Merit LILIN Application Note

NVR and IP camera connection via HTTPs

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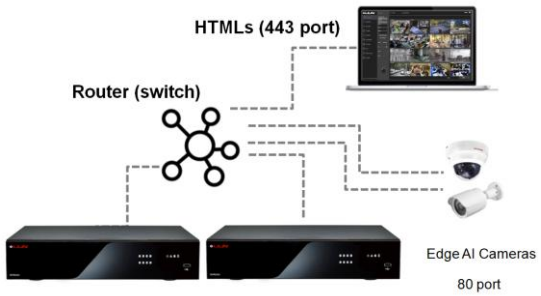
Date：2021/04/19
Dept: Technical Support, Taipei

Subject: This document describes how to configure a LILIN NVR or an IP camera to use HTTPs whenaccessed viaa web browser.

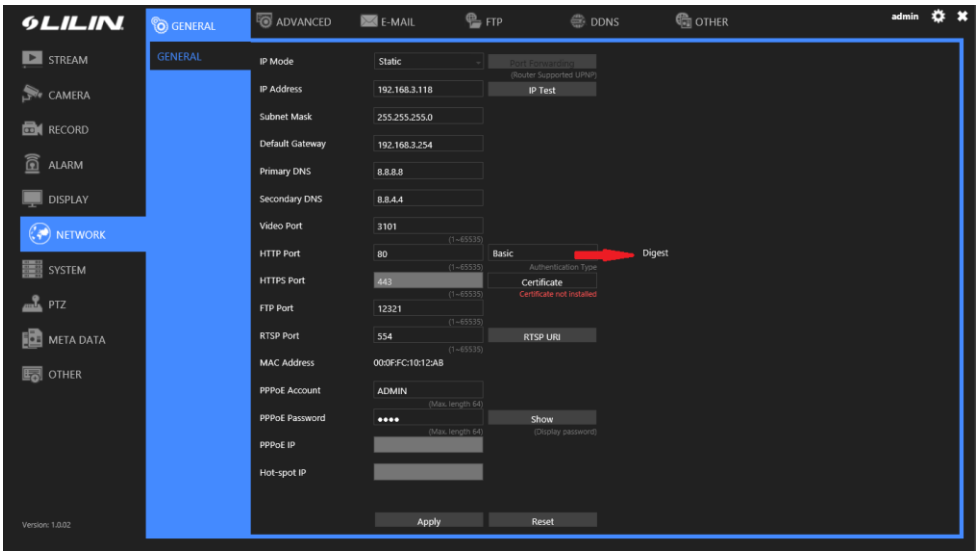
Device:LILIN IP camera and NVR



The issue:
A user's login credentials could be exposed in a network packet when using standard HTTP connections to a LILIN NVR and IP camera when using the Basic authentication type. This is potentially an unsafe way to access devices on a network. To enhance NVR security, a user can connect to the NVR via HTTPS.

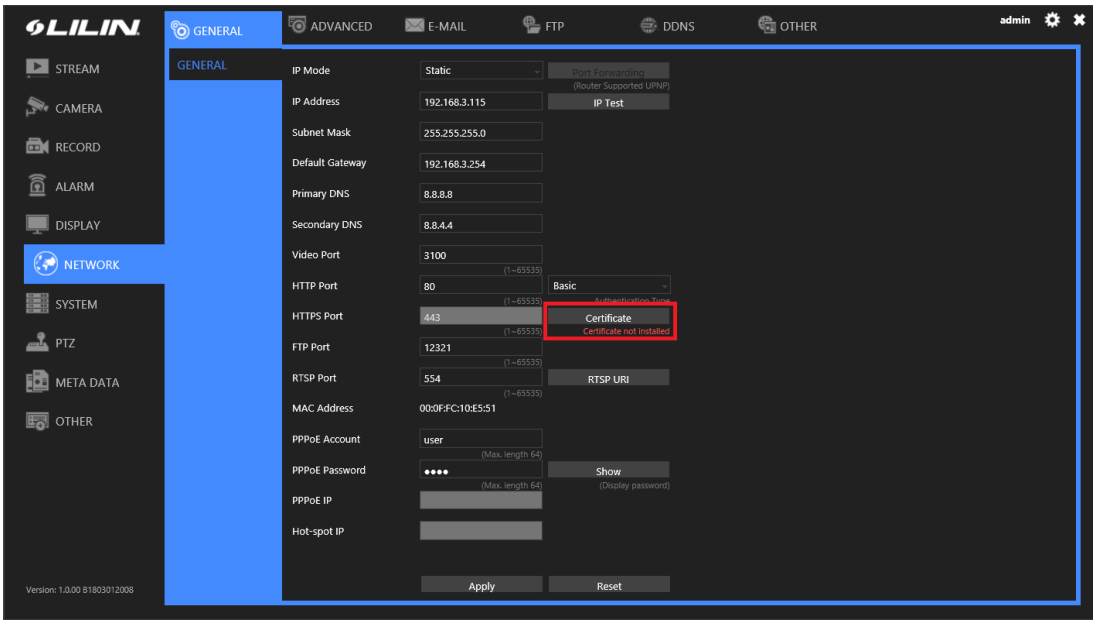
How to enhance access security for NVR via self-signed HTTPs

Method 1: Change the authentication method from Basic to Digest (less secure).

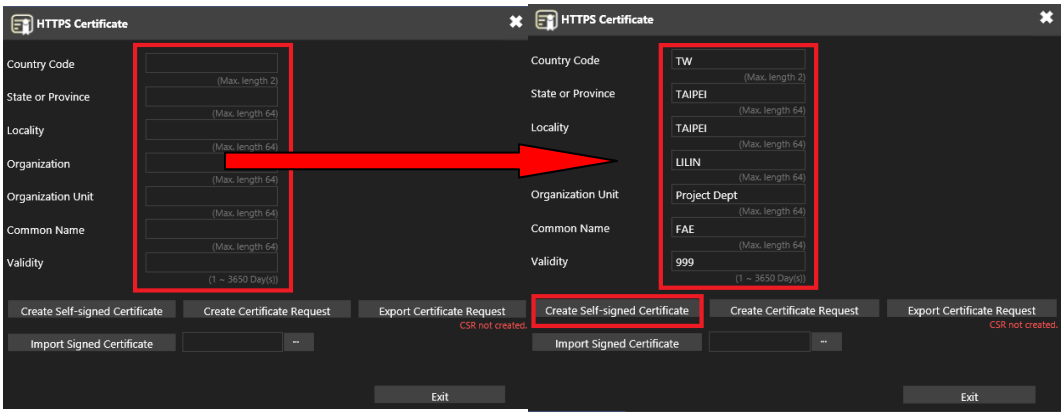


Method 2: Connect to an NVR via HTTPS (more secure).

Step1: Create a HTTPS certificate, if you already have a HTTPS certificate, you can import it directly.

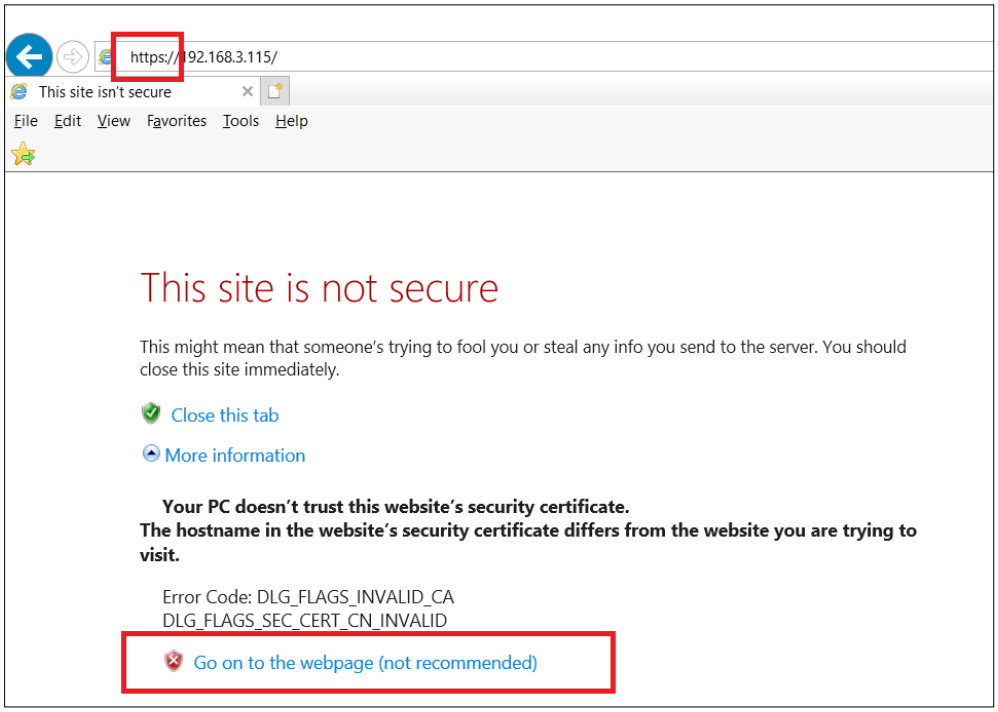


Step 2: Fill out all the required information, and then click Self-signed Certificate.

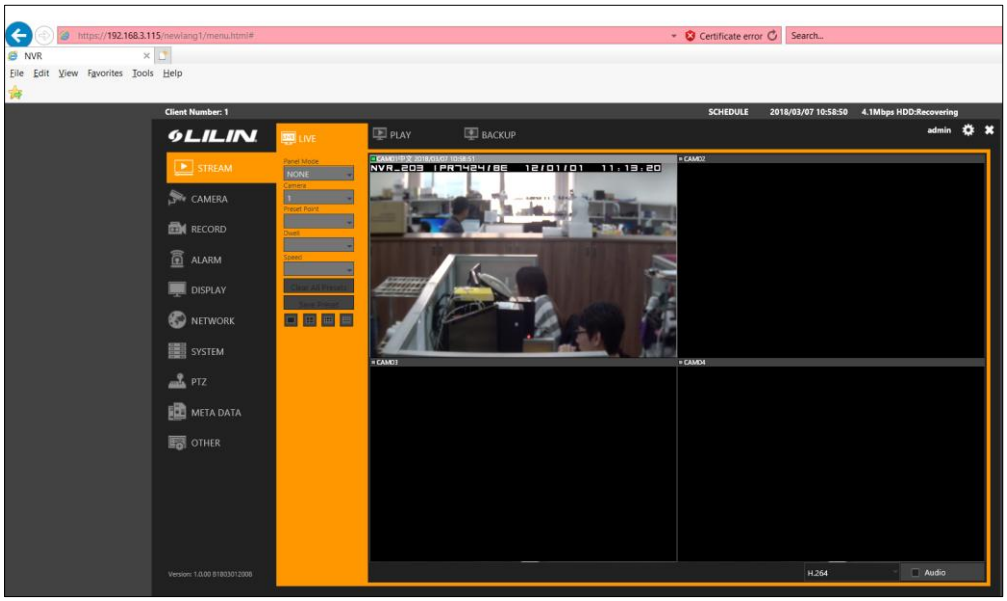


Step 3: Type in the IP address of the NVR starting the URL with https://192.168.0.111 via a browser.

When the page loads, click ‘Go on to the webpage(not recommended)’. It is ok to click the ‘Go on to the webpage (not recommend)’ link. The reason you are seeing this is due to using a self-signed HTTPS certificate. The HTTPS certificate is still secure, this just means it was not issued by a certified certificate authority.



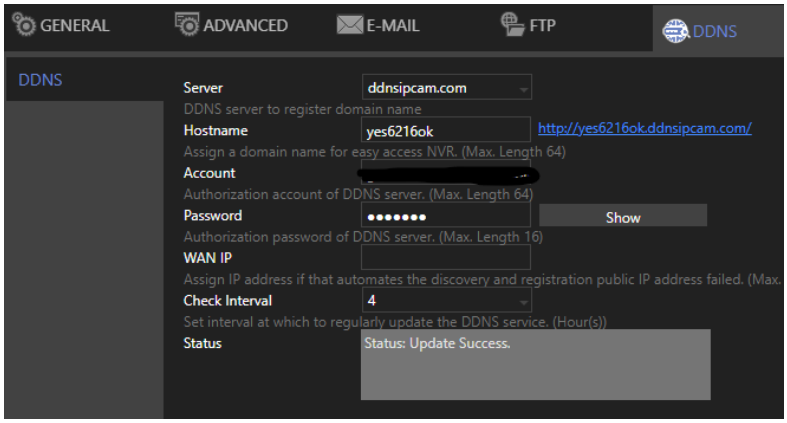
Step 4: After the above steps have been taken, you will then connect to the NVR via https.



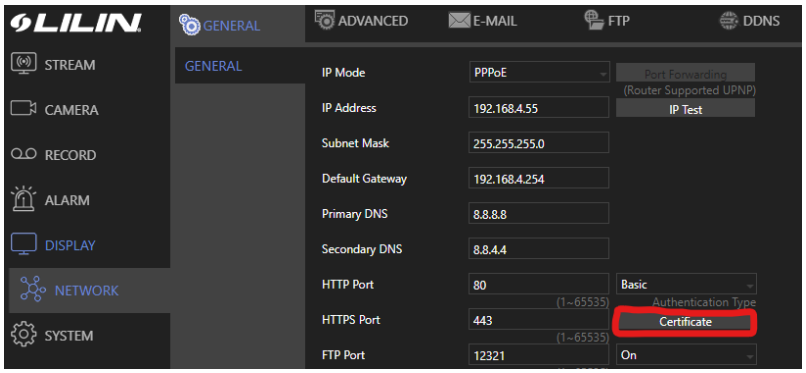
How to enhance access security for an NVR using a HTTPs wild card certificate

It is possible to use the SSL wild card service of LILIN's ddnsipcam.com service to show a trusted certificate installed on a DVR/NVR,

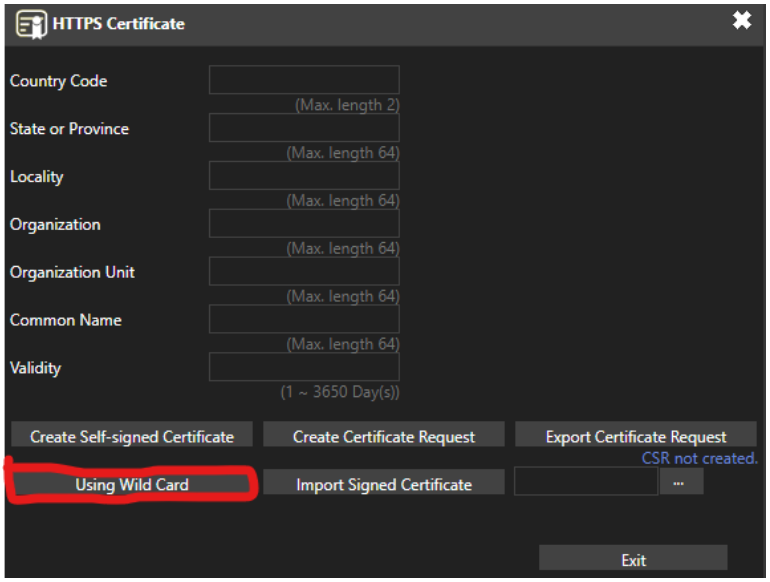
In Network ->DDNS, enable DDNS service on ddnsipcam.com with your hostname.



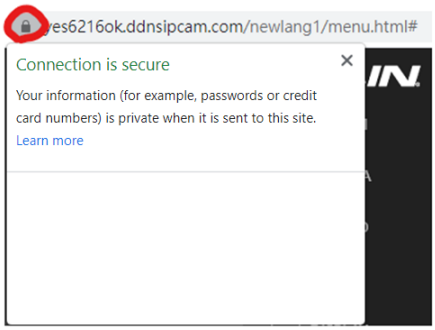
Switch to Network -> General tab on the NVR and click Certificate button.



Then click “Using Wild Card” to apply ddnsipcam.com’s wild card.

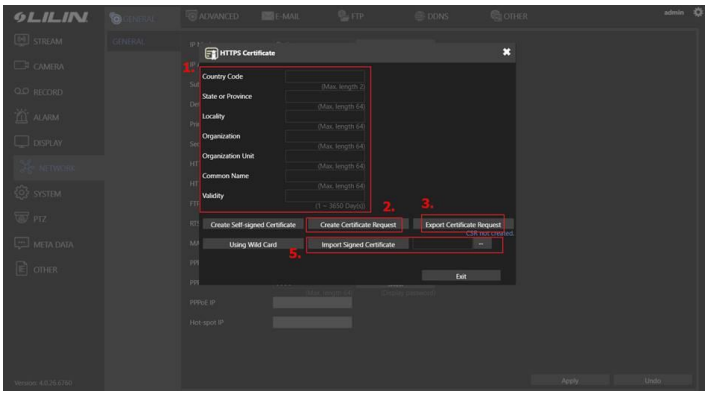


Connect to your DVR/NVR by HTTPs protocol with your hostname.
You shall be informed that a secured connection is established in the browser as below.



Click Certificate to see details about the certificate.

How to enhance access security for an NVR by importing a signed certificate
If you have a signed certificate, you can use the SSL certificate and import to the DVR/NVR to use.

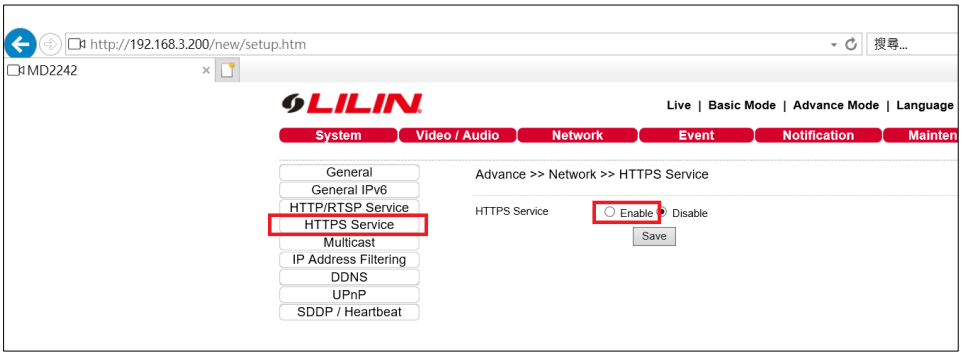


Step #1. Fill out HTTPS Certificate information.
Step #2. Create Certificate Request.
Step #3. Export Certificate Request.
Step #4. Send NVR5832.csr to Certificate Authorities (CAs) to sign the SSL certificate.
Step #5. Import Signed Certificate.

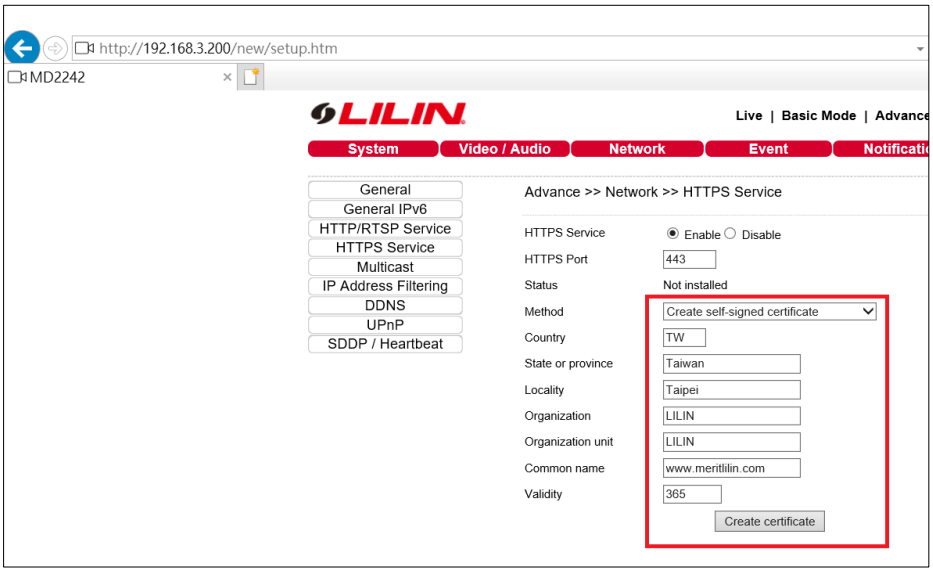
How to enhance access security for an IPCam via a HTTPs trusted certificate

Method 1: Update the camera firmware to the latest version. Once updated Digest security will become the default authentication method after the update has been successfully installed.

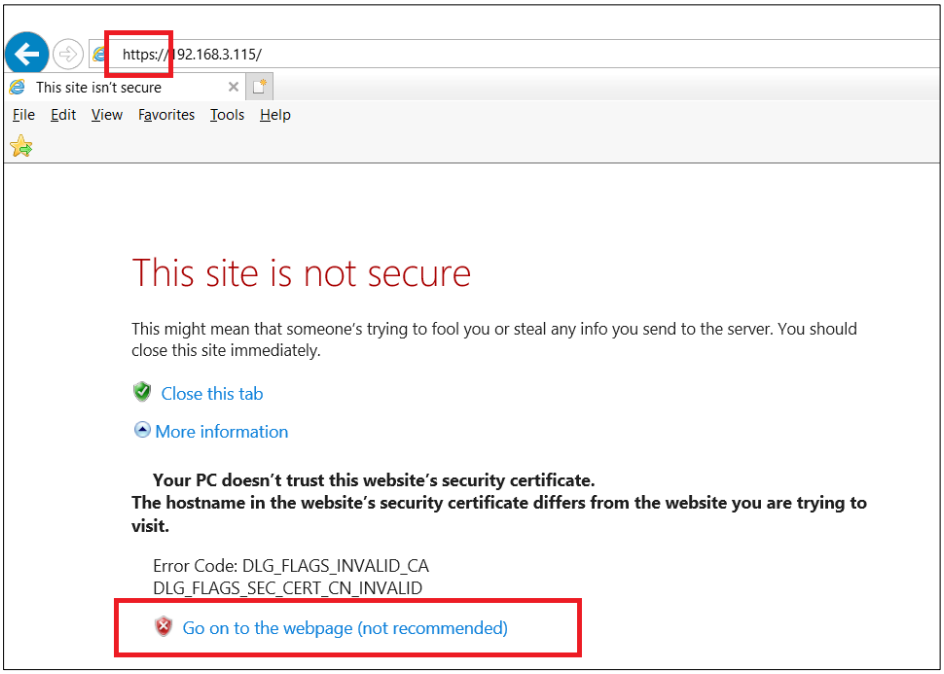
Method 2: Connect to a camera via HTTPS.
Step1: Enable the HTTPS Service within the camera.



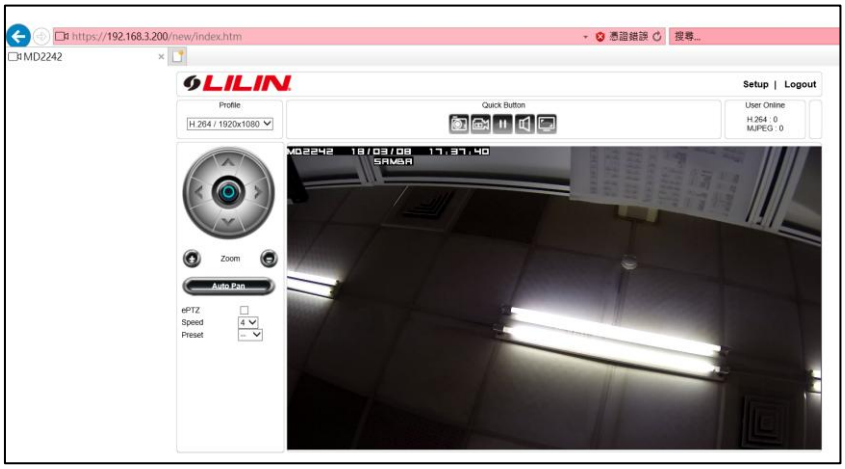
Step 2: Create a HTTPS certificate, select Self-signed Certificate and fill in all required information, then click the Create certificate button, If you already have a HTTPS certificate, you can import it directly.



Step 3: Enter the IP address of the camera using https:// and then click Go on to the webpage.



Step 4: After the above steps have been taken, you will then connect to the camera via https.



Note: LILIN NVR's SSL certificate format is in PEM format.

Contact:
For more information, please contact yourLILIN sales representative.You can alsosubmit a support ticket at https://LILIN.zendesk.com