Port Configuration with RLANs in a CBW Network

Objective

The objective of this article is to create a Remote Local Area Network (RLAN) network and assign ports and access point groups on a Cisco Business Wireless (CBW) Primary Access Point (AP).

Applicable Devices | Software Version

- 145AC (Data Sheet) | 10.4.1.0 (Download latest)
- 240AC (Data Sheet) | 10.4.1.0 (Download latest)

Introduction

CBW APs are 802.11 a/b/g/n/ac (Wave 2) based, with internal antennas. These APs support the latest 802.11ac Wave 2 standard for higher performance, greater access, and higher-density networks.

The 145AC and 240AC APs referenced in this article have the ability to be used in a traditional or mesh network. This article uses the equipment for a traditional wireless network.

If you would like to learn the basics of mesh networking, check out Cisco Business: Welcome to Wireless Mesh Networking.

If you prefer to do port configuration in a mesh network, read Configure Ethernet Ports of Cisco Business Wireless Access Point in Mesh Mode.

In a traditional wireless network, an RLAN is used for authenticating wired clients using the primary AP. Once the wired client successfully joins the Primary AP, the LAN ports switch the traffic between central or local switching modes. The traffic from the wired client is treated as wireless client traffic.

The RLAN sends the authentication request to authenticate the wired client. The authentication of the wired client in an RLAN is similar to the central authenticated wireless client.

If you only need one Virtual Local Area Network (VLAN), you do not need to configure an RLAN. One RLAN comes on the AP by default, Native VLAN 1. It has open security, and all ports are assigned to this RLAN by default.

If you are unfamiliar with the terms used, check out Cisco Business: Glossary of New Terms.

RLANs do not work in a mesh network. Mesh is not enabled by default, so unless you previously had the AP running in mesh mode, you are set to go.

Configuration Steps

This toggled section highlights tips for beginners.

Logging In

Log into the Web User Interface (UI) of the Primary AP. To do this, open a web browser and enter https://ciscobusiness.cisco. You may receive a warning before proceeding. Enter your credentials.You can also access the Primary AP by entering https://[ipaddress] (of the Primary AP) into a web browser.

Tool Tips

If you have questions about a field in the user interface, check for a tool tip that looks like the following: ?

Trouble locating the Expand Main Menu icon?

Navigate to the menu on the left-hand side of the screen, if you don't see the menu button, click this icon to open the side-bar menu. ☰

Cisco Business App

These devices have companion apps that share some management features with the web user interface. Not all features in the Web user interface will be available in the App.

[Download iOS App](#) [Download Android App](#)

Frequently Asked Questions

If you still have unanswered questions, you can check our frequently asked questions document. [FAQ](#)

Step 1

Power up the access point if it isn't already on. Check the status of the indicator lights. When the LED light is blinking green, proceed to the next step.

Booting up the access point will take about 8–10 minutes. The LED will blink green in multiple patterns, alternating rapidly through green, red, and amber before turning green again. There may be small variations in the LED color intensity and hue.

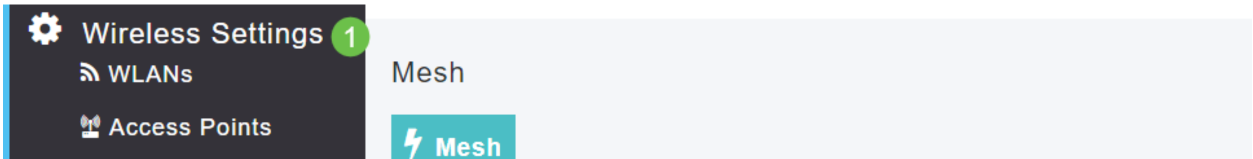
Step 2

Log into the Web User Interface (UI) of the Primary AP. Open a web browser and enter https://ciscobusiness.cisco You may receive a warning before proceeding. Enter your credentials.

You can also access it by entering the IP address of the Primary AP into a web browser.

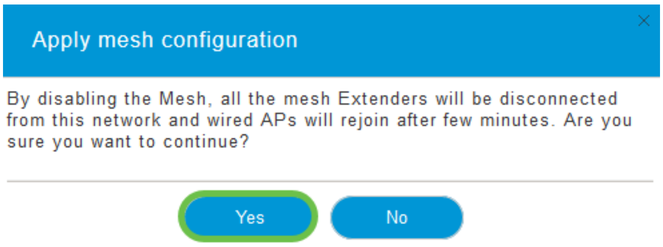
Step 3

The AP can't be in mesh mode for an RLAN to work. To turn mesh mode off, navigate to **Wireless Settings > Mesh**. Select to turn mesh off. If your AP is new or you know that mesh mode is not on, you can move on to [Step 7](#).



Step 4

Confirm that you want to turn off mesh mode by clicking **Yes**.

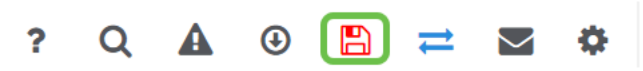


Apply mesh configuration

By disabling the Mesh, all the mesh Extenders will be disconnected from this network and wired APs will rejoin after few minutes. Are you sure you want to continue?

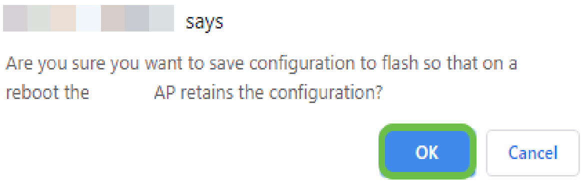
Step 5

Be sure to save your configurations by clicking the **Save icon** on the top-right panel of the Web UI screen.



Step 6

Confirm the Save by clicking **OK**. The AP will reboot. This will take 8-10 minutes to complete.

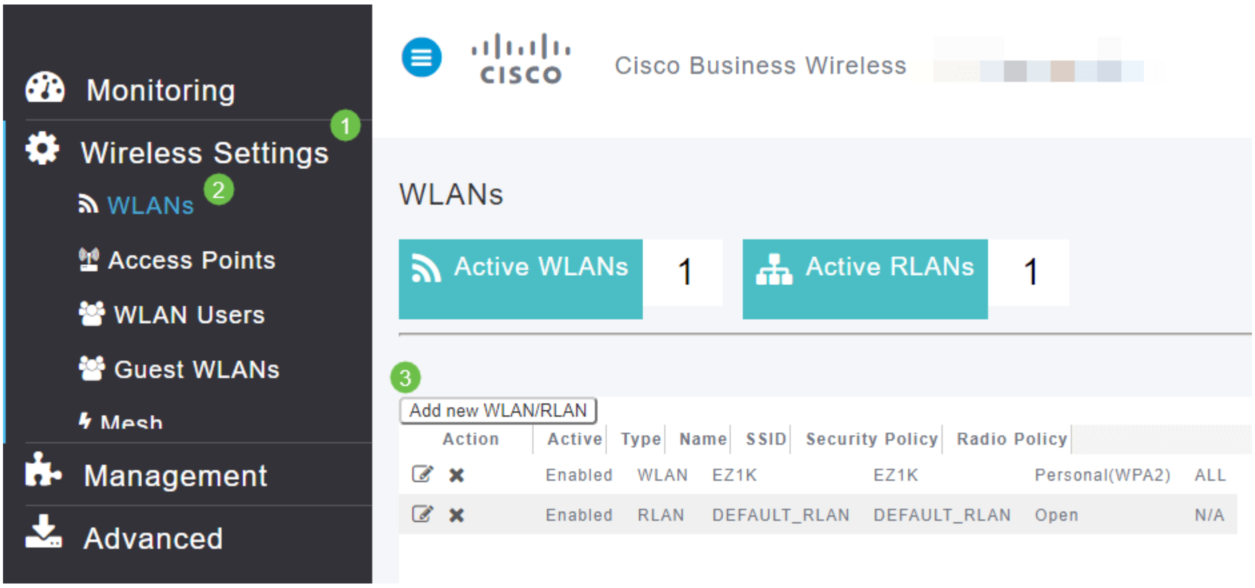


says

Are you sure you want to save configuration to flash so that on a reboot the AP retains the configuration?

Step 7

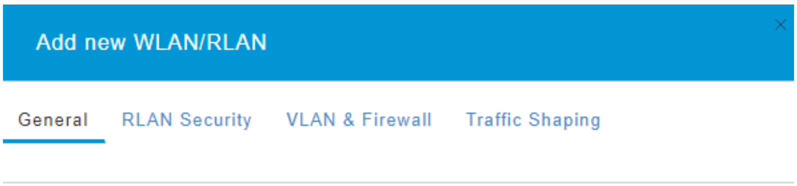
An RLAN can be created by navigating to **Wireless Settings > WLANs**. Then select **Add new WLAN/RLAN**.



Action	Active	Type	Name	SSID	Security Policy	Radio Policy
✎ ✖	Enabled	WLAN	EZ1K	EZ1K	Personal(WPA2)	ALL
✎ ✖	Enabled	RLAN	DEFAULT_RLAN	DEFAULT_RLAN	Open	N/A

Step 8

Select **RLAN**. Create a name for the Profile.

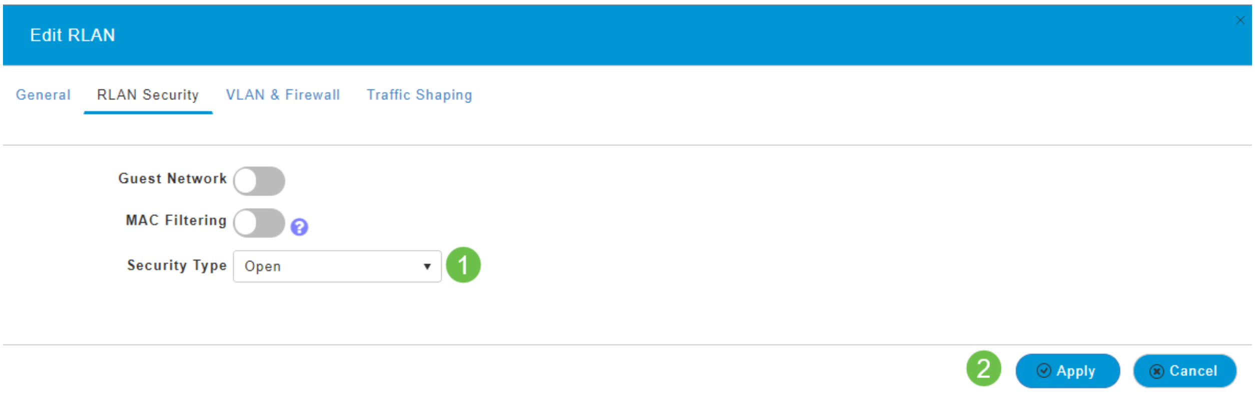


Step 9 (Using Open Security)

Under the *RLAN Security* tab. Under *Security Type*, you can select *Open* or *802.1X*.

In this example, the *Security Type* was left as the default.

Click **Apply**. This will automatically activate this Open Security RLAN. Skip to Step 11.



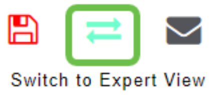
Guest Network: off

MAC Filtering: off

Security Type: Open

Step 10a (Using 802.1X Security)

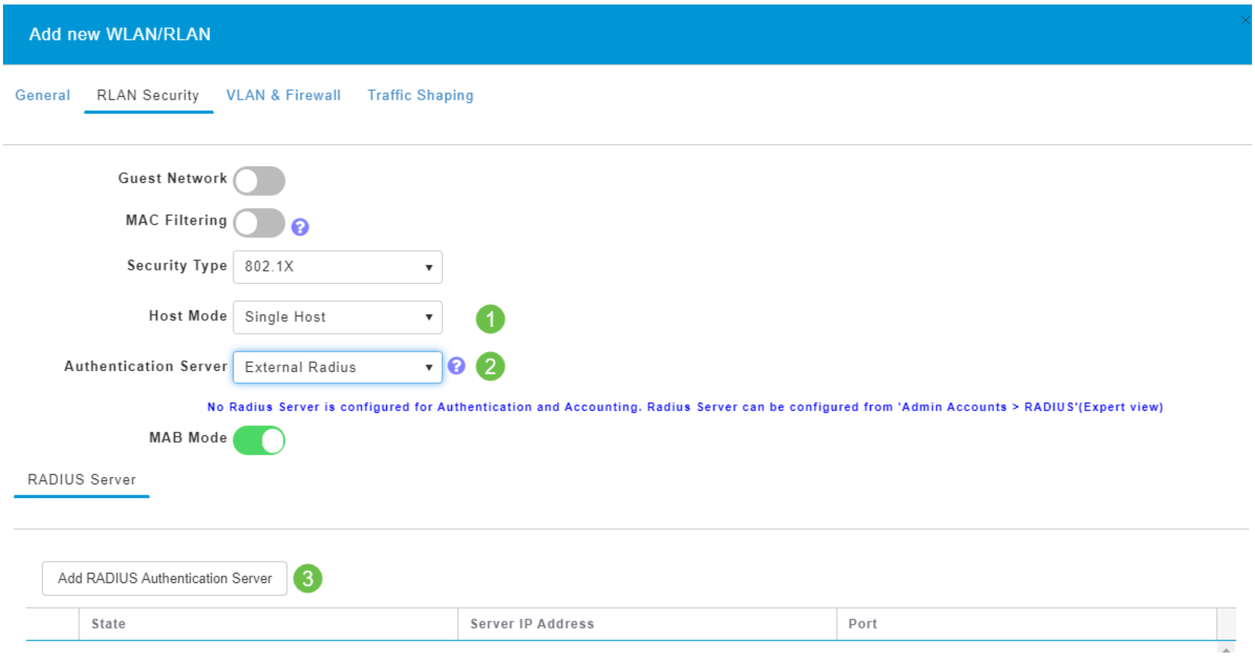
For setting up External Radius, you must have a Radius Server configured in *Admin Accounts* under *RADIUS* in *Expert View*. Click on the **arrow icon** on the top-right menu of the Web UI to switch to *Expert View*. For details on setting up a RADIUS server, check out Radius



Step 10b (Using 802.1X Security)

If you choose 802.1X for the Security Type, more options must be selected. You need to select the following:

- *Host Mode* - *Single Host* or *Multi-Host*
- *Authentication Server* - *External Radius* or *AP*
- *MAB Mode – Enabled* or *Disabled.* To add MAC addresses, follow the instructions in the next step.



Guest Network: off

MAC Filtering: off

Security Type: 802.1X

Host Mode: Single Host

Authentication Server: External Radius

No Radius Server is configured for Authentication and Accounting. Radius Server can be configured from 'Admin Accounts > RADIUS'(Expert view)

MAB Mode: on

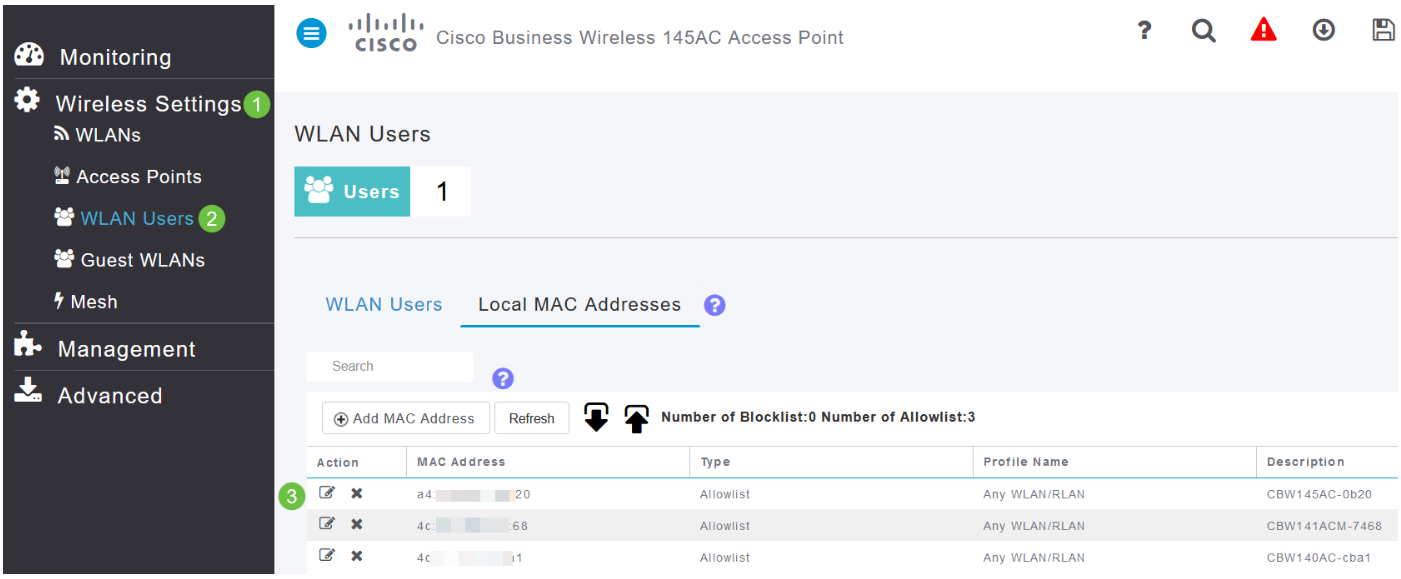
State	Server IP Address	Port

Step 11 (Optional)

MAC Authentication Bypass (MAB) Mode means that if you have a MAC address listed under WLAN Users, the device doesn't need to authenticate. The listed MAC addresses can bypass authentication to be given either automatic access to the network or automatically denied. This would be useful in a case where an IP phone is plugged into a PoE port on a switch.

You can label each MAC address one of two ways:

1. *Allowlisted* – The device receives automatic access.
2. *Blocklisted* – The device will automatically be denied access.

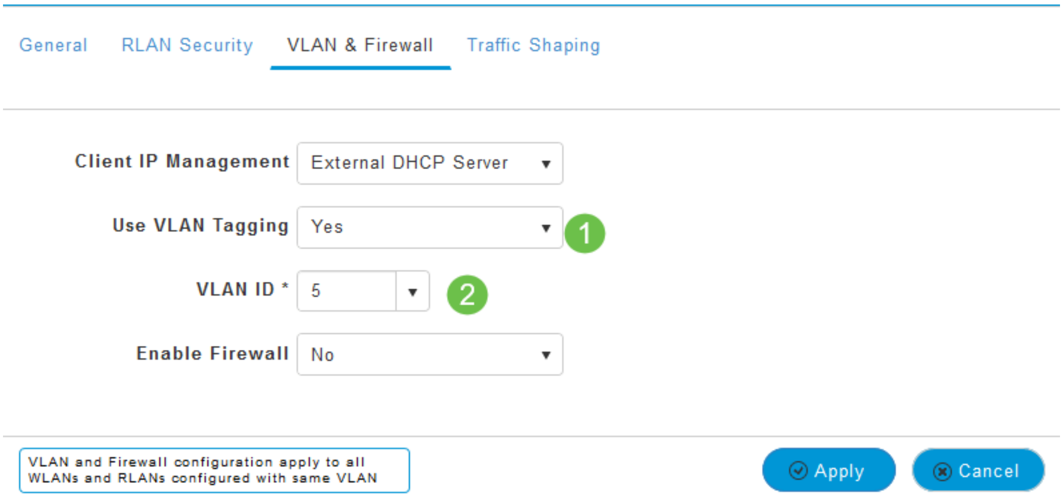


Number of Blocklist:0 Number of Allowlist:3

Action	MAC Address	Type	Profile Name	Description
✎ ✖	a4:[redacted]20	Allowlist	Any WLAN/RLAN	CBW145AC-0b20
✎ ✖	4c:[redacted]:68	Allowlist	Any WLAN/RLAN	CBW141ACM-7468
✎ ✖	4c[redacted]1	Allowlist	Any WLAN/RLAN	CBW140AC-cba1

Step 12

Under the *VLAN & Firewall* tab, you can select to Use *VLAN Tagging* and select a *VLAN ID* number.

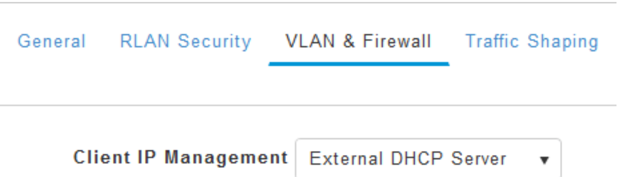


Client IP Management: External DHCP Server
Use VLAN Tagging: Yes
VLAN ID *: 5
Enable Firewall: No

VLAN and Firewall configuration apply to all WLANs and RLANs configured with same VLAN

Step 13 (Optional)

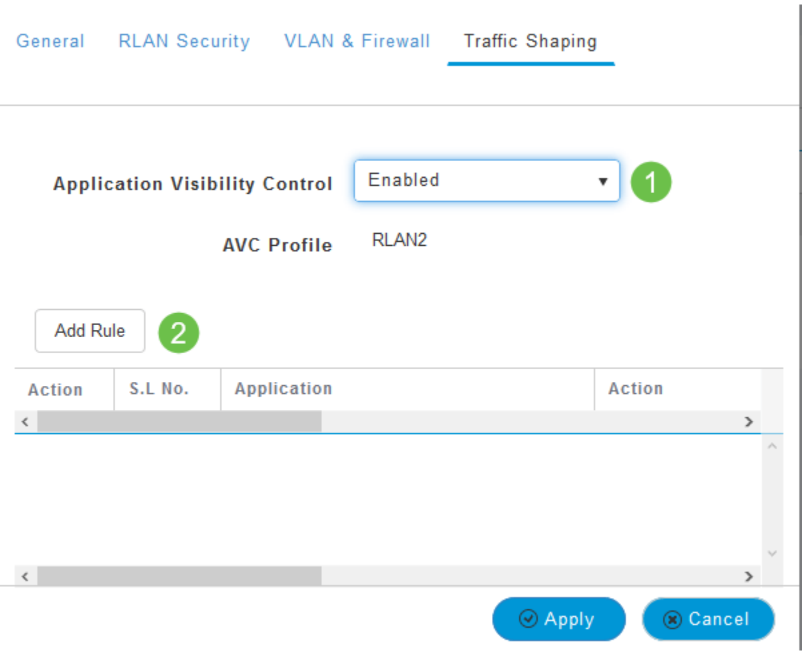
You can select **Enable Firewall** if you want to configure *Access Control Lists (ACLs)* which allows you to allow or reject access for specific IP addresses or VLANs. This is used if someone is plugging into the network port device to connect to the network.



Client IP Management: External DHCP Server

Step 14 (Optional)

Under the *Traffic Shaping* tab, you can configure traffic shaping by Enabling **Application Visibility Control**. This sets traffic prioritization.



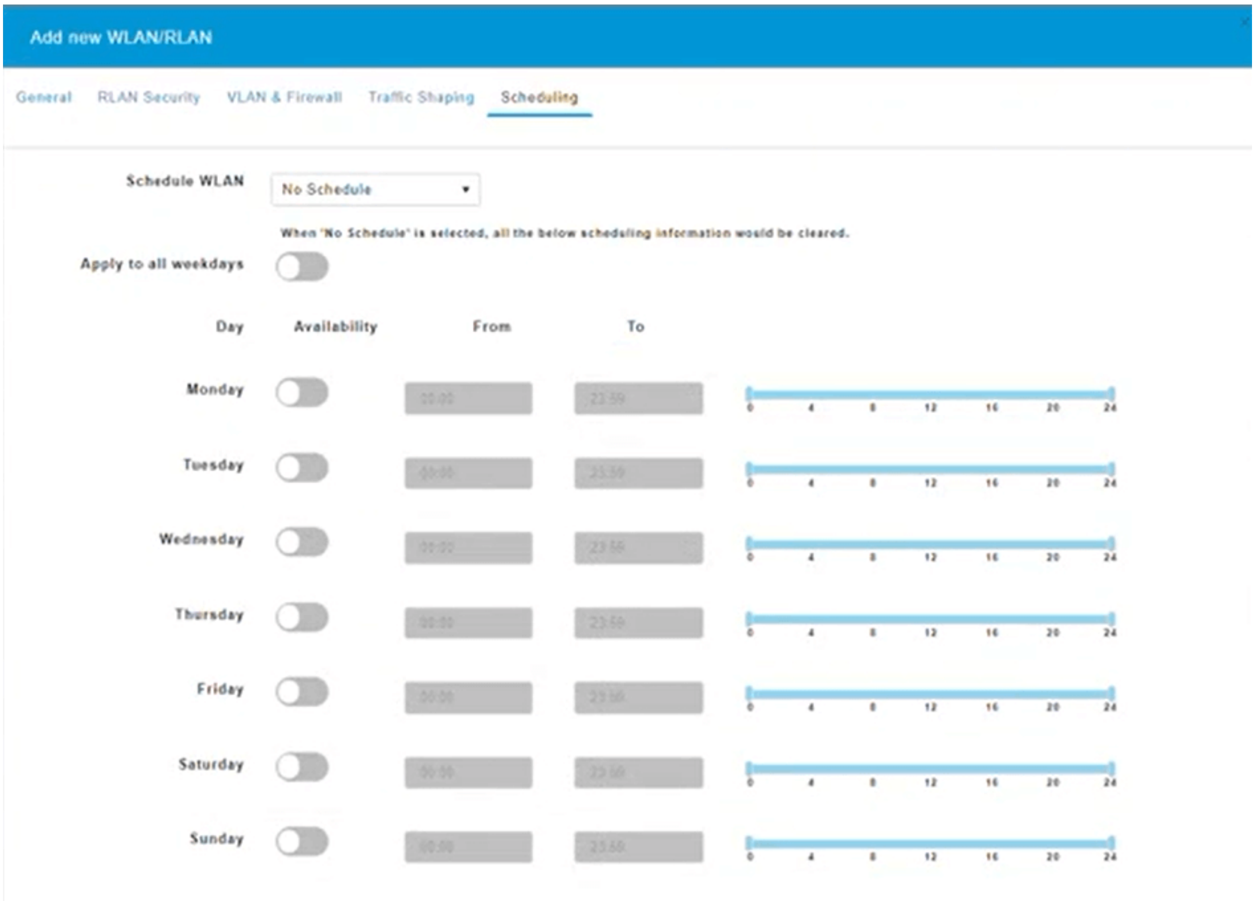
Application Visibility Control: Enabled

AVC Profile: RLAN2

Action	S.L No.	Application	Action

Step 15 (Optional)

Under the *Scheduling* tab, you can select a schedule. This sets the times that the port will have the ability to be connected to the network.



Schedule WLAN: No Schedule

When 'No Schedule' is selected, all the below scheduling information would be cleared.

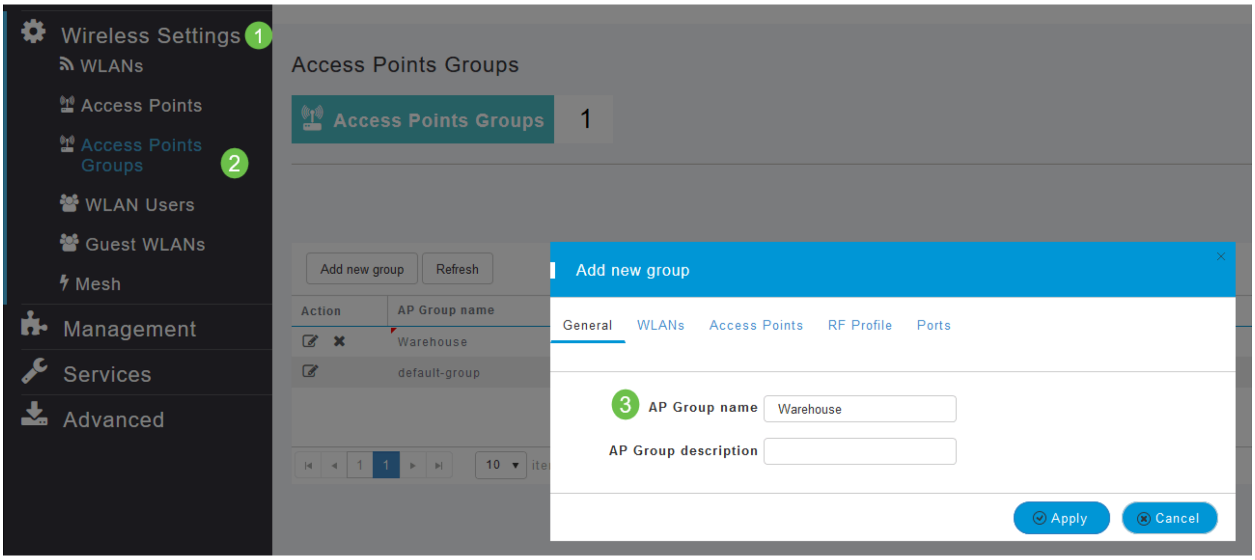
Apply to all weekdays: ○

Day	Availability	From	To
Monday	○	00:00	23:59
Tuesday	○	00:00	23:59
Wednesday	○	00:00	23:59
Thursday	○	00:00	23:59
Friday	○	00:00	23:59
Saturday	○	00:00	23:59
Sunday	○	00:00	23:59

Step 16 (Optional)

Now that the RLAN is created, you can navigate to **Wireless Settings > Access Point Groups**.

This is where you can add or edit groups. To view this screen, you need to be in *Expert View*, which you selected in Step 10a.

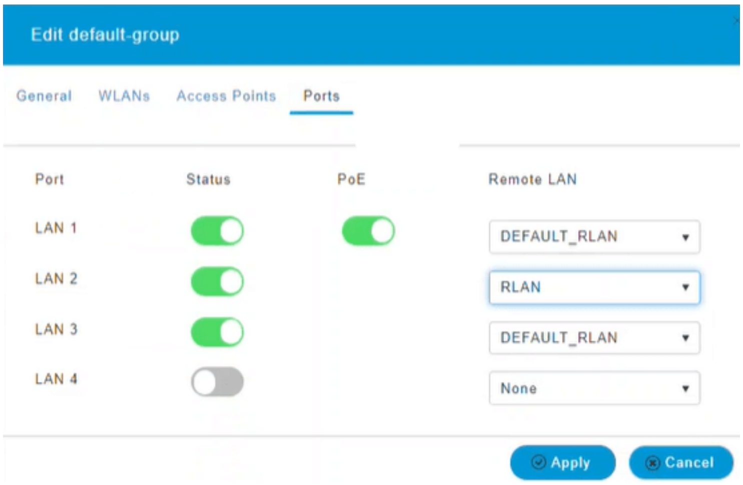


AP Group name: Warehouse

AP Group description:

Step 17

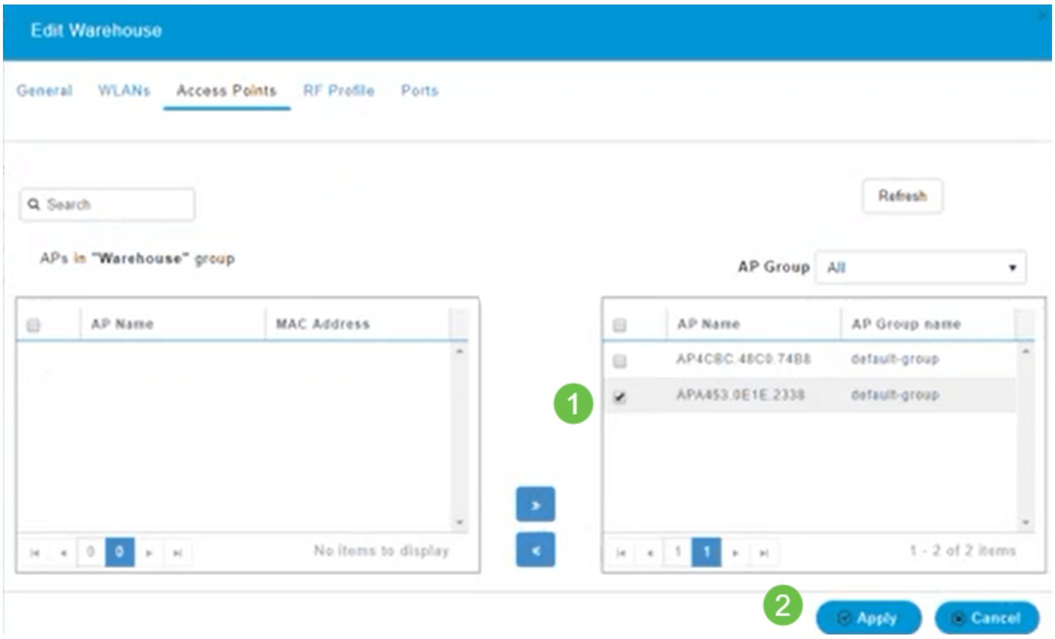
Under the *Ports* tab, you can assign the Ports on the AP to specific Remote LANs.



Port	Status	PoE	Remote LAN
LAN 1	On	On	DEFAULT_RLAN
LAN 2	On		RLAN
LAN 3	On		DEFAULT_RLAN
LAN 4	Off		None

Step 18

Under the *Access Points* tab, you need to assign a particular access point to that Access Point Group. Click **Apply**.



APs in "Warehouse" group

☐	AP Name	MAC Address

No items to display

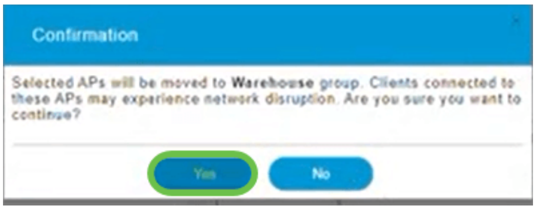
AP Group: All

☐	AP Name	AP Group name
☐	AP4CBC.48C0.74B8	default-group
☑	APA453.0E1E.2338	default-group

1 - 2 of 2 items

Step 19

Select **Yes** to confirm.

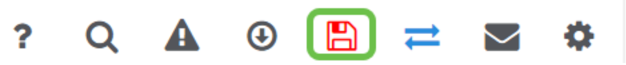


Confirmation

Selected APs will be moved to **Warehouse** group. Clients connected to these APs may experience network disruption. Are you sure you want to continue?

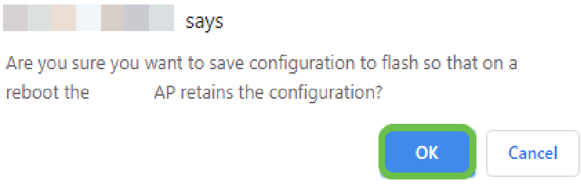
Step 20

Be sure to save your configurations by clicking the **Save icon** on the top-right panel of the Web UI screen.



Step 21

Confirm the Save by clicking **OK**. The AP will reboot. This will take 8-10 minutes to complete.

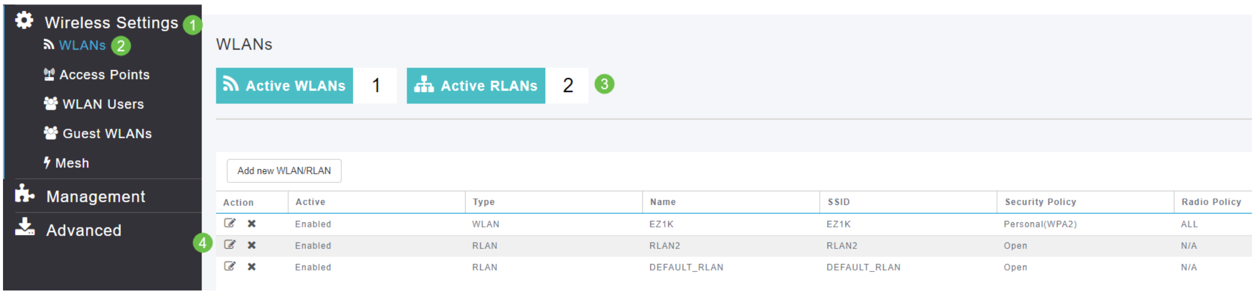


[redacted] says

Are you sure you want to save configuration to flash so that on a reboot the AP retains the configuration?

View the RLAN

To view the RLAN you created, select **Wireless Settings > WLANs**. You will see the number of Active RLANs raised to 2 and the new RLAN is listed.



WLANs

Active WLANs 1 Active RLANs 2

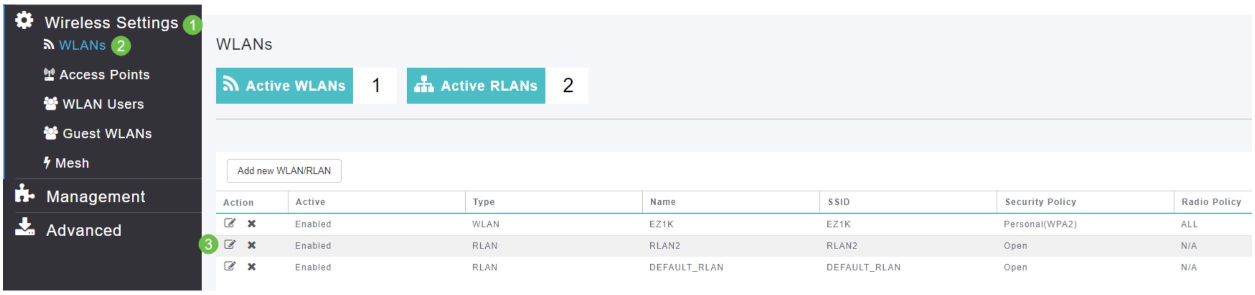
Action	Active	Type	Name	SSID	Security Policy	Radio Policy
✎ ✖	Enabled	WLAN	EZ1K	EZ1K	Personal(WPA2)	ALL
✎ ✖	Enabled	RLAN	RLAN2	RLAN2	Open	N/A
✎ ✖	Enabled	RLAN	DEFAULT_RLAN	DEFAULT_RLAN	Open	N/A

Edit the RLAN

When you clicked **Apply** at the end of setting up your RLAN, the RLAN automatically activated. If you ever need to disable the RLAN or make any other changes, follow these simple steps below.

Step 1

Select **Wireless Settings > WLANs**. Click on the **edit icon**.



WLANs

Active WLANs 1 Active RLANs 2

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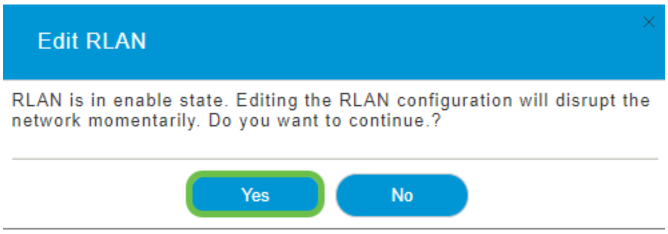
✎ ✖	Enabled	RLAN	RLAN2	RLAN2	Open	N/A
✎ ✖	Enabled	RLAN	DEFAULT_RLAN	DEFAULT_RLAN	Open	N/A

Step 2

You will receive a Pop-up notifying you that editing the RLAN will disrupt the network momentarily. Confirm that you want to continue by clicking **Yes**.

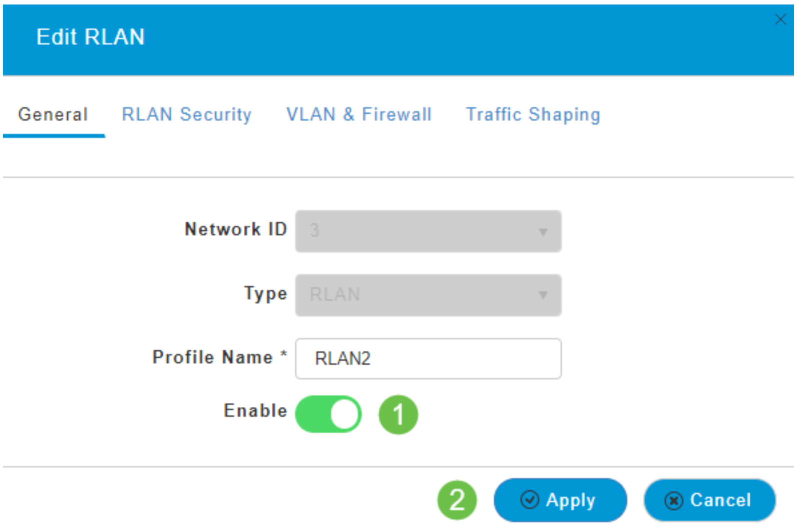


Edit RLAN

RLAN is in enable state. Editing the RLAN configuration will disrupt the network momentarily. Do you want to continue.?

Step 3 (Enable/Disable)

In the **Edit WLAN/RLAN** window, under **General**, select ***Enabled*** or ***Disabled*** to enable/disable the RLAN. Click **Apply**.



Edit RLAN

Network ID 3

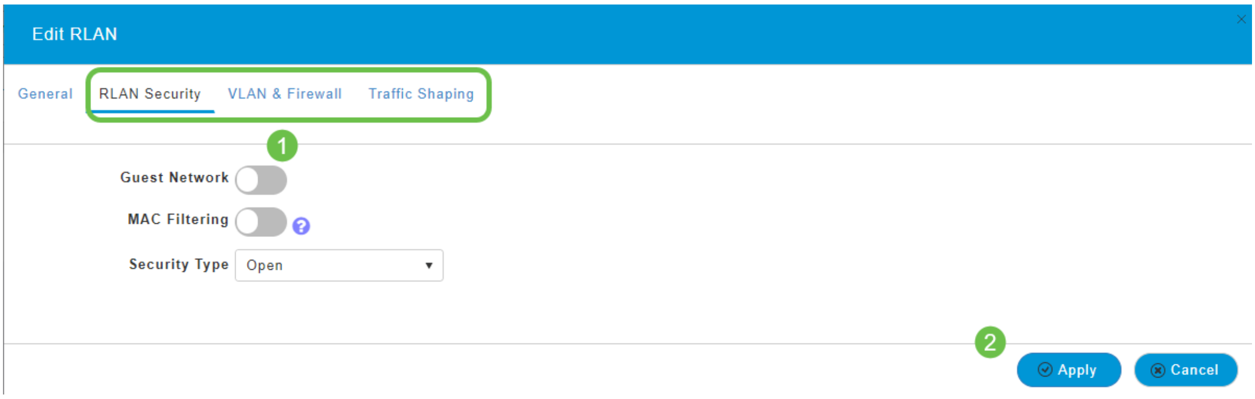
Type RLAN

Profile Name * RLAN2

Enable

Step 4 (Editing other Settings)

Navigate to the *RLAN Security*, *VLAN & Firewall*, or *Traffic Shaping* tabs if you need to change settings. Click **Apply** once you have made changes.



Edit RLAN

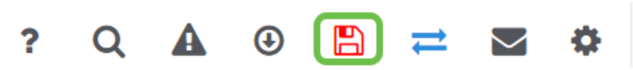
Guest Network

MAC Filtering

Security Type Open

Step 5

Be sure to save your configurations by clicking the **Save icon** on the top-right panel of the Web UI screen.



Conclusion

You have now created an RLAN on your CBW Network. Enjoy, and feel free to add more if it fits your needs.

Frequently Asked Questions Radius Firmware Upgrade RLANs Application Profiling Client Profiling Primary AP Tools Umbrella WLAN Users Logging Traffic Shaping Rogues Interferers Configuration Management Port Configuration Mesh Mode Welcome to CBW Mesh Networking Guest Network using Email Authentication and RADIUS Accounting Troubleshooting Using a Draytek Router with CBW