

innovi Edge 320/325 – Installation Guide

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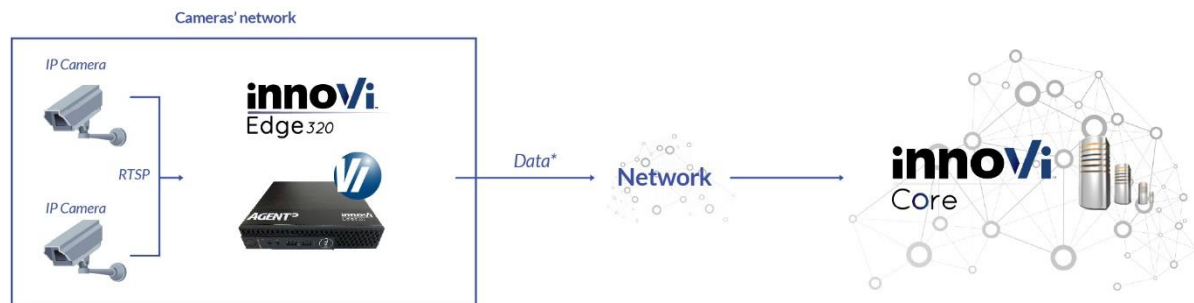
1. Overview

Note: any reference to innovi Edge™ 320 in this document also refers to innovi Edge™ 325.

innovi Edge™ 320 is a compact appliance with pre-loaded Agent Vi software, that connects ONVIF / RTSP fixed IP cameras from the cameras' network to innovi video analytics solution.

innovi Edge acts as a gateway between the site's video devices and the innovi Core servers, and therefore must always be connected to innovi Core and to the video devices.

innovi Edge connects to the various video devices using ONVIF or RTSP protocols, performs initial video analysis and streams metadata to innovi Core servers.



The steps for installing and configuring innovi Edge are as follows:

1. Connect innovi Edge to the cameras' network and to innovi Core. This step is performed once, as part of the initial on-site installation of innovi Edge, using innovi Edge's local settings.
2. Connect ONVIF / RTSP video streams to innovi. This step can be performed once innovi Edge is connected to the innovi Core and is comprised of configuration of each ONVIF / RTSP video stream. This step is performed using the innovi portal.

2. Prerequisites and Design Considerations

Before installing innoVi Edge, please review the following prerequisites and design considerations:

2.1. Required Equipment

Please make sure the following equipment is available for your use during the installation of innoVi Edge:

1. PC / Laptop – preferably with Windows OS
2. RJ45 Ethernet cable to connect innoVi Edge to the site's network
3. Computer monitor with HDMI connector (required in some cases)

2.2. Networking

1. Networking schemes:

innoVi Edge communicates with innoVi Core servers and with the ONVIF / RTSP video sources.

innoVi Edge must always be connected, using a dynamic or static IP address, to a network segment that enables access to the innoVi Core servers (innoVi Core servers may be deployed in the cloud or on-premise). innoVi Edge can connect to ONVIF / RTSP video sources via one of the following supported networking schemes:

- **Single network** - innoVi Edge connects to the cameras and to innoVi Core using the same network
- **Virtually separated networks** - innoVi Edge connects to the cameras and to innoVi Core servers using two network segments on the same physical network (sharing the same Network Interface Card)
- **Physically separated networks** - innoVi Edge connects to the cameras and to innoVi Core servers using two separate networks (using two network interface controllers)

Please note that the video sources must have static IP addresses.

2. Firewall settings:

2.1. innoVi Edge to innoVi Core

For cloud-based deployments, the site's firewall must allow innoVi Edge to access the following endpoints (outbound traffic):

- *.innovi.io:443
These are innoVi cloud service addresses, required for the innoVi Edge to continuously communicate with innoVi
- *.docker.com:443, *.docker.io:443
These addresses are required when connecting the innoVi Edge to your innoVi account and when performing innoVi Edge software upgrades.

The Docker address redirects traffic to different IP addresses and third party DNS names (for example cloudfront.net). The addresses being used are beyond Agent Vi control. See the following related docker forum response: <https://forums.docker.com/t/adding-rules-to-the-firewall-for-docker-pull-commands/38206>

It is advised to verify with the site's network administrator that these requirements are fulfilled, prior to arriving at the site

2.2. innoVi Edge to innoVi Video Sources

If there is a firewall between the innoVi Edge and video sources, ONVIF / RTSP ports should be open.

Default ports:

- ONVIF: 80 (unencrypted), 443 (encrypted)
- RTSP: 554

3. DNS server:

innoVi Edge requires access to a DNS server. In case there is no DNS server in the network, access to external DNS must be enabled (for example, to Google's DNS 8.8.8.8:53)

2.3. Usernames and Passwords

Prior to the installation and configuration of innoVi Edge, make sure you have the following credentials:

1. innoVi Edge local username and password:

The local username and password are only used to configure innoVi Edge's local settings.

The default local username is 'agentvi' while the default local password is 'PASSWORD'. Once innoVi Edge is connected to the innoVi account it is strongly advised to change the default password to prevent unauthorized access to innoVi Edge.

2. innoVi username and password:

To connect innoVi Edge to a specific innoVi account and start adding ONVIF / RTSP devices, you will need an innoVi account username and password.

Note: If you do not have the credentials above, please contact your innoVi account administrator

2.4. Power Supply

Connect innoVi Edge to a stable power supply (100-240V AC).

Note: In case of a power outage, innoVi Edge will preserve the power state immediately prior to the power outage

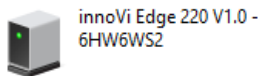
3. Connecting innovi Edge to the Network

innovi Edge must be connected to a network that allows constant access to innovi Core endpoints.

In most cases, the network has a DHCP server that automatically assigns an IP address. If innovi Edge cannot find a DHCP server, it automatically sets to a default static IP address of 192.168.10.80.

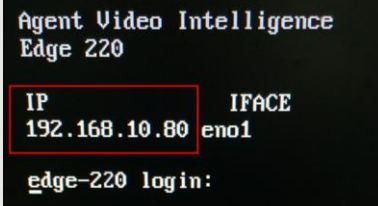
If the designated network has a DHCP server or you already set a static IP address, you can immediately connect innovi Edge to the network. Otherwise, you need to set a static IP (See [Assigning Static IP Address](#)) before connecting it to the network:

1. Connect innovi Edge to the designated network using RJ45 Ethernet cable
2. Power up innovi Edge by pressing the power button
3. Connect your computer to the same network as innovi Edge
4. Open Windows File Explorer and search for innovi Edge under *Network Devices*. The innovi Edge icon name starts with 'innovi Edge 320 V1.0' followed by its serial number. Example:

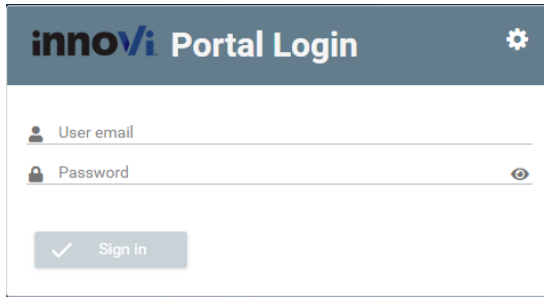


Notes:

1. It might take a minute after the power up cycle until innovi Edge is discovered in the network
2. If you are using a Mac computer, you should use a Mac compatible UPnP discovery tool rather than Windows File Explorer
3. If you are unable to find innovi Edge in the list of Network Devices, it might be because UPnP protocol is disabled in the network. To find innovi Edge's IP address, connect a monitor (using HDMI cable) directly to innovi Edge. You will see innovi Edge's IP address on the screen:



5. Double click the innovi Edge icon, or, using your web browser, navigate to innovi Edge's IP address. Ensure the innovi Edge webpage appears:



3.1. Assigning Static IP Address

innovi Edge will automatically look for a DHCP server in the network. If there is no DHCP server or it fails to obtain an IP address for any reason, it will set to a default static IP address of 192.168.10.80, with subnet mask of 255.255.0.0.

You will need to change this default IP address to an unused static IP address in the designated network segment before you can connect innovi Edge to innovi Core.

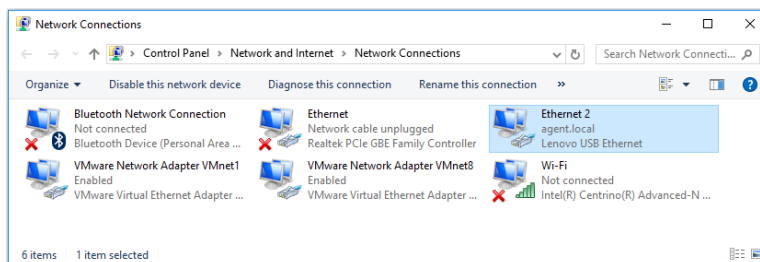
To assign a static IP address to innovi Edge, you will need to:

1. Connect your computer to innovi Edge and set up a temporary private network between the computer and innovi Edge's default network
2. Assign an available static IP in the cameras' network to innovi Edge
3. Connect innovi Edge to the network
4. Revert your computer's network to its original settings

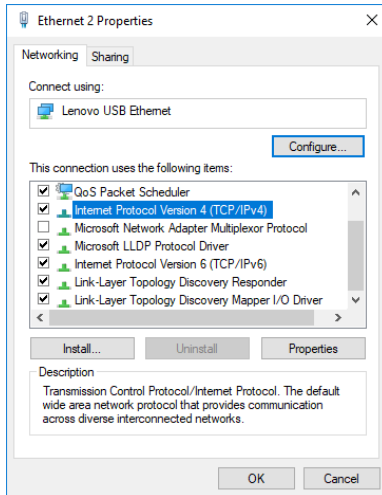
The following sections detail the required steps:

3.2. Connect Your Computer to innovi Edge's Default Network

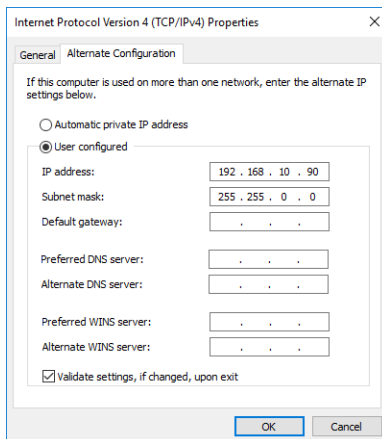
1. Open your computer's *Network Connections*, select the network interface and open its *Properties*:



2. Open *Internet Protocol Version 4 (TCP/IPv4) Properties*:

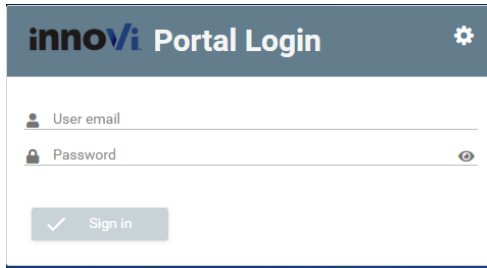


3. Change your computer's existing IP configuration (it is advised to record the original network settings before performing any modification) or add 'Alternate Configuration' to assign the computer a static IP in the innoVi Edge default network (subnet mask: 255.255.0.0). Make sure that you do not assign the computer with the innoVi Edge default IP address of 192.168.10.80.

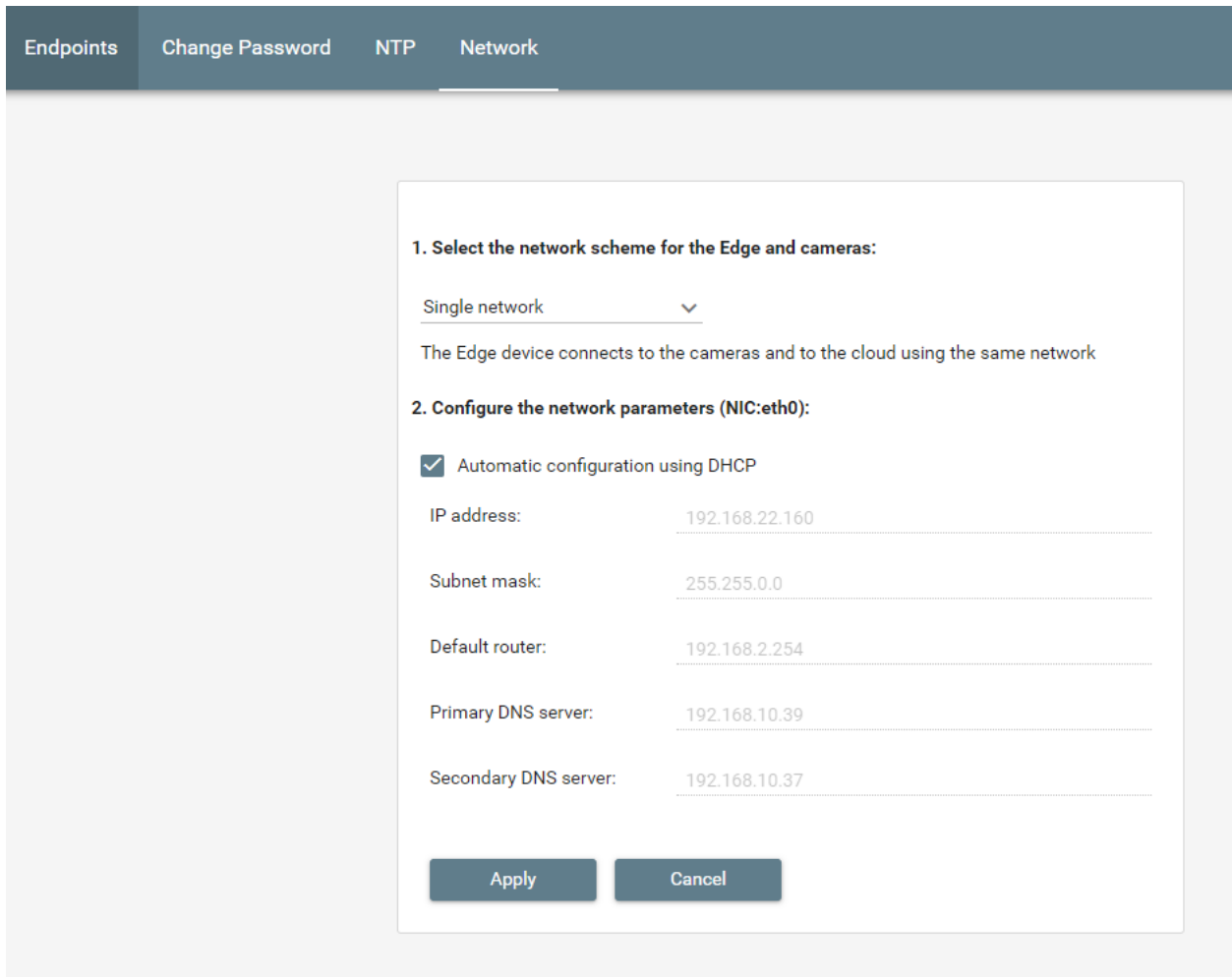


3.3. Assign Static IP Address to innoVi Edge

1. Using an Ethernet cable, physically connect your computer to innoVi Edge.
2. Open your computer's Web Browser and navigate to the innoVi Edge webpage at 192.168.10.80.
3. Click the innoVi Edge configuration icon in the top right corner:



4. Sign in using innovi Edge’s local username and password
5. Click the Network tab
6. Uncheck “Automatic configuration using DHCP” and configure the network parameters: the new static IP address in the designated network segment (make sure you use an available IP address), Subnet mask, Default router and Primary DNS server (Secondary DNS server is optional):



7. Click ‘Apply’ to accept the changes. innovi Edge will reboot with the newly allocated static IP address

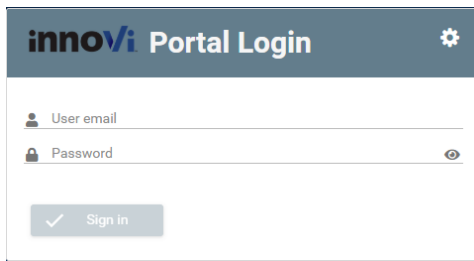
8. Disconnect the Ethernet cable connecting innoVi Edge and the computer
9. Continue with [Connecting ONVIF / RTSP video streams to innoVi](#)

3.4. Connecting innoVi Edge to Video Sources in a Virtually Separated Network Segment

In some networks, innoVi Edge should connect to the innoVi Core servers via one virtual network segment, and to the video sources via another virtually separated network segment.

To configure innoVi Edge to access the video source network segment, follow these steps:

1. Open the innoVi Edge webpage.
2. Click the innoVi Edge configuration icon in the top right corner:



3. Sign in to the innoVi Edge configuration page using innoVi Edge's local username and password
4. In the 'Network' tab, select 'Virtually separated networks' and configure an available static IP address and Subnet mask in the video devices network segment:

Endpoints Change Password NTP Network

1. Select the network scheme for the Edge and cameras:

Virtually separated network

The Edge device connects to the cameras and to the cloud using two network segments on the same physical network (sharing the same Network Interface Card)

2. Configure the network segment parameters to access the cloud (NIC:eth0):

Automatic configuration using DHCP

IP address: 192.168.22.160

Subnet mask: 255.255.0.0

Default router: 192.168.2.254

Primary DNS server: 192.168.10.39

Secondary DNS server: 192.168.10.37

3. Configure the network segment parameters to access the cameras (NIC:eth0:0):

IP address: _____

Subnet mask: _____

Apply Cancel

5. Click 'Apply' to accept the changes. innoVi Edge will reboot with the new settings
6. Continue with Connecting ONVIF / RTSP video streams to innoVi

3.5. Connecting innoVi Edge to Video Sources in a Physically Separated Network Segment

In some networks, innoVi Edge will connect to the innoVi Core servers via one network, while the video sources are connected to a physically separated network.

The connection to the video sources network is performed using a USB-based Network Interface Controller (not provided with innoVi Edge, must be purchased separately).

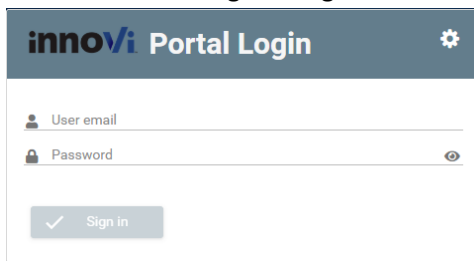
Note:

- The USB-based Ethernet card is not provided by Agent Vi and should be purchased by the customer.

- Based on Agent Vi's internal testing, any 3rd party NIC that supports USB 3.0 and 1GB Ethernet should be compatible. However, due to the variety of 3rd party components, Agent Vi assumes no responsibility or liability associated with the use of 3rd party components, including but not limited to, aspects of compatibility, proper operation or cyber protection implications.
- Agent Vi tested Tripp lite USB 3.0, 1GB Ethernet USB network card.


To configure innoVi Edge to access video sources in a physically separated network, follow these steps:

1. Connect the USB-based Ethernet card to innoVi Edge
2. Open the innoVi Edge webpage
3. Click the innoVi Edge configuration icon in the top right corner:



4. Sign in to the innoVi Edge configuration page using innoVi Edge's local username and password
5. In the 'Network' tab, select 'Physically separated networks' and configure an available static IP address and Subnet mask in the video devices network segment:

1. Select the network scheme for the Edge and cameras:

Physically separated network 

The Edge device connects to the cameras and to the cloud using two separated networks (using two Network Interface Cards)

2. Configure the network parameters to access the cloud (NIC:enp0s20f0u2):

Automatic configuration using DHCP

IP address:

Subnet mask:

Default router:

Primary DNS server:

Secondary DNS server:

3. Configure the network parameters to access the cameras (NIC:enp0s20f0u2:0):

IP address:

Subnet mask:

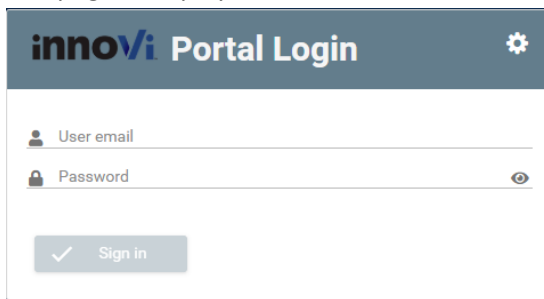
6. Click 'Apply' to accept the changes. innoVi Edge will reboot with the new settings
7. Continue with Connecting ONVIF / RTSP video streams to innoVi

4. Adding the innovi Edge device to the innovi account

The innovi Edge device must be connected to a network that allows constant access to the innovi Core endpoints.

Note: the innovi edge can be added only to a dedicated folder and not to the account root folder. Ensure you have created a folder to which the innovi Edge will be added to.

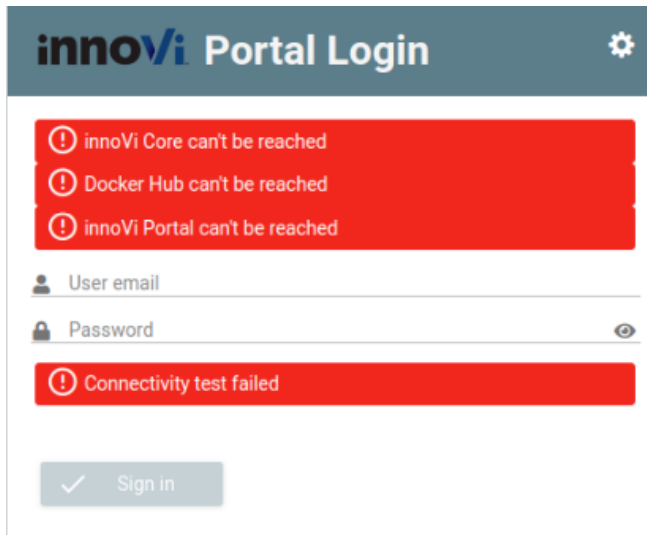
1. Using your web browser, navigate to innovi Edge Device IP address. The innovi Edge Device webpage is displayed:



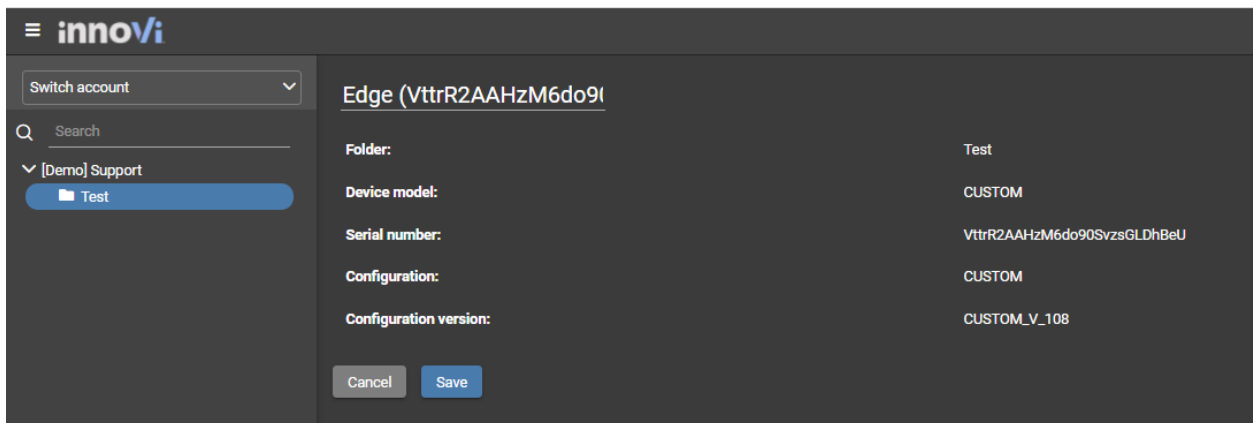
2. Use your innovi username and password to login and add the innovi Edge device to the innovi account.

Note:

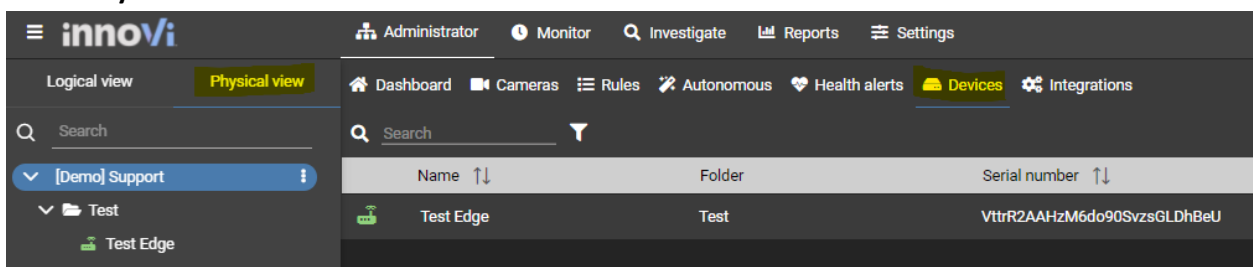
The innovi Edge Device includes an automatic **connectivity test** feature that tests innovi Edge Device ability to connect to the required innovi Core cloud endpoints over the internet. If one or more of the required endpoints is inaccessible, the innovi Edge Device webpage will show an error message indicating which endpoints cannot be reached. Please configure the firewall to allow outbound traffic from the innovi Edge Device network to all listed innovi Core endpoints.



- Once signed in, a list of available folders is displayed (the innovi account administrator grants access privileges to specific folders). Select the folder to which you want the innovi Edge Device to be added to:

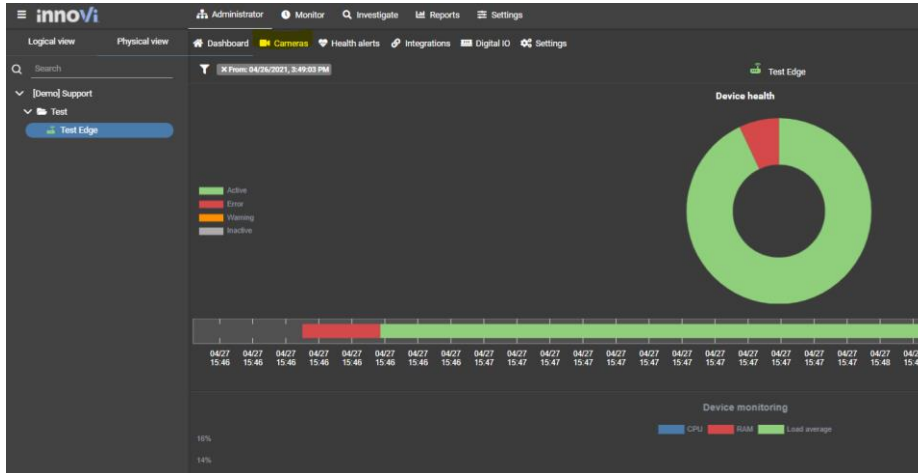


- Once the folder is selected, the innovi Edge will be added to the list of devices
- Select **Physical Devices** → **Devices** tab to view the list

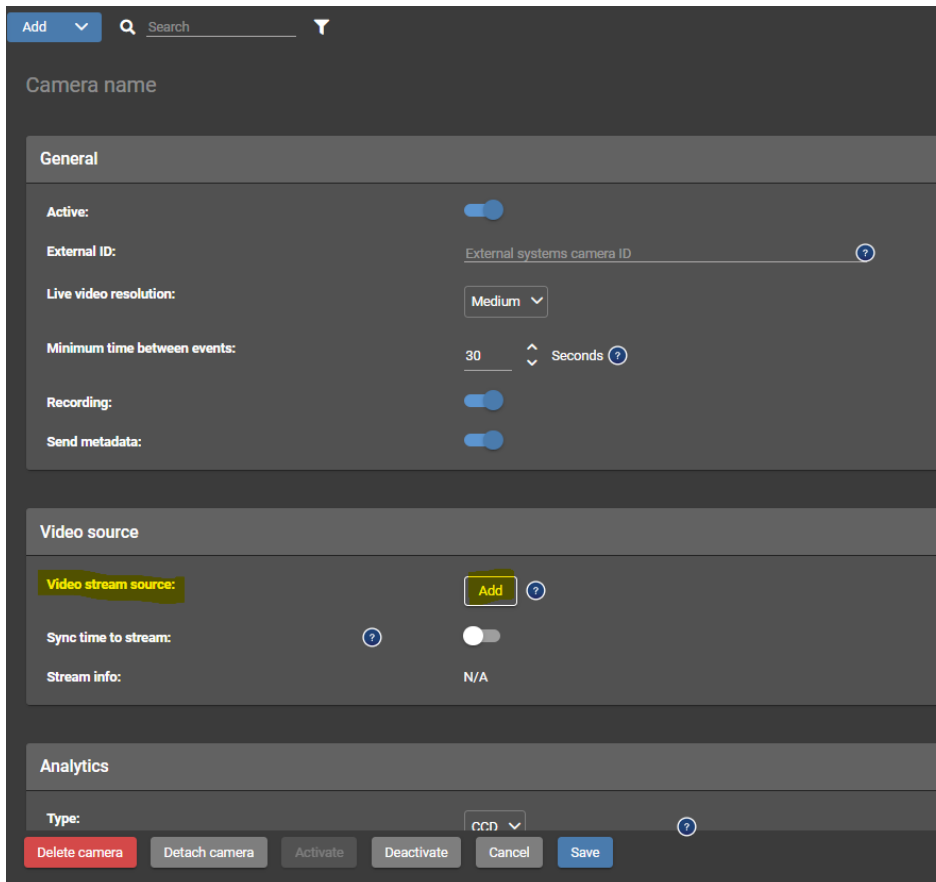


- Once the edge device is fully installed, the Edge' icon is turned green. The device is now ready to add cameras

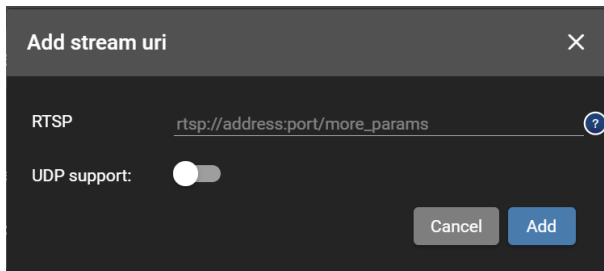
5. Adding ONVIF / RTSP video streams



1. Click the innovi Edge
2. Click **Cameras**
3. Click the **Add** button to add a camera



In the **Video stream source** field, click the **Add** button



Enter the RTSP/ONVIF camera URL, click **Add**

Click **Save**

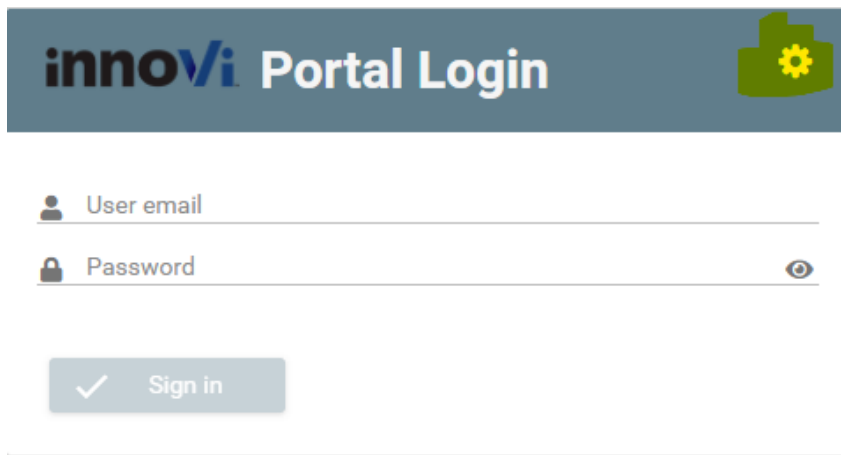
The camera is added, and live video should be available

6. innovi Edge Settings

innovi Edge is configured with some default parameter. The following chapters explain how to change them.

Make sure innovi Edge is connected to the innovi account: login to the innovi account and make sure innovi Edge appears in the list of devices .

Using your web browser, navigate to innovi Edge's IP address. The innovi Edge webpage is displayed. Click the marked wheel icon:



In the opened window, populate default username (agentvi) and a default password (PASSWORD).

Use the device credentials to configure the device:

Once login is successful, select the relevant tab.

6.1. Endpoints

innovi Edge is configured with default Endpoints settings, to access the Agent Vi hosted service.

Endpoints Change Password NTP Network

API URL:

Portal URL:

Use default registry

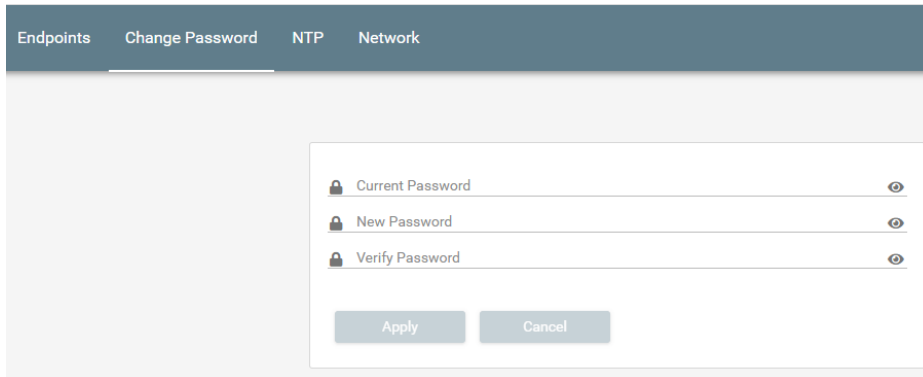
To support a customer hosted deployment, contact Agent Vi for changing the Endpoints settings

6.2. Password

innovi Edge is configured with a default username (agentvi) and a default password (PASSWORD).

It is strongly advised to change the default local password once innovi Edge is connected to the innovi account. This will prevent unauthorized access to innovi Edge's local settings.

1. Select the **Change Password** tab



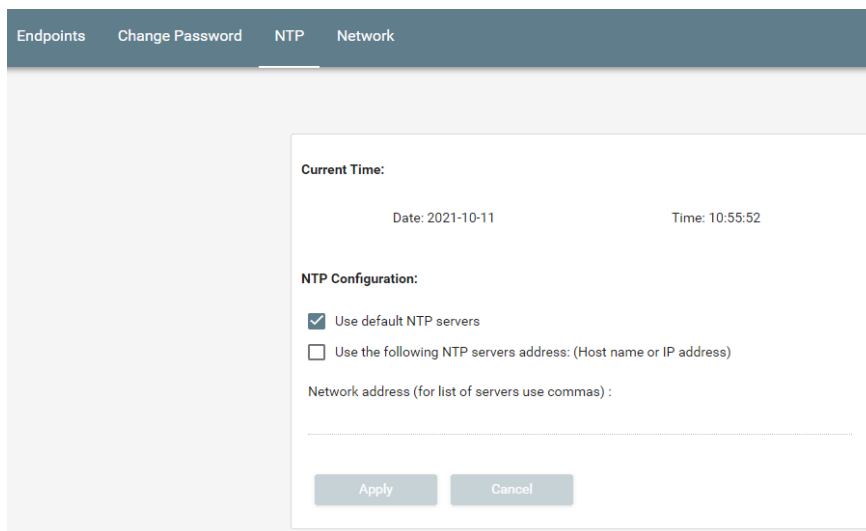
2. Set a new password and retype it
3. Click 'Apply'

Note:

In case you forget innoVi Edge's revised local password, you can log into innoVi account, open the innoVi Edge page, go to the 'Settings' tab and reset the password to the default settings.

6.3. NTP


Change device NTP configuration as follows:



The default NTP configuration is set to sync time with the Ubuntu operating system installed on the device.

Mark the **Use the following NTP...** checkbox to select a different NTP server/s.

7. Contact Agent Vi Support

- From the innoVi Portal Support hub menu  , select **Submit a Support Request**
- Use the innoVi support form on Agent Vi's website: <https://support.agentvi.com/support/innovi-request/>
- Email innovi-support@agentvi.com