

RAPIDUS WIRELESS NETWORKS

VLAN HOW-TO USER GUIDE

CONFIGURING VLAN SETTING FOR FIRMWARE REV. 6.X.X

Rafael Garrigo
4/5/2018

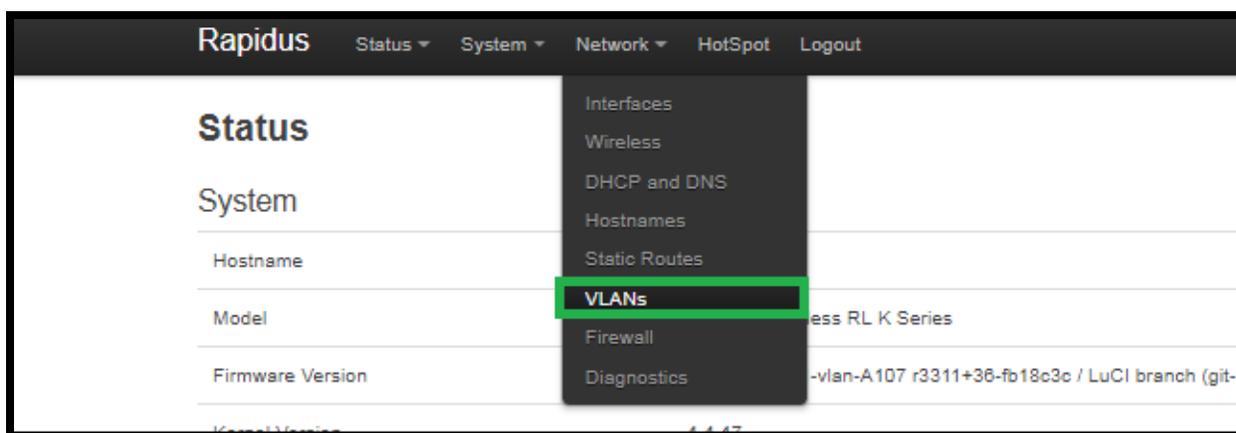
VLAN

CONFIGURING VLAN HOW-TO

A virtual LAN (VLAN) allows network administrators to group host together even if the hosts are not directly connected to the same network switch. This can greatly simplify network design and deployment. A VLAN could be used to separate traffic within a business due to users, and due to network administrators, or between types of traffic, so that users or low priority traffic cannot directly affect the rest of the network's functioning.

Configuring VLAN Settings

To begin navigate to the VLAN configuration page by clicking the “Network” Tab and selecting the “VLANs” in the drop down menu.



Once directed to the following page you will be able to configure your VALNs using the following sections. Configure **Management**: to restrict access to the current device to hosts on the configured VLAN ID, **WiFi Data**: to use the configured VLAN ID for Wi-Fi traffic and **Tiered WiFi access**: to use configured VLAN IDs for tiered access to your network from the WiFi interface.

Management VLAN

Under “**Management**” click the checkbox to enable the management VLAN, then enter the VLAN ID used for the management VLAN on your network. Optionally, you may edit the description box.

Note: When enabled, the internal changes in the unit are immediate, so the unit will subsequently only be accessible on the management VLAN. Be ready with a VLAN switch which handles the management VLAN ID. Plug the Ethernet cable from the unit into the trunk port, and your PC into the access port.

Then click “**Save & Apply**” to commit the configuration.

Rapidus Status System Network HotSpot Logout

VLANs

These tables specify how this device's interfaces participate in your network's VLANs.

Below are some pre-configured VLANs for common use cases, and an Advanced section for special cases.
Note: the WiFi Data and Tiered WiFi use cases are mutually exclusive and can't both be enabled.
 The descriptions are for notational purposes, and aren't used in VLAN operation

Management

Use this to restrict access to this device to hosts on the configured VLAN id.

Description	Enabled	VLAN id	eth0	wlan0	wlan1	wlan0-1	wlan1-1	wlan0-2	wlan1-2
management	<input checked="" type="checkbox"/>	99	trunk	trunk	trunk	trunk	trunk	trunk	trunk

WiFi Data

Use the configured VLAN id for Wi-Fi traffic

Description	Enabled	VLAN id	eth0	wlan0	wlan1	wlan0-1	wlan1-1	wlan0-2	wlan1-2
wifi-data	<input type="checkbox"/>	100	trunk	access	access	access	access	access	access

Tiered WiFi access

Use these configured VLAN ids for tiered access to your network from the WiFi interfaces.
 For example, the descriptions of a corporate 2-tiered scheme might be "staff" and "guests", or a university 3-tiered scheme might be "administrators", "teachers" and "students".
Note: the additional virtual APs must be set up first

Description	Enabled	VLAN id	eth0	wlan0	wlan1	wlan0-1	wlan1-1	wlan0-2	wlan1-2
wifi-tier1	<input type="checkbox"/>	100	trunk	access	access	ignore	ignore	ignore	ignore
wifi-tier2	<input type="checkbox"/>	200	trunk	ignore	ignore	access	access	ignore	ignore
wifi-tier3	<input type="checkbox"/>	300	trunk	ignore	ignore	ignore	ignore	access	access

Advanced

Use this to configure vlans for new use cases.

Description	Enabled	VLAN id	eth0	wlan0	wlan1	wlan0-1	wlan1-1	wlan0-2	wlan1-2
This section contains no values yet									

WiFi Data VLAN

Click the checkbox to enable the Data VLAN and then enter the VLAN ID used for the data VLAN on your network. Optionally, you may edit the description box. Once you've done so click **"Save & Apply"** to commit the configuration.

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VLANS

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Management

Use this to restrict access to this device to hosts on the configured VLAN id.

Description	Enabled	VLAN id	eth0	wlan0	wlan1	wlan0-1	wlan1-1	wlan0-2	wlan1-2
management	<input type="checkbox"/>	99	trunk	trunk	trunk	trunk	trunk	trunk	trunk

WiFi Data

Use the configured VLAN id for Wi-Fi traffic

Description	Enabled	VLAN id	eth0	wlan0	wlan1	wlan0-1	wlan1-1	wlan0-2	wlan1-2
wifi-data	<input checked="" type="checkbox"/>	100	trunk	access	access	access	access	access	access

Tiered WiFi access

Use these configured VLAN ids for tiered access to your network from the WiFi interfaces.
 For example, the descriptions of a corporate 2-tiered scheme might be "staff" and "guests", or a university 3-tiered scheme might be "administrators", "teachers" and "students".
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wifi-tier1	<input type="checkbox"/>	100	trunk	access	access	ignore	ignore	ignore	ignore
wifi-tier2	<input type="checkbox"/>	200	trunk	ignore	ignore	access	access	ignore	ignore
wifi-tier3	<input type="checkbox"/>	300	trunk	ignore	ignore	ignore	ignore	access	access

Advanced

Use this to configure vlans for new use cases.

Description	Enabled	VLAN id	eth0	wlan0	wlan1	wlan0-1	wlan1-1	wlan0-2	wlan1-2
This section contains no values yet									

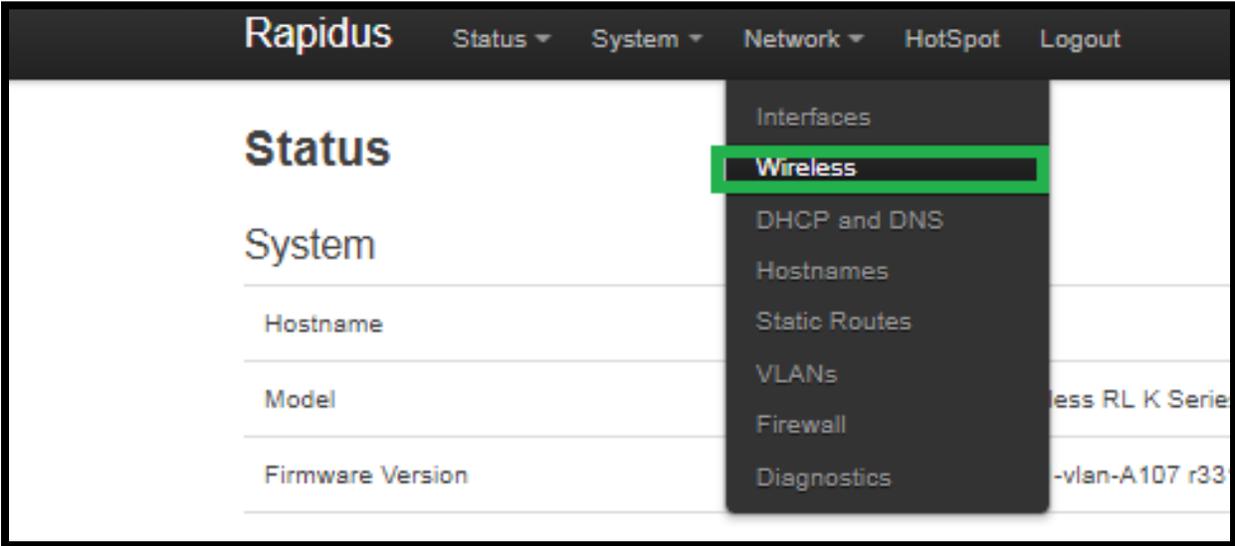
Add

Save & Apply
Save
Reset

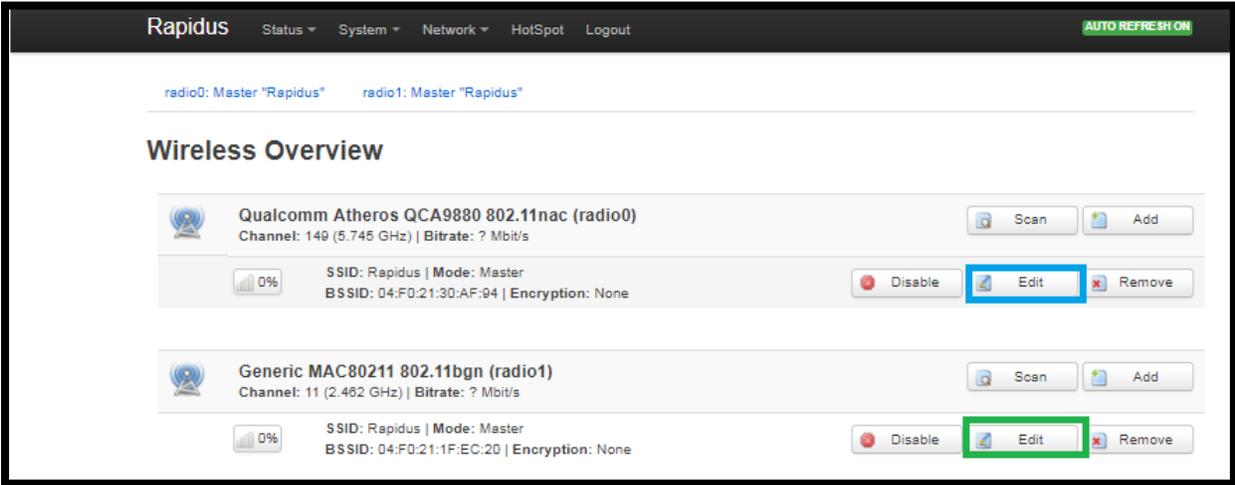
Tiered WiFi access VLAN(s)

Up to 3 tiers can be configured in Tiered WiFi access. Each tier consists of 2G and 5G APs that can be configured on the Wireless page and a corresponding VLAN configured on the VLAN page. For the first tier, the default APs are used. For the second and 3rd tiers, additional 2G/5G APs are added to the 2G and 5G radios on the wireless page.

You will first need to configure the APs. Navigate to the Wireless configuration page by selecting the “Network” tab and clicking “Wireless” in the drop down menu.



Once directed to the following page. For each of the 2G and 5G default APs, navigate to editing the wireless setting by clicking “Edit”



Note: The internal names of the APs are circled in Orange. They are the names shown on the VLAN page.

The default APs are named wlan0 and wlan1, the second tier APs will be named wlan0-1 and wlan1-1, and the 3rd wlan0-2 and wlan1-2.

Edit the radio and AP settings as required. Be aware that the SSID can be the same for 2G and 5G APs in the same tier, but must be different for each tier. Make sure the checkbox for **“Separate Clients”** is **selected**. Click **“Save”** before you continue.

The screenshot shows the configuration page for a wireless network in the Rapidus interface. The page title is "Wireless Network: Master "Rapidus" (wlan0)". Below the title, there is a description: "The Device Configuration section covers physical settings of the radio hardware such as channel, transmit power or antenna selection which are shared among all defined wireless networks (if the radio hardware is multi-SSID capable). Per network settings like encryption or operation mode are grouped in the Interface Configuration."

The page is divided into two main sections: "Device Configuration" and "Interface Configuration".

Device Configuration:

- Wireless network is enabled: Disable
- Operating frequency: Mode: AC, Channel: 49 (5745 MHz), Width: 40 MHz
- Transmit Power: auto

Interface Configuration:

- ESSID: Rapidus
- Mode: Access Point
- Network: lan, mesh: (no interfaces attached), wan, create: []
- Choose the network(s) you want to attach to this wireless interface or fill out the create field to define a new network.
- Hide ESSID:
- WMM Mode:
- Separate Clients: Prevents client-to-client communication

At the bottom of the page, there are four buttons: "Back to Overview", "Save & Apply", "Save", and "Reset".

Then set the wireless security and click “Save & Apply” to commit the wireless settings.

The screenshot shows the Rapidus web interface for configuring a wireless network. At the top, there are navigation tabs for Status, System, Network, HotSpot, and Logout. Below this, there are two tabs for radio configuration: radio0: Master "Rapidus" and radio1: Master "Rapidus".

Wireless Network: Master "Rapidus" (wlan0)

The Device Configuration section covers physical settings of the radio hardware such as channel, transmit power or antenna selection which are shared among all defined wireless networks (if the radio hardware is multi-SSID capable). Per network settings like encryption or operation mode are grouped in the Interface Configuration.

Device Configuration

General Setup | **Advanced Settings**

Wireless network is enabled

Operating frequency	Mode	Channel	Width
	AC	149 (5745 MHz)	40 MHz

Transmit Power: auto

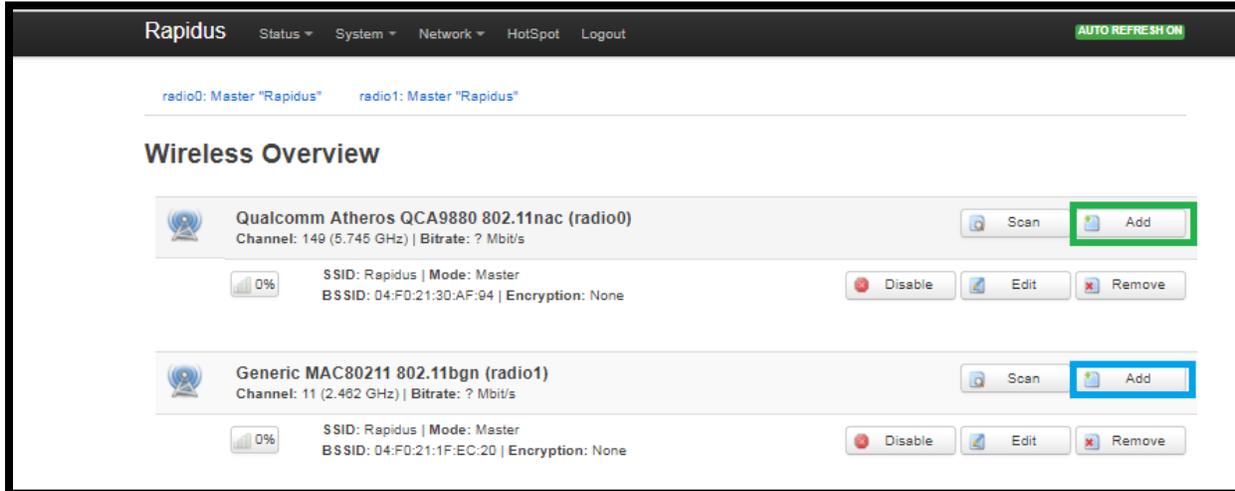
Interface Configuration

General Setup | **Wireless Security** | MAC-Filter | Advanced Settings

Encryption: No Encryption

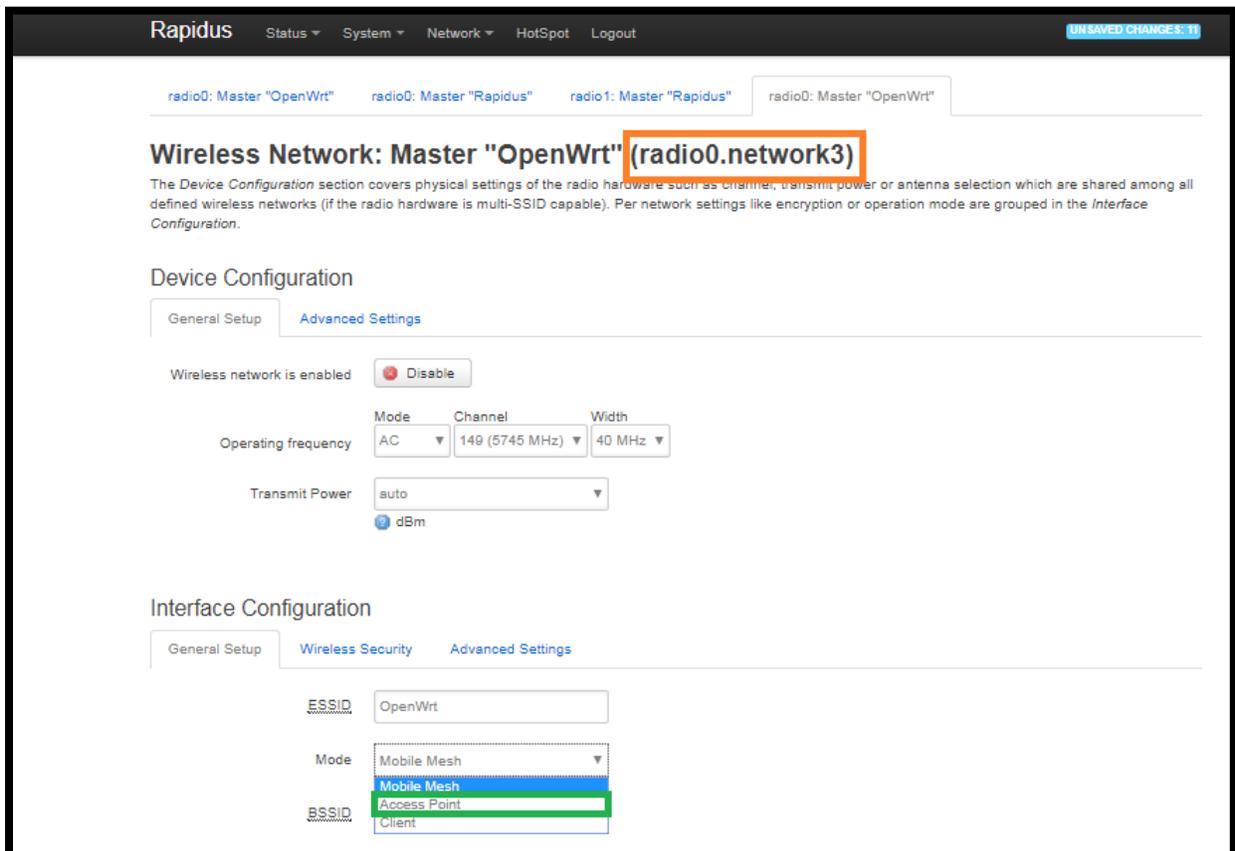
Buttons: Back to Overview, **Save & Apply**, Save, Reset

Navigate back to the wireless configuration page by selecting the “Network” tab and clicking “Wireless” in the drop down menu. For each of the 2nd and 3rd tier, and for each of the 2G and 5G radios, click “Add” to add another AP.

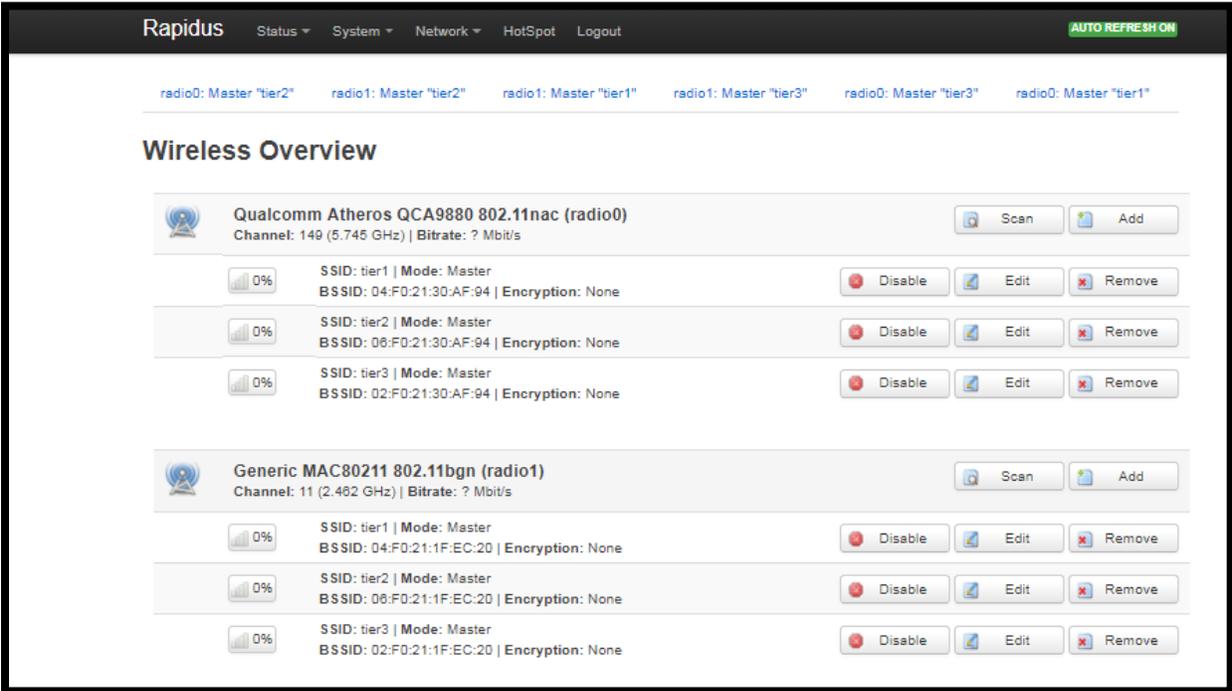


Note: While adding and configuring the additional APs, a temporary name is used (circled in Orange). The APs will get the permanent names mentioned earlier (page 35).

Under the “Interface Configuration” section, in the “General Setup” tab, set the mode to **Access Point**. The page will change to the AP settings format, edit as required as described earlier for the first tier APs.



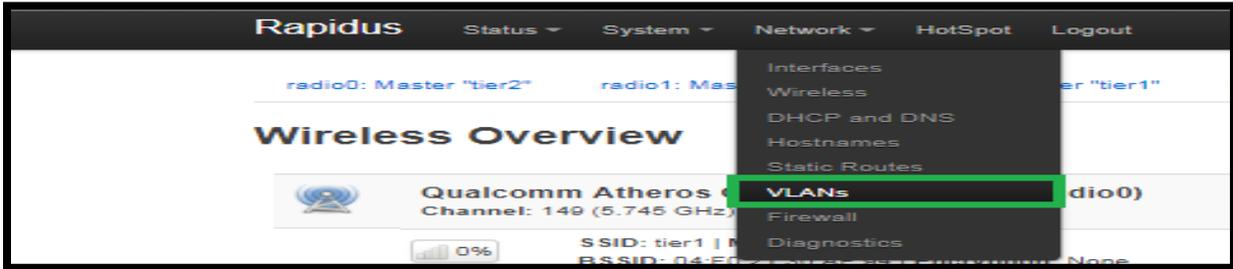
When finished, the **Wireless Overview** page should appear like this.



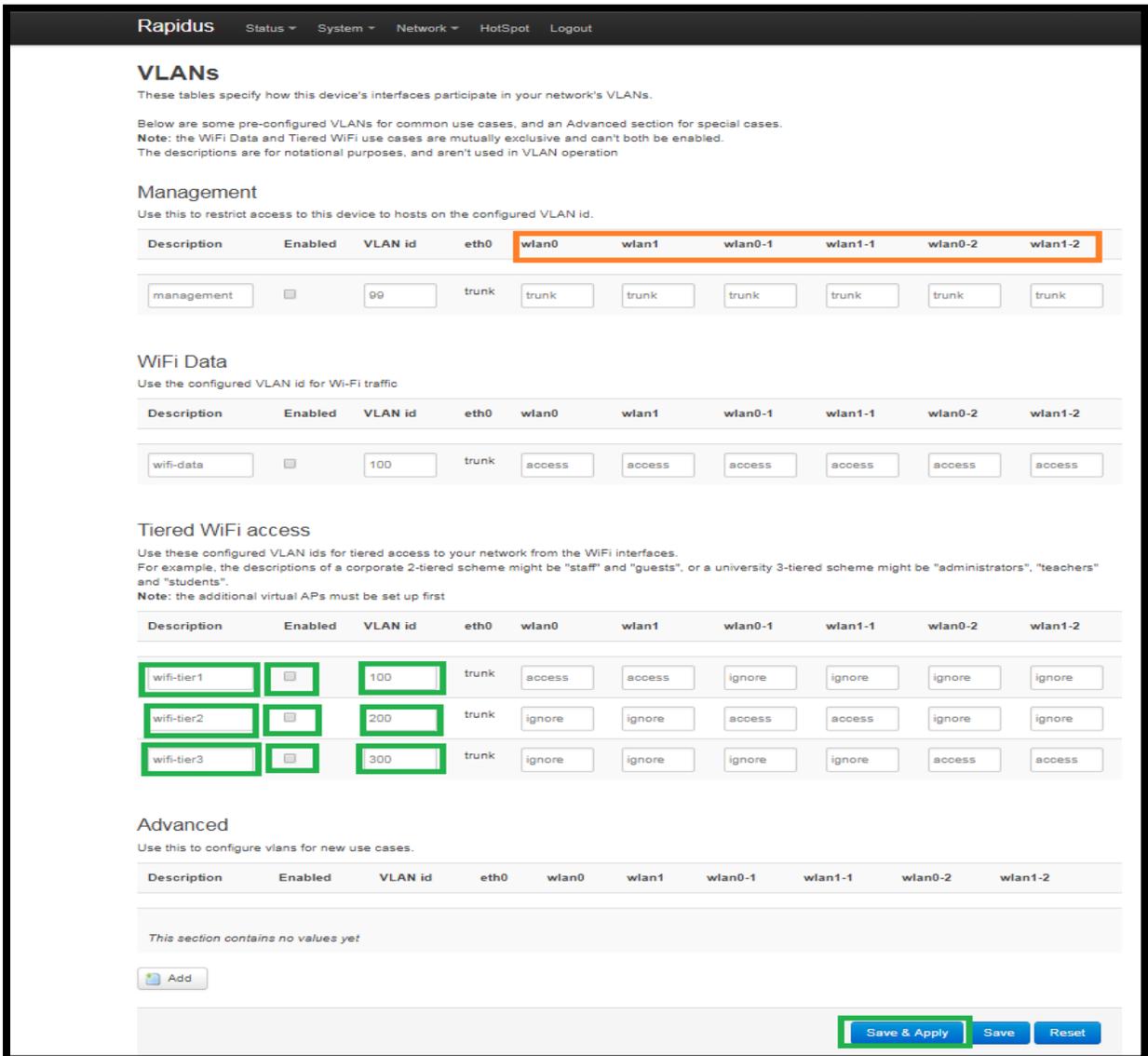
The internal names of the APs can be verified by re-accessing the edit page for the AP.



Navigate back to the VLAN page by clicking the “Network” Tab and selecting the “VLANs” in the drop down menu.



Click the checkbox to enable the “WiFi Tiered access” VLANs, then enter the VLANs used on your network for that tier. Optionally, edit the description box, then click “Save & Apply” to commit the configuration.



Note: This page uses the internal names (circled in Orange), to refer the APs.

Your device is now configured to operate in VLANs. If you find you are having issues or the process is not configuring correctly contact us by phone at 855-864-9488 or visit our website www.rapiduswireless.com.

To reset, just the VLANs settings to the default of disabled, but keep all other settings intact. Uncheck all the enable boxes and then click “Save & Apply”.

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wifi-tier2	<input checked="" type="checkbox"/>	200	trunk	ignore	ignore	access	access	ignore	ignore
wifi-tier3	<input checked="" type="checkbox"/>	300	trunk	ignore	ignore	ignore	ignore	access	access

Advanced

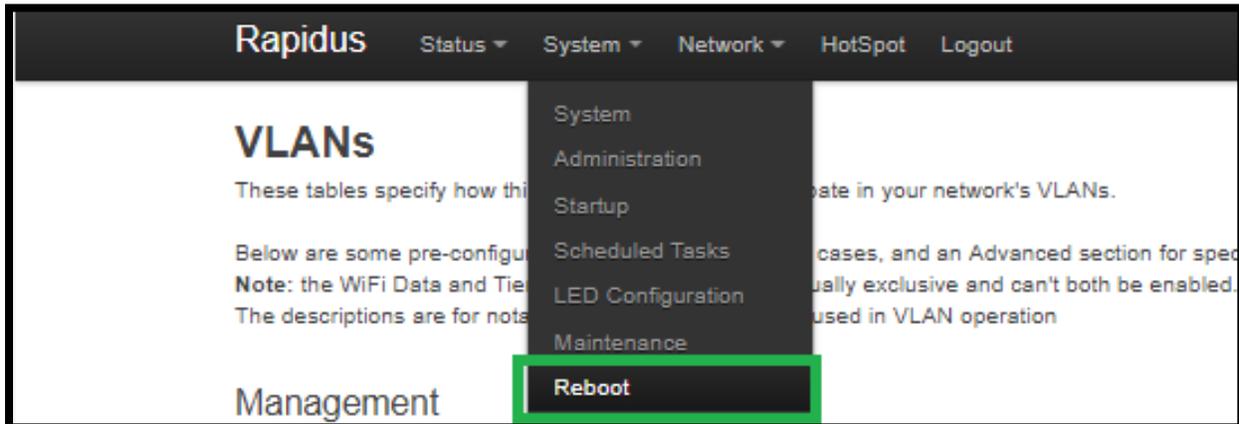
Use this to configure VLANs for new use cases.

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<i>This section contains no values yet</i>									

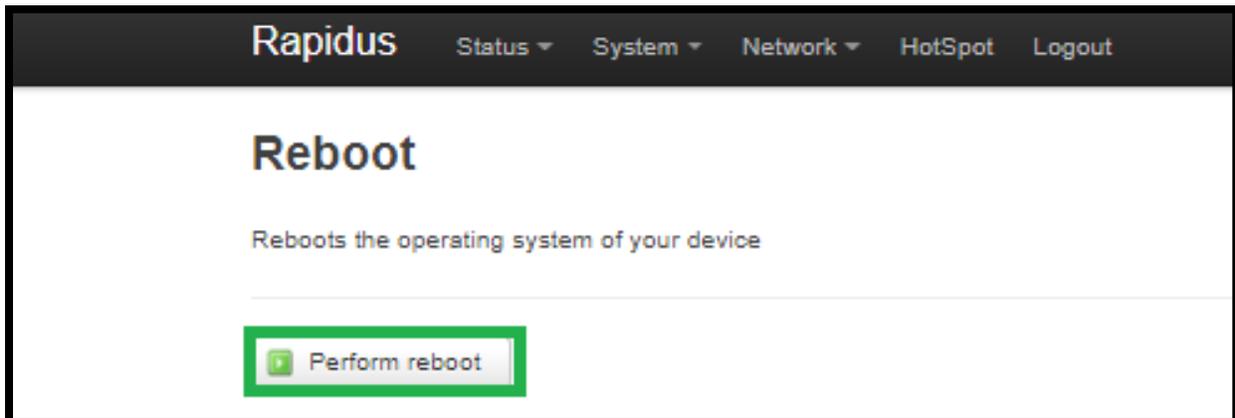
Add

Save & Apply
Save
Reset

Navigate to the “System” tab and click “Reboot” from the drop-down menu.



When directed to the following page, click “Perform Reboot”.



The unit will reboot with VLANs disabled, but all other settings will be reserved. If you find you are having issues or the process is not configuring correctly contact us by phone at 855-864-9488 or visit our website www.rapiduswireless.com.