Quantum Smart NVR

Setup Guide

Part Number: 6-69044-01 Rev B

Quantum

Quantum Smart NVR
Setup Guide

Contents

Overview of the Installation and Setup Process

The Smart Network Video Recorder (NVR) setup is comprised of two overall tasks:

- Installing the Smart NVR software
  - For Quantum Smart NVR appliances, this is performed at the factory.
  - For non-Quantum appliances, this is performed by the installer. For instructions, see the *Quantum Smart NVR Software Initial Configuration Guide* at http://www.quantum.com/nvrswdocs
- Setting Up the Smart NVR server at the customer site (documented in this guide)
  - For both Quantum Smart NVR appliances and non-Quantum appliances, this is performed by the installer. The instructions are documented in this guide.

Pre-requisites

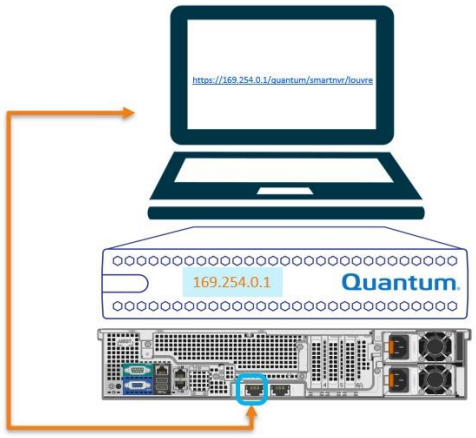
- Laptop with LAN Port, a LAN cable and Internet browser. Laptop must have internet connection so the Virtual Machine Templates can be downloaded. If the image is on the laptop, there is no need for a concurrent or active internet connection.
- Customize the Server IP, Gateway, Prefix, and if available the Domain Name System (DNS). This network can be a flat network or a VLAN network as well.
- To create a range of consecutive IPs that will be attached to camera networks, you need this:
  3: Monitoring instances
  1+: Number required for recording or other surveillance instance VMs.
  1+: Number of cameras to attach

Setting Up the Smart NVR Server at a Customer Site

This section describes how to set up the software at a customer site.

Step 1: Connecting a Laptop Directly to the Smart NVR Server

1. Connect the LAN cable from the LAN port of the laptop to PORT 1 of the Smart NVR.



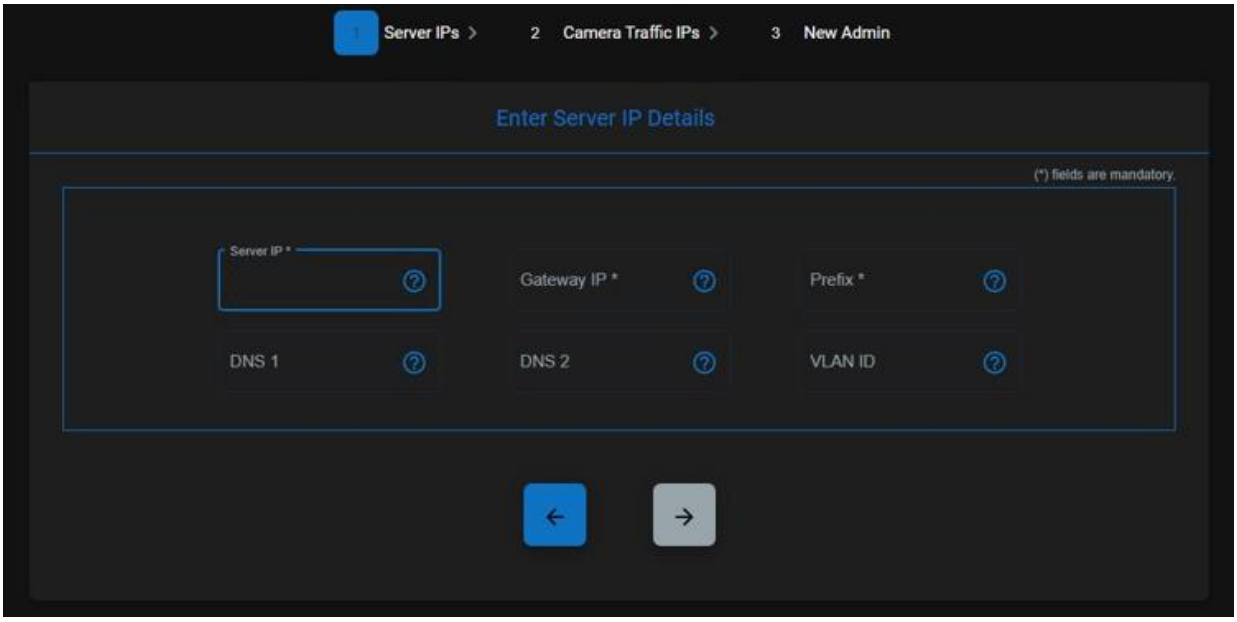
2. Power on the Smart NVR server. This can take up to 10 minutes to boot.

Step 2: Configuring Server IPs

1. After the Smart NVR server is booted and running (via the console, at the OS command prompt, or via a ping to the current server IP address (169.254.0.1), open a browser to the following URL
   - https://169.254.0.1/quantum/smartnvr/louvre

NOTE: If the Smart NVR is not a Quantum appliance, browse to the server IP assigned during installation.

The following screen is displayed:

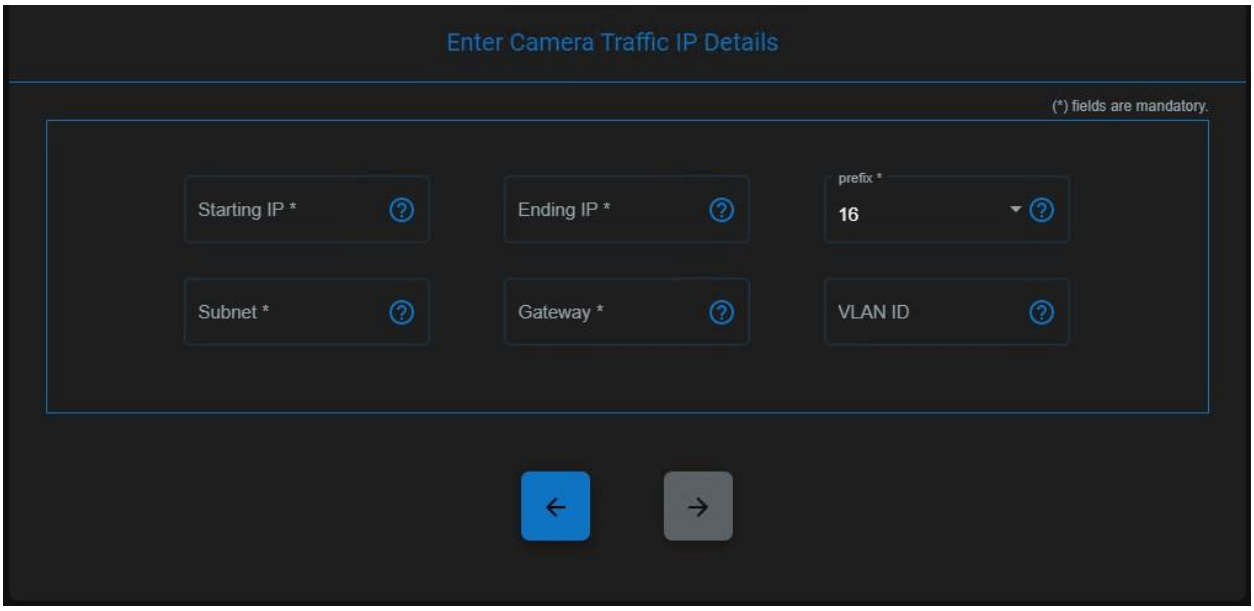


2. Customize the Server IP, Gateway, Prefix, and if available the Domain Name System (DNS).
   - This network can be a flat network or a VLAN network as well.
   - Complete all the required information on the page, along with the DNS, and VLAN ID if needed.
     - Click the individual (?) icons if you need help with what the entry should be.
     - Enter the VLAN ID if the network is a VLAN, else leave the entry empty.
3. Click the → icon once you have completed all fields.

Step 3: Configuring the Camera Traffic IPs

In this step, you set the range of IPs set aside for VM instances, and Camera Traffic, along with the details of the network.

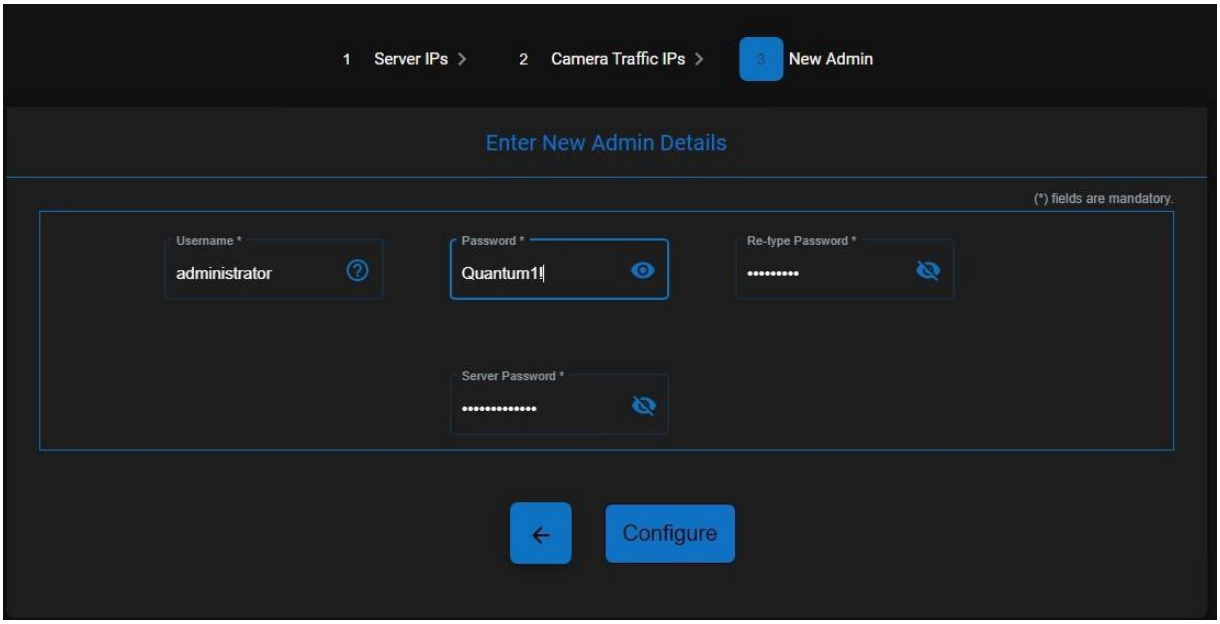
NOTE: You should create a range of consecutive IPs that will be attached to camera networks keeping in mind the following needs:
3: Monitoring instances
1+: For each instance VM created
1+: Number of cameras to attach. The range of the network should encompass the number of cameras eventually connected, as they too will "burn" an IP on the total range.



- This network can be a flat network or VLAN network.
- The total range with the prefix auto fills the **Subnet** field.
- Complete all the required information on the page.
- Click the individual (?) icons if you need help with what the entry should be.
- Enter the VLAN ID if required; otherwise, leave the entry empty.
- Click the → icon once you have completed all entries.

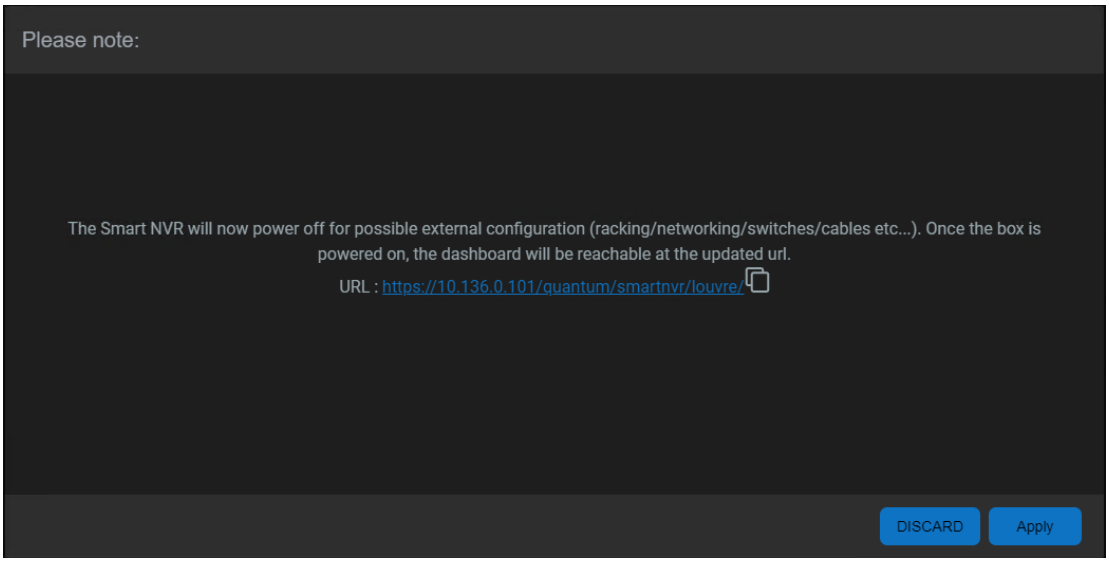
Step 4: Configuring a New Administrator

In this step, you define the administrator user and protect the user with a password. The administrator is the login user for Louvre, the Smart NVR management dashboard.



To create a new administrator, complete the following steps:

1. Create a password. Re-type the password to confirm. If the passwords are not identical, the **Configure** button is not active.
2. The Smart NVR server password is pre-filled (**`server1101q2w`**) to reduce typos. Reach out to Quantum Support for the server password if you do not have one.
3. Click the **Configure** icon once all entries have been completed.
4. A pop-up message explaining that the Smart NVR server will be shut down is displayed. Click **Apply**.



Deploying the Smart NVR Software

This section describes how to deploy the Smart NVR software.

Step 1: Connecting the Smart NVR to a Network

NOTE: After the Smart NVR server powers off, remove the direct-cabled laptop and relocate the appliance to the configured network infrastructure.

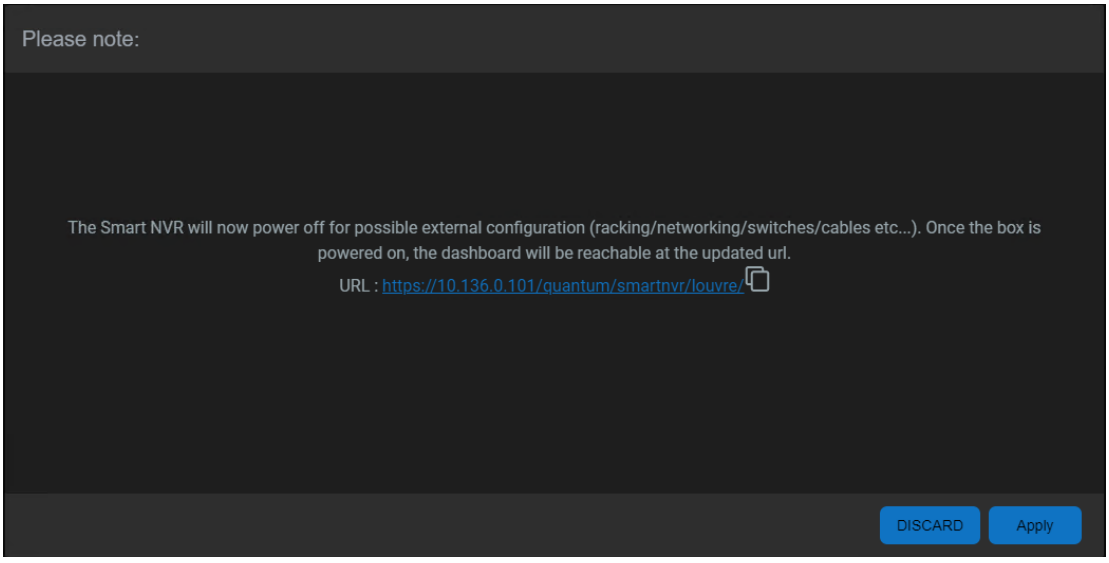
- When the customer setup process is complete, the Smart NVR server powers off.
- When the server is shut down, the unit can be moved or re-cabled to the necessary networks for cameras and other traffic, as defined in Step 3: Configuring the Camera Traffic IPs above within the "Setting Up the Smart NVR Server at a Customer Site" section.
  - There are multiple connection options available. Please see Appendix B. Network Connection Options, for best fit of the environment.
- When the server is connected, power on the Smart NVR server, and browse to the configured URL.

  Note: This can take an additional 15+ minutes after the server has rebooted, to let any configuration scripts complete upon boot.

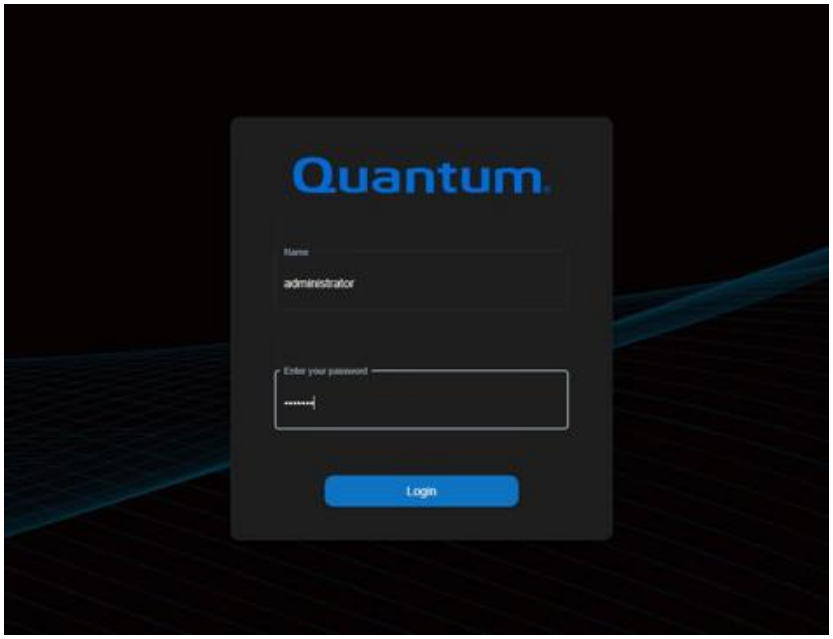
Step 2: Accessing the Louvre Smart NVR Management Dashboard

To access the Louvre Smart NVR Management Dashboard, from an Internet browser:

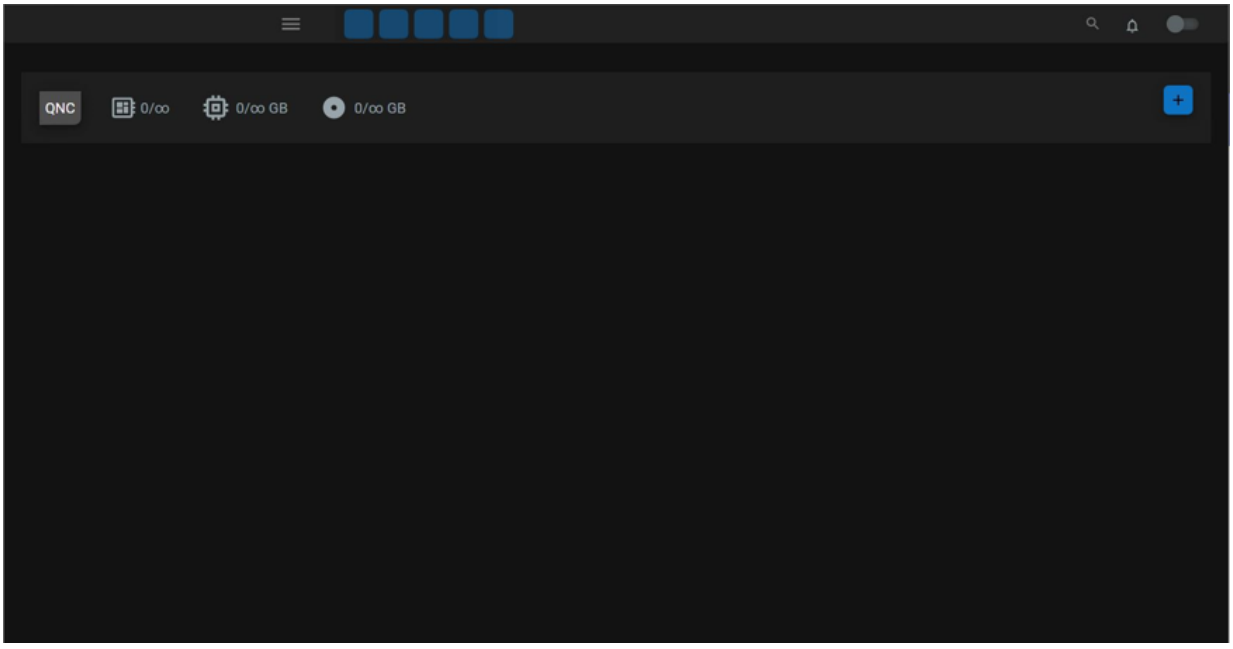
1. Type the URL for the Louvre dashboard. The URL is shown on the screen that is displayed after you log in, and generally has the format of: **Error! Hyperlink reference not valid.** .



2. Enter the administrator username and password that was created in Step 4: Configuring a New Administrator above within the "Setting Up the Smart NVR Server at a Customer Site" section.
3. Click **Login**.



4. After login, the URL will redirect you to the current Smart-NVR default department (QNC).



5. From this point, use the information in the Overview of the Louvre Application section below to upload images, create virtual instances, and attach volumes.

Note: If you received your system as an appliance (sold directly from Quantum), you might have an image in the `/enclouden/images` directory of the server that you can use.

Overview of the Louvre Application

This section contains the instructions on how to do the following tasks in Louvre:

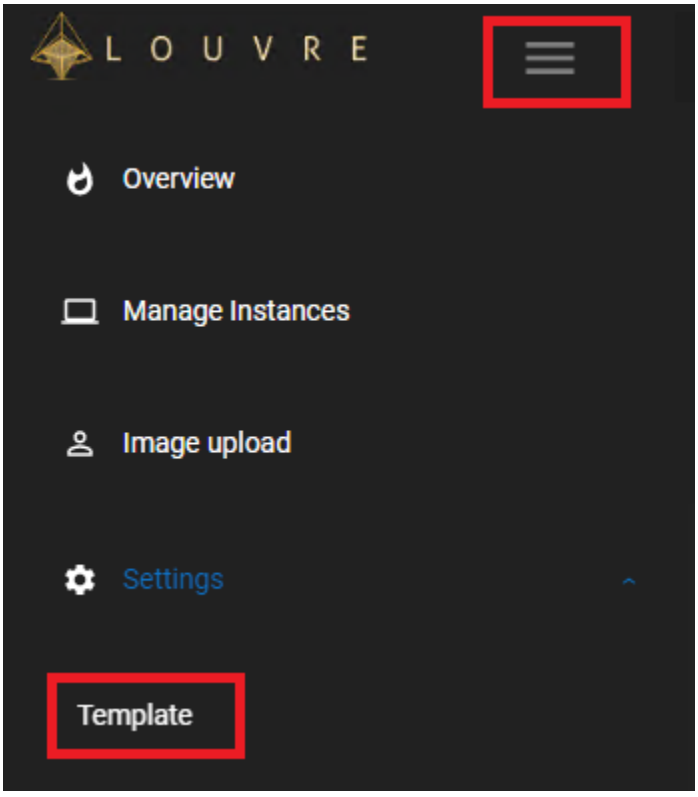
- Step 1: Viewing the templates
- Step 2: Uploading a new image
- Step 3: Creating a virtual instance
- Step 4: Controlling a virtual instance

Step 1: Viewing the Pre-loaded Templates

This step only applies if you purchased a Quantum Smart NVR. If you are using your own appliance, go to Step 2.

To view the Louvre templates:

1. From the drop down the menu in the upper-right corner, select **Settings** and then **Template** to see the images you can use for virtual instances.

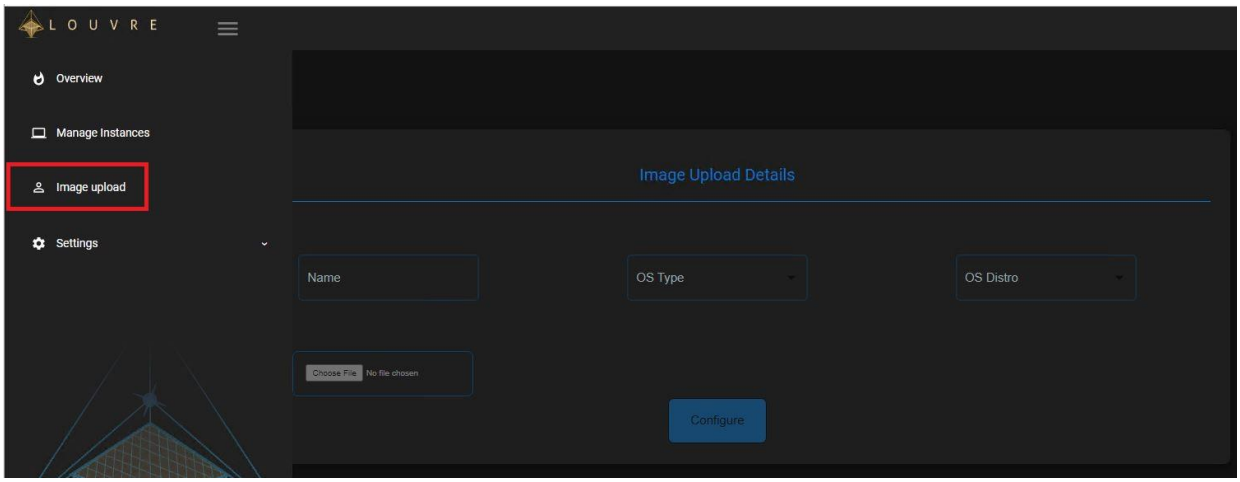


Step 2: Uploading a New Image

This step is not needed if you used the pre-loaded templates from Step 1.

To upload a new image:

1. From the drop down the menu in the upper-right corner, select **Image upload**. A format of .raw images are supported.



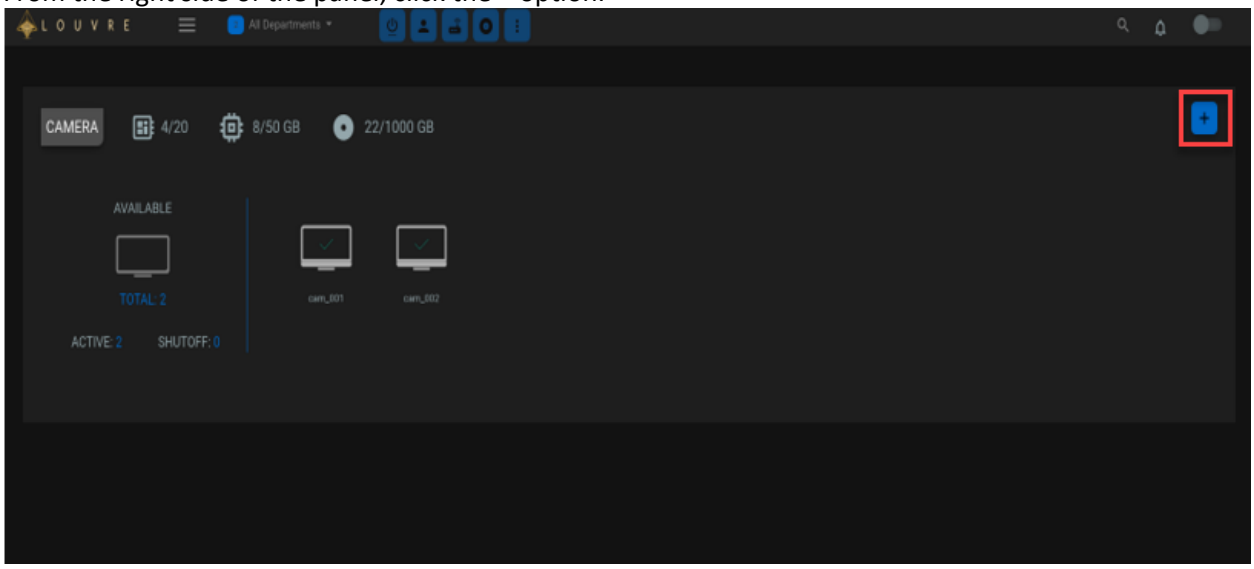
3. Enter a unique name for the image.
2. Select the OS type from the drop-down menu.
3. Select the OS Distro from the drop-down menu.
4. Browse to the local image file and click **Configure**.

   The upload can take 10 - 20 minutes depending on the size of the files and the speed of the LAN connection between the laptop and Smart NVR server.

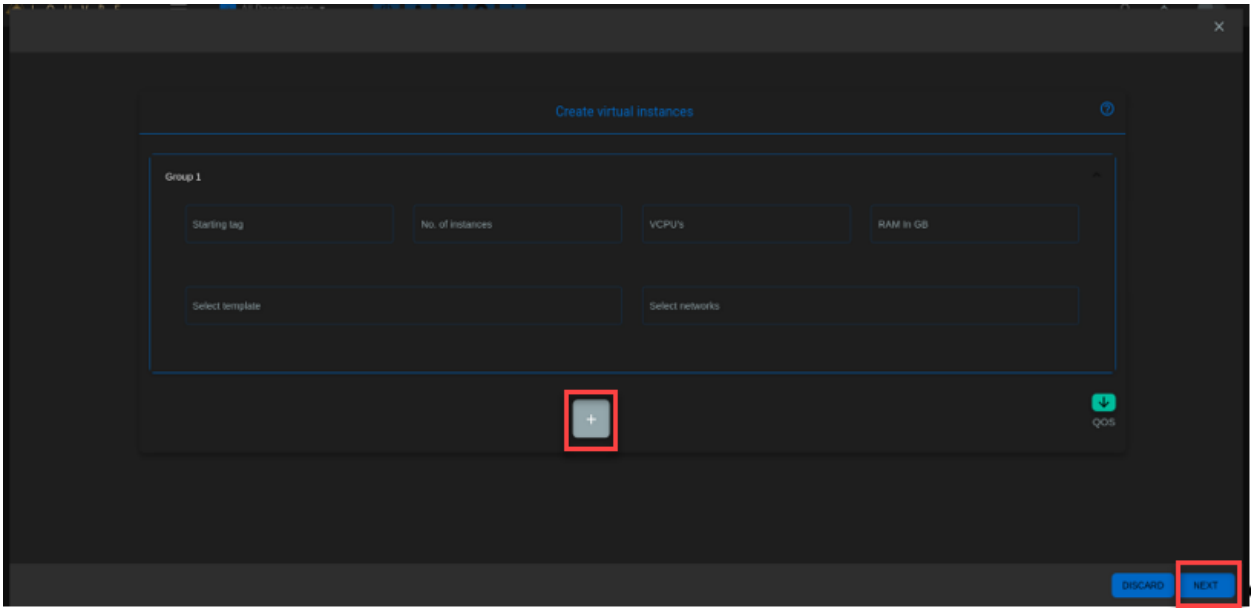
Step 3: Creating a Virtual Instance

To create a virtual instance:

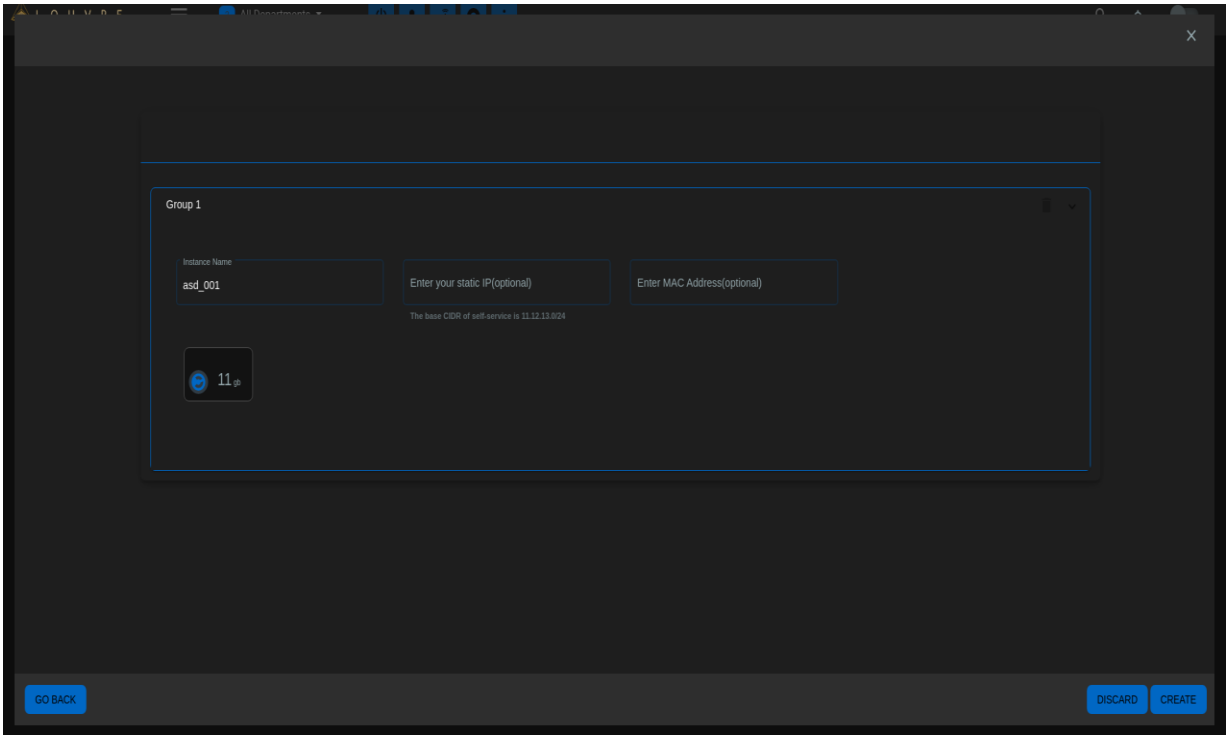
1. From the right side of the panel, click the + option.



2. To create multiple virtual instances using **different** templates, click the **+** option. To create virtual instances using the same template, click **NEXT**.

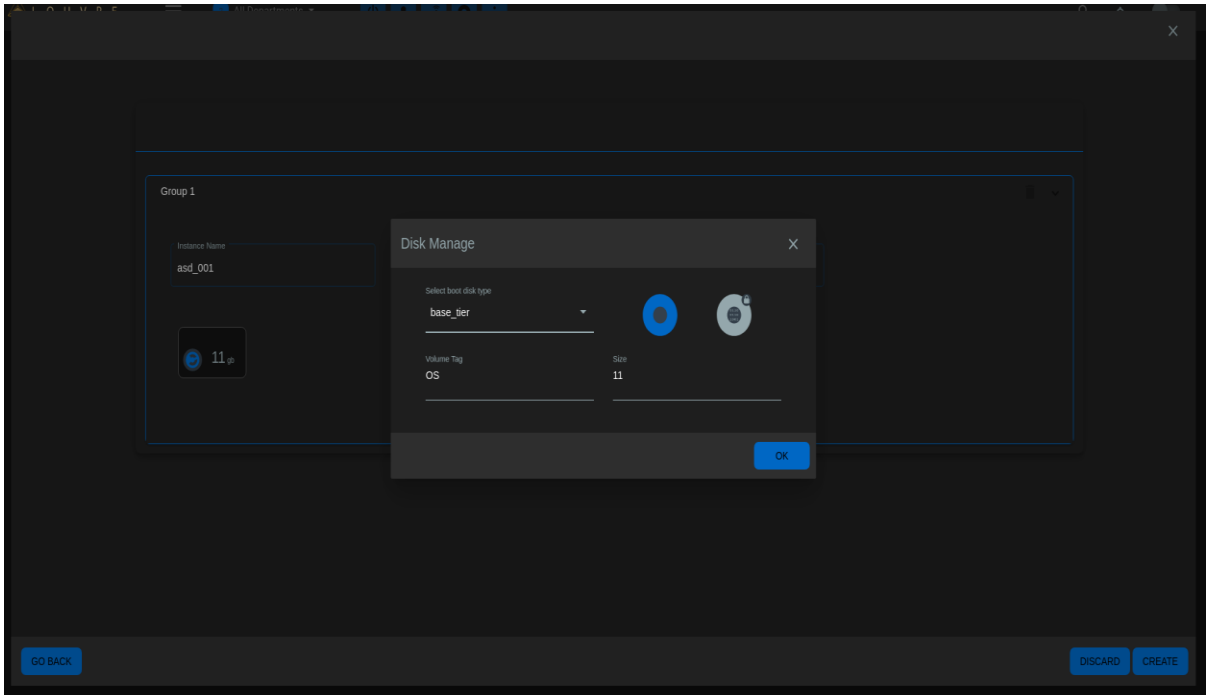


3. Clicking the **Next** button takes you to a window where you can specify information about the instance.



- Instances Name: The Instance name is based on the starting tag and the instances already present with the same starting tag. In this example, you can change the instance name to any desired name.
- Enter your static IP (optional): You can assign a static IP from the available range to the instance. This is optional, if not given then a dynamic IP is assigned from the IP range specified in Step 3: Configuring the Camera Traffic IPs above within the “Setting Up the Smart NVR Server at a Customer Site” section.

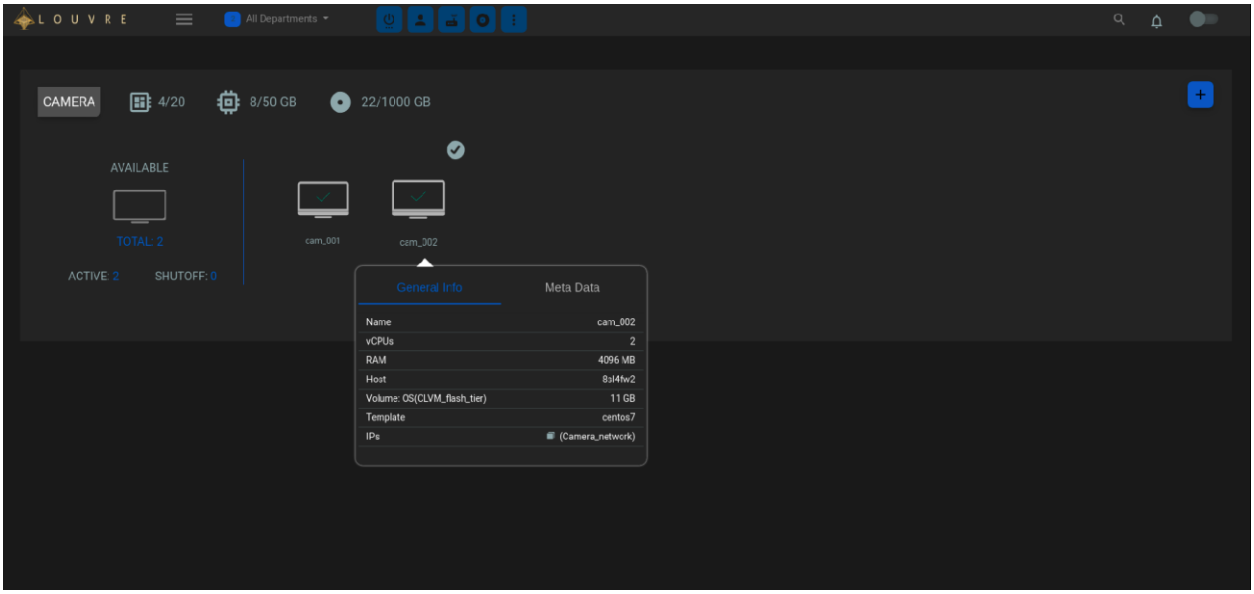
- Enter a MAC Address (optional).
- Volume: You can view and update the volume settings by clicking the disk box indicating the <OS volume capacity>.



- Volume Type: Select the tier to create the volume. **Base Tier** or **Flash Tier** (if available). The tier free space is displayed on the **Overview** menu option.
- Volume Tag: The default tag is **OS** when creating a virtual instance.
- Size: Enter the size of the volume you want to create. The volume can be increased but not decreased, because the value is given based on the image that was selected.

4. Click **OK** and then click **Create** to see the instance processing.

5. When the instance is complete, hover on the Instance to view General information.

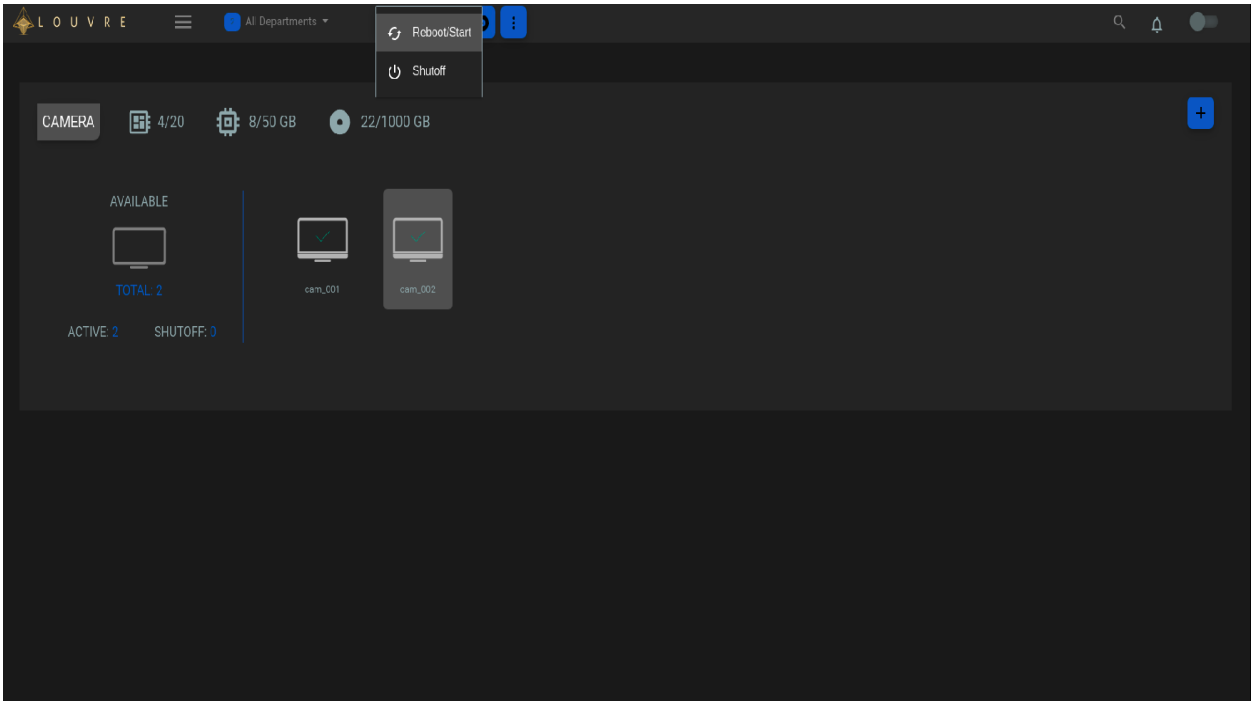


Step 4: Controlling the Virtual Instance

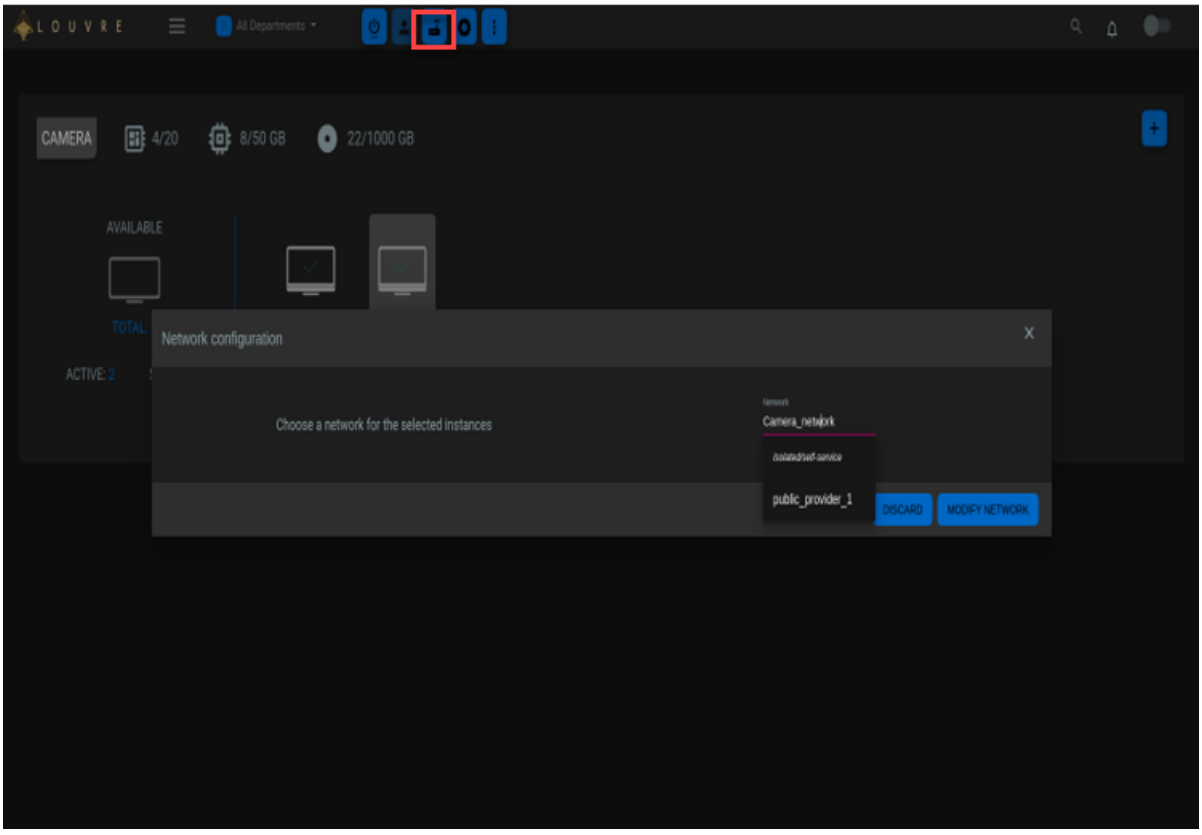
To perform any action on any instance(s), select the instance(s). This automatically activates all the action buttons at the top of the Louvre dashboard.

You can perform the following on the instance:

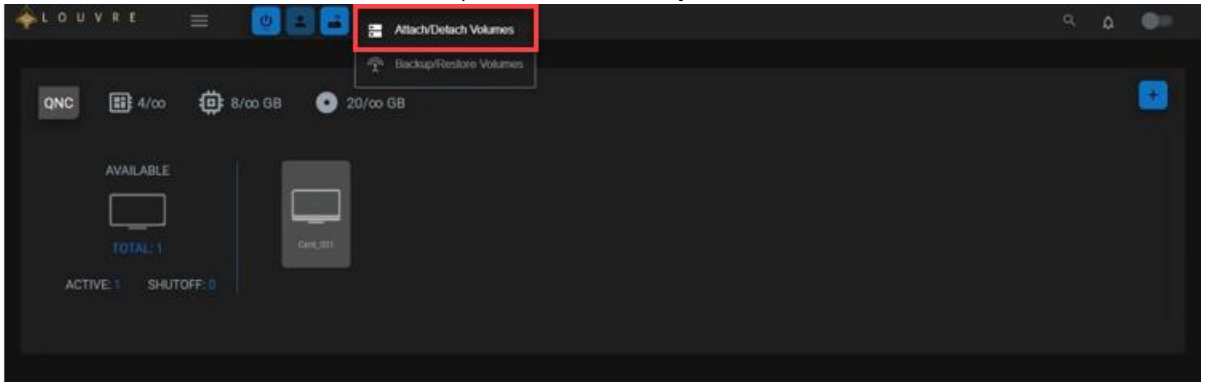
- Reboot or power off the Instance, by selecting the instance from the list and choosing the **Poweroff / Reboot** option.



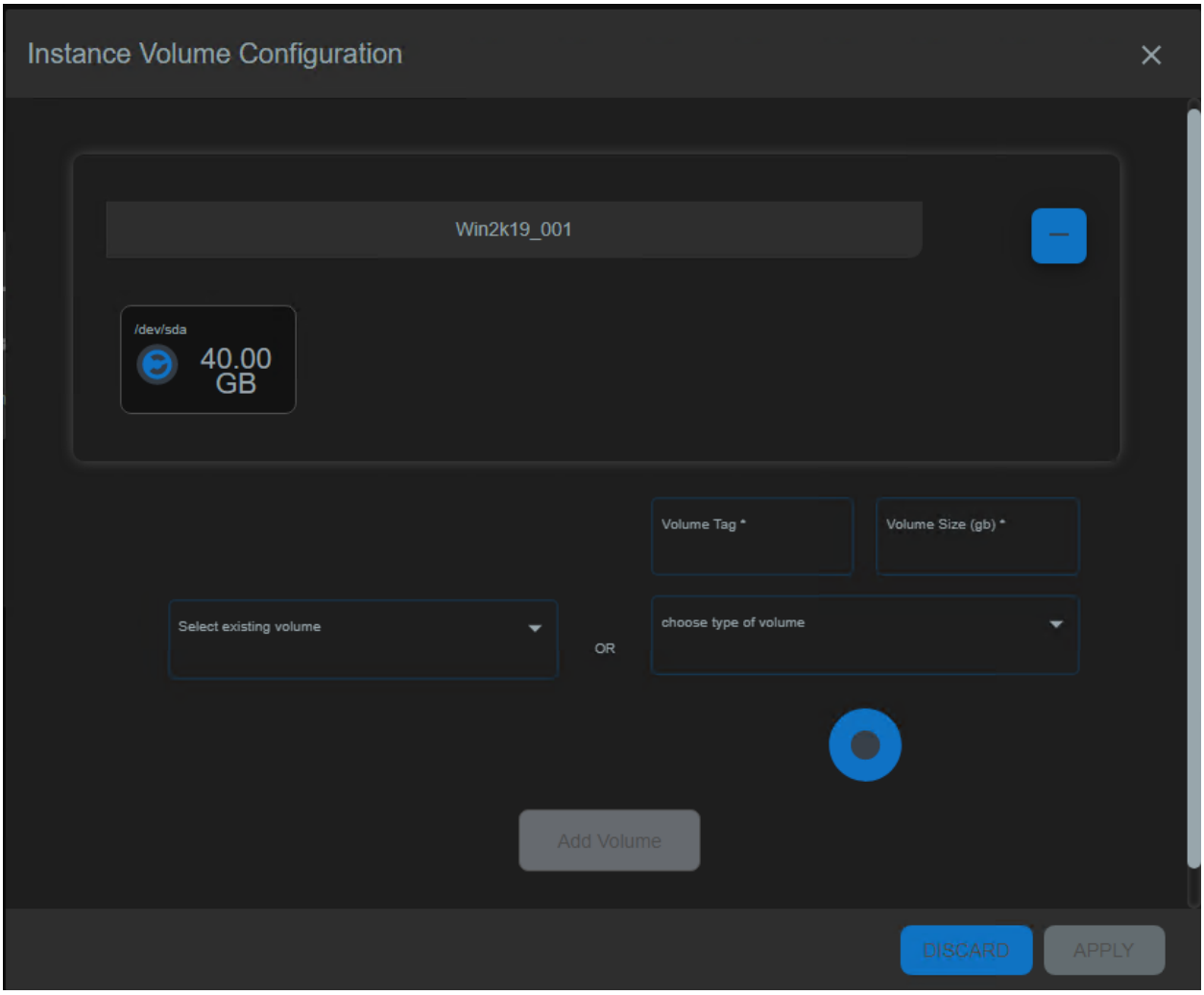
- To change the assigned network of the instances, select the **Change Network** option. Assign the required network from the drop-down list and then click **Modify Network**. The public provider option is for troubleshooting. It is not required for normal operations.



- To attach volumes to a virtual instance, select the **Attach/Detach Volumes** menu item.



- The volume configuration page displays the size of the OS volume and allows you to configure a new volume to be attached or select an existing volume to be attached.



- Volume Tag: Select a pre-defined label of either **Data** or **Media** for the volume, or overwrite a new descriptive label as needed (i.e. Record, DB, etc…).
- Volume Size (GB): Enter the size of the volume to be attached to the virtual instance.
- Existing Volume: If a volume already exists, you can attach it to the virtual instance for continued use.
- Type of Volume: Select the tier on which to create the volume: Base Tier or Flash Tier (if available). The amount of free space available is displayed on the Overview menu.

For more information about how to use the Louvre application, refer to the Louvre User Guide.

Appendix A: Notations

When configuring any system, it is always good to keep track of any credentials, IP Addresses, or other notations. The following is a small table, that can be printed (and filled in if desired), to keep as a copy during configuration, to help with this.

Item	Data / Information	Comments / Notations
Original System URL	https://169.254.0.1/quantum/smartnvr/louvre	Navigate here first.
Server IP		Configured in Step 2.
Server Gateway		Configured in Step 2.
Server Prefix		Configured in Step 2.
Server DNS1, and DNS2		Configured in Step 2. (Optional)
Server VLAN ID		Configured in Step 1. (Optional)
Traffic Range (Starting IP)		Configured in Step 3. Video/Camera Traffic range start, used for VM's, and cameras.
Traffic Range (Ending IP)		Configured in Step 3. Video/Camera Traffic range start, used for VMs, and cameras.
Traffic Prefix		Configured in Step 3.
Traffic Subnet		Auto filled in Step 3.
Traffic Gateway		Configured in Step 3.
Traffic VLAN ID		Configured in Step 3. (Optional)
Admin Username	administrator	Default in Step 4.
Admin Password		Configured in Step 4. (Entered Twice)
Server Password	server1011q2w	Defaulted to in Step 4.
VM / Instance Template		Name of template used for NVR workload.
VM / Instance IP		IP of VM, once deployed.
VM / Instance Credentials		Credentials of VM / Instance
VM / Instance CPU / Mem		Configuration of VM / Instance

VM / Instance Template		Name of template used for NVR workload.
VM / Instance IP		IP of VM, once deployed.
VM / Instance Credentials		Credentials of VM / Instance
VM / Instance CPU / Mem		Configuration of VM / Instance

Appendix B: Network Connection Options

When configuring network connections to the Smart-NVR the physical ports on the server will be configured based on user selected settings, and physical port connections. In the Smart-NVR there are expected only 2 physical port configurations. Either a single dual port NIC, or a single quad port NIC in the server. While more ports are possible, it would only add additional connections to the server, and less possible connections from the switch itself.

NOTE: When multiple ports are connected, the Management (Server) network will resolve to the odd enumerated ports, and the Application (Camera) network will resolve to the even enumerated ports.

The tables below list the available connection options.

Single Dual Port NIC (Physical Port Count: 2)

Physical Connections	Network Type	Comments / Notations
1	FLAT	In lesser disk count configurations where throughput above 750 Mbps is not needed, a single physical connection for both Management and Application traffic can be employed.
2	FLAT	When both physical port connections are deployed, and VLANs are not configured, then the two physical connections are “teamed” to provide access for both the Management Traffic, and the Application traffic.
2	2 VLANs	Alternate to the above option, 2 VLANs can be configured on the switch/switches to have a logical separation of the two networks.

Single Quad Port NIC (Physical Port Count: 4)

Physical Connections	Network Type	Comments / Notations
4	FLAT	When all physical port connections are deployed, and VLANs are not configured, then the four physical connections are “teamed” to provide access for both the Management Traffic (odd), and the Application traffic (even).
4	2 VLANs	Alternate to the above option, 2 VLANs can be configured on the switch/switches to have a logical separation of the two networks.

Quantum

Quantum technology, software, and services provide the solutions that today's organizations need to make video and other unstructured data smarter – so their data works for them and not the other way around. With over 40 years of innovation, Quantum's end-to-end platform is uniquely equipped to orchestrate, protect, and enrich data across its lifecycle, providing enhanced intelligence and actionable insights. Leading organizations in cloud services, entertainment, government, research, education, transportation, and enterprise IT trust Quantum to bring their data to life, because data makes life better, safer, and smarter. Quantum is listed on Nasdaq (QMCO) and the Russell 2000® Index. For more information visit www.quantum.com.

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