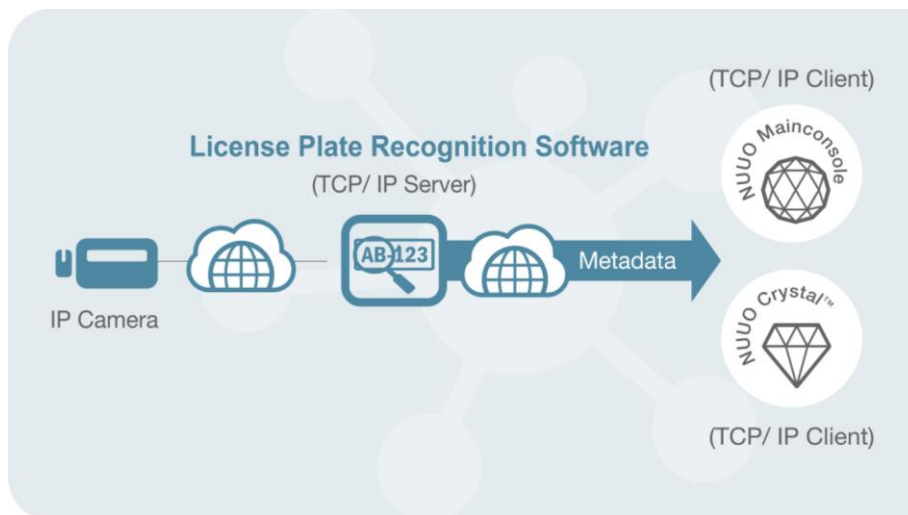## Table of Contents

I. License Plate Recognition Solution

Furthering its dedication to be a top Video Surveillance solution provider, NUUO is pleased to announce its new strategic partnership with Hikvision, a globally recognized supplier of video surveillance products and solutions.

NUUO and Hikvision are now working together to provide the most cutting edge ANPR solutions for under both NUUO Crystal^{TM} and NUUO Mainconsole (NVR IP+, Hybrid NDVR, and DVR card) platforms. The suite ensures that our clients always have access to the most advanced LPR solution in the market.

A. System Architecture

Hikvision ANPR Camera automatically captures the license plate in real time and sends the metadata to NUUO metadata server, with this information, the user can create a pre-defined Blacklists and Whitelists list and take appropriate actions such as opening a gate or generating an alert.

B. Compatible Versions

Product	Server Version	Client Version	Plugin Version
Crystal^{TM}	v.3.8.0	v.3.8.0	v.2.3.0.2
Mainconsole	All	All	v.2.3.0.2

II. Hikvision ANPR Camera Firmware

According to Hikvision, they have individual R&D team in each region for developing the customized camera firmware. The official dedicated firmware information of Hikvision ANPR Camera is from region to region and need to be confirmed by the local branch. For any camera related issues, please contact support@hikvision.com for further technical support.
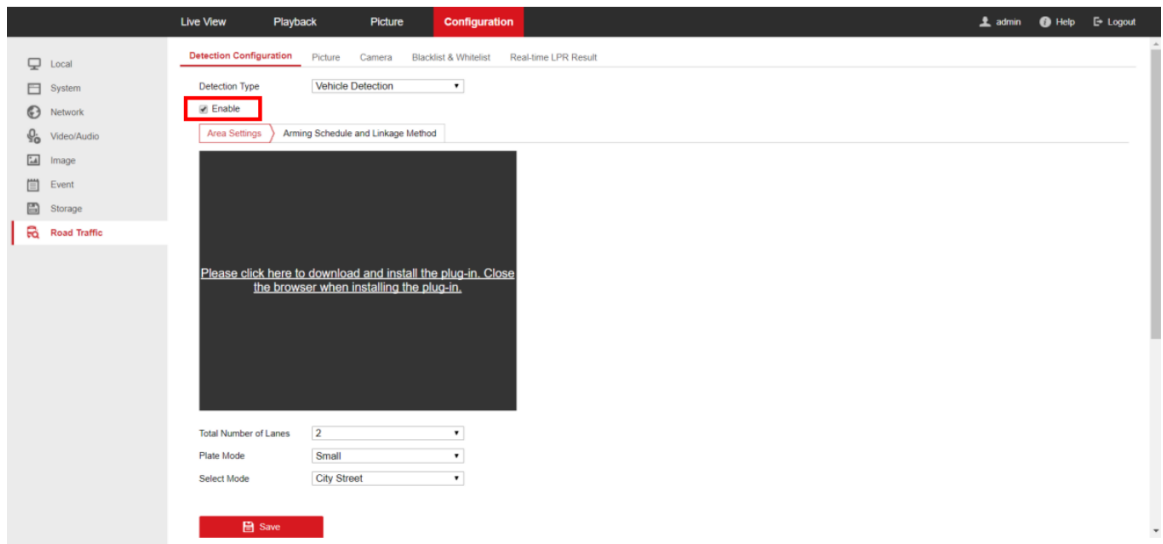
III. NUUO Server Configuration

A. Crystal^{TM}

a. To use this feature, please upgrade your Crytal^{TM} Server to v.3.8.0 or higher version. The plugin for Hikvision ANPR cameras has been included as default which can be found in
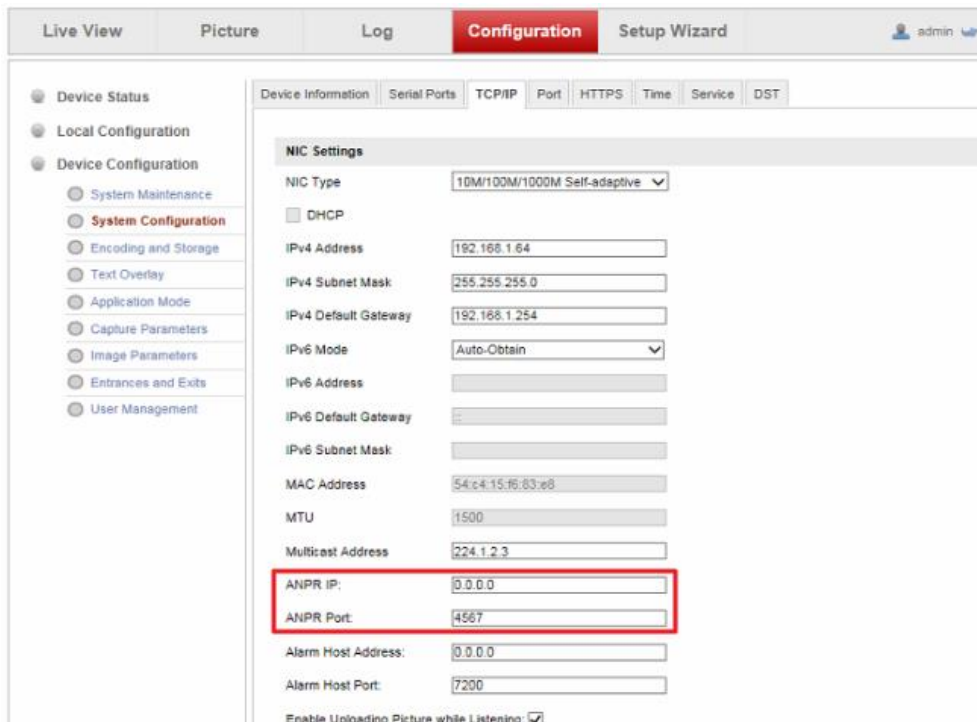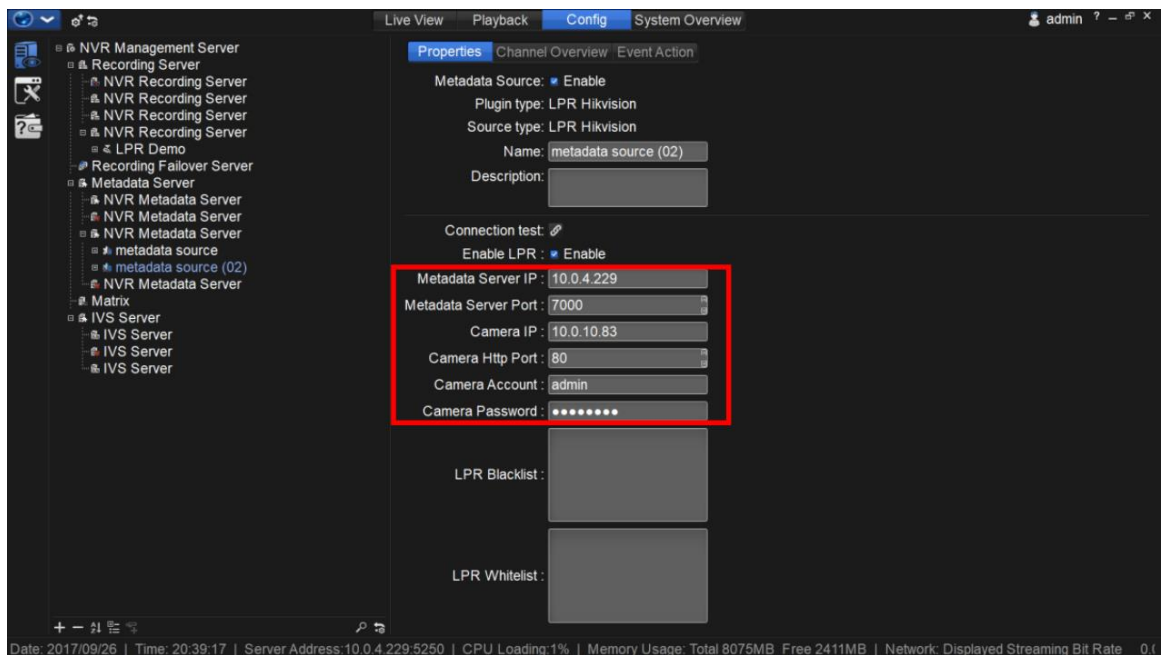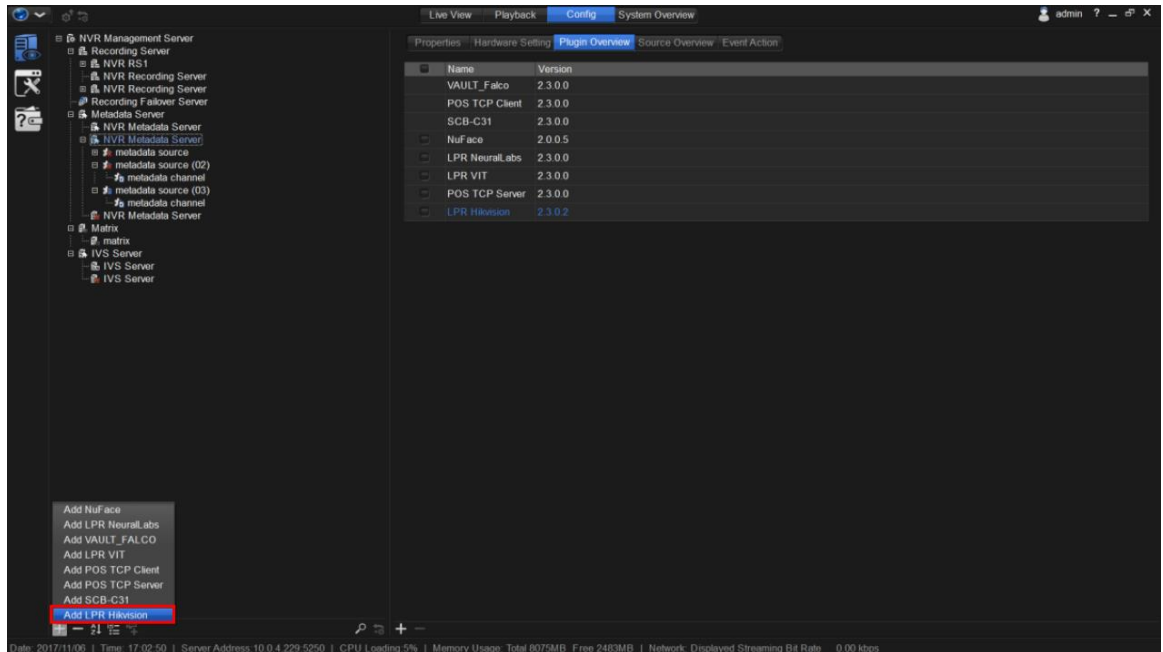
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the "Plugin Overview" tab.

b. Open the web page of Hikvision ANPR camera and enable the road traffic function.

If web page of Hikvision ANPR is the kind below, you need newer plugin version that higher than 2.3.0.4. You can change and check the setting on this page.
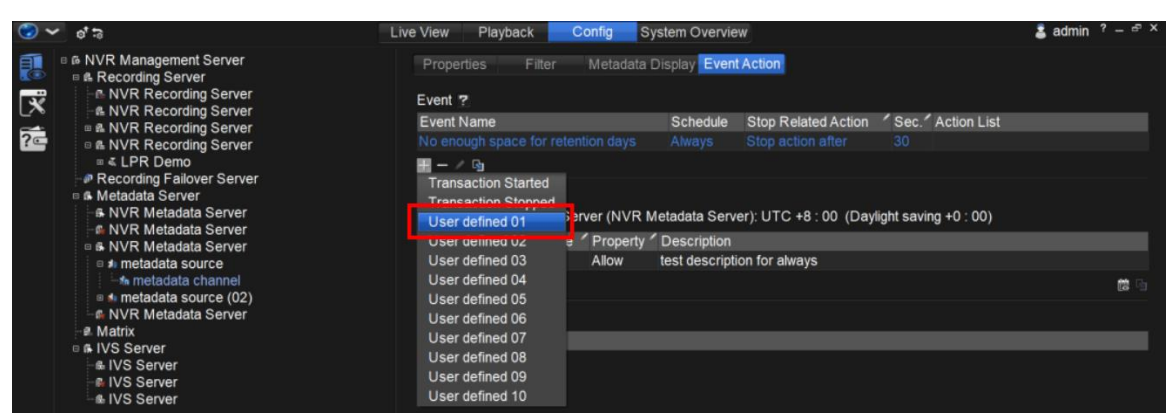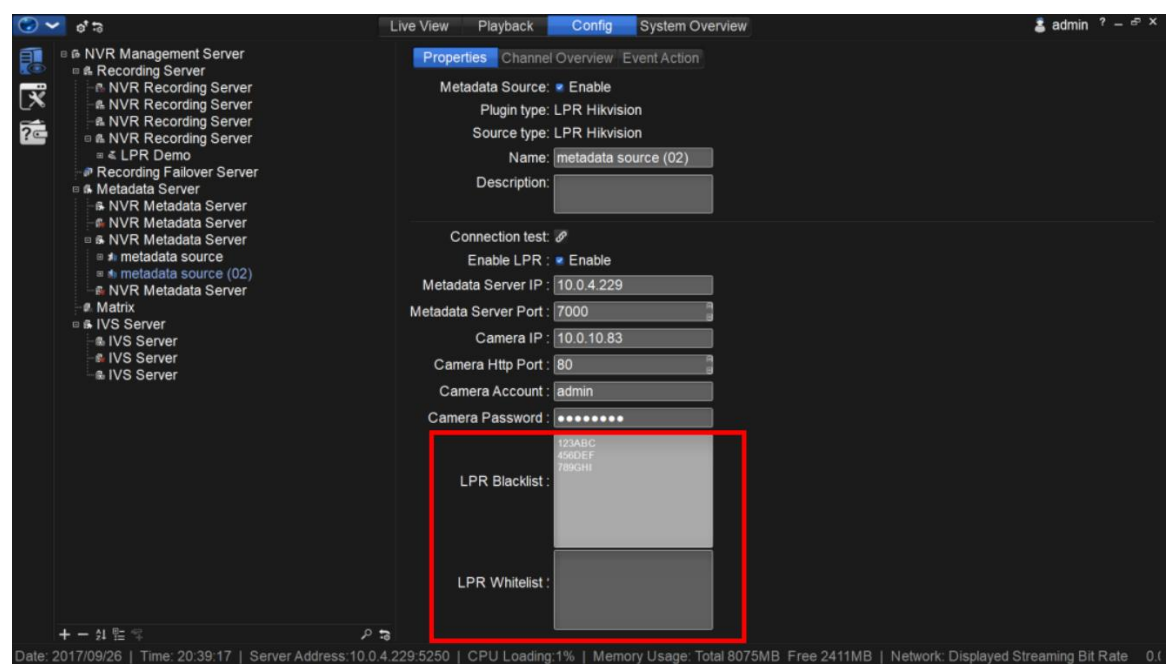
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c. Add a metadata source of Hikvision ANPR camera and input the necessary information to Crystal^{TM}. (Please notice that each Hikvision ANPR camera can only be connected by one metadata server at a time and each metadata source can only have one metadata channel)
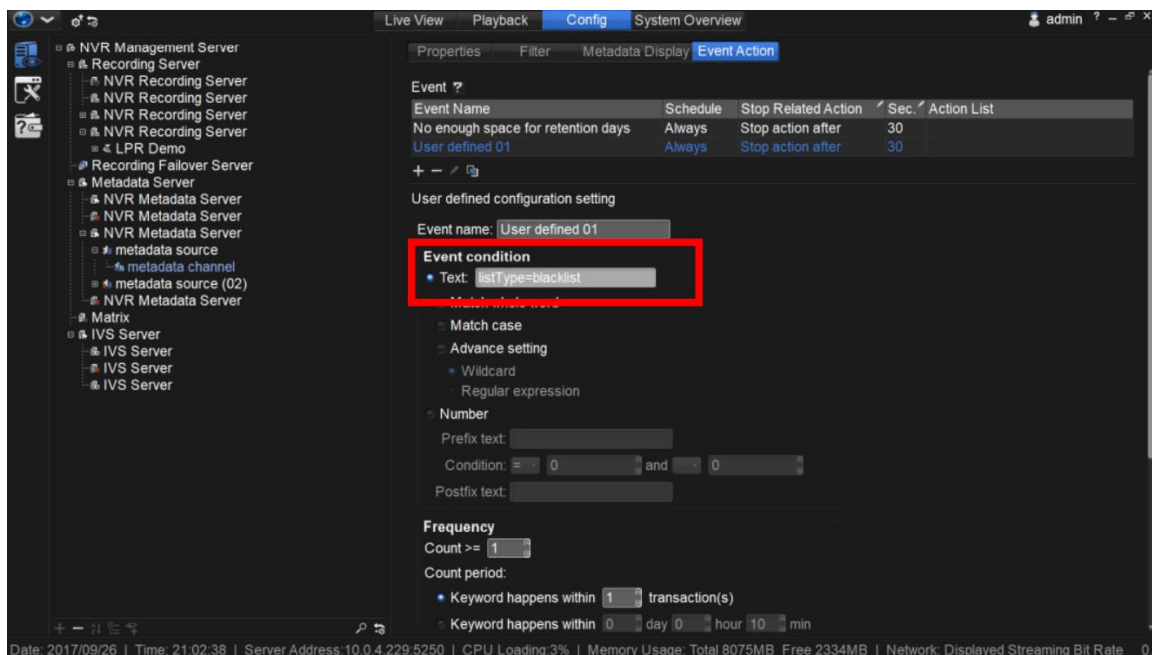

Note: As the above snapshot

● Enable LPR: Checkbox "Enable LPR" can disable the ANPR function of the camera by ticking it. It designed to show in the NuClient because Hikvision ANPR cameras can't configure this function in their earlier web page. Thus, once you have connected CAM 1 as a metadata source and didn't untick this checkbox and commit, the system will still receive the metadata from CAM 1 even if you've

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modified the configuration to CAM 2. If you have seen ghost detection results appearing in the Live View, they may be from the old Hikvision ANPR camera once added as a metadata source.

● Metadata Server Port: Please make sure you assign an available "Server Port" for receiving the metadata from Hikvision ANPR Camera. Using occupied port may lead to receive unnecessary metadata from other metadata source.

d. For Blacklist and Whitelist applications, input the relevant license plate numbers into the blacklist and whitelist column in the "Properties" tab. All the metadata channels under the metadata source will share the same blacklist and whitelist for flexible system design. Then, setup a specific action for blacklist or whitelist by User Defined Event in metadata channel > Event Action and modify the text of the event condition to "listType=blacklist" or "listType=whitelist" (Please use the correct case for each letter. The comparison is case-sensitive.). Once set-up is complete, the Crystal Server will automatically compare the receiving license plate numbers with those in the list and do instant responses. (The character limit of each list is up to 250,000 characters)
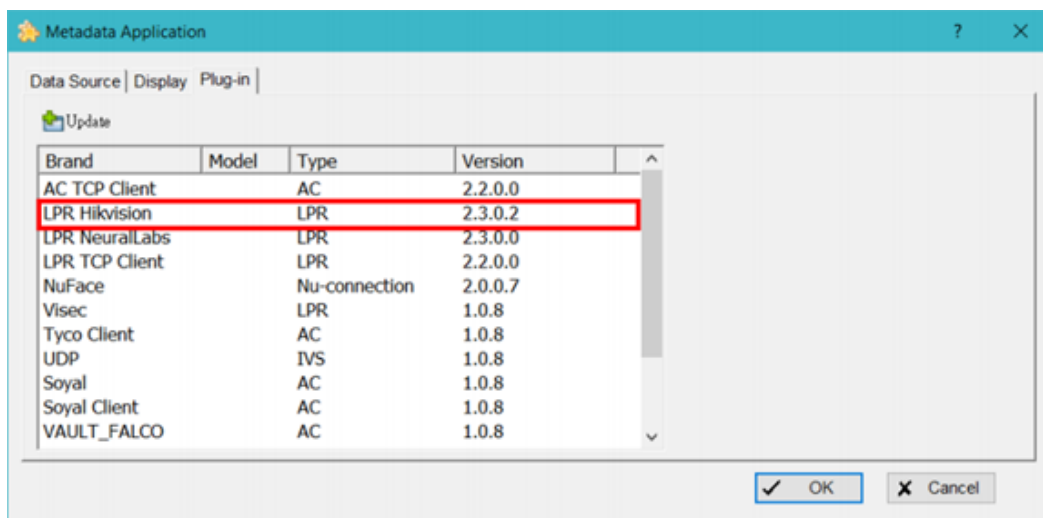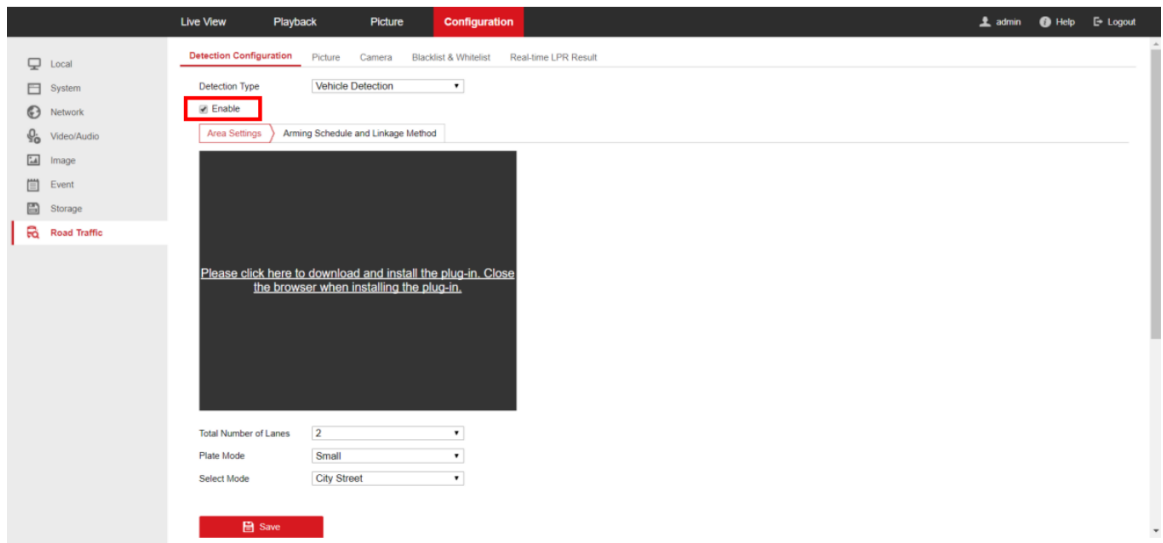

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Note:

- Please make sure you upgrade the client version to 3.8.0 or over 3.8.0.
- For blacklist and whitelist, please use the correct case for each letter (The comparison is case-sensitive) and spilt them by new line.
- Please make sure you setup both start and end in the filter for the system to define a complete detection result
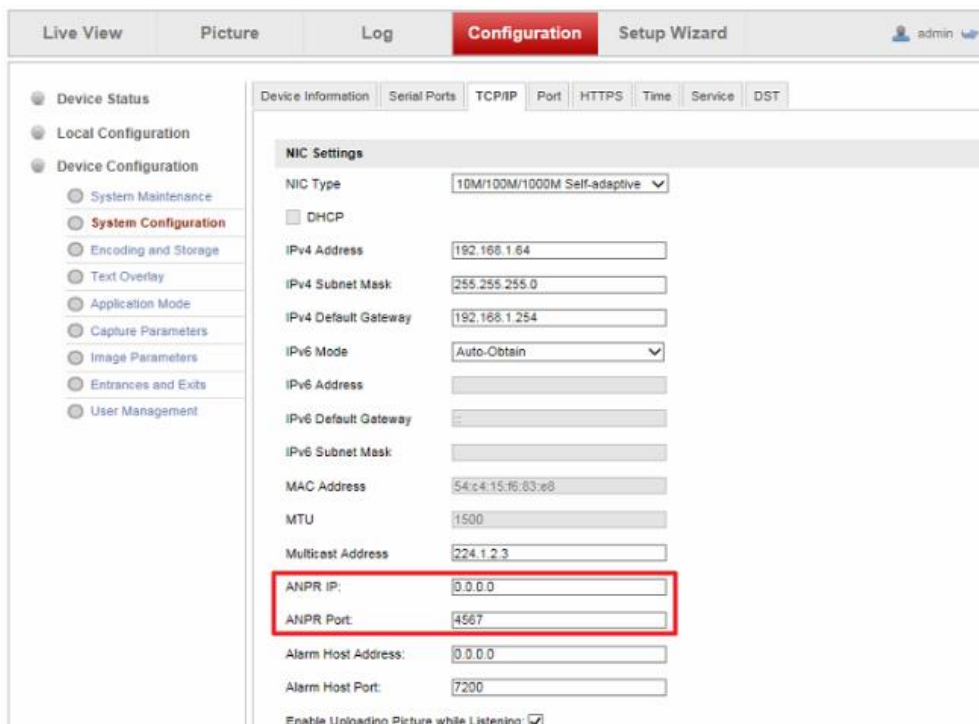
B. Mainconsole

a. To use this feature, please [download](#) and put the .dll plugin file for Hikvision ANPR camera into the corresponding installation directory. Then, it show in the "Plug-in" tab.

- For 32bit Mainconsole, please download the 32bit .dll plugin file and put it into the C:\Program Files (x86)\NUUO\SCB_IP\PluginPack\MetadataModelLPRHikvision
- For 64bit Mainconsole, please download the 64bit .dll plugin file and put it into the C:\Program Files (x86)\NUUO\SCB_IP\x64\PluginPack\MetadataModelLPRHikvision
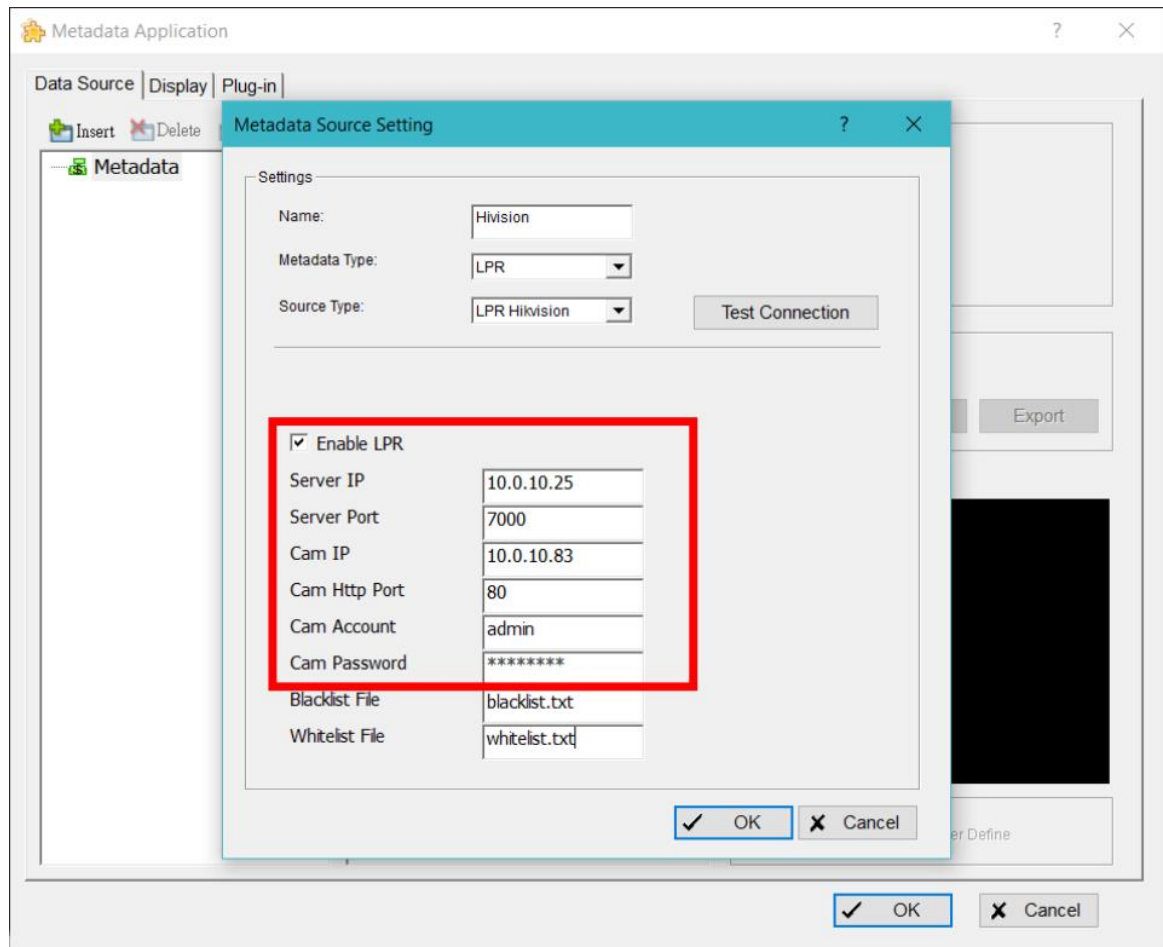
b. Open the web page of Hikvision ANPR camera and enable the road traffic function.

If web page of Hikvision ANPR is the kind below, you need newer plugin version higher than 2.3.0.4. You can change and check the setting on this page or MainConsole also.
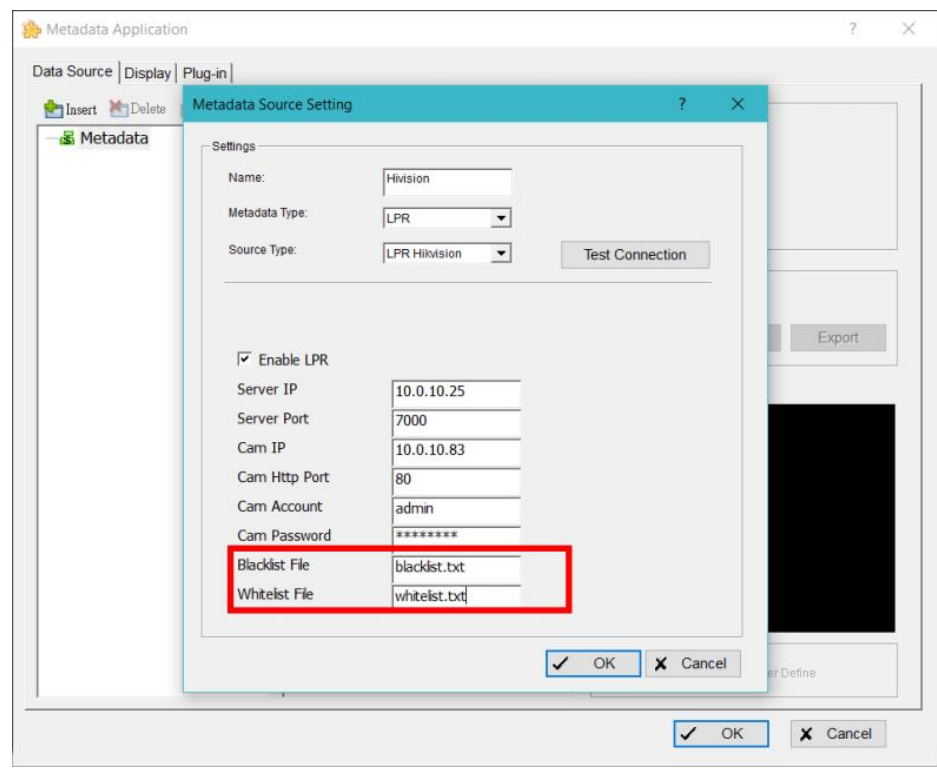

c. Add metadata source of Hikvision ANPR camera, input the necessary information.
(Please notice that each Hikvision ANPR camera can only be connected by one metadata server at a time and each metadata source can only have one metadata channel)
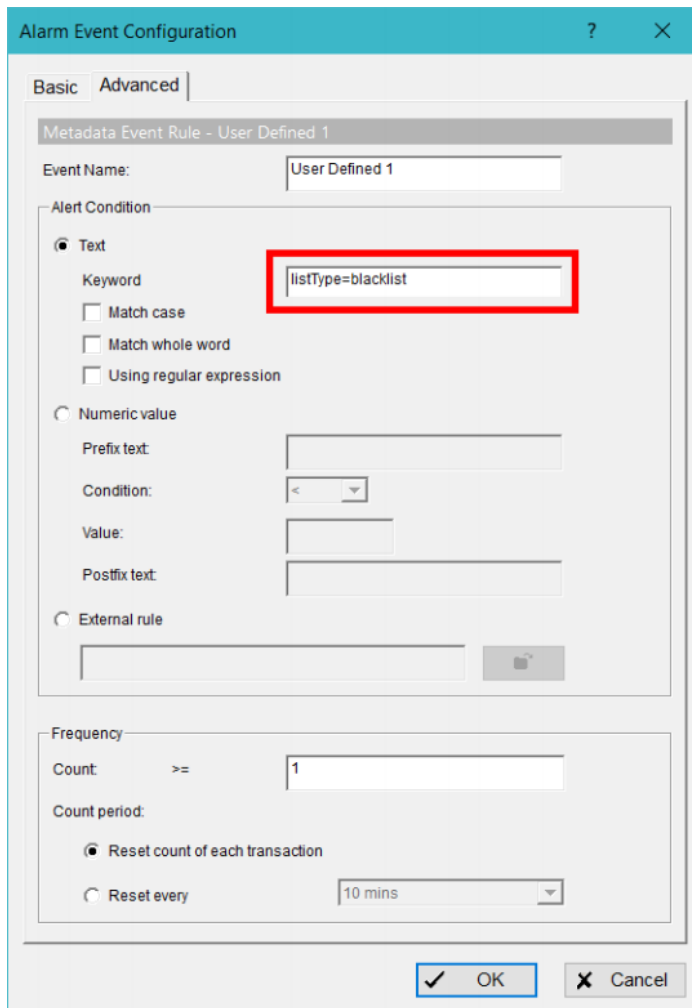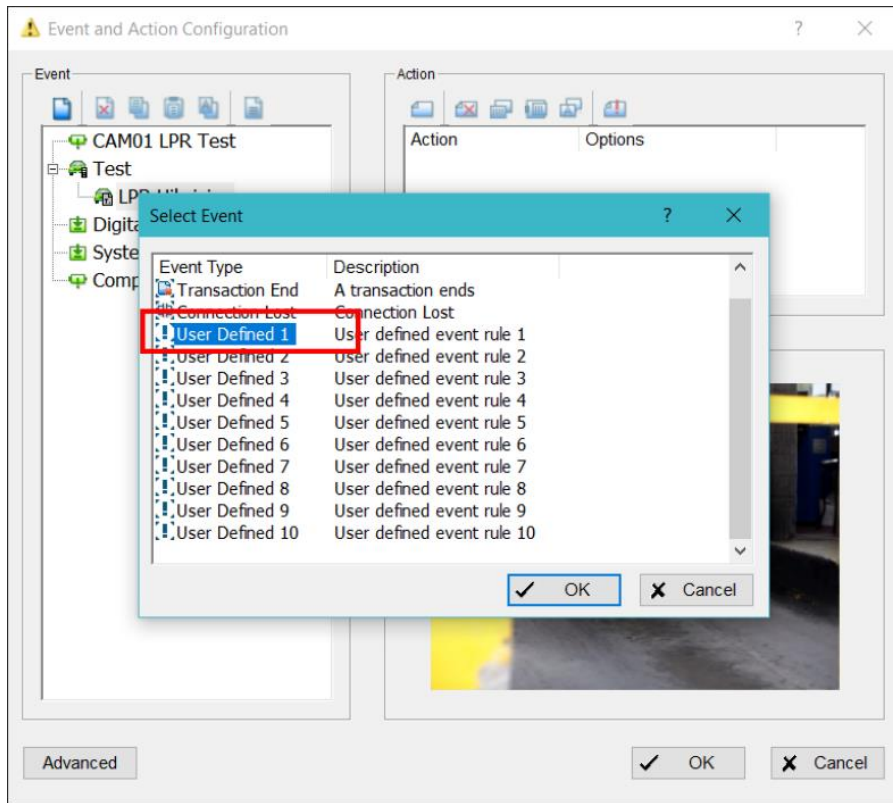
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Note: As the above snapshot

- Enable LPR: The "Enable LPR" checkbox can disable the ANPR function of the camera by ticking it. It designed to show in the NuClient is because Hikvision ANPR cameras can't configure this function in their earlier web page. Thus, once you have connected CAM 1 as a metadata source and didn't untick this checkbox and commit, the system will still receive the metadata from CAM 1 even if you've modified the configuration to CAM 2. If you have seen ghost detection results appearing in the Live View, they may be from the old Hikvision ANPR camera once added as a metadata source.
- Server Port: Please make sure you assign an available "Server Port" for receiving the metadata from Hikvision ANPR Camera. Using occupied port may lead to receive unnecessary metadata from other metadata source.

d. For Blacklist and Whitelist applications, create and input relevant license plate numbers into a blacklist and whitelist .txt file and put the files into the corresponding plugin installation folder
   - 32bit
     C:\Program Files (x86)\NUUO\SCB_IP\PluginPack\MetadataModelLPRHikvision
   - 64bit
     C:\Program Files (x86)\NUUO\SCB_IP\x64\PluginPack\MetadataModelLPRHikvision

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Then, setup a specific action for blacklist or whitelist by User Defined Event in Smart Guard > 3rd Party LPR Event > Event Action and modify the text of the event condition to "listType=blacklist" or "listType=whitelist" (Please use the correct case for each letter. The comparison is case-sensitive). Once set-up is complete, the Mainconsole will automatically compare the receiving license plate numbers with those in the list and do instant responses. (The character limit of each list is up to 1,000,000 characters)

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Note:

- For blacklist and whitelist, please use the correct case for each letter (The comparison is case-sensitive) and spilt them by new line.
- Please make sure you setup both start and end in the filter for the system to define a complete detection result.

C. Metadata Display

The plugin will receive the .xml file sending from the Hikvision ANPR camera, and transform the data into a readable format displayed in the interface of NuClient and Mainconsole as pictured below. Users can omit those unwanted data by setting the regular expression in metadata channel > Filter or import the tag filter we've provided in the official website (Crystal/ Mainconsole).

- Crystal^{TM}

- Mainconsole

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