacement or similar event. (BLAZE Appliance only.)
    - Cloud
        - Edit cloud settings: Edits cloud settings.
    - User configuration
        - Add user: Adds a new user.
        - Delete user: Deletes a user.
        - Edit user: Edits user information.
        - Add role: Adds a new role.

        - Delete role: Deletes a role.
        - Edit role: Edits role information.
    - User operations
        - Login: Logs into the system.
        - Logout: Logs out of the system.
        - Failed login attempts: Indicates unsuccessful login attempts.
        - Lock account: Indicates that a user account has been locked.
    - Video
        - View live: Views live video streams.
        - View archive: Views archived video streams.
        - Export video: Exports archived video recordings.
        - Control PTZ: Controls PTZ cameras.
        - Delete bookmark: Deletes a bookmark.
        - Edit bookmark: Edits a bookmark.
    - Device operation
        - Move device: Transfers a device to another server.
        - Control alarm output: Changes the alarm output status.
    - Software update
        - Update software: Updates the software.
    - License
        - Add license: Adds a license.
        - Extend license: Extends the license usage period.
        - Deactivate license: Deactivates a license.
    - Archive
        - Start reindex archive: Starts reindexing between the index file and the actual stored data.
        - Cancel reindex archive: Cancels reindexing between the index file and the actual stored data.
    - Event rule
        - Edit rule: Changes the **Trigger** or **Action** settings of an event rule. A log is recorded even if the same values are saved. However, no log is recorded if only the event rule name is changed.
        - Enable rule: Enables an event rule.

        - Disable rule: Disables an event rule.
        - Delete rule: Deletes an event rule.

> **Note:** Creating an event rule is not recorded in the audit log.

    - Users: Click the user filter to display a list of users. Select a user and click ✓.
        - For details on users, see Users *(page 241)*.
    - Devices: Click the devices filter to display a list of devices. Select the device and click **Select**.
        - Click **All devices** to select all devices connected to BLAZE.
        - Use the search bar to find devices by name.
3. Logs matching the selected filters appear in the results list.
    - **Time**: Displays when the event occurred, based on the system time zone.
    - **User**: Displays the name of the user who performed the action.
    - **Action**: Displays the recorded action type.
    - **Description**: Additional information about the event. The description for each action is shown in the table below.

Action	Description
Add device	▪ Source: {Device model name} ▪ Mac: {Device Mac address} ▪ Server: {Server name}
Delete device	▪ Source: {Device model name} ▪ Mac: {Device Mac address} ▪ Server: {Server name}
Edit recording settings	▪ Source: {Channel name} ▪ Recording: Recording mode
Add license	▪ Source: {Channel name}
Deactivate license	▪ Source: {Channel name}
Edit PTZ settings	▪ PTZ: {PTZ settings} ▪ Source: {Channel name}

Action	Description
Restart device	▪ Source: {Device model name}
Reset device	▪ Source: {Device model name}
Add server	▪ Source: {Server name}
Detach server	▪ Source: {Server name}
Edit time settings	▪ Source: {Server name}
Edit storage settings	▪ Storage: Drive ▪ Source: {Server name}
Format storage	▪ Storage: HDD drive ▪ Source: {Server name}
Edit failover settings	▪ Source: {Server name}
Edit network settings	▪ When the server network is set to IP and multiple network settings are changed ▪ Change: IP/Port ▪ Source: {Server name} ▪ Network: Network number ▪ Address: Server IP address:Server port number ▪ When the server network is set to DHCP and a single network setting is changed ▪ Change: DHCP ▪ Source: {Server name} ▪ Network: Network number ▪ Address: Server IP address:Server port number ▪ When the server network is set to DHCP and multiple network settings are changed

Action	Description
	▪ Change: DHCP ▪ Source: {Server name} ▪ Network: Network number ▪ Address: Server IP address:Server port number ▪ Network: Network number ▪ Address: Server IP address:Server port number
Edit PoE settings	▪ Port: Port number ▪ Source: {Server name}
Restart server	▪ Source: {Server name}
Shut down server	▪ Source: {Server name}
Reset server	▪ Reset to factory defaults ▪ Reset type: Reset to factory defaults ▪ Source: {Server name} ▪ Reset to factory defaults except the network parameters ▪ Reset type: Reset to factory defaults (except network settings) ▪ Source: {Server name} ▪ Reset to factory defaults and delete all stored data ▪ Reset type: Reset to factory defaults (including stored data) ▪ Source: {Server name}
Start backup	▪ Backup: {manual backup file name}
Start restore	▪ Restore: {restore file name}

Action	Description
Create RAID / Delete RAID / Rebuild RAID	▪ {Volume index and configured disk numbers for the created, deleted, or rebuilt volume} (e.g., Volume 1 (disk 1, 2, 3, 4)) ▪ Source: {Server name} **Note:** For RAID formatting details, the volume index and disk information are recorded in the "Format storage" log.
Edit cloud settings	▪ Action: {Cloud action}
Add user	▪ User: {User name} ▪ Role: {Role name}
Delete user	▪ User: {User name} ▪ Role: {Role name}
Edit user	▪ User: {User name} ▪ Role: {Role name}
Add role	▪ Role: {Role name}
Delete role	▪ Role: {Role name}
Edit role	▪ Role: {Role name}
Log in	
Log out	
Lock account	▪ Number of login failures: {Failed login attempts}
Lock account	▪ Account locked for: {time} seconds

Action	Description
View live	▪ Source: {Channel name} ▪ Duration: {Time} seconds/minutes/hours/days ▪ Time range: {Time range}
View archive	▪ Source: {Channel name} ▪ Duration: {Time} seconds/minutes/hours/days ▪ Time range: {Time range}
Export video	▪ Source: {Channel name} ▪ Time range: {Time range}

Control PTZ	▪ PTZ camera motion recording
	  ▪ Source: {Channel name}
	  ▪ Duration: {Time} seconds/minutes/hours/days
	  ▪ Command: {Command type}
	▪ Preset PTZ camera motion recording
	  ▪ Source: {Channel name}
	  ▪ Command: {Command type}

Delete bookmark	▪ Bookmark: {Bookmark name} ▪ Source: {Channel name}
Edit bookmark	▪ Bookmark: {Bookmark name} ▪ Source: {Channel name}
Move device	▪ Source: {Device model name} ▪ From: {Original server name} ▪ To: {New server name}

Action	Description
Alarm output control	▪ Source: {Alarm output name + device name} ▪ Command: Activated, Deactivated The alarm name is displayed in the audit log even if the device has been deleted.
Update software	▪ Status: {Action} ▪ Source: {Server name} ▪ Original: {Original version} ▪ To: {New version}
Add license	▪ License type: Free, Trial, Premium ▪ License key: {License key number} ▪ Source: {Server name}
Extend license	▪ License type: Premium ▪ License key: {License key number} ▪ Source: {Server name}
Deactivate license	▪ License type: Premium ▪ License key: {License key number}
Edit event rule	▪ Event rule: {Event rule name} ▪ If only the trigger (WHEN) is changed ▪▪ Trigger: {First trigger name} and N more ▪ If only the action (DO) is changed ▪▪ Action: {First action name} and N more ▪ If both the trigger and action are changed

Action	Description
	▪ Trigger: {First trigger name} and N more ▪ Action: {First action name} and N more ▪ No change (saved with the same values): No change
Enable/Disable event rule	▪ Event rule: {Event rule name}
Delete event rule	▪ Event rule: {Event rule name} ▪ Displays the name of the first trigger (When) and action (Do) at the time of deletion.
Start reindex archive	▪ Source: {System name}
Cancel reindex archive	▪ Source: {System name}

- **Source IP**: Displays the IP address of the source where the event occurred.
- **Client**: Displays the system or device where the event occurred. Values include:
  - Desktop client (Windows), Desktop client (macOS), Desktop client (Linux)
  - Mobile client (Android), Mobile client (iOS)
- **Client IP**: Displays the IP address of the client.
- : Saves the audit log search results as a CSV file. The CSV file is saved in the Media folder in the path set in Client settings.
- : Refreshes the audit log search results.

4. Click an item in the results panel to open a detailed view of the selected event. For **View live** and **View archive** actions, buttons are provided to play the recorded video at the time the event occurred.

Audit log retention

Audit log data is retained for 90 days by default. The retention period can be configured in **Audit log retention** under **Settings** > **General**.


Hanwha Vision