

AXIS ACAP INTEGRATION GUIDE

IncoreSoft VEZHA Integration Documentation

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Introduction

This guide provides step-by-step instructions for deploying VEZHA video analytics plugins on AXIS network cameras utilizing the AXIS Camera Application Platform (ACAP). The integration process ensures optimal performance for advanced video analytics solutions.

Prerequisites



Before installing video analytics plugins, set up and configure the Axis network camera.

Ensure that the camera meets the following hardware requirements to support video analytics processing:

- Minimum of 2 GB RAM to provide sufficient memory allocation for analytics operations
- ARTPEC-8 processor with DLPU support, delivering the necessary computational power for AI-driven analytics

Download the required installation files from the Partners Portal under the Installation Files section in the EDGE-based Solutions block:

- Middleware Core version 25.1 separate installer
- Dedicated video analytics plugin packages for AXIS cameras, including:
 - LPR
 - Face Recognition

Configure the network to establish seamless communication between the camera and VEZHA middleware server:

- Open TCP 4222 and 9000 ports for outbound connections from the camera
- Open TCP 4222 and 9000 ports for inbound connections on the middleware server to receive camera data and enable integration with S3 Storage



- The server that runs NATS (message broker, TCP 4222) and S3/MinIO (object storage, TCP 9000) must have a static IP address. The camera must be able to route to this IP (same LAN/VLAN, or via routed/VPN). If NAT is used, configure static port-forwarding for the ports to this IP.
- Ensure NTP/DNS are reachable; the camera and server time should be synchronized to prevent timestamp drift.

Environment Preparation

Prepare the middleware environment before proceeding with the integration. Follow these steps to deploy Middleware Core correctly:

1. Use the previously downloaded installer and follow the appropriate installation procedure:
 - Windows: Follow the [Installation Guide](#)¹ and install only Middleware Services
 - Linux: Follow the [Installation Guide](#)² and install only Middleware Core
2. Once the installation is complete, open a browser and navigate to <http://localhost:2001/> to proceed with the initial configuration

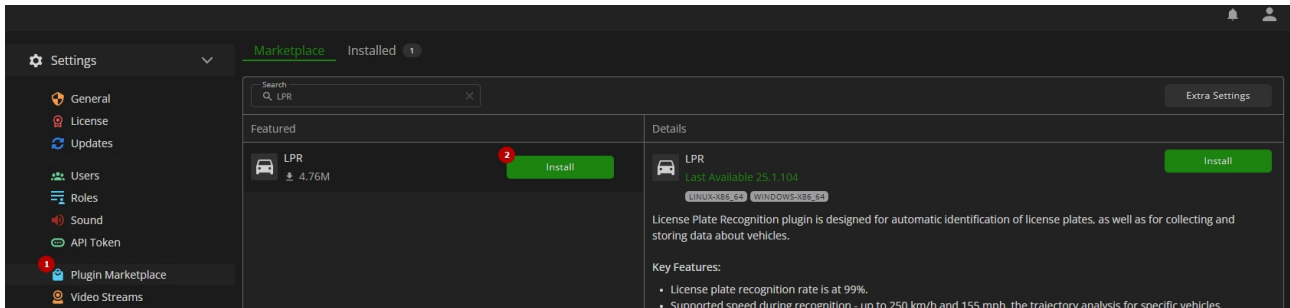
After accessing the VEZHA middleware web interface, complete the following configuration steps:

1. Select and connect the preferred database
2. Select and configure S3 Storage by specifying the necessary parameters
3. Click Save and Reload, wait for the VEZHA system to restart, and log in



Integration with the camera requires S3 Storage. Other storage types are not supported.

To complete the setup and ensure full functionality with the camera's analytics plugin, install the required component in the system:



1. Open the Settings section and navigate to the Plugin Marketplace item
2. Install the required plugin:
 - LPR
 - Face Recognition



AXIS ACAP analytics require specific edge licenses:

- IV-LPR-EDGE for License Plate Recognition
- IV-FR-EDGE for Face Recognition

These licenses are not interchangeable with standard analytics licenses.

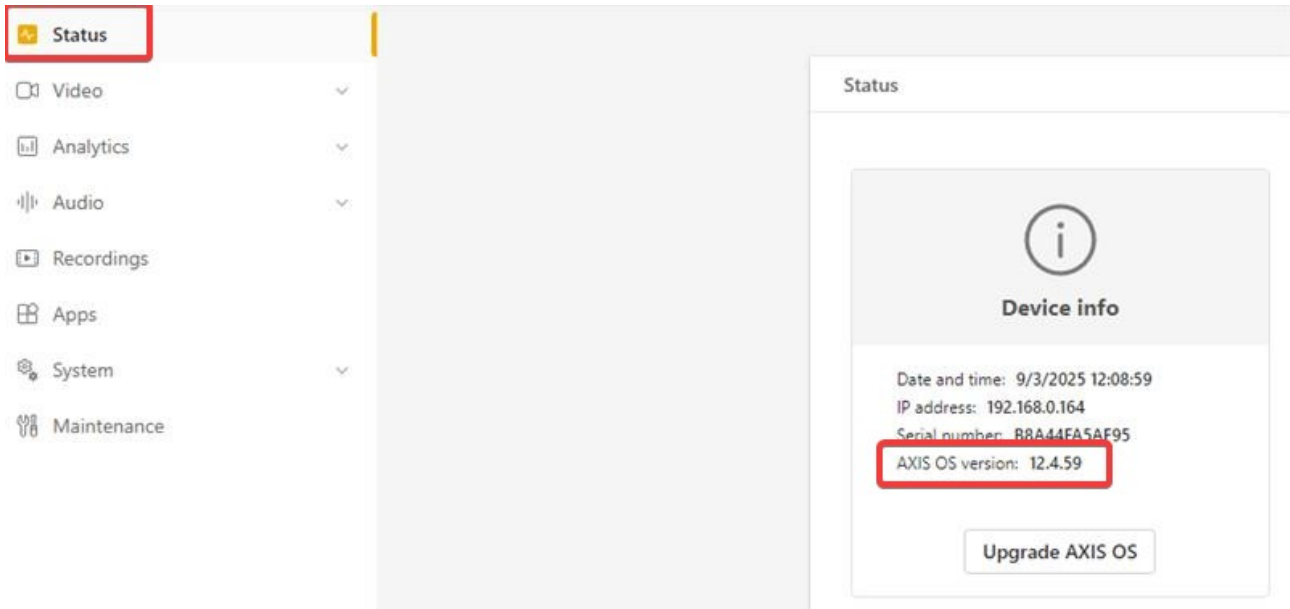
1. <https://docs.incoresoft.com/display/IVIG/.Windows%3A+Server+Cluster+System+Installation+v25.1>

2. <https://docs.incoresoft.com/display/IVIG/.Linux%3A+Server+Cluster+System+Installation+v25.1>

Plugin Installation and Configuration

To configure the camera for integration, log in to AXIS camera web interface using administrator credentials.

Check the AXIS OS version in the Status section to ensure compatibility with the video analytics plugin:

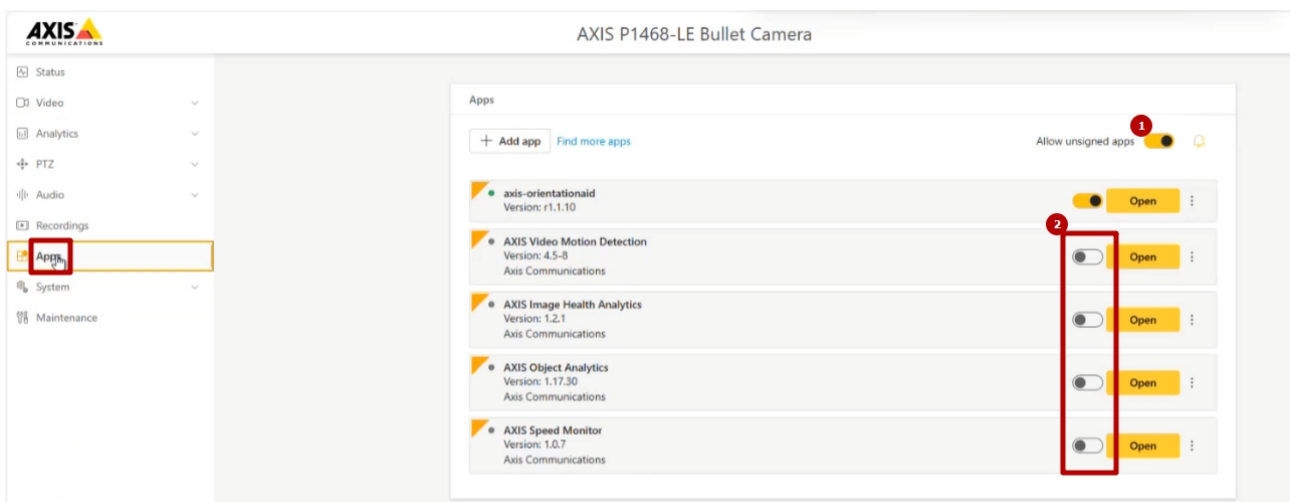


1. Locate the AXIS OS version and ensure it is 12.4.x.
2. If the firmware version is earlier than 12.4.x, please upgrade to version 12.4.x. If the version is later than 12.4.x, downgrade to version 12.4.x.



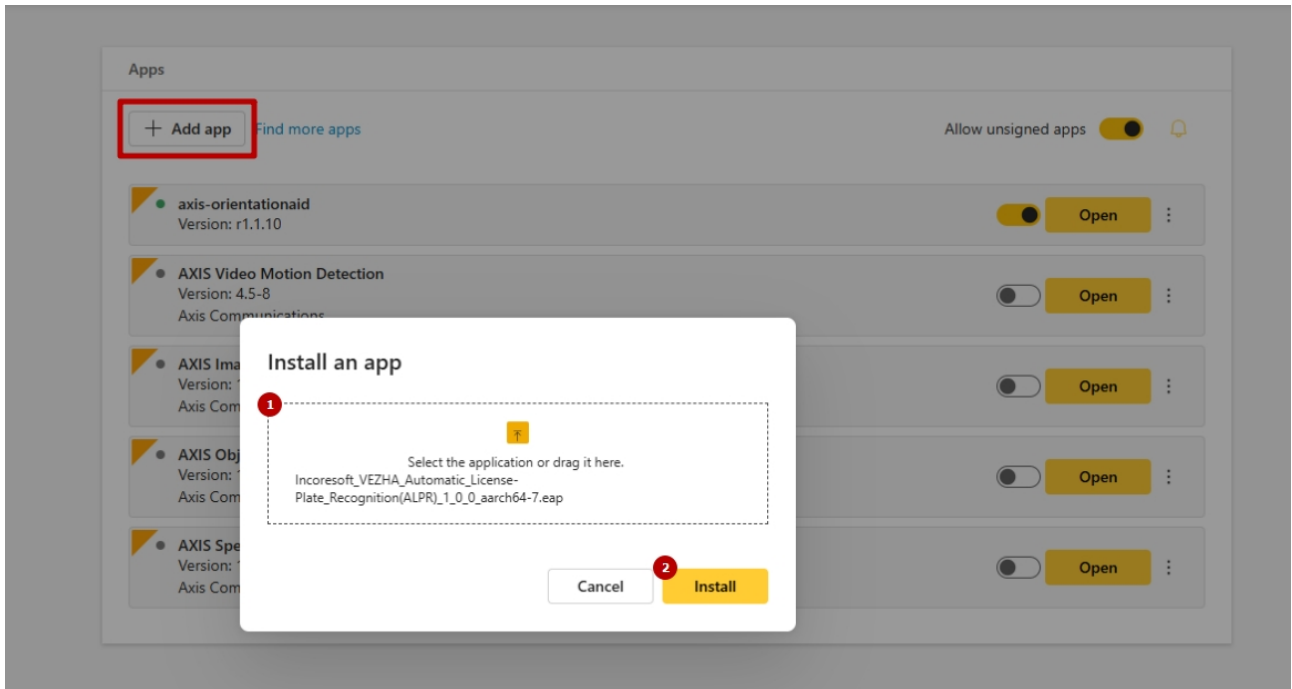
Testing was conducted on version 12.4.59, and functionality is guaranteed for this release. For comprehensive compatibility details concerning other versions, please refer to AXIS.

Adjust the application settings in the Apps section to enable the installation and operation of the analytics plugin:



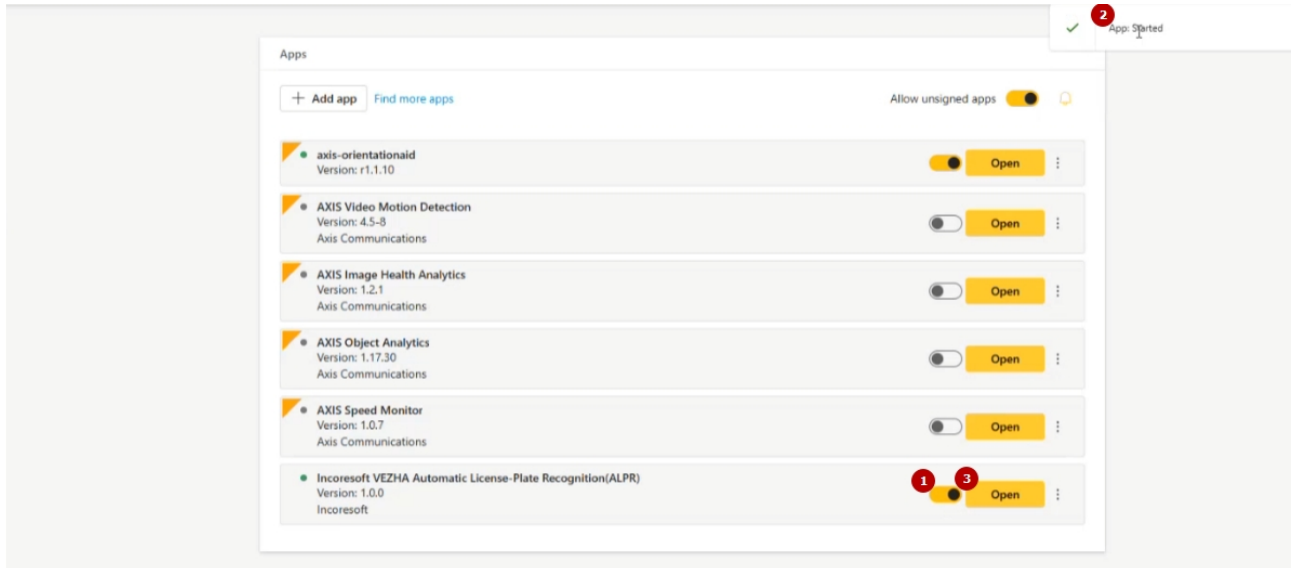
- Enable the Allow unsigned apps option
- Disable all video analytics applications

Click the Add App button to install the required plugin. In the Install an App pop-up window proceed with the following steps:



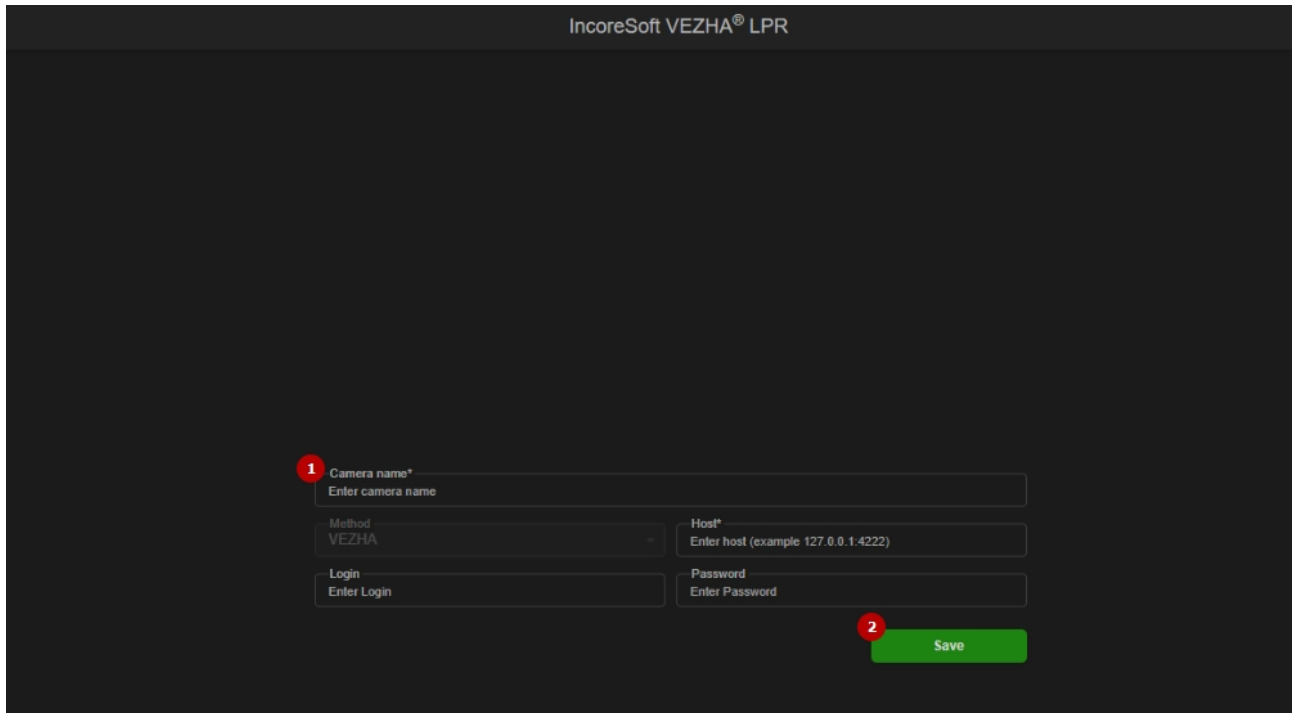
1. Select the previously downloaded plugin file on your computer
2. Click the Install button and wait for the installation to complete

Once the installation is finished:



1. Enable the installed plugin
2. Wait until the App Started status appears
3. Click Open to access the middleware connection interface

To establish communication between the camera and middleware, in the middleware connection interface:



IncoreSoft VEZHA® LPR

1 Camera name*
Enter camera name

Method
VEZHA

Host*
Enter host (example 127.0.0.1:4222)

Login
Enter Login

Password
Enter Password

2 Save

1. Fill in the required fields:
 - Enter the desired camera name
 - Enter the middleware server address and port in the format <IP>:<port> (e.g., 127.0.0.1:4222) in the Host field
2. Click Save and wait for the confirmation message indicating a successful connection

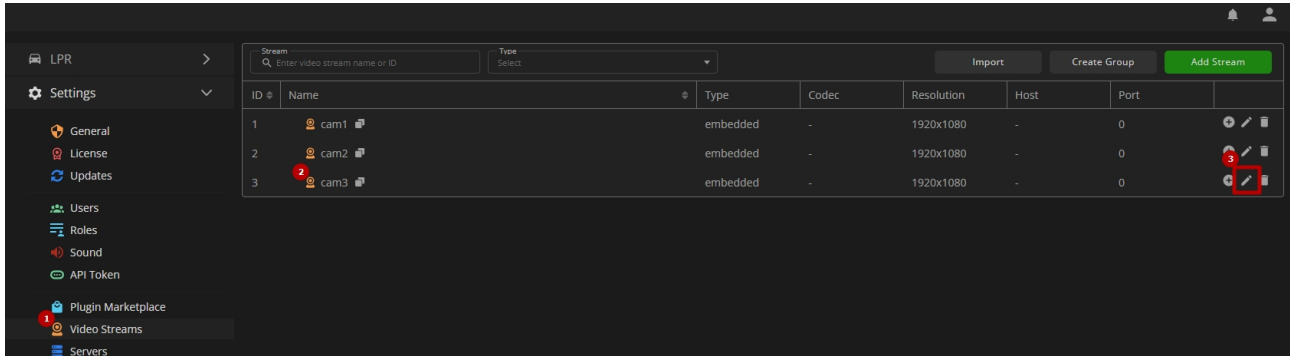


Once the integration is complete, in the camera web interface re-enable any previously disabled video analytics applications in the Apps section if required.

Validation and Optimization

Once the video analytics plugin has been installed and the camera has been successfully connected to the middleware server, log in to the VEZHA analytics system.

To verify that the camera has been integrated correctly, follow these steps:

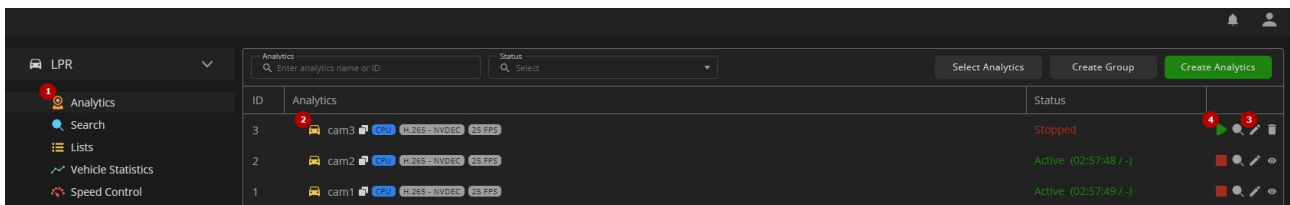


1. Open the Settings section and navigate to the Video Streams item
2. Locate the newly added video stream from the camera in the list
3. If necessary, update the appropriate settings using the Edit Stream option

✓ Renaming the video stream automatically updates the associated analytics name. If the camera name is changed in the AXIS web interface, the updated name is also reflected in VEZHA for the corresponding video stream and associated analytics.

✓ For comprehensive information regarding video stream connections, please consult the [Video Streams³](#) documentation.

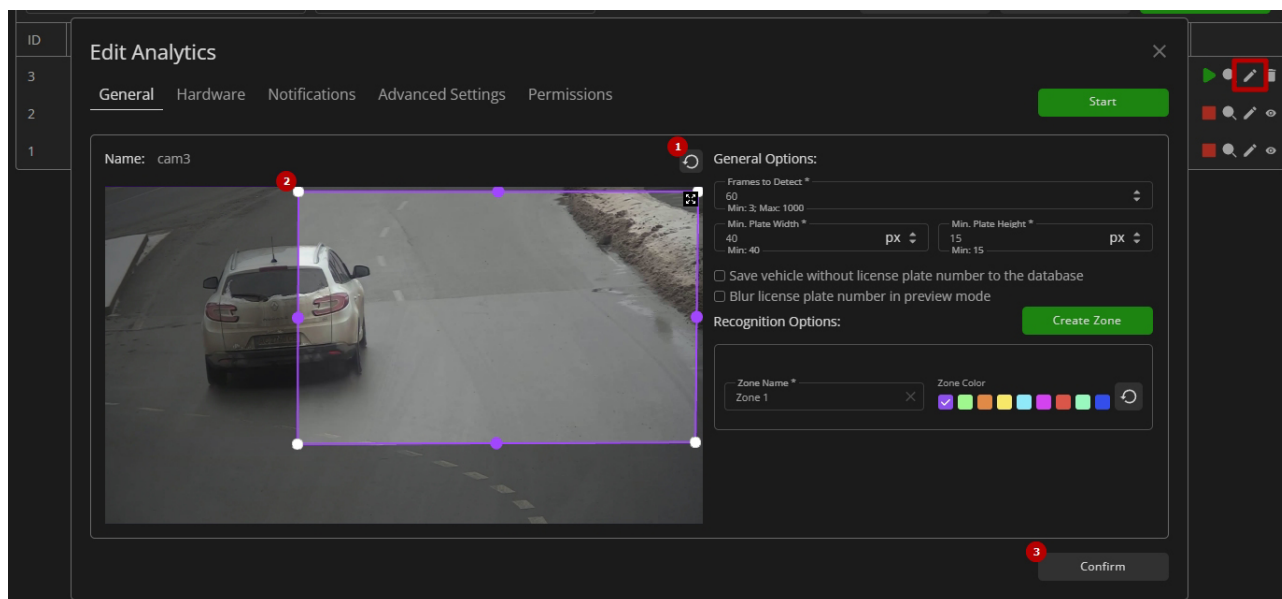
Once the video stream is detected, a new analytics is automatically created within the corresponding plugin. To confirm this:



1. Open the relevant plugin section in the menu and navigate to the Analytics item
2. Locate the new analytics associated with the camera's video stream
3. Adjust the analytics parameters as needed by opening the editor via the Edit icon in the analytics toolbox
4. After making the necessary modifications, save the changes and start the analytics process using the Start button

If any modifications are made to the camera settings, the analytics configuration must be updated accordingly to reflect these changes. To do this, open the analytics editor by clicking the Edit icon and follow these steps:

3. <https://docs.incoresoft.com/ivug/latest/video-streams-94608577.html>




1. Click the Update Video Frame button to synchronize the updated camera parameters
2. Review the detection zones and other analytics parameters, and adjust if needed
3. Save the changes to apply the updated configuration



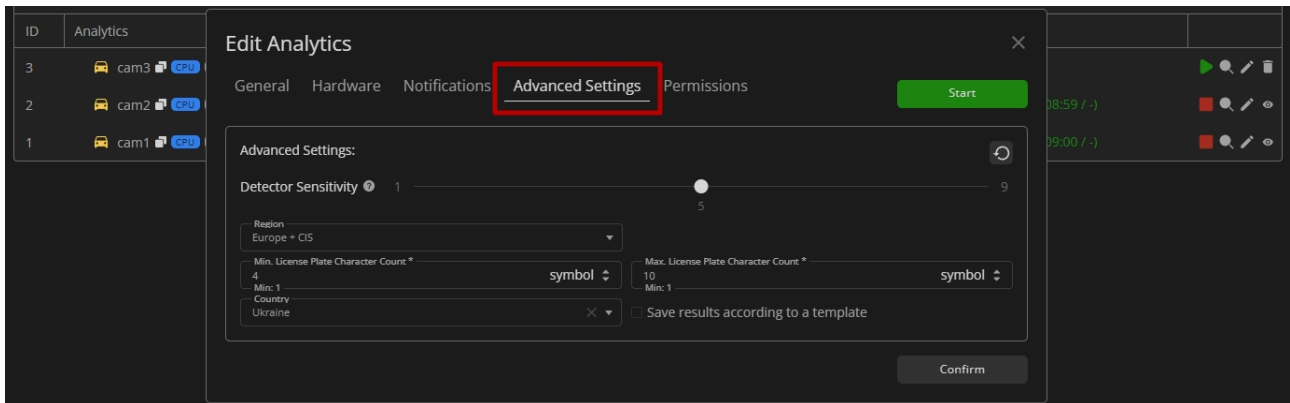
Analytics editing is available only when the analytics is disabled.

AXIS ACAP-based Plugin Differences


AXIS ACAP-based LPR and Face Recognition plugins have functional limitations compared to their standard versions.

 In the Live View tab of the Analytics item, real-time video preview is unavailable in the embedded player. However, recognition results continue to be processed and displayed as expected.

In the LPR plugin, the Advanced Settings for AXIS ACAP-based analytics include several differences compared to standard analytics:



- The following Region values are unavailable:
 - Global Recognition
 - Japan
 - Thailand
- OCR model selection is not available
- Server selection is not available

 All remaining parameters are consistent with the standard LPR analytics configuration.

The AXIS ACAP-based Face Recognition analytics includes a limited set of configuration options compared to the standard version.

In the General tab of analytics settings, only the Age & Gender Detection toggle remains available. The following options are not supported:

Edit Analytics

General | Hardware | Notifications | Advanced Settings | Permissions

Name: HOME_FR

General Options:

Detector Sensitivity: Normal

Min. Face Height *: 40 px
Min: 20

Max. Face Height *: 0 px
Min: 0

Camera Buffer, sec *: 0 sec
Min: 0; Max: 600

Frames to Detect *: 10
Min: 5; Max: 100

Age and Gender Detection: ☒

Recognition Options: Create Zone

Zone Name *: Zone 1

Zone Color: Zone 1

Confirm

- Liveness
- Mask Detection
- Blur Face in Preview Mode

In the Advanced Settings tab, Server Selection is not available:

Edit Analytics

General | Hardware | Notifications | **Advanced Settings** | Permissions

Advanced Settings:

Tracker Buffer Time *: 10 sec
Min: 10

☒ Additionally save the same face if better recognition occurs

Confirm

- ✓ All remaining parameters are consistent with the standard Face Recognition analytics configuration.

- [Introduction](#) (see page 3)
- [Prerequisites](#) (see page 4)
- [Environment Preparation](#) (see page 5)
- [Plugin Installation and Configuration](#) (see page 6)
- [Validation and Optimization](#) (see page 9)
- [AXIS ACAP-based Plugin Differences](#) (see page 11)

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