

# Eagle Eye Application Note - AN048

## A Guide on Creating Vehicle Lists for Rules and Access Control in the Eagle Eye Cloud VMS

2024-09-04 Revision 1.0

### Target Audience

This Application Note is intended for Eagle Eye Networks Cloud VMS users who want to view, monitor, and analyze their vehicle data using the Vehicle Surveillance Package (VSP). Basic working knowledge of the VMS is recommended prior to making any changes to configuration settings. Refer to this document for guidelines on creating and managing Vehicle Lists for using Rules and vehicle access control.

### Introduction

The Eagle Eye Vehicle Surveillance Package (VSP) is an add-on package for the Eagle Eye Cloud VMS that allows users to view, monitor, and analyze vehicle data. The VSP stores license plates and other vehicle-related information from multiple locations and cameras. Users can search for a vehicle of interest using a specific license plate search, or search using other vehicle categories such as make, color, direction, or body type. The VSP also analyzes license plates against configured rules to raise a real-time alert when a vehicle of interest is detected on any of the cameras.

Note: Vehicle List is only available on the Enhanced Web Interface of the Eagle Eye Cloud VMS.

### Prerequisites

VSP is a subscription which is added on a per-camera basis that can be enabled for cameras that already have License Plate Recognition (LPR) analytics enabled (Eagle Eye LPR or On-Camera LPR Enabled on specific model numbers).

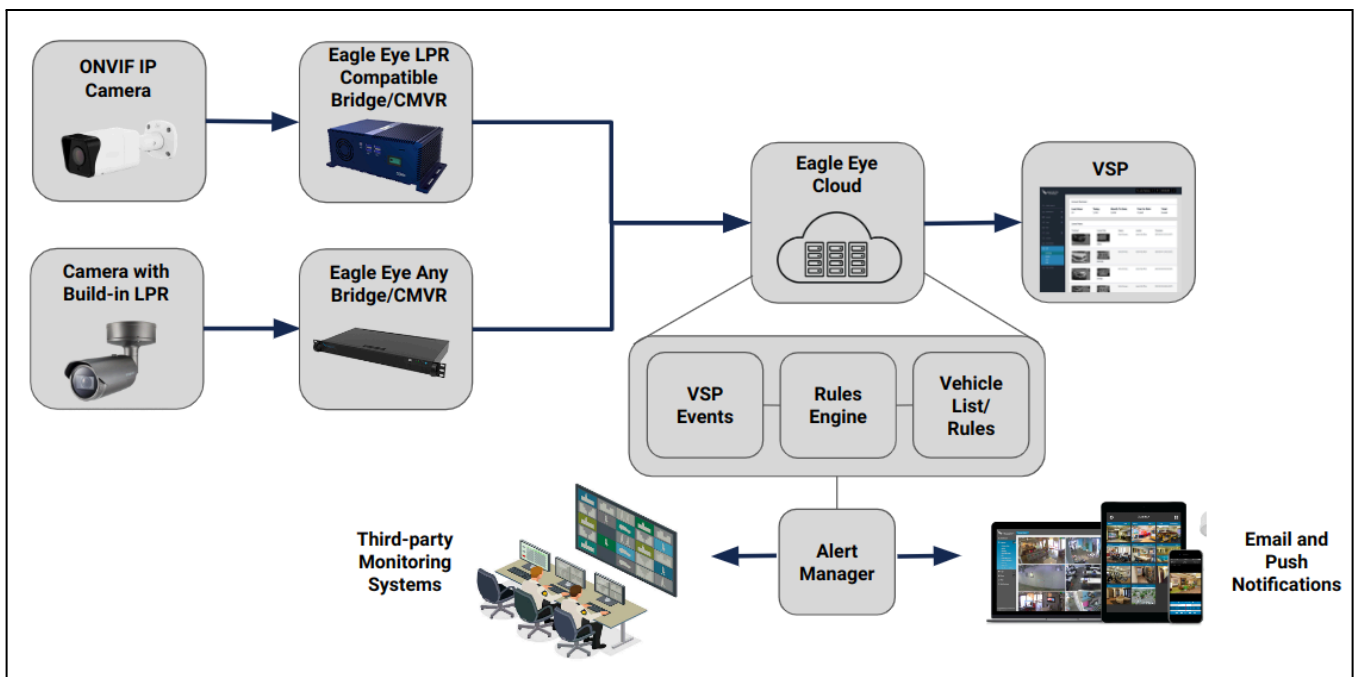
The following are required for VSP:

- A VSP subscription (EN(i)-PA-001-X)

- LPR-analytics-enabled camera
- The following LPR analytics:
  - Eagle Eye LPR (part Number EN(i)-ANA-020-X and EN(i)-ANA-022-X)
  - Hanwha LPR Models:
    - XNO-6120R/XNV-6120R with Arteco LPR Application
    - PNV-A9081RLP/PNO-A9081RLP with LPR pre-installed from Hanwha
- User permission to use VSP

# VSP Architecture

An overview of the VSP architecture is below:



**ONVIF IP Camera:** Any standard camera capable of producing high-quality images for LPR (refer to the Application Note, [AN033: Camera Installation Considerations for LPR/ANPR](#)).

**Camera with Built-in LPR:** Cameras that process LPR data internally and send the results to the Bridge, which then forwards them to the VSP. The supported camera list is available in the VSP datasheet.

**Eagle Eye Bridge/CMVR:** Devices that perform AI processing to extract license plate and vehicle information and transmit the data to the Eagle Eye Cloud.

**VSP Services in the Eagle Eye Cloud:**

- **VSP Events DB:** Stores and enables the search of license plate events via VSP.

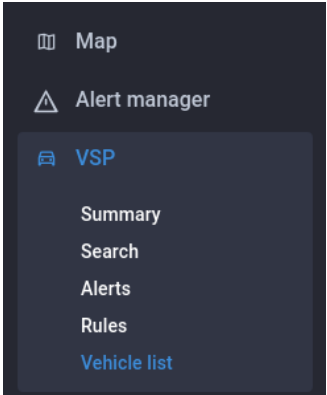
- **VSP Vehicle List:** Stores user-created vehicle list information for use by Eagle Eye LPR for access control (via Local ID) and for rule evaluation.
- **VSP Rules Engine:** Stores user-created rules, evaluates events generated by LPR analytics, compares them against specific license plates, and raises real-time alerts.

**Alert Manager:** Stores alert information and performs alert actions, including sending notifications via push and email, and integrations with third-party services like Immix, Sentinel, Zulip, Slack, etc.

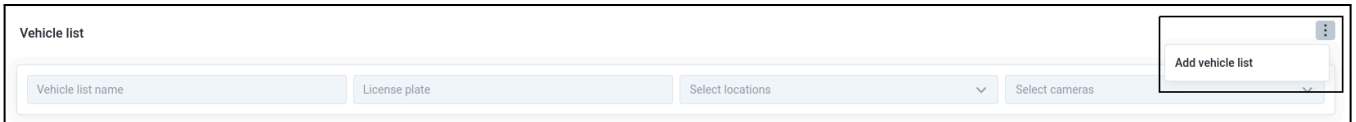
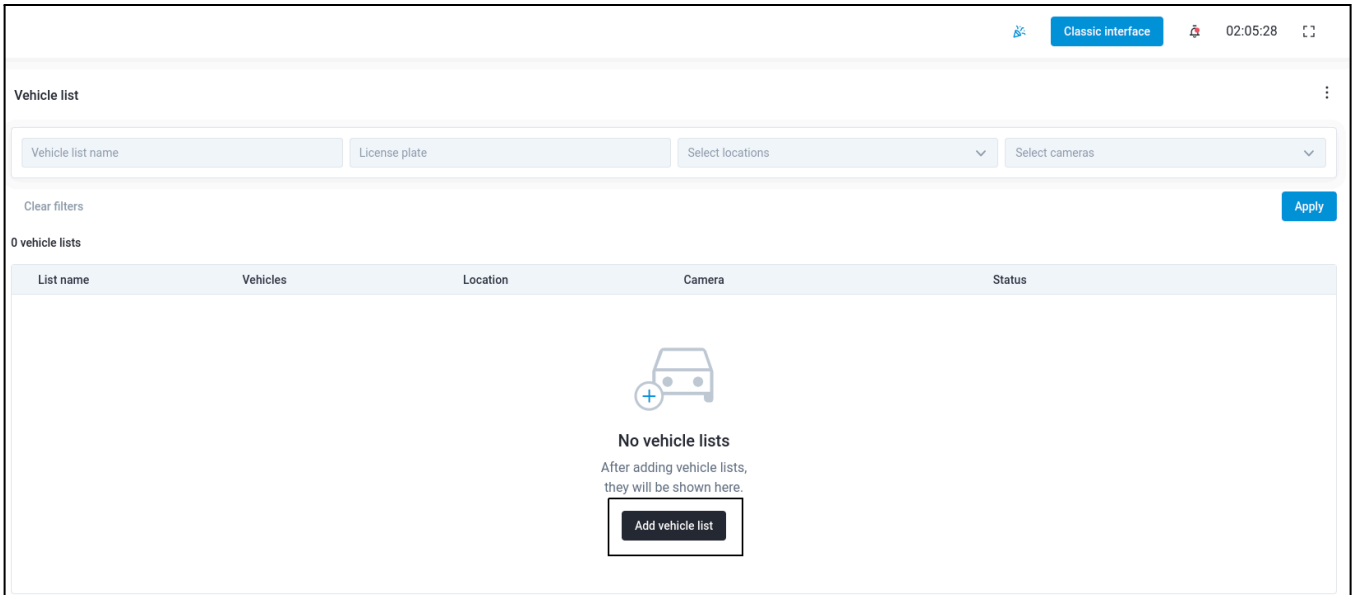
## Vehicle List in Eagle Eye VSP

A Vehicle List is a list of plates grouped together under a single name for easy management. The Vehicle List has an access category and access control schedule for LPR-based access control automation, which is integrated with Eagle Eye LPR (with Local ID). A Vehicle List can be integrated with an external database for its automatic update and management. A Vehicle List allows users to group vehicles under a list and map to specific cameras and locations.

## Adding a New Vehicle List

	<ul style="list-style-type: none"> <li>● To add a new Vehicle List to the user account, go to the <b>VSP</b> section that is seen on the bottom left-hand menu of the Eagle Eye Cloud VMS and click <b>Vehicle list</b>.</li> </ul>
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- The Vehicle List page is empty if no vehicle lists have been added. To add your first vehicle list, click **Add Vehicle List** as shown below, which will navigate you to the appropriate page.
- If some vehicle lists already exist and you want to add another, click the Menu (three vertical dots) icon located in the top right corner of the Vehicle List page, and select **Add Vehicle List**. Refer to the screenshot below.



- Once you click **Add Vehicle List**, you will be directed to the page shown below.

<p>The 'Add vehicle list' form contains the following fields:</p> <ul style="list-style-type: none"> <li><b>List name:</b> Text input field containing 'Eagle Eye Employees'.</li> <li><b>Location:</b> Dropdown menu set to 'All locations'.</li> <li><b>Cameras:</b> Dropdown menu set to '9 cameras'.</li> <li><b>Notes (optional):</b> Text area with placeholder 'Add a note'.</li> <li><b>Status:</b> Toggle switch currently turned on.</li> </ul>	<p>Please fill in the details required to create a vehicle list:</p> <ul style="list-style-type: none"> <li>• <b>List Name:</b> Enter a unique name for the list.</li> <li>• <b>Location:</b> Select the locations where this vehicle list will be applied.</li> <li>• <b>Cameras:</b> Choose the cameras to associate with this vehicle list.</li> <li>• <b>Notes (Optional):</b> Add any relevant notes, or leave this field blank if not needed.</li> <li>• <b>Status:</b> Choose whether to enable this vehicle list immediately or create it in a disabled state.</li> </ul>
<p>At the bottom of the form are two buttons: 'Cancel' and 'Add vehicle list'.</p>	<p>Once you have entered all the information, click <b>Add Vehicle List</b>.</p>

- The new vehicle list appears under **Vehicle List**.

The screenshot shows the 'Vehicle list' management interface. At the top, there are filter fields for 'Vehicle list name', 'License plate', 'All locations' (dropdown), and 'Select cameras' (dropdown). Below the filters is a 'Clear filters' link and an 'Apply' button. The main area displays '2 vehicle lists' in a table:

List name	Vehicles	Location	Camera	Status
Guest	9	-	DB14_LPR_Office (DO NOT CHANGE SETTINGS)	<input checked="" type="checkbox"/>
Eagle Eye Employees	31	-	DB14_LPR_Office (DO NOT CHANGE SETTINGS)	<input type="checkbox"/>

**Vehicle list details:**

- **List Name:** Displays the name of the created vehicle list.
- **Vehicles:** Indicates the number of vehicles added to the vehicle list.
- **Location:** Shows the location associated with the vehicle list.
- **Camera:** Displays the number of cameras linked to the vehicle list.
- **Status:** Indicates the current status of the vehicle list.

## Add Vehicles to the Vehicle List

To add vehicles to a Vehicle List, click the Vehicle List where you want to add vehicles.

The screenshot shows the 'Vehicle list' management interface with one list selected. The filter fields are the same as in the previous screenshot. The main area displays '1 vehicle list' in a table:

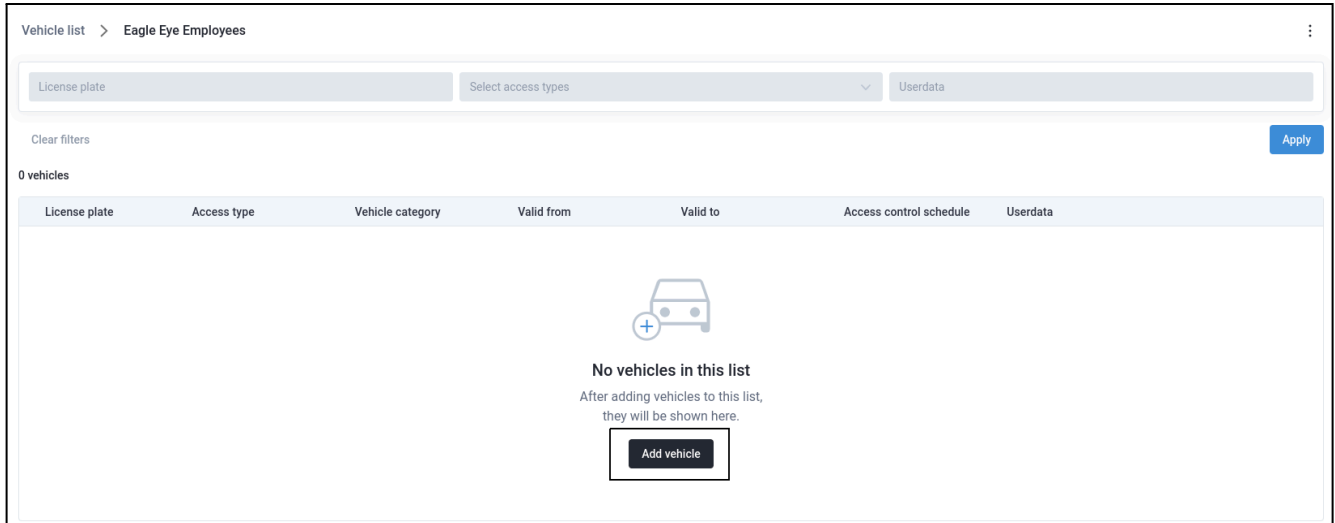
List name	Vehicles	Location	Camera	Status
Eagle Eye Employees	0	All locations	9	<input checked="" type="checkbox"/>

**Add vehicles:**

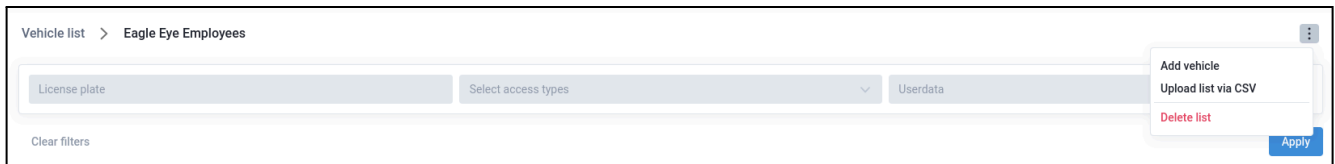
- **Add Vehicle:** Use this option to add individual vehicle details. This is ideal for adding a small number of vehicles to the list.
- **Upload List via CSV:** Use this option to add a large number of vehicles at once, suitable for bulk uploads.

**Add a vehicle individually:**

- If the vehicle list is empty, click **Add Vehicle**. This sends you to the appropriate dialogue.



- If there are already vehicles in the list and you wish to add more, click the **Menu** (three vertical dots) located in the top right corner of the Vehicle List page and select **Add Vehicle**. Refer to the screenshot below.



- Fill in the required details and click **Add Vehicle**.
- Details for each field on the **Add Vehicle** page are below.

< Add vehicle

License plate

Vehicle list Eagle Eye Employees

Access type

Vehicle category

Validation period

Access control schedule

Userdata

**Add userdata +**

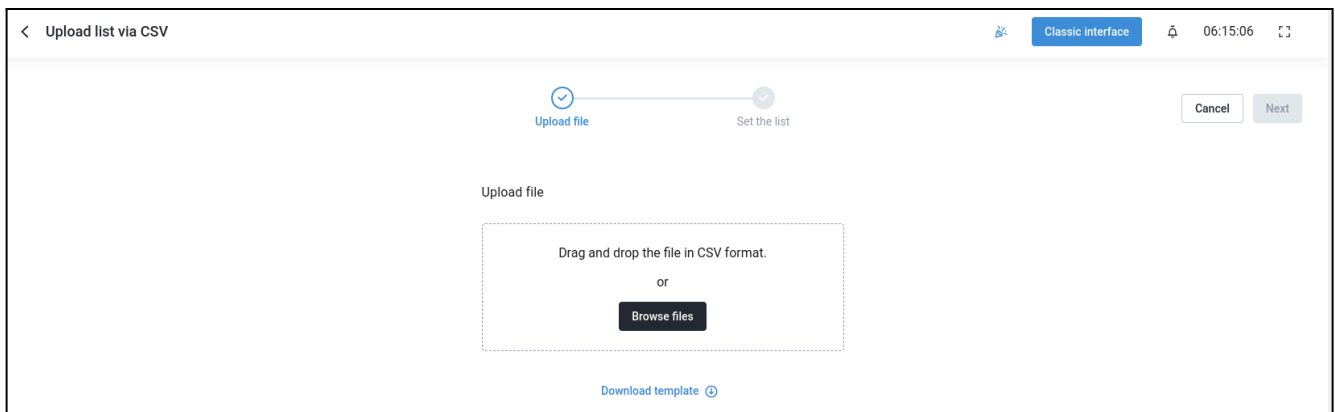
Parameter	Definition
License Plate	The vehicle's license plate
Access Type	<b>Allow:</b> To allow the vehicle access <b>Deny:</b> To deny the vehicle access
Vehicle Category	<b>Hotlist:</b> To define whether a vehicle is special and needs an alert against the hotlist rule <b>Exempted:</b> The vehicle marked as exempt would be exempted from the alert. This applies rules where the target type is selected in the Vehicle List. <b>Null:</b> If the security status is null
Valid From/ Valid To	To define if the vehicle access has an expiration date. Only applicable for Eagle Eye LPR (Local ID).
Access Schedule Category	To define the days and time that the vehicle is allowed entry. Only applicable for Eagle Eye LPR (Local ID).
User data	User data is important for identifying a vehicle. User data tagged to a vehicle is stored with the license plate and enables vehicle search based on user data on VSP Search. <b>A few examples of user data:</b> <ul style="list-style-type: none"> <li>• Company/EagleEyeNetworks</li> <li>• Resident/Unit 1101</li> <li>• Visitor/UPS truck</li> </ul>

### To Add Vehicles Using a CSV File:

We have a template that needs to be filled out with vehicle details to add vehicles using a CSV file.

#### Download the template:

1. Go to the Menu (three vertical dots) in the top right corner of the Vehicle List page and click **Upload list via CSV**.
2. Click the **Download template** button to download the template.



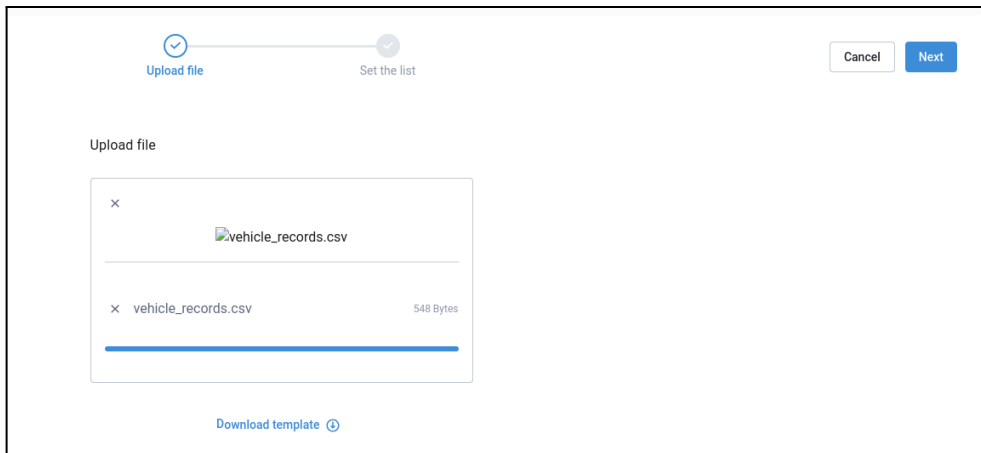
- Open the downloaded CSV file on your system, add the vehicle details, and save the file.

**Note:** Fields marked with “\*” (Plate and Access type) are mandatory. Ensure the data in the CSV matches the format mentioned in each column.

* Plate	Valid from (yyyy-mm-dd)	Valid to (yyyy-mm-dd)	* Access type (Allow or Deny)	Vehicle category (Hotlist or Exempted)	Monday (hh:mm/hh:mm)	Tuesday (hh:mm/hh:mm)	Wednesday (hh:mm/hh:mm)	Thursday (hh:mm/hh:mm)	Friday (hh:mm/hh:mm)	Saturday (hh:mm/hh:mm)	Sunday (hh:mm/hh:mm)	User data
EAGLE123	2024-07-12	2024-07-18	Allow	Exempted								Department/Support
EEN159			Deny									Department/Engineering
ABC135			Allow	Exempted								Department/Marketing
XYZ246	2024-07-11	2024-07-15	Allow	Exempted								Department/Support

**To upload the CSV file:**

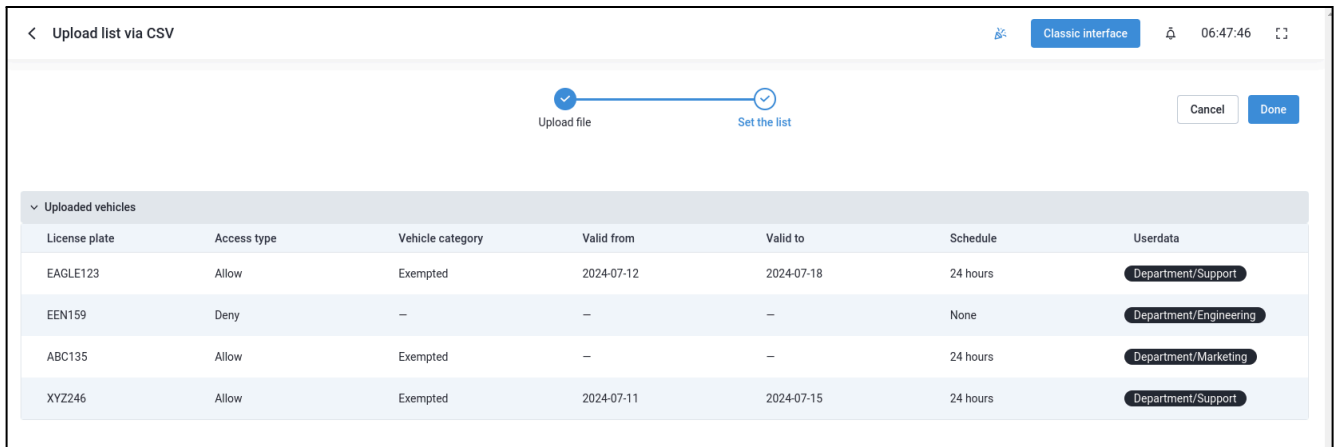
- Click **Browse Files** or drag and drop the file into the box.
- Once the CSV is uploaded, click **Next**..



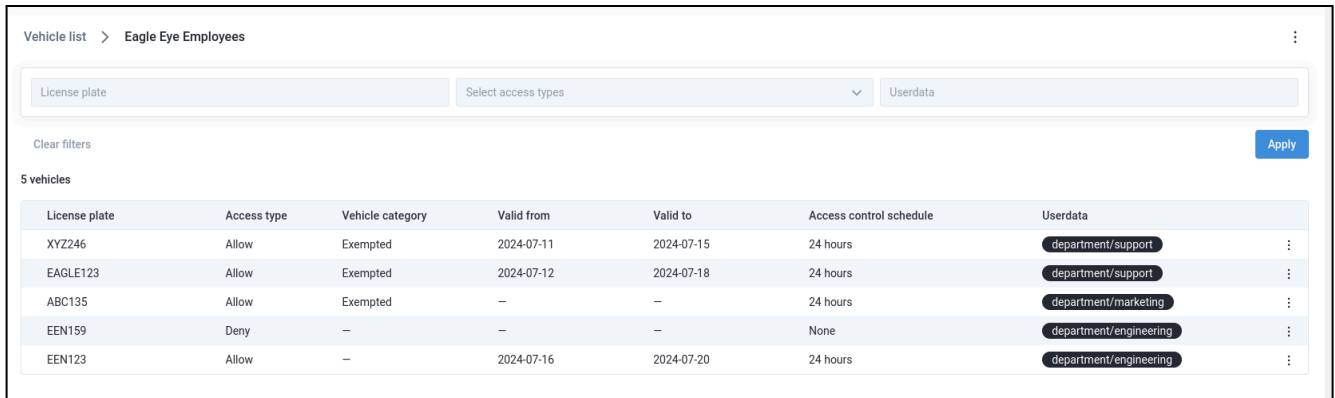
The CSV file will be validated, showing a table with all the data from the CSV file.

- You will be notified of any entries that do not match the required format.
  - Plates that already exist in the vehicle list will also be indicated.
- Review the data and click **Done** to insert the vehicles from the CSV file into the Vehicle List.
    - If changes are needed, click **Cancel**, make the necessary changes, and re-upload the CSV file.





- Once the data is successfully uploaded, you should see all the new entries in the vehicle list.



### If vehicles fail to upload to the vehicle list:

If the plates already exist or there are errors in the input, the upload process will fail for those vehicles. The results will be shown as below:

- **Failed Vehicles (Red Box):** These plates were ignored because they already exist in the vehicle list.
- **Uploaded Vehicles (Green Box):** These plates were successfully added to the vehicle list.

< Upload list via CSV Classic interface 15:18:03

Upload file ————— Set the list
Cancel Done

Failed vehicles							
License plate	Access type	Vehicle category	Valid from	Valid to	Schedule	Userdata	Table row
EEN135	Allow	Exempted	2024-07-12	2024-07-18	24 hours	Company/EEN +1	2
EEN124	Deny	–	2024-07-12	2024-07-20	None	Company/EEN +1	3
ABC987	Allow	Hotlist	2024-07-12	2024-07-25	24 hours	Company/EEN +1	4

Uploaded vehicles							
License plate	Access type	Vehicle category	Valid from	Valid to	Schedule	Userdata	
EEN145	Deny	Hotlist	–	–	None	–	
EEN765	Allow	Hotlist	–	–	24 hours	–	
XYZ001	Deny	Hotlist	–	–	None	–	
IND123	Allow	Exempted	–	–	24 hours	–	

## Linking the Vehicle List to the Rules

Eagle Eye VSP Rules service allows users to configure a rule and receive an alert when a license plate event qualifies the rule. There are different rules. Eagle Eye VSP is configured to a specific plate or a vehicle list (a group of license plates). It supports different rules, such as:

- Allowed Vehicle
- Denied Vehicle
- Watch Vehicle
- Unregistered Vehicle
- Count of license plate
- Hotlist Vehicle

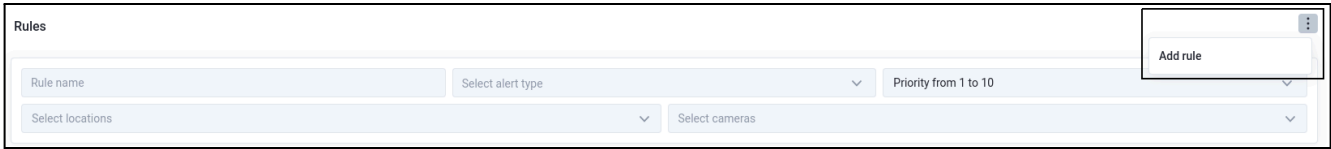
Alerts generated are sent to the alert manager service, and configured alert actions are performed. You can link a vehicle list while creating a new rule in the VSP or add it to existing rules. Both scenarios are covered below.

**Linking a Vehicle List while creating a new rule:**

<div style="display: flex; flex-direction: column; align-items: center;"> <span>VSP</span> <hr/> <span>Summary</span> <hr/> <span>Search</span> <hr/> <span>Alerts</span> <hr/> <span style="color: #3498db;">Rules</span> <hr/> <span>Vehicle list</span> </div>	<ul style="list-style-type: none"> <li>● Go to the <b>Rules</b> page under the VSP section.</li> </ul>
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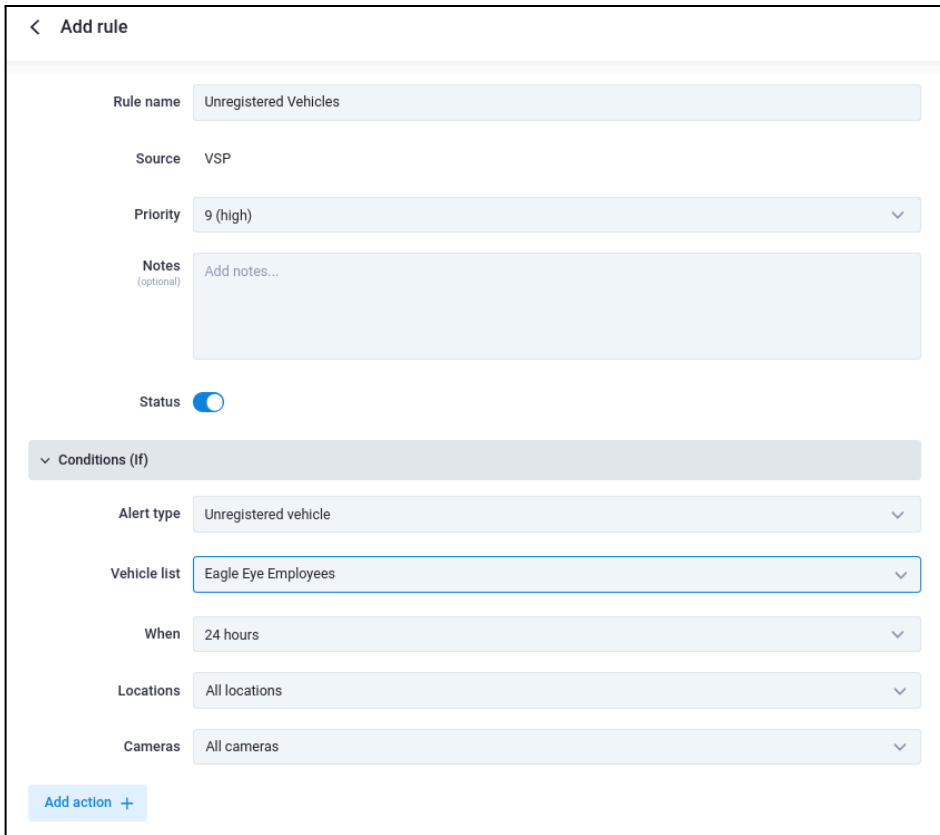
### Add a new rule:

- Click the Menu (three vertical dots) located in the top right corner of the Rules page and select **Add Rule**. Refer to the screenshot below.



### Create the Rule:

- Fill in the required details on the Add Rule page and click **Add Rule**. An example rule is:
  - Created a Rule for the **Unregistered** vehicles and linking the **Eagle Eye Employee Vehicle List**.
  - If a vehicle is detected that is not on the Eagle Eye Employee Vehicle List, an alert will be triggered.



### Linking a Vehicle List to an existing rule:

Navigate to and edit the Rules:

- Go to the **VSP -> Rules** page and click the Menu (three vertical dots) icon on the right side of the Rule that you want to edit and select **Edit**.

2 rules

Name	Alert type	Notes	Priority	Location	Camera	Status
Rule for Hotlist Vehicles	Hotlist	–	9 (high)	2 locations	2 cameras	<input checked="" type="checkbox"/>
Rule for Guest	Unregistered vehicle	–	9 (high)	1 locations	2 cameras	<input type="checkbox"/>

Details  
 Edit  
 Delete

**Modify the rule:**

- Change the Target type to **Vehicle List**.
- Select the appropriate Vehicle List that contains the license plate details based on the applied condition. An example is shown below:
  - Created a Vehicle List called **Guest and Hotlist** with vehicle license plate information.

9 vehicles

License plate	Access type	Vehicle category	Valid from	Valid to	Access control schedule	Userdata
EEN0123	Allow	–	–	–	24 hours	company/een +1
EEN765	Allow	Hotlist	–	–	24 hours	–
EEN124	Deny	–	–	–	None	company/een +1
EEN145	Deny	Hotlist	–	–	None	–
EEN135	Allow	Exempted	2024-07-12	2024-07-18	24 hours	company/een +1
ABC987	Allow	Hotlist	–	–	24 hours	company/een +1
IND123	Allow	Exempted	–	–	24 hours	–
XYZ001	Deny	Hotlist	–	–	None	–
EEN123	Allow	Hotlist	–	–	Custom	company/een +1

- Edited the existing rule for the **Hotlist** and changed the Target type from **License plate** to the **Vehicle list** the **Guest and Hotlist** Vehicle List to the rule.

Before	After
<div style="border: 1px solid #ccc; padding: 5px;"> <p>&lt; Edit rule</p> <p>Rule name: Hotlist</p> <p>Source: VSP</p> <p>Priority: 9 (high)</p> <p>Notes: Add notes...</p> <p>Status: <input checked="" type="checkbox"/></p> <p>Conditions (If):</p> <p>Alert type: Hotlist vehicle</p> <p>Target type: License plate</p> <p>Plate number: ABC1234</p> <p>When: 24 hours</p> <p>Locations: All locations</p> <p>Cameras: All cameras</p> </div>	<div style="border: 1px solid #ccc; padding: 5px;"> <p>&lt; Edit rule</p> <p>Rule name: Hotlist</p> <p>Source: VSP</p> <p>Priority: 9 (high)</p> <p>Notes: Add notes...</p> <p>Status: <input checked="" type="checkbox"/></p> <p>Conditions (If):</p> <p>Alert type: Hotlist vehicle</p> <p>Target type: Vehicle list</p> <p>Vehicle list: Guest and Hotlist</p> <p>When: 24 hours</p> <p>Locations: All locations</p> <p>Cameras: All cameras</p> </div>




**Note:** The camera and location for a rule are limited to the cameras applicable to the vehicle list chosen.

# Alerts

The Alerts page displays all vehicles associated with the configured vehicle lists and rules. Users can apply filters based on specific conditions to extract only the relevant information.

## Unregistered Rule:

The screenshot shows the Alerts page interface. At the top, there is a filter bar with the following options: 'Select alert type' (dropdown), 'Priority from 1 to 10' (dropdown), '2024-07-16 16:57:49 ~ 2024-07-17 16:57:49' (date range), 'Select location' (dropdown), and 'Select camera' (dropdown). Below the filter bar is a 'Clear filters' link and an 'Apply' button. The main content area shows '26+ alerts' and a table with the following columns: License plate, Alert type, Priority, Location, Camera, and Timestamp. Three rows of alerts are visible:

License plate	Alert type	Priority	Location	Camera	Timestamp
 L690XL	Unregistered vehicle	9 (high)	–	DB14_LPR_Office (DO NOT CHANG...	2024-07-17 16:52:45
 15RNSF	Allowed vehicle	9 (high)	–	DB14_LPR_Office (DO NOT CHANG...	2024-07-17 16:49:02
 77RZH5	Unregistered vehicle	9 (high)	–	DB14_LPR_Office (DO NOT CHANG...	2024-07-17 16:47:38

## Alert information:

- **License Plate:** Displays the cropped image of the vehicle license plate along with the plate reading.
- **Alert Type:** Indicates the type of alert.
- **Priority:** Shows the priority level of the alert.
- **Location:** Provides details about the location where the alert was triggered.
- **Camera:** Specifies which camera triggered the alert.
- **Timestamp:** Shows the time when the event occurred.

# Appendix

1. [Eagle Eye LPR Data Sheet](#)
2. [Camera Installation Considerations for LPR](#)
3. [Configuring LPR in the Eagle Eye VMS](#)
4. [Configuring VSP in the Eagle Eye VMS](#)
5. [Configuring LPR with Brivo Access](#)
6. [Configuring LPR with Moxa](#)