Luxul Configuration

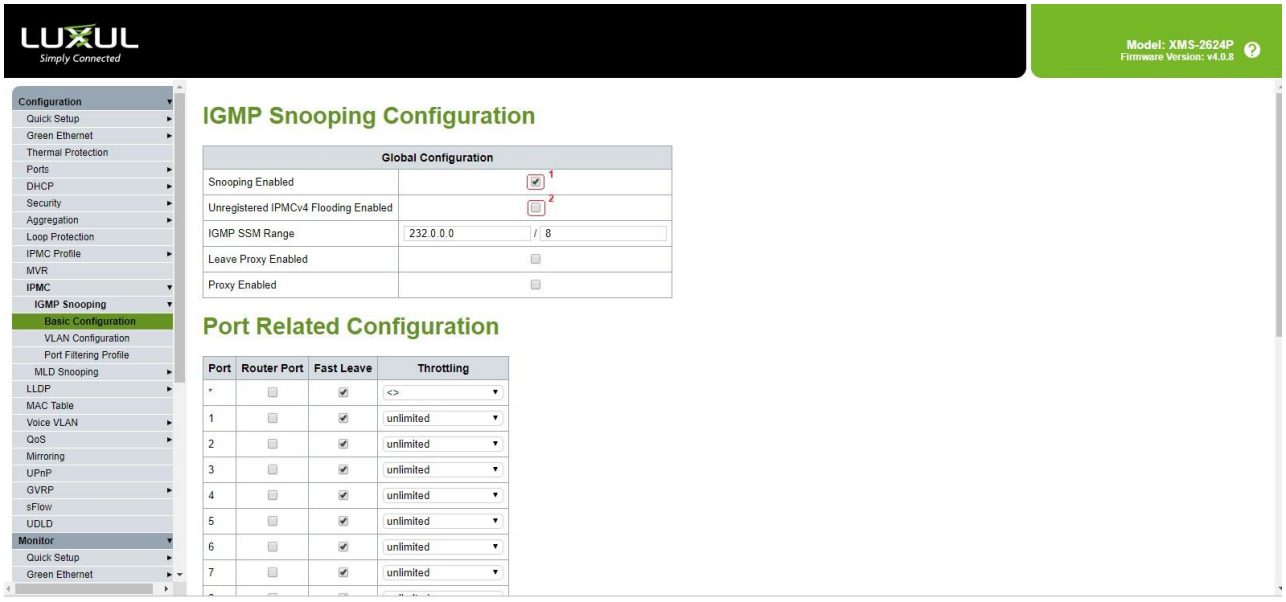
Single and Multiple Switches

The EVO-IP HDMI over IP System has been tested and confirmed to work with Luxul AMS and XMS Switches. Below are screenshots showing the configuration needed to get the system up and running. These have been tested on Luxul switches with FW 4.0.8 and 4.1.1 installed.

Single Switch Configuration:

1. Enable IGMP Snooping by going to: Configuration->IPMC->IGMP Snooping->Basic Configuration. Save the setting once finished.
2. Disable Unregistered IPMCv4 Flooding
3. Enable Fast Leave on all ports

   NOTE: When using a control system, for best results ensure the port that is connected to an external (outside of EVO-IP) network is selected as the Router Port.



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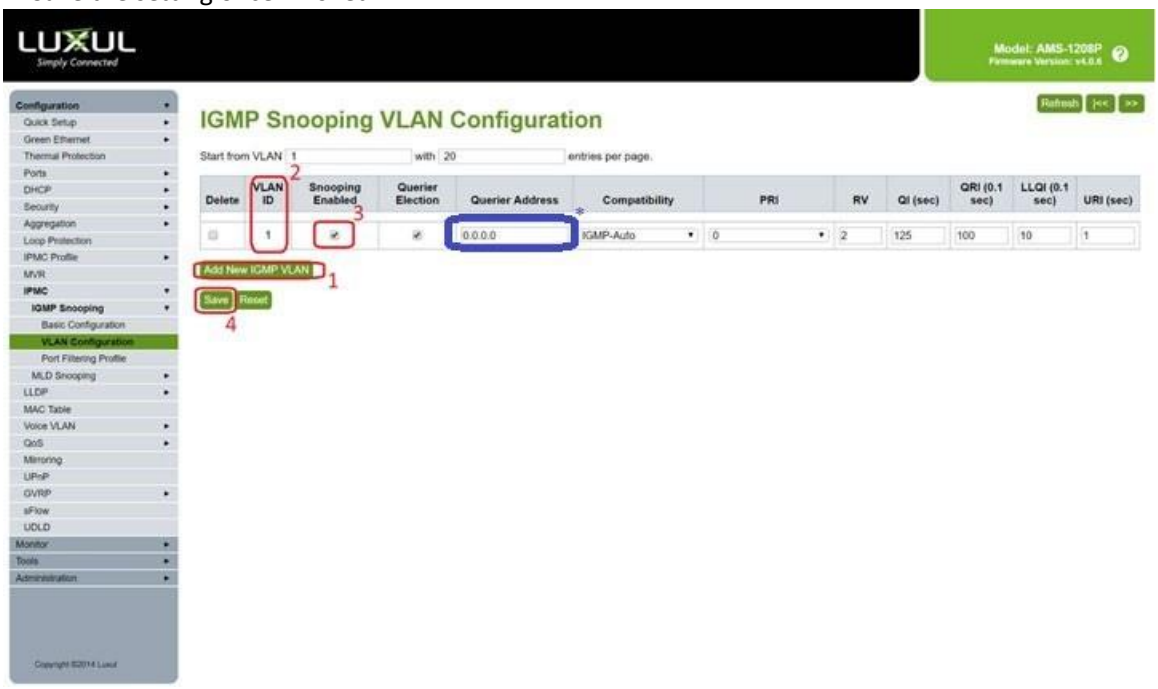
1. Next Add and enable an IGMP Snooping VLAN Configuration by going to Configuration->IPMC->IGMP Snooping->VLAN Configuration.

- Click on **Add New IGMP VLAN**
- Provide **VLAN ID** (Shown below as **1)**
- Check **Snooping Enabled**
- Save the setting once finished.



*** for best results and to prevent you network from being flooded, enter the IP address of the EVOIPCTL1 control box in the Querier Address field and click save.**

3. To make sure you switch settings are saved and come up after power is cycles, go to **Administration**->**Configuration**-> **Save Startup Config**, then click on **Save Configuration**.

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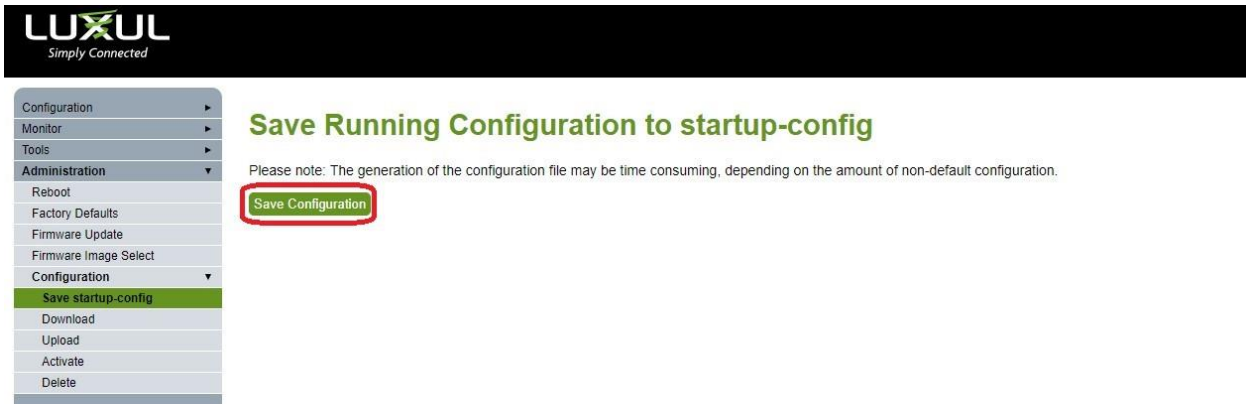


Multi-Switch Configuration

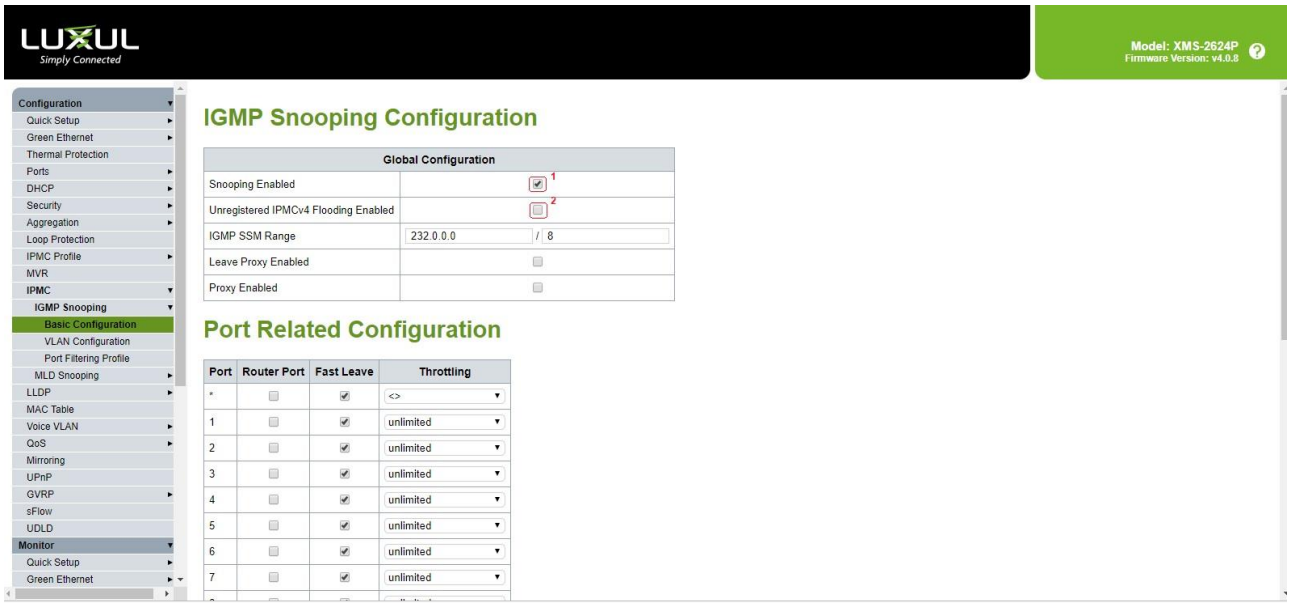
The EVO-IP HDMI over IP System has been tested and confirmed to work with Luxul AMS and XMS Switches. Below are two methods and screenshots showing the configuration needed to get the system up and running with multiple switches.

Setting Up Core/Extended Switches

For static setups that do not require switching of inputs (transmitters) and outputs (receivers) across different switches but still would like to maintain the control and remote monitoring capabilities of the system. Depending on the resolution and settings of the source on the transmitter, bitrate can vary between 250Mbps to 850Mbps (4K and HDR applications) when set to **AUTO** on the **TX Speed** setting in **Setup**. If additional bandwidth is needed based on your installation or you have experiencing issues, see the **Create an Aggregate Link** section below.
NOTE: The **TX SPEED** setting can also be adjusted and fixed from 10Mbps to 200Mbps

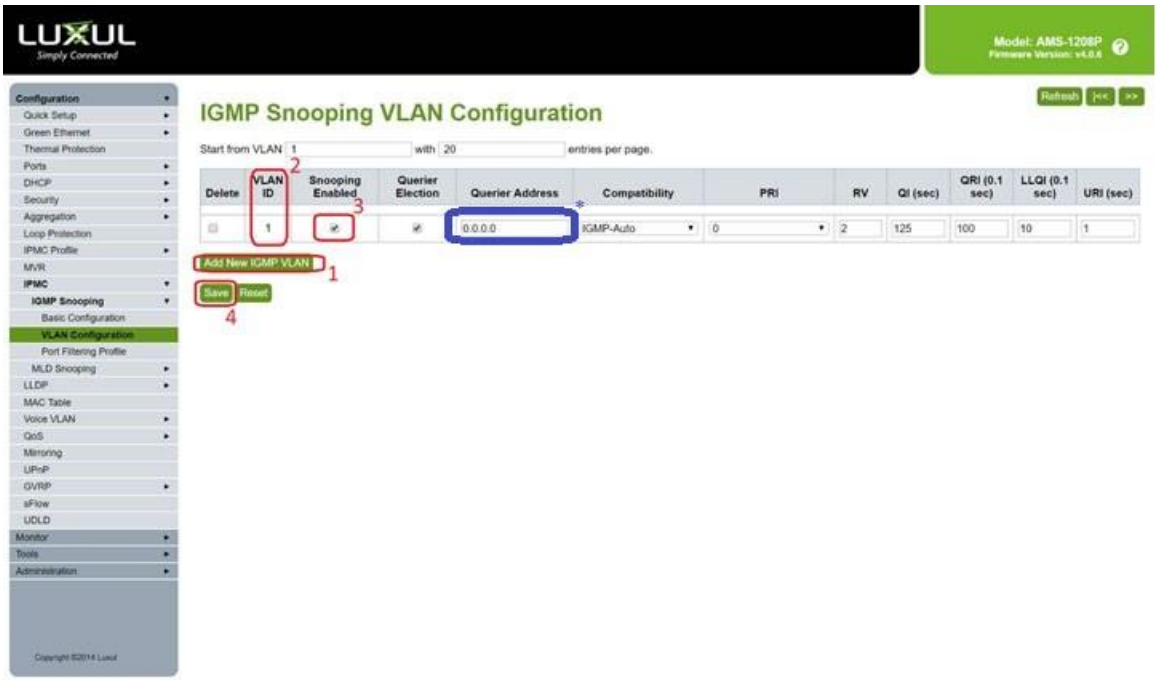
Core Switch

1. Enable IGMP Snooping and disable IPMCv4 Flooding by going to: Configuration->IPMC->IGMP Snooping->Basic Configuration. Save the setting once finished.

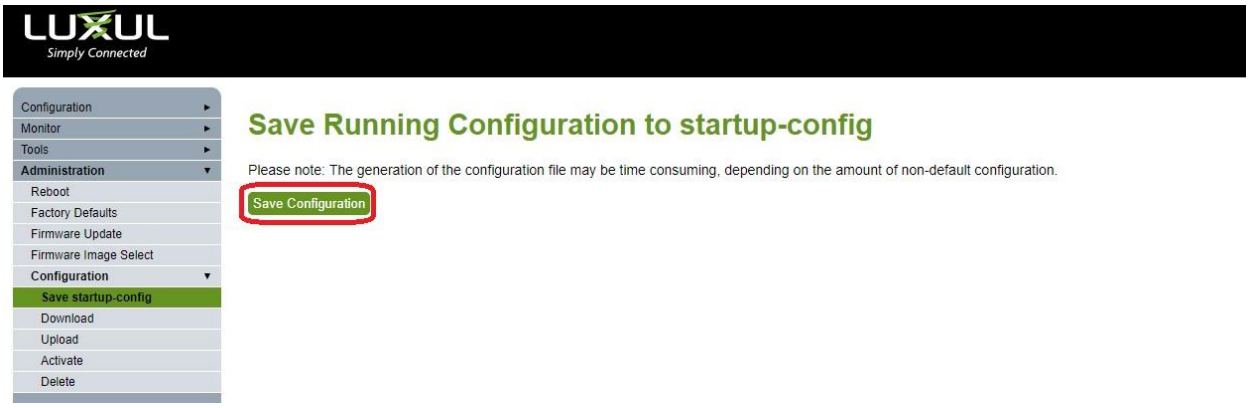


2. Next Add and enable an IGMP Snooping VLAN Configuration by going to Configuration->IPMC->IGMP Snooping->VLAN Configuration.

- Click on **Add New IGMP VLAN**
- Provide **VLAN ID** (Shown below as **1)**
- Check **Snooping Enabled**
- Under **Querier Address,** enter the IP address of the Control Box
- For **Compatibility**, select **IGMPv2** from the dropdown menu
- Save the setting once finished



3. To make sure you switch settings are saved and come up after power is cycles, go to **Administration**->**Configuration**-> **Save Startup Config**, then click on **Save Configuration**.



Extended Switch(es)

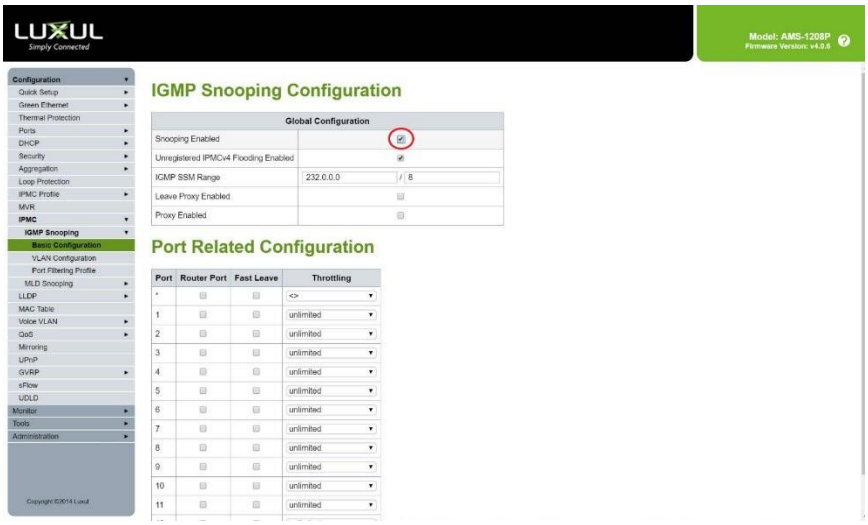
When setting up an additional switch, it is important to change the default IP address of the switches that come AFTER the Core Switch so that there is not an IP conflict.

Change Switch IP Address

1. Go to Configuration
2. Quick Setup
3. IP->IP Interfaces
4. Change the IP address provided in the IPv4 field
5. Click Save
6. To make sure you switch settings are saved and come up after power is cycles, go to **Administration**>**Configuration**-> **Save Startup Config**, then click on **Save Configuration**.

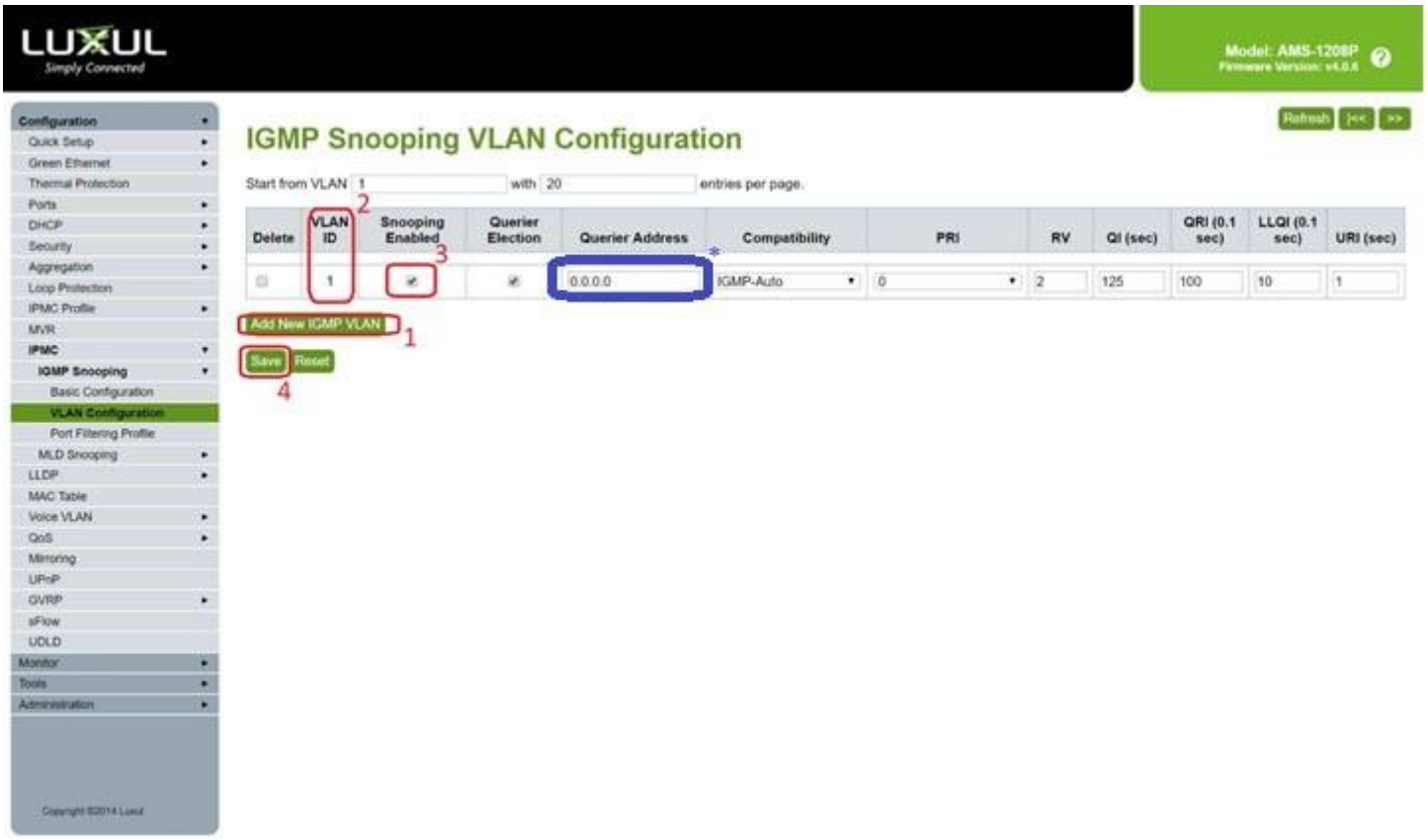
Enable IGMP Snooping

1. Enable IGMP Snooping by going to: Configuration->IPMC->IGMP Snooping->Basic Configuration. Save the setting once finished.

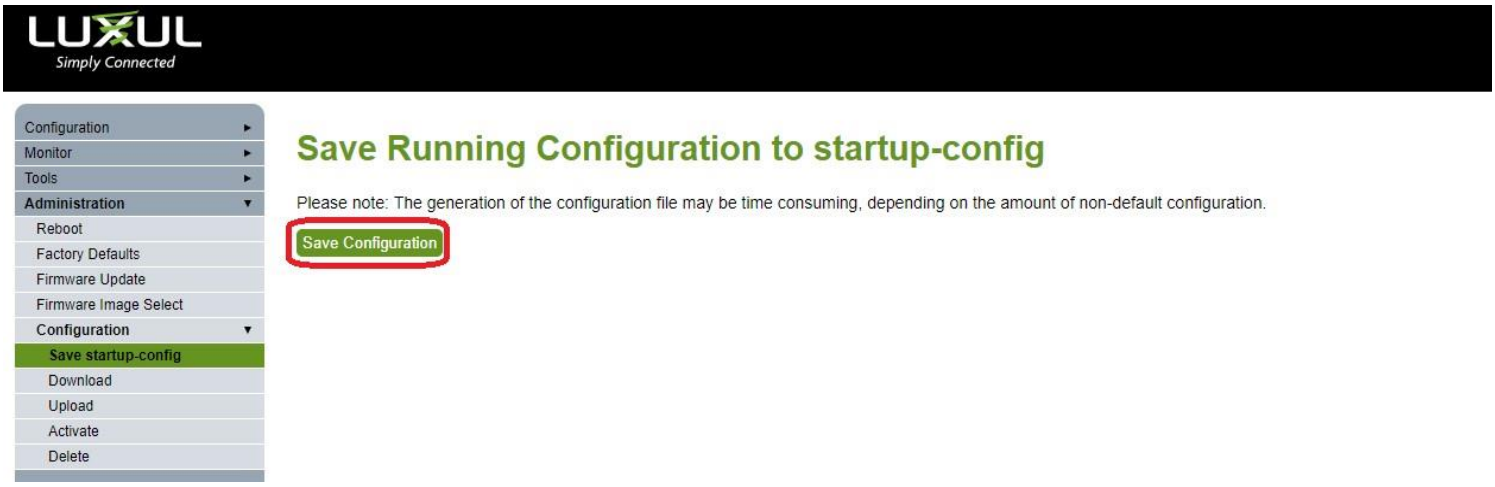


2. Next Add and enable an IGMP Snooping VLAN Configuration by going to Configuration->IPMC->IGMP Snooping->VLAN Configuration.
   - Click on **Add New IGMP VLAN**
   - Provide **VLAN ID** (Shown below as **1)**
   - Check **Snooping Enabled**

- Under **Querier Address,** enter the IP address of the **CORE SWITCH** - For **Compatibility**, select **IGMPv2** from the dropdown menu
- Save the setting once finished.



3. To make sure you switch settings are saved and come up after power is cycles, go to **Administration**->**Configuration**-> **Save Startup Config**, then click on **Save Configuration**.



Creating an Aggregated Link

If you find you are having issues with higher resolution sources in systems that rely on switching sources, creating an aggregated link will help achieve higher bandwidth capacity when going between switches. This is only dependent on the model of switch you are using. Check the manufacturers features and specifications to ensure this is possible.

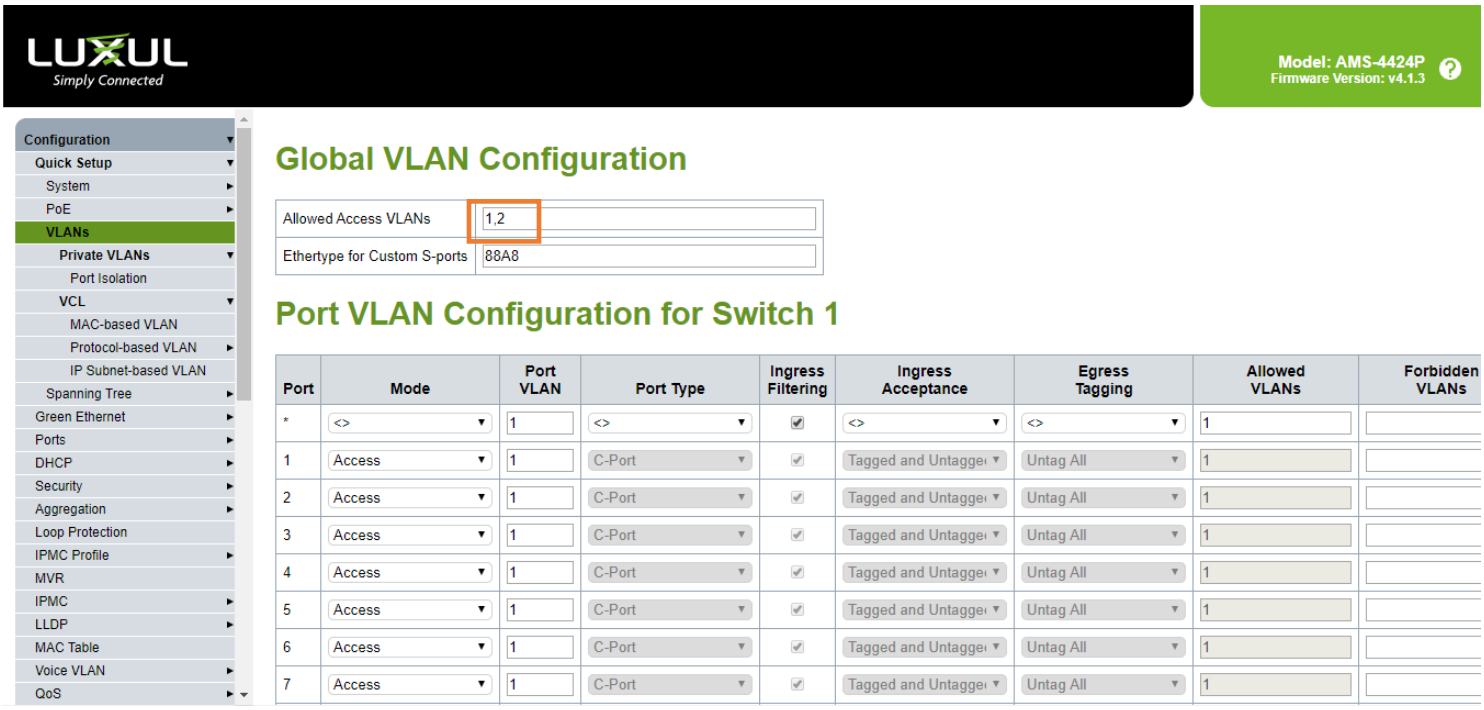
1. Within the Luxul GUI of the first switch, go to **Configuration->Aggregation->Static**
2. Select which ports you wish to aggregate to a **Group ID**.
3. Click **Save** button once finished.
4. Repeat for additional switches within the system.

Locality	Group ID	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Normal	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	○	○
Global	1	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	●	●
Global	2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

Adding VLANs

If your finding the EVO-IP system not working reliably. Having the system on its own VLAN might help. Doing this separates the EVO-IP system from anything else on your network that could be causing issues with the EVO-IP. For this, you will need access to the main router or request to put in a static route in.

1. Create and assign a new VLAN by going to **Configuration->Quick Setup->VLANs.** In **Allowed Access VLANs** box, you want to put ",2" in the box so its "1,2".



2. In the **Port VLAN Configuration** table, change all the port's **Port VLAN** to 2, apart from the first port and hit **Save** at the bottom.

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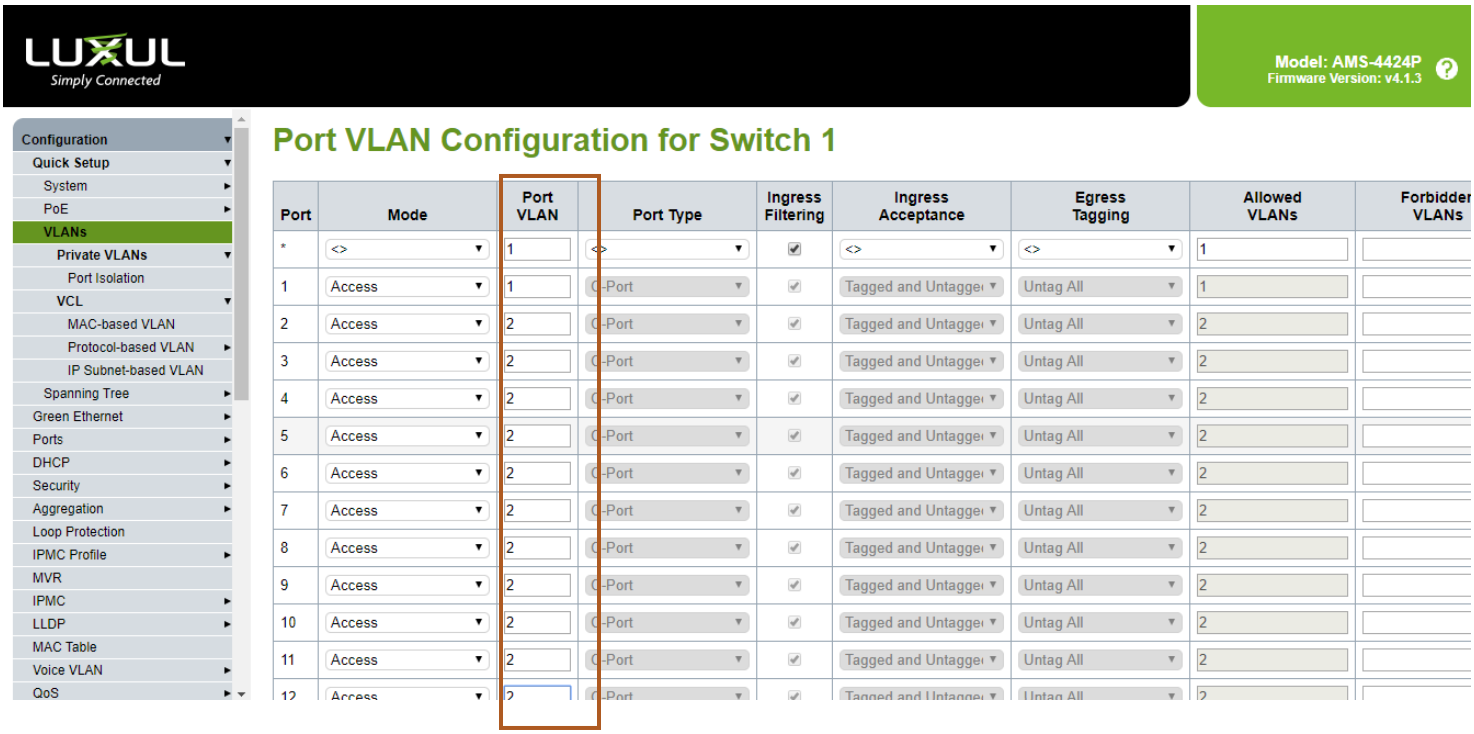
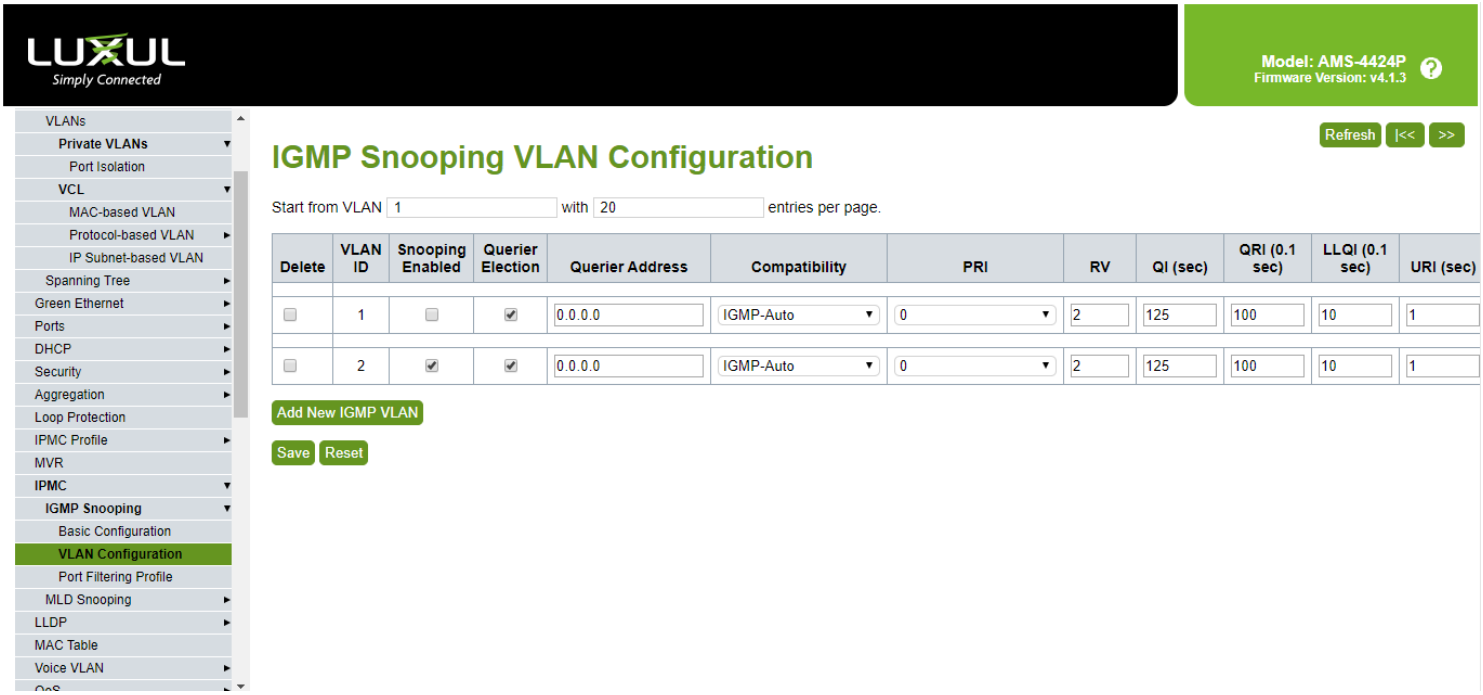
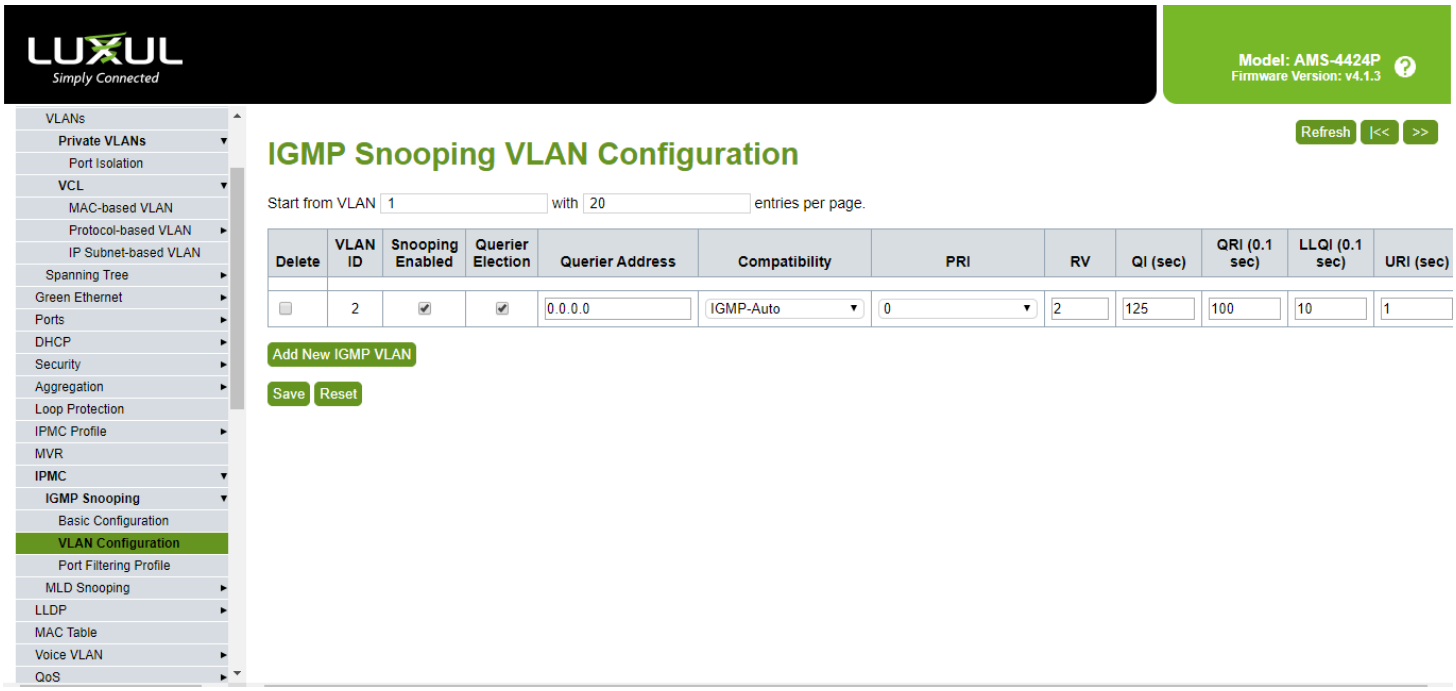


3. you need to enable **IGMP Snooping** for the **VLAN2,** go to **Configuration->IPMC->IGMP Snooping->VLAN Configuration.** select **Add New IGMP VLAN**, set **VLAN ID** to 2 and tick the **Snooping Enabled** Box. Then **Save**.

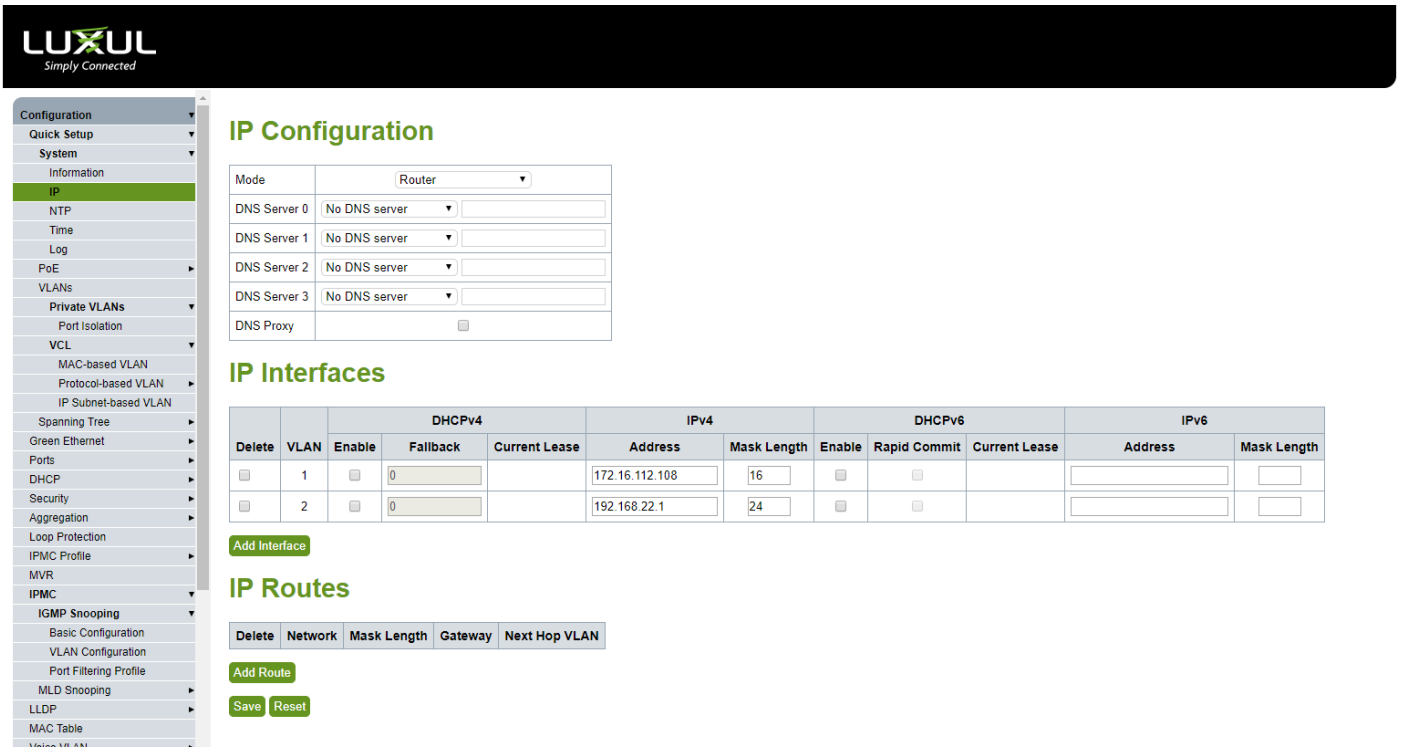


4. While on the **IGMP Snooping VLAN Configuration**, you want to delete VLAN1 entry, if you have it, select the **Delete Tick box** and **Save**.



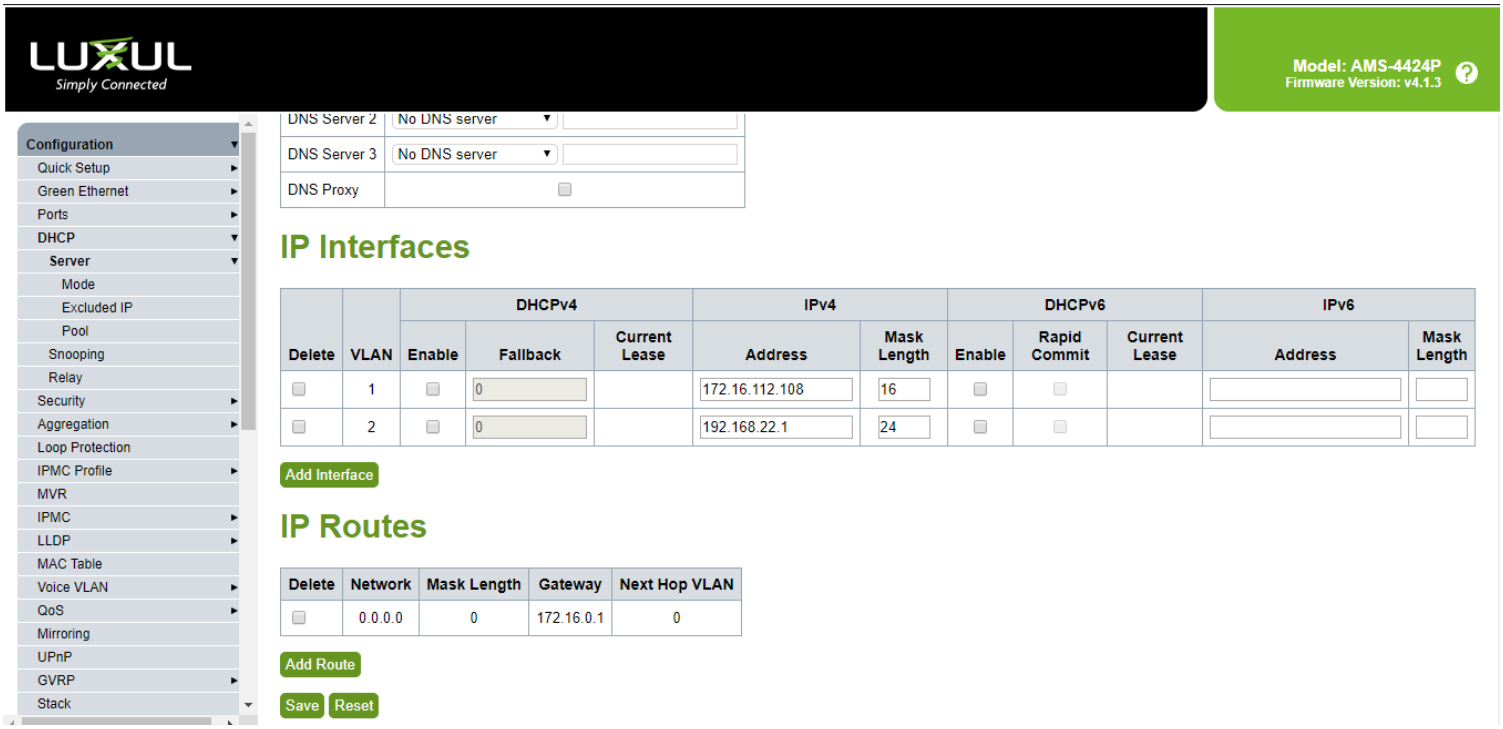
5. Add an IP Interface to VLAN2, go to **Configuration->Quick Setup->System->IP.** Make sure **Mode** in **IP Configuration** is set to router. Click **Add Interface** and in the new row you want to put **2** in **VLAN ID** and enter a static IP address from an unused network subnet in the IPv4 sections.

   For example, if the main network is 192.168.0.1/24 you could use 192.168.1.1/24 or 192.168.10.1/24. Here, I am using 192.168.22.1 in the **Address** and 24 in the **Mask Length**. **Save**.

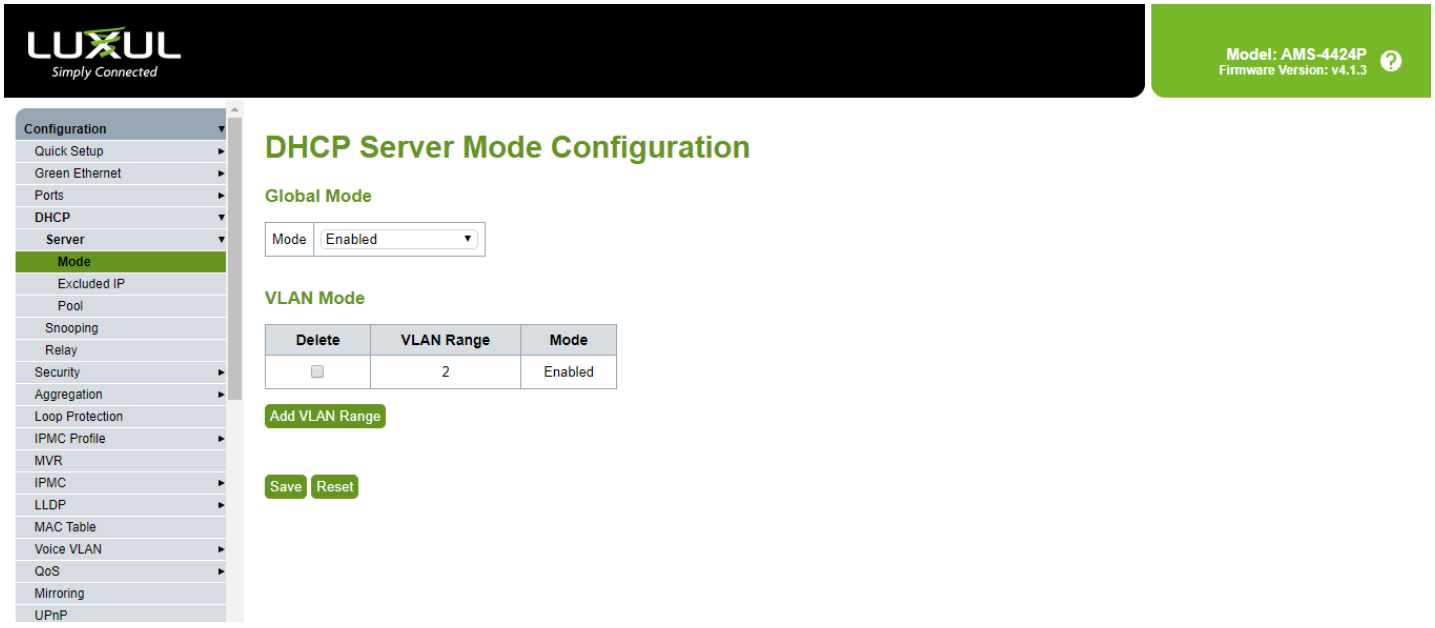


6. As shown in the last image, you want to set a static IP for **VLAN1** just like you did in the previous step**.** Make sure that the IP Address you use isn't already in use. Afterwards click the **Save**.
   Note: this will cause you to lose connection until you reconnect with the new IP address.

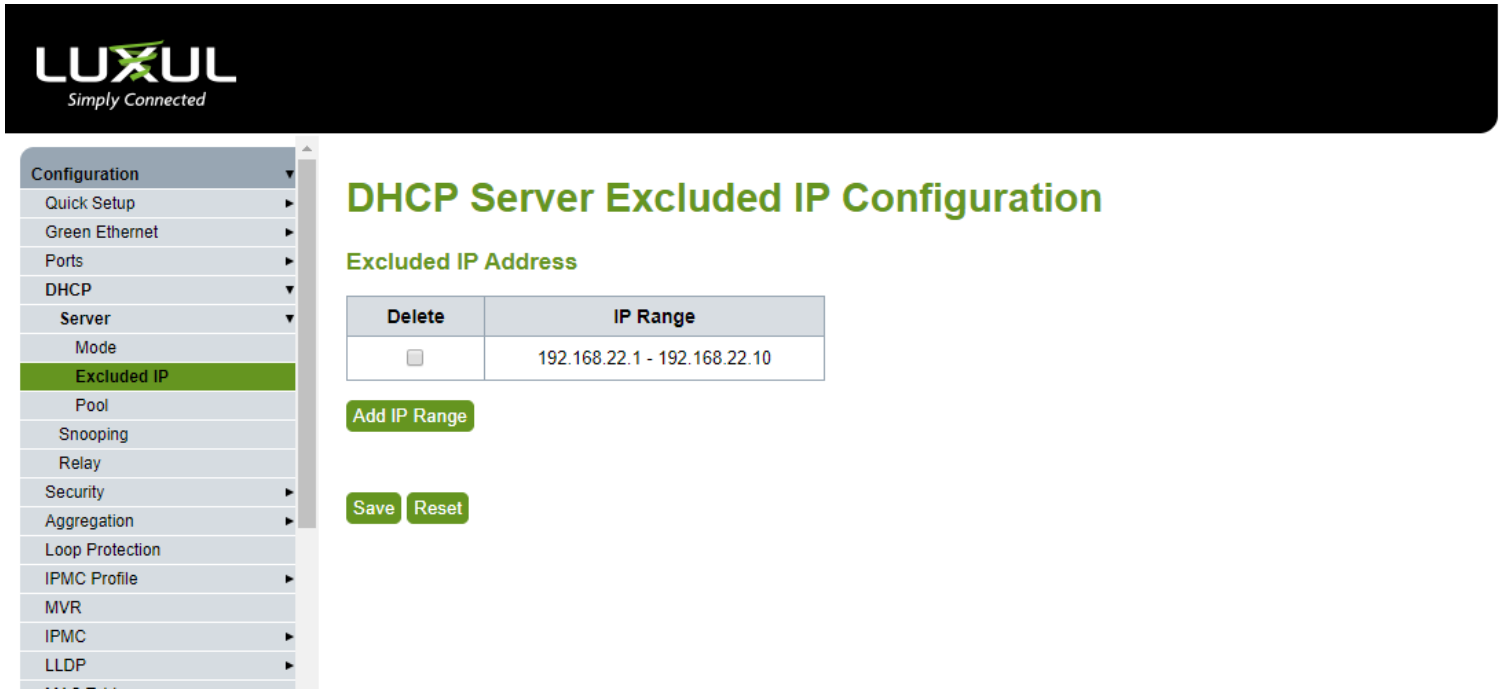
7. Add a static route to the main router by clicking **Add Route**. Put **0.0.0.0** in the **Network** section, **0** in the **Mask Length** section and the IP Address of the main router in your network in the **Gateway** section. After, click **Save**.



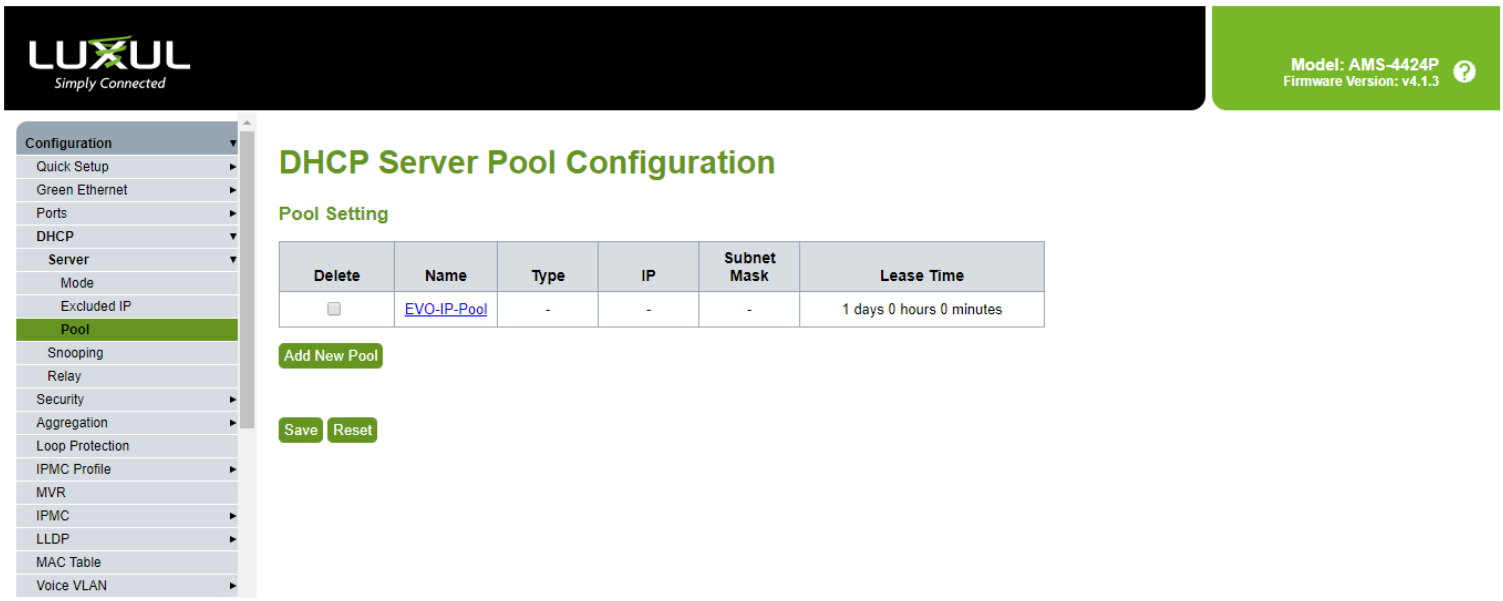
8. Enable the **DHCP Server** by going to **Configuration->DHCP->Server->Mode.** Change **Global Mode** to **Enable** and click **Add VLAN Range**, put **2** in both boxes under **VLAN Range.** Click the **Save**.



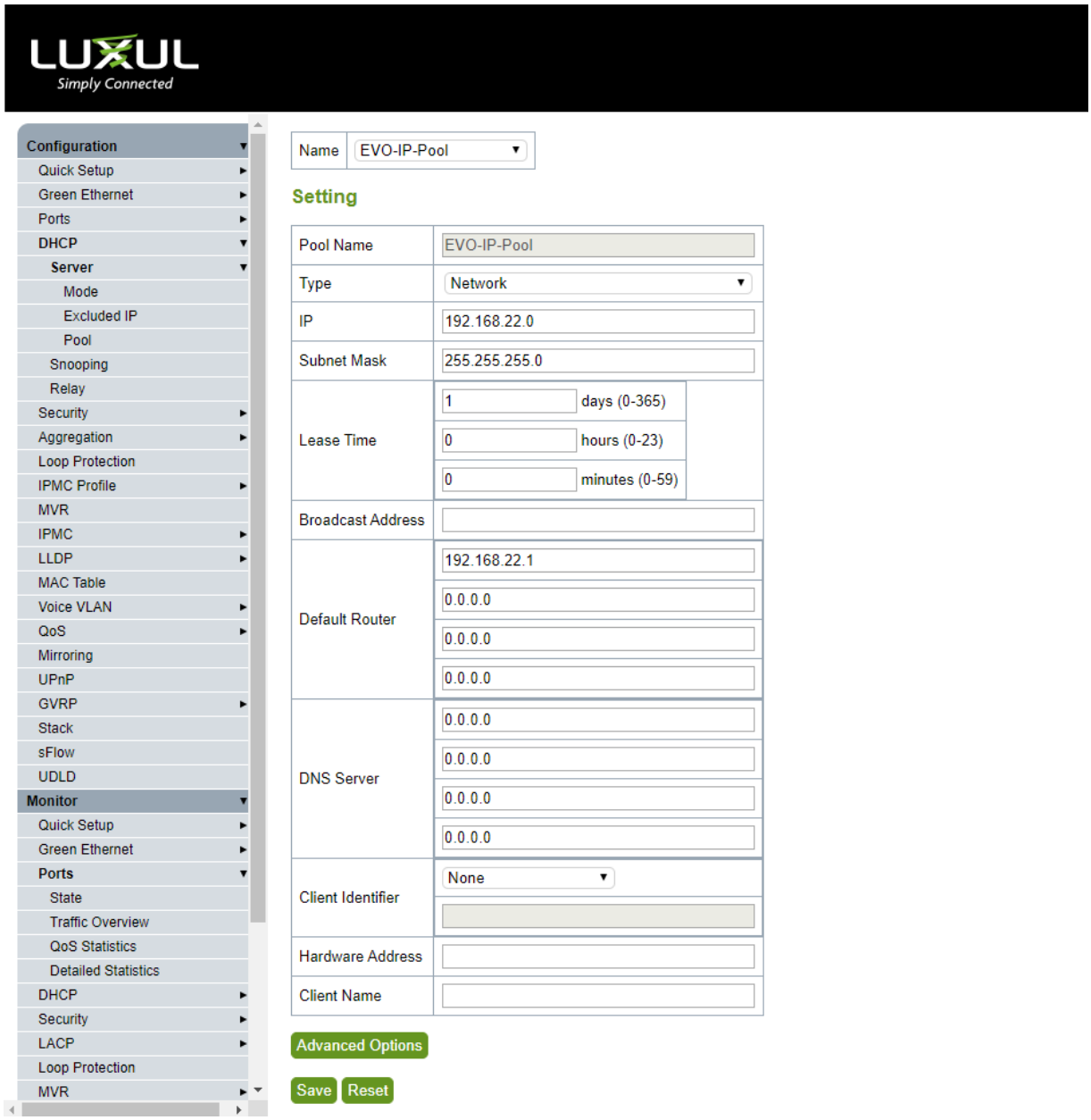
9. Exclude the switch's IP address, go to **Configuration->DHCP->Server->Exclude IP**. Click **Add IP Range** and put in IP address that you used in step 5 for the vlan2 interface in the first box. The second box you want to put a value that is higher by about 5-10. For example, I am doing 192.168.22.1-192.168.22.10. Afterwards, click the **Save**.



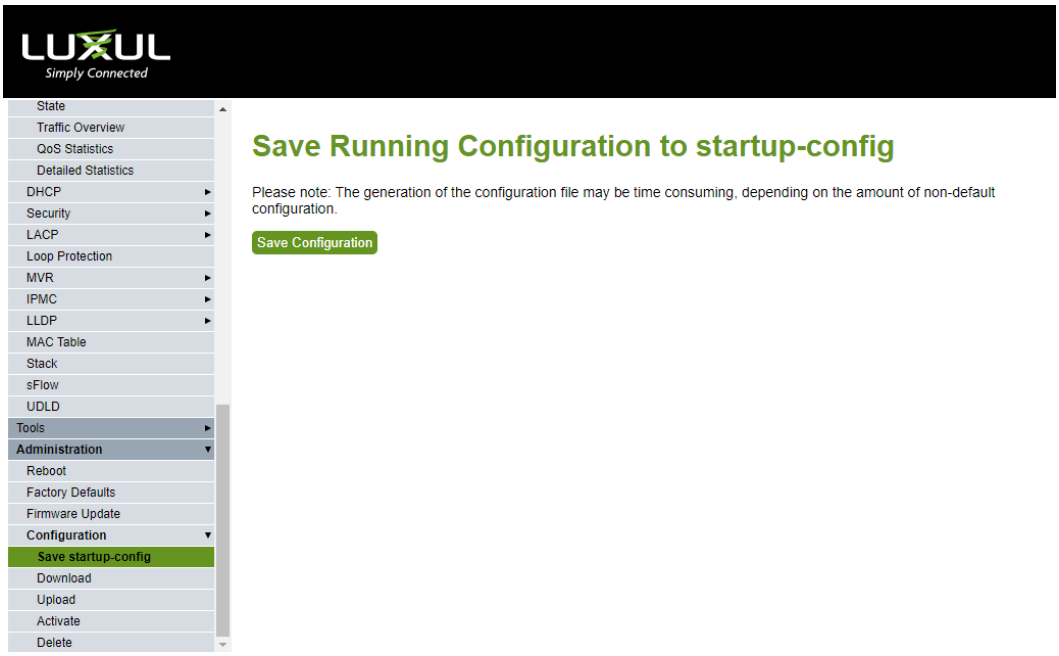
10. Make a pool for the DHCP Server, go to **Configuration->DHCP->Server->Pool.** Click **Add New Pool,** Enter **EVO-IP-Pool** for the **Name** and then **Save**.



11. Click the **EVO-IP-Pool** name and in the new page you want to do the following,
    a. **Type** set to Network
    b. **IP** and **Subnet Mask** must be the same as the Network you chosen for VLAN2 in step 5.
    c. The first **Default Router** is set to the IP address you used in step 5
    d. Hit **Save** at the bottom



12. Save your changes by going to **Administration->Configuration->Save Startup-Config**. Click the **Save Configuration**.



13. The switch is now configured. You need to add a static route to the main router to tell all traffic that's bound for the network you pick for vlan2 to head to the switch.