Ruijie Reyee RG-RAP Series Access Points

ReyeeOS 2.301

Configuration Guide

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This manual is designed merely as a user guide. Ruijie Networks has tried its best to ensure the accuracy and reliability of the content when compiling this manual, but it does not guarantee that the content of the manual is completely free of errors or omissions, and all the information in this manual does not constitute any explicit or implicit warranties.

Preface

Audience

This document is intended for:

- Network engineers
- Technical support and servicing engineers
- Network administrators

Technical Support

- Official Website of Ruijie Reyee: https://reyee.ruijie.com
- Technical Support Website: https://reyee.ruijie.com/en-global/support
- Case Portal: https://www.ruijienetworks.com/support/caseportal
- Community: https://community.ruijienetworks.com
- Technical Support Email: service_rj@ruijienetworks.com
- Online Robot/Live Chat: https://reyee.ruijie.com/en-global/rita

Conventions

1. GUI Symbols

Interface symbol	Description	Example
Boldface	1. Button names 2. Window names, tab name, field name and menu items 3. Link	1. Click **OK**. 2. Select **Config Wizard**. 3. Click the **Download File** link.
>	Multi-level menus items	Select **System** > **Time**.

2. Signs

The signs used in this document are described as follows:

Warning

An alert that calls attention to important rules and information that if not understood or followed can result in data loss or equipment damage.

Caution

An alert that calls attention to essential information that if not understood or followed can result in function failure or performance degradation.

Note

An alert that contains additional or supplementary information that if not understood or followed will not lead to serious consequences.

✓ **Specification**

An alert that contains a description of product or version support.

3. Note

This manual introduces the product model, port type and CLI for your reference. In case of any discrepancy or inconsistency between the manual and the actual version, the actual version prevails.

Contents

1 Fast Internet Access

1.1 Configuration Environment Requirements

1.1.1 PC

- Browser: Google Chrome, Internet Explorer 9.0, 10.0, and 11.0, and some Chromium/Internet Explorer kernel-based browsers (such as 360 Extreme Explorer) are supported. Exceptions such as garble or format error may occur if an unsupported browser is used.
- Resolution: 1024 x 768 or a higher resolution is recommended. If other resolutions are used, the page fonts and formats may not be aligned, the GUI is less artistic, or other exceptions may occur.

1.2 Default Configuration

Table 1-1 Default Web Configuration

Item	Default
IP address	10.44.77.254
Username/Password	A username is not required when you log in for the first time. The default password is **admin**.

1.3 Login to Web Interface

1.3.1 Connecting to the Access Point

You can open the management page and complete Internet access configuration only after connecting a client to the access point in either of the following ways:

- Wired Connection

Connect a local area network (LAN) port of the access point to the network port of the PC, and set the IP address of the PC. See Configuring the IP Address of the Management Client.

- Wireless Connection

On a mobile phone or laptop, search for wireless network **@Ruijie-S***XXXX* (XXXX is the last four digits of the MAC address of each device). In this mode, you do not need to set the IP address of the management Client, and you can skip the operation in Configuring the IP Address of the Management Client.

1.3.2 Configuring the IP Address of the Management Client

Configure an IP address for the management client in the same network segment as the default IP address of the device (The default device IP address is 10.44.77.254, and the subnet mask is 255.255.255.0.) so that the management client can access the device. For example, set the IP address of the management client to 10.44.77.100.

Caution

- Make sure that the client can access the web interface as long as it can ping the access point.
- The IP address of the management client cannot be set to 10.44.77.253, because this IP address is reserved by the device. If the management client uses this IP address, it cannot access the device.

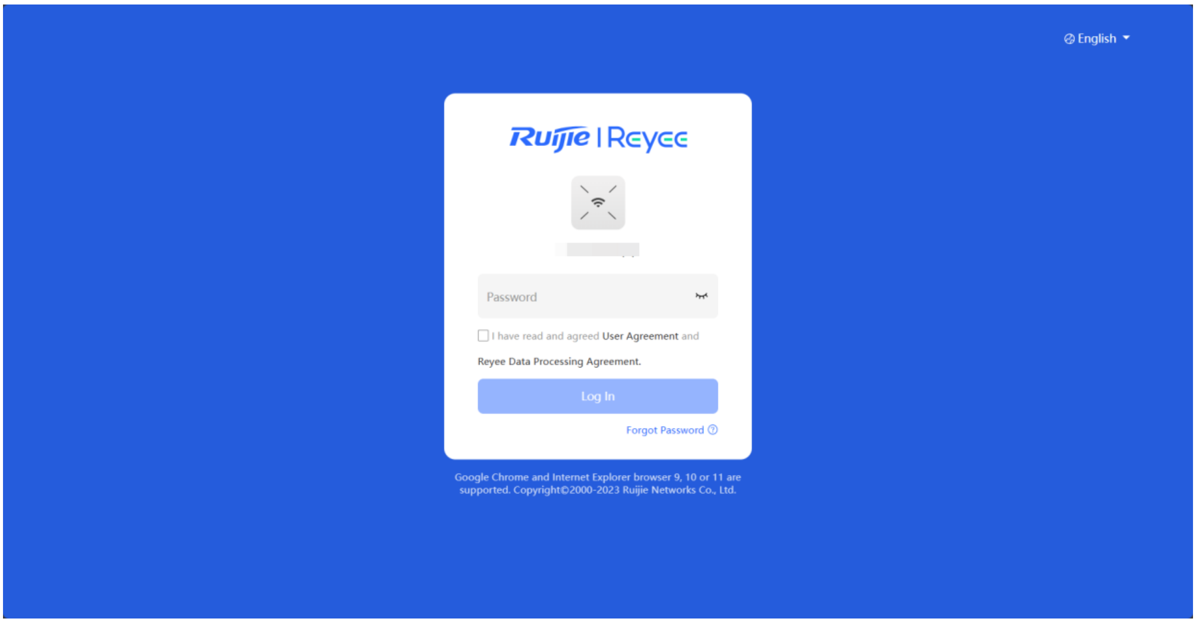
1.3.3 Logging in to the Web Page

(1) Enter the IP address (10.44.77.254 by default) of the access point in the address bar of the browser to open the login page.

Note

If the static IP address of the device is changed, or the device obtains a new dynamic IP address, the new IP address can be used to access the web management system of the device as long as the management client and the device are in the same network segment of a LAN.

(2) On the web page, enter the password and click **Log In** to enter the web management system.



□ I have read and agreed User Agreement and Reyee Data Processing Agreement.

Google Chrome and Internet Explorer browser 9, 10 or 11 are supported. Copyright©2000-2023 Ruijie Networks Co., Ltd.

You can use the default password **admin** to log in to the device for the first time. For security purposes, you are advised to change the default password as soon as possible after logging in, and to regularly update your password thereafter.

If you forget the IP address or password, hold down the **Reset** button on the device panel for more than 5 seconds when the device is connected to the power supply to restore factory settings. After restoration, you can use the default IP address and password to log in.

⚠ **Caution**

Restoring factory settings will delete the existing configuration and you are required to configure the device again at your next login. Therefore, exercise caution when performing this operation.

1.4 Work Mode

The device can work in the router mode, AP mode or wireless repeater mode. The displayed system menu page and function ranges vary with the work mode. The RAP works in the AP mode by default.

When setting the work mode, you can also set whether to enable the self-organizing network discovery function. This function is enabled by default.

Self-organizing network mode: After the self-organizing network discovery function is enabled, the new device and other unconnected devices can be discovered. Devices connect with each other to form a network based on their status and synchronize their configurations globally. You can log in to the web interface of the device to view management information of all devices on the network. After the self-organizing network discovery function is enabled, you can efficiently maintain and manage the network. You are advised to keep this function enabled.

When the device connect with each other to form a network, two configuration modes are displayed: network-wide mode and local device mode. See1.8 Introduction to the Web I .

Local device mode: After the self-organizing network discovery function is disabled, the device will not be discovered. After logging in to the web interface, you can configure and manage only the new device. If only one device is configured or global configuration does not need to be synchronized to the device, you can disable the self-organizing network discovery function.

To switch the work mode, see 4.1 Switching Work Mode.

1.4.1 AP Mode

The device performs L2 forwarding and does not support the DHCP address pool function. In AP mode, the device often networks with devices supporting the routing function. IP addresses of downlink wireless clients are assigned and managed by the uplink device (supporting the DHCP address pool) of the AP in a unified manner, and the AP only transparently transmits data.

1.4.2 Router Mode

The device supports N/AT routing and forwarding. The addresses of wireless clients can be assigned by the AP and wireless network data is routed and forwarded by the AP. N/AT is supported in this mode. When an AP works in the router mode, it supports device networking, network-wide configuration, and AP-specific radio functions.

There are three Internet types available: PPPoE, DHCP mode and static IP address mode. You can connect the device to an Ethernet cable or an upstream device.

⚠ **Caution**

After switching to the router mode, the device's LAN IP address will change to 192.168.120.1. Please obtain an IP address automatically for your management client and enter 10.44.77.254 into the address bar of the browser to log in to web interface again.

1.4.3 Wireless Repeater Mode

The device does not support the routing and DHCP server functions in the wireless repeater mode. IP addresses of the clients are assigned and managed by the primary router. On an available network, the device can be connected to the primary router through wireless connection to expand the Wi-Fi coverage and increase the number of LAN ports and wireless access devices.

1.5 Configuration Wizard (Router Mode)

Upon first login, you can perform quick setup to configure the Internet type, Wi-Fi network and management password.

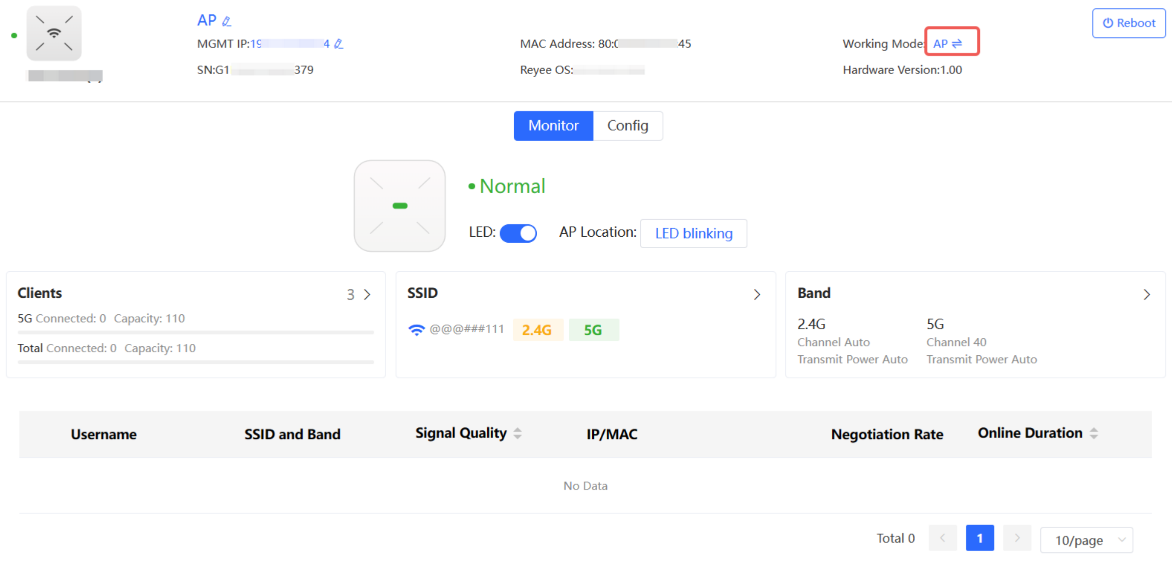
1.5.1 Getting Started

(1) Connect the device to a power supply and connect the port of the device to an upstream device with an Ethernet cable. Or you can connect an Ethernet cable to the device.

(2) Configure the Internet connection type according to requirements of the local Internet Service Provider (ISP). Otherwise, the Internet access may fail due to improper configuration. You are advised to contact your local ISP to confirm the Internet connection type:

- Figure out whether the Internet connection type is PPPoE, DHCP mode, or static IP address mode.
- In the PPPoE mode, a username, a password, and possibly a service name are needed.
- In the static IP address mode, an IP address, a subnet mask, a gateway, and a DNS server need to be configured.

(3) The device works in the AP mode by default. If you want to switch the work mode to the router mode, perform the configuration on the work mode setting page. See 4.1 Switching Work Mode for more details.



[redacted]

AP

MGMT IP:19[redacted]4

SN:G1[redacted]379

MAC Address: 80:[redacted]45

Reyee OS: [redacted]

Working Mode: AP ⇌

Hardware Version:1.00

● Normal

LED: ● AP Location: LED blinking

Clients	3 >
5G Connected: 0 Capacity: 110	
Total Connected: 0 Capacity: 110	

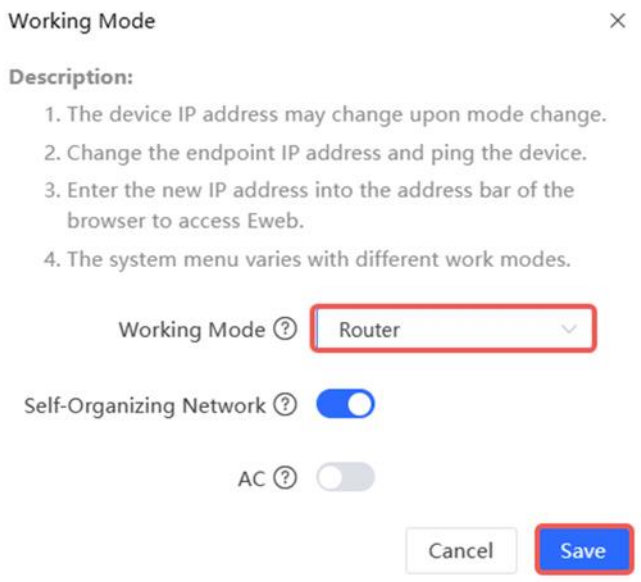
SSID >

@@@###111 2.4G 5G

Band	
2.4G	5G
Channel Auto	Channel 40
Transmit Power Auto	Transmit Power Auto

Username	SSID and Band	Signal Quality	IP/MAC	Negotiation Rate	Online Duration

No Data



Working Mode

Description:

1. The device IP address may change upon mode change.
2. Change the endpoint IP address and ping the device.
3. Enter the new IP address into the address bar of the browser to access Eweb.
4. The system menu varies with different work modes.

Working Mode ⓘ: Router

Self-Organizing Network ⓘ: ●

AC ⓘ: ○

1.5.2 Configuration Steps

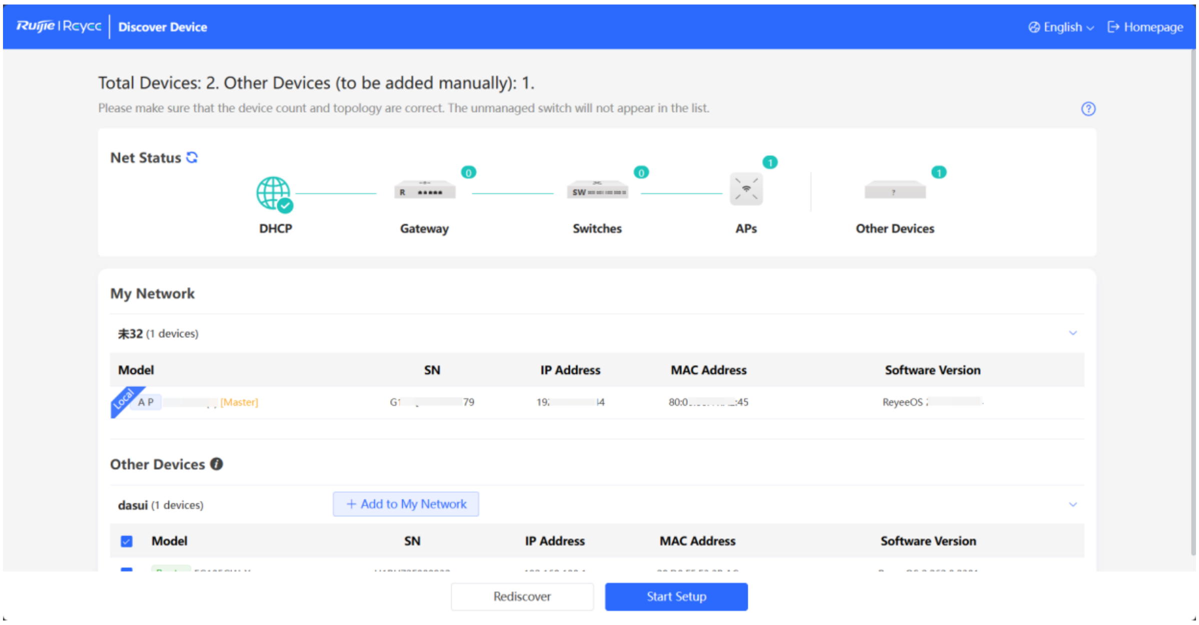
1. Add a Device to Network

You can manage and configure all devices in the network in batches by default. Please verify the device count and network status before configuration.

Note

New devices will join in a network automatically after being powered on. You only need to verify the device count.

If a new device is detected not in the network, click **Add to My Network** and enter its management password to add the device manually.



Total Devices: 2. Other Devices (to be added manually): 1.

Please make sure that the device count and topology are correct. The unmanaged switch will not appear in the list.

Net Status

My Network

未32 (1 devices)

Model	SN	IP Address	MAC Address	Software Version
Local A P [redacted] [Master]	G1 [redacted] 79	19 [redacted] 4	80:0 [redacted] :45	ReyeeOS [redacted]

Other Devices

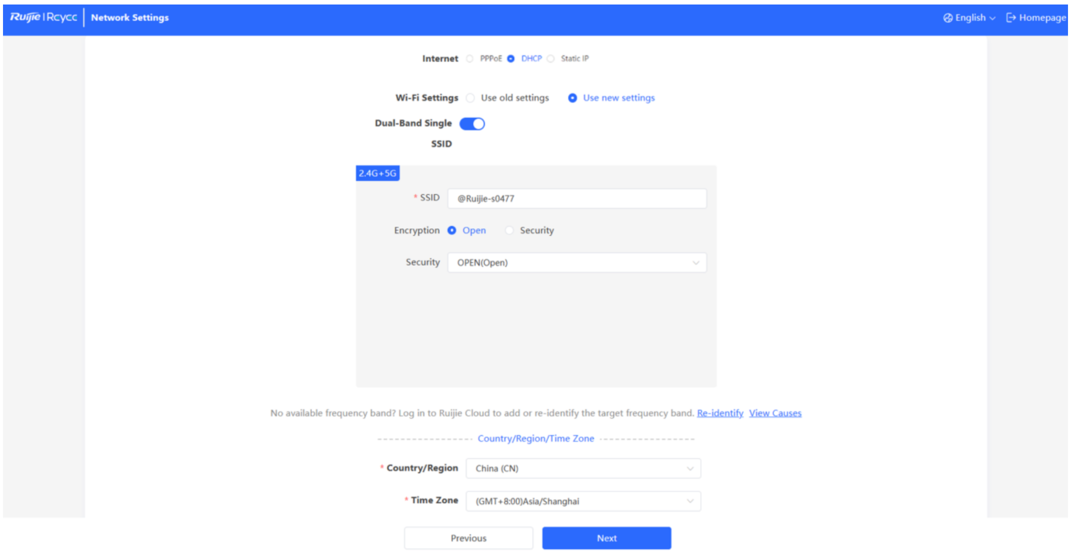
dasui (1 devices) + Add to My Network

☑ Model	SN	IP Address	MAC Address	Software Version

2. Creating a Network Project

(1) Click **Start Setup** to configure the Internet connection type and Wi-Fi network.

- **Internet**: Configure the Internet connection type according to requirements of the local Internet Service Provider (ISP).
  - DHCP: The access point detects whether it can obtain an IP address via DHCP by default. If the access point connects to the Internet successfully, you can click Next without entering an account.
  - PPPoE: Click PPPoE, and enter the username, password, and service name. Click Next.
  - Static IP: Enter the IP address, subnet mask, gateway, and DNS server, and click Next.
- **Wi-Fi Settings**: Select the Wi-Fi configuration mode. This configuration option is unavailable for a new project.
  - Use Old Settings: Use the Wi-Fi settings of an existing project.
  - Use New Settings: Configure the Wi-Fi network using new settings.
- **SSID and Wi-Fi Password**: The device has no Wi-Fi password by default, indicating that the Wi-Fi network is an open network. You are advised to configure a complex password to enhance the network security.
- **Country/Region**: The Wi-Fi channel may vary from country to country. To ensure that a client searches for a Wi-Fi network successfully, you are advised to select the actual country or region.
- **Time Zone**: Set the system time. The network time server is enabled by default to provide the time service. You are advised to select the actual time zone.



Ruijie | Rcycc Network Settings

English Homepage

Internet ○ PPPoE ● DHCP ○ Static IP

Wi-Fi Settings ○ Use old settings ● Use new settings

Dual-Band Single SSID

2.4G+5G

* SSID: @Ruijie-s0477

Encryption ● Open ○ Security

Security: OPEN(Open)

No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

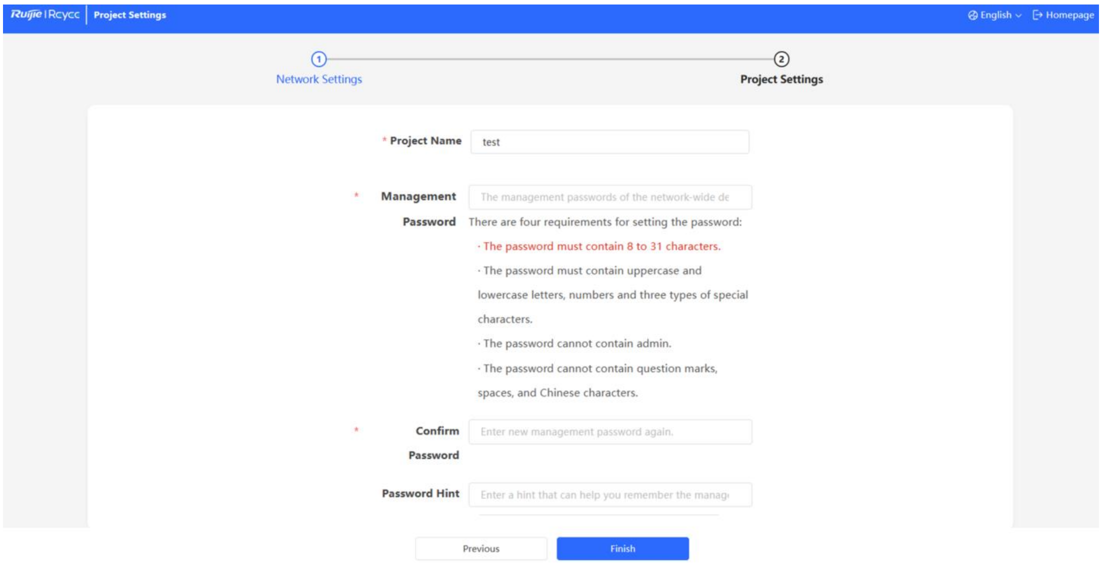
Country/Region/Time Zone

* Country/Region: China (CN)

* Time Zone: (GMT+8:00)Asia/Shanghai

(2) Click **Next**. On the page that is displayed, set the project name and management password.

- **Project Name**: Identify the network project where the device is located.
- **Management Password**: The password is used for logging in to the management page.



Ruijie | Rcycc Project Settings

English Homepage

① Network Settings ② Project Settings

* Project Name: test

* Management Password: The management passwords of the network-wide de

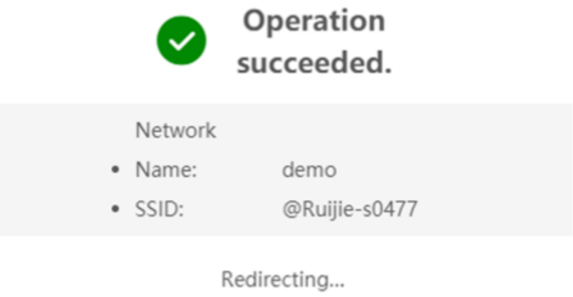
There are four requirements for setting the password:

- The password must contain 8 to 31 characters.
- The password must contain uppercase and lowercase letters, numbers and three types of special characters.
- The password cannot contain admin.
- The password cannot contain question marks, spaces, and Chinese characters.

* Confirm Password: Enter new management password again.

Password Hint: Enter a hint that can help you remember the manag

Click **Finish**. The device will deliver the initialization and check the network connectivity.



Operation succeeded.

Network

- Name: demo
- SSID: @Ruijie-s0477

Redirecting...

The device can access the Internet now. Bind the device with a Ruijie Cloud account for remote management. Follow the instruction to log in to Ruijie Cloud for further configuration.

Note

- If your device is not connected to the Internet, click **Exit** to exit the configuration wizard.
- Please log in again with the new password if you change the management password.

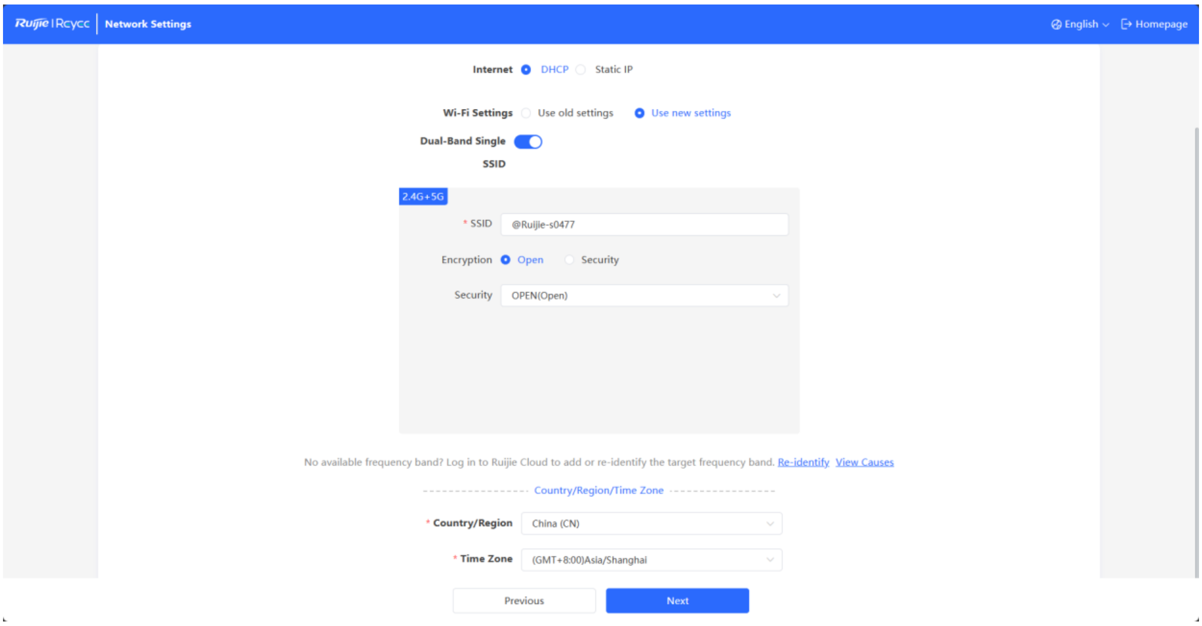
1.6 Configuration Wizard (AP Mode)

1.6.1 Getting Started

- Power on the device and connect the device to an upstream device.
- Make sure that the device can access the Internet.

1.6.2 Configuration Steps

The device obtains the IP address through the DHCP by default. Configure the SSID, Wi-Fi password and management password. The default Internet connection type is DHCP mode. You are advised to use the default value.



Internet ● DHCP ○ Static IP

Wi-Fi Settings ○ Use old settings ● Use new settings

Dual-Band Single SSID: on

2.4G+5G

* SSID: @Ruijie-s0477

Encryption ● Open ○ Security

Security: OPEN(Open)

No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Country/Region/Time Zone

* Country/Region: China (CN)

* Time Zone: (GMT+8:00)Asia/Shanghai

1.7 Configuration Wizard (Wireless Repeater Mode)

1.7.1 Getting Started

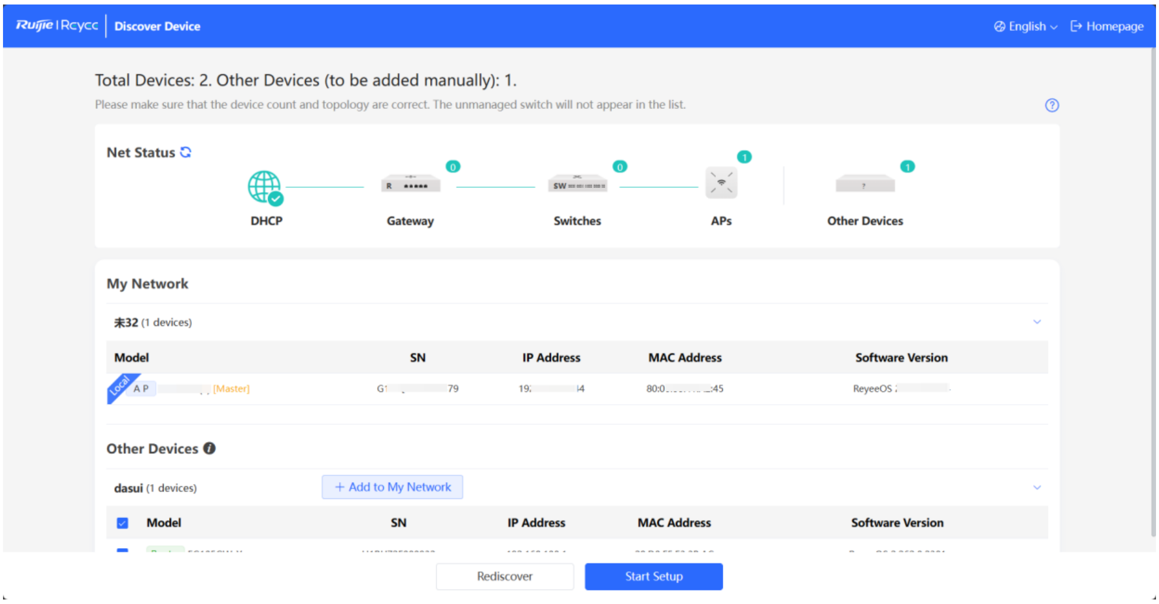
- Before configuring the wireless repeater mode, configure the primary router and test that the primary router can access the Internet.
- Place the device where it can discover at least two-bar Wi-Fi signal of the primary router.

⚠ **Caution**

No Ethernet cable is required in the wireless repeater mode. The wireless network stability can be affected by many factors. Therefore, the wired connection is recommended.

1.7.2 Configuration Steps

(1) Connect the device to a power supply without connecting an Ethernet cable to the uplink port, and click **Start Setup**.



Total Devices: 2. Other Devices (to be added manually): 1.

Please make sure that the device count and topology are correct. The unmanaged switch will not appear in the list.

My Network

未32 (1 devices)

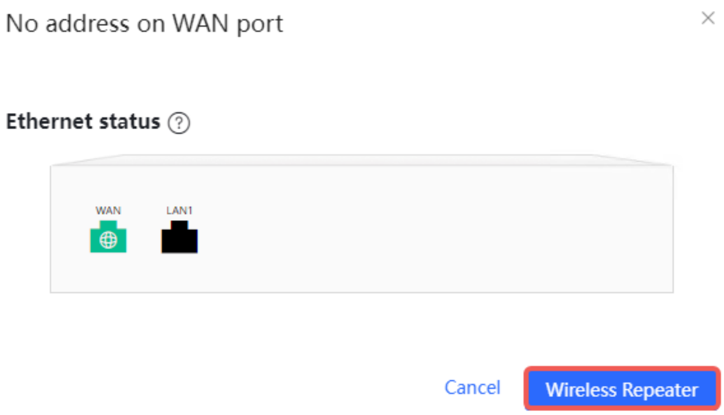
Model	SN	IP Address	MAC Address	Software Version
A P [Master]	G1 79	19. 4	80:0 :45	ReyeeOS

Other Devices

dasui (1 devices) + Add to My Network

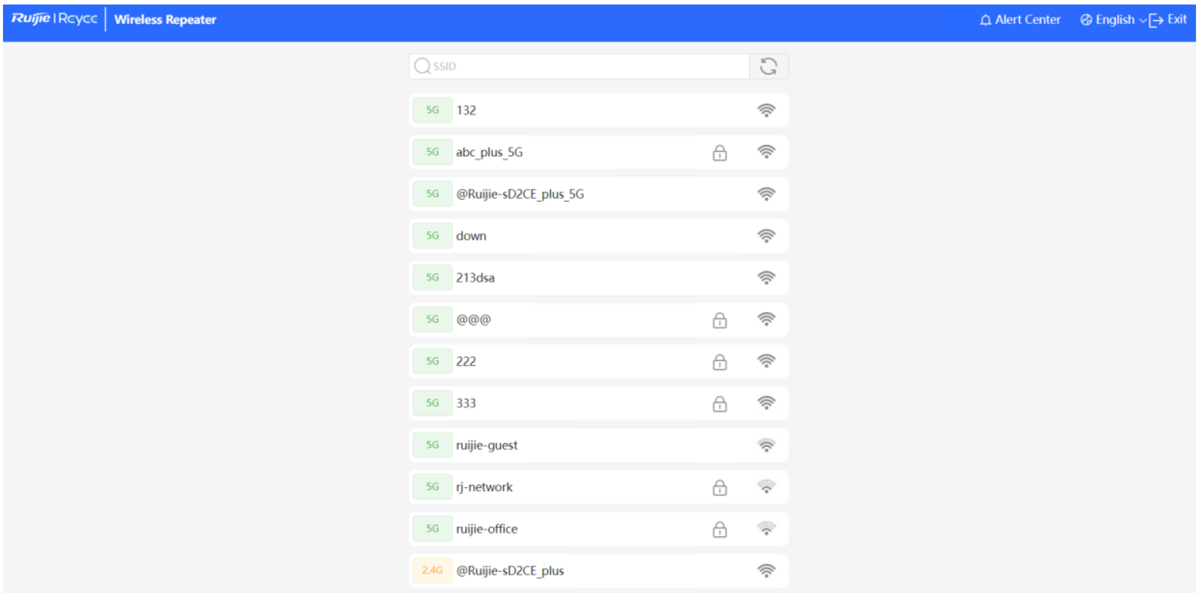
☑ Model	SN	IP Address	MAC Address	Software Version

(2) If you see a dialogue box indicating that the Ethernet cable is not connected to the WAN port, click **Wireless Repeater**.


No address on WAN port

Ethernet status

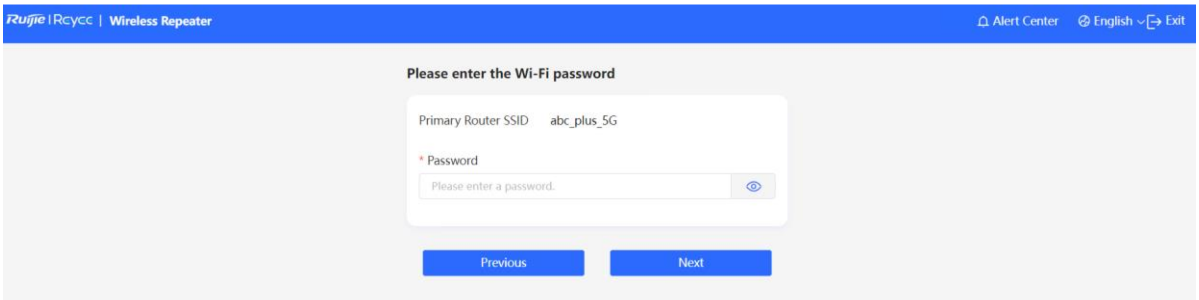
(3) Select the primary router SSID that requires expanding the Wi-Fi coverage, enter the Wi-Fi password of the primary router, and click **Next**.


Ruijie | Rcycc | Wireless Repeater

Alert Center English Exit

SSID

5G	132
5G	abc_plus_5G
5G	@Ruijie-sD2CE_plus_5G
5G	down
5G	213dsa
5G	@@@
5G	222
5G	333
5G	ruijie-guest
5G	rj-network
5G	ruijie-office
2.4G	@Ruijie-sD2CE_plus


Ruijie | Rcycc | Wireless Repeater

Alert Center English Exit

Please enter the Wi-Fi password

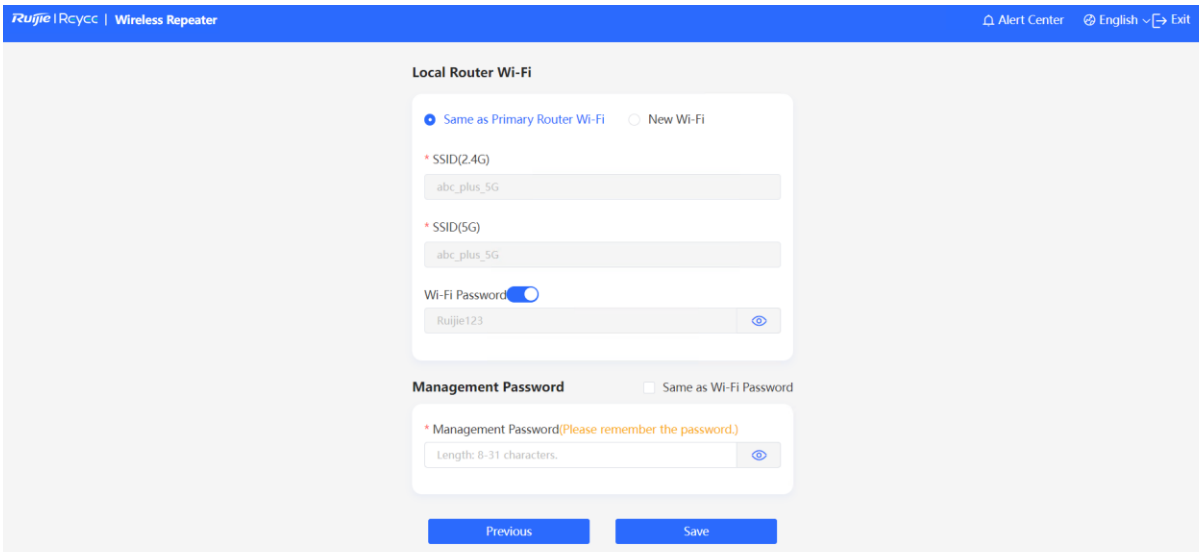
Primary Router SSID abc_plus_5G

* Password

Please enter a password.

Previous Next

(4) Set the SSID and password and click **Save**. Then, the Wi-Fi network will be restarted.


Ruijie | Rcycc | Wireless Repeater

Alert Center English Exit

Local Router Wi-Fi

● Same as Primary Router Wi-Fi ○ New Wi-Fi

* SSID(2.4G)

abc_plus_5G

* SSID(5G)

abc_plus_5G

Wi-Fi Password

Ruijie123

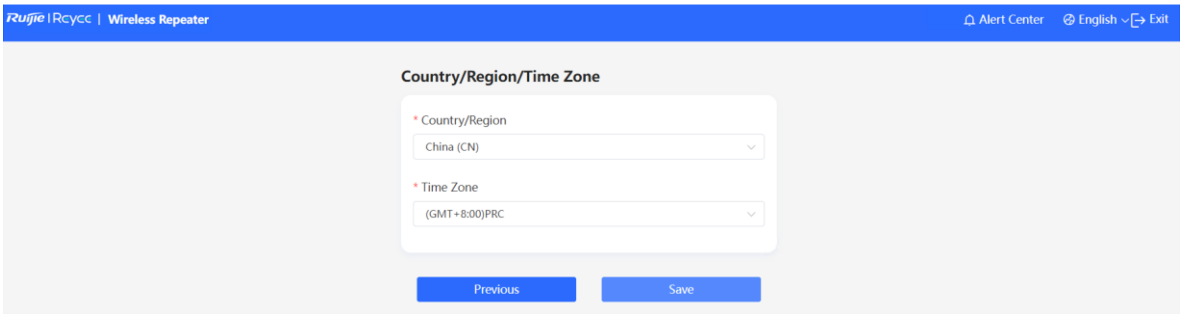
Management Password □ Same as Wi-Fi Password

* Management Password(Please remember the password.)

Length: 8-31 characters.

Previous Save

(5) Set the country/region code and time zone, and click **Save**.



Country/Region/Time Zone

* Country/Region: China (CN)

* Time Zone: (GMT+8:00)PRC

1.8 Introduction to the Web Interface

To facilitate flexible device management, the Web page displays different system configuration menus in different work modes. For details about the work mode, see 4.1 Switching Work Mode.

As to the RG-RAP72Pro, RG-RAP72-Wall and RG-RAP72Pro-OD models, please refer to 1.8.1 Management Page for Wi-Fi 7 Products.

The self-organizing network discovery function is enabled by default, but can be disabled manually. After this function is disabled, the web interface displays the local device mode.

When the self-organizing network discovery function is enabled, you can switch between the network-wide mode and the local device mode. The displayed function menus vary with the mode.

Note

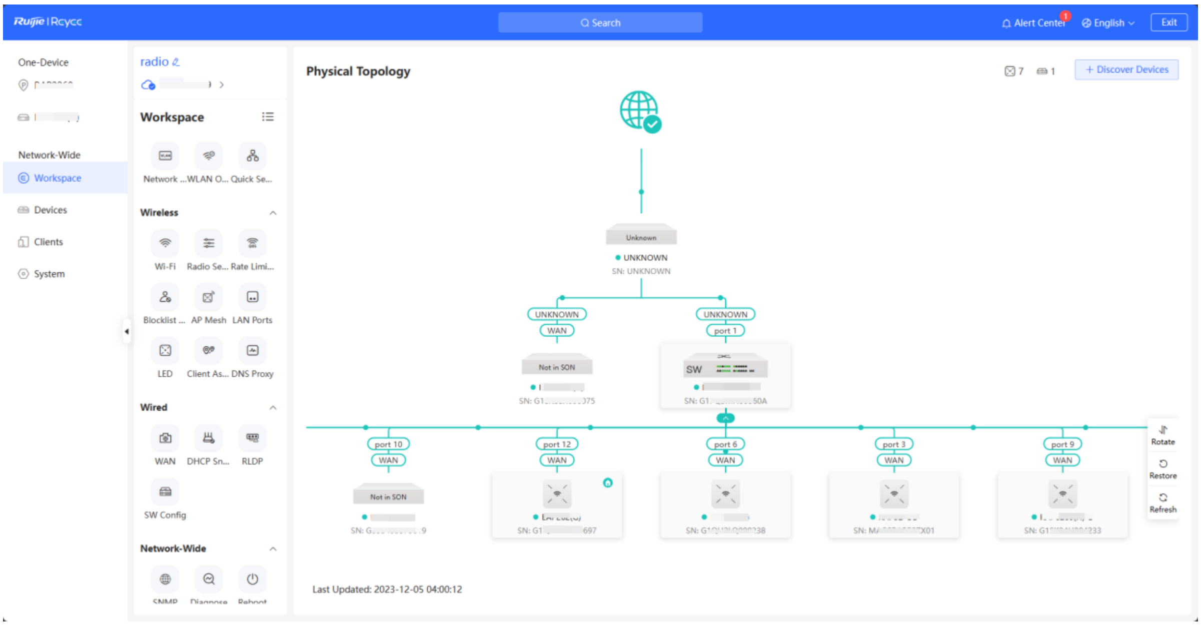
After the self-organizing network discovery function is enabled, the system configuration menus on the web interface depends on the master device on the network. If the master device supports Wi-Fi 6 or later, the web interface of the other devices on the network is the same as that of the master device.

1.8.1 Management Page for Wi-Fi 7 Products

1. Enabling Self-Organizing Network Discovery

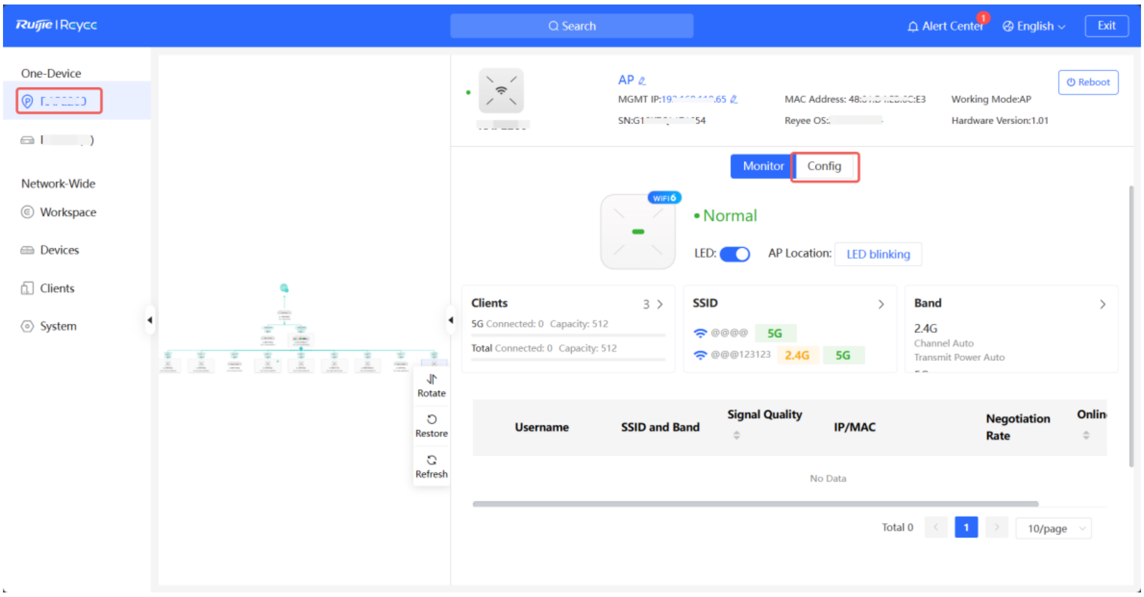
- Network-Wide Mode: Displays the management information of all devices on the network. You can configure all devices on the network from a network-wide perspective.
- Local Device Mode: You can only configure the current logged in device.

Network–Wide Mode

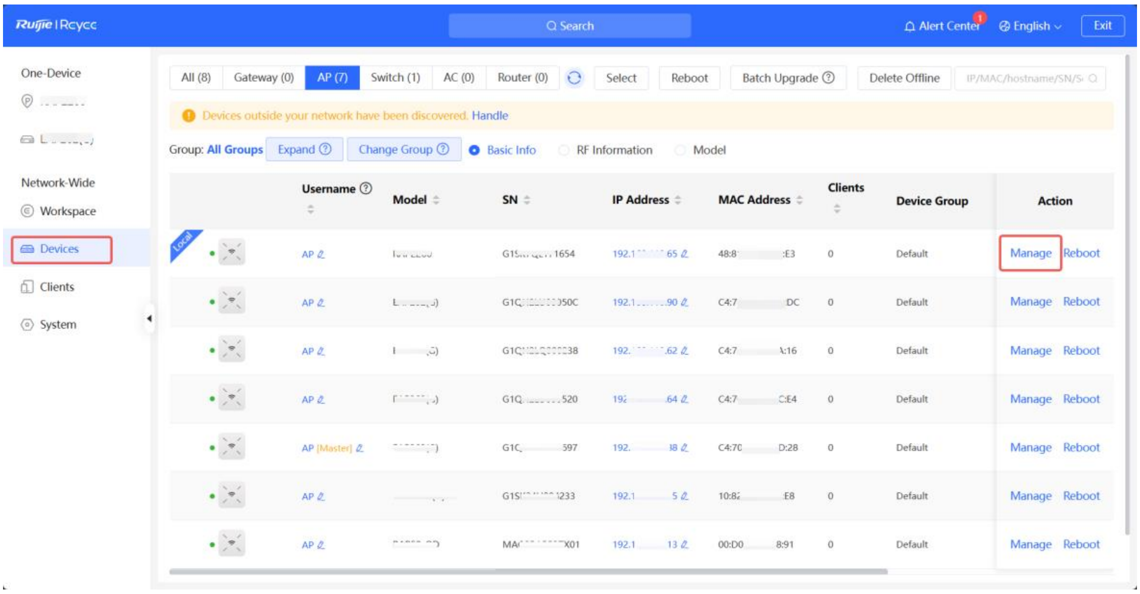


Local Device Mode

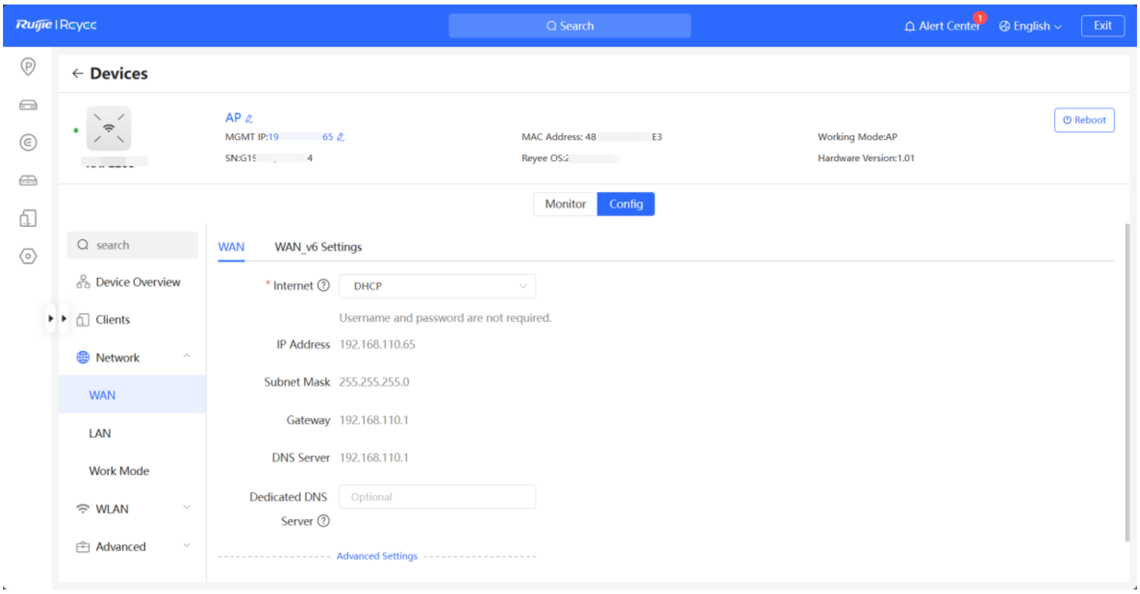
- To access the local device mode for the configuration and management of a single device, perform the following steps:
  - Method 1: Click the device name in the One Device menu and then click Config.



  - Method 2: Choose Network-Wide > Devices and click Manage next to a device in the AP list.



Username	Model	SN	IP Address	MAC Address	Clients	Device Group	Action
AP		G15 1654	192.1 65	48:8 E3	0	Default	Manage Reboot
AP		G1Q 350C	192.1 90	C4:7 DC	0	Default	Manage Reboot
AP		G1Q 238	192. 62	C4:7 A:16	0	Default	Manage Reboot
AP		G1Q 520	192 64	C4:7 C:E4	0	Default	Manage Reboot
AP [Master]		G1Q 597	192. 18	C4:70 D:28	0	Default	Manage Reboot
AP		G1S 1233	192.1 5	10:82 E8	0	Default	Manage Reboot
AP		MAC X01	192.1 13	00:D0 8:91	0	Default	Manage Reboot



AP
MGMT IP:19 65
SN:G1S 4
MAC Address: 48 E3
Reyee OS:
Working Mode:AP
Hardware Version:1.01

* Internet: DHCP

Username and password are not required.

IP Address: 192.168.110.65

Subnet Mask: 255.255.255.0

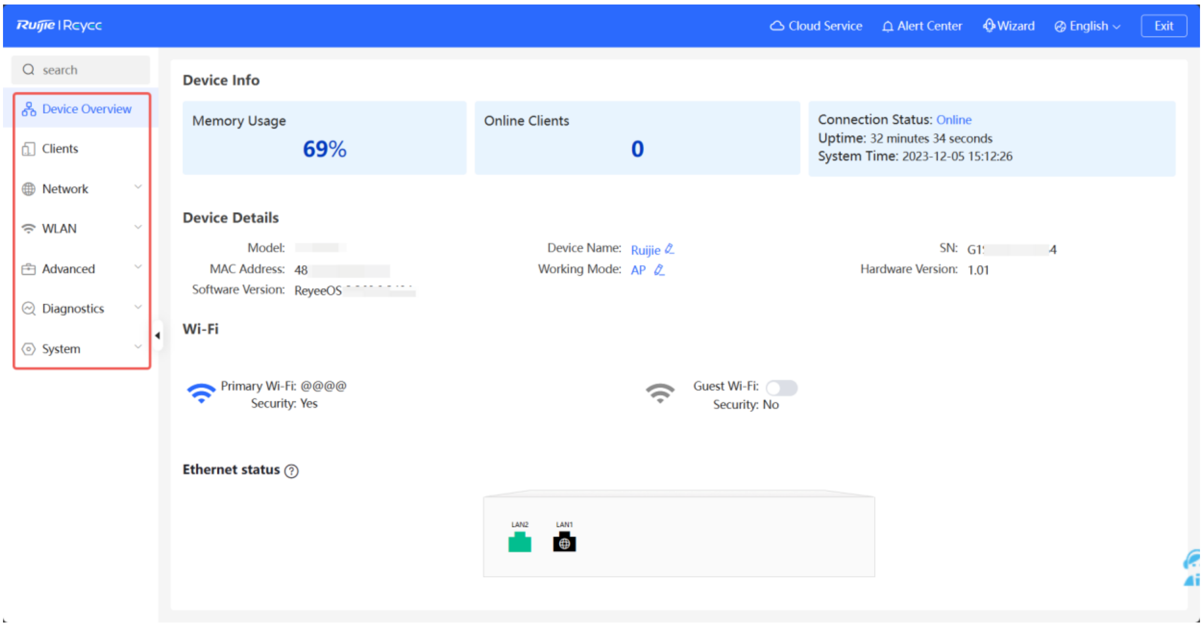
Gateway: 192.168.110.1

DNS Server: 192.168.110.1

Dedicated DNS Server: Optional

2. Disabling Self-Organizing Network Discovery

If a device is in standalone mode, you can configure and manage only the currently logged in device. The web interface displays the configuration menu of a single device on the left side.



Device Info

Memory Usage 69%

Online Clients 0

Connection Status: Online
Uptime: 32 minutes 34 seconds
System Time: 2023-12-05 15:12:26

Device Details

Model: [redacted]
MAC Address: 48 [redacted]
Software Version: ReyeeOS [redacted]
Device Name: Ruijie
Working Mode: AP
SN: G1 [redacted] 4
Hardware Version: 1.01

Wi-Fi

Primary Wi-Fi: @@@@
Security: Yes

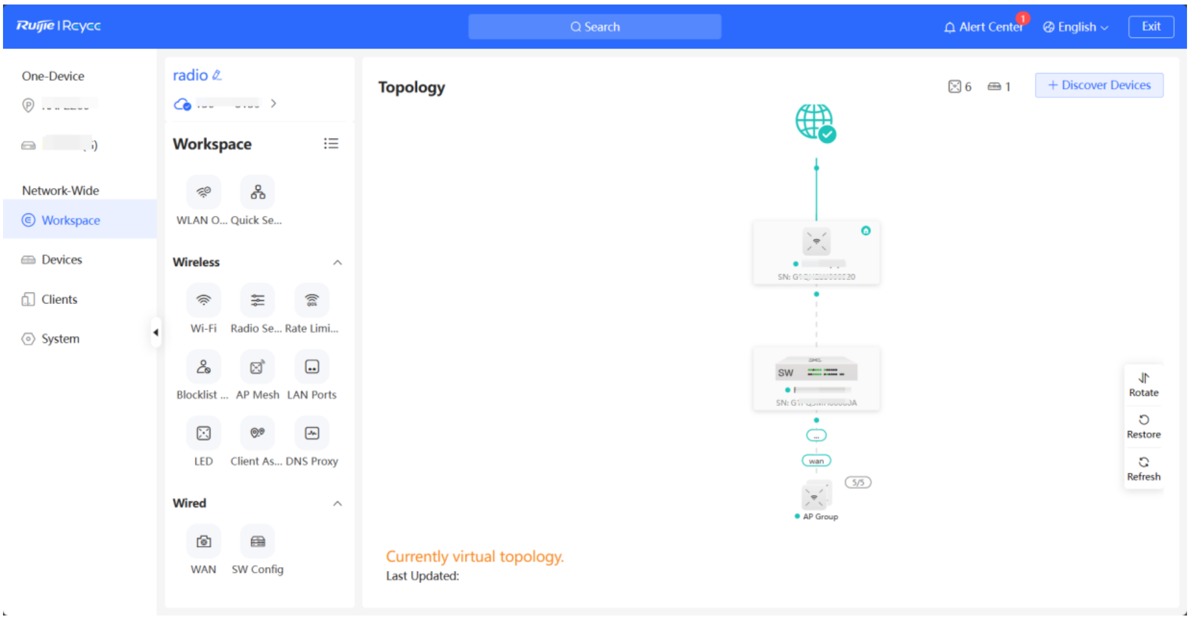
Guest Wi-Fi:
Security: No

Ethernet status

2 Network Monitoring

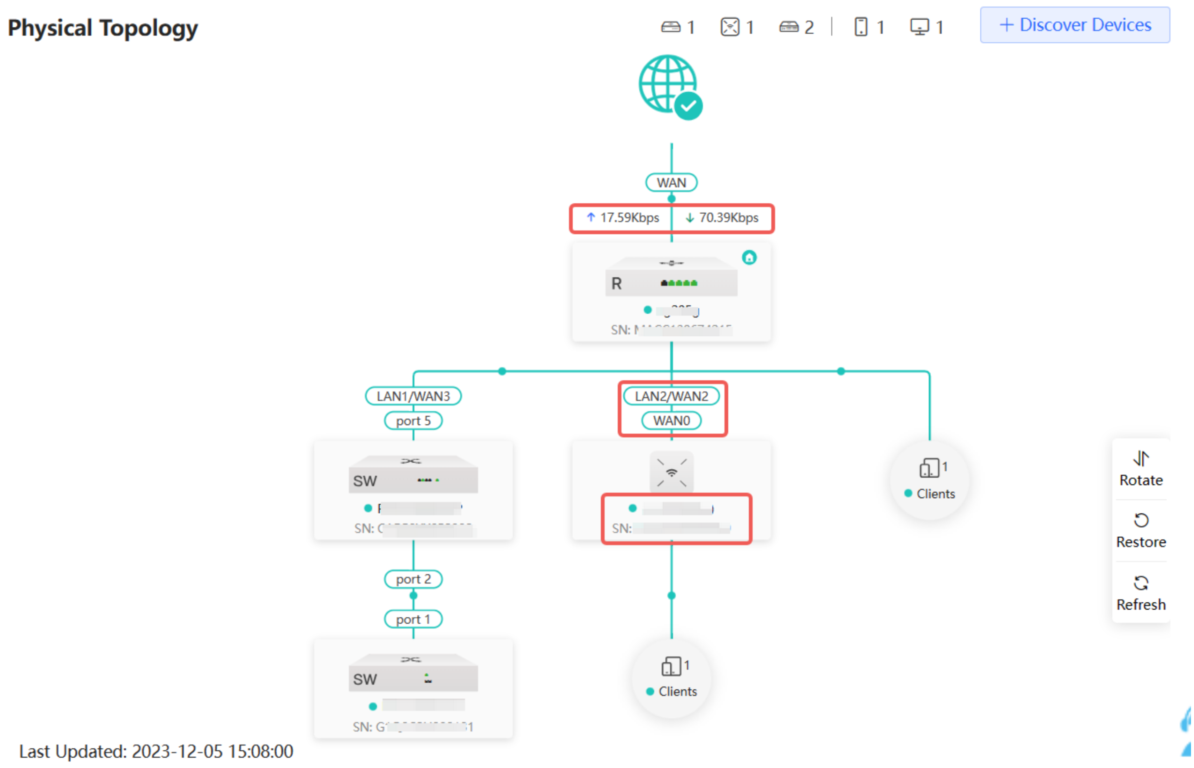
Choose **Network-Wide > Workspace** > **Topology**.

The **Overview** webpage displays the current network topology, real-time uplink and downlink flow, networking status, and the number of users. The quick access to network and device settings is also provided on the **Overview** webpage. Users can monitor, configure and manage the network status on the current page.

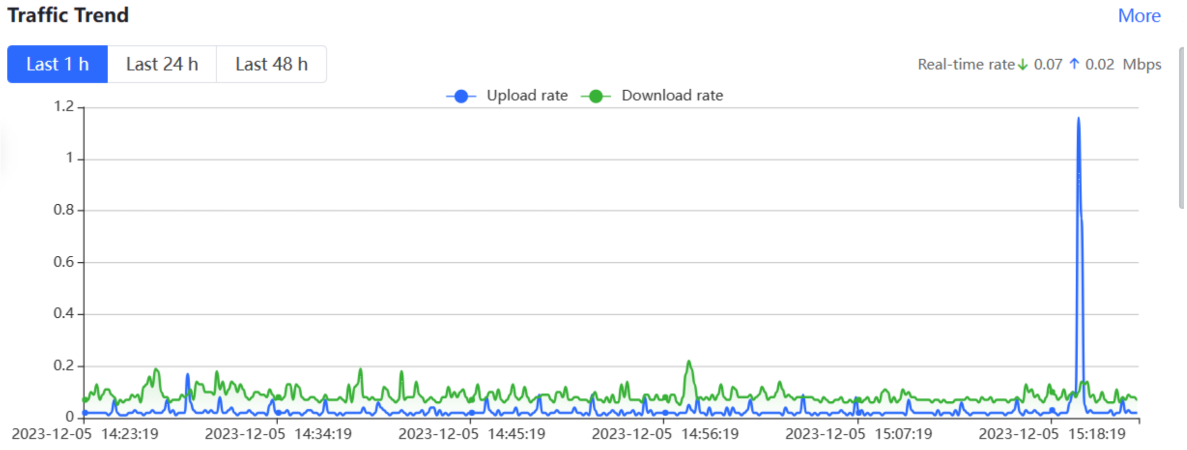


2.1 Viewing the Network Information

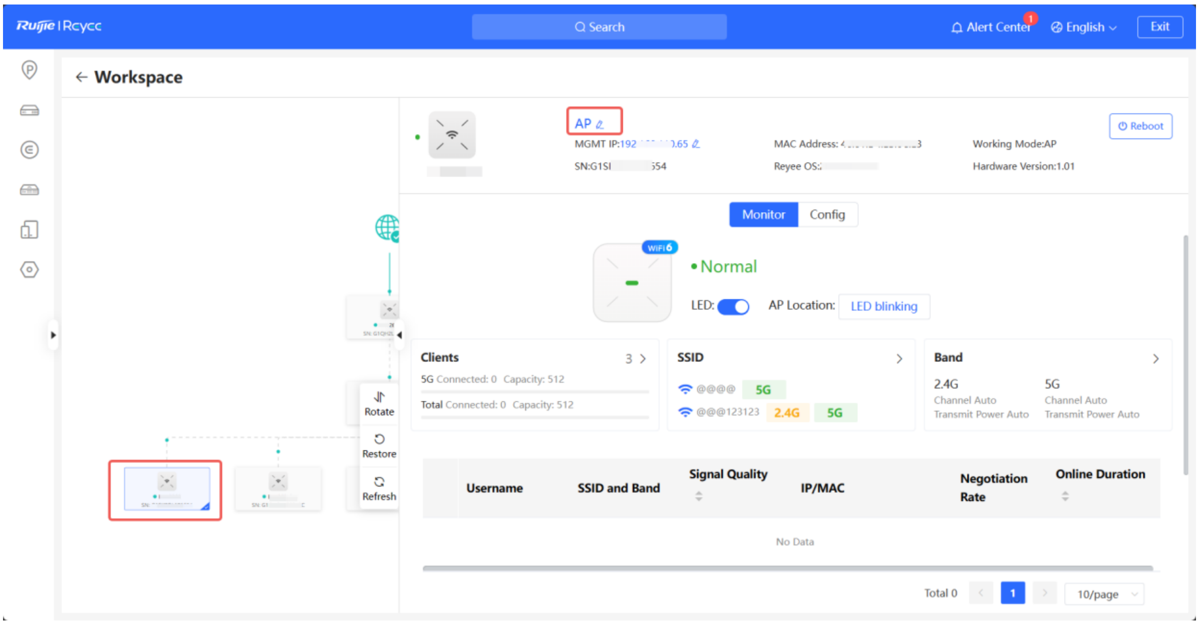
You can view the online device, port ID, device SN as well as the real-time uplink and downlink flow in the network topology.



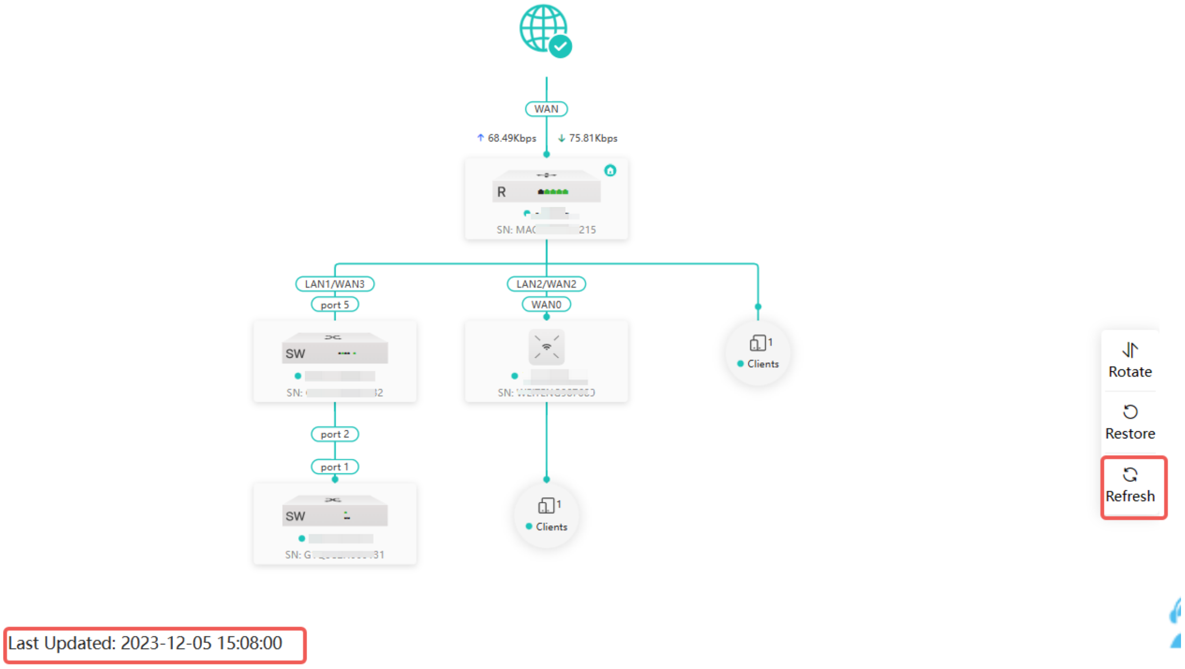
- Click the egress gateway to view real-time traffic information of the device.



- Click the device in the topology to view the operating status and configuration of the device and configure the device functions. The hostname is set to the product model by default. You can click ✎ to modify the hostname.



- The update time of the topology is displayed at the bottom left corner. Click **Refresh** to update the topology to the latest status. Please wait for a few minutes for the update.

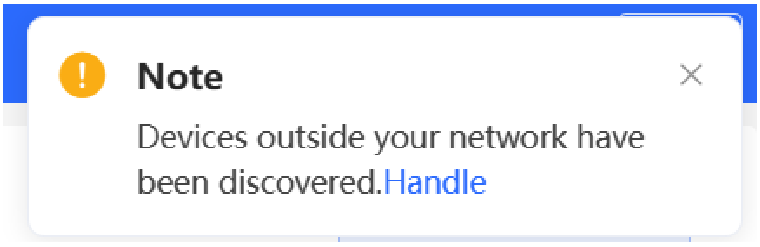


2.2 Adding Network Devices

2.2.1 Wired Connection

(1) If a new device is connected to the device in the network through wired connection, a prompt message will pop up, indicating that a device not in SON (Self-Organizing Network) is discovered. The number (in orange)

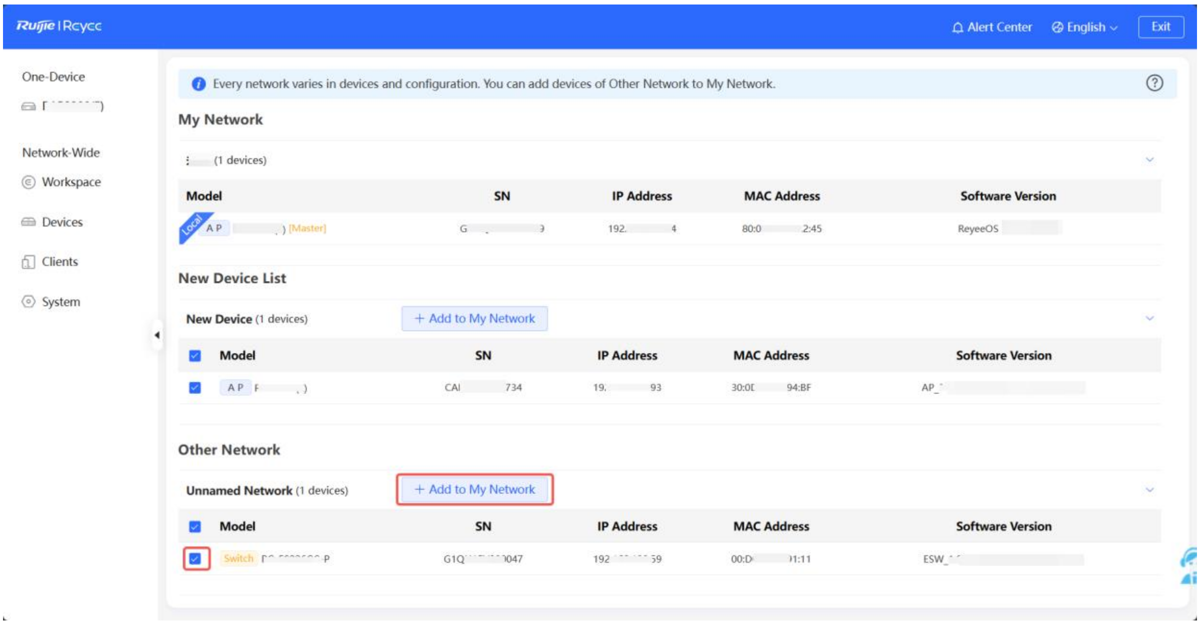
of devices that are not in SON is displayed under the **Devices** at the top left corner of the page. Click **Handle** to add the device to the current network.



Note

Devices outside your network have been discovered.Handle

(2) Go to the **Network List** page, click **Other Network** to select the target device and click **Add to My Network**.



Every network varies in devices and configuration. You can add devices of Other Network to My Network.

My Network

(1 devices)

Model	SN	IP Address	MAC Address	Software Version
Local AP) [Master]	G 9	192. 4	80:0 2:45	ReyeeOS

New Device List

New Device (1 devices) + Add to My Network

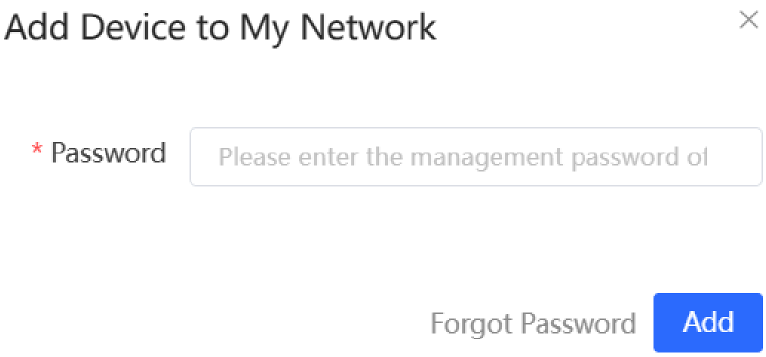
☑	Model	SN	IP Address	MAC Address	Software Version
☑	AP F)	CAI 734	19. 93	30:0[94:BF	AP_

Other Network

Unnamed Network (1 devices) + Add to My Network

☑	Model	SN	IP Address	MAC Address	Software Version
☑	Switch P P	G1Q 047	192 59	00:D 11:11	ESW_

If the target device is not configured yet, you can add the device directly without a password. If the device is configured with a password, please enter the management password of the device. If the password is incorrect, the device cannot be added to the network.



Add Device to My Network

* Password: Please enter the management password of

Forgot Password | Add

2.2.2 AP Mesh

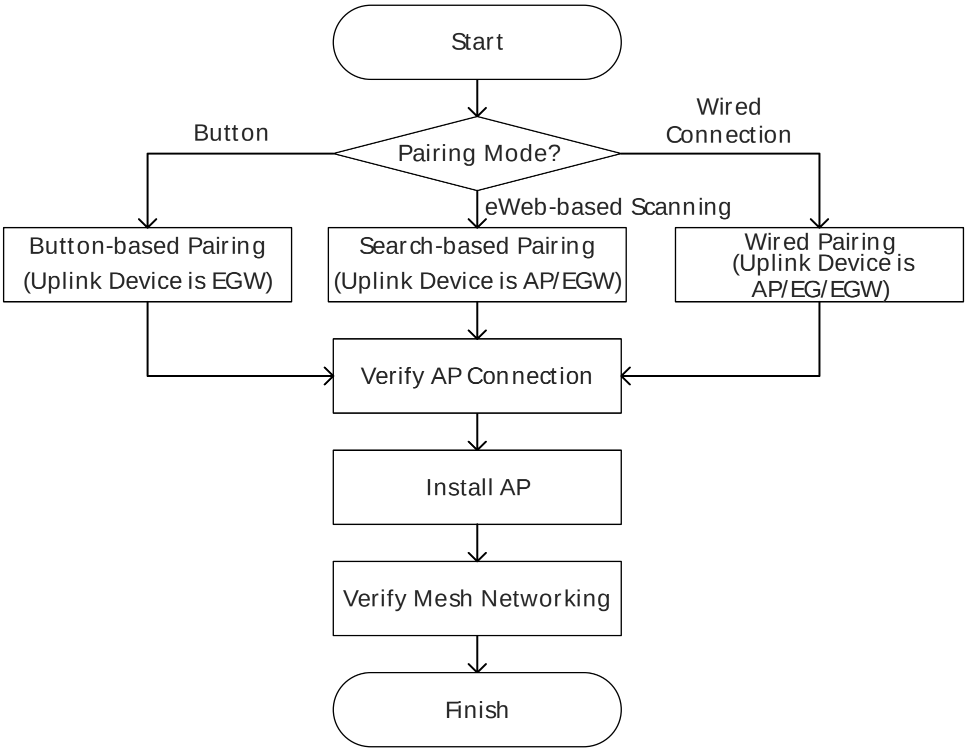
1. Overview

After being powered on and enabled with Mesh (see 3.22 Enabling Reyee Mesh for details), a Mesh-capable new AP can be paired with other Mesh-capable wireless devices on the target network through multiple ways. Then the AP will be synchronized its Wi-Fi configuration with other devices automatically. Mesh networking addresses pain points such as complex wireless networking and cabling. A new AP can be connected to any uplink wireless device among AP, EG router, and EGW router in the following ways:

- Button-based pairing: Short press the Mesh button on the EGW router on the target network to implement fast pairing of the AP with the EGW router.
- Search-based pairing: Log in to the web interface of a device on the target network. Search and add APs to be paired.
- Wired pairing: Connect the new AP to a wireless device on the target network using an Ethernet cable. The new AP will go online on the target network.

After pairing finishes, the new AP obtains the wireless backhaul information from network-wide neighboring APs. Install the new AP as planned, and it will connect to the optimal neighboring AP.

2. Configuration Steps


Start
Button
Pairing Mode?
Wired Connection
eWeb-based Scanning
Button-based Pairing (Uplink Device is EGW)
Search-based Pairing (Uplink Device is AP/EGW)
Wired Pairing (Uplink Device is AP/EG/EGW)
Verify AP Connection
Install AP
Verify Mesh Networking
Finish

3. Configuration Steps for Button-based Pairing

⚠ **Caution**

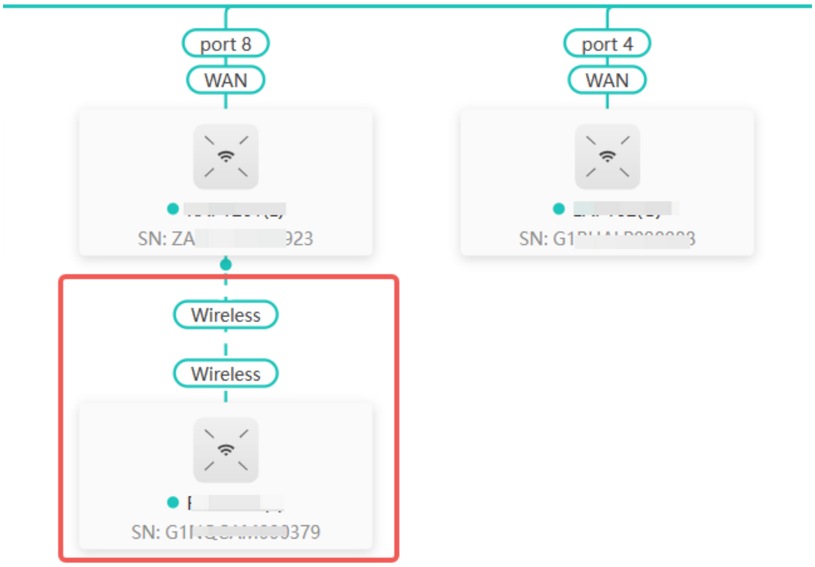
- The uplink device is an EGW router.
- Only EG105GW-X and EG105GW(T) support button-based pairing, and each router can be paired with up to 15 new APs.

- The master device must be properly configured. Otherwise, AP mesh failure may occur due to constant channel scanning.
- The new AP must be in factory status.
- It can be scanned only when the live network is enabled with Mesh (see 3.22 Enabling Reyee Mesh for details).
- Place the new AP no more than 2 meters away from the uplink device to ensure that the new AP can receive the Wi-Fi signal from the uplink device. The new AP may fail to be scanned due to the long distance or obstacles between it and the uplink device.

(1) Power on the new AP and place it near the EGW router on the target network.

(2) Press and hold the Mesh button on the EGW router for no more than two seconds to start pairing. The pairing process takes about one minute.

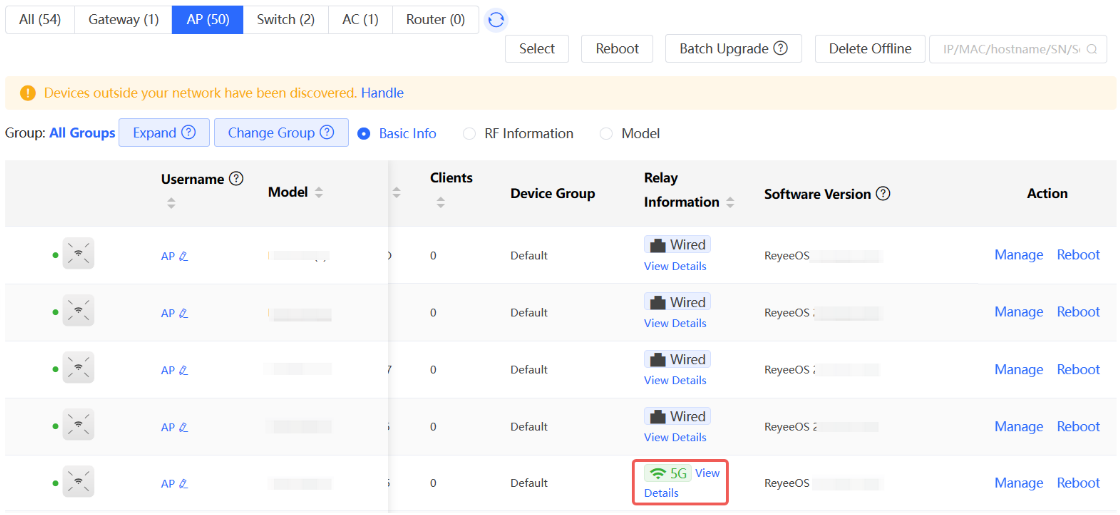
(3) Check the topology on the **Physical Topology** page to make sure that the new AP has connected to the uplink device in wireless mode.



(4) Power off the new AP and install it as planned.

(5) Log in to the web interface of a device on the target network. In **Network-Wide** mode, choose **Devices** > **AP**.

Make sure that the new AP is online and the corresponding entry contains icon 5G in the **Relay Information** column. The icon indicates that wireless backhaul is performed through the 5 GHz radio.



All (54) | Gateway (1) | AP (50) | Switch (2) | AC (1) | Router (0)

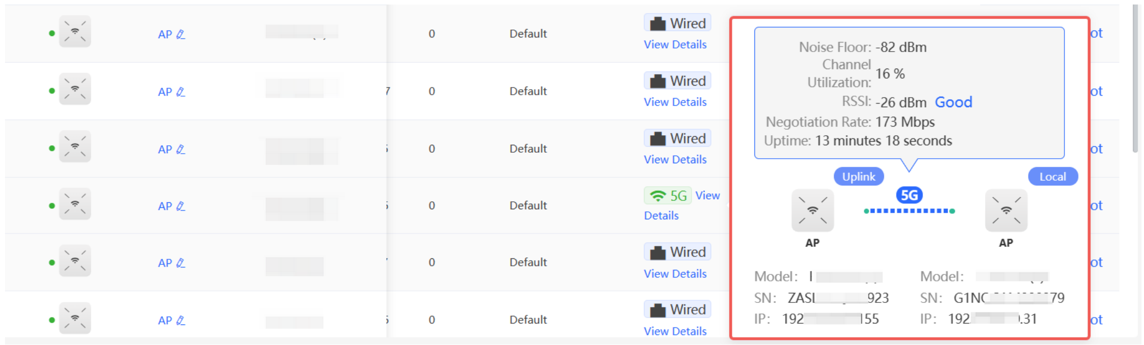
Select | Reboot | Batch Upgrade | Delete Offline | IP/MAC/hostname/SN/S

Devices outside your network have been discovered. Handle

Group: All Groups | Expand | Change Group | ● Basic Info | ○ RF Information | ○ Model

	Username	Model	Clients	Device Group	Relay Information	Software Version	Action
●	AP	[redacted]	0	Default	Wired View Details	ReyeeOS [redacted]	Manage Reboot
●	AP	[redacted]	0	Default	Wired View Details	ReyeeOS [redacted]	Manage Reboot
●	AP	[redacted]	0	Default	Wired View Details	ReyeeOS [redacted]	Manage Reboot
●	AP	[redacted]	0	Default	Wired View Details	ReyeeOS [redacted]	Manage Reboot
●	AP	[redacted]	0	Default	5G View Details	ReyeeOS [redacted]	Manage Reboot

(6) Click **View Details** following the 5G icon to obtain information about the uplink device and RSSI.



	Username	Model	Clients	Device Group	Relay Information
●	AP	[redacted]	0	Default	Wired View Details
●	AP	[redacted]	0	Default	Wired View Details
●	AP	[redacted]	0	Default	Wired View Details
●	AP	[redacted]	0	Default	5G View Details
●	AP	[redacted]	0	Default	Wired View Details
●	AP	[redacted]	0	Default	Wired View Details

Noise Floor: -82 dBm
Channel Utilization: 16 %
RSSI: -26 dBm Good
Negotiation Rate: 173 Mbps
Uptime: 13 minutes 18 seconds

Model: [redacted] | Model: [redacted]
SN: ZASI[redacted]923 | SN: G1NC[redacted]79
IP: 192[redacted]155 | IP: 192[redacted].31

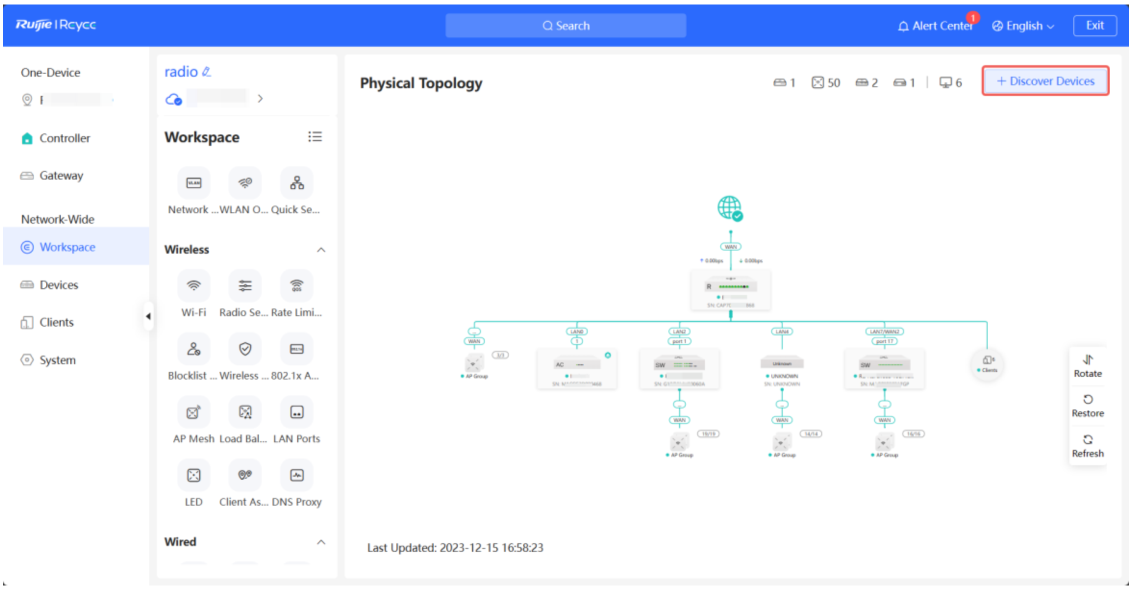
4. Configuration Steps for Search-based Pairing

Caution

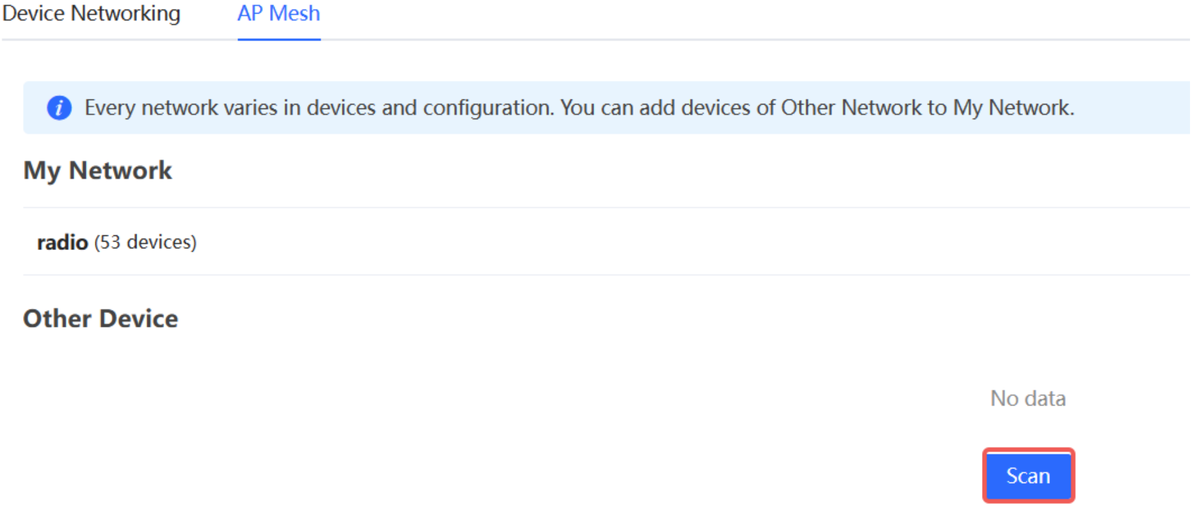
- Uplink device is an AP or EGW router.
- The master device must be properly configured. Otherwise, AP mesh failure may occur due to constant channel scanning.
- The new AP must be in factory status.
- It can be scanned only when the live network is enabled with Mesh (see 3.22 Enabling Reyee Mesh for details).
- Place the new AP no more than 2 meters away from the uplink device to ensure that the new AP can receive the Wi-Fi signal from the uplink device. The new AP may fail to be scanned due to the long distance or obstacles between it and the uplink device.
- You can scan to discover new APs on the AP Mesh page only when there are APs supporting the AP Mesh function on the network.

(1) Power on the new AP and place it near the AP or EGW router on the target network.

(2) Log in to the web interface of a device on the target network. In **Network-Wide** mode, click **+Discover Devices** in the upper right corner of the **Physical Topology** page to scan the APs in other networks not plugged in with Ethernet cables.



(3) On the **AP Mesh** page, click **Scan** to scan devices that are not connected to the network via an Ethernet cable.


Device Networking AP Mesh

Every network varies in devices and configuration. You can add devices of Other Network to My Network.

My Network

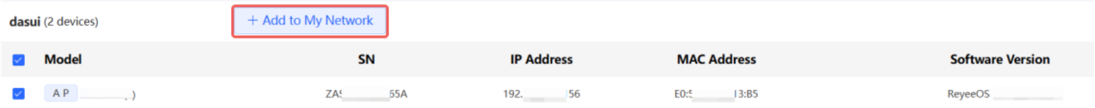
radio (53 devices)

Other Device

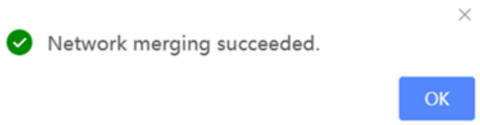
No data

Scan

(4) Select the APs to be added and click **Add to My Network**. No more than eight APs are allowed at a time. Wait until network merging finishes.

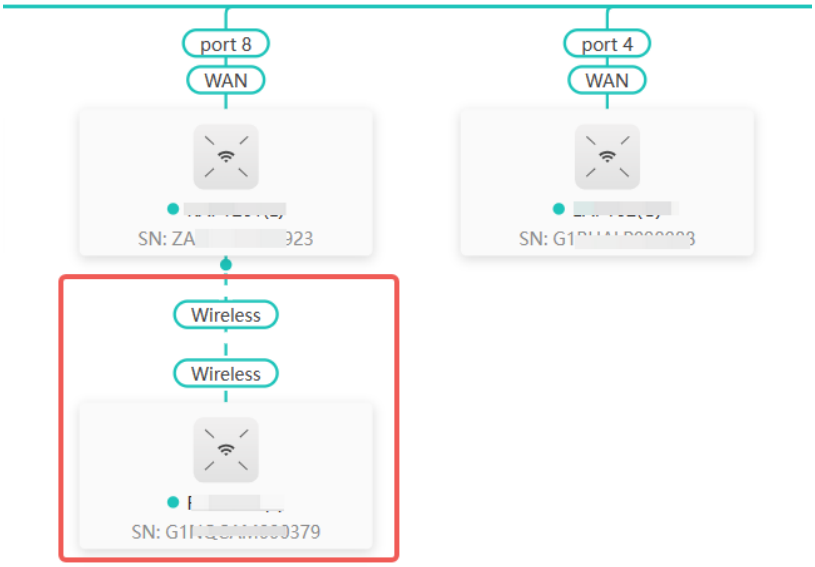

dasui (2 devices) + Add to My Network

☑	Model	SN	IP Address	MAC Address	Software Version
☑	A P)	ZA! 55A	192. 56	E0:! 13:B5	ReyeeOS


Network merging succeeded.

OK

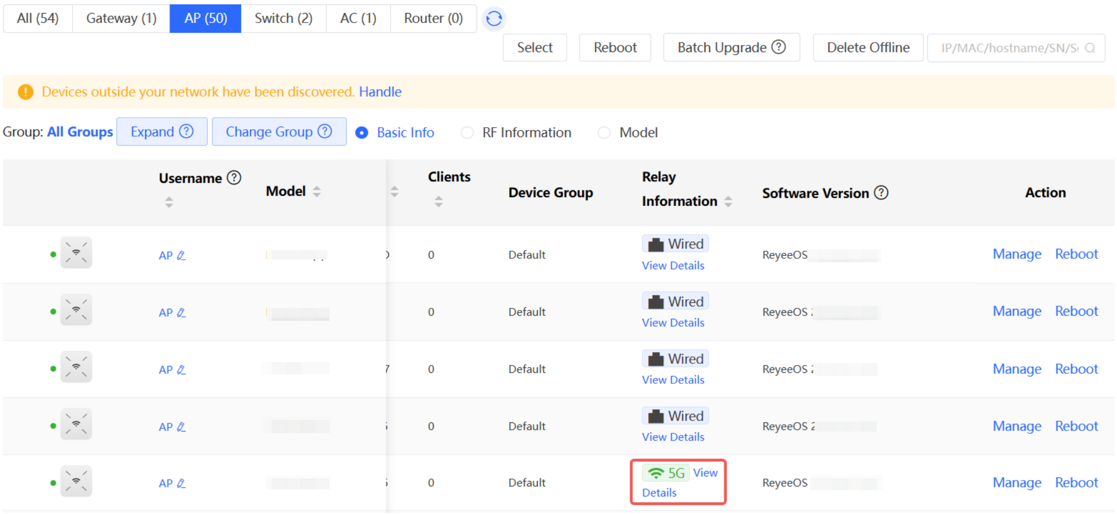
(5) Check the topology on the **Physical Topology** page to make sure that the new AP has connected to the uplink device in wireless mode.



(6) Power off the new AP and install it as planned.

(7) Log in to the web interface of a device on the target network. In **Network-Wide** mode, choose **Devices** > **AP**.

Make sure that the new AP is online and the corresponding entry contains icon 5G in the **Relay Information** column. The icon indicates that wireless backhaul is performed through the 5 GHz radio.

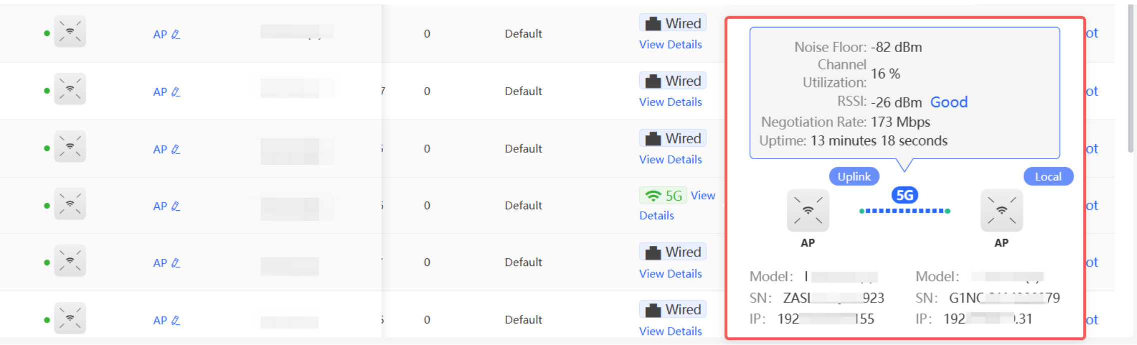


Devices outside your network have been discovered. Handle

Group: All Groups Expand Change Group ● Basic Info ○ RF Information ○ Model

	Username	Model	Clients	Device Group	Relay Information	Software Version	Action
●	AP		0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP		0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP		0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP		0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP		0	Default	5G View Details	ReyeeOS	Manage Reboot

(8) Click **View Details** following the 5G icon to obtain information about the uplink device and RSSI.



	Username	Model	Clients	Device Group	Relay Information	
●	AP	[redacted]	0	Default	Wired View Details	ot
●	AP	[redacted]	0	Default	Wired View Details	ot
●	AP	[redacted]	0	Default	Wired View Details	ot
●	AP	[redacted]	0	Default	5G View Details	ot
●	AP	[redacted]	0	Default	Wired View Details	ot
●	AP	[redacted]	0	Default	Wired View Details	ot

Noise Floor: -82 dBm
Channel Utilization: 16 %
RSSI: -26 dBm Good
Negotiation Rate: 173 Mbps
Uptime: 13 minutes 18 seconds

Model: [redacted] Model: [redacted]
SN: ZASI[redacted]923 SN: G1NC[redacted]79
IP: 192[redacted]155 IP: 192[redacted].31

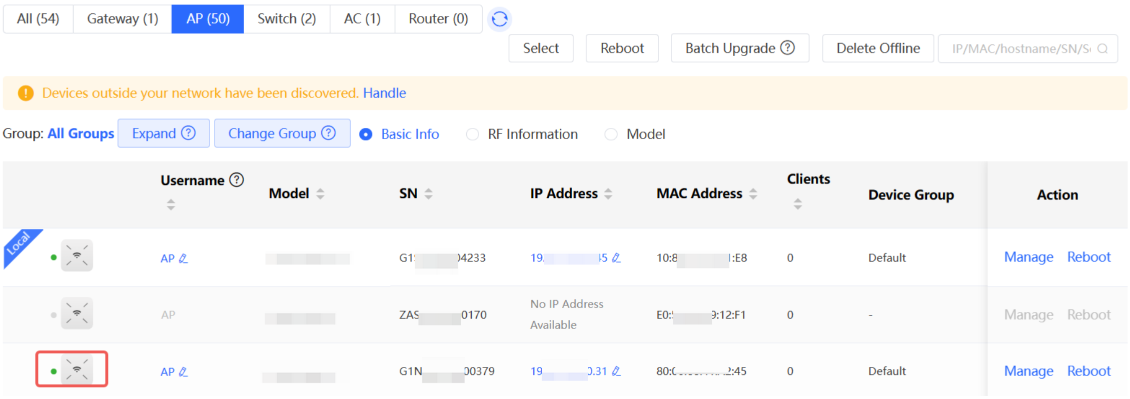
5. Configuration Steps for Wired Pairing

Caution

- Uplink device is an AP, EG router, or EGW router.
- The new AP must be in factory status.
- It can be scanned only when the live network is enabled with Mesh (see 3.22 Enabling Reyee Mesh for details).

(1) Plug one end of the Ethernet cable to the uplink port of the new AP, and the other end to the downlink port of an AP, EG router, or EGW router on the target network. Mesh networking takes one to three minutes. When the system status LED is steady on, it indicates that Mesh networking finishes.

(2) Log in to the web interface of a device on the target network. In **Network-Wide** mode, choose **Devices** and make sure that the new AP is online.



Devices outside your network have been discovered. Handle

Group: All Groups Expand Change Group ● Basic Info ○ RF Information ○ Model

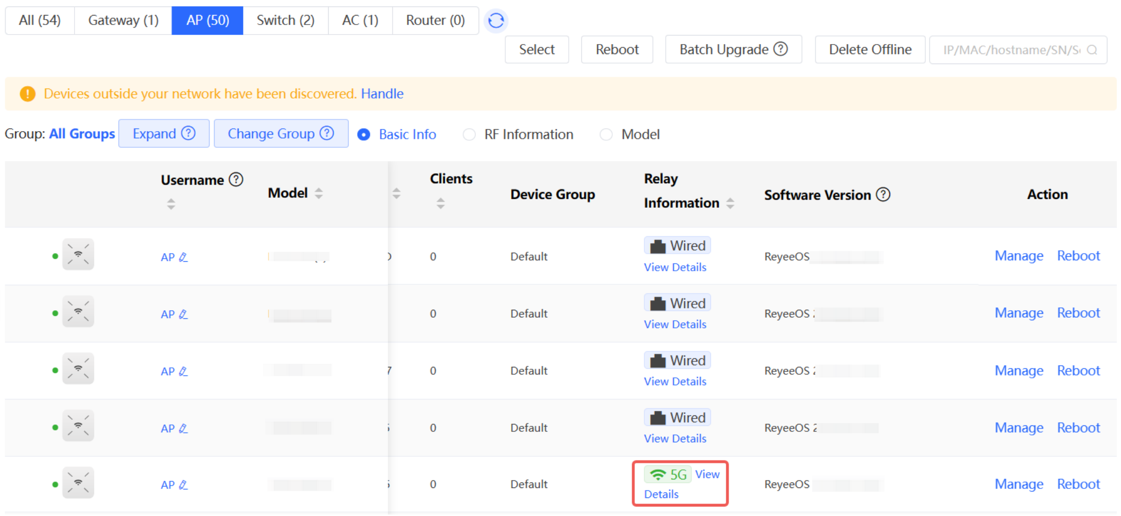
	Username	Model	SN	IP Address	MAC Address	Clients	Device Group	Action
Local ●	AP	[redacted]	G1[redacted]04233	19[redacted]5	10:8[redacted]:E8	0	Default	Manage Reboot
●	AP	[redacted]	ZAS[redacted]0170	No IP Address Available	E0:[redacted]:12:F1	0	-	Manage Reboot
●	AP	[redacted]	G1N[redacted]00379	19[redacted].31	80:[redacted]:45	0	Default	Manage Reboot

(3) **Self-Healing Mesh** is disabled by default. You need to enable it first (for details, see4.12 Configuring Self-Healing Mesh) to complete the wired-to-wireless handoff process.

(4) Unplug the Ethernet cable, power off the new AP, and install it as planned.

(5) Log in to the web interface of a device on the target network. In **Network-Wide** mode, choose **Devices** > **AP**.

Make sure that the new AP is online and the corresponding entry contains icon 5G in the **Relay Information** column. The icon indicates that wireless backhaul is performed through the 5 GHz radio.


All (54) | Gateway (1) | AP (50) | Switch (2) | AC (1) | Router (0)

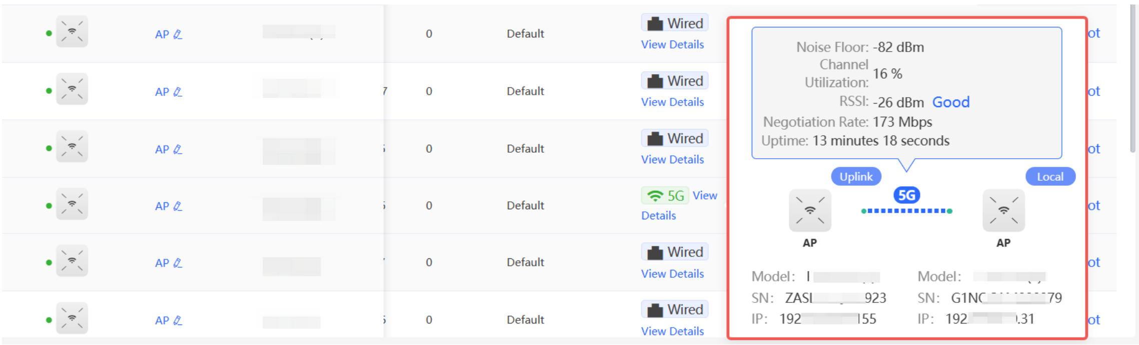
Select | Reboot | Batch Upgrade | Delete Offline | IP/MAC/hostname/SN/S

Devices outside your network have been discovered. Handle

Group: All Groups | Expand | Change Group | ● Basic Info ○ RF Information ○ Model

	Username	Model		Clients	Device Group	Relay Information	Software Version	Action
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	5G View Details	ReyeeOS	Manage Reboot

(6) Click **View Details** following the 5G icon to obtain information about the uplink device and RSSI.


Noise Floor: -82 dBm

Channel Utilization: 16 %

RSSI: -26 dBm Good

Negotiation Rate: 173 Mbps

Uptime: 13 minutes 18 seconds

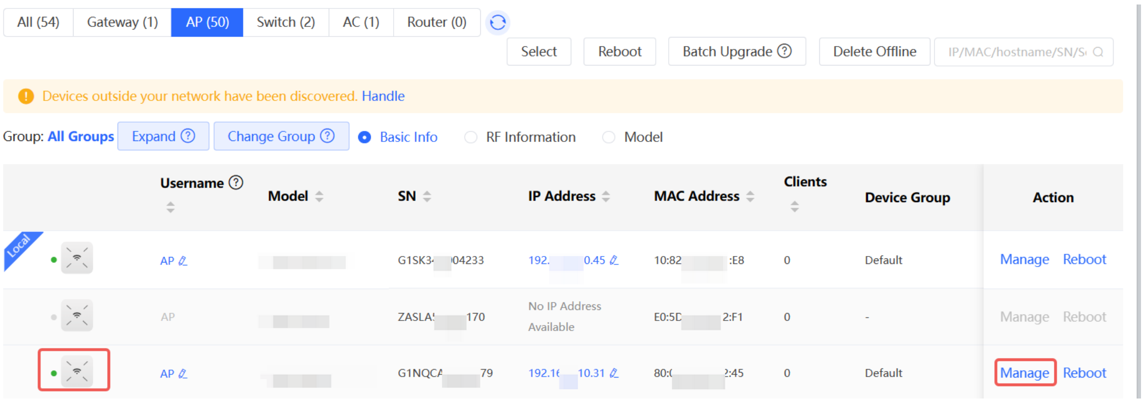
Model: I | Model:
SN: ZASI 923 | SN: G1NC 79
IP: 192 155 | IP: 192 .31

	Username	Model		Clients	Device Group	Relay Information	Action
●	AP			0	Default	Wired View Details	ot
●	AP			0	Default	Wired View Details	ot
●	AP			0	Default	Wired View Details	ot
●	AP			0	Default	5G View Details	ot
●	AP			0	Default	Wired View Details	ot
●	AP			0	Default	Wired View Details	ot

6. Enabling WAN Port

The WAN port works as the wired uplink port of the AP by default. For the AP added to the target network through Mesh pairing, the WAN port is disabled by default. If you want to connect the Mesh AP to other downlink device in wired mode to expand the network, enable this port.

(1) Log in to the web interface of the network project. Choose **Network-Wide** > **Devices** > **AP**, and click **Manage** next to a device in the AP list.


All (54) | Gateway (1) | AP (50) | Switch (2) | AC (1) | Router (0)

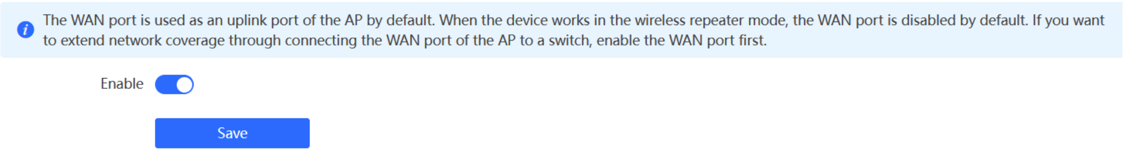
Select | Reboot | Batch Upgrade | Delete Offline | IP/MAC/hostname/SN/S

Devices outside your network have been discovered. Handle

Group: All Groups | Expand | Change Group | ● Basic Info ○ RF Information ○ Model

	Username	Model	SN	IP Address	MAC Address	Clients	Device Group	Action
Local ●	AP		G1SK3 04233	192. 0.45	10:82 :E8	0	Default	Manage Reboot
●	AP		ZASLA 170	No IP Address Available	E0:5D 2:F1	0	-	Manage Reboot
●	AP		G1NQCA 79	192.1 10.31	80: 2:45	0	Default	Manage Reboot

(2) Choose **Config** > **Advanced** > **Enable WAN**, toggle on **Enable**, and click **Save**.



The WAN port is used as an uplink port of the AP by default. When the device works in the wireless repeater mode, the WAN port is disabled by default. If you want to extend network coverage through connecting the WAN port of the AP to a switch, enable the WAN port first.

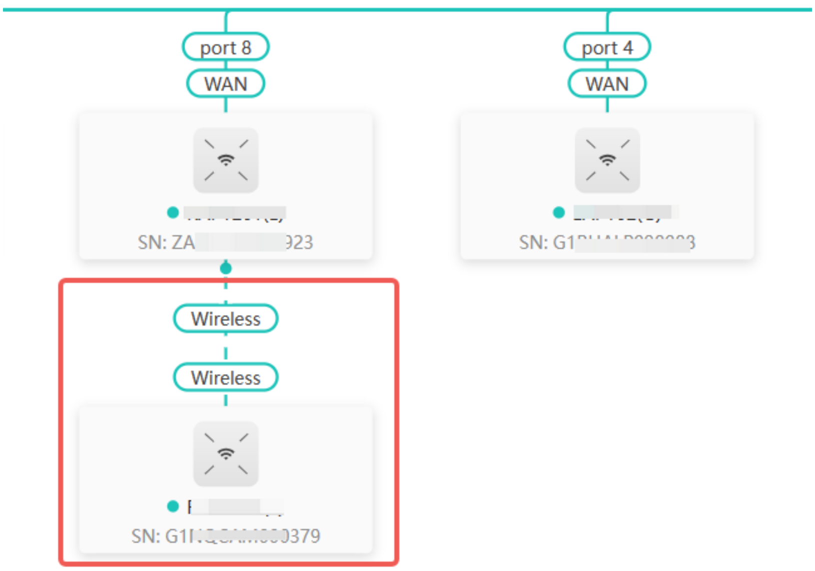
Enable: on

7. Querying Mesh APs and Mesh Details

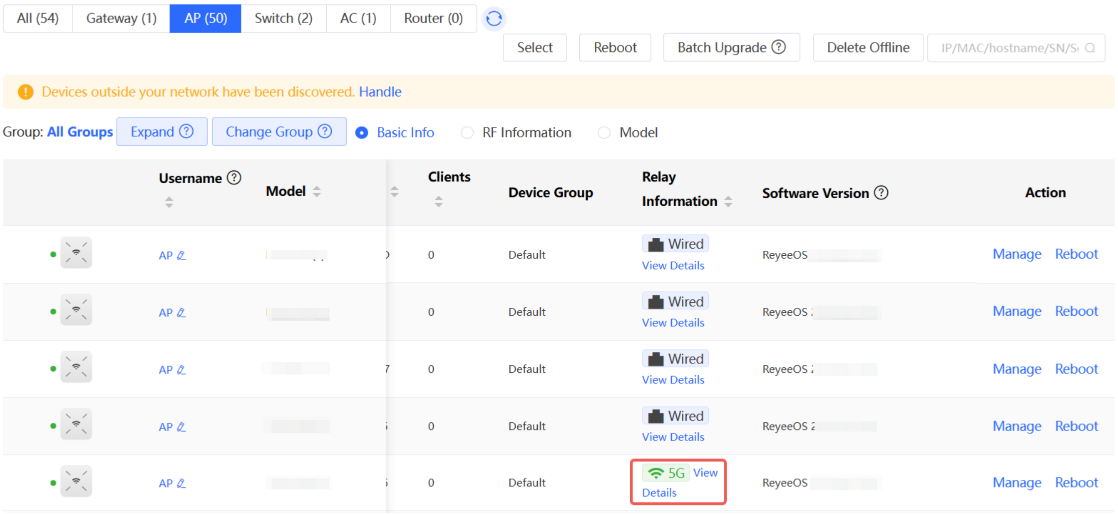
(1) Log in to the web interface of a device on the target network.

(2) Query Mesh APs.

- Method 1: In **Network-Wide** mode, check the topology on the **Physical Topology** page. The AP that connects to the uplink device in wireless mode is a Mesh AP.



- Method 2: In **Network-Wide** mode, choose **Devices** > **AP**. If an entry contains icon 5G in the **Relay Information** column, the corresponding AP is a Mesh AP.



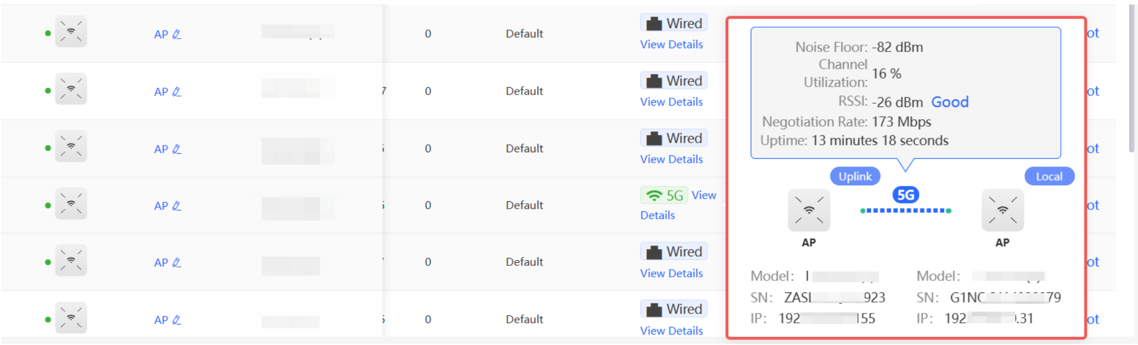
Devices outside your network have been discovered. Handle

Group: **All Groups** Expand ⓘ Change Group ⓘ ● Basic Info ○ RF Information ○ Model

	Username ⓘ	Model		Clients	Device Group	Relay Information	Software Version ⓘ	Action
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	Wired View Details	ReyeeOS	Manage Reboot
●	AP			0	Default	5G View Details	ReyeeOS	Manage Reboot

(3) Query Mesh networking details.

In **Network-Wide** mode, choose **Devices** > **AP**. Select the target AP, and click **View Details** in the **Relay Information** column to obtain the Mesh networking details.



●	AP	0	Default	Wired View Details	ot
●	AP	0	Default	Wired View Details	ot
●	AP	0	Default	Wired View Details	ot
●	AP	0	Default	5G View Details	ot
●	AP	0	Default	Wired View Details	ot
●	AP	0	Default	Wired View Details	ot

Noise Floor: -82 dBm
Channel Utilization: 16 %
RSSI: -26 dBm Good
Negotiation Rate: 173 Mbps
Uptime: 13 minutes 18 seconds

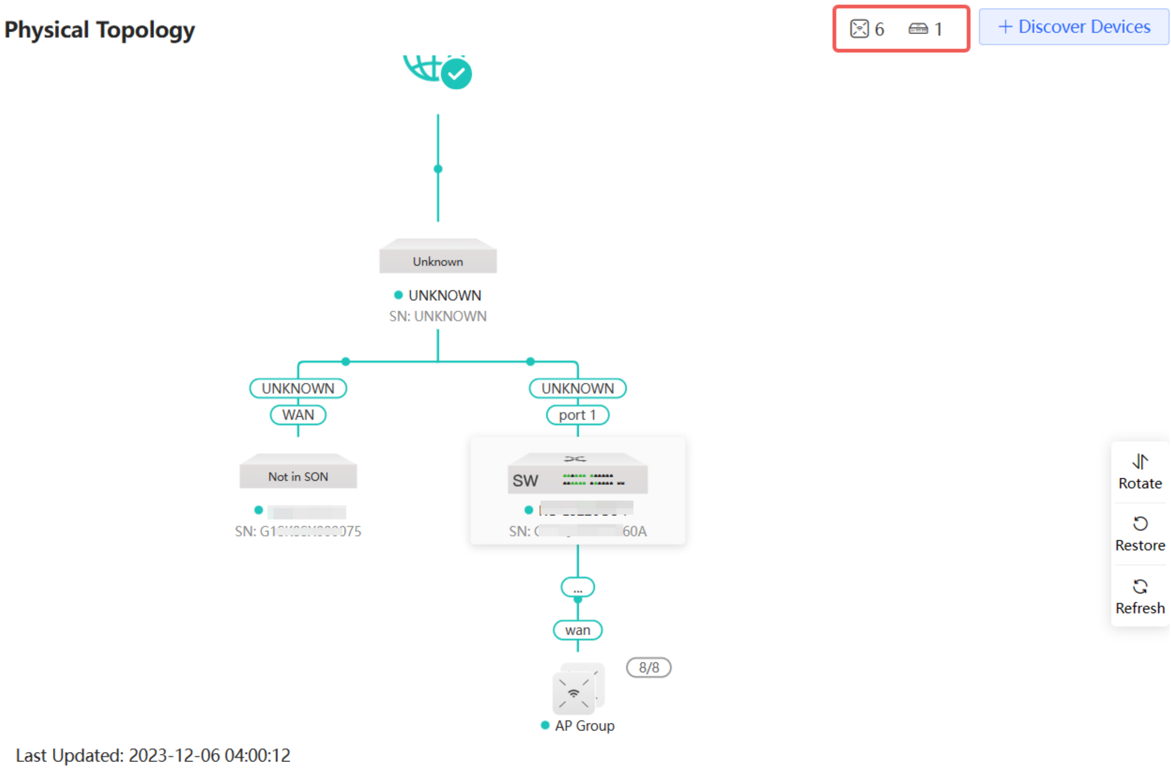
Model:
SN: ZASI 923
IP: 192 155

Model:
SN: G1NC 79
IP: 192 .31

2.3 Managing Network Devices

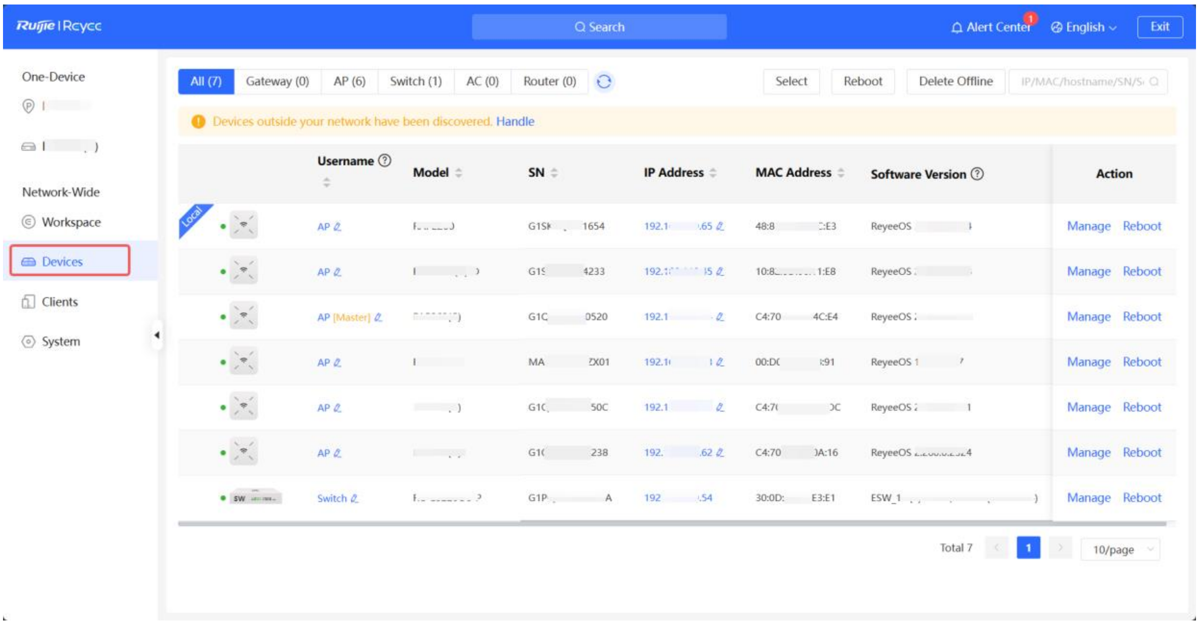
You can view information of all devices on the network. You can configure and manage all devices on the network by simply logging in to only one device on the network. Follow the following steps to access the device's management page:

- Method 1: Click the device icon in the upper right corner of the topology to switch to the device list view.



Last Updated: 2023-12-06 04:00:12

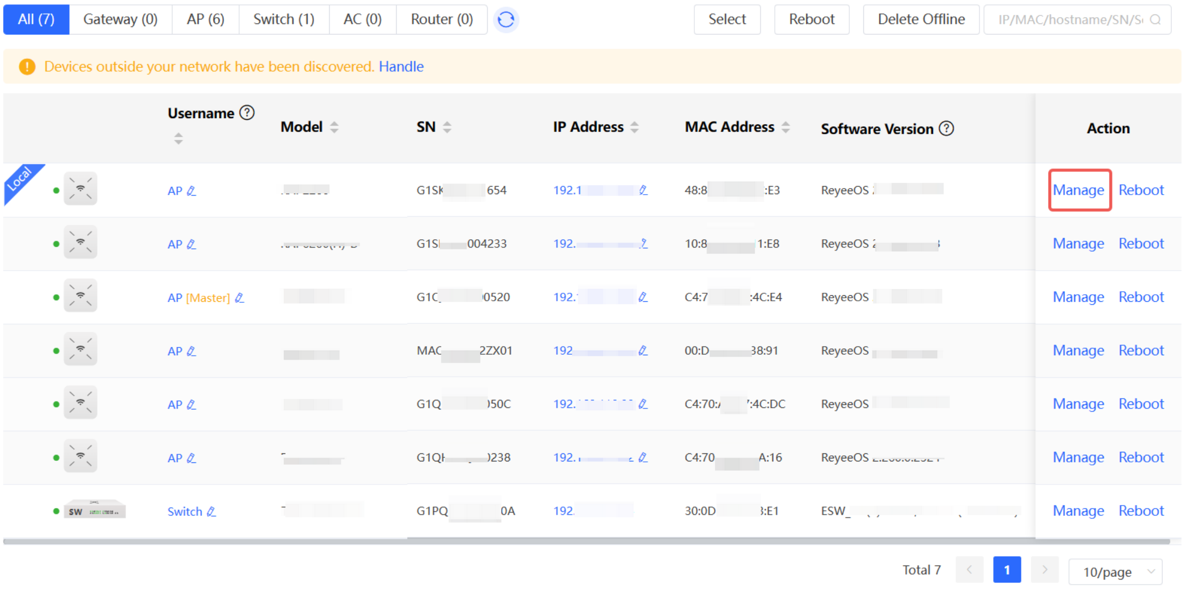
- Method 2: Choose **Network-Wide** > **Devices**.



Devices outside your network have been discovered. Handle

Username	Model	SN	IP Address	MAC Address	Software Version	Action
AP	[redacted]	G1S[redacted]1654	192.1[redacted].65	48:8[redacted]:E3	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	G1S[redacted]4233	192.1[redacted]5	10:8[redacted]1:E8	ReyeeOS [redacted]	Manage Reboot
AP [Master]	[redacted]	G1C[redacted]0520	192.1[redacted]	C4:70[redacted]4C:E4	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	MA[redacted]ZX01	192.1[redacted]	00:D[redacted]:91	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	G1C[redacted]50C	192.1[redacted]	C4:7[redacted]C	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	G1[redacted]238	192.[redacted].62	C4:70[redacted]A:16	ReyeeOS [redacted]4	Manage Reboot
Switch	[redacted]	G1P[redacted]A	192[redacted].54	30:0D:[redacted]E3:E1	ESW_1[redacted]	Manage Reboot

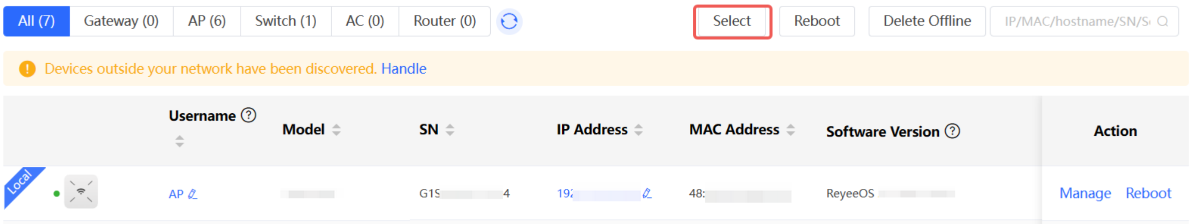
- Click **Manage** to configure the selected device.



Devices outside your network have been discovered. Handle

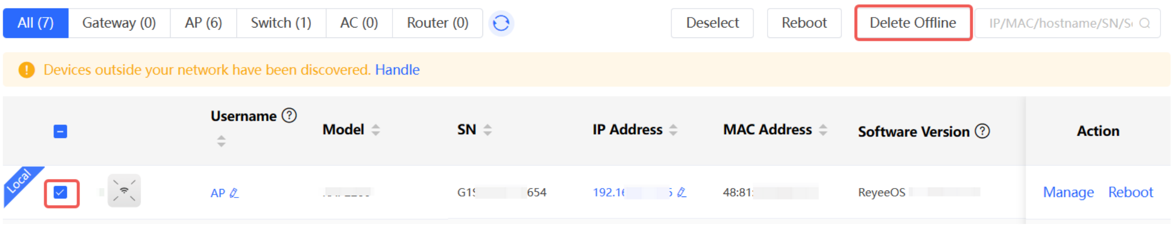
Username	Model	SN	IP Address	MAC Address	Software Version	Action
AP	[redacted]	G1SK[redacted]654	192.1[redacted]	48:8[redacted]:E3	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	G1S[redacted]004233	192.[redacted]	10:8[redacted]1:E8	ReyeeOS [redacted]	Manage Reboot
AP [Master]	[redacted]	G1C[redacted]0520	192.[redacted]	C4:7[redacted]:4C:E4	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	MAC[redacted]2ZX01	192[redacted]	00:D[redacted]38:91	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	G1Q[redacted]50C	192.[redacted]	C4:70[redacted]:4C:DC	ReyeeOS [redacted]	Manage Reboot
AP	[redacted]	G1Q[redacted]238	192.[redacted]	C4:70[redacted]A:16	ReyeeOS [redacted]	Manage Reboot
Switch	[redacted]	G1PQ[redacted]0A	192[redacted]	30:0D[redacted]:E1	ESW_[redacted]	Manage Reboot

- Click **Select** to select an offline device, and click **Delete Offline** to remove the selected device from the list and the topology.



Devices outside your network have been discovered. Handle

Username	Model	SN	IP Address	MAC Address	Software Version	Action
AP	[redacted]	G1S[redacted]4	19[redacted]	48:[redacted]	ReyeeOS [redacted]	Manage Reboot

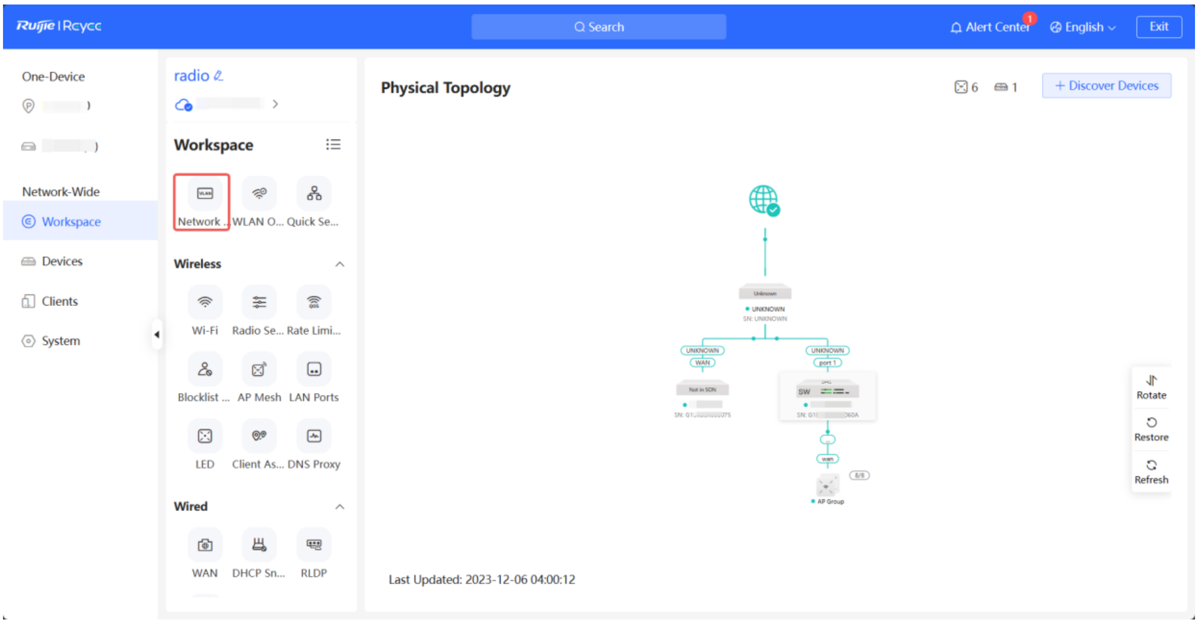


Devices outside your network have been discovered. Handle

☐		Username	Model	SN	IP Address	MAC Address	Software Version	Action
☑		AP		G1 654	192.1	48:81:	ReyeeOS	Manage Reboot

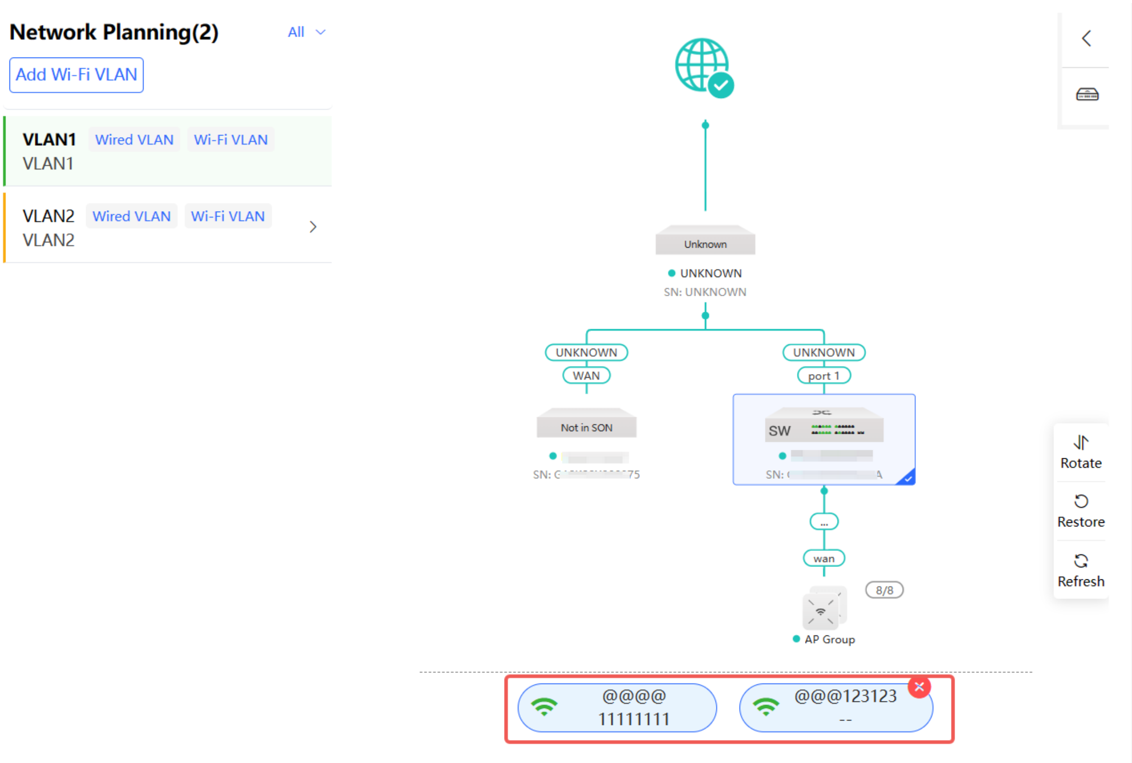
2.4 Configuring Network Planning

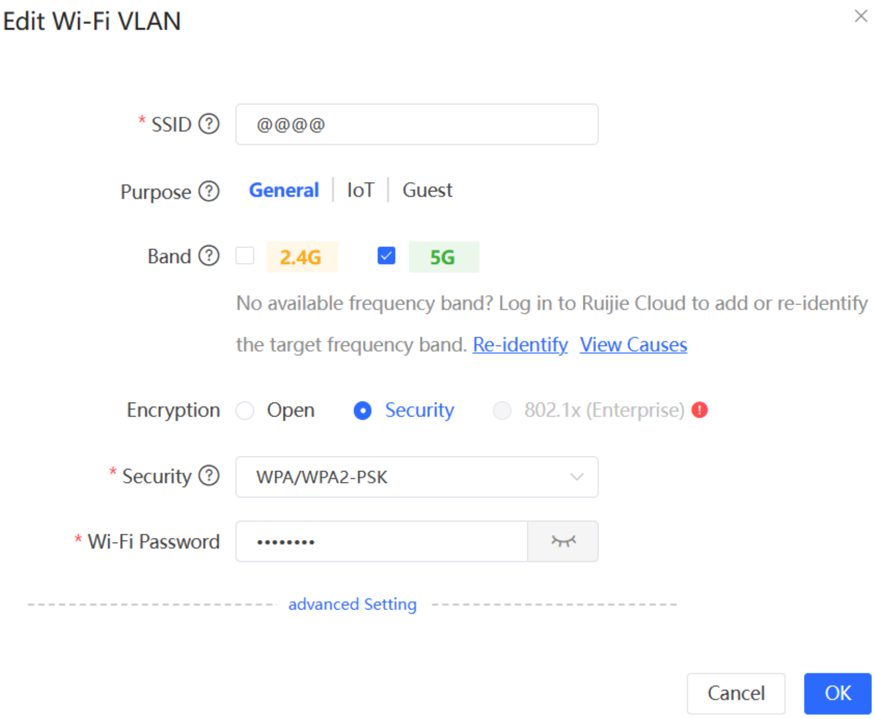
Choose **Network-Wide** > **Workspace** > **Network Planning**.



Last Updated: 2023-12-06 04:00:12

Click the SSID to edit the Wi-Fi configuration. For details, see Chapter 3 Wi-Fi Network Settings.





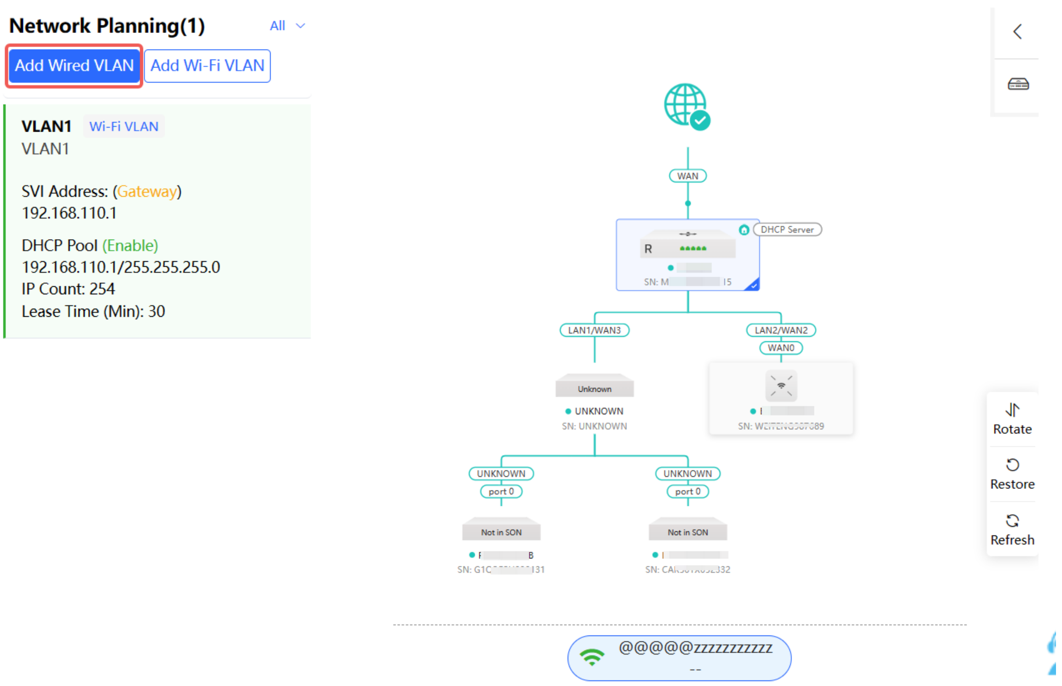
Edit Wi-Fi VLAN

* SSID ⓘ	@@@@
Purpose ⓘ	**General** | IoT | Guest
Band ⓘ	□ 2.4G ☑ 5G
	No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes
Encryption	○ Open ● Security ○ 802.1x (Enterprise)
* Security ⓘ	WPA/WPA2-PSK
* Wi-Fi Password	••••••••

2.4.1 Configuring Wired VLAN

Choose **Network-Wide** > **Workspace** > **Network Planning**.

On the **Network Planning** page, click **Add Wired VLAN**.



Network Planning(1) All

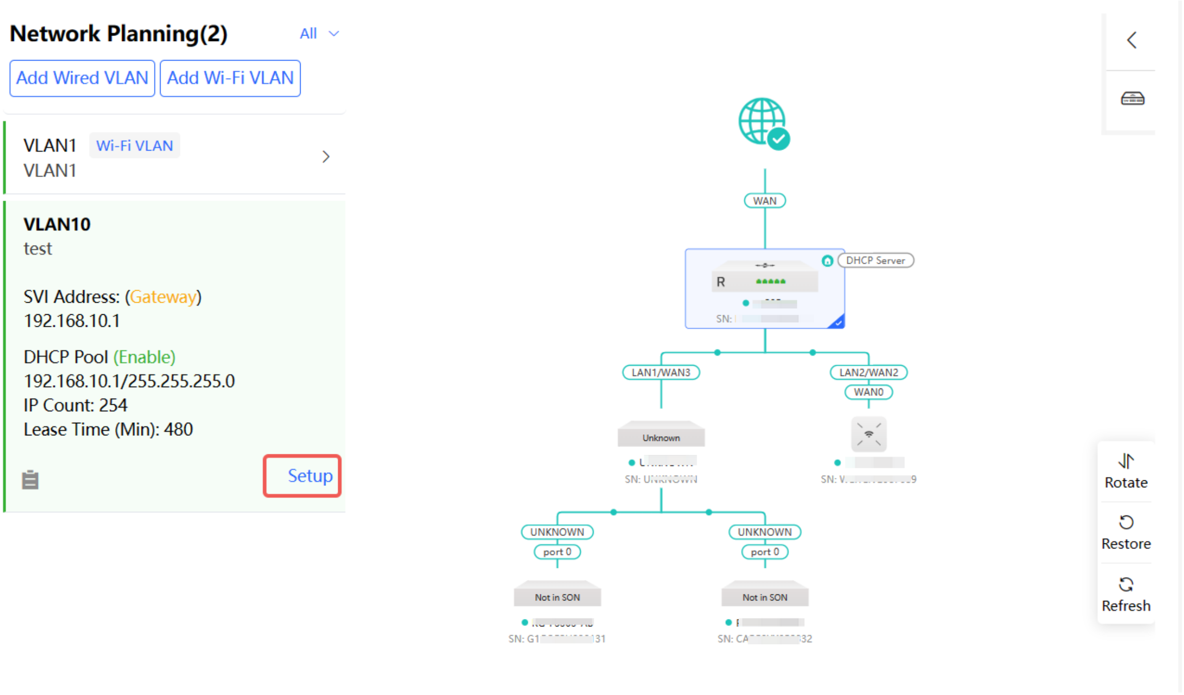
Add Wired VLAN | Add Wi-Fi VLAN

VLAN1 Wi-Fi VLAN
VLAN1

SVI Address: (Gateway)
192.168.110.1

DHCP Pool (Enable)
192.168.110.1/255.255.255.0
IP Count: 254
Lease Time (Min): 30

Alternatively, you can select an existing wired VLAN and click **Setup** to edit the VLAN.



Network Planning(2) All

Add Wired VLAN | Add Wi-Fi VLAN

VLAN1 Wi-Fi VLAN
VLAN1

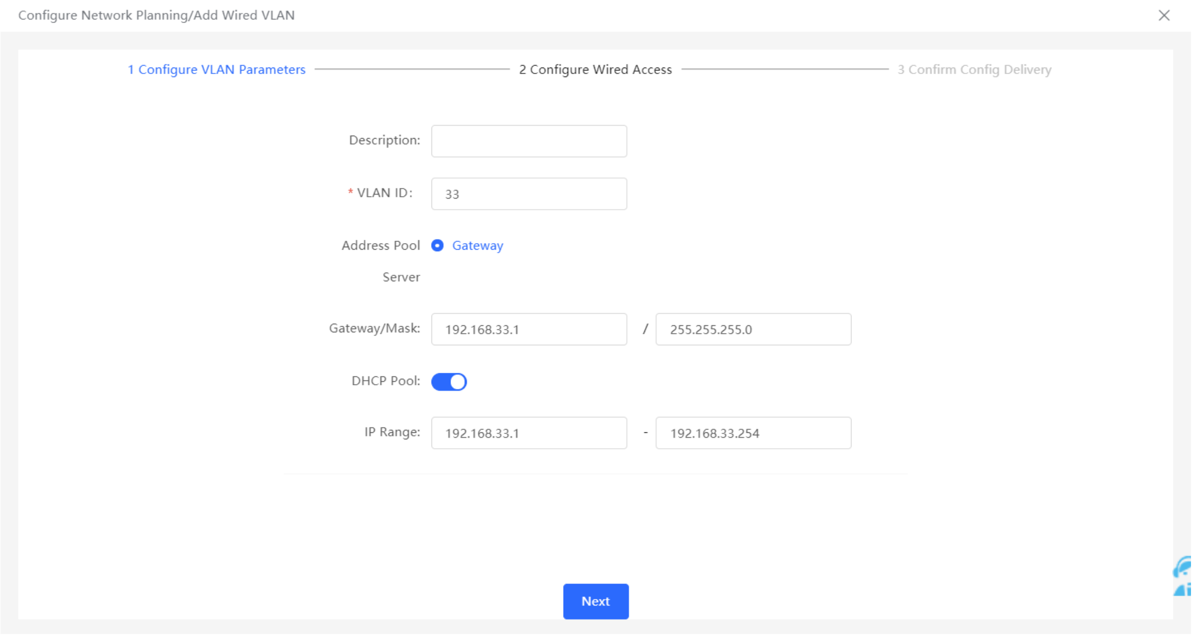
VLAN10
test

SVI Address: (Gateway)
192.168.10.1

DHCP Pool (Enable)
192.168.10.1/255.255.255.0
IP Count: 254
Lease Time (Min): 480

Setup

(1) Configure the VLAN ID, address pool server, and DHCP pool. The gateway is configured as the address pool server by default to assign IP addresses to clients. If an access switch exists in the network, you can select the access switch as the address pool server. Click **Next** after VLAN parameters are configured.



Configure Network Planning/Add Wired VLAN

1 Configure VLAN Parameters — 2 Configure Wired Access — 3 Confirm Config Delivery

Description:

* VLAN ID: 33

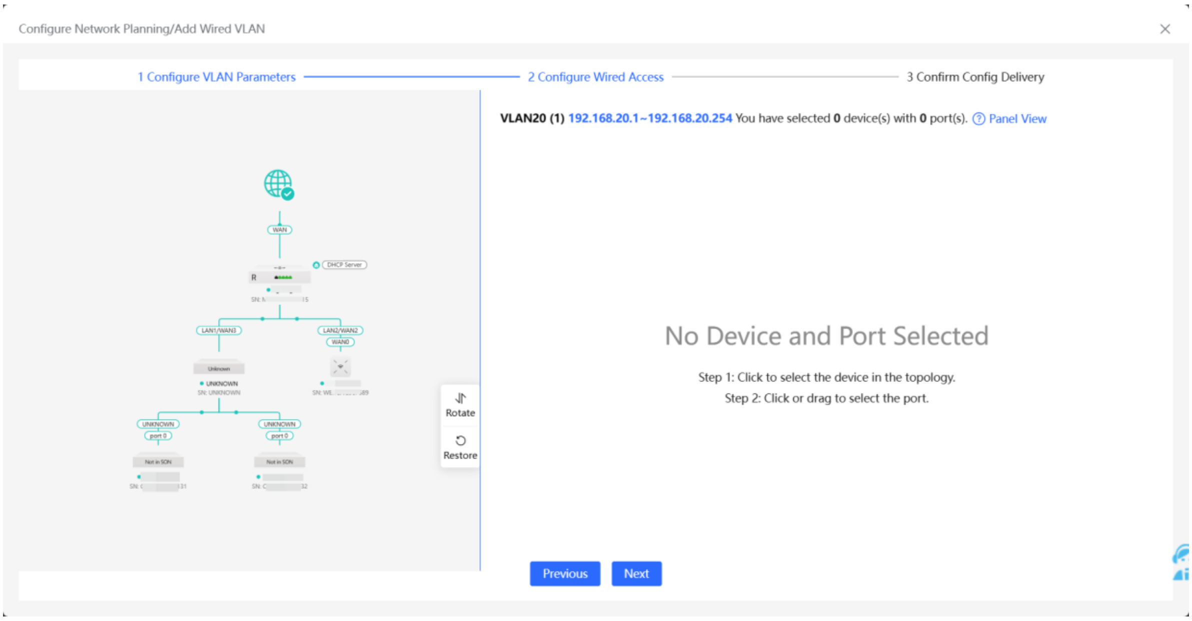
Address Pool Server: ● Gateway

Gateway/Mask: 192.168.33.1 / 255.255.255.0

DHCP Pool: on

IP Range: 192.168.33.1 - 192.168.33.254

(2) Select the target switch in the topology and all member ports in the VLAN, and click **Next**.



Configure Network Planning/Add Wired VLAN

1 Configure VLAN Parameters — 2 Configure Wired Access — 3 Confirm Config Delivery

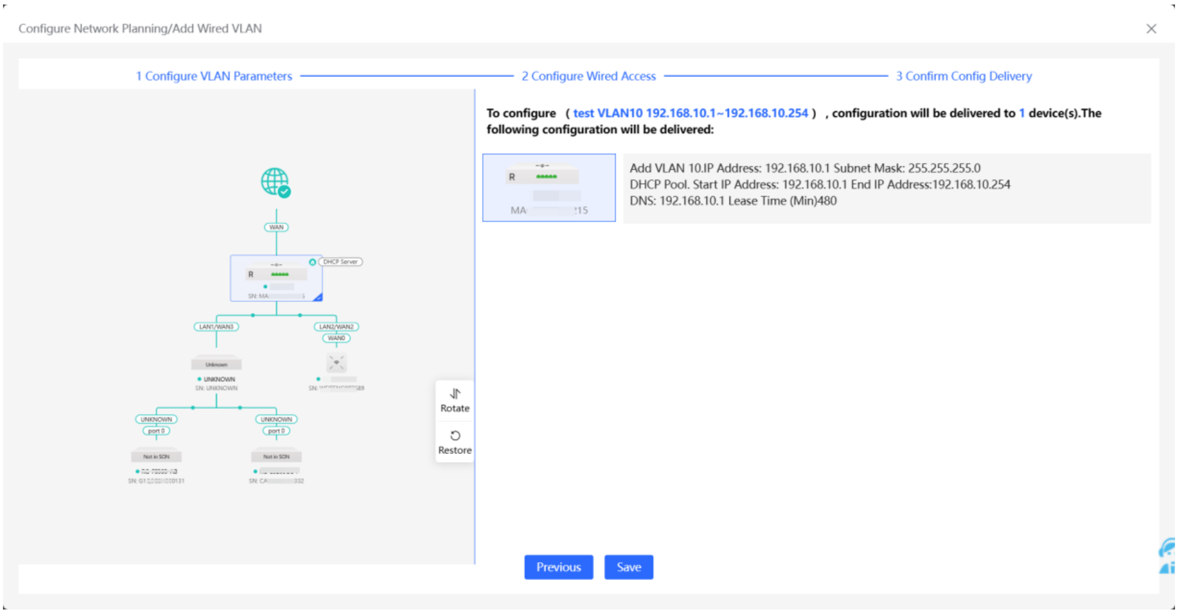
VLAN20 (1) 192.168.20.1~192.168.20.254 You have selected **0** device(s) with **0** port(s). Panel View

No Device and Port Selected

Step 1: Click to select the device in the topology.

Step 2: Click or drag to select the port.

(3) Please confirm the delivered configurations and click **Save**. The configurations will take effect after a few minutes.



Configure Network Planning/Add Wired VLAN

1 Configure VLAN Parameters — 2 Configure Wired Access — 3 Confirm Config Delivery

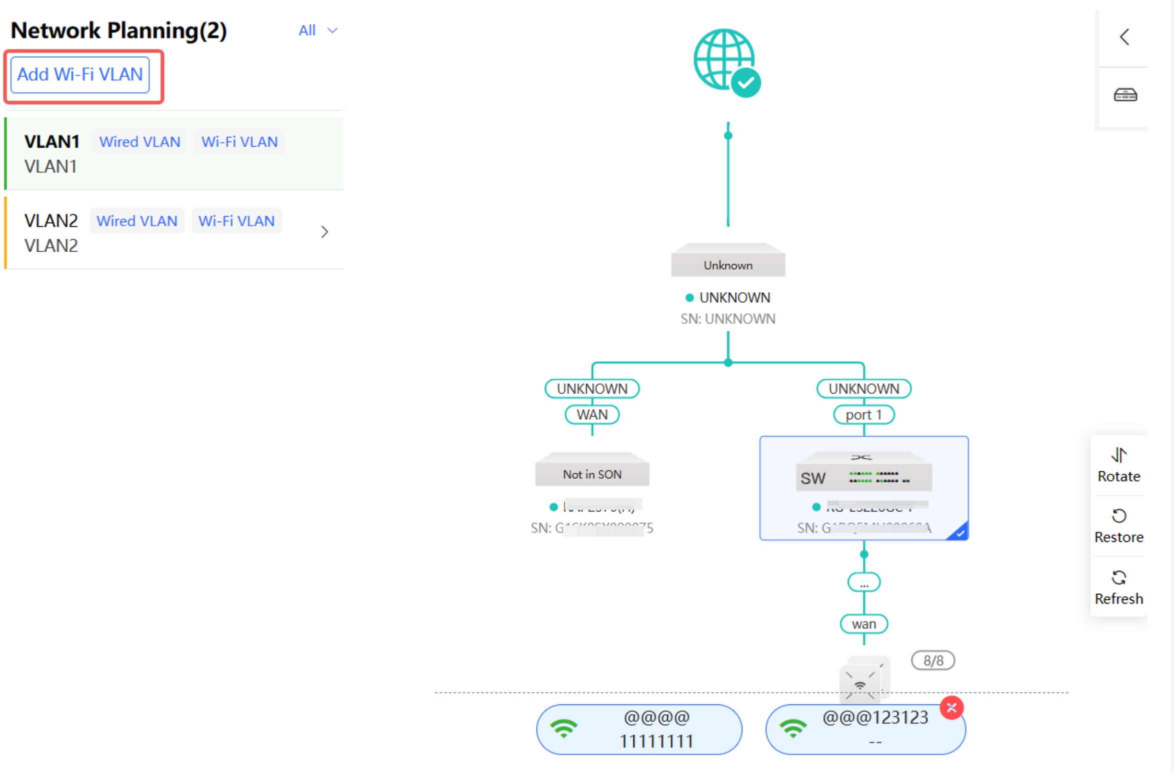
To configure （ test VLAN10 192.168.10.1~192.168.10.254 ） , configuration will be delivered to 1 device(s).The following configuration will be delivered:

Add VLAN 10.IP Address: 192.168.10.1 Subnet Mask: 255.255.255.0
DHCP Pool. Start IP Address: 192.168.10.1 End IP Address:192.168.10.254
DNS: 192.168.10.1 Lease Time (Min)480

2.4.2 Configuring Wi-Fi VLAN

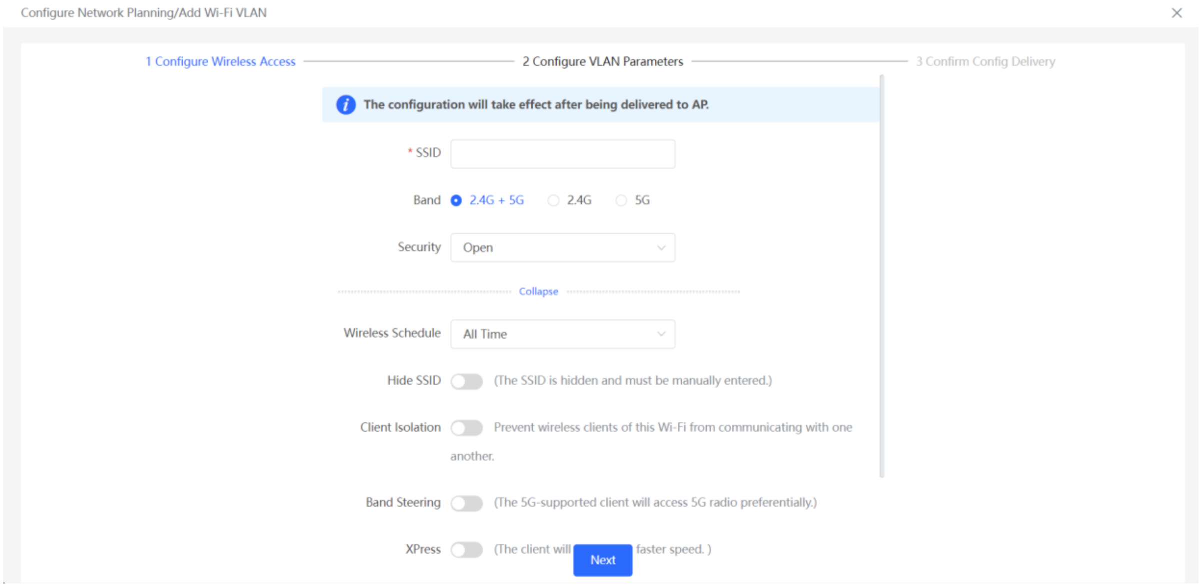
Choose **Network-Wide** > **Workspace** > **Network Planning**.

On the **Network Planning** page, click **Add Wi-Fi LAN**.



Alternatively, you can select an existing wireless VLAN and click **Setup** to edit the VLAN.

(1) Configure the SSID, Wi-Fi password and band. Click **Expand** to expand the advanced settings and set the parameters. Then, click **Next**.



Configure Network Planning/Add Wi-Fi VLAN ×

1 Configure Wireless Access — 2 Configure VLAN Parameters — 3 Confirm Config Delivery

The configuration will take effect after being delivered to AP.

* SSID

Band ● 2.4G + 5G ○ 2.4G ○ 5G

Security Open

Collapse

Wireless Schedule All Time

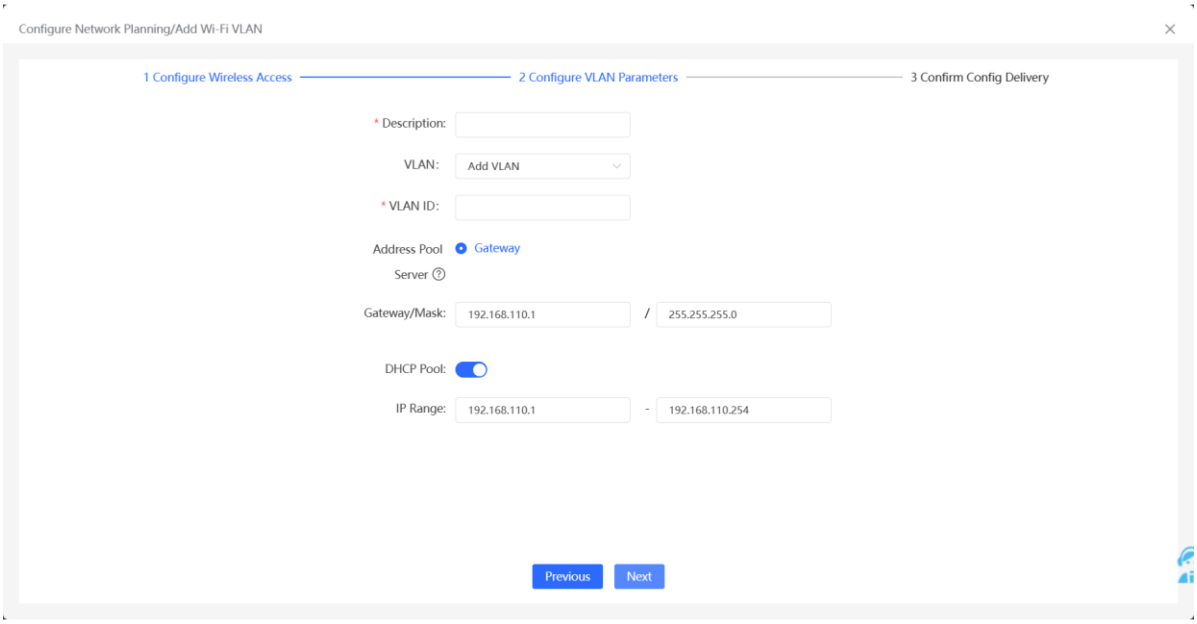
Hide SSID (The SSID is hidden and must be manually entered.)

Client Isolation Prevent wireless clients of this Wi-Fi from communicating with one another.

Band Steering (The 5G-supported client will access 5G radio preferentially.)

XPress (The client will Next faster speed.)

(2) Configure the VLAN ID, address pool server and DHCP pool. The gateway is configured as the address pool server by default to assign IP addresses to clients. If an access switch exists in the network, you can select the access switch as the address pool server. Click **Next** after VLAN parameters are configured.



Configure Network Planning/Add Wi-Fi VLAN ×

1 Configure Wireless Access — 2 Configure VLAN Parameters — 3 Confirm Config Delivery

* Description:

VLAN: Add VLAN

* VLAN ID:

Address Pool Server ● Gateway

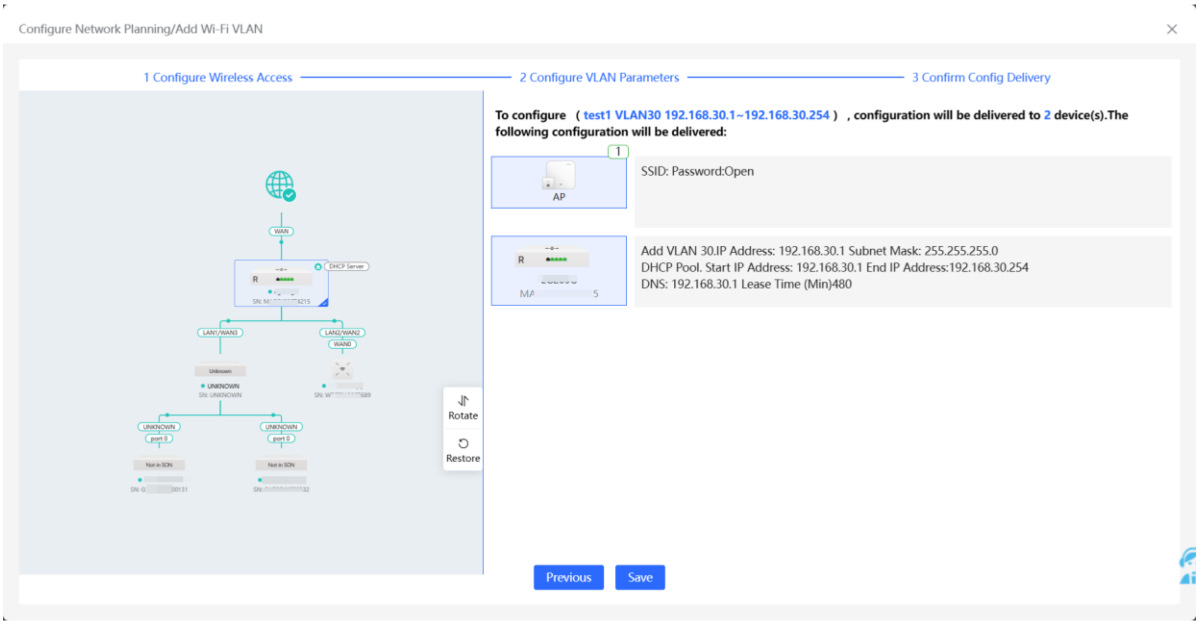
Gateway/Mask: 192.168.110.1 / 255.255.255.0

DHCP Pool:

IP Range: 192.168.110.1 - 192.168.110.254

Previous Next

(3) Please confirm the delivered configurations and click **Save**. The configurations will take effect after a few minutes.



To configure （test1 VLAN30 192.168.30.1~192.168.30.254）, configuration will be delivered to 2 device(s).The following configuration will be delivered:

SSID: Password:Open

Add VLAN 30.IP Address: 192.168.30.1 Subnet Mask: 255.255.255.0
DHCP Pool. Start IP Address: 192.168.30.1 End IP Address:192.168.30.254
DNS: 192.168.30.1 Lease Time (Min)480

3 Wi-Fi Network Settings

Note

Wi-Fi network settings covers the Wi-Fi settings of the currently logged in devices and the management of all wireless devices in the network. In **Network** mode, the Wi-Fi network settings are synchronized to all wireless devices in the network. You can configure device groups to limit the synchronization range. For details, see 3.1 Configuring AP Groups.

3.1 Configuring AP Groups

3.1.1 Overview

After the self-organizing network is enabled, the device can act as the master AP/AC to perform batch configuration and management on the downlink APs in groups. Group the APs before the configurations are delivered.

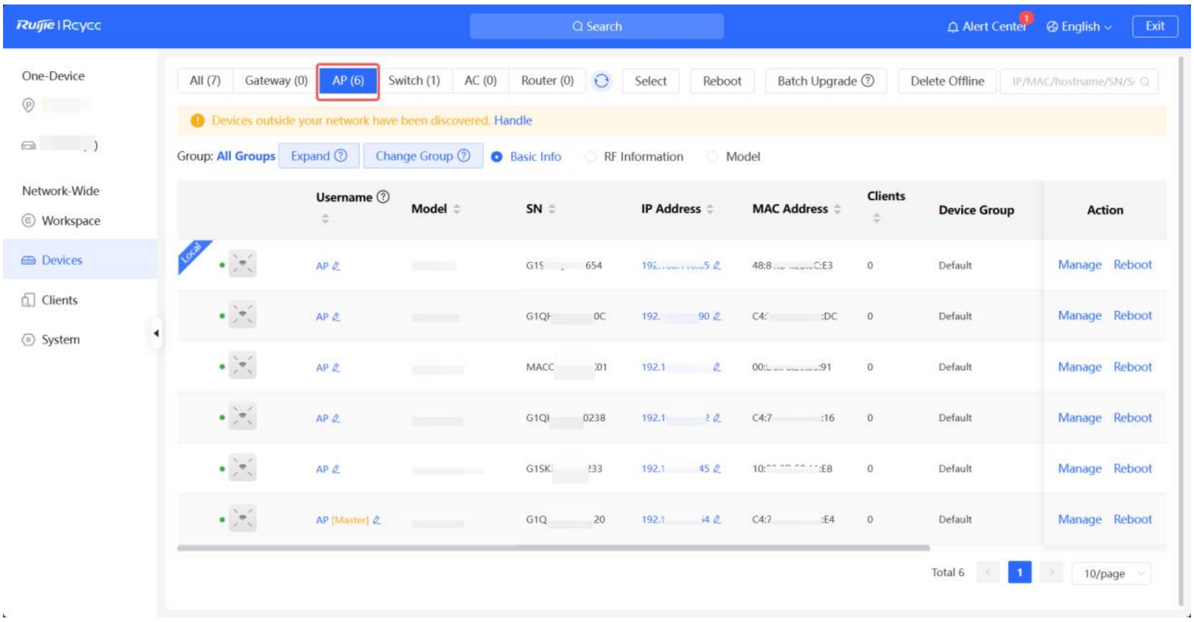
Note

If you specify a group when setting up a wireless network, the corresponding configuration will take effect on the wireless devices in the specified group.

3.1.2 Configuration Steps

Choose **Network-Wide** > **Devices** > **AP**.

(1) The **AP** page displays all APs on the network. Click **Manage** to configure the selected device.



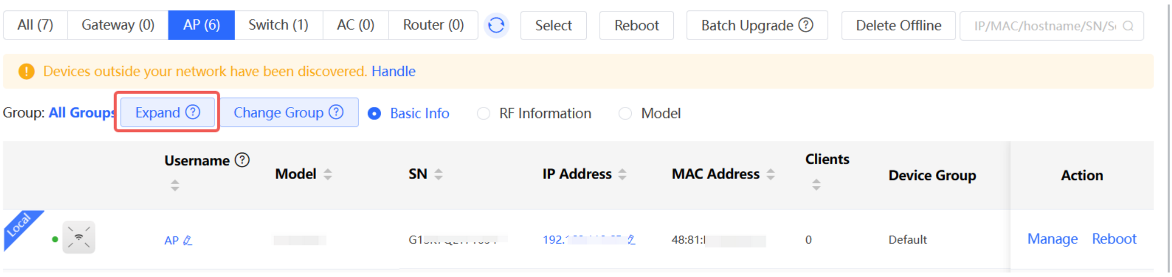
Devices outside your network have been discovered. Handle

Group: All Groups Expand Change Group ● Basic Info ○ RF Information ○ Model

Username	Model	SN	IP Address	MAC Address	Clients	Device Group	Action
AP	[redacted]	G1S [redacted] 654	192. [redacted] 5	48:8 [redacted] C:E3	0	Default	Manage Reboot
AP	[redacted]	G1QH [redacted] 0C	192. [redacted] 90	C4: [redacted] :DC	0	Default	Manage Reboot
AP	[redacted]	MACC [redacted] :01	192.1 [redacted]	00: [redacted] :91	0	Default	Manage Reboot
AP	[redacted]	G1QH [redacted] 0238	192.1 [redacted] 2	C4:7 [redacted] :16	0	Default	Manage Reboot
AP	[redacted]	G1SK [redacted] 233	192.1 [redacted] 45	10: [redacted] :E8	0	Default	Manage Reboot
AP [Master]	[redacted]	G1Q [redacted] 20	192.1 [redacted] 4	C4:7 [redacted] :E4	0	Default	Manage Reboot

Total 6 1 10/page

(2) Click **Expand** to view all device groups on the left section of the **Devices** page.

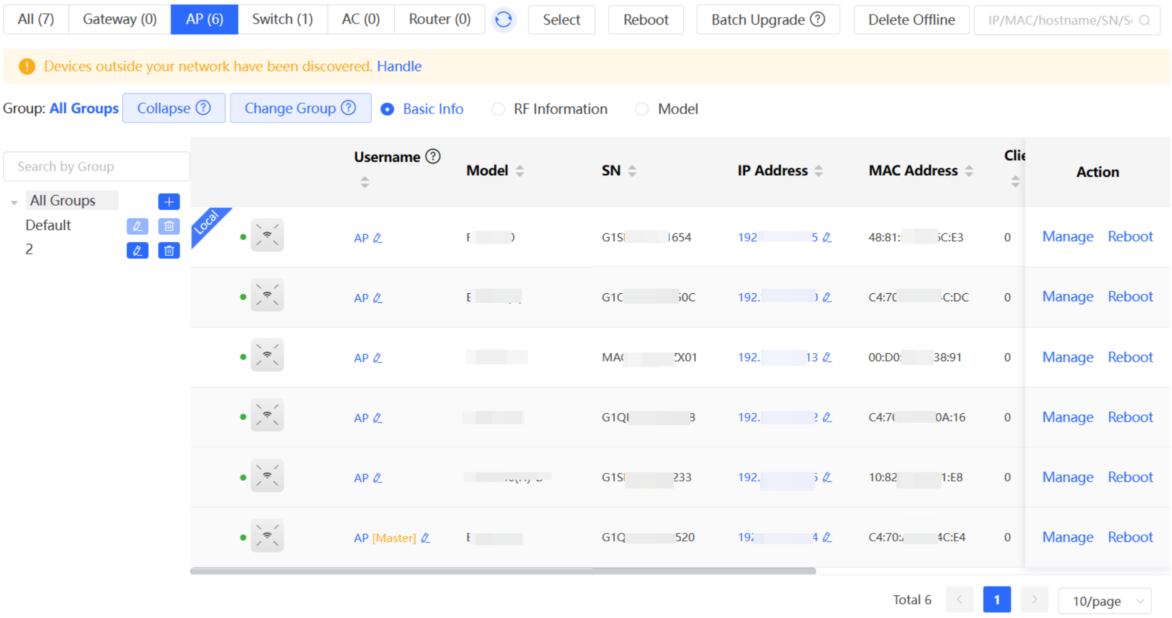


Devices outside your network have been discovered. Handle

Group: All Groups Expand ⓘ Change Group ⓘ ● Basic Info ○ RF Information ○ Model

	Username ⓘ	Model	SN	IP Address	MAC Address	Clients	Device Group	Action
Local	AP	[redacted]	G1[redacted]	192.[redacted]	48:81:[redacted]	0	Default	Manage Reboot

(3) Click + to create a new group. Up to 8 groups can be added. You can click ✎ to edit the group name and click 🗑 to delete the group. The default group cannot be deleted and its name cannot be edited.



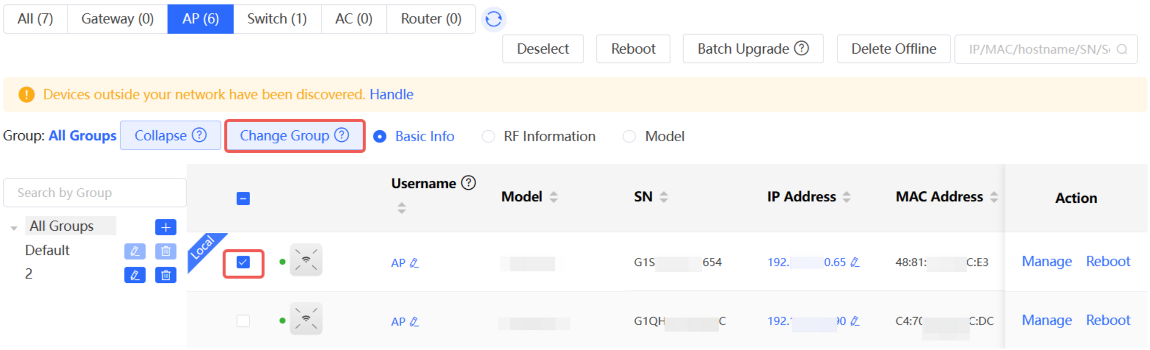
Devices outside your network have been discovered. Handle

Group: All Groups Collapse ⓘ Change Group ⓘ ● Basic Info ○ RF Information ○ Model

	Username ⓘ	Model	SN	IP Address	MAC Address	Clie	Action
Local	AP	F[redacted])	G1S[redacted]1654	192[redacted]5	48:81:[redacted]5C:E3	0	Manage Reboot
	AP	E[redacted]	G1C[redacted]50C	192.[redacted])	C4:70[redacted]C:DC	0	Manage Reboot
	AP	[redacted]	MA[redacted]ZX01	192.[redacted]13	00:D0:[redacted]38:91	0	Manage Reboot
	AP	[redacted]	G1QI[redacted]3	192.[redacted]2	C4:7[redacted]0A:16	0	Manage Reboot
	AP	[redacted]	G1S[redacted]233	192.[redacted]5	10:82[redacted]1:E8	0	Manage Reboot
	AP [Master]	E[redacted]	G1Q[redacted]520	19[redacted]4	C4:70:[redacted]4C:E4	0	Manage Reboot

Total 6 ‹ 1 › 10/page

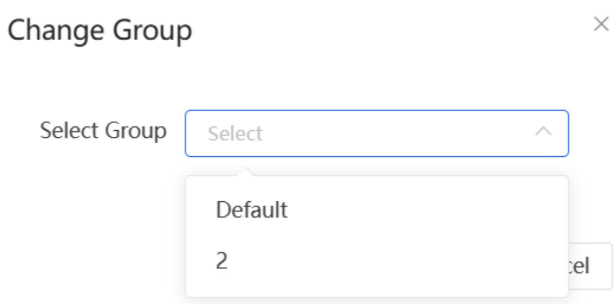
(4) Click the group name on the left part to view all devices in this group. A device can only belong to a group. By default, all devices belong to the default group. Select an entry in the list and click **Change Group** to move the target device to a specified group, and then the device will apply the configurations of this group. Click **Delete Offline Devices** to remove the offline device from the list.



Devices outside your network have been discovered. Handle

Group: All Groups Collapse ⓘ Change Group ⓘ ● Basic Info ○ RF Information ○ Model

☐	Username ⓘ	Model	SN	IP Address	MAC Address	Action
Local ☑	AP	[redacted]	G1S[redacted]654	192.[redacted]0.65	48:81:[redacted]C:E3	Manage Reboot
☐	AP	[redacted]	G1QH[redacted]C	192.[redacted]0	C4:70[redacted]C:DC	Manage Reboot



Change Group

Select Group: Select

Default

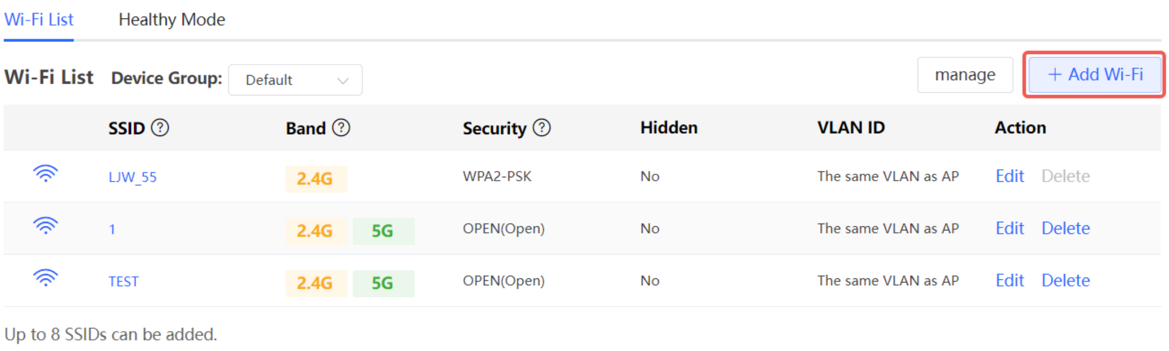
2

3.2 Adding a Wi-Fi Network

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide > Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**.

(2) Click **Add Wi-Fi**.

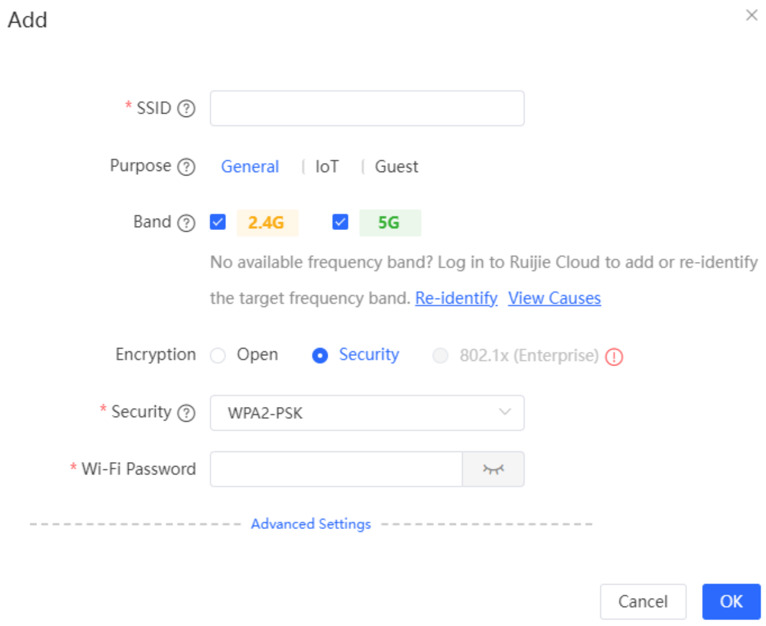


Wi-Fi List **Device Group:** Default

SSID	Band	Security	Hidden	VLAN ID	Action
LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP	Edit Delete
1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete
TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete

Up to 8 SSIDs can be added.

(3) Configure the SSID, password, and other information.



Add

* SSID:

Purpose: General | IoT | Guest

Band: ☑ 2.4G ☑ 5G

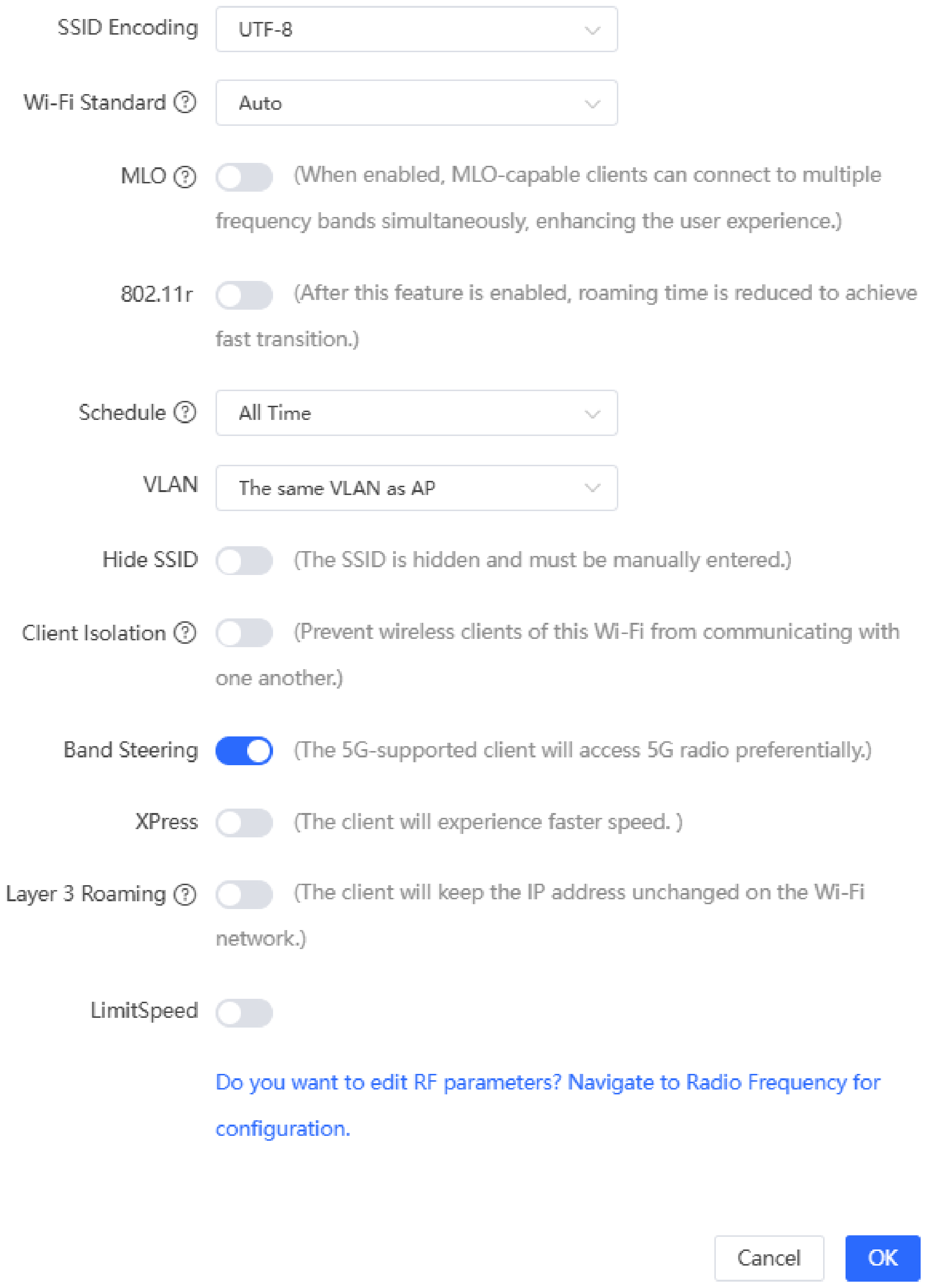
No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Encryption: ○ Open ● Security ○ 802.1x (Enterprise)

* Security: WPA2-PSK

* Wi-Fi Password:

(4) Click **advanced Settings** to configure more Wi-Fi parameters. After configuration, click **OK**. After the Wi-Fi is added, a client can detect the SSID, and the Wi-Fi information is displayed in the Wi-Fi list.



SSID Encoding: UTF-8

Wi-Fi Standard ⓘ: Auto

MLO ⓘ: ○ (When enabled, MLO-capable clients can connect to multiple frequency bands simultaneously, enhancing the user experience.)

802.11r: ○ (After this feature is enabled, roaming time is reduced to achieve fast transition.)

Schedule ⓘ: All Time

VLAN: The same VLAN as AP

Hide SSID: ○ (The SSID is hidden and must be manually entered.)

Client Isolation ⓘ: ○ (Prevent wireless clients of this Wi-Fi from communicating with one another.)

Band Steering: ● (The 5G-supported client will access 5G radio preferentially.)

XPress: ○ (The client will experience faster speed.)

Layer 3 Roaming ⓘ: ○ (The client will keep the IP address unchanged on the Wi-Fi network.)

LimitSpeed: ○

Do you want to edit RF parameters? Navigate to Radio Frequency for configuration.

Table 3-1 Wi-Fi Configuration Parameters

Parameter	Description
SSID	Enter the name displayed when a wireless client searches for a wireless network.

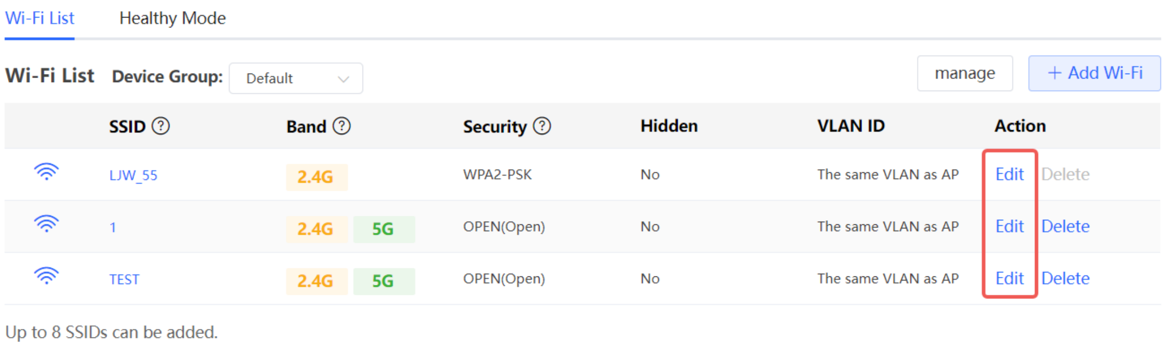
Parameter	Description
Purpose	Set the Wi-Fi usage scenario. The options include **General**, **IoT**, and **Guest**. The system will recommend different Wi-Fi parameter combinations based on the selected purpose.
Band	Set the band used by the Wi-Fi signal. The options are 2.4 GHz and 5 GHz. The 5 GHz band provides faster network transmission rate and less interference than the 2.4 GHz band, but is inferior to the 2.4 GHz band in terms of signal coverage range and wall penetration performance. Select a proper band based on actual needs. The default value is **2.4G + 5G**, indicating that the device provides signals at both 2.4 GHz and 5 GHz bands.
Encryption	The encryption options for a Wi-Fi network include **Open**, **Security**, and **802.1x (Enterprise)**.
Security	Indicates encryption technologies used to ensure the security of data transmission.
Wi-Fi Password	When the **Security** is set to WEP, you need to set the password for connecting to the wireless network. The password is a string of 8 to 63 characters.
Select server group	When the **Encryption** is set to **802. 1x (Enterprise)**, you need to configure a remote server set for authentication and authorization.
SSID Encoding	The SSID encoding standard is set to "UTF-8" by default when Chinese characters are included in the SSID. If the Chinese characters are garbled, you can choose "GB2312" as the SSID encoding standard.
Wi-Fi Standard	The Wi-Fi standards include **Auto**, **802.11be (Wi-Fi 7)**, **802.11ax (Wi-Fi 6)**, or **Compatibility Mode**. The final effective Wi-Fi standard depends on the support of Wi-Fi standards on each device. The latest standard is recommended. If there is a compatibility issue, try use an older standard. However, an old standard setting will affect the bandwidth.
MLO	When enabled, MLO-capable clients can connect to multiple frequency bands simultaneously, enhancing the user experience.
802.11r	Enabling the 802. 11r function can shorten the roaming handover time. The 802. 11r function is supported only when **Encryption** is set to **Security** or **802. 1x (Enterprise)**. Once 802. 11r is enabled, the encryption type can only be WPA2-PSK or WPA2-802.1X.
Schedule	Specify the time periods during which Wi-Fi is enabled. After you set this parameter, users cannot connect to Wi-Fi in other periods.

Parameter	Description
VLAN	Set the VLAN to which the Wi-Fi signal belongs. You can choose from the available VLANs or click **Add New VLAN**, and go to the **LAN Settings** page to add a VLAN.
Hide SSID	Enabling the hide SSID function can prevent unauthorized user access to Wi-Fi, improving security. However, mobile phones or computers cannot find the SSID after this function is enabled. You must manually enter the correct name and password to connect to Wi-Fi. Record the current SSID before you enable this function.
Client Isolation	After you enable this parameter, clients associated with the Wi-Fi are isolated from one other, and end users connected to the same AP (in the same network segment) cannot access each other. This improves security.
Band Steering	After this function is enabled, 5G-capable clients select 5G Wi-Fi preferentially. You can enable this function only when **Band** is set to **2.4G + 5G**.
XPress	After this function is enabled, the device sends game packets preferentially, providing more stable wireless network for games.
Layer-3 Roaming	After this function is enabled, clients keep their IP addresses unchanged when associating with the same Wi-Fi. This function improves the roaming experience of users in the cross-VLAN scenario.
LimitSpeed	After enabling Wi-Fi rate limiting, you can set the uplink and downlink rate limits for users. ● Rate Limit Per User: The rate limit applies to all clients connected to the SSID. ● Rate Limit All Users: All clients connected to the SSID share the configured rate limit equally. The rate limit of each client changes dynamically with the number of clients connected to the SSID.

3.3 Configuring SSID and Wi-Fi Password

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.



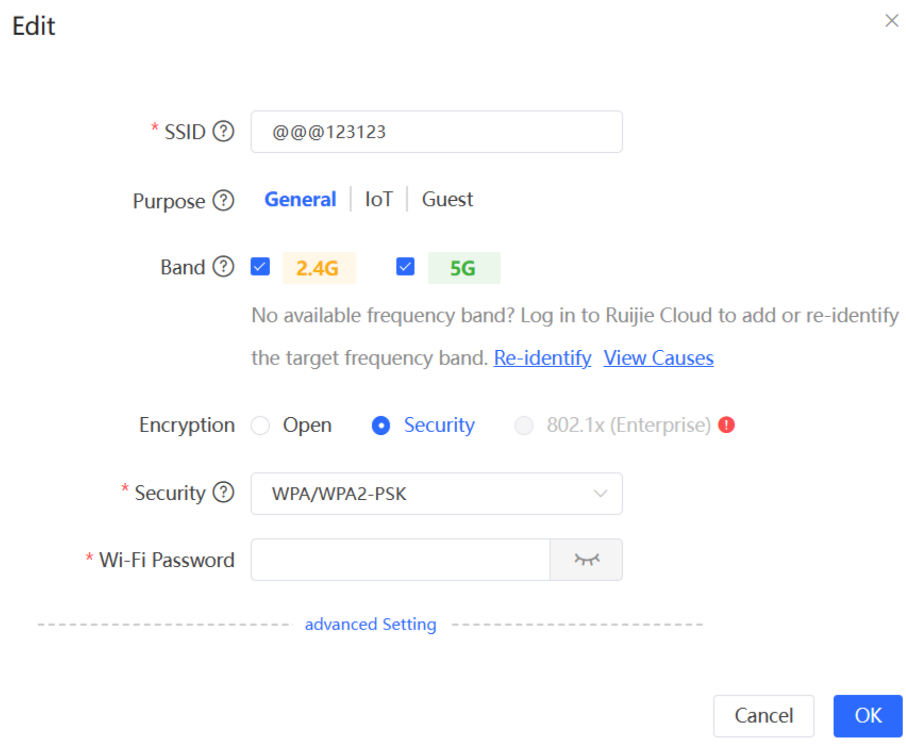
	SSID	Band	Security	Hidden	VLAN ID	Action
	LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP	Edit Delete
	1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete
	TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete

Up to 8 SSIDs can be added.

(2) Click the target Wi-Fi network, change the SSID and Wi-Fi password of the Wi-Fi network, and click **OK**.

Caution

After the configuration is saved, all online clients will be disconnected from the Wi-Fi network. You have to enter the new password to connect to the Wi-Fi network.



* SSID: @@@123123

Purpose: General | IoT | Guest

Band: ☑ 2.4G ☑ 5G

No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Encryption: ○ Open ● Security ○ 802.1x (Enterprise)

* Security: WPA/WPA2-PSK

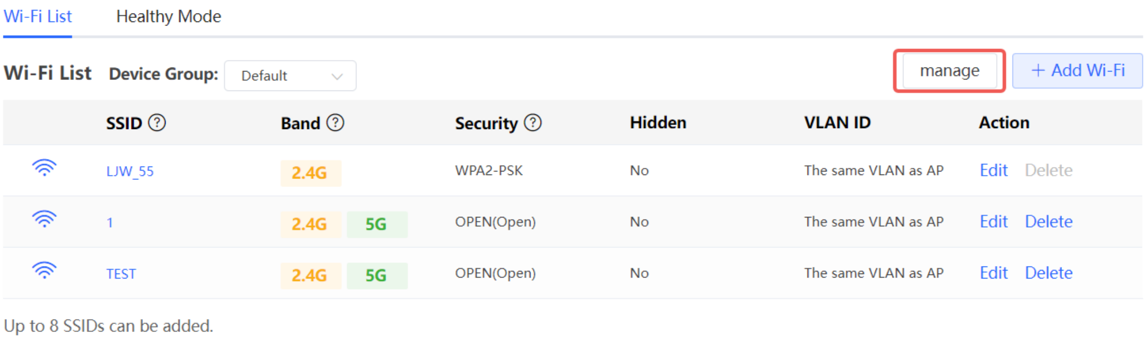
* Wi-Fi Password:

3.4 Managing Wi-Fi Networks

(1) Go to the configuration page.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**.

(2) Click **manage** to batch manage Wi-Fi networks.



Wi-Fi List | Healthy Mode

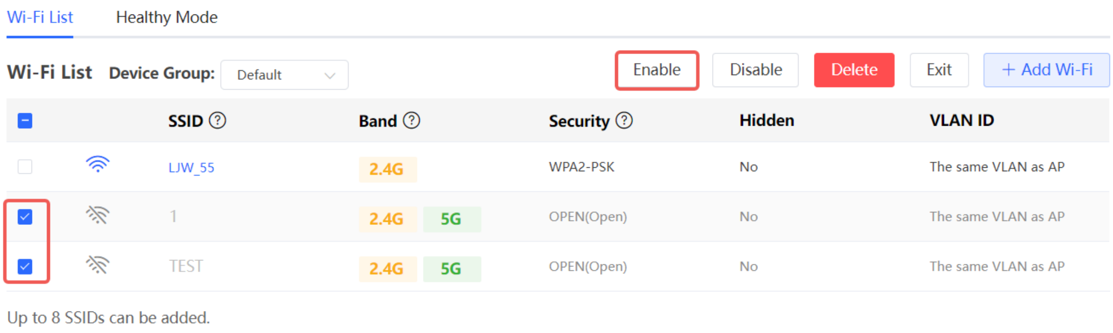
Wi-Fi List Device Group: Default manage + Add Wi-Fi

	SSID ?	Band ?	Security ?	Hidden	VLAN ID	Action
	LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP	Edit Delete
	1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete
	TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete

Up to 8 SSIDs can be added.

(3) Batch manage Wi-Fi networks.

- Batch enable Wi-Fi networks: Select the desired Wi-Fi networks, and click **Enable**.



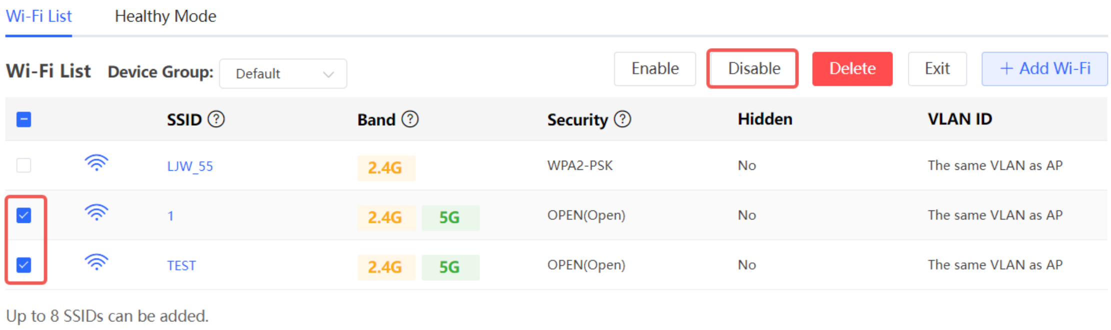
Wi-Fi List | Healthy Mode

Wi-Fi List Device Group: Default Enable Disable Delete Exit + Add Wi-Fi

▣		SSID ?	Band ?	Security ?	Hidden	VLAN ID
☐		LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP
☑		1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP
☑		TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP

Up to 8 SSIDs can be added.

- Batch disable Wi-Fi networks: Select the desired Wi-Fi networks, and click **Disable**.



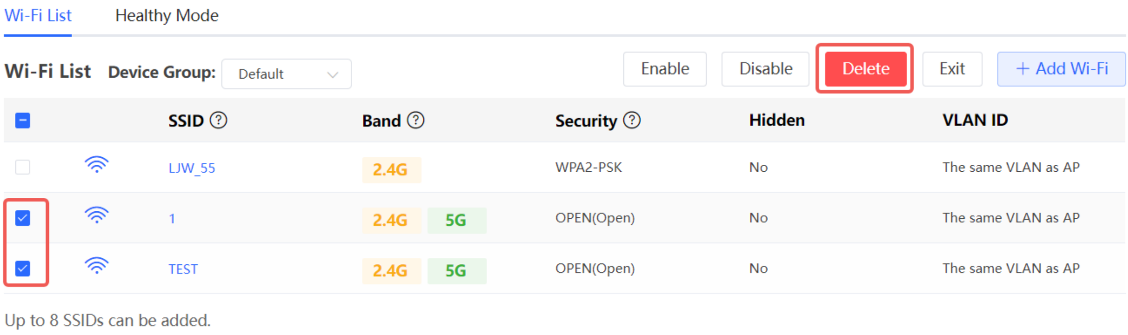
Wi-Fi List | Healthy Mode

Wi-Fi List Device Group: Default Enable Disable Delete Exit + Add Wi-Fi

▣		SSID ?	Band ?	Security ?	Hidden	VLAN ID
☐		LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP
☑		1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP
☑		TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP

Up to 8 SSIDs can be added.

- Batch delete Wi-Fi networks: Select the desired Wi-Fi networks, and click **Delete**.



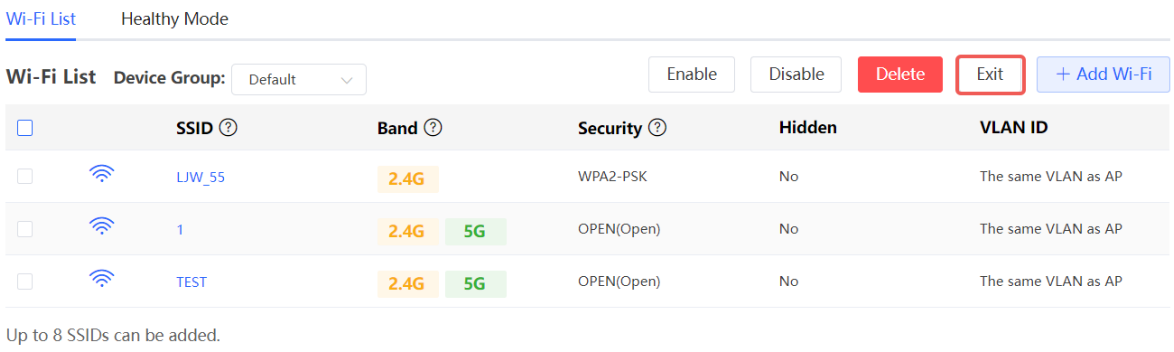
Wi-Fi List | Healthy Mode

Wi-Fi List Device Group: Default Enable Disable Delete Exit + Add Wi-Fi

▣		SSID ?	Band ?	Security ?	Hidden	VLAN ID
☐		LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP
☑		1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP
☑		TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP

Up to 8 SSIDs can be added.

(4) Click **Exit** to exit Wi-Fi network batch management.



□		SSID ⓘ	Band ⓘ	Security ⓘ	Hidden	VLAN ID
□		LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP
□		1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP
□		TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP

Up to 8 SSIDs can be added.

3.5 Hiding the SSID

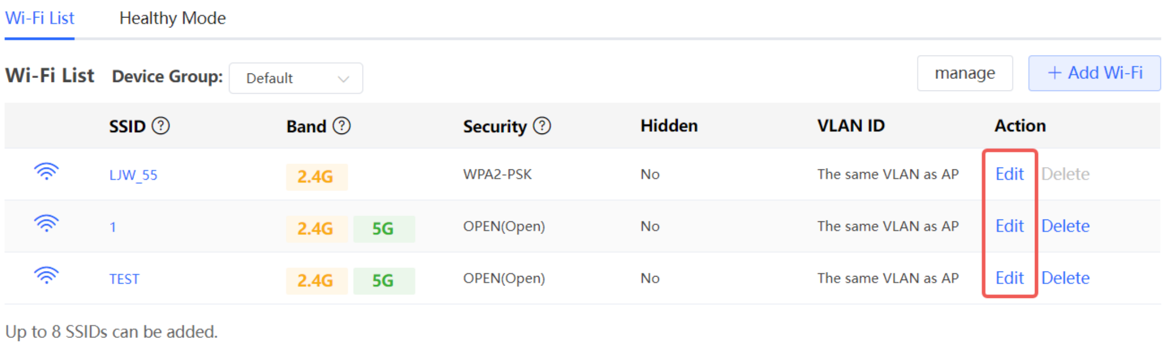
3.5.1 Overview

Hiding the SSID can prevent unauthorized clients from accessing the Wi-Fi network and enhance network security. After this function is enabled, the mobile phone or PC cannot search out the SSID. Instead, you have to manually enter the correct SSID and Wi-Fi password. Remember the SSID so that you can enter the correct SSID after the function is enabled.

3.5.2 Configuration Steps

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.



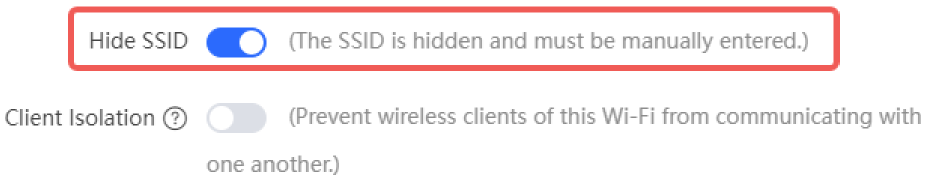
	SSID ⓘ	Band ⓘ	Security ⓘ	Hidden	VLAN ID	Action
	LJW_55	2.4G	WPA2-PSK	No	The same VLAN as AP	Edit Delete
	1	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete
	TEST	2.4G 5G	OPEN(Open)	No	The same VLAN as AP	Edit Delete

Up to 8 SSIDs can be added.

(2) Click to expand advanced settings, turn on **Hide SSID** in the expanded settings and click **OK**.

Caution

After the configuration is saved, you have to manually enter the SSID and Wi-Fi password before connecting any device to the Wi-Fi network. Therefore, exercise caution when performing this operation.



Hide SSID ● (The SSID is hidden and must be manually entered.)

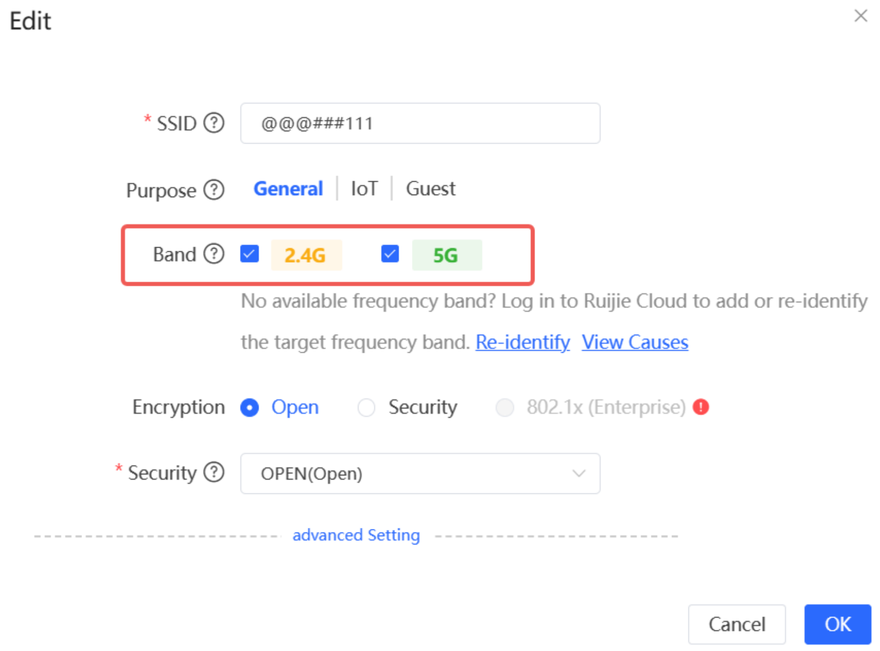
Client Isolation ? ○ (Prevent wireless clients of this Wi-Fi from communicating with one another.)

3.6 Configuring Wi-Fi Band

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Set the band of Wi-Fi signals. The device supports the 2.4 GHz and 5 GHz bands. Compared with the 2.4 GHz band, the 5 GHz band supports a higher network transmission rate and is less susceptible to interference, but is inferior in signal coverage and through-wall penetration. You can select an appropriate signal band based on actual requirements. The default Wi-Fi band is **2.4G+5G**, indicating that Wi-Fi signals are emitted in both 2.4 GHz and 5 GHz bands.



Edit

* SSID ? @@@###111

Purpose ? General | IoT | Guest

Band ? ☑ 2.4G ☑ 5G

No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Encryption ● Open ○ Security ○ 802.1x (Enterprise)

* Security ? OPEN(Open)

3.7 Configuring Band Steering

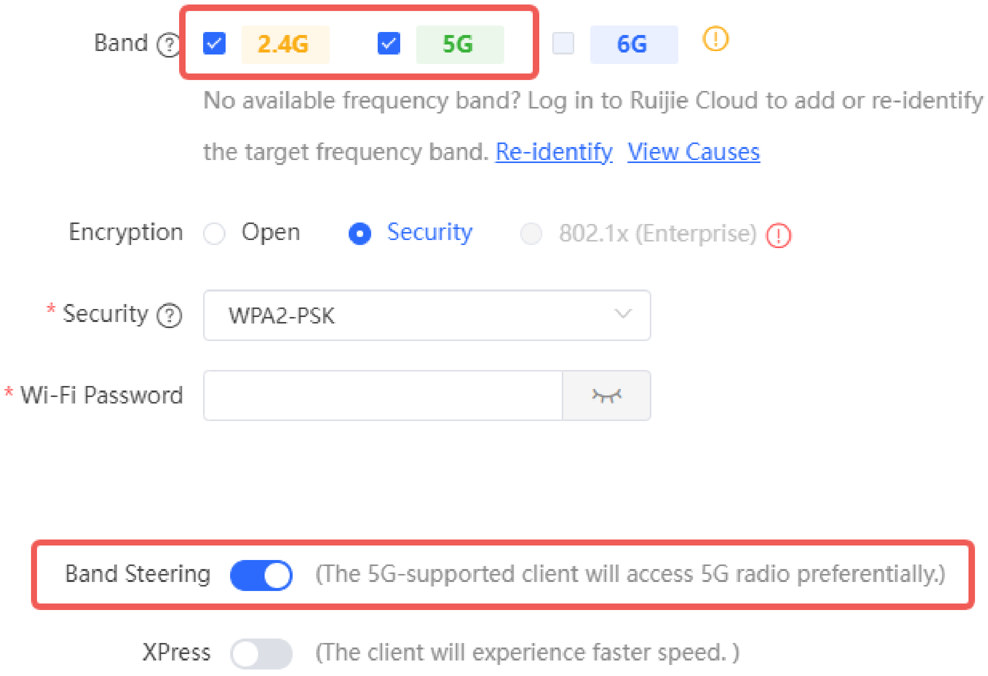
Caution

This function can be enabled only after the dual-band integration (**Band** is set to **2.4G+5G**) is enabled on the Wi-Fi network. A client automatically selects a band only when the SSIDs of the 2.4 GHz and 5 GHz bands are the same.

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Click to expand advanced settings, turn on **Band Steering** in the expanded settings, and click **OK**. After the function is enabled, the client supporting 5 GHz selects the 5G Wi-Fi network preferentially.



Band ☑ 2.4G ☑ 5G □ 6G

No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Encryption ○ Open ● Security ○ 802.1x (Enterprise)

* Security: WPA2-PSK

* Wi-Fi Password:

Band Steering (on) (The 5G-supported client will access 5G radio preferentially.)

XPress (off) (The client will experience faster speed.)

3.8 Configuring Wi-Fi 6

Caution

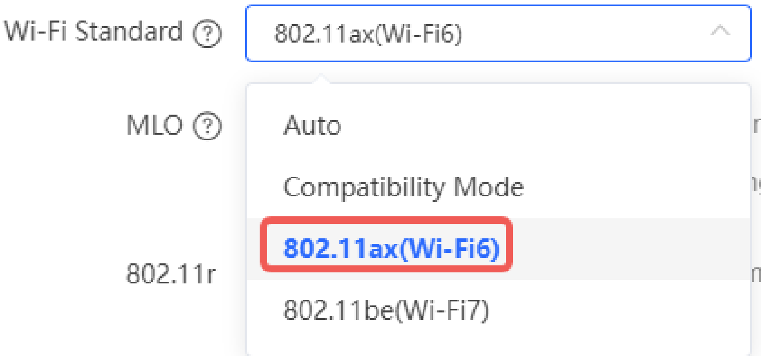
The function takes effect only on APs supporting the IEEE 802.11ax protocol. In addition, access clients must support IEEE 802.11ax so that clients can enjoy high-speed Internet access experience brought by Wi-Fi 6. If clients do not support Wi-Fi 6, you can disable this function.

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Click **advanced Settings** to set the **Wi-Fi Standard** to **802.11ax(Wi-Fi6)**. Click **OK**. After this function is enabled, wireless clients can have faster network speed and optimized network experience.


Wi-Fi Standard: 802.11ax(Wi-Fi6)

3.9 Configuring Wi-Fi 7

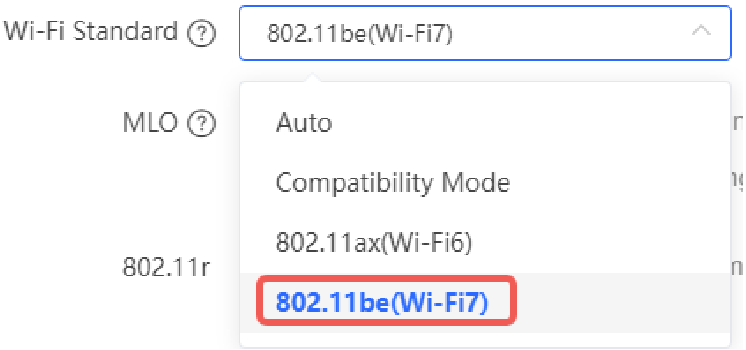
Caution

This configuration takes effect only on APs that support the IEEE 802.11be protocol. Clients also need to support the IEEE 802.11be protocol in order to experience high-speed Internet access brought by Wi-Fi 7. Disable this feature if the client does not support Wi-Fi 7.

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Click **advanced Settings** to set the **Wi-Fi Standard** to **802.11be(Wi-Fi7)**. Click **OK**. After this function is enabled, wireless clients can have faster network speed and optimized network experience.

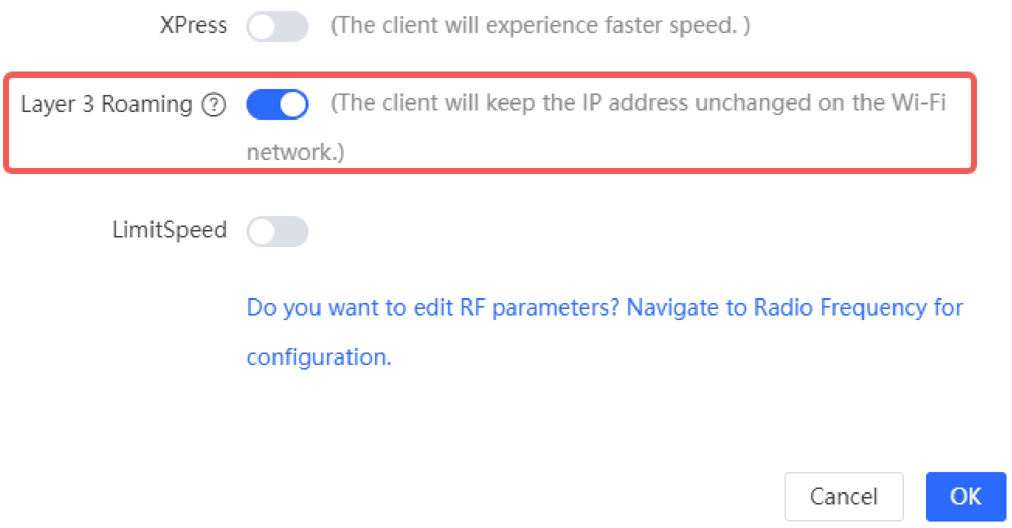

Wi-Fi Standard: 802.11be(Wi-Fi7)

3.10 Configuring Layer-3 Roaming

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Click to expand advanced settings, turn on **Layer 3 Roaming** in the expanded settings and click **OK**. The client will keep the IP address unchanged in this Wi-Fi network, improving roaming experience across VLANs.



XPress (The client will experience faster speed.)

Layer 3 Roaming ⓘ (The client will keep the IP address unchanged on the Wi-Fi network.)

LimitSpeed

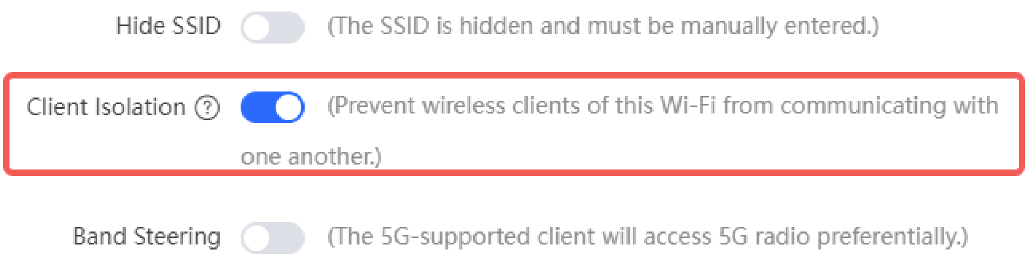
Do you want to edit RF parameters? Navigate to Radio Frequency for configuration.

3.11 Configuring Client Isolation

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Click to expand advanced settings, turn on **Client Isolation** in the expanded settings and click **OK**. The clients joining in this Wi-Fi network will be isolated. The clients associated with the same access point cannot access each other.



Hide SSID (The SSID is hidden and must be manually entered.)

Client Isolation ⓘ (Prevent wireless clients of this Wi-Fi from communicating with one another.)

Band Steering (The 5G-supported client will access 5G radio preferentially.)

3.12 Configuring 802.11r

Note

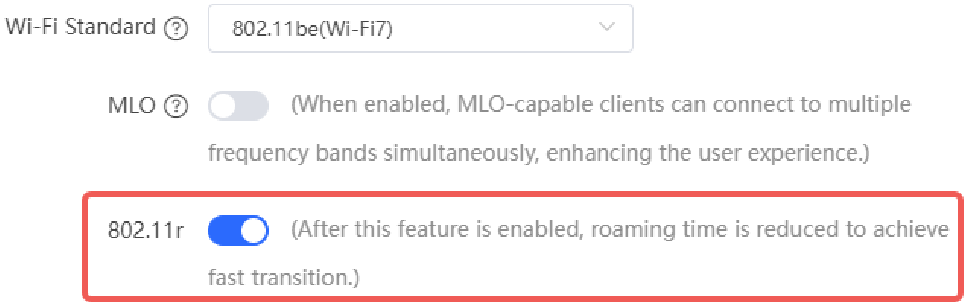
MLO and 802.11r are mutually exclusive features. Enabling MLO will automatically disable 802.11r.

The **802.11r** function is available only when the Encryption is set to **Security** or **802.1x(Enterprise)**. Once **802.11r** is enabled, **Security** can only be set to WPA2-PSK or WPA2-802.1X.

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Click **advanced Settings**. Enable **802.11r**, and click OK.



Wi-Fi Standard ? 802.11be(Wi-Fi7)

MLO ? (When enabled, MLO-capable clients can connect to multiple frequency bands simultaneously, enhancing the user experience.)

802.11r (After this feature is enabled, roaming time is reduced to achieve fast transition.)

3.13 Enabling MLO

Note

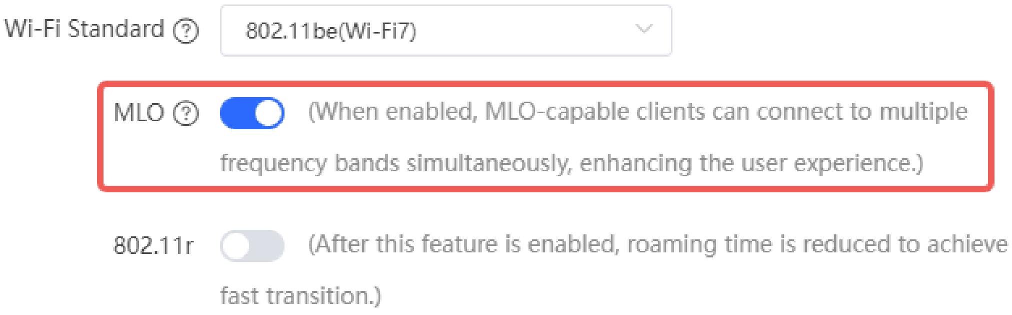
- This feature is supported only when there are Wi-Fi 7 APs on the network.
- Only RG-RAP72Pro-OD supports this function.
- MLO and 802.11r are mutually exclusive features. Enabling MLO will automatically disable 802.11r.

Multi-Link Operation (MLO) enhances data transmission performance and reduces latency by simultaneously utilizing multiple wireless channels. When enabled, it allows clients to connect to multiple Wi-Fi frequency bands simultaneously.

(1) Go to the configuration page.

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the desired Wi-Fi network from the list, and click **Edit** in the **Action** column.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the desired Wi-Fi network from the list, and click **Edit** in the **Action** column.

(2) Click to expand advanced settings, toggle on **MLO**, and then click **OK**. When enabled, MLO-capable clients can connect to multiple frequency bands simultaneously, enhancing the user experience.



Wi-Fi Standard: 802.11be(Wi-Fi7)

MLO (When enabled, MLO-capable clients can connect to multiple frequency bands simultaneously, enhancing the user experience.)

802.11r (After this feature is enabled, roaming time is reduced to achieve fast transition.)

3.14 Configuring a Guest Wi-Fi

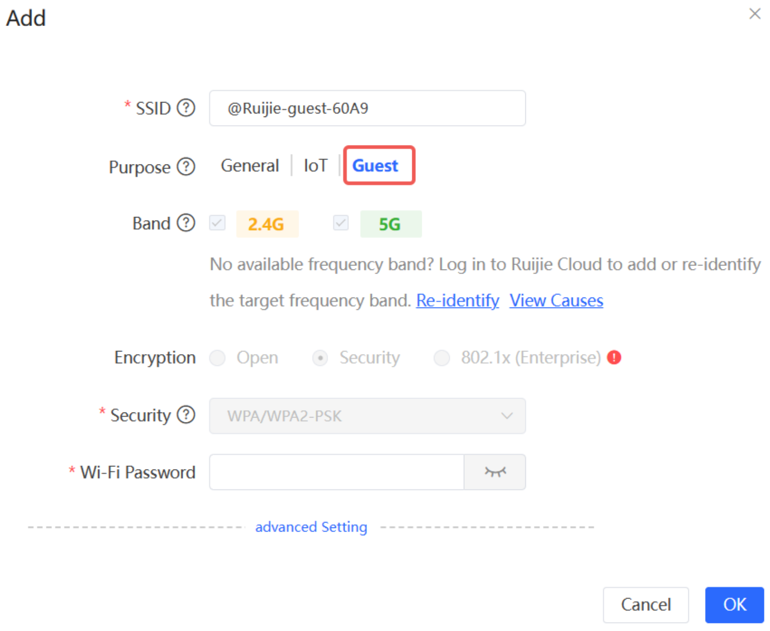
3.14.1 Overview

This Wi-Fi network is provided for guests and is disabled by default. It supports client isolation, that is, access clients are isolated from each other. They can only access the Internet via Wi-Fi, but cannot access each other, improving security. The guest Wi-Fi network can be turned off as scheduled. When the time expires, the guest network is off.

3.14.2 Configuration Steps

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**.

Click **Add Wi-Fi**. Set the purpose to **Guest** and configure the SSID and password. Click **advanced Settings** to configure the effective time of the guest Wi-Fi and other Wi-Fi parameters. After the settings are saved, guests can connect to the Internet through the set SSID and password.



Add

* SSID: @Ruijie-guest-60A9

Purpose: General | IoT | Guest

Band: ☑ 2.4G ☑ 5G

No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Encryption: ○ Open ● Security ○ 802.1x (Enterprise)

* Security: WPA/WPA2-PSK

* Wi-Fi Password

3.15 Configuring Wireless Rate Limiting

3.15.1 Overview

The device supports four rate limiting modes: client-based rate limiting, SSID-based rate limiting, AP-based rate limiting, and packet-based rate limiting. For the same client, if multiple rate limiting modes are configured, the priority order is as follows: client-based rate limiting > SSID-based rate limiting > AP-based rate limiting > packet-based rate limiting.

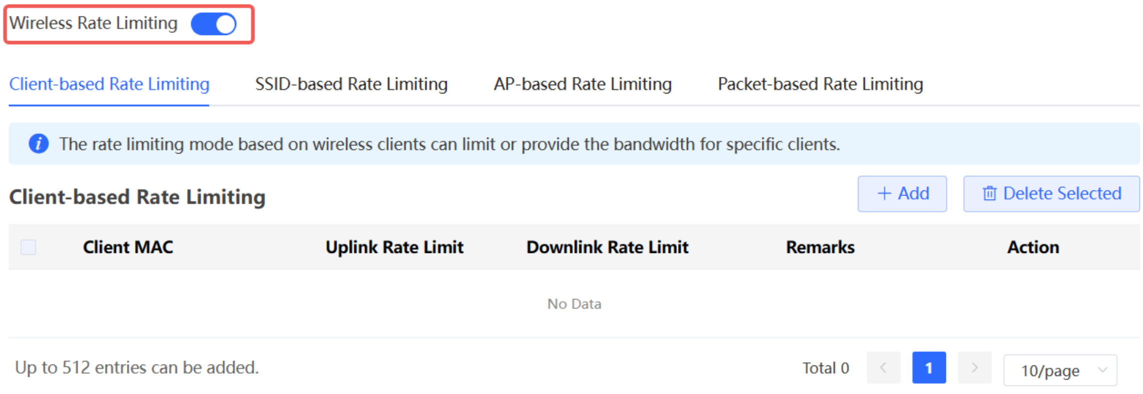
- Client-based rate limiting: This function allows you to limit the rate based on the MAC address of the client, so as to limit or guarantee the bandwidth required by specific clients.
- SSID-based rate limiting: This function provides two rate limiting modes for a specified SSID: **Rate Limit Per User** and **Rate Limit All Users**. **Rate Limit Per User** means that all clients connected to the SSID use the same rate limit. **Rate Limit All Users** means that the configured rate limit value is evenly allocated to all clients connected to the SSID. The rate limit value of each client dynamically changes with the number of clients connected to the SSID.
- AP-based rate limiting: This function limits the client rates based on the whole network. All clients connected to the network will work according to the configured rate limit value.
- Packet-based rate limiting: This function limits the client rates based on the downlink broadcast and multicast packets. The device supports rate limiting for specific broadcast packets (such as ARP and DHCP), multicast packets (such as MDNS and SSDP), or all types of broadcast and multicast packets. If network stalling remains during network access and there is no client with large traffic, you are advised to adjust the rate between 1 kbps and 512 kbps.

3.15.2 Configuration Steps

1. Configuring Client-based Rate Limiting

Choose **Network-Wide** > **Workspace** > **Wireless** > **Rate Limiting** > **Client-based Rate Limiting**.

(1) Enable **Wireless Rate Limiting**.



Wireless Rate Limiting

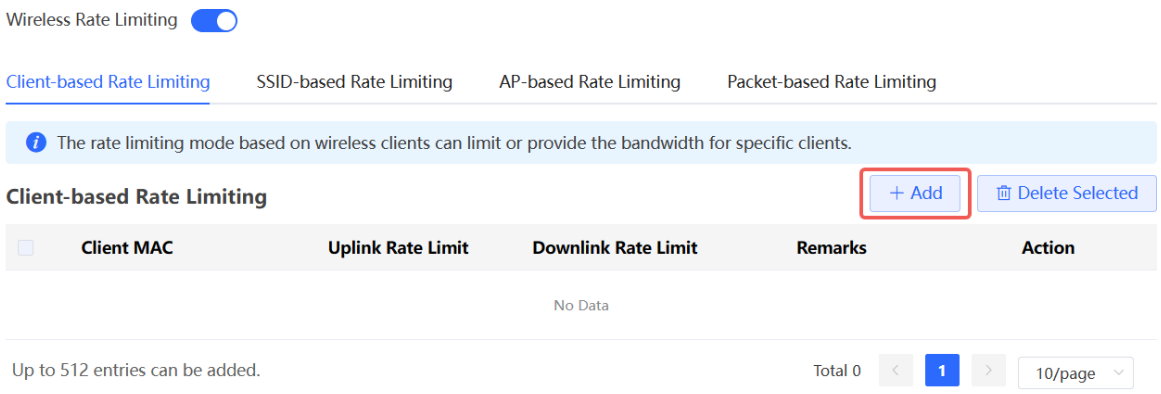
The rate limiting mode based on wireless clients can limit or provide the bandwidth for specific clients.

Client-based Rate Limiting

□	Client MAC	Uplink Rate Limit	Downlink Rate Limit	Remarks	Action
		No Data			

Up to 512 entries can be added.

(2) Click **Add**. In the dialog box that appears, set the MAC address and uplink and downlink rate limit values of the client, and click **OK**.



Wireless Rate Limiting

Client-based Rate Limiting | SSID-based Rate Limiting | AP-based Rate Limiting | Packet-based Rate Limiting

The rate limiting mode based on wireless clients can limit or provide the bandwidth for specific clients.

Client-based Rate Limiting

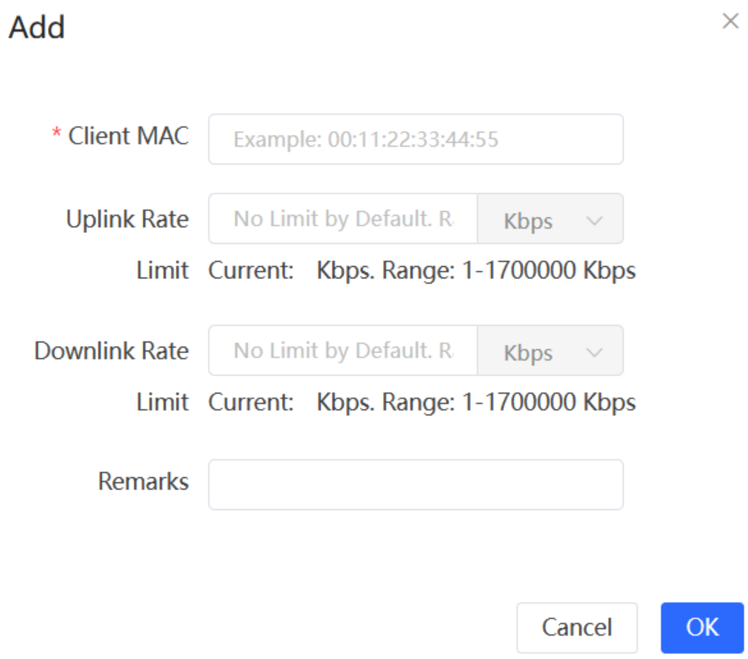
+ Add | Delete Selected

□	Client MAC	Uplink Rate Limit	Downlink Rate Limit	Remarks	Action

No Data

Up to 512 entries can be added.

Total 0 < 1 > 10/page



Add

* Client MAC: Example: 00:11:22:33:44:55

Uplink Rate Limit: No Limit by Default. R Kbps

Current: Kbps. Range: 1-1700000 Kbps

Downlink Rate Limit: No Limit by Default. R Kbps

Current: Kbps. Range: 1-1700000 Kbps

Remarks:

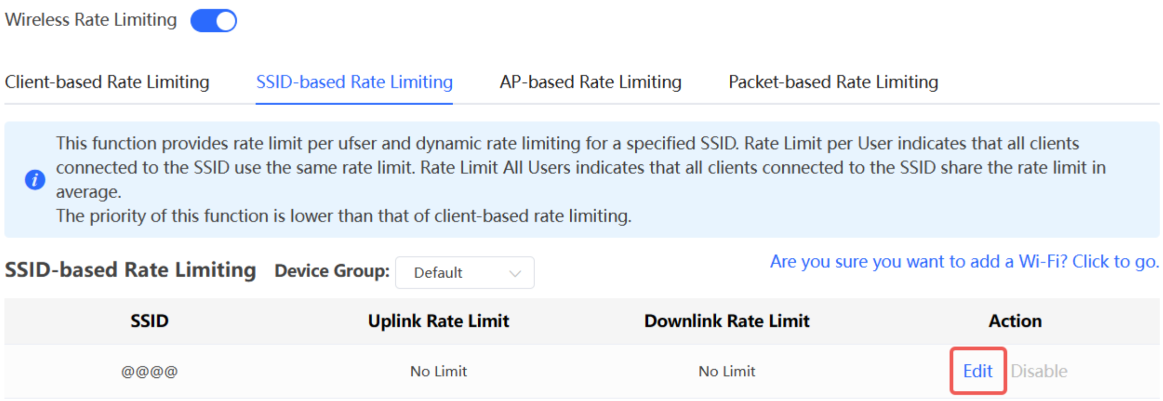
Cancel OK

2. Configuring SSID-based Rate Limiting

Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Rate Limiting** > **SSID-based Rate Limiting**.

(1) Enable **Wireless Rate Limiting**.

(2) Click **Edit** in the **Action** column of the target SSID. In the dialog box that appears, set the uplink and downlink rate limit modes and values, and click **OK**.



Wireless Rate Limiting ●

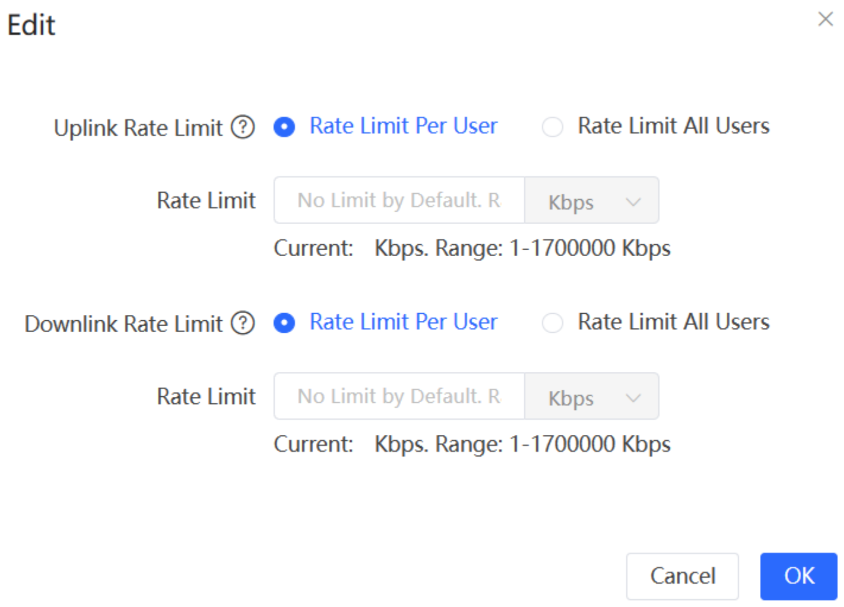
Client-based Rate Limiting | SSID-based Rate Limiting | AP-based Rate Limiting | Packet-based Rate Limiting

This function provides rate limit per ufser and dynamic rate limiting for a specified SSID. Rate Limit per User indicates that all clients connected to the SSID use the same rate limit. Rate Limit All Users indicates that all clients connected to the SSID share the rate limit in average.
The priority of this function is lower than that of client-based rate limiting.

SSID-based Rate Limiting Device Group: Default

Are you sure you want to add a Wi-Fi? Click to go.

SSID	Uplink Rate Limit	Downlink Rate Limit	Action
@@@@	No Limit	No Limit	Edit Disable



Edit

Uplink Rate Limit ● Rate Limit Per User ○ Rate Limit All Users

Rate Limit No Limit by Default. R Kbps

Current: Kbps. Range: 1-1700000 Kbps

Downlink Rate Limit ● Rate Limit Per User ○ Rate Limit All Users

Rate Limit No Limit by Default. R Kbps

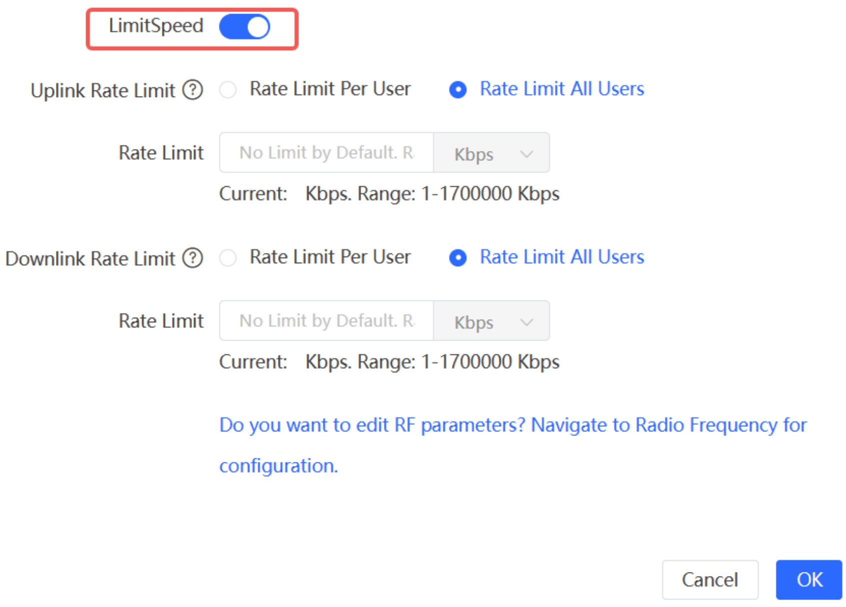
Current: Kbps. Range: 1-1700000 Kbps

Method 2:

(1) Go to the configuration page:

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(2) Click to expand advanced settings. Enable **LimitSpeed**, set the uplink and downlink rate limit modes and rate limits, and click **OK**.



LimitSpeed

Uplink Rate Limit ⓘ ○ Rate Limit Per User ● Rate Limit All Users

Rate Limit: No Limit by Default. R | Kbps

Current: Kbps. Range: 1-1700000 Kbps

Downlink Rate Limit ⓘ ○ Rate Limit Per User ● Rate Limit All Users

Rate Limit: No Limit by Default. R | Kbps

Current: Kbps. Range: 1-1700000 Kbps

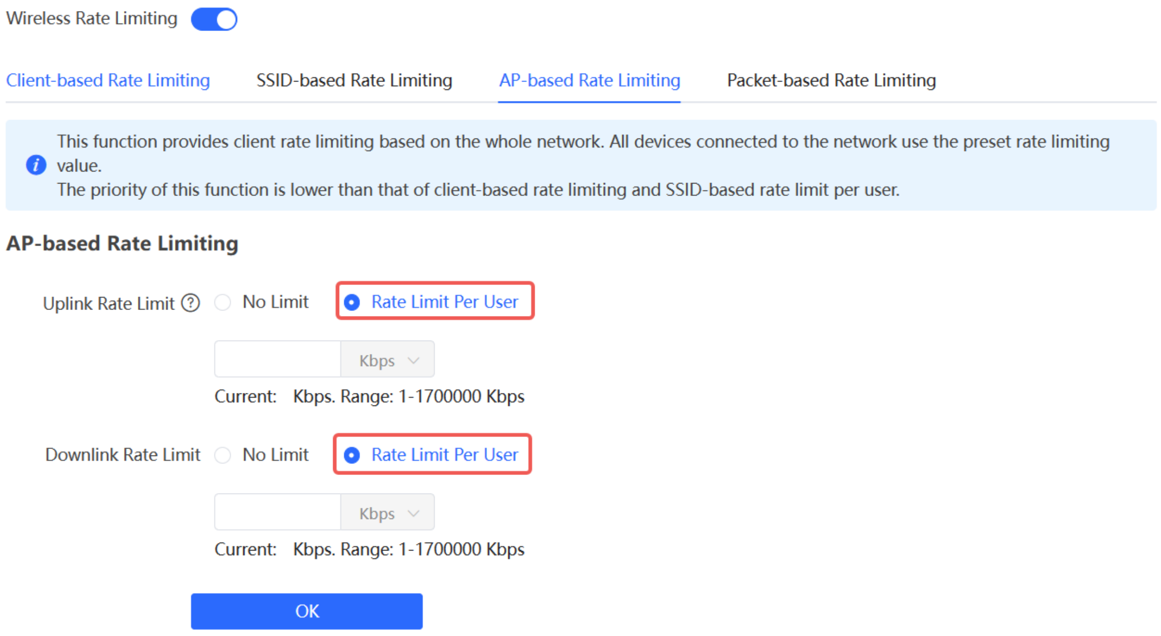
Do you want to edit RF parameters? Navigate to Radio Frequency for configuration.

3. Configuring AP-based Rate Limiting

Choose **Network-Wide** > **Workspace** > **Wireless** > **Rate Limiting** > **AP-based Rate Limiting**.

(1) Enable **Wireless Rate Limiting**.

(2) Set the uplink and downlink rate limit modes to **Rate Limit Per User**, configure the rate limit values, and click **OK**.



Wireless Rate Limiting

This function provides client rate limiting based on the whole network. All devices connected to the network use the preset rate limiting value.
The priority of this function is lower than that of client-based rate limiting and SSID-based rate limit per user.

AP-based Rate Limiting

Uplink Rate Limit ⓘ ○ No Limit ● Rate Limit Per User

Kbps

Current: Kbps. Range: 1-1700000 Kbps

Downlink Rate Limit ○ No Limit ● Rate Limit Per User

Kbps

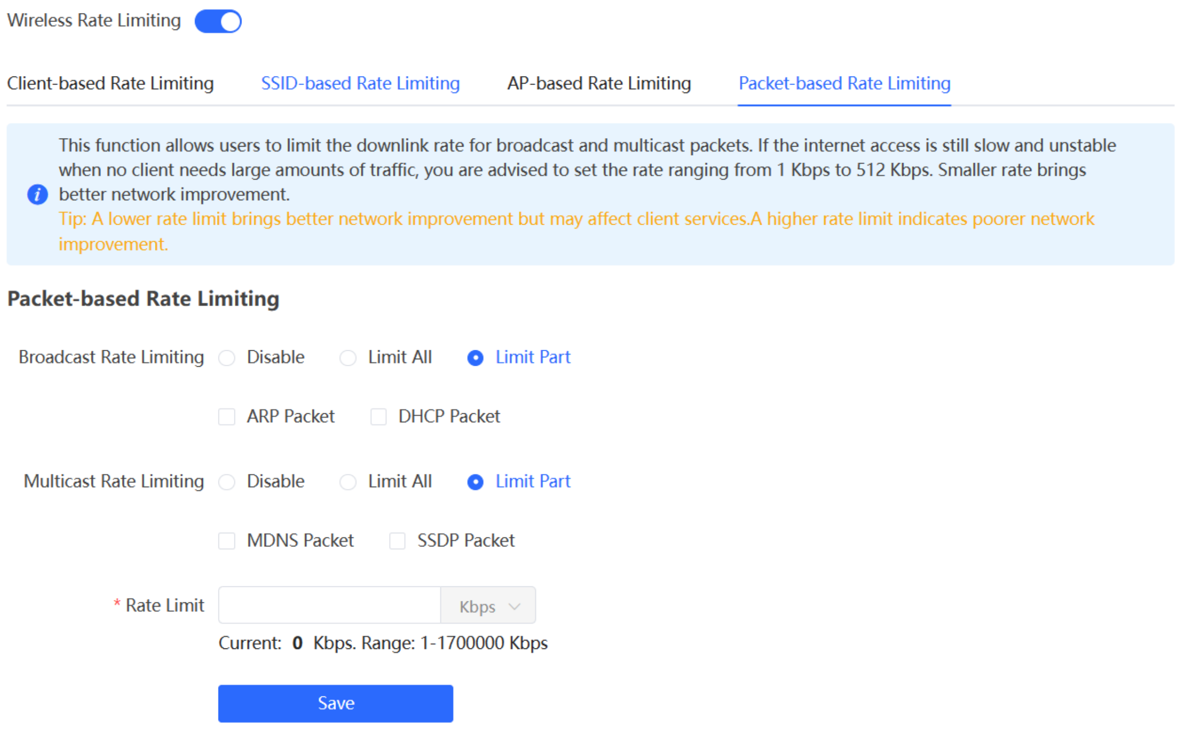
Current: Kbps. Range: 1-1700000 Kbps

4. Configuring Packet-based Rate Limiting

Choose **Network-Wide** > **Workspace** > **Wireless** > **Rate Limiting** > **Packet-based Rate Limiting**.

(1) Enable **Wireless Rate Limiting**.

(2) Select the specific type of packets for rate limiting, configure the rate limit value, and click **Save**.



Wireless Rate Limiting

Client-based Rate Limiting | SSID-based Rate Limiting | AP-based Rate Limiting | Packet-based Rate Limiting

This function allows users to limit the downlink rate for broadcast and multicast packets. If the internet access is still slow and unstable when no client needs large amounts of traffic, you are advised to set the rate ranging from 1 Kbps to 512 Kbps. Smaller rate brings better network improvement.

Tip: A lower rate limit brings better network improvement but may affect client services.A higher rate limit indicates poorer network improvement.

Packet-based Rate Limiting

Broadcast Rate Limiting ○ Disable ○ Limit All ● Limit Part

□ ARP Packet □ DHCP Packet

Multicast Rate Limiting ○ Disable ○ Limit All ● Limit Part

□ MDNS Packet □ SSDP Packet

* Rate Limit Kbps

Current: **0** Kbps. Range: 1-1700000 Kbps

3.16 Configuring Wi-Fi Blocklist or Allowlist

3.16.1 Overview

You can configure the global or SSID-based blocklist and allowlist. The MAC address supports full match and OUI match.

Wi-Fi blocklist: Clients in the Wi-Fi blocklist are prevented from accessing the Internet. Clients that are not added to the Wi-Fi blocklist are free to access the Internet.

Wi-Fi allowlist: Only clients in the Wi-Fi allowlist can access the Internet. Clients that are not added to the Wi-Fi allowlist are prevented from accessing the Internet.

⚠ **Caution**

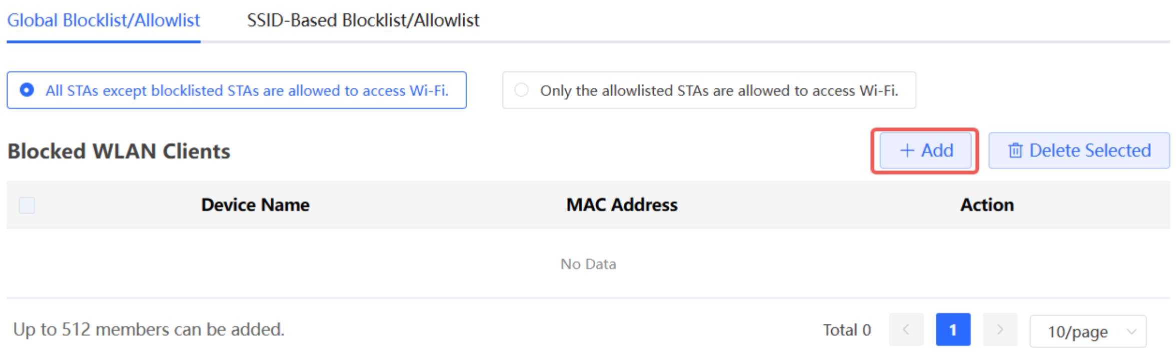
If the allowlist is empty, the allowlist does not take effect. In this case, all clients are allowed to access the Internet.

3.16.2 Configuration Steps

1. Configuring a Global Blocklist/Allowlist

Choose **Network-Wide > Workspace > Wireless > Blocklist and Allowlist** > **Global Blocklist/Allowlist**.

Select the blocklist or allowlist mode and click **Add** to configure a blocklist or allowlist client. Enter the device name, match type, and MAC address of the client to be added to the blacklist or whitelist in the displayed dialog box, and click **OK**. If a client is already associated with the access point, its MAC address will pop up automatically. Click the MAC address directly for automatic input. All clients in the blocklist will be forced offline and not allowed to access the Wi-Fi network. The global blocklist and allowlist settings take effect on all Wi-Fi networks of the access point.



Global Blocklist/Allowlist SSID-Based Blocklist/Allowlist

● All STAs except blocklisted STAs are allowed to access Wi-Fi.

○ Only the allowlisted STAs are allowed to access Wi-Fi.

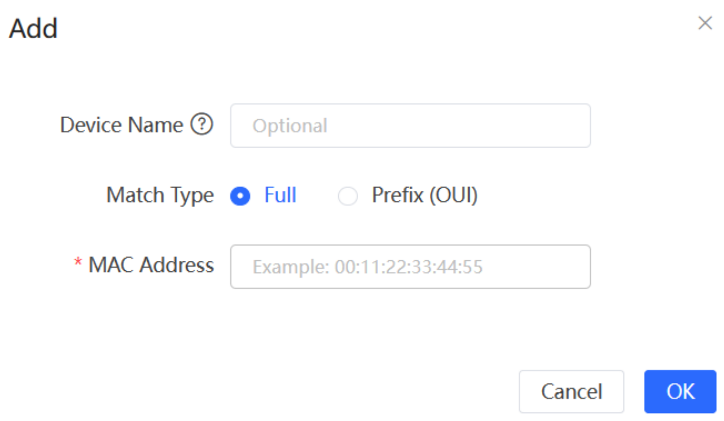
Blocked WLAN Clients

+ Add | Delete Selected

□	Device Name	MAC Address	Action
		No Data	

Up to 512 members can be added.

Total 0 < 1 > 10/page



Add ×

Device Name ⓘ Optional

Match Type ● Full ○ Prefix (OUI)

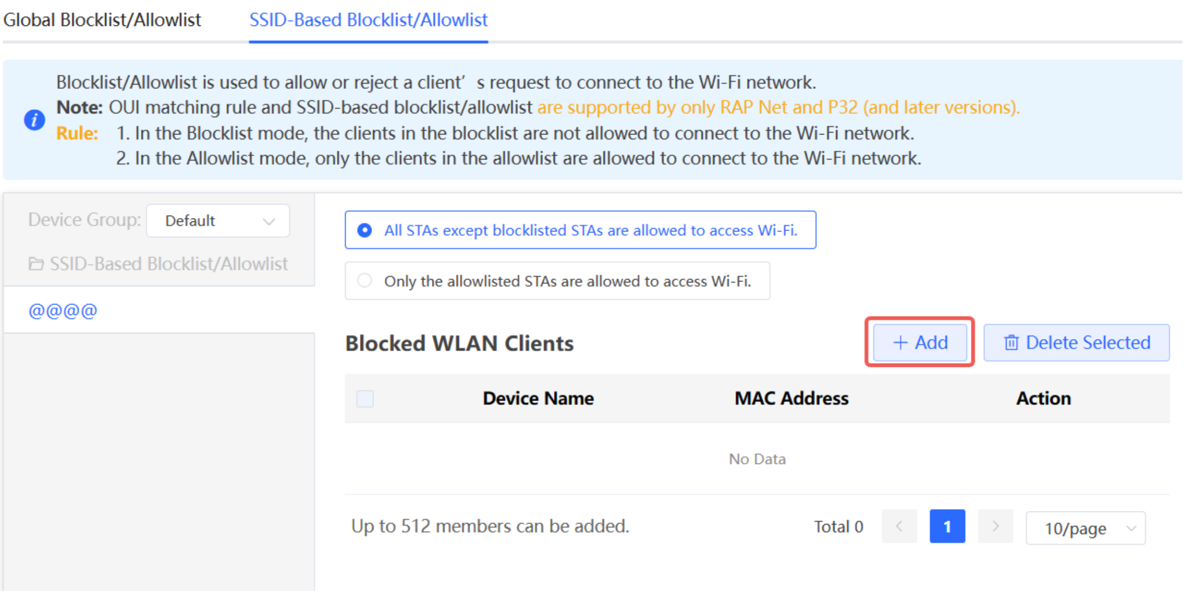
* MAC Address Example: 00:11:22:33:44:55

Cancel OK

2. Configuring an SSID-based Blocklist/Allowlist

Choose **Network-Wide > Workspace > Wireless > Blocklist and Allowlist** > **SSID-Based Blocklist/Allowlist**.

Select a target Wi-Fi network from the left column, select the blocklist or allowlist mode and click **Add** to configure a blocklist or allowlist client. The SSID-based blocklist and allowlist will restrict the client access to the specified Wi-Fi.



Blocklist/Allowlist is used to allow or reject a client’ s request to connect to the Wi-Fi network.
Note: OUI matching rule and SSID-based blocklist/allowlist are supported by only RAP Net and P32 (and later versions).
Rule: 1. In the Blocklist mode, the clients in the blocklist are not allowed to connect to the Wi-Fi network.
2. In the Allowlist mode, only the clients in the allowlist are allowed to connect to the Wi-Fi network.

Device Group: Default

SSID-Based Blocklist/Allowlist

@@@@

● All STAs except blocklisted STAs are allowed to access Wi-Fi.

○ Only the allowlisted STAs are allowed to access Wi-Fi.

Blocked WLAN Clients

□	Device Name	MAC Address	Action
	No Data		

Up to 512 members can be added.

3.17 Optimizing Wi-Fi Network

3.17.1 Overview

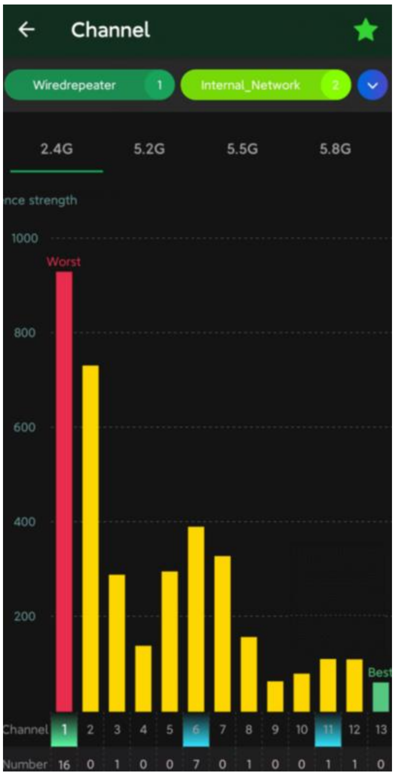
The device detects the surrounding wireless environment and selects the appropriate configuration upon power-on. However, network stalling caused by wireless environment changes cannot be avoided. You can optimize the network with one single click, analyze the wireless environment around the access point and select appropriate parameters.

⚠ **Caution**

After being optimized, the Wi-Fi network will restart, and clients need to reconnect to the W-Fi network. Therefore, exercise caution when performing this operation.

3.17.2 Getting Started

Install Wi-Fi Moho or other Wi-Fi scanning app on the mobile phone and check interference analysis results to find out the best channel.



3.17.3 Configuring Global Radio Settings

1. Optimizing the Channel Width

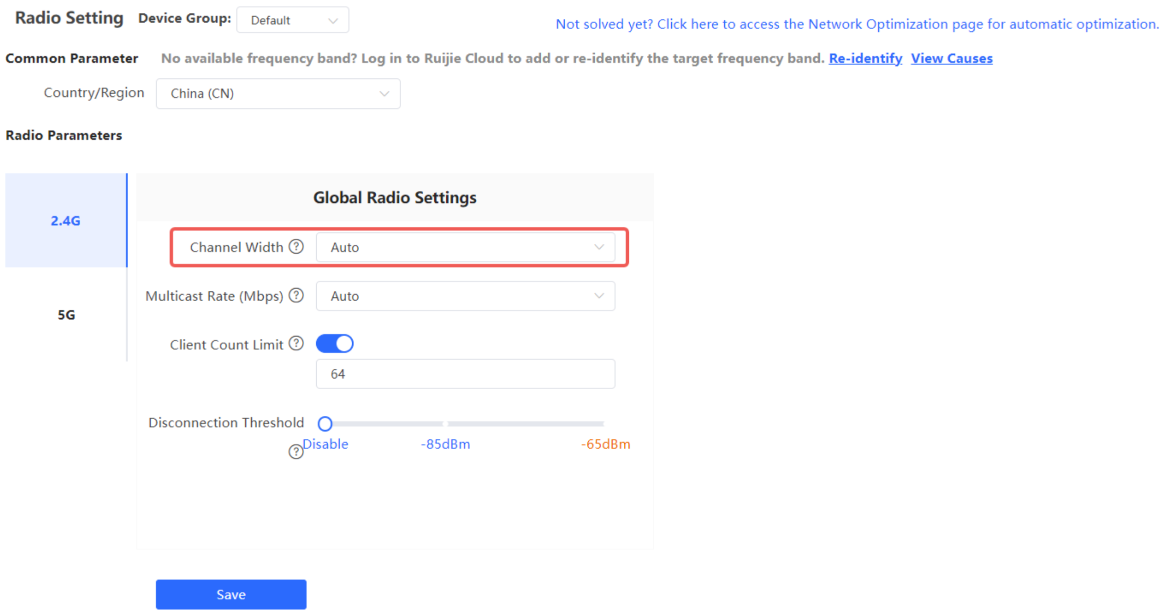
Choose **Network-Wide** > **Workspace > Wireless > Radio Setting**.

A network with a lower channel width is more stable, while a network with a higher channel width is susceptible to interference. If the interference is severe, choose a lower channel width to avoid network stalling to a certain extent. The access point supports the channel width of 20 MHz and 40 MHz in the 2.4 GHz channel, and the channel width of 20 MHz and 40 MHz and 80 MHz and 160 MHz in the 5 GHz channel.

The default value is **Auto**, indicating that the channel width is automatically selected based on the environment. After changing the channel width, click **Save** to make the configuration take effect immediately.

Caution

In the self-organizing network mode, the channel width settings will be synchronized to all devices in the network.



Radio Setting Device Group: Default

Not solved yet? Click here to access the Network Optimization page for automatic optimization.

Common Parameter No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Country/Region China (CN)

Radio Parameters

2.4G

5G

Global Radio Settings

Channel Width: Auto

Multicast Rate (Mbps): Auto

Client Count Limit: 64

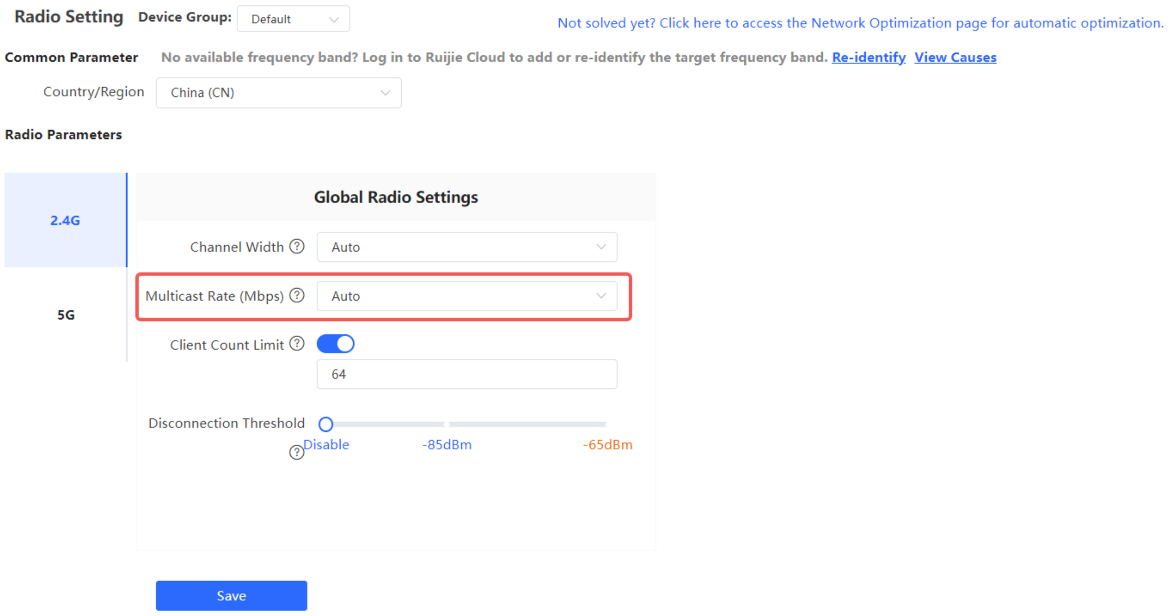
Disconnection Threshold: Disable -85dBm -65dBm

Save

2. Configuring the Multicast Rate

Choose **Network-Wide** > **Workspace > Wireless > Radio Setting**.

If the multicast rate is too high, the packet loss rate of multicast packets may increase. If the multicast rate is too low, the radio interface may become busy. When network stalling is serious, you are advised to configure a high multicast rate. When network stalling is minor, configure a medium multicast rate. After adjusting the configuration, click **Save**.



Radio Setting Device Group: Default

Not solved yet? Click here to access the Network Optimization page for automatic optimization.

Common Parameter No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Country/Region China (CN)

Radio Parameters

2.4G

5G

Global Radio Settings

Channel Width: Auto

Multicast Rate (Mbps): Auto

Client Count Limit: 64

Disconnection Threshold: Disable -85dBm -65dBm

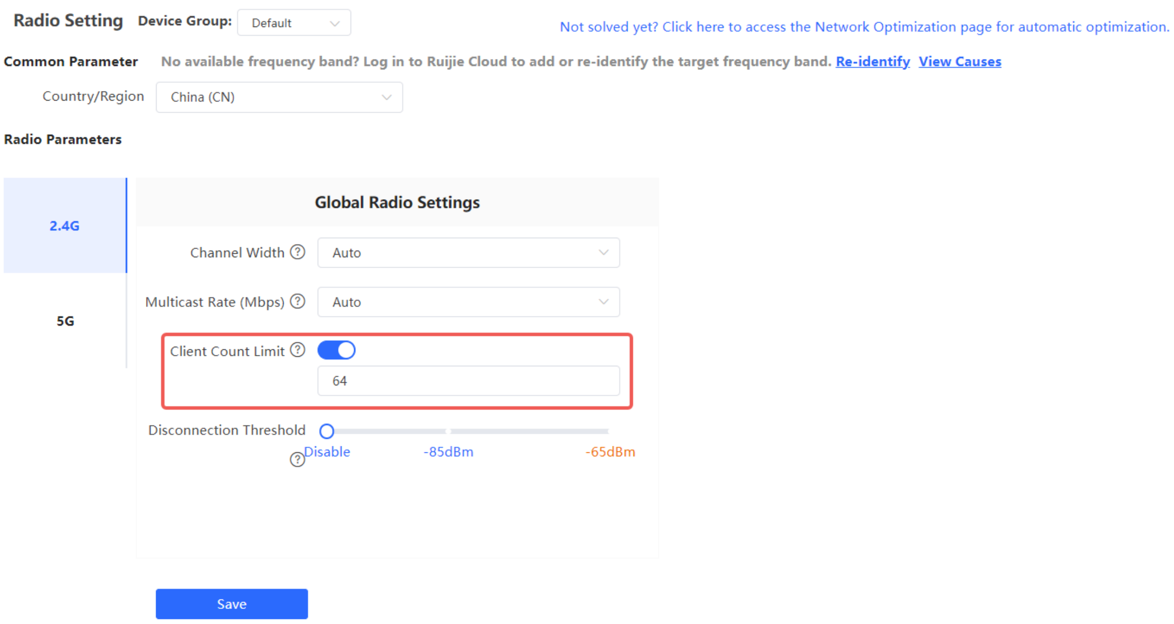
Save

3. Configuring the Client Limit

Choose **Network-Wide** > **Workspace > Wireless > Radio Setting**.

If the access point is associated with too many clients, it will have a lower performance, affecting user experience. After you configure the threshold, new clients over the threshold will not be allowed to access the Wi-Fi network. You can lower the threshold if there is requirement for bandwidth per client. The **Client Count Limit** toggle switch is disabled by default. If there is no need to set a client limit, please keep the default setting.

You can toggle on the **Client Count Limit** toggle switch to set a client limit, and then click **Save**.



Radio Setting Device Group: Default

Not solved yet? Click here to access the Network Optimization page for automatic optimization.

Common Parameter No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Country/Region: China (CN)

Radio Parameters

Global Radio Settings

Channel Width: Auto

Multicast Rate (Mbps): Auto

Client Count Limit: 64

Disconnection Threshold: Disable

Note

The **Client Count Limit** refers to the maximum number of clients that can be connected to a single access point.

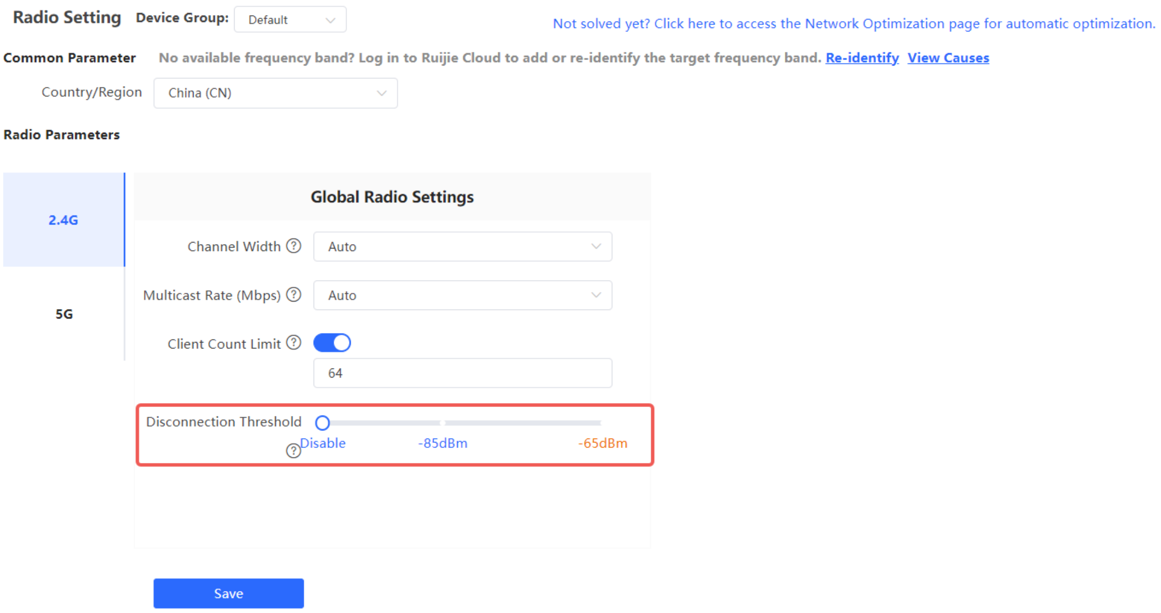
---

4. Configuring the Kick-off Threshold

Choose **Network-Wide** > **Workspace > Wireless > Radio Setting**.

In the case of multiple Wi-Fi signals, setting the kick-off threshold can improve the wireless signal quality to a certain extent. The farther the client is away from the access point, the lower the signal strength is. If the signal is lower than the kick-off threshold, the Wi-Fi will be disconnected, and the client will be forced offline and select a nearer Wi-Fi signal.

However, the higher the kick-off threshold is, the easier it is for the client to be kicked offline. To ensure normal Internet access, you are advised to disable the kick-off threshold or set the value to less than -75dBm. After adjusting the configuration, click **Save**.



Radio Setting Device Group: Default

Not solved yet? Click here to access the Network Optimization page for automatic optimization.

Common Parameter No available frequency band? Log in to Ruijie Cloud to add or re-identify the target frequency band. Re-identify View Causes

Country/Region: China (CN)

Radio Parameters

2.4G

5G

Global Radio Settings

Channel Width: Auto

Multicast Rate (Mbps): Auto

Client Count Limit: 64

Disconnection Threshold: Disable -85dBm -65dBm

Save

⚠ **Caution**

In the self-organizing network mode, the kick-off threshold settings will be synchronized to all devices in the network.

3.17.4 Configuring Standalone Radio Settings

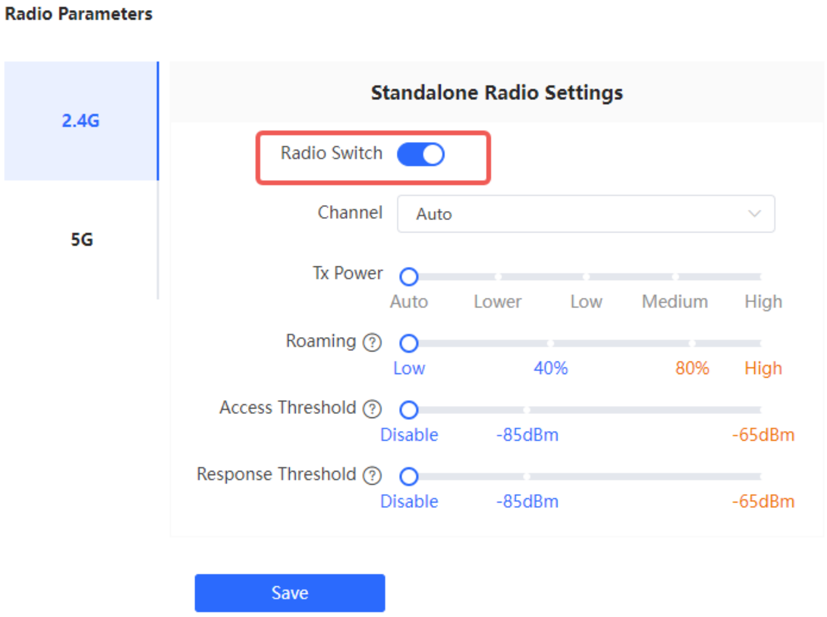
Go to the configuration page.

- Method 1: Choose **One-Device** > **Config** > **WLAN** > **Radio Setting**.
- Method 2: Choose **Network-Wide** > **Devices**> **Manage** > **Config** > **WLAN** > **Radio Setting**.

In high-density client environments, you can fine-tune radio settings to alleviate radio frequency interference resulting from too many access points in close proximity. This include disabling the radio of neighboring APs that are causing significant interference, aiming to minimize signal conflicts and enhance the overall quality and stability of wireless communication.

In environments like conference rooms, offices, and smart homes, disabling the 2.4GHz radio of specific APs can enhance the performance of wireless devices such as mice, keyboards, Bluetooth and Zigbee devices when they experience signal interference or operational lag.

The **Radio Switch** is enabled by default, and can be disabled as required.



Radio Parameters

2.4G

5G

Standalone Radio Settings

Radio Switch: on

Channel: Auto

Tx Power

Roaming

Access Threshold

Response Threshold

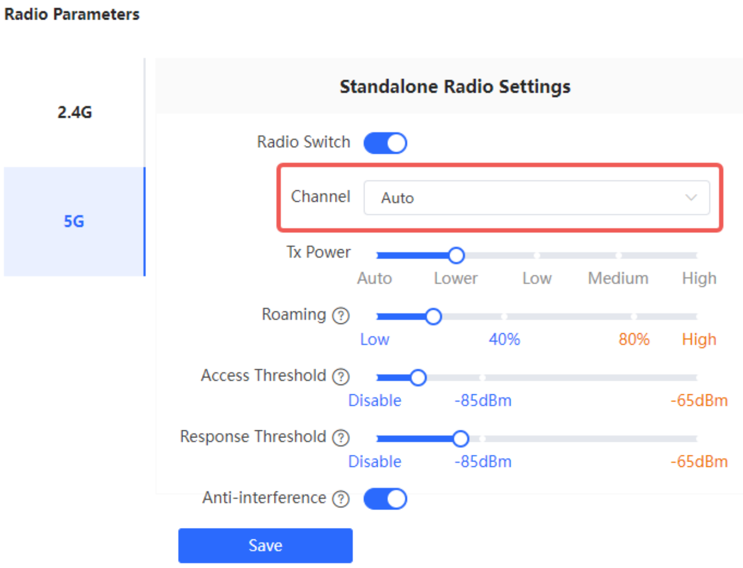
1. Optimizing the Radio Channel

- Method 1: Choose **One-Device** > **Config** > **WLAN** > **Radio Setting**.
- Method 2: Choose **Network-Wide** > **Devices** > **Manage** > **Config** > **WLAN** > **Radio Setting**.

Choose the best channel identified by Wi-Fi Moho or other Wi-Fi scanning App. Click **Save** to make the configuration take effect immediately. The more devices in a channel, the greater the interference.

Note

The available channels are subject to the country/region code. Please configure the correct country/region code in the **Global Radio Settings** configuration pane.



Radio Parameters

2.4G

5G

Standalone Radio Settings

Radio Switch: on

Channel: Auto

Tx Power

Roaming

Access Threshold

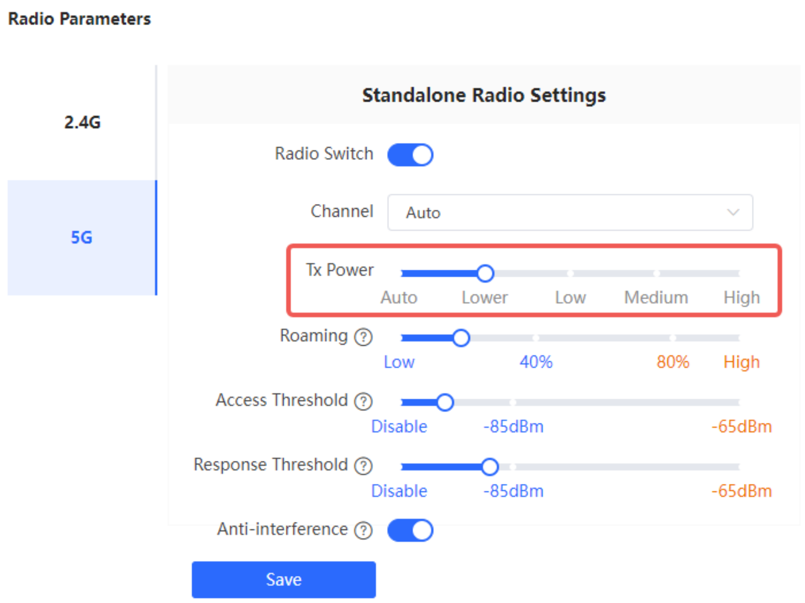
Response Threshold

Anti-interference: on

2. Optimizing the Transmit Power

- Method 1: Choose **One-Device** > **Config** > **WLAN** > **Radio Setting**.
- Method 2: Choose **Network-Wide** > **Devices** > **Manage** > **Config** > **WLAN** > **Radio Setting**.

A greater transmit power indicates a larger coverage and brings stronger interference to surrounding wireless routers. In a high-density scenario, you are advised to set the transmit power to a small value. The **Auto** mode is recommended, indicating automatic adjustment of the transmit power. After adjusting the configuration, click **Save**.



Radio Parameters

2.4G

5G

Standalone Radio Settings

Radio Switch: ●

Channel: Auto

Tx Power: Lower (Auto / Lower / Low / Medium / High)

Roaming: Low / 40% / 80% / High

Access Threshold: Disable / -85dBm / -65dBm

Response Threshold: Disable / -85dBm / -65dBm

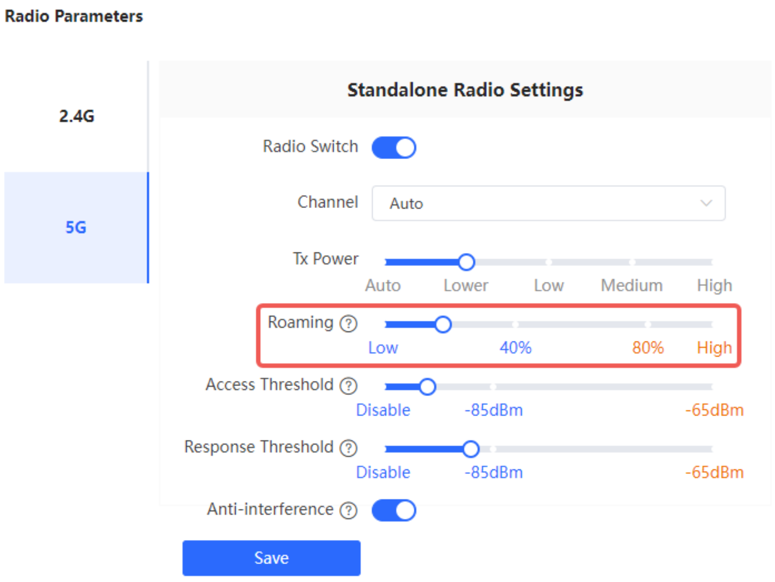
Anti-interference: ●

Save

3. Configuring the Roaming Sensitivity

- Method 1: Choose **One-Device** > **Config** > **WLAN** > **Radio Setting**.
- Method 2: Choose **Network-Wide** > **Devices** > **Manage** > **Config** > **WLAN** > **Radio Setting**.

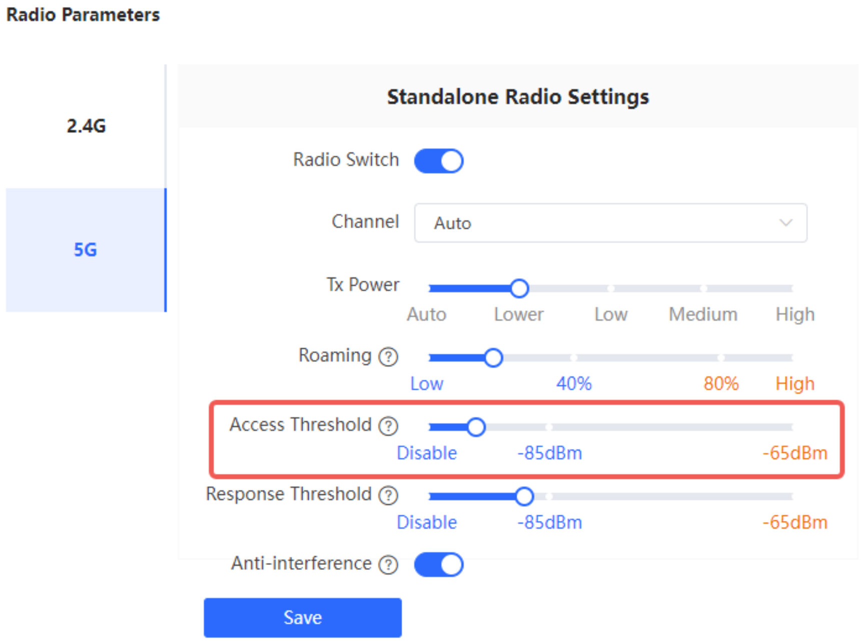
The roaming sensitivity enables the device to actively disconnect a client from the Wi-Fi network when the client is far away, forcing the client to re-select the nearest signal and thus improving the sensitivity of wireless roaming. Higher the roaming sensitivity level, smaller the wireless signal coverage. To improve the signal quality for a client moving within more than one Wi-Fi coverage, improve the roaming sensitivity level. You are advised to keep the default settings. After adjusting the configuration, click **Save**.



4. Configuring Access Threshold

- Method 1: Choose **One-Device** > **Config** > **WLAN** > **Radio Setting**.
- Method 2: Choose **Network-Wide** > **Devices** > **Manage** > **Config** > **WLAN** > **Radio Setting**.

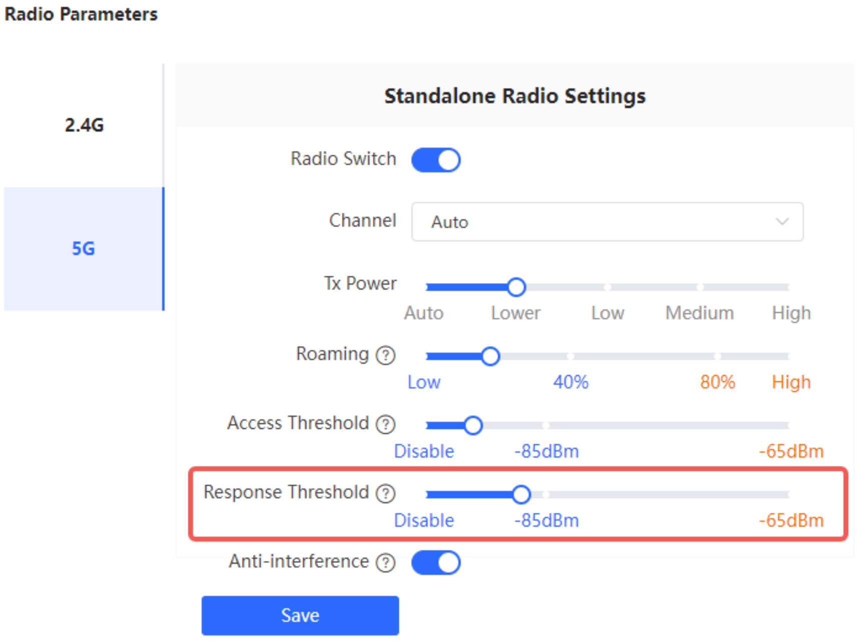
When the wireless signal of the end user is lower than the access threshold set on the device, the client cannot detect the wireless signal of the device. After adjusting the configuration, click **Save**.



5. Configuring Response RSSI Threshold

- Method 1: Choose **One-Device** > **Config** > **WLAN** > **Radio Setting**.
- Method 2: Choose **Network-Wide** > **Devices** > **Manage** > **Config** > **WLAN** > **Radio Setting**.

When the wireless signal of the end user is lower than the response RSSI threshold configured on the device, the client cannot detect the wireless signal of the device. The smaller the response RSSI threshold is configured, the less the environmental factors interfere with the AP. However, the connection of the client may be affected. After adjusting the configuration, click **Save**.



Radio Parameters

Standalone Radio Settings

Radio Switch: on

Channel: Auto

Tx Power: Auto, Lower, Low, Medium, High

Roaming: Low, 40%, 80%, High

Access Threshold: Disable, -85dBm, -65dBm

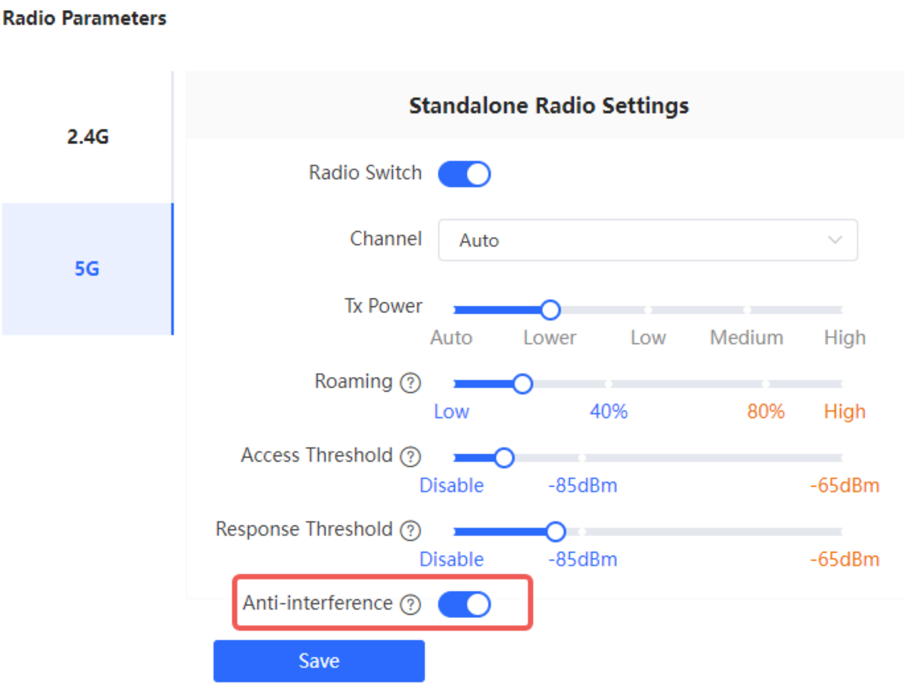
Response Threshold: Disable, -85dBm, -65dBm

Anti-interference: on

6. Configuring WLAN Anti-interference

- Method 1: Choose **One-Device** > **Config** > **WLAN** > **Radio Setting**.
- Method 2: Choose **Network-Wide** > **Devices** > **Manage** > **Config** > **WLAN** > **Radio Setting**.

Preamble Puncturing is a wireless communication technique designed to enhance performance and speed in environments with significant interference. By intelligently selecting and bundling channels, this technology effectively mitigates the impact of interference. In the 5G Radio Setting interface, toggle on Anti-interference. This allows devices to bypass severely interfered channels and choose optimal channels for bundling and data transmission, thus enhancing the overall wireless speed.



Radio Parameters

Standalone Radio Settings

Radio Switch: on

Channel: Auto

Tx Power: Lower

Roaming ?

Access Threshold ?

Response Threshold ?

Anti-interference ?: on

3.17.5 Configuring WIO

Choose **Network-Wide** > **Workspace** > **WLAN Optimization**.

Select the optimization mode. Then, click **OK** to optimize the wireless network.

Caution

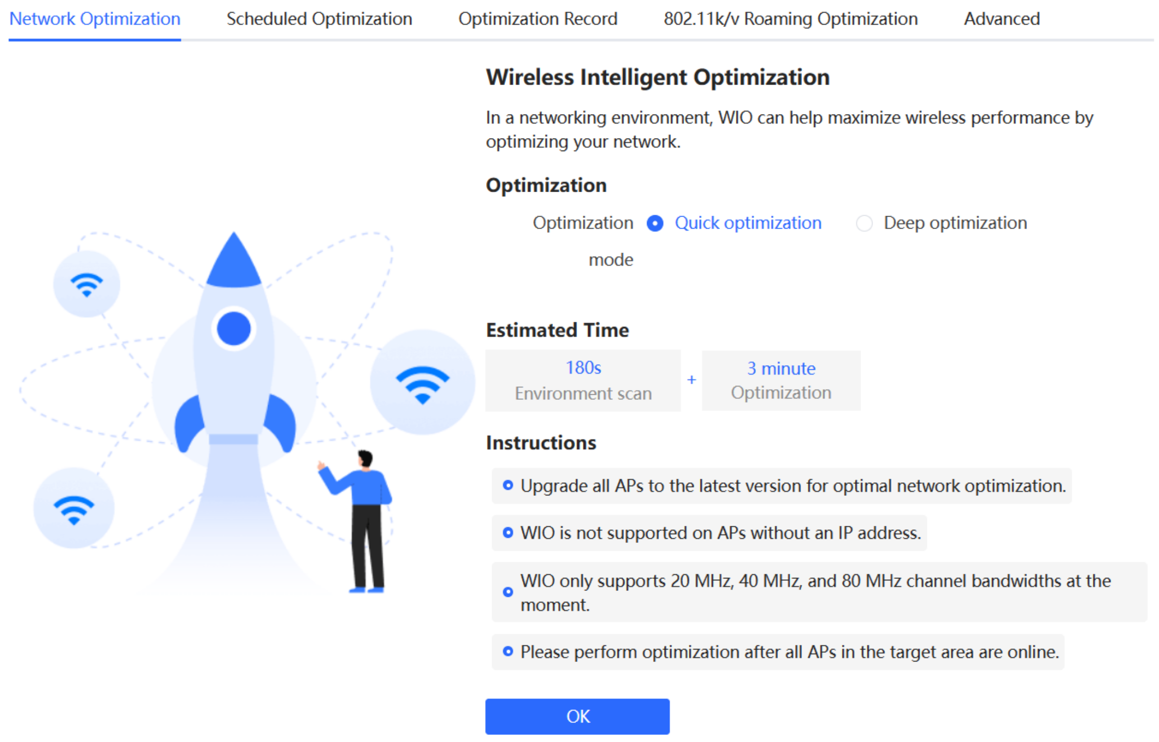
- WIO is supported only in the self-organizing network mode.
- The client may be offline during the optimization process. The configuration cannot be rolled back once optimization starts. Therefore, exercise caution when performing this operation.

Table 3-2 Tuning Mode Configuration Parameters

Parameter	Description
Quick tuning	In this mode, external interference and bandwidth are not considered. A quick optimization is performed to optimize channel, power, and management frame power.

Parameter	Description
Deep tuning	In this mode, external interference and bandwidth are considered. A deep optimization is performed to optimize channel, power, and management frame power. Click to expand **Advanced Settings** to configure the scanning time, channel bandwidth and channels. ● Scanning time: Indicates the time for scanning channels during the optimization. ● Roaming Sensitivity: The roam sensitivity can be optimized based on the actual environment to ensure fast roaming of wireless devices. ● Transmit power: Increasing the transmit power enhances both the strength and coverage of the wireless signal, but it may also introduce interference to surrounding wireless networks. With this feature enabled, the AP will automatically adjust the transmit power based on the environment. ● 2.4G ○ Channel bandwidth: Indicates the channel bandwidth. The channel bandwidth will be calculated by the system if Default is selected. ○ Selected channels: Indicates the channels to be optimized. ● 5G ○ Channel bandwidth: Indicates the channel bandwidth. The channel bandwidth will be calculated by the system if Default is selected. ○ Selected channels: Indicates the channels to be optimized.

- Choose **Quick optimization**, and click **OK**.



Wireless Intelligent Optimization

In a networking environment, WIO can help maximize wireless performance by optimizing your network.

Optimization

Optimization mode ● Quick optimization ○ Deep optimization

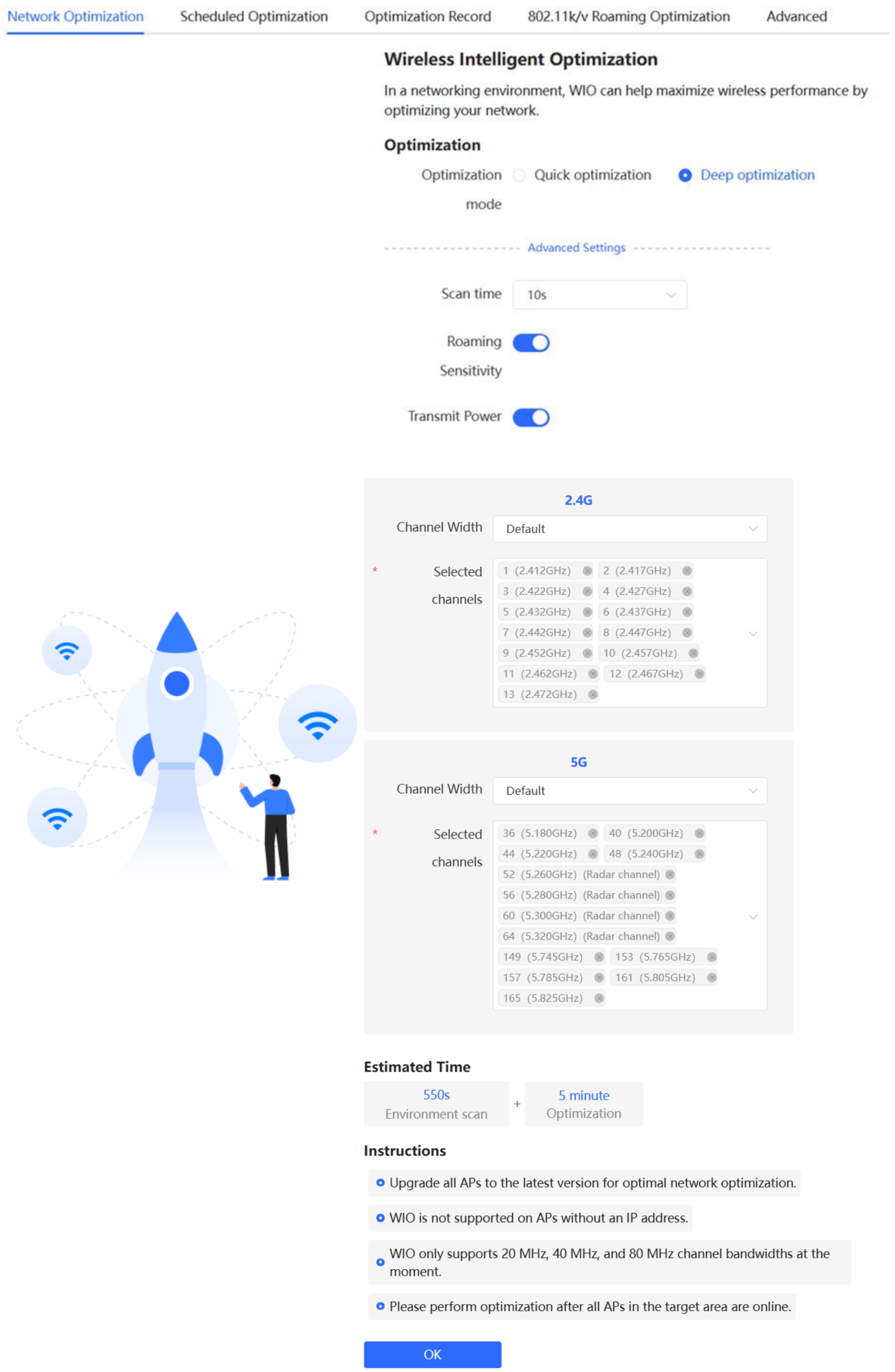
Estimated Time

180s Environment scan + 3 minute Optimization

Instructions

- Upgrade all APs to the latest version for optimal network optimization.
- WIO is not supported on APs without an IP address.
- WIO only supports 20 MHz, 40 MHz, and 80 MHz channel bandwidths at the moment.
- Please perform optimization after all APs in the target area are online.

- Choose **Deep optimization**. Click to expand **Advanced Settings** to set the scanning time, channel bandwidth and selected channels. Then, click **OK**.



Wireless Intelligent Optimization

In a networking environment, WIO can help maximize wireless performance by optimizing your network.

Optimization

Optimization mode ○ Quick optimization ● Deep optimization

Advanced Settings

Scan time: 10s

Roaming Sensitivity: On

Transmit Power: On

2.4G

Channel Width: Default

* Selected channels: 1 (2.412GHz), 2 (2.417GHz), 3 (2.422GHz), 4 (2.427GHz), 5 (2.432GHz), 6 (2.437GHz), 7 (2.442GHz), 8 (2.447GHz), 9 (2.452GHz), 10 (2.457GHz), 11 (2.462GHz), 12 (2.467GHz), 13 (2.472GHz)

5G

Channel Width: Default

* Selected channels: 36 (5.180GHz), 40 (5.200GHz), 44 (5.220GHz), 48 (5.240GHz), 52 (5.260GHz) (Radar channel), 56 (5.280GHz) (Radar channel), 60 (5.300GHz) (Radar channel), 64 (5.320GHz) (Radar channel), 149 (5.745GHz), 153 (5.765GHz), 157 (5.785GHz), 161 (5.805GHz), 165 (5.825GHz)

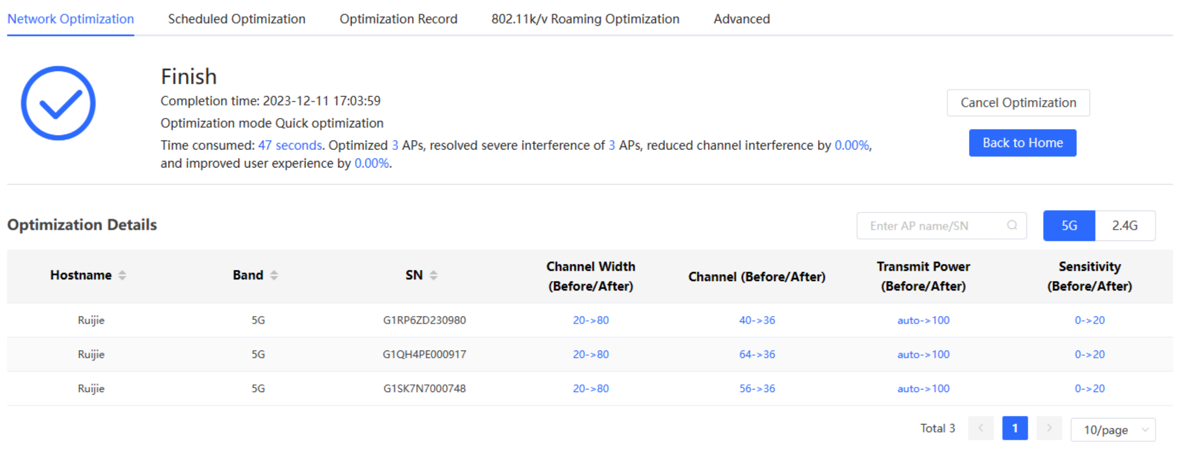
Estimated Time

550s Environment scan + 5 minute Optimization

Instructions

- Upgrade all APs to the latest version for optimal network optimization.
- WIO is not supported on APs without an IP address.
- WIO only supports 20 MHz, 40 MHz, and 80 MHz channel bandwidths at the moment.
- Please perform optimization after all APs in the target area are online.

After the optimization starts, please be patient and wait for the optimization to complete. After optimization is completed, you can click **Cancel Optimization** to restore the optimized RF parameters to their default values. Click **Back to Home** to perform wireless optimization again.



Finish

Completion time: 2023-12-11 17:03:59

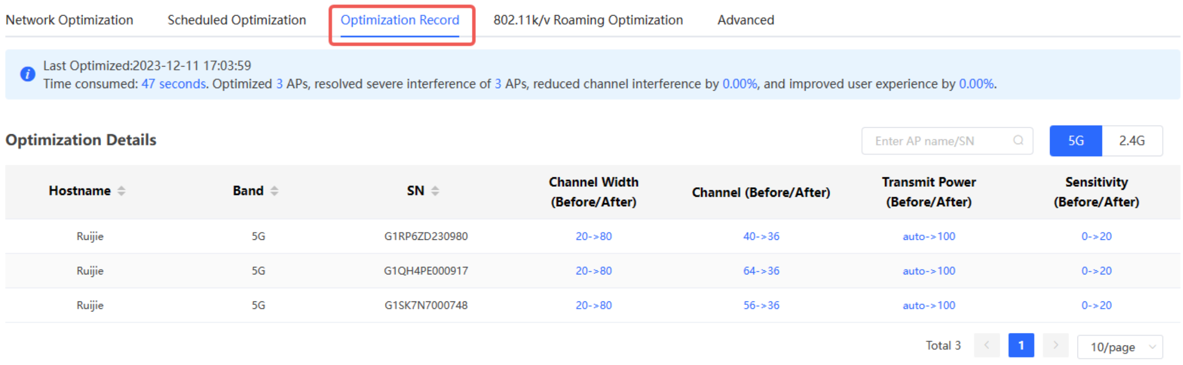
Optimization mode Quick optimization

Time consumed: 47 seconds. Optimized 3 APs, resolved severe interference of 3 APs, reduced channel interference by 0.00%, and improved user experience by 0.00%.

Optimization Details

Hostname	Band	SN	Channel Width (Before/After)	Channel (Before/After)	Transmit Power (Before/After)	Sensitivity (Before/After)
Ruijie	5G	G1RP6ZD230980	20->80	40->36	auto->100	0->20
Ruijie	5G	G1QH4PE000917	20->80	64->36	auto->100	0->20
Ruijie	5G	G1SK7N7000748	20->80	56->36	auto->100	0->20

Click **Optimization Record** to view the details of the latest optimization.



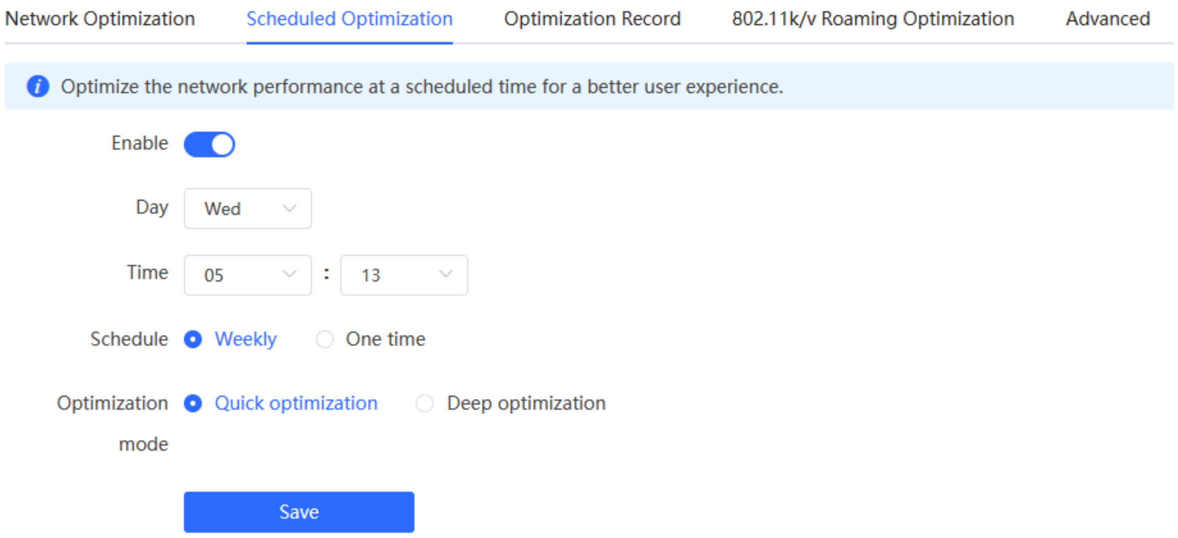
Last Optimized:2023-12-11 17:03:59

Time consumed: 47 seconds. Optimized 3 APs, resolved severe interference of 3 APs, reduced channel interference by 0.00%, and improved user experience by 0.00%.

Optimization Details

Hostname	Band	SN	Channel Width (Before/After)	Channel (Before/After)	Transmit Power (Before/After)	Sensitivity (Before/After)
Ruijie	5G	G1RP6ZD230980	20->80	40->36	auto->100	0->20
Ruijie	5G	G1QH4PE000917	20->80	64->36	auto->100	0->20
Ruijie	5G	G1SK7N7000748	20->80	56->36	auto->100	0->20

You are advised to set a scheduled task to optimize the wireless network in the early hours of the morning or when the network is idle.



Optimize the network performance at a scheduled time for a better user experience.

Enable: On

Day: Wed

Time: 05 : 13

Schedule: ● Weekly ○ One time

Optimization mode: ● Quick optimization ○ Deep optimization

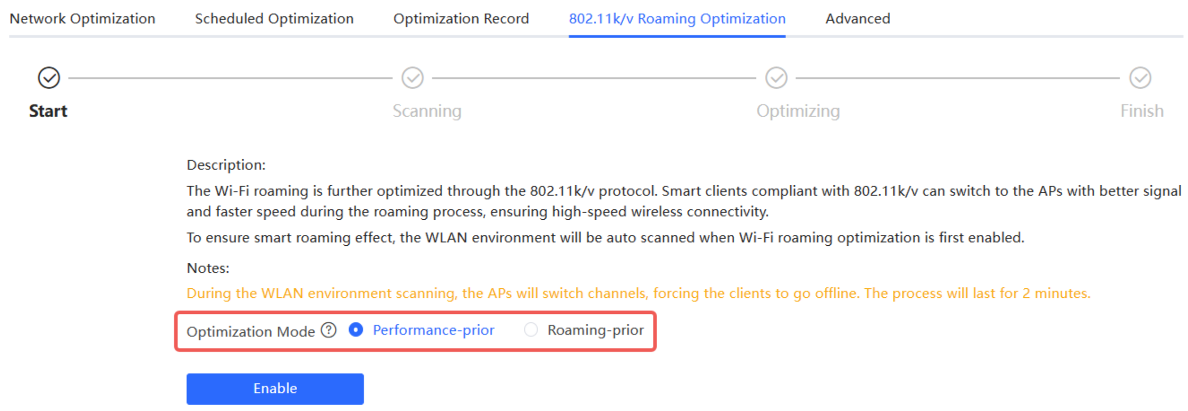
3.17.6 Configuring Wi-Fi Roaming Optimization (802.11k/v)

Choose **Network-Wide** > **Workspace** > **WLAN Optimization** > **802.11k/v Roaming Optimization**.

Choose the optimization mode. Click **Enable** and the Wi-Fi roaming is further optimized through the 802.11k/v protocol. Smart clients compliant with 802.11k/v can switch to the APs with better signal and faster speed during the roaming process, ensuring high-speed wireless connectivity. To ensure smart roaming effect, the WLAN environment will be auto scanned when Wi-Fi roaming optimization is first enabled.

Caution

- WIO is supported only in the self-organizing network mode.
- During the WLAN environment scanning, the APs will switch channels, forcing the clients to go offline. The process will last for 2 minutes.



Description:

The Wi-Fi roaming is further optimized through the 802.11k/v protocol. Smart clients compliant with 802.11k/v can switch to the APs with better signal and faster speed during the roaming process, ensuring high-speed wireless connectivity.

To ensure smart roaming effect, the WLAN environment will be auto scanned when Wi-Fi roaming optimization is first enabled.

Notes:

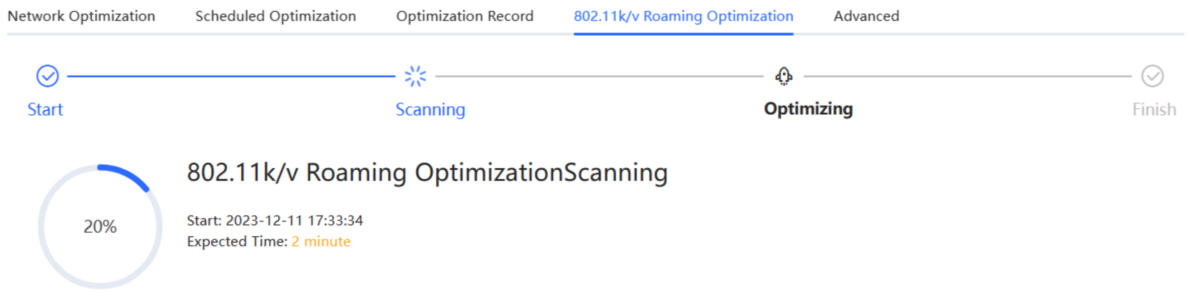
During the WLAN environment scanning, the APs will switch channels, forcing the clients to go offline. The process will last for 2 minutes.

Optimization Mode ● Performance-prior ○ Roaming-prior

Enable

Table 3-3 Optimization Mode

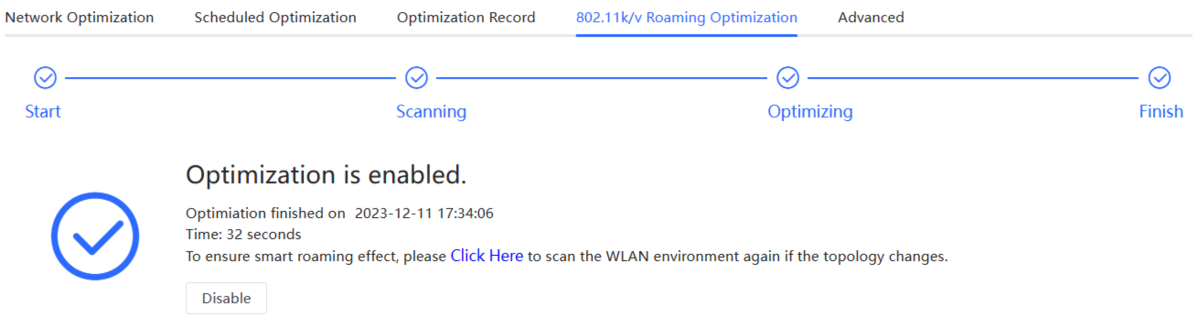
Parameter	Description
Performance-prior	Maximum negotiation speed is preferentially guaranteed but connection stability may be affected.
Roaming-prior	Connection stability is preferentially guaranteed but maximum negotiation speed may be reduced.



802.11k/v Roaming OptimizationScanning

Start: 2023-12-11 17:33:34

Expected Time: 2 minute



Optimization is enabled.

Optimiation finished on 2023-12-11 17:34:06

Time: 32 seconds

To ensure smart roaming effect, please Click Here to scan the WLAN environment again if the topology changes.

3.18 Configuring IGMP Snooping

3.18.1 Overview

1. **IGMP Snooping**

IGMP snooping allows switches to listen for and analyze IGMP (Internet Group Management Protocol) messages in order to determine which switch ports are connected to hosts that are interested in specific multicast groups. By forwarding multicast traffic only to these ports, IGMP snooping helps to prevent unnecessary flooding of multicast traffic to all ports on the network, thereby improving network efficiency and security.

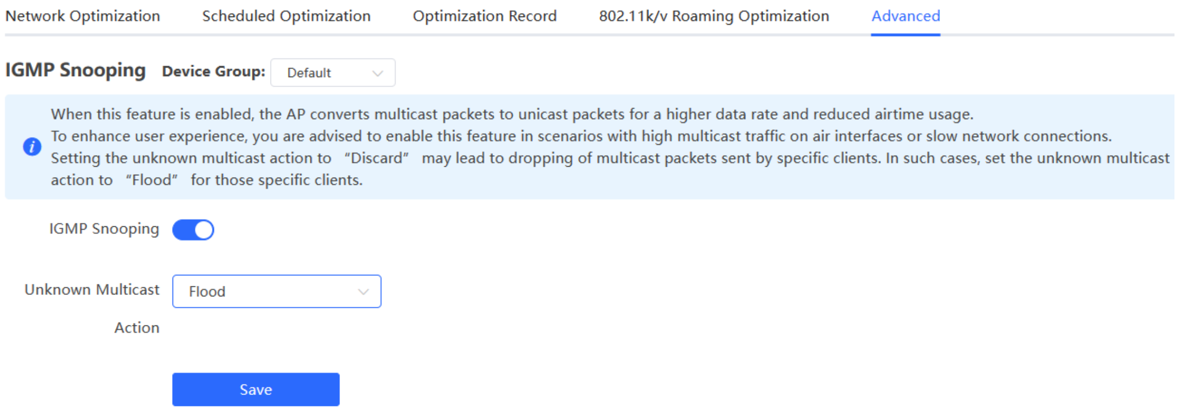
2. **Unknown Multicast Packet**

Unknown multicast packets are multicast packets transmitted on a network, whose destination addresses are multicast group addresses that are not learned or identified by the switch.

3.18.2 Configuration Steps

Choose **Network-Wide** > **Workspace** > **WLAN Optimization** > **Advanced Settings**.

Enable **IGMP Snooping**, select the action for unknown multicast packets, and click **Save**.



Device Group: Default

When this feature is enabled, the AP converts multicast packets to unicast packets for a higher data rate and reduced airtime usage.
To enhance user experience, you are advised to enable this feature in scenarios with high multicast traffic on air interfaces or slow network connections.
Setting the unknown multicast action to "Discard" may lead to dropping of multicast packets sent by specific clients. In such cases, set the unknown multicast action to "Flood" for those specific clients.

IGMP Snooping: On

Unknown Multicast Action: Flood

Caution

- You are advised to enable this function when a large number of multicast packets are transmitted and the network is congested to improve the user experience.
- If you set the action for unknown multicast packets to **Discard**, multicast packets sent by certain clients may be discarded. Therefore, exercise caution when performing this configuration.

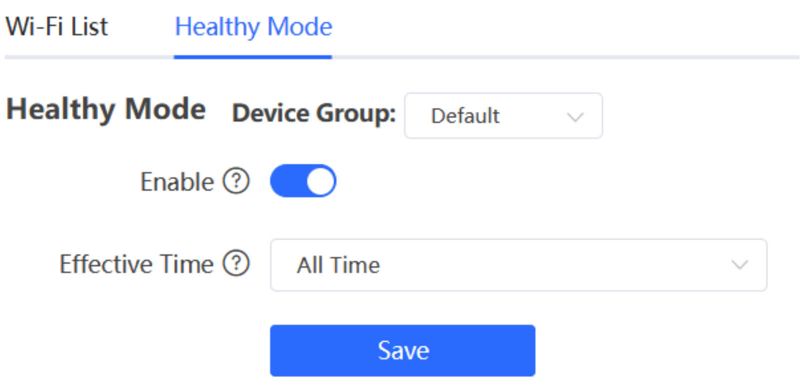
3.19 Configuring Healthy Mode

Go to the configuration page:

- Method 1: **Choose Network-Wide > Workspace > Wireless > Wi-Fi** > **Healthy Mode**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Healthy Mode**.

Select **Device Group** from the drop-down list box. Click **Enable** to enable the healthy mode. You are allowed to set the effective time period for the healthy mode.

After the healthy mode is enabled, the transmit power and the Wi-Fi coverage area will decrease. The healthy mode may reduce signal strength and cause network stalling. You are advised to disable it or enable it when the network is idle.



Healthy Mode Device Group: Default

Enable ⓘ: on

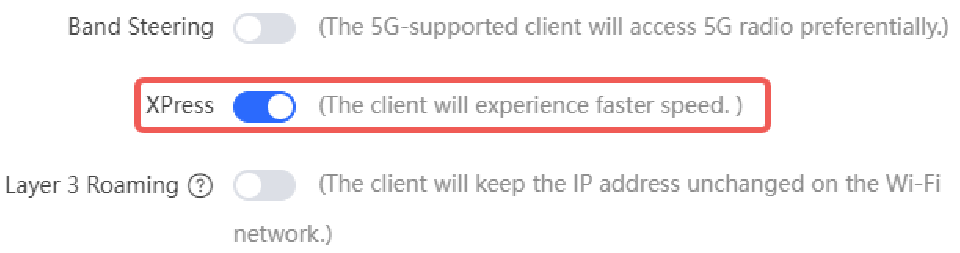
Effective Time ⓘ: All Time

3.20 Configuring XPress

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide > Workspace > Wireless > Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

(1) Click to expand advanced settings, turn on **XPress** in the expanded settings and click **OK**. After XPress is enabled, the gaming traffic will be prioritized, ensuring a more stable gaming experience.



Band Steering: off (The 5G-supported client will access 5G radio preferentially.)

XPress: on (The client will experience faster speed.)

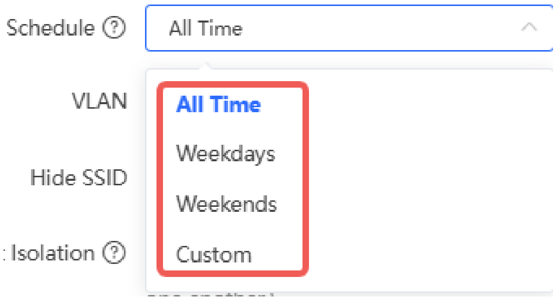
Layer 3 Roaming ⓘ: off (The client will keep the IP address unchanged on the Wi-Fi network.)

3.21 Configuring Wireless Schedule

(1) Go to the page for configuration.

- Method 1: Choose **Network-Wide > Workspace > Wireless > Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Wi-Fi** > **Wi-Fi List**. Select the Wi-Fi network, and click **Edit**.

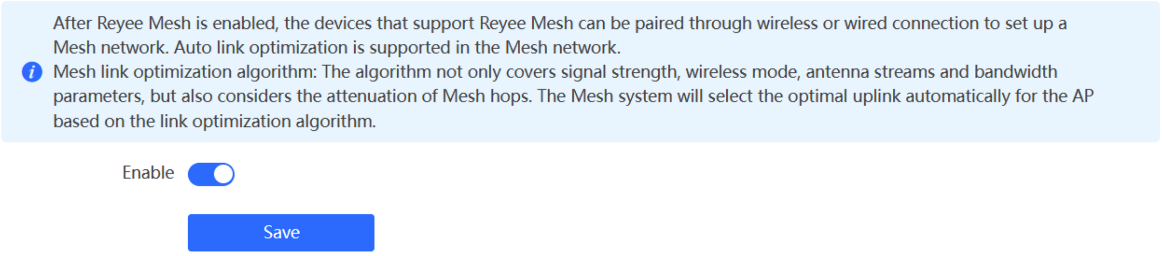
(2) Click to expand advanced settings, select a scheduled time span to turn on Wi-Fi and click **OK**. Clients will be allowed to access the Internet only in the specified time span.


Schedule: All Time

3.22 Enabling Reyee Mesh

Choose **Network-Wide** > **Workspace** > **Wireless > AP Mesh**.

After Reyee Mesh is enabled, you can set up a Mesh network through Mesh pairing between the devices that support Reyee Mesh. You can press the **Mesh** button on the device to automatically discover a new device for Mesh pairing or log in to the management page to select a new device for Mesh pairing. Reyee Mesh is enabled on the device by default.


After Reyee Mesh is enabled, the devices that support Reyee Mesh can be paired through wireless or wired connection to set up a Mesh network. Auto link optimization is supported in the Mesh network.

Mesh link optimization algorithm: The algorithm not only covers signal strength, wireless mode, antenna streams and bandwidth parameters, but also considers the attenuation of Mesh hops. The Mesh system will select the optimal uplink automatically for the AP based on the link optimization algorithm.

Enable: On

3.23 Domain Proxy

Go to the configuration page:

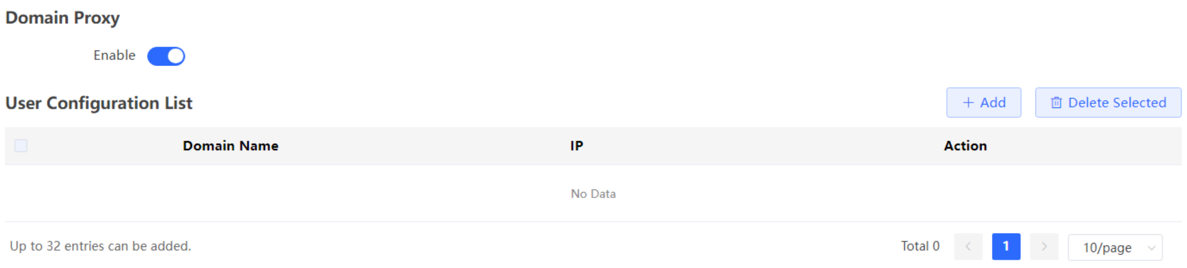
- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **Domain Proxy**.
- Method 2: Choose **One-Device** > **Config** > **WLAN** > **Domain Proxy**.

Note

The method 2 is supported only when the AP is the master device.

When a client accesses a Wi-Fi network, the message "No Internet connection" or "The Wi-Fi is not connected to the Internet" may be displayed. The possible cause is that the client's operating system introduces an Internet detection mechanism. Generally, the detection mechanism sends a probe packet to a specified domain name and evaluates whether the wireless network can access the Internet based on the detection result. If the DNS server takes a long time to parse a domain name or returns a probe node with a long delay, the probe may be deemed unreachable, causing a false network unavailability.

After the **Domain Proxy** function is enabled, the device returns the preset domain name node to the client, reducing the misjudgment of network unavailability of the client.



Domain Proxy

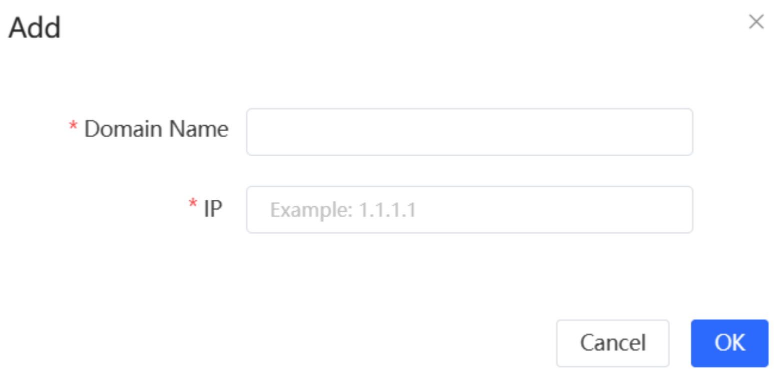
Enable: on

User Configuration List

Domain Name	IP	Action
No Data		

Up to 32 entries can be added.

Click **+Add**, enter the preset domain name and IP address, and click **OK**.



Add

* Domain Name

* IP: Example: 1.1.1.1

3.24 Client Association

3.24.1 Configuring Intelligent Association

Go to the configuration page by choosing **Network-Wide > Workspace** > **Wireless** > **Client Association** > **Intelligent Association**.

Note

Intelligent association is not supported by Wi-Fi 5 APs and RG-RAP2260(E). Enabling it on Wi-Fi 5 APs may lead to suboptimal performance.

After certain smart home devices are associated with a remote AP, they are unable to re-associate with a nearby AP, resulting in poor user experience and significant delays.

With the Intelligent Association feature enabled, clients can dynamically select the access point for association, eliminating issues related to poor user experience caused by remote associations.

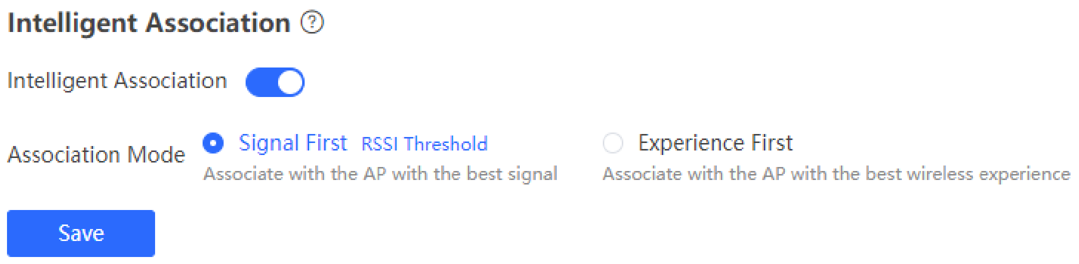
Toggle on the **Intelligent Association** switch, select the association mode, and click **Save**.

- Signal First

  Associate with the AP with the best signal.

- Experience First

  Associate with the AP with the best wireless experience.



Intelligent Association ⓘ

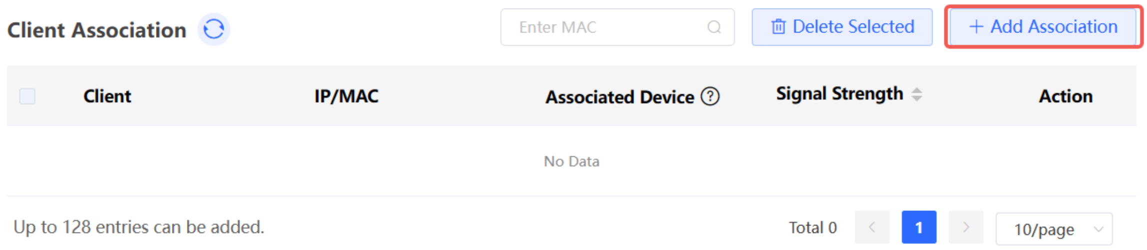
Intelligent Association: On

Association Mode: ● Signal First RSSI Threshold — Associate with the AP with the best signal ○ Experience First — Associate with the AP with the best wireless experience

3.24.2 Configuring Client Association

Choose **Network-Wide** > **Workspace** > **Wireless** > **Client Association** > **Client Association**.

Click **Add Association**. Select the client and the associated device. You can associate the client with a specified AP on the network to reduce remote association and improve the wireless experience.

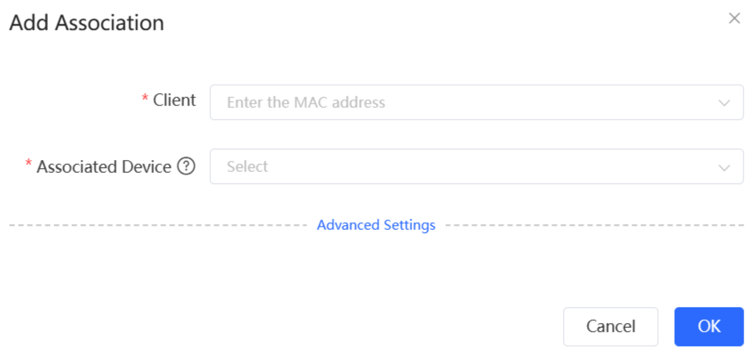


Client Association

□	Client	IP/MAC	Associated Device ⓘ	Signal Strength	Action

No Data

Up to 128 entries can be added.

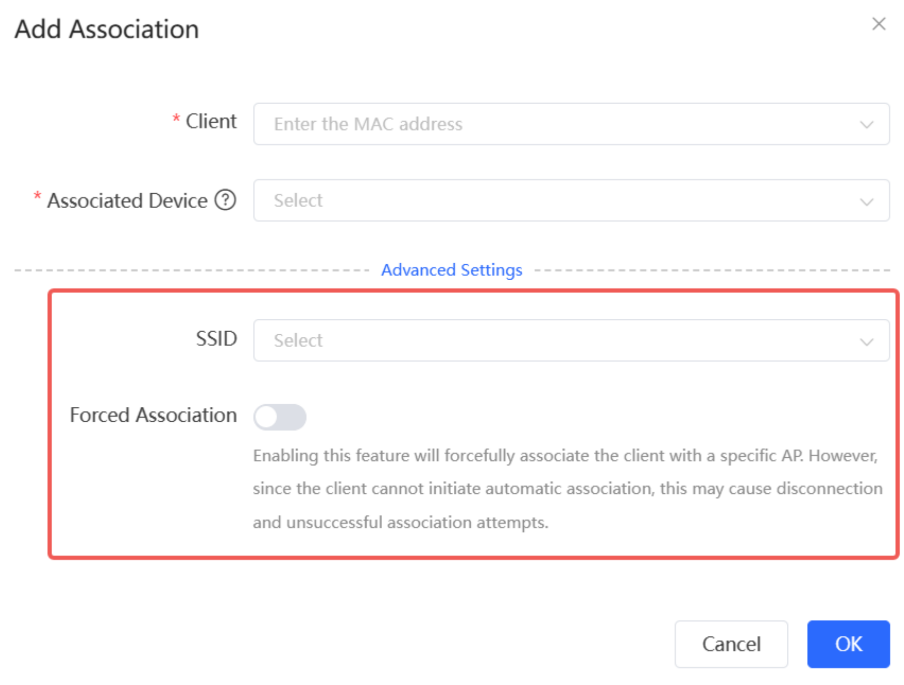


Add Association

* Client: Enter the MAC address

* Associated Device ⓘ: Select

Click **Advanced Settings** to configure the SSID for client association and to enable **Forced Association**.



Add Association

* Client: Enter the MAC address

* Associated Device: Select

Advanced Settings

SSID: Select

Forced Association

Enabling this feature will forcefully associate the client with a specific AP. However, since the client cannot initiate automatic association, this may cause disconnection and unsuccessful association attempts.

Caution

The **Forced Association** feature may cause the client to go offline or fail to associate with the AP. Therefore, exercise caution when performing this configuration.

3.25 Configuring AP Load Balancing

3.25.1 Overview

The AP load balancing function is used to balance the load of APs in the wireless network. When APs are added to a load balancing group, clients will automatically associate with the APs with light load when the APs in the group are not load balanced. AP load balancing supports two modes:

- Client Load Balancing: The load is balanced according to the number of associated clients. When a large number of clients have been associated with an AP and the count difference to the AP with the lightest load has reached the specified value, the client can only associate with another AP in the group.
- Traffic Load Balancing: The load is balanced according to the traffic on the APs. When the traffic on an AP is large and the traffic difference to the AP with the lightest load has reached the specified value, the client can only associate with another AP in the group.

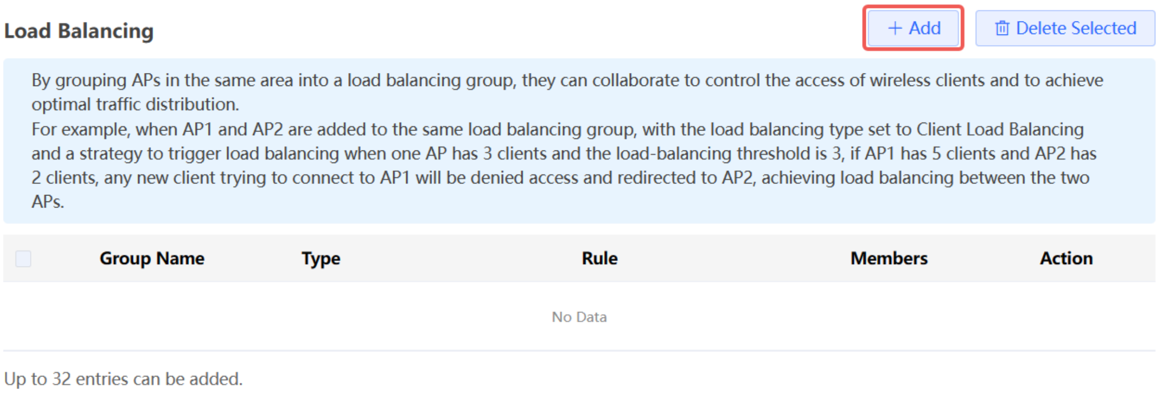
Example: Add AP1 and AP2 into a group and select client load balancing. Set both the client count threshold and difference to 3. AP1 is associated with 5 clients and AP2 is associated with 2 clients, triggering load balancing. New clients' attempt to associate to AP1 will be denied, and therefore they can associate only with AP2.

After a client request is denied by an AP and it fails to associate with another AP in the group, the client will keep trying to associate with this AP. If the client attempts reach the specified value, the AP will permit connection of this client, ensuring that the user can normally access the Internet.

3.25.2 Configuring Client Load Balancing

Choose **Network-Wide** > **Workspace > Wireless** > **Load Balancing**.

Click **Add**. In the dialog box that appears, set **Type** to **Client Load Balancing**, and configure **Group Name**, **Members**, and **Rule**.

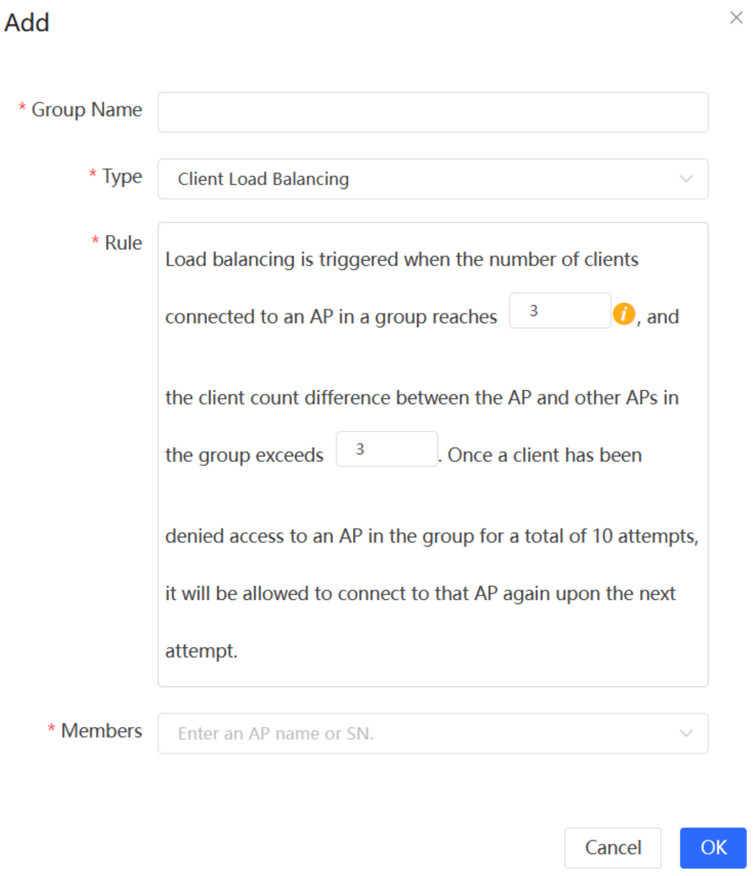


Load Balancing

By grouping APs in the same area into a load balancing group, they can collaborate to control the access of wireless clients and to achieve optimal traffic distribution.
For example, when AP1 and AP2 are added to the same load balancing group, with the load balancing type set to Client Load Balancing and a strategy to trigger load balancing when one AP has 3 clients and the load-balancing threshold is 3, if AP1 has 5 clients and AP2 has 2 clients, any new client trying to connect to AP1 will be denied access and redirected to AP2, achieving load balancing between the two APs.

□	Group Name	Type	Rule	Members	Action
			No Data		

Up to 32 entries can be added.



* Group Name:

* Type: Client Load Balancing

* Rule: Load balancing is triggered when the number of clients connected to an AP in a group reaches 3, and the client count difference between the AP and other APs in the group exceeds 3. Once a client has been denied access to an AP in the group for a total of 10 attempts, it will be allowed to connect to that AP again upon the next attempt.

* Members: Enter an AP name or SN.

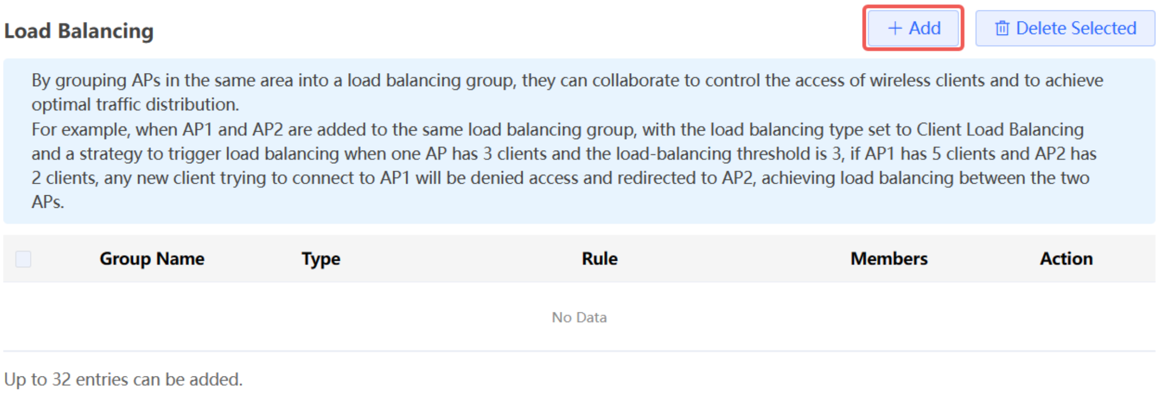
Table 3-4 Client Load Balancing Configuration Parameters

Parameter	Description
Group Name	Enter the name of the AP load balancing group.
Type	Select **Client Load Balancing**.
Rule	Configure a detailed load balancing rule, including the maximum number of clients allowed to associate with an AP, the difference between the currently associated client count and client count on the AP with the lightest load, and the number of attempts to the AP with full load. By default, when an AP is associated with 3 clients and the difference between the currently associated client count and client count on the AP with the lightest load reaches 3, clients can associate only to another AP in the group. After a client association is denied by an AP for 10 times, the client will be allowed to associate to the AP upon the next attempt.
Members	Specify the APs to be added to the AP load balancing group.

3.25.3 Configuring Traffic Load Balancing

Choose **Network-Wide** > **Workspace > Wireless** > **Load Balancing**.

Click **Add**. In the dialog box that appears, set **Type** to **Traffic Load Balancing**, and configure **Group Name**, **Members**, and **Rule**.

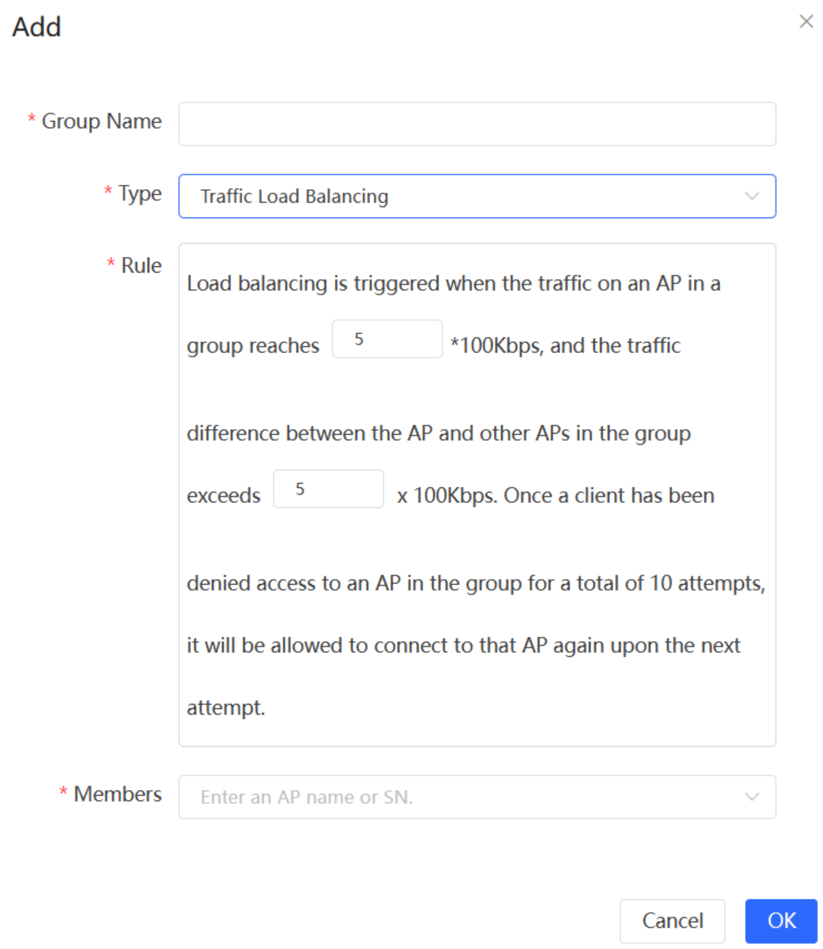


By grouping APs in the same area into a load balancing group, they can collaborate to control the access of wireless clients and to achieve optimal traffic distribution.
For example, when AP1 and AP2 are added to the same load balancing group, with the load balancing type set to Client Load Balancing and a strategy to trigger load balancing when one AP has 3 clients and the load-balancing threshold is 3, if AP1 has 5 clients and AP2 has 2 clients, any new client trying to connect to AP1 will be denied access and redirected to AP2, achieving load balancing between the two APs.

□	Group Name	Type	Rule	Members	Action

No Data

Up to 32 entries can be added.



Add

* Group Name

* Type Traffic Load Balancing

* Rule

Load balancing is triggered when the traffic on an AP in a group reaches 5 *100Kbps, and the traffic difference between the AP and other APs in the group exceeds 5 x 100Kbps. Once a client has been denied access to an AP in the group for a total of 10 attempts, it will be allowed to connect to that AP again upon the next attempt.

* Members Enter an AP name or SN.

Table 3-5 **Traffic Load Balancing Configuration Parameters**

Parameter	Description
Group Name	Enter the name of the AP load balancing group.
Type	Select **Traffic Load Balancing**.
Rule	Configure a detailed load balancing rule, including the maximum traffic allowed on an AP, the difference between the current traffic and the traffic on the AP with the lightest load, and the number of attempts to the AP with full load. By default, when the traffic load on an AP reaches 500 Kbit/s and the difference between the current traffic and the traffic on the AP with the lightest load reaches 500 Kbit/s, clients can associate only to another AP in the group. After a client association is denied by an AP for 10 times, the client will be allowed to associate to the AP upon the next attempt.
Members	Specify the APs to be added to the AP load balancing group.

3.26 Wireless Authentication

3.26.1 Overview

Wireless authentication verifies the identity of users on a wireless network. Only authenticated users can access the network, ensuring wireless network security. You can configure authentication-free for wireless STAs (IP address/MAC address), public IP addresses, and domain names. Users can directly use network services or access specific websites without entering the username, password, or other information.

To use the wireless authentication function, ensure that the AP is added to Ruijie Cloud and is online. Then, configure a portal template on Ruijie Cloud and apply it to a specific SSID. When STAs connect to this SSID and access the network, the AP allows STAs added to the authentication-free lists configured on the web interface (excluding those added to the MAC address blocklist) to access the network without authentication. The AP forbids STAs whose MAC addresses are added to the MAC address blocklist configured on the web interface from accessing the network. For other users or domain names, the AP redirects them to the portal authentication page. Users need to complete identity verification on the portal page.

The following four authentication modes are supported:

- One-click Login: indicates login without the username and password.
- Voucher: indicates login with a random eight-digit password.
- Account: indicates login with the account and password.
- SMS: indicates login with the phone number and code.

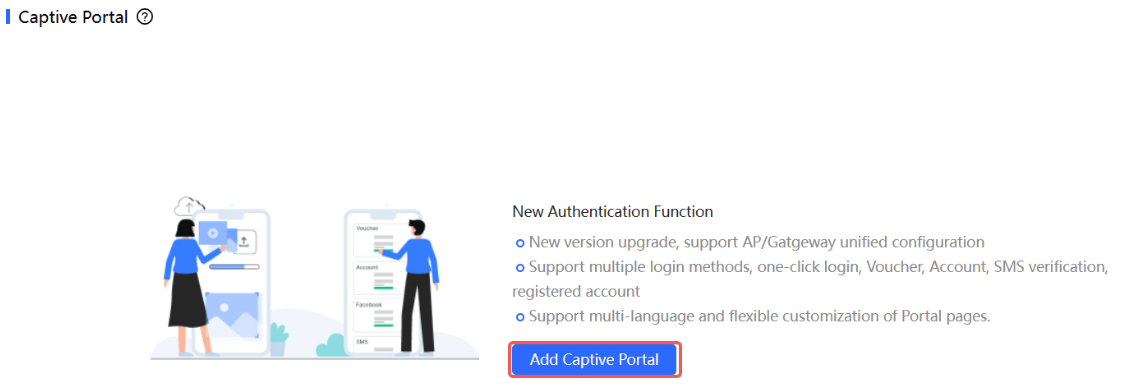
Two or more authentication modes can be configured in a portal template. When multiple authentication modes are configured, users can select an authentication mode on the portal page.

3.26.2 Configuring One-click Login on Ruijie Cloud

1. Configuring a Portal Template with the Authentication Mode Set to One-click Login

(1) Log in to Ruijie Cloud, choose **Project** > **Configuration** > **Auth & Accounts** > **Authentication** > **Captive Portal**, and select a network that needs to configure wireless authentication.

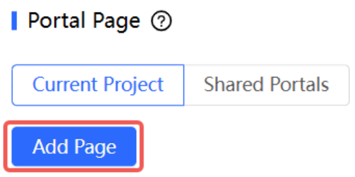
(2) Click **Add Captive Portal** to open the portal template configuration page.



New Authentication Function

- New version upgrade, support AP/Gatgeway unified configuration
- Support multiple login methods, one-click login, Voucher, Account, SMS verification, registered account
- Support multi-language and flexible customization of Portal pages.

(3) Click **Add Page** to customize a portal page.

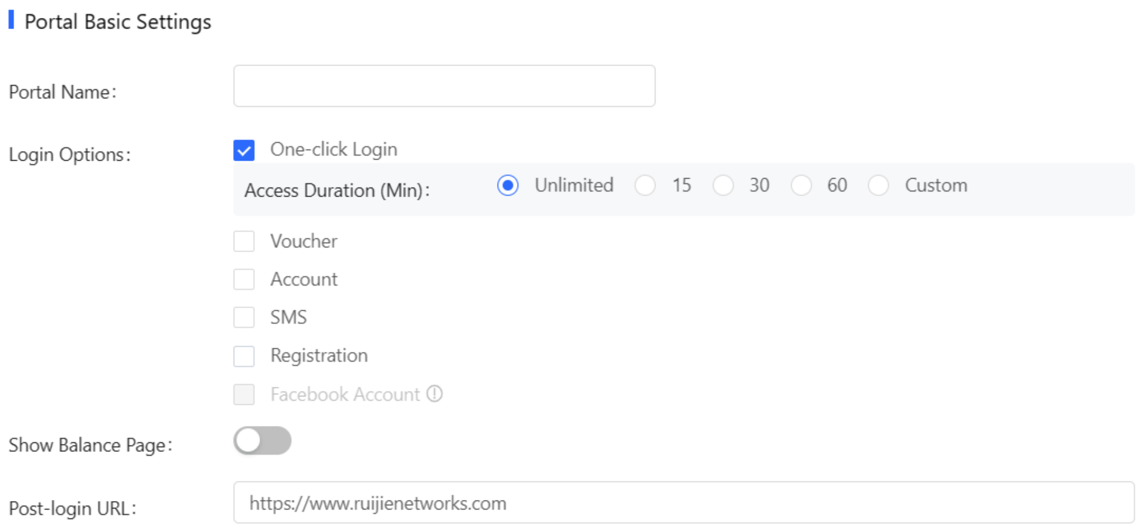


Portal Page

Current Project | Shared Portals

Add Page

(4) Configure basic information of the portal template.



Portal Basic Settings

Portal Name:

Login Options: ☑ One-click Login

Access Duration (Min): ● Unlimited ○ 15 ○ 30 ○ 60 ○ Custom

□ Voucher

□ Account

□ SMS

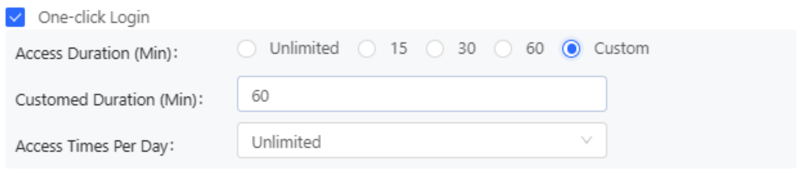
□ Registration

□ Facebook Account

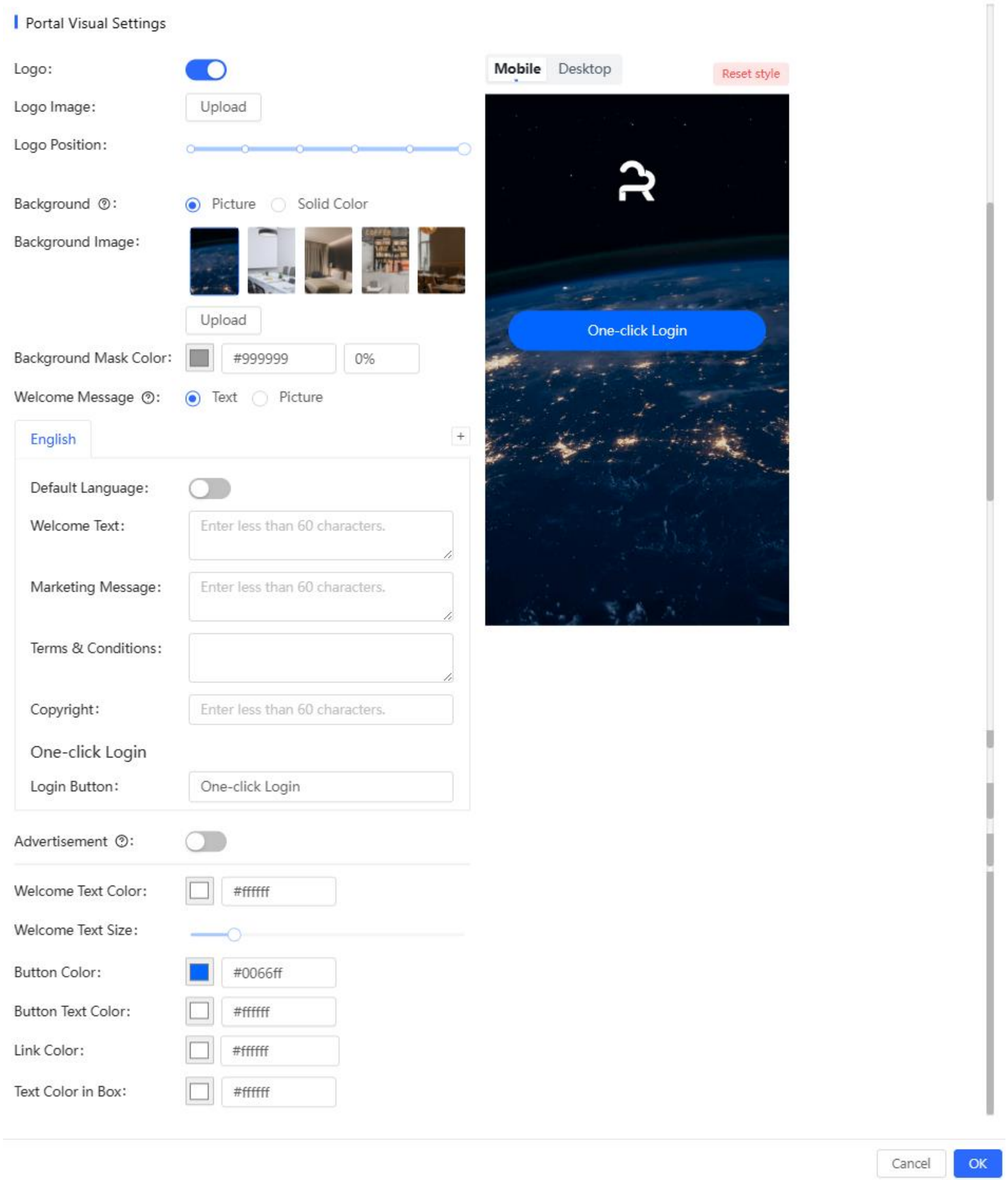
Show Balance Page:

Post-login URL: https://www.ruijienetworks.com

Table 3-6 Portal Template Configuration Parameters

Parameter	Description
Portal Name	Indicates the name of a captive portal template.
Login Options	Select **One-click Login**, which indicates login without the username and password. You can set **Access Duration** and **Access Times Per Day**.  ☑ One-click Login Access Duration (Min): ○ Unlimited ○ 15 ○ 30 ○ 60 ● Custom Customed Duration (Min): 60 Access Times Per Day: Unlimited
Show Balance Page	Indicates the available duration, time, or data after portal authentication.
Post-login URL	Indicates the URL that is displayed after portal authentication.

(5) Configure visual settings of the portal template.



Portal Visual Settings

Logo: ●

Logo Image: Upload

Logo Position:

Background ⓘ: ● Picture ○ Solid Color

Background Image:

Upload

Background Mask Color: #999999 0%

Welcome Message ⓘ: ● Text ○ Picture

English +

Default Language:

Welcome Text: Enter less than 60 characters.

Marketing Message: Enter less than 60 characters.

Terms & Conditions:

Copyright: Enter less than 60 characters.

One-click Login

Login Button: One-click Login

Advertisement ⓘ:

Welcome Text Color: #ffffff

Welcome Text Size:

Button Color: #0066ff

Button Text Color: #ffffff

Link Color: #ffffff

Text Color in Box: #ffffff

Table 3-7 Portal Page Configuration Parameters

Parameter	Description
Logo	Select whether to display the logo image.
Logo Image	When **Logo** is set to **Image**, upload the logo picture or select the default logo.
Logo Position	Select the logo position (Upper, Middle, or Lower).
Background	Select the background with the image or the solid color.

Parameter	Description
Background Image	When **Background** is set to **Image**, upload the background image or select the default image.
Background Mask Color	When **Background** is set to **Solid Color**, configure the background color. The default value is **#ffffff**.
Welcome Message	Select the welcome message with the image or text.
Language	Select the language of the portal page and configure the content displayed on the portal page as required. You can click + to add portal pages in other languages. ● Welcome Message: Select the welcome message with the image or text. ● Marketing message: Enter the marketing message. ● Terms & Conditions: Enter terms and conditions. ● Copyright: Enter the copyright. ● One-click Login: After **One-click Login** is enabled, you can customize the button name displayed on the portal page, which is set to **One-click Login** by default. One-click Login Login Button: One-click Login
Advertisement	Select whether to display the advertisement.
Welcome Text Color	Select the welcome message text color. The default value is #ffffff.
Welcome Text Size	Select the welcome text size.
Button Color	Select the button color. The default value is #0066ff.
Button Text Color	Select the button text color. The default value is #ffffff.
Link Color	Select the link color. The default value is #ffffff.
Text Color in Box	Select the text color in the box. The default value is #ffffff.

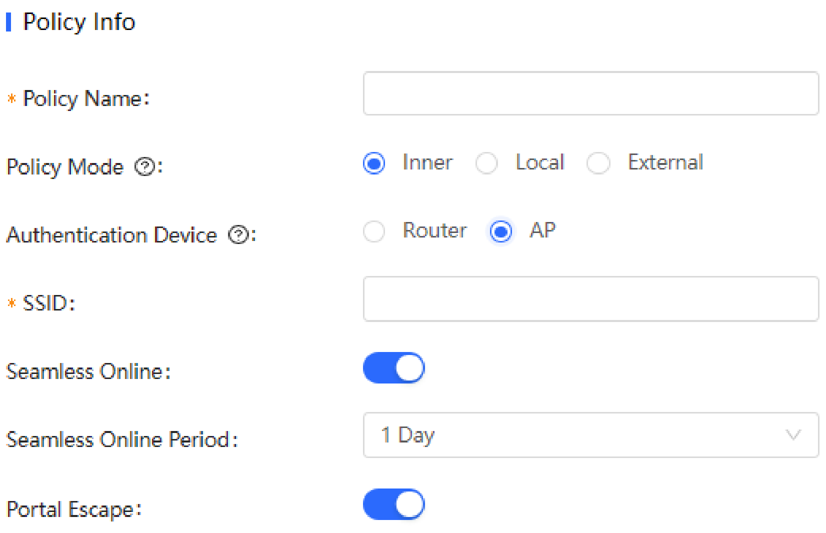
(6) After the configuration, click **OK** to save the portal template configurations.

2. Configuring Policy Info

Configure basic information of the policy info to add captive portal. After the configuration, click **OK** for the configurations to take effect.

Note

When **Encryption Mode** is set to a value other than **WPA2-Enterprise(802.1x)**, the **Captive Portal** page is available. You can select whether to perform wireless authentication.



Policy Info

* Policy Name:

Policy Mode:

● Inner ○ Local ○ External

Authentication Device:

○ Router ● AP

* SSID:

Seamless Online: (on)

Seamless Online Period: 1 Day

Portal Escape: (on)

Table 3-8 **Captive Portal Configuration Parameters**

Parameter	Description
Policy Name	Indicates the name of a captive portal template.
Policy Mode	Indicates the authentication mode to which the captive portal applies: Inner: Cloud-based authentication. The built-in authentication server in the public cloud is used for authentication. Local: Device-based local authentication and acceleration. Portal pages and accounts in the cloud are synchronized with the device for local authentication and acceleration. External: Third-party authentication, facilitating integration between the device and a third-party authentication server for authentication.
Authentication Device	Indicates the device that performs the authentication. When there is a router on the network, you are advised to enable authentication on the router. You can perform authentication on either an access point (AP) or a router. AP: An AP acts as the N/AS. Router: A router or gateway acts as the N/AS responsible for performing authentication at the gateway exit. Reyee AP Authentication: RAP, ReyeeOS 1.219 or later version. This parameter is not required if the policy mode is Local.

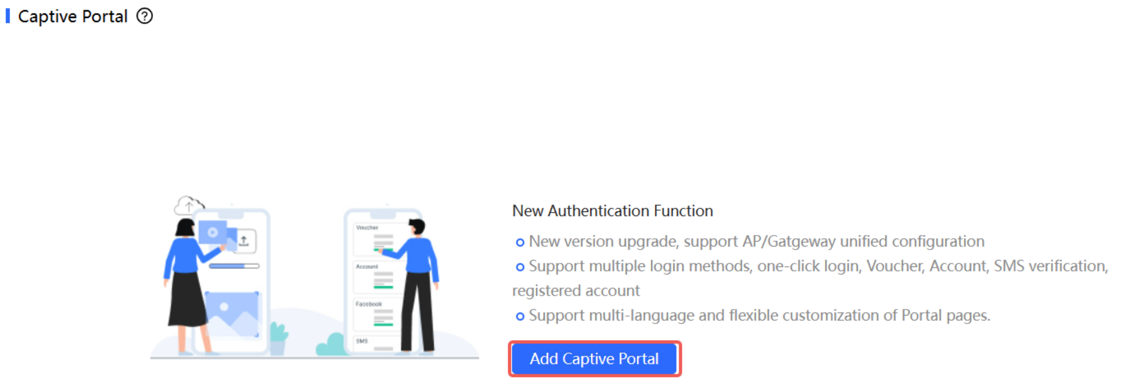
Parameter	Description
Network	Indicates the wired network that requires authentication. Enter the network segment in this field. Users connecting to the wired network corresponding to this network segment must be authenticated. This parameter is required if the Authentication Device is Router.
SSID	Indicates the network name of the Wi-Fi network that requires authentication. Users connecting to this wireless network must be authenticated. This parameter is required if the Authentication Device is AP.
Seamless Online	After this function is enabled, if the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within a certain period of time.
Seamless Online Period	Indicates the time period for seamless online. If the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within this period of time.
Portal Page	Indicates the portal page that is displayed after portal authentication. Click Current Project to select the portal page for an existing project. Click Shared Portals to select an existing portal page. Click Add Page to customize a portal page.

3.26.3 Configuring Voucher Authentication on Ruijie Cloud

1. Configuring a Portal Template with the Authentication Mode Set to Voucher

(1) Log in to Ruijie Cloud, choose **Project** > **Configuration** > **Auth & Accounts** > **Authentication** > **Captive Portal**, and select a network that needs to configure wireless authentication.

(2) Click **Add Captive Portal** to open the portal template configuration page.

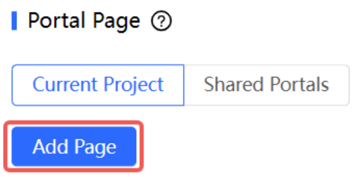


Captive Portal

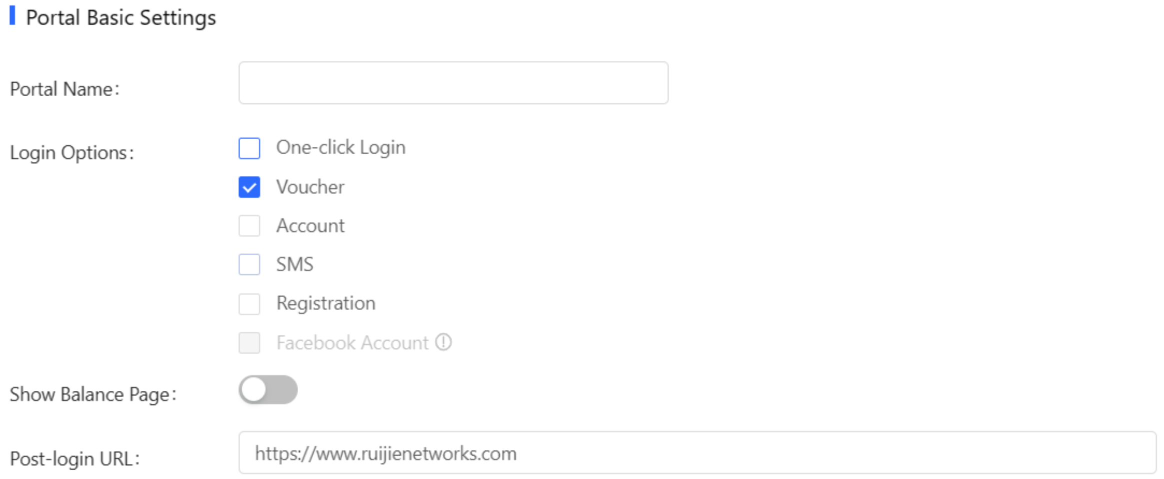
New Authentication Function

- New version upgrade, support AP/Gatgeway unified configuration
- Support multiple login methods, one-click login, Voucher, Account, SMS verification, registered account
- Support multi-language and flexible customization of Portal pages.

(3) Click **Add Page** to customize a portal page.



(4) Configure basic information of the portal template.



Portal Basic Settings

Portal Name:

Login Options:

□ One-click Login
☑ Voucher
□ Account
□ SMS
□ Registration
□ Facebook Account

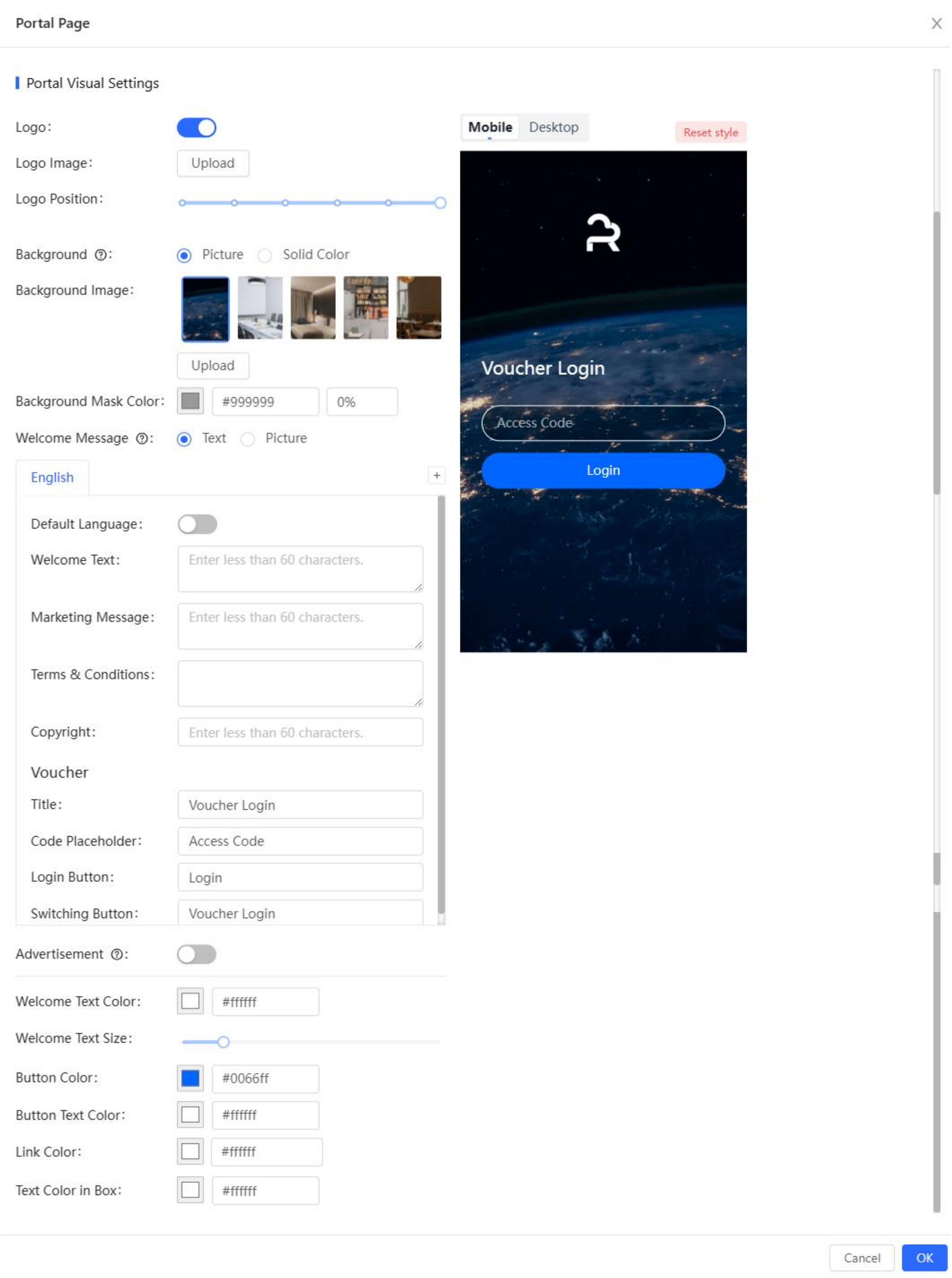
Show Balance Page: ○

Post-login URL: https://www.ruijienetworks.com

Table 3-9 Portal Template Configuration Parameters

Parameter	Description
Portal Name	Indicates the name of a captive portal template.
Login Options	Select **Voucher**, which indicates login with a random eight-digit password.
Show Balance Page	Indicates the available duration, time, or data after portal authentication.
Post-login URL	Indicates the URL that is displayed after portal authentication.

(5) Configure visual settings of the portal template.



Portal Page

Portal Visual Settings

Logo: ●

Logo Image: Upload

Logo Position:

Background ?: ● Picture ○ Solid Color

Background Image:

Upload

Background Mask Color: #999999 0%

Welcome Message ?: ● Text ○ Picture

English +

Default Language: ○

Welcome Text: Enter less than 60 characters.

Marketing Message: Enter less than 60 characters.

Terms & Conditions:

Copyright: Enter less than 60 characters.

Voucher

Title: Voucher Login

Code Placeholder: Access Code

Login Button: Login

Switching Button: Voucher Login

Advertisement ?: ○

Welcome Text Color: #ffffff

Welcome Text Size:

Button Color: #0066ff

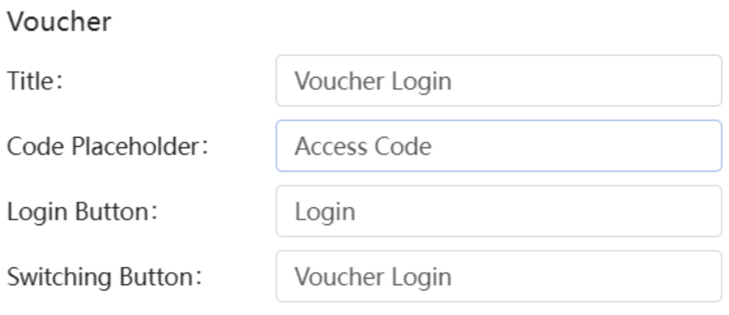
Button Text Color: #ffffff

Link Color: #ffffff

Text Color in Box: #ffffff

Table 3-10 Portal Page Configuration Parameters

Parameter	Description
Logo	Select whether to display the logo image.

Parameter	Description
Logo Image	When **Logo** is set to **Image**, upload the logo picture or select the default logo.
Logo Position	Select the logo position (Upper, Middle, or Lower).
Background	Select the background with the image or the solid color.
Background Image	When **Background** is set to **Image**, upload the background image or select the default image.
Background Mask Color	When **Background** is set to **Solid Color**, configure the background color. The default value is **#ffffff**.
Welcome Message	Select the welcome message with the image or text.
Language	Select the language of the portal page and configure the content displayed on the portal page as required. You can click + to add portal pages in other languages. ● Welcome Message: Select the welcome message with the image or text. ● Marketing message: Enter the marketing message. ● Terms & Conditions: Enter terms and conditions. ● Copyright: Enter the copyright. ● Voucher Login: After **Voucher Login** is enabled, you can customize the names of controls related to voucher authentication.  Voucher Title: Voucher Login Code Placeholder: Access Code Login Button: Login Switching Button: Voucher Login
Advertisement	Select whether to display the advertisement.
Welcome Text Color	Select the welcome message text color. The default value is #ffffff.
Welcome Text Size	Select the welcome text size.
Button Color	Select the button color. The default value is #0066ff.
Button Text Color	Select the button text color. The default value is #ffffff.
Link Color	Select the link color. The default value is #ffffff.
Text Color in Box	Select the text color in the box. The default value is #ffffff.

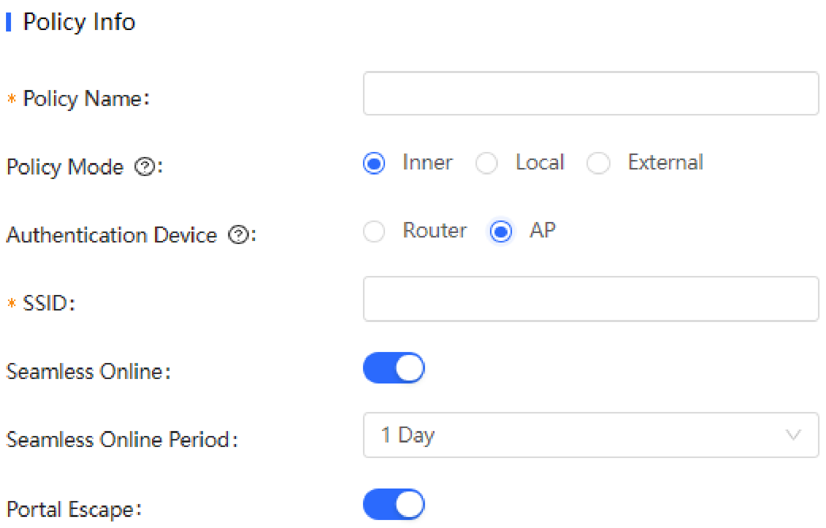
(6) After the configuration, click **OK** to save the portal template configurations.

2. Configuring Policy Info

Configure basic information of the policy info to add captive portal. After the configuration, click **OK** for the configurations to take effect.

Note

When **Encryption Mode** is set to a value other than **WPA2-Enterprise(802.1x)**, the **Captive Portal** page is available. You can select whether to perform wireless authentication.



Policy Info

* Policy Name:

Policy Mode: ● Inner ○ Local ○ External

Authentication Device: ○ Router ● AP

* SSID:

Seamless Online: On

Seamless Online Period: 1 Day

Portal Escape: On

Table 3-11 Captive Portal Configuration Parameters

Parameter	Description
Policy Name	Indicates the name of a captive portal template.
Policy Mode	Indicates the authentication mode to which the captive portal applies: Inner: Cloud-based authentication. The built-in authentication server in the public cloud is used for authentication. Local: Device-based local authentication and acceleration. Portal pages and accounts in the cloud are synchronized with the device for local authentication and acceleration. External: Third-party authentication, facilitating integration between the device and a third-party authentication server for authentication.

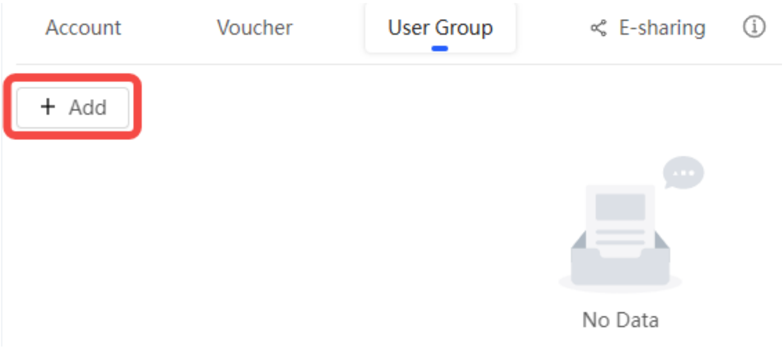
Parameter	Description
Authentication Device	Indicates the device that performs the authentication. When there is a router on the network, you are advised to enable authentication on the router. You can perform authentication on either an access point (AP) or a router. AP: An AP acts as the N/AS. Router: A router or gateway acts as the N/AS responsible for performing authentication at the gateway exit. Reyee AP Authentication: RAP, ReyeeOS 1.219 or later version. This parameter is not required if the policy mode is Local.
Network	Indicates the wired network that requires authentication. Enter the network segment in this field. Users connecting to the wired network corresponding to this network segment must be authenticated. This parameter is required if the Authentication Device is Router.
SSID	Indicates the network name of the Wi-Fi network that requires authentication. Users connecting to this wireless network must be authenticated. This parameter is required if the Authentication Device is AP.
Seamless Online	After this function is enabled, if the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within a certain period of time.
Seamless Online Period	Indicates the time period for seamless online. If the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within this period of time.
Portal Page	Indicates the portal page that is displayed after portal authentication. Click Current Project to select the portal page for an existing project. Click Shared Portals to select an existing portal page. Click Add Page to customize a portal page.

3. Adding a Voucher

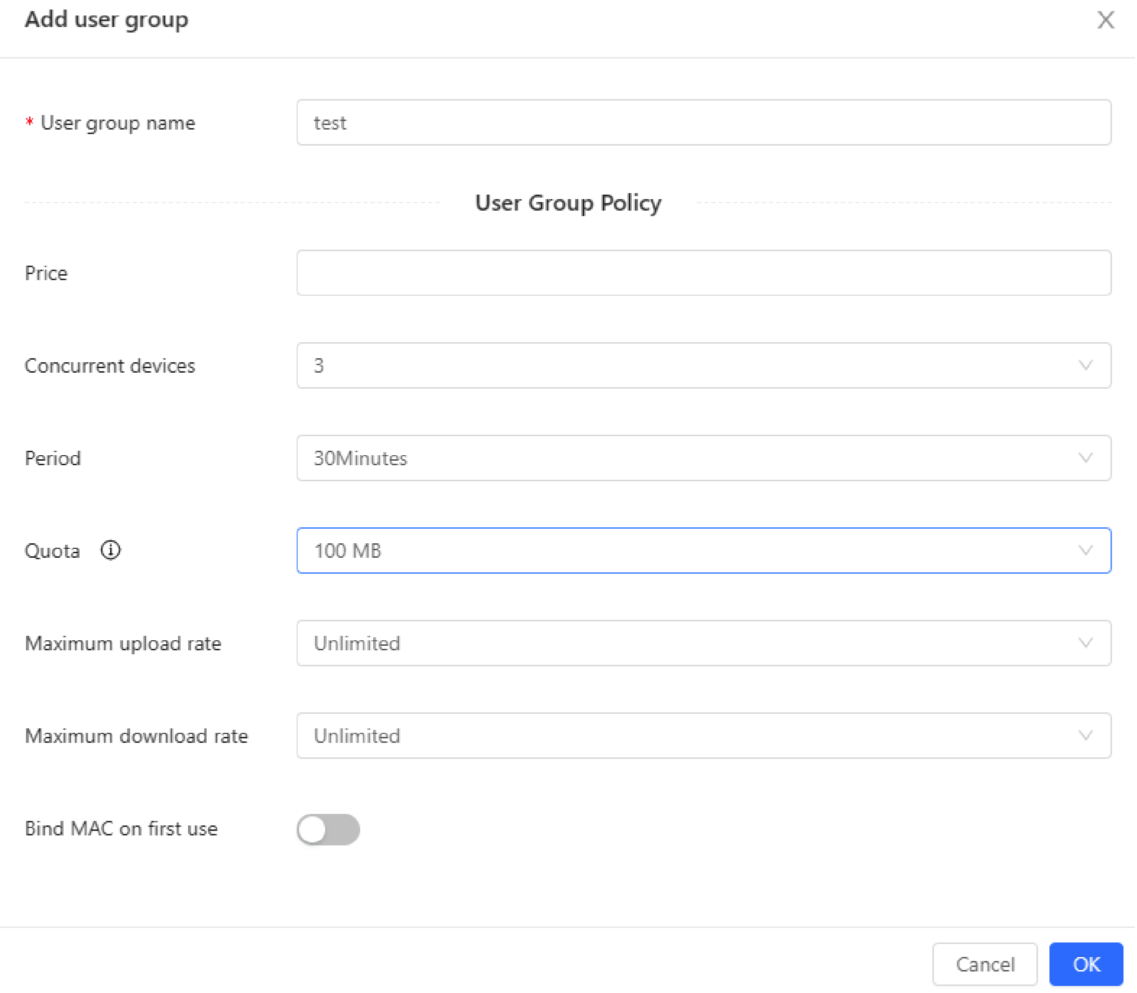
(1) Log in to Ruijie Cloud, choose **Project** > **Auth & Accounts** > **Accounts** > **User Management**, **and** select a network in this account**.**

(2) Configure a user group.

a On the **User Group** tab, click **Add**.



b Configure user group parameters. After the configuration, click **OK**.


Add user group

* User group name: test

User Group Policy

Price:

Concurrent devices: 3

Period: 30Minutes

Quota: 100 MB

Maximum upload rate: Unlimited

Maximum download rate: Unlimited

Bind MAC on first use

User Group Name: indicates the user group name.

Price: indicates the price of the user group. Mark user groups by numeral. The current version has no impact on network usage.

Concurrent Devices: indicates the number of concurrent devices for one account.

Period: indicates the maximum validity time of an account. The maximum value is counted after the client passes authentication and successfully accesses the Internet.

Quota: indicates the maximum amount of data transfer.

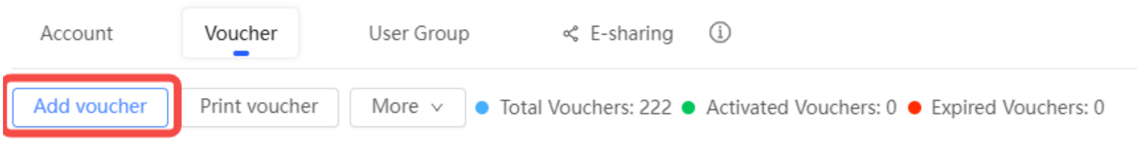
Maximum upload rate: indicates the maximum upload rate.

Maximum download rate: indicates the maximum download rate.

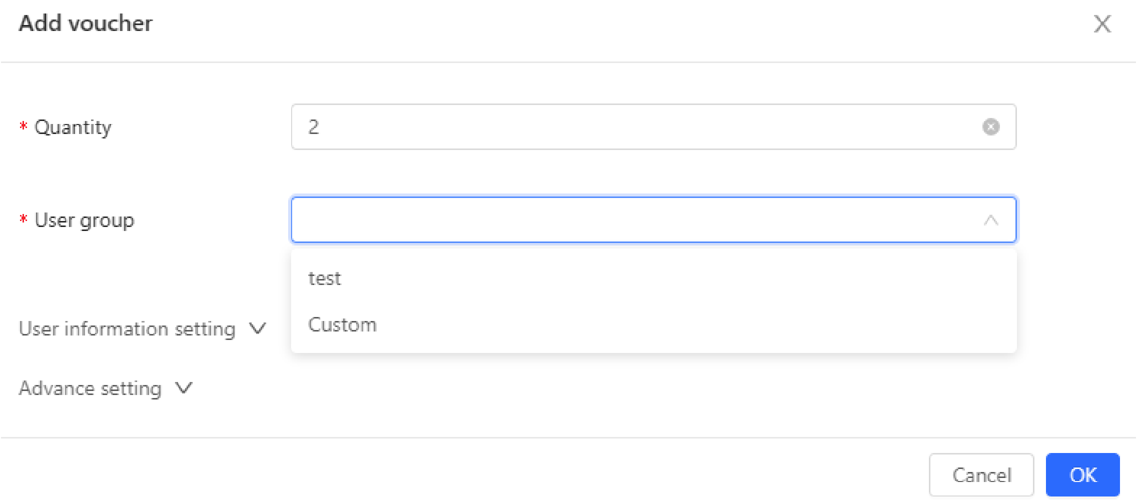
Bind MAC on first use: indicates that the MAC address of the first device used will be bound and other devices used by the same user will be prohibited from accessing the Internet.

(3) Configure a voucher.

a On the **Voucher** tab, click **Add voucher**.



b Configure voucher parameters. After the configuration, click **OK**.


Add voucher

* Quantity: 2

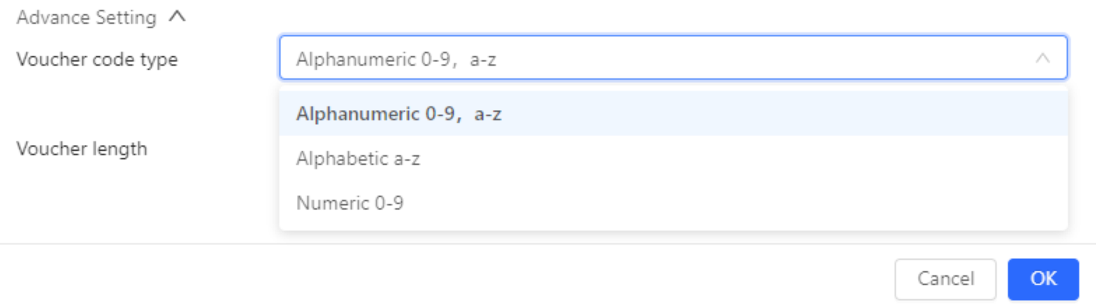
Quantity: Enter the quantity of the voucher to print. When the value is set to 1, you can add a voucher and configure the name and the email address. When the value is greater than 1, you can add vouchers in batches. In this case, you can only configure the name and email address separately after the vouchers are added.

User group: Select a created user group from the drop-down list. If the created user group does not meet the requirements, click **Custom** to create a user group.

User information setting: Configure user information, which is optional.

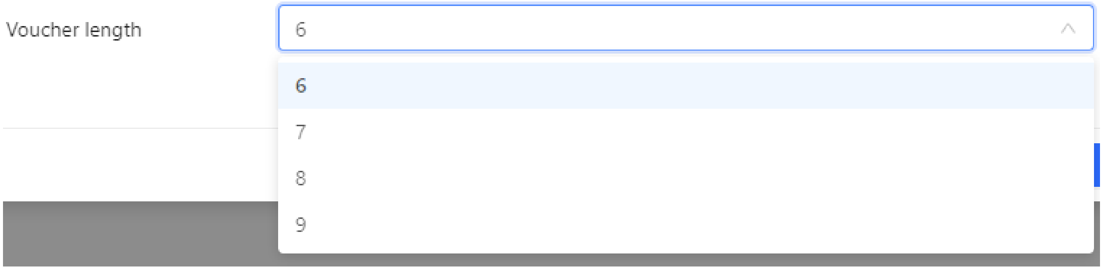
Advance setting:

- Voucher code type: Set the value to Alphanumeric 0-9, a-z, Alphabetic a-z, or Numeric 0-9.


Advance Setting

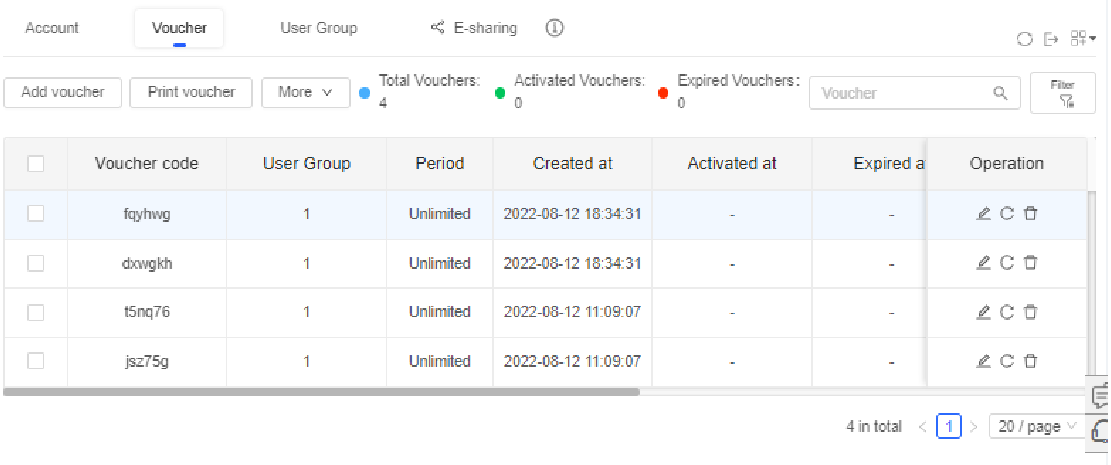
Voucher code type: Alphanumeric 0-9，a-z

- Voucher length: Select the voucher length. The value ranges from 6 to 9.



Voucher length: 6

(4) Obtain the voucher code from the voucher list.



Total Vouchers: 4 Activated Vouchers: 0 Expired Vouchers: 0

□	Voucher code	User Group	Period	Created at	Activated at	Expired a	Operation
□	fqyhwg	1	Unlimited	2022-08-12 18:34:31	-	-	
□	dxwgkh	1	Unlimited	2022-08-12 18:34:31	-	-	
□	t5nq76	1	Unlimited	2022-08-12 11:09:07	-	-	
□	jsz75g	1	Unlimited	2022-08-12 11:09:07	-	-	

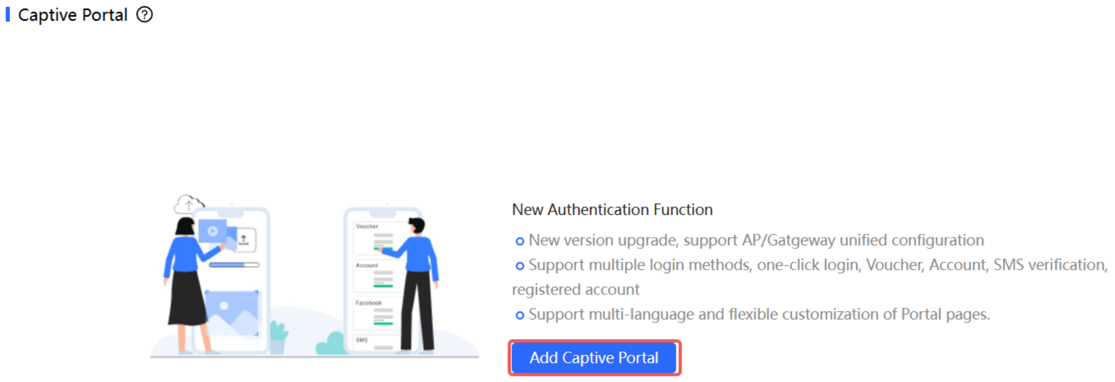
4 in total 1 20 / page

3.26.4 Configuring Account Authentication on Ruijie Cloud

1. Configuring a Portal Template with the Authentication Mode Set to Account

(1) Log in to Ruijie Cloud, choose **Project** > **Configuration** > **Auth & Accounts** > **Authentication** > **Captive Portal**, and select a network that needs to configure wireless authentication.

(2) Click **Add Captive Portal** to open the portal template configuration page.

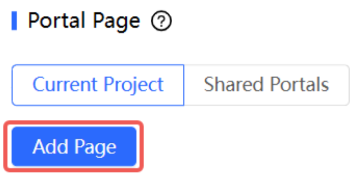


Captive Portal

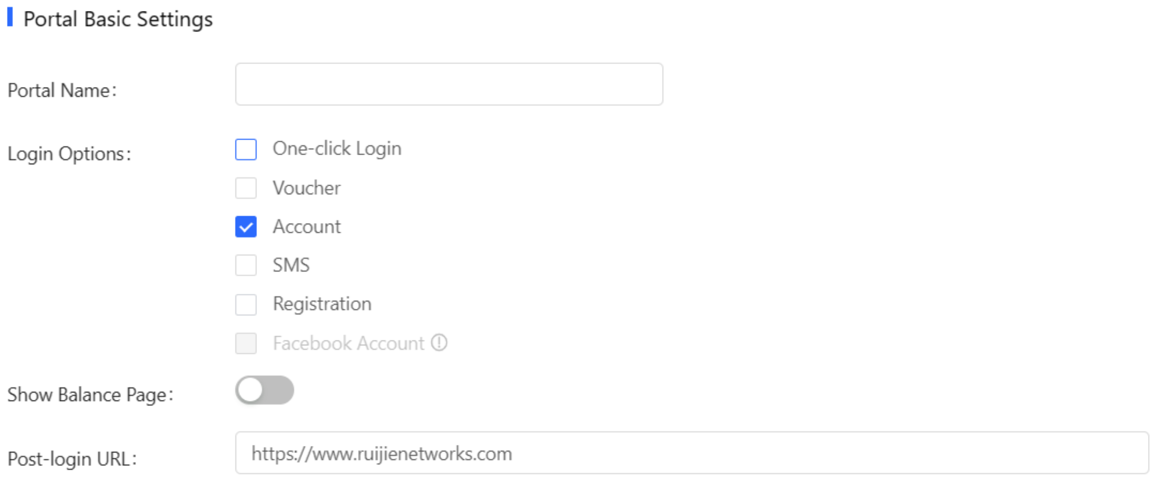
New Authentication Function

- New version upgrade, support AP/Gatgeway unified configuration
- Support multiple login methods, one-click login, Voucher, Account, SMS verification, registered account
- Support multi-language and flexible customization of Portal pages.

(3) Click **Add Page** to customize a portal page.



(4) Configure basic information of the portal template.



Portal Basic Settings

Portal Name:

Login Options:

□ One-click Login
□ Voucher
☑ Account
□ SMS
□ Registration
□ Facebook Account ⓘ

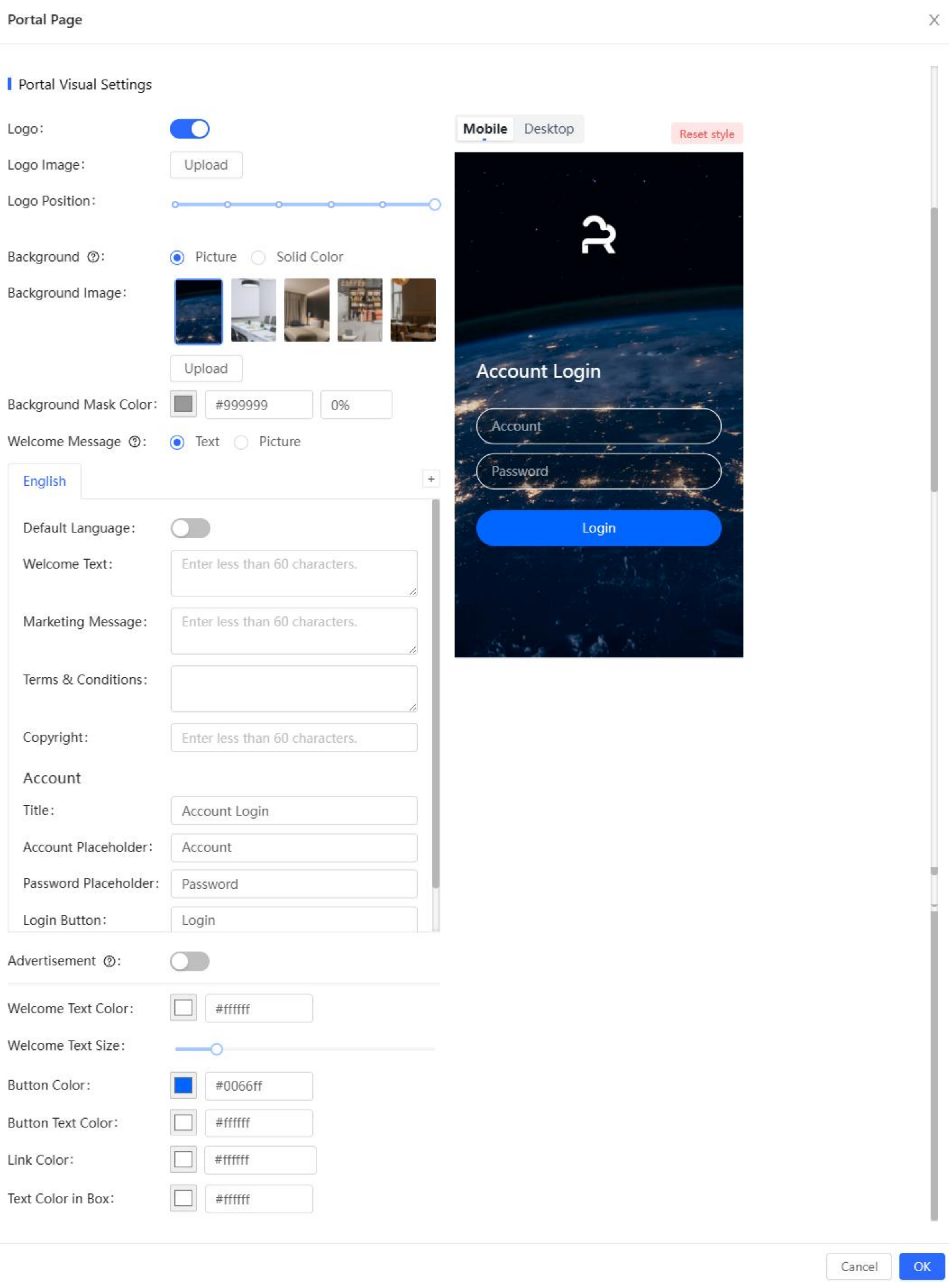
Show Balance Page: ○

Post-login URL: https://www.ruijienetworks.com

Table 3-12 Portal Template Configuration Parameters

Parameter	Description
Portal Name	Indicates the name of a captive portal template.
Login Options	Select **Account**, which indicates login with the account and password.
Show Balance Page	Indicates the available duration, time, or data after portal authentication.
Post-login URL	Indicates the URL that is displayed after portal authentication.

(5) Configure visual settings of the portal template.



Portal Page

Portal Visual Settings

Logo: ● (on)

Logo Image: Upload

Logo Position:

Background ⓘ: ● Picture ○ Solid Color

Background Image:

Upload

Background Mask Color: #999999 0%

Welcome Message ⓘ: ● Text ○ Picture

English +

Default Language: (off)

Welcome Text: Enter less than 60 characters.

Marketing Message: Enter less than 60 characters.

Terms & Conditions:

Copyright: Enter less than 60 characters.

Account

Title: Account Login

Account Placeholder: Account

Password Placeholder: Password

Login Button: Login

Advertisement ⓘ: (off)

Welcome Text Color: #ffffff

Welcome Text Size:

Button Color: #0066ff

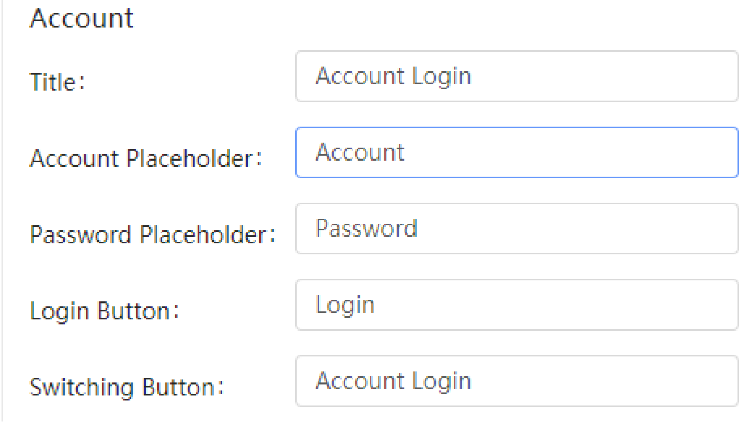
Button Text Color: #ffffff

Link Color: #ffffff

Text Color in Box: #ffffff

Table 3-13 Portal Page Configuration Parameters

Parameter	Description
Logo	Select whether to display the logo image.

Parameter	Description
Logo Image	When **Logo** is set to **Image**, upload the logo picture or select the default logo.
Logo Position	Select the logo position (Upper, Middle, or Lower).
Background	Select the background with the image or the solid color.
Background Image	When **Background** is set to **Image**, upload the background image or select the default image.
Background Mask Color	When **Background** is set to **Solid Color**, configure the background color. The default value is **#ffffff**.
Welcome Message	Select the welcome message with the image or text.
Language	Select the language of the portal page and configure the content displayed on the portal page as required. You can click + to add portal pages in other languages. ● Welcome Message: Select the welcome message with the image or text. ● Marketing message: Enter the marketing message. ● Terms & Conditions: Enter terms and conditions. ● Copyright: Enter the copyright. ● Account Login: After **Account Login** is enabled, you can customize the names of the controls related to account authentication.  Account Title: Account Login Account Placeholder: Account Password Placeholder: Password Login Button: Login Switching Button: Account Login
Advertisement	Select whether to display the advertisement.
Welcome Text Color	Select the welcome message text color. The default value is #ffffff.
Welcome Text Size	Select the welcome text size.
Button Color	Select the button color. The default value is #0066ff.
Button Text Color	Select the button text color. The default value is #ffffff.
Link Color	Select the link color. The default value is #ffffff.
Text Color in Box	Select the text color in the box. The default value is #ffffff.

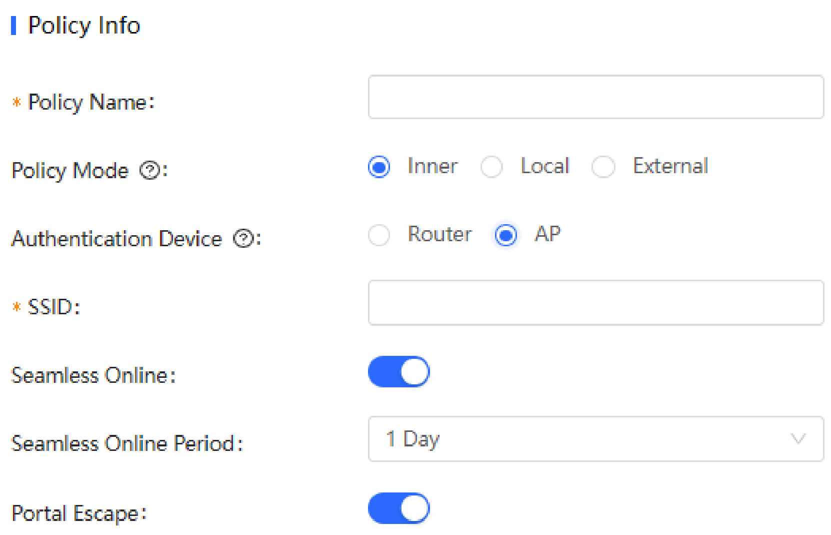
(6) After the configuration, click **OK** to save the portal template configurations.

2. Configuring Policy Info

Configure basic information of the policy info to add captive portal. After the configuration, click **OK** for the configurations to take effect.

Note

When **Encryption Mode** is set to a value other than **WPA2-Enterprise(802.1x)**, the **Captive Portal** page is available. You can select whether to perform wireless authentication.



Policy Info

* Policy Name:

Policy Mode ⓘ: ● Inner ○ Local ○ External

Authentication Device ⓘ: ○ Router ● AP

* SSID:

Seamless Online: ●

Seamless Online Period: 1 Day

Portal Escape: ●

Table 3-14 Captive Portal Configuration Parameters

Parameter	Description
Policy Name	Indicates the name of a captive portal template.
Policy Mode	Indicates the authentication mode to which the captive portal applies: Inner: Cloud-based authentication. The built-in authentication server in the public cloud is used for authentication. Local: Device-based local authentication and acceleration. Portal pages and accounts in the cloud are synchronized with the device for local authentication and acceleration. External: Third-party authentication, facilitating integration between the device and a third-party authentication server for authentication.

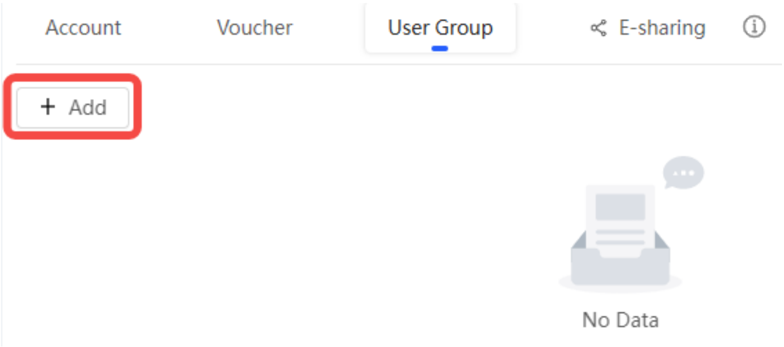
Parameter	Description
Authentication Device	Indicates the device that performs the authentication. When there is a router on the network, you are advised to enable authentication on the router. You can perform authentication on either an access point (AP) or a router. AP: An AP acts as the N/AS. Router: A router or gateway acts as the N/AS responsible for performing authentication at the gateway exit. Reyee AP Authentication: RAP, ReyeeOS 1.219 or later version. This parameter is not required if the policy mode is Local.
Network	Indicates the wired network that requires authentication. Enter the network segment in this field. Users connecting to the wired network corresponding to this network segment must be authenticated. This parameter is required if the Authentication Device is Router.
SSID	Indicates the network name of the Wi-Fi network that requires authentication. Users connecting to this wireless network must be authenticated. This parameter is required if the Authentication Device is AP.
Seamless Online	After this function is enabled, if the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within a certain period of time.
Seamless Online Period	Indicates the time period for seamless online. If the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within this period of time.
Portal Page	Indicates the portal page that is displayed after portal authentication. Click Current Project to select the portal page for an existing project. Click Shared Portals to select an existing portal page. Click Add Page to customize a portal page.

3. Adding an Account

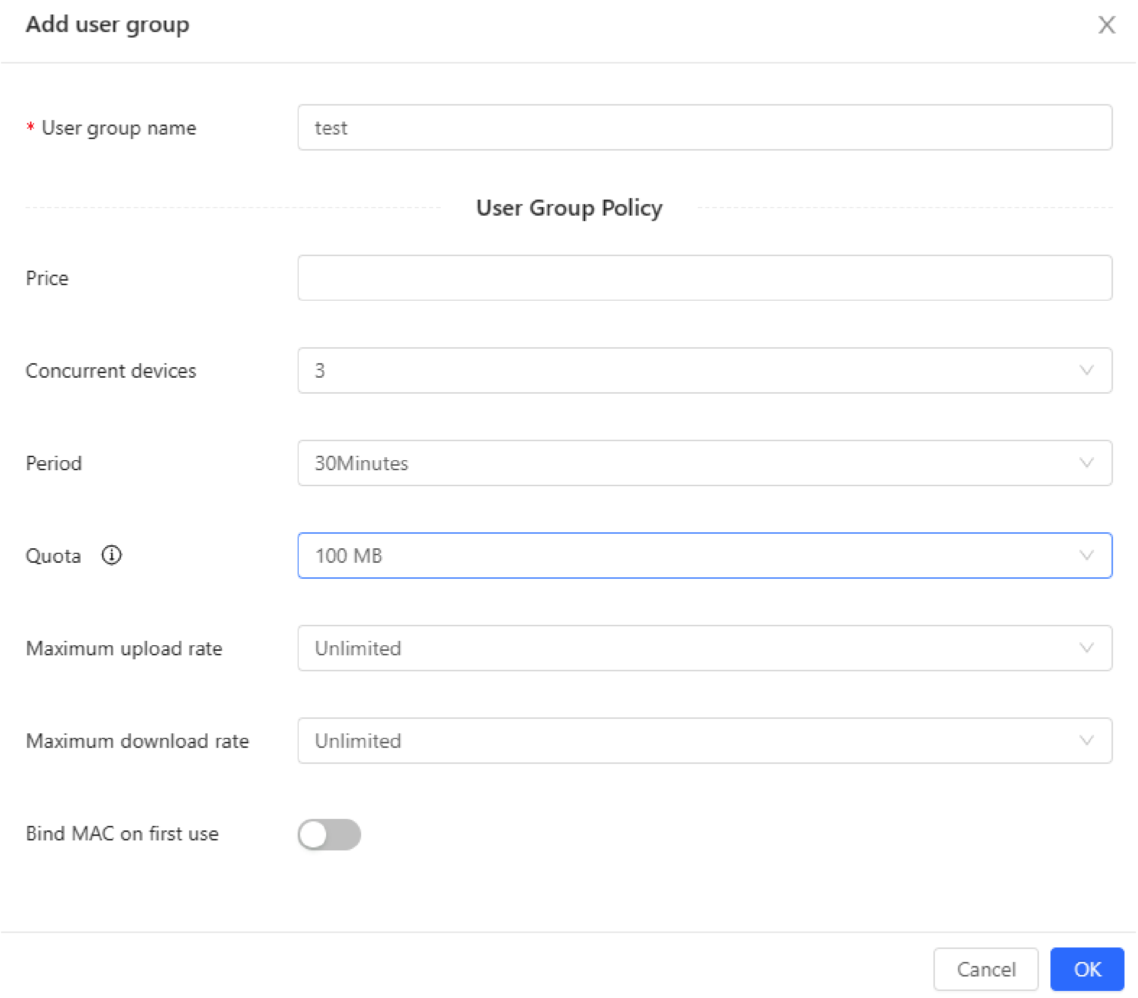
(1) Log in to Ruijie Cloud, choose **Project** > **Auth & Accounts** > **Accounts** > **User Management**, and select a network in this account**.**

(2) Configure a user group.

a On the **User Group** tab, click **Add**.



b Configure user group parameters. After the configuration, click **OK**.



* User group name: test

User Group Policy

Price:

Concurrent devices: 3

Period: 30Minutes

Quota: 100 MB

Maximum upload rate: Unlimited

Maximum download rate: Unlimited

Bind MAC on first use: ○

User Group Name: indicates the user group name.

Price: indicates the price of the user group. Mark user groups by numeral. The current version has no impact on network usage.

Concurrent Devices: indicates the number of concurrent devices for one account.

Period: indicates the maximum validity time of an account. The maximum value is counted after the client passes authentication and successfully accesses the Internet.

Quota: indicates the maximum amount of data transfer.

Maximum upload rate: indicates the maximum upload rate.

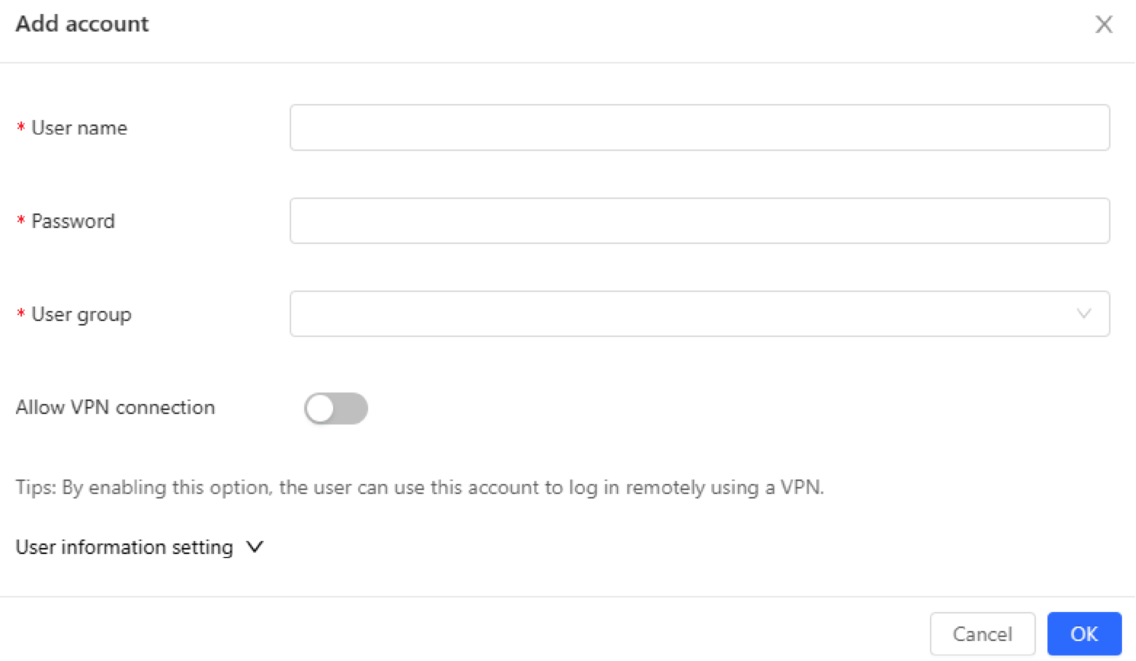
Maximum download rate: indicates the maximum download rate.

Bind MAC on first use: indicates that the MAC address of the first device used will be bound and other devices used by the same user will be prohibited from accessing the Internet.

(3) On the **Account** tab, add an account. Accounts can be added manually or through batch import.

- Adding an account manually

Click **Add an Account**, set parameters about the account, and click **OK**.



Add account

* User name

* Password

* User group

Allow VPN connection

Tips: By enabling this option, the user can use this account to log in remotely using a VPN.

User name: The value is a string of less than 32 characters, consisting of letters, numerals, and underscores.

Password: The value is a string of less than 32 characters, consisting of letters, numerals, and underscores.

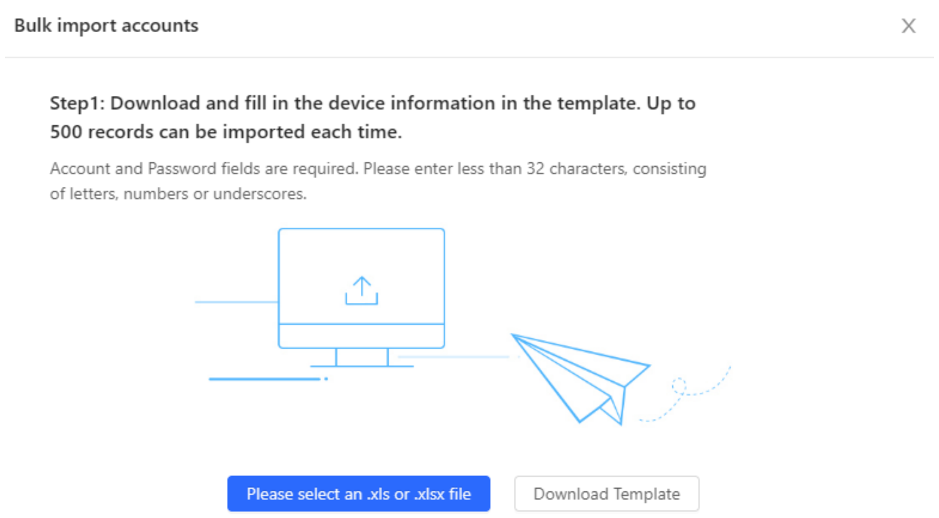
User group: Select a created user group from the drop-down list. If the created user group does not meet the requirements, click **Custom** to create a user group.

Allow VPN connection: By enabling this option, the user can use this account to log in remotely using a VPN.

User information setting: You can expand it to have more user information displayed, including the first name, last name, email, phone number, and alias.

- Adding accounts through batch import

a Click **Bulk import**.



Bulk import accounts

Step1: Download and fill in the device information in the template. Up to 500 records can be imported each time.

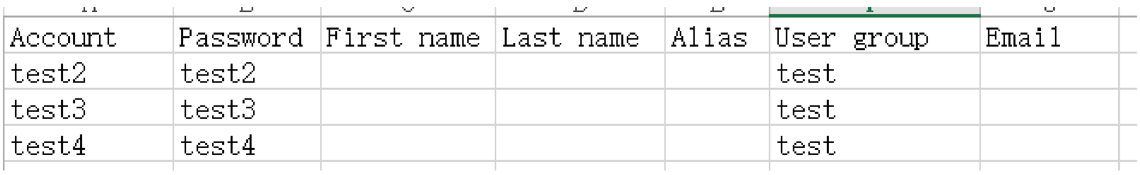
Account and Password fields are required. Please enter less than 32 characters, consisting of letters, numbers or underscores.

b Click **Download Template** to download the template.

c Edit the template and save it.

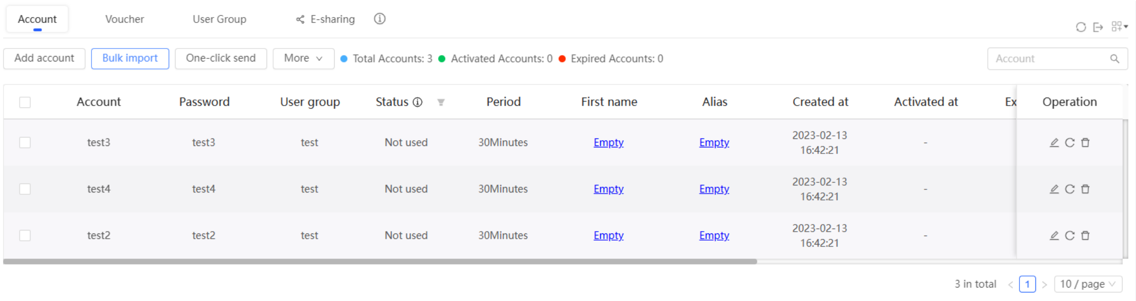
Caution

- **Account**, **Password**, and **User Group** are mandatory.
- Check that the user group already exists and the added accounts are not duplicate with existing accounts.



Account	Password	First name	Last name	Alias	User group	Email
test2	test2				test	
test3	test3				test	
test4	test4				test	

d Click **Please select an .xls or .xlsx file** to upload the file. After uploading, users are automatically created.



● Total Accounts: 3 ● Activated Accounts: 0 ● Expired Accounts: 0

□	Account	Password	User group	Status	Period	First name	Alias	Created at	Activated at	Ex	Operation
□	test3	test3	test	Not used	30Minutes	Empty	Empty	2023-02-13 16:42:21	-		
□	test4	test4	test	Not used	30Minutes	Empty	Empty	2023-02-13 16:42:21	-		
□	test2	test2	test	Not used	30Minutes	Empty	Empty	2023-02-13 16:42:21	-		

3 in total < 1 > 10 / page

3.26.5 Configuring SMS Authentication on Ruijie Cloud

1. Adding a Twilio Account

Prerequisites

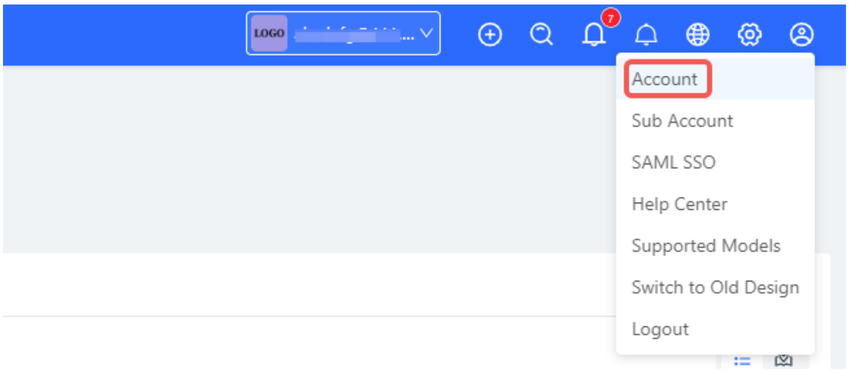
A Twilio account has been applied for from the Twilio official website (https://www.twilio.com/login).

Note

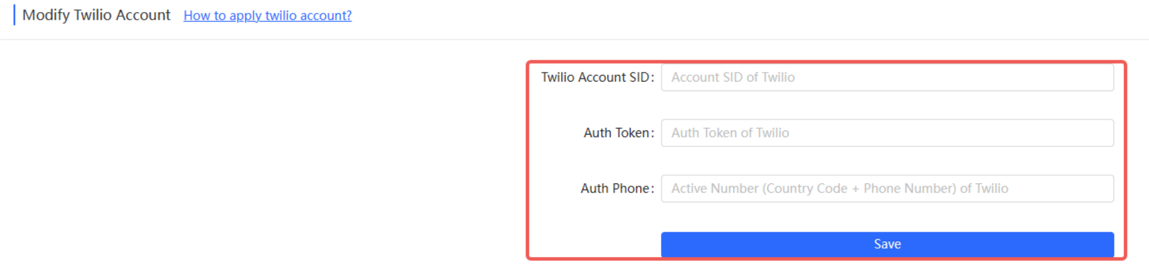
A Twilio account is used to send the SMS verification code.

Configuration Steps

(1) Log in to Ruijie Cloud and choose 👤 > **Account**.



(2) Add Twilio account information and click **Save**.



Modify Twilio Account How to apply twilio account?

Twilio Account SID: Account SID of Twilio

Auth Token: Auth Token of Twilio

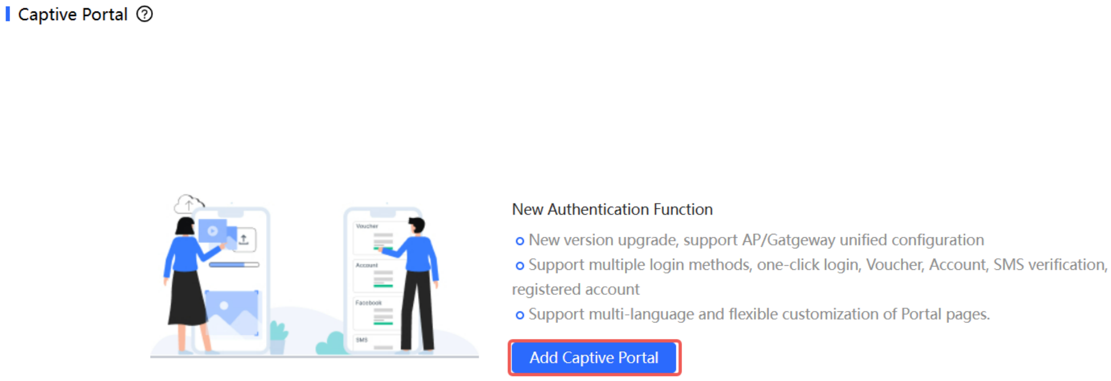
Auth Phone: Active Number (Country Code + Phone Number) of Twilio

Save

2. Configuring a Portal Template with the Authentication Mode Set to SMS

(1) Log in to Ruijie Cloud, choose **Project** > **Configuration** > **Auth & Accounts** > **Authentication** > **Captive Portal**, and select a network that needs to configure wireless authentication.

(2) Click **Add Captive Portal** to open the portal template configuration page.



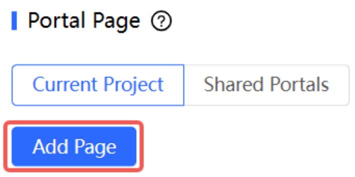
Captive Portal ⓘ

New Authentication Function

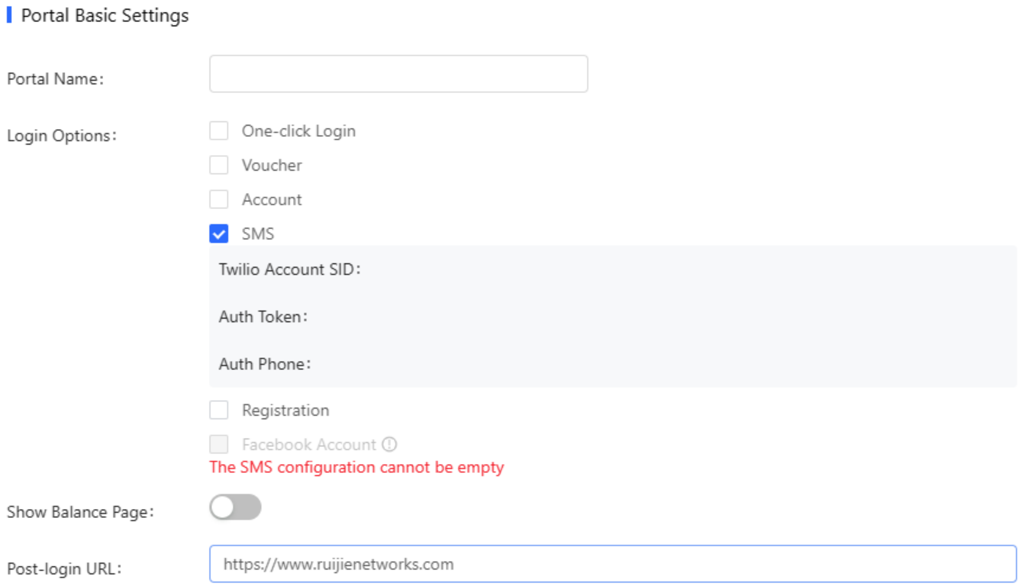
- New version upgrade, support AP/Gatgeway unified configuration
- Support multiple login methods, one-click login, Voucher, Account, SMS verification, registered account
- Support multi-language and flexible customization of Portal pages.

Add Captive Portal

(3) Click **Add Page** to customize a portal page.



(4) Configure basic information of the portal template.



Portal Basic Settings

Portal Name:

Login Options:
□ One-click Login
□ Voucher
□ Account
☑ SMS
Twilio Account SID:
Auth Token:
Auth Phone:
□ Registration
□ Facebook Account ⓘ
The SMS configuration cannot be empty

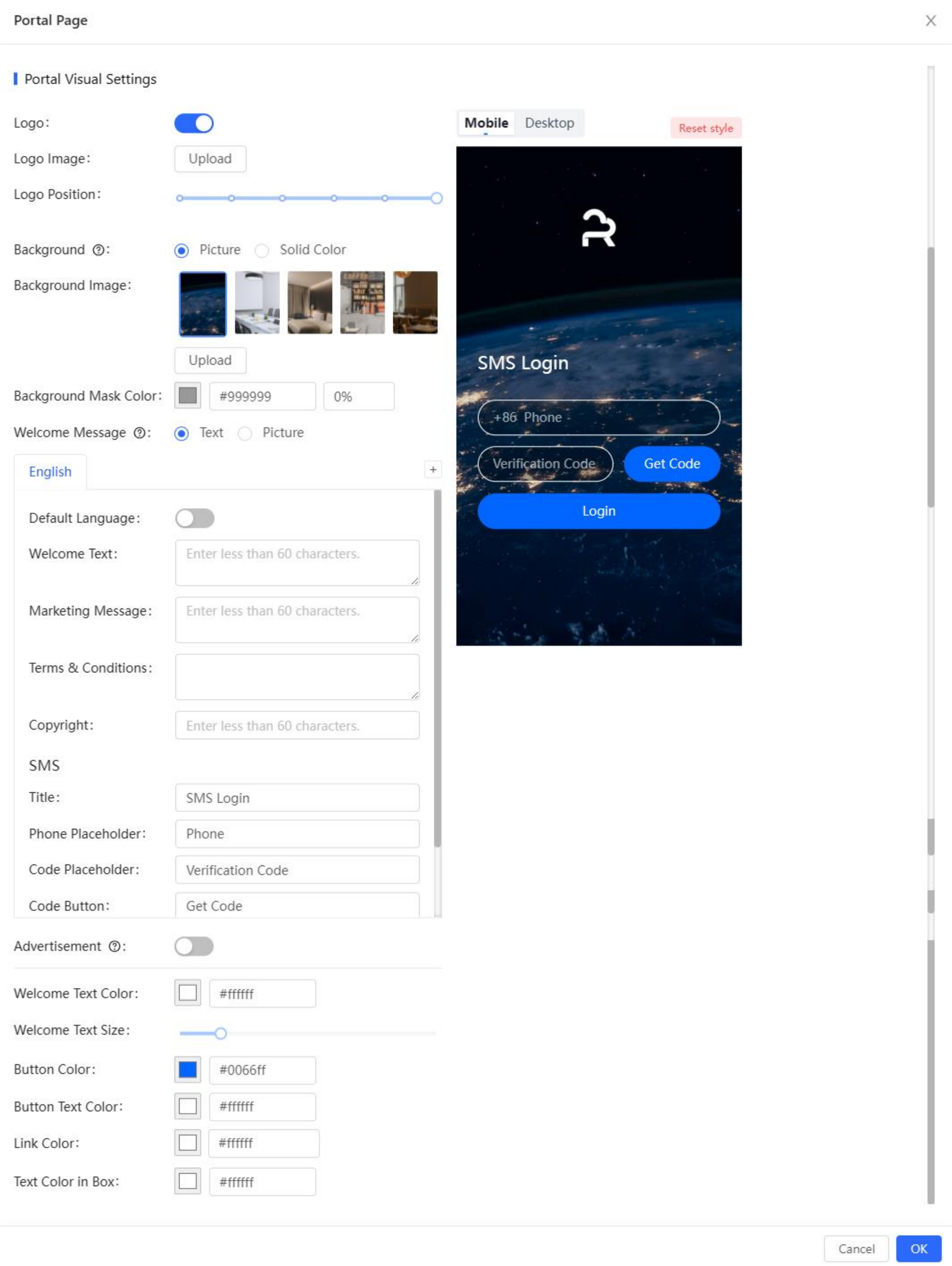
Show Balance Page: ○

Post-login URL: https://www.ruijienetworks.com

Table 3-15 Portal Template Configuration Parameters

Parameter	Description
Portal Name	Indicates the name of a captive portal template.
Login Options	Select **SMS**, which indicates login with the phone number and code.
Show Balance Page	Indicates the available duration, time, or data after portal authentication.
Post-login URL	Indicates the URL that is displayed after portal authentication.

(5) Configure visual settings of the portal template.



Portal Page

Portal Visual Settings

Logo: ●

Logo Image: Upload

Logo Position:

Background ⓘ: ● Picture ○ Solid Color

Background Image:

Upload

Background Mask Color: #999999 0%

Welcome Message ⓘ: ● Text ○ Picture

English +

Default Language: ○

Welcome Text: Enter less than 60 characters.

Marketing Message: Enter less than 60 characters.

Terms & Conditions:

Copyright: Enter less than 60 characters.

SMS

Title: SMS Login

Phone Placeholder: Phone

Code Placeholder: Verification Code

Code Button: Get Code

Advertisement ⓘ: ○

Welcome Text Color: #ffffff

Welcome Text Size:

Button Color: #0066ff

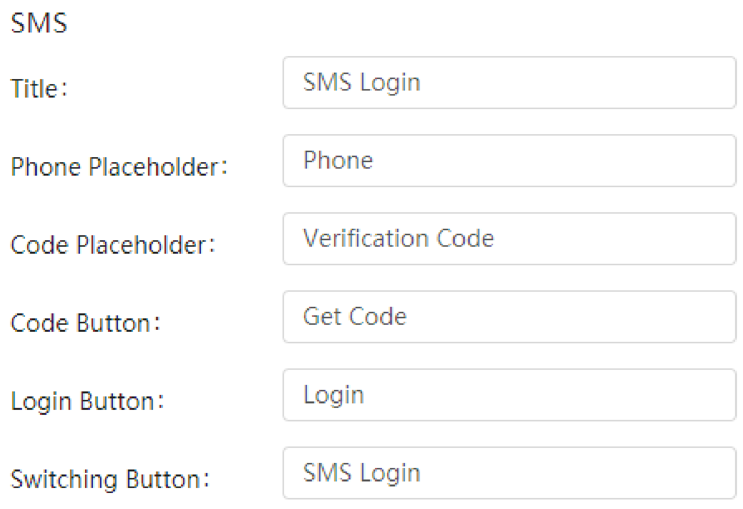
Button Text Color: #ffffff

Link Color: #ffffff

Text Color in Box: #ffffff

Cancel OK

Table 3-16 Portal Page Configuration Parameters

Parameter	Description
Logo	Select whether to display the logo image.
Logo Image	When **Logo** is set to **Image**, upload the logo picture or select the default logo.
Logo Position	Select the logo position (Upper, Middle, or Lower).
Background	Select the background with the image or the solid color.
Background Image	When **Background** is set to **Image**, upload the background image or select the default image.
Background Mask Color	When **Background** is set to **Solid Color**, configure the background color. The default value is **#ffffff**.
Welcome Message	Select the welcome message with the image or text.
Language	Select the language of the portal page and configure the content displayed on the portal page as required. You can click + to add portal pages in other languages. ● Welcome Message: Select the welcome message with the image or text. ● Marketing message: Enter the marketing message. ● Terms & Conditions: Enter terms and conditions. ● Copyright: Enter the copyright. ● SMS Login: After **SMS Login** is enabled, you can customize the names of the controls related to SMS authentication.  SMS Title： SMS Login Phone Placeholder： Phone Code Placeholder： Verification Code Code Button： Get Code Login Button： Login Switching Button： SMS Login
Advertisement	Select whether to display the advertisement.
Welcome Text Color	Select the welcome message text color. The default value is #ffffff.
Welcome Text Size	Select the welcome text size.
Button Color	Select the button color. The default value is #0066ff.

Parameter	Description
Button Text Color	Select the button text color. The default value is #ffffff.
Link Color	Select the link color. The default value is #ffffff.
Text Color in Box	Select the text color in the box. The default value is #ffffff.

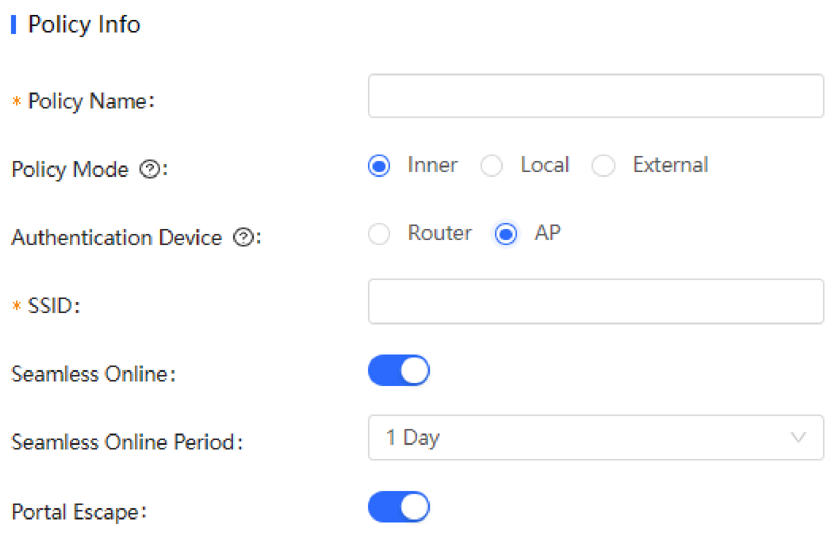
(6) After the configuration, click **OK** to save the portal template configurations.

3. Configuring Policy Info

Configure basic information of the policy info to add captive portal. After the configuration, click **OK** for the configurations to take effect.

Note

When **Encryption Mode** is set to a value other than **WPA2-Enterprise(802.1x)**, **Go to the "Captive Portal" page** is available and you can select whether to perform wireless authentication.



Policy Info

* Policy Name:

Policy Mode: ● Inner ○ Local ○ External

Authentication Device: ○ Router ● AP

* SSID:

Seamless Online:

Seamless Online Period: 1 Day

Portal Escape:

Table 3-17 Captive Portal Configuration Parameters

Parameter	Description
Policy Name	Indicates the name of a captive portal template.

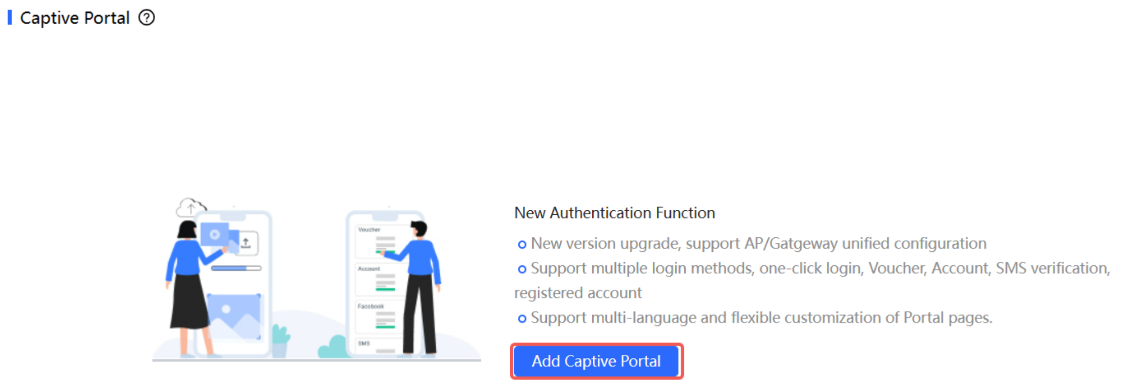
Parameter	Description
Policy Mode	Indicates the authentication mode to which the captive portal applies: Inner: Cloud-based authentication. The built-in authentication server in the public cloud is used for authentication. Local: Device-based local authentication and acceleration. Portal pages and accounts in the cloud are synchronized with the device for local authentication and acceleration. External: Third-party authentication, facilitating integration between the device and a third-party authentication server for authentication.
Authentication Device	Indicates the device that performs the authentication. When there is a router on the network, you are advised to enable authentication on the router. You can perform authentication on either an access point (AP) or a router. AP: An AP acts as the N/AS. Router: A router or gateway acts as the N/AS responsible for performing authentication at the gateway exit. Reyee AP Authentication: RAP, ReyeeOS 1.219 or later version. This parameter is not required if the policy mode is Local.
Network	Indicates the wired network that requires authentication. Enter the network segment in this field. Users connecting to the wired network corresponding to this network segment must be authenticated. This parameter is required if the Authentication Device is Router.
SSID	Indicates the network name of the Wi-Fi network that requires authentication. Users connecting to this wireless network must be authenticated. This parameter is required if the Authentication Device is AP.
Seamless Online	After this function is enabled, if the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within a certain period of time.
Seamless Online Period	Indicates the time period for seamless online. If the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within this period of time.
Portal Page	Indicates the portal page that is displayed after portal authentication. Click Current Project to select the portal page for an existing project. Click Shared Portals to select an existing portal page. Click Add Page to customize a portal page.

3.26.6 Configuring Registration on Ruijie Cloud

1. Configuring a Portal Template with the Authentication Mode Set to One-click Login

(1) Log in to Ruijie Cloud, choose **Project** > **Configuration** > **Auth & Accounts** > **Authentication** > **Captive Portal**, and select a network that needs to configure wireless authentication.

(2) Click **Add Captive Portal** to open the portal template configuration page.

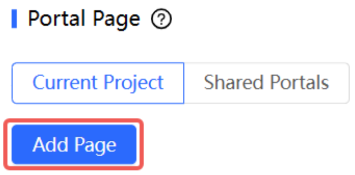


Captive Portal ⓘ

New Authentication Function

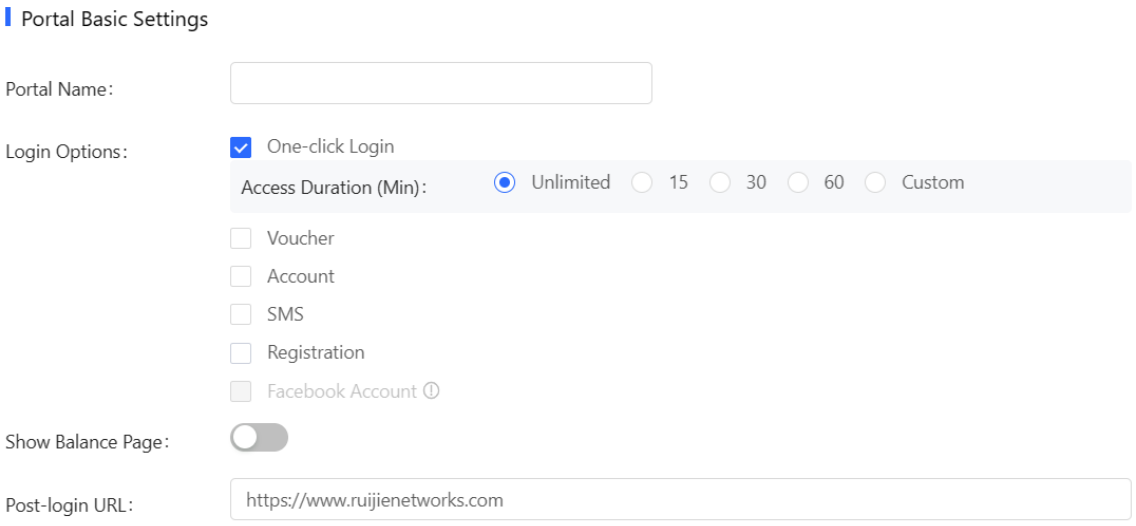
- New version upgrade, support AP/Gatgeway unified configuration
- Support multiple login methods, one-click login, Voucher, Account, SMS verification, registered account
- Support multi-language and flexible customization of Portal pages.

(3) Click **Add Page** to customize a portal page.



Portal Page ⓘ

(4) Configure basic information of the portal template.



Portal Basic Settings

Portal Name:

Login Options: ☑ One-click Login

Access Duration (Min): ● Unlimited ○ 15 ○ 30 ○ 60 ○ Custom

□ Voucher

□ Account

□ SMS

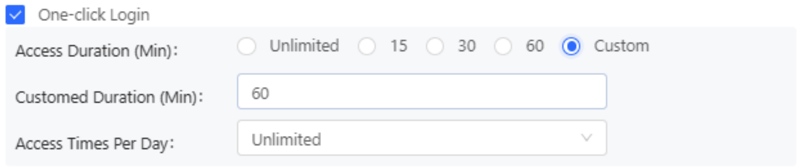
□ Registration

□ Facebook Account ⓘ

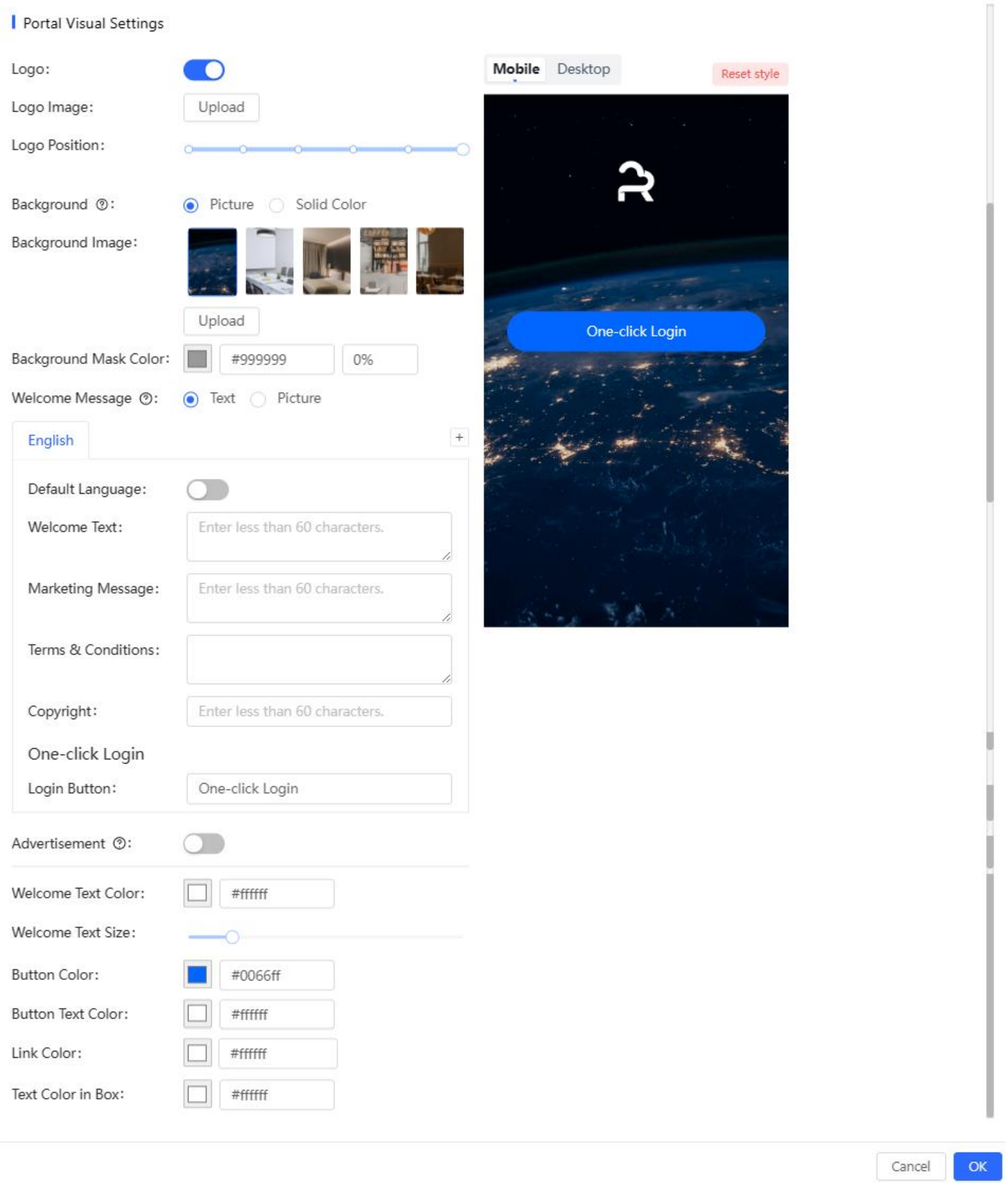
Show Balance Page: ○

Post-login URL: https://www.ruijienetworks.com

Table 3-18 Portal Template Configuration Parameters

Parameter	Description
Portal Name	Indicates the name of a captive portal template.
Login Options	Select **One-click Login**, which indicates login without the username and password. You can set **Access Duration** and **Access Times Per Day**.  ☑ One-click Login Access Duration (Min): ○ Unlimited ○ 15 ○ 30 ○ 60 ● Custom Customed Duration (Min): 60 Access Times Per Day: Unlimited
Show Balance Page	Indicates the available duration, time, or data after portal authentication.
Post-login URL	Indicates the URL that is displayed after portal authentication.

(5) Configure visual settings of the portal template.



Portal Visual Settings

Logo: ●

Logo Image: Upload

Logo Position:

Background ⑦: ● Picture ○ Solid Color

Background Image:

Upload

Background Mask Color: #999999 0%

Welcome Message ⑦: ● Text ○ Picture

English

Default Language: ○

Welcome Text: Enter less than 60 characters.

Marketing Message: Enter less than 60 characters.

Terms & Conditions:

Copyright: Enter less than 60 characters.

One-click Login

Login Button: One-click Login

Advertisement ⑦: ○

Welcome Text Color: #ffffff

Welcome Text Size:

Button Color: #0066ff

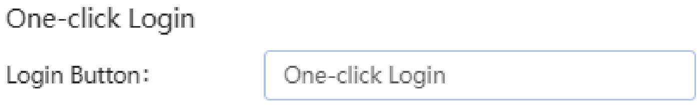
Button Text Color: #ffffff

Link Color: #ffffff

Text Color in Box: #ffffff

Table 3-19 Portal Page Configuration Parameters

Parameter	Description
Logo	Select whether to display the logo image.
Logo Image	When **Logo** is set to **Image**, upload the logo picture or select the default logo.
Logo Position	Select the logo position (Upper, Middle, or Lower).
Background	Select the background with the image or the solid color.

Parameter	Description
Background Image	When **Background** is set to **Image**, upload the background image or select the default image.
Background Mask Color	When **Background** is set to **Solid Color**, configure the background color. The default value is **#ffffff**.
Welcome Message	Select the welcome message with the image or text.
Language	Select the language of the portal page and configure the content displayed on the portal page as required. You can click + to add portal pages in other languages. ● Welcome Message: Select the welcome message with the image or text. ● Marketing message: Enter the marketing message. ● Terms & Conditions: Enter terms and conditions. ● Copyright: Enter the copyright. ● One-click Login: After **One-click Login** is enabled, you can customize the button name displayed on the portal page, which is set to **One-click Login** by default.  One-click Login Login Button: One-click Login
Advertisement	Select whether to display the advertisement.
Welcome Text Color	Select the welcome message text color. The default value is #ffffff.
Welcome Text Size	Select the welcome text size.
Button Color	Select the button color. The default value is #0066ff.
Button Text Color	Select the button text color. The default value is #ffffff.
Link Color	Select the link color. The default value is #ffffff.
Text Color in Box	Select the text color in the box. The default value is #ffffff.

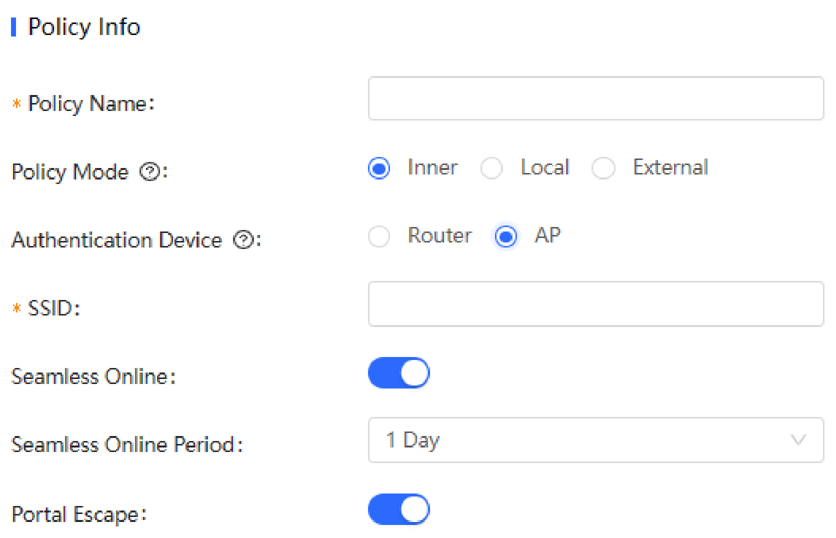
(6) After the configuration, click **OK** to save the portal template configurations.

2. Configuring Policy Info

Configure basic information of the policy info to add captive portal. After the configuration, click **OK** for the configurations to take effect.

Note

When **Encryption Mode** is set to a value other than **WPA2-Enterprise(802.1x)**, the **Captive Portal** page is available. You can select whether to perform wireless authentication.



Policy Info

* Policy Name:

Policy Mode ?: ● Inner ○ Local ○ External

Authentication Device ?: ○ Router ● AP

* SSID:

Seamless Online:

Seamless Online Period: 1 Day

Portal Escape:

Table 3-20 Captive Portal Configuration Parameters

Parameter	Description
Policy Name	Indicates the name of a captive portal template.
Policy Mode	Indicates the authentication mode to which the captive portal applies: Inner: Cloud-based authentication. The built-in authentication server in the public cloud is used for authentication. Local: Device-based local authentication and acceleration. Portal pages and accounts in the cloud are synchronized with the device for local authentication and acceleration. External: Third-party authentication, facilitating integration between the device and a third-party authentication server for authentication.
Authentication Device	Indicates the device that performs the authentication. When there is a router on the network, you are advised to enable authentication on the router. You can perform authentication on either an access point (AP) or a router. AP: An AP acts as the N/AS. Router: A router or gateway acts as the N/AS responsible for performing authentication at the gateway exit. Reyee AP Authentication: RAP, ReyeeOS 1.219 or later version. This parameter is not required if the policy mode is Local.

Parameter	Description
Network	Indicates the wired network that requires authentication. Enter the network segment in this field. Users connecting to the wired network corresponding to this network segment must be authenticated. This parameter is required if the Authentication Device is Router.
SSID	Indicates the network name of the Wi-Fi network that requires authentication. Users connecting to this wireless network must be authenticated. This parameter is required if the Authentication Device is AP.
Seamless Online	After this function is enabled, if the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within a certain period of time.
Seamless Online Period	Indicates the time period for seamless online. If the first authentication is successful, subsequent connections to this Wi-Fi network will automatically be authenticated within this period of time.
Portal Page	Indicates the portal page that is displayed after portal authentication. Click Current Project to select the portal page for an existing project. Click Shared Portals to select an existing portal page. Click Add Page to customize a portal page.

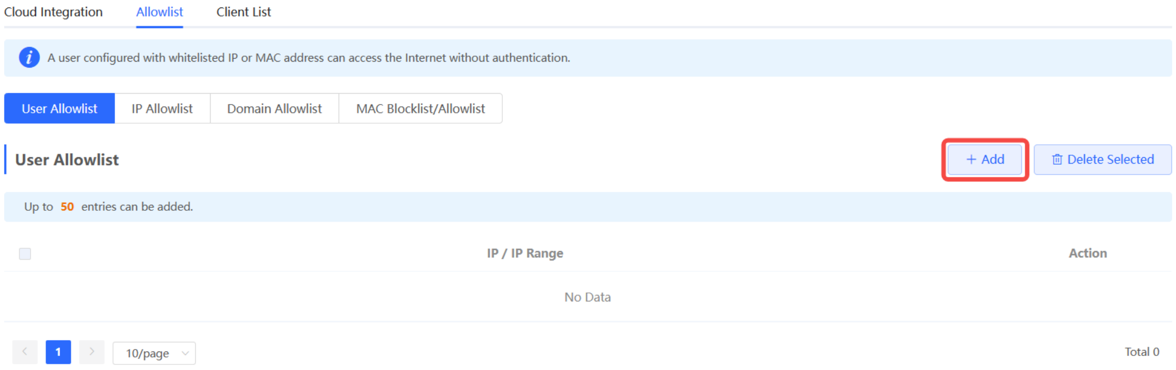
3.26.7 Configuring an Authentication-Free User List on Web Interface

You can configure authentication-free for wireless STAs (IP address/MAC address), public IP addresses, and domain names. Users can directly use network services or access specific websites without entering the username, password, or other information.

1. Configuring an Authentication-Free User

(1) Choose **Network-Wide** > **Workspace** > **Wireless** > **Wireless Auth** > **Allowlist > User Allowlist.**

(2) Click **Add** to open the configuration page.

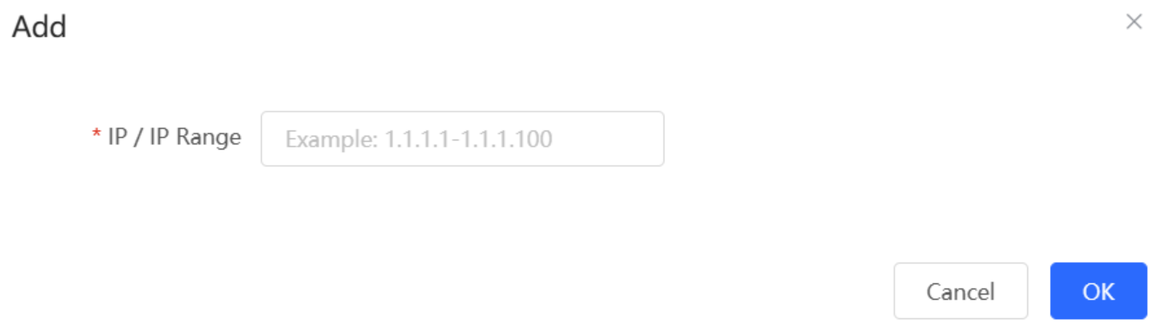


A user configured with whitelisted IP or MAC address can access the Internet without authentication.

Up to 50 entries can be added.

□	IP / IP Range	Action
	No Data	

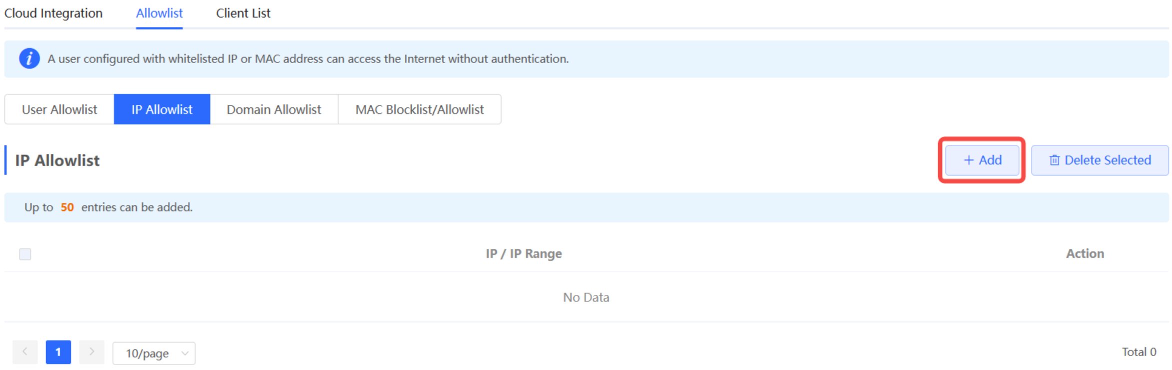
(3) Configure an STA IP address or IP address range. After the configuration, click **OK** to save the configurations.



2. Configuring an Authentication-Free Public IP Address

(1) Choose **Network-Wide** > **Workspace** > **Wireless** > **Wireless Auth** > **Allowlist > IP Allowlist.**

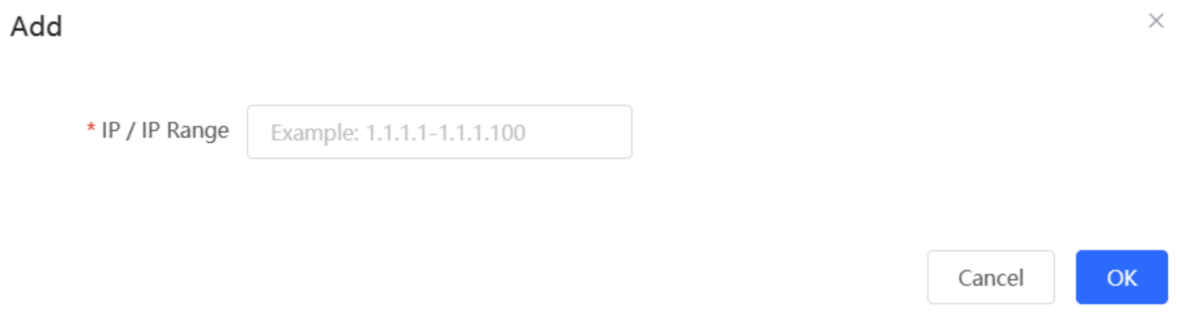
(2) Click **Add** to open the configuration page.



A user configured with whitelisted IP or MAC address can access the Internet without authentication.

Up to 50 entries can be added.

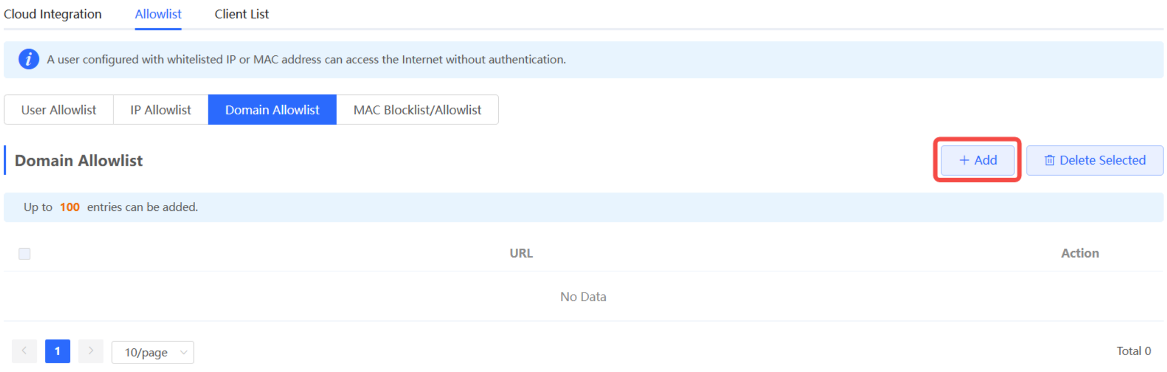
(3) Configure a public IP address or public IP address range. After the configuration, click **OK** to save the configurations.



3. Configuring a Domain Name Allowlist

(1) Choose **Network-Wide** > **Workspace** > **Wireless** > **Wireless Auth** > **Allowlist > Domain Allowlist.**

(2) Click **Add** to open the configuration page.


Cloud Integration | Allowlist | Client List

A user configured with whitelisted IP or MAC address can access the Internet without authentication.

User Allowlist | IP Allowlist | Domain Allowlist | MAC Blocklist/Allowlist

Domain Allowlist

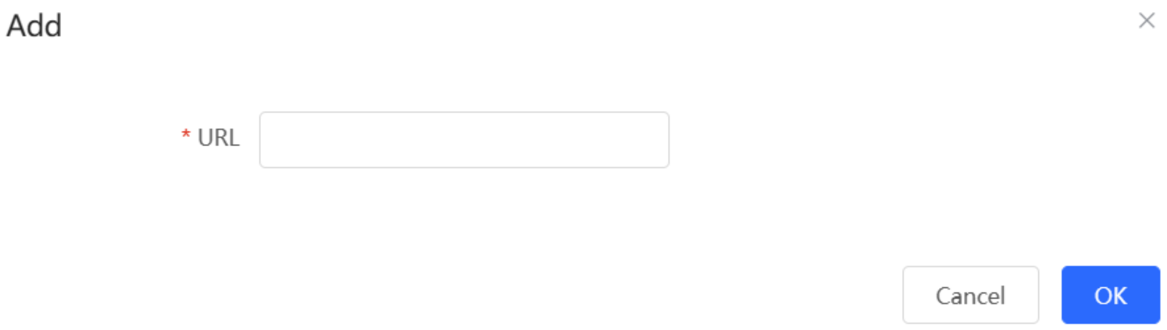
+ Add | Delete Selected

Up to 100 entries can be added.

□	URL	Action
	No Data	

Total 0

(3) Configure authentication-free websites. After the configuration, click **OK**.


Add

* URL

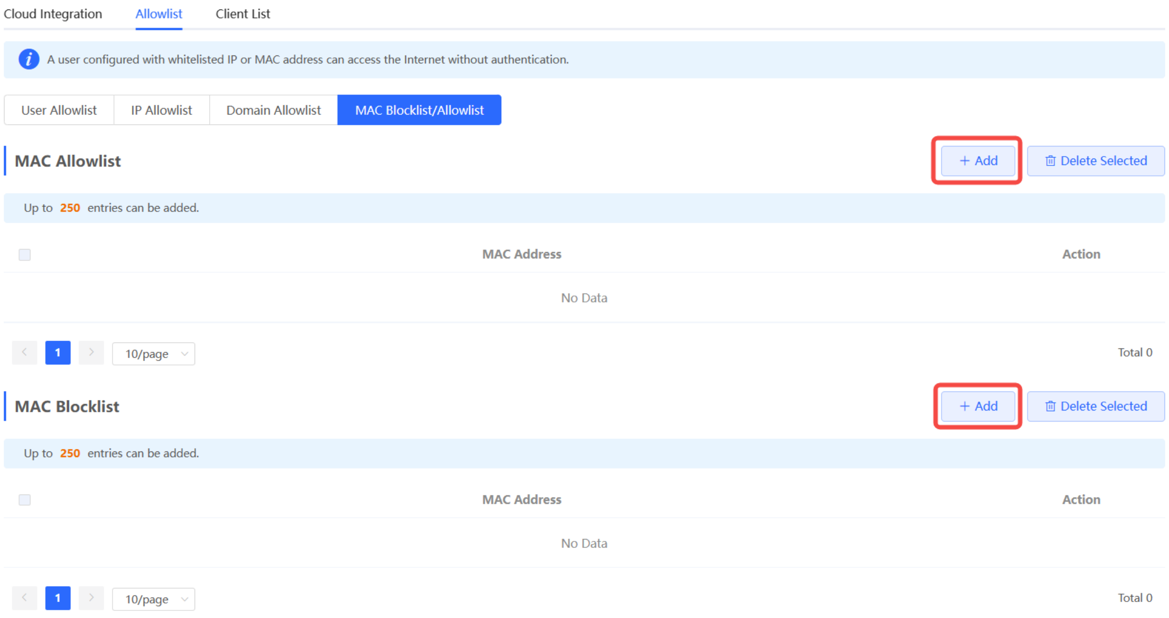
Cancel | OK

4. Configuring a MAC Address Allowlist and Blocklist

STAs whose MAC addresses are added to the MAC address allowlist can access the network without authentication, and STAs whose MAC addresses are added to the MAC address blocklist are forbidden to access the network.

(1) Choose **Network-Wide** > **Workspace** > **Wireless** > **Wireless Auth** > **Allowlist > MAC Blocklist/Allowlist.**

(2) Click **Add** to open the MAC address allowlist or blocklist configuration page.


Cloud Integration | Allowlist | Client List

A user configured with whitelisted IP or MAC address can access the Internet without authentication.

User Allowlist | IP Allowlist | Domain Allowlist | MAC Blocklist/Allowlist

MAC Allowlist

+ Add | Delete Selected

Up to 250 entries can be added.

□	MAC Address	Action
	No Data	

Total 0

MAC Blocklist

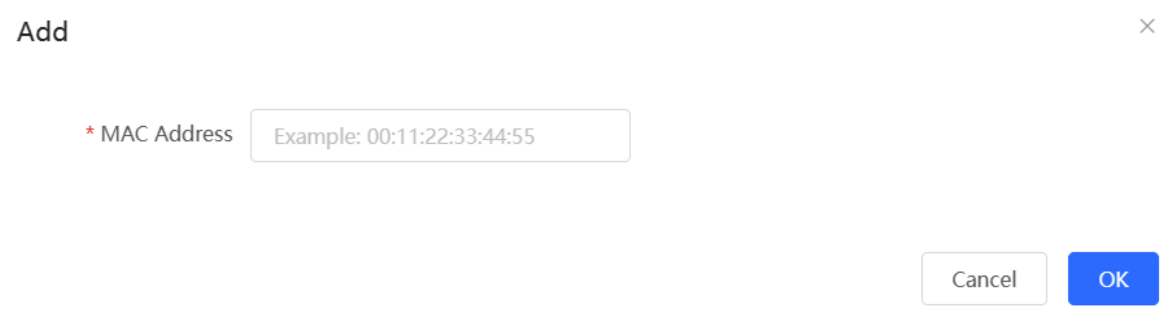
+ Add | Delete Selected

Up to 250 entries can be added.

□	MAC Address	Action
	No Data	

Total 0

(3) Configure the MAC address of a wireless STA. After the configuration, click **OK**.

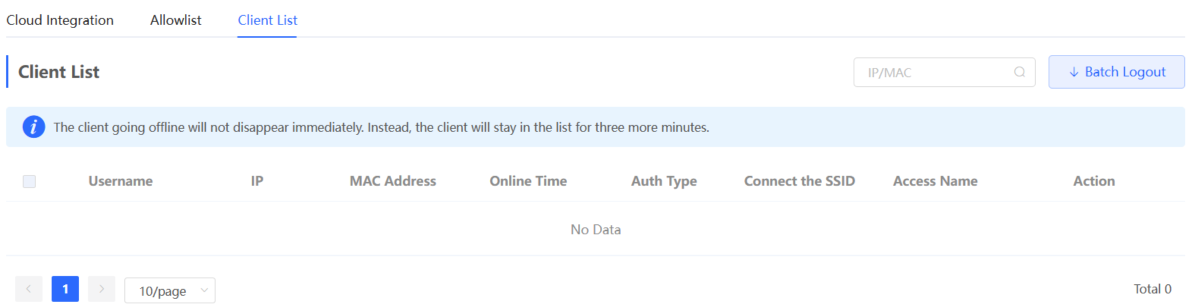


3.26.8 Displaying Authenticated Users on web interface

Choose **Network-Wide** > **Workspace** > **Wireless** > **Wireless Auth** > **Client List** to display authenticated users.

Note

The client going offline will not disappear immediately. Instead, the client will stay on the list for three more minutes.

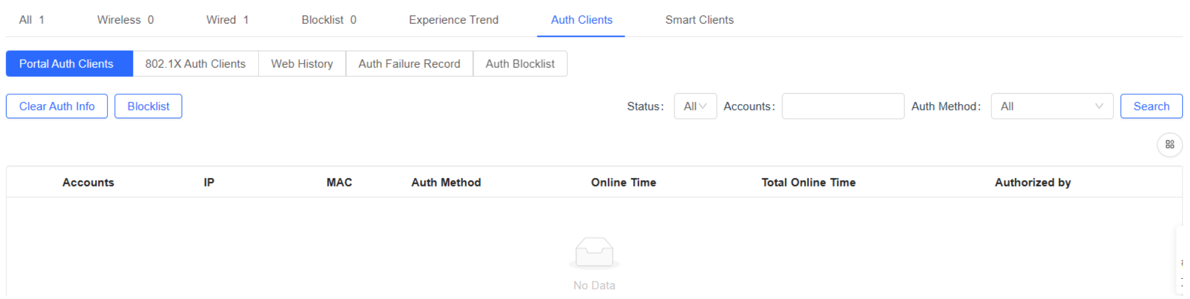


The client going offline will not disappear immediately. Instead, the client will stay in the list for three more minutes.

□	Username	IP	MAC Address	Online Time	Auth Type	Connect the SSID	Access Name	Action
				No Data				

3.26.9 Displaying Authenticated Users on Ruijie Cloud

Log in to Ruijie Cloud, choose **Project** > **Network** > **Clients** > **Auth Clients**, and select a network that needs to display authenticated users.



Status: All Accounts: Auth Method: All

Accounts	IP	MAC	Auth Method	Online Time	Total Online Time	Authorized by
			No Data			

3.27 Configuring 802.1X Authentication

3.27.1 Overview

IEEE 802.1X is a port-based network access control standard that provides secure access services for LANs.

On an IEEE 802 LAN, a user can directly access network resources without authentication and authorization as long as it can connect to a network device. This uncontrolled behavior can bring security risks to the network. The IEEE 802.1X protocol was proposed to address the security issues on an IEEE 802 LAN.

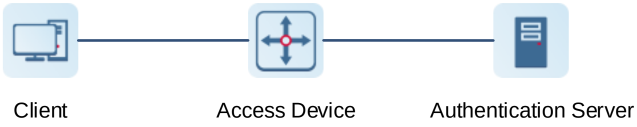
The IEEE 802.1X protocol supports three security applications: Authentication, Authorization, and Accounting, abbreviated as AAA.

- Authentication: Determines whether a user can obtain access, and restricts unauthorized users.
- Authorization: Authorizes services available for authorized users, and controls the permissions of unauthorized users.
- Accounting: Records the usage of network resources by users, and provides a basis for traffic billing.

The 802.1X feature can be deployed on networks to control user authentication, authorization, and more.

An 802.1X network uses a typical client/server architecture, consisting of three entities: client, access device, and authentication server. A typical architecture is shown here.

Figure 3-1 Typical Architecture of 802.1X Network



- The client is usually an endpoint device which can initiate 802.1X authentication through the client software. The client must support the Extensible Authentication Protocol over LANs (EAPoL) on the local area network.
- The access device is usually a network device (AP or switching device) that supports the IEEE 802.1X protocol. It provides an interface for clients to access the local area network, which can be a physical or a logical interface.
- The authentication server can realize user authentication, authorization, and accounting. Usually a RADIUS server is used as the authentication server.

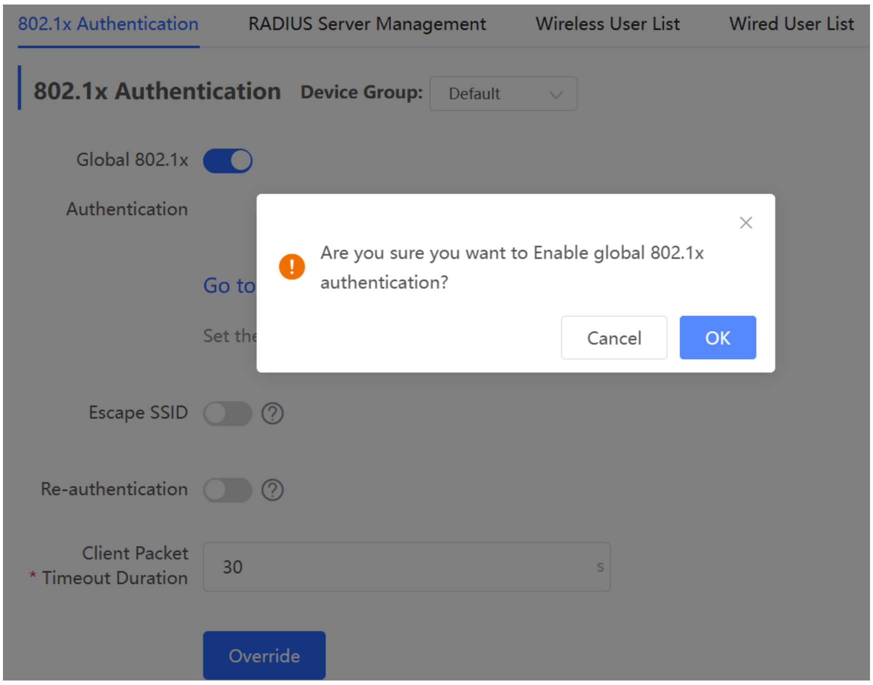
Note

The RG-RAP APs only support the authentication.

3.27.2 Configuring 802.1X Authentication

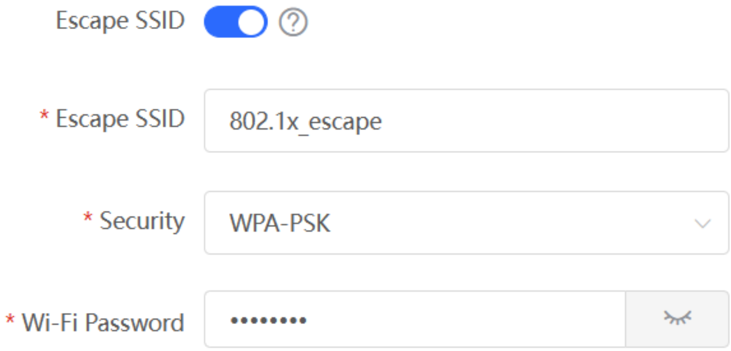
(1) Choose **Network-Wide** > **Workspace** > **Wireless** > **802.1x Authentication**.

(2) Click **Global 802.1x.** A pop-up window is displayed. Click **OK**.



Are you sure you want to Enable global 802.1x authentication?

Enable the **Escape SSID** and configure parameters such as Escape SSID. Users can temporarily connect to the Escape SSID without a password when the authentication server is unavailable.



* Escape SSID: 802.1x_escape

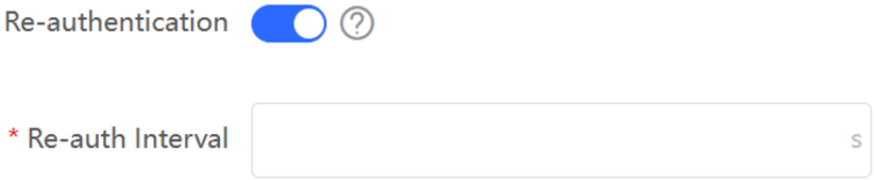
* Security: WPA-PSK

* Wi-Fi Password: ••••••••

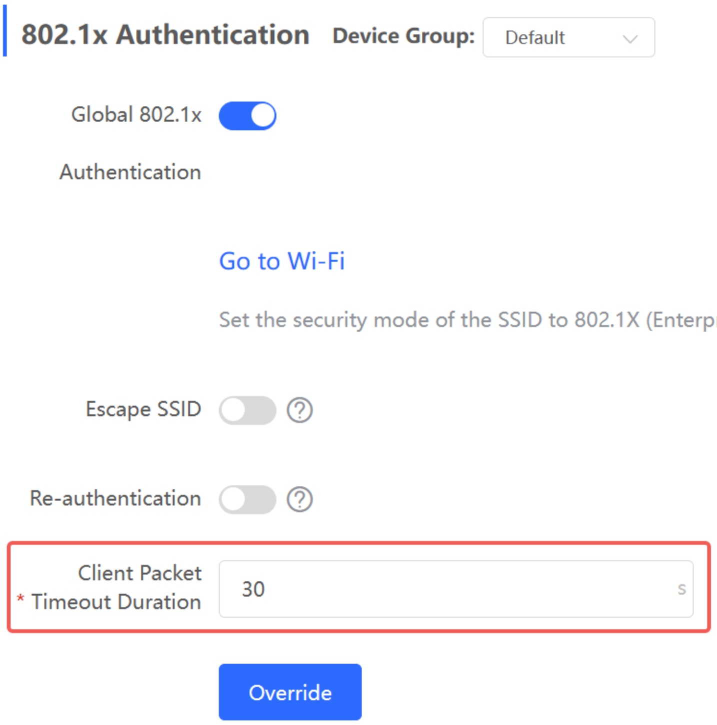
Toggle on **Re-authentication** and set the re-authentication interval. The re-authentication function performs periodic user authentication, and users who do not pass the periodic authentication will be disconnected.

Caution

The re-authentication interval must be set to 10800 seconds or above.



Client Packet Timeout Duration: The time limit for a client to wait for a response from the server. An authentication failure occurs after this time limit expires. The value range is 1 to 65535 seconds.



802.1x Authentication Device Group: Default

Global 802.1x Authentication: On

Go to Wi-Fi

Set the security mode of the SSID to 802.1X (Enterprise).

Escape SSID: Off

Re-authentication: Off

* Client Packet Timeout Duration: 30 s

(3) Add a server.

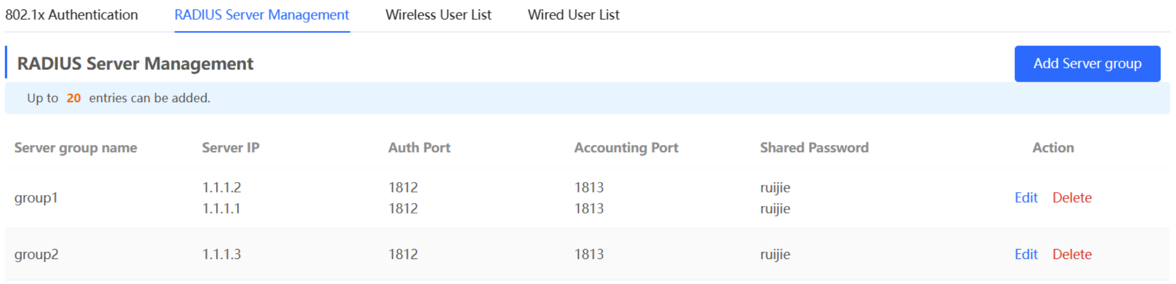
Before proceeding, make sure that the following conditions are met:

- The RADIUS server is ready and the following configurations have been completed.
  - A username and a password have been added for client login.
  - The firewall has been disabled. Otherwise, authentication messages may be blocked, leading to authentication failure.
  - The IP address of the device to be authenticated has been added as a trusted IP address on the RADIUS server.
- The network between the device and the RADIUS server is reachable.
- The IP addresses of the RADIUS server and the device to be authenticated have been obtained.

Click **Add Server group** to configure server group parameters. You can click **Edit** to edit the server group, and click **Delete** to delete the server group.

Note

- You need to add at least one server for each server group, and a maximum of five servers can be added.
- Up to 20 server groups can be added under **RADIUS Server Management**.



802.1x Authentication | RADIUS Server Management | Wireless User List | Wired User List

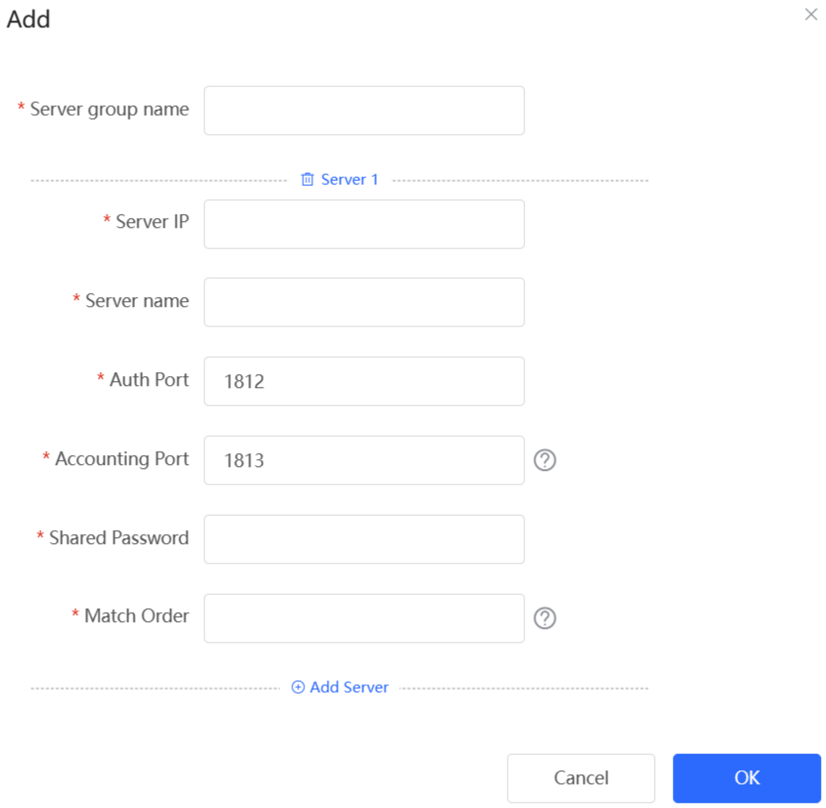
RADIUS Server Management

Add Server group

Up to 20 entries can be added.

Server group name	Server IP	Auth Port	Accounting Port	Shared Password	Action
group1	1.1.1.2 1.1.1.1	1812 1812	1813 1813	ruijie ruijie	Edit Delete
group2	1.1.1.3	1812	1813	ruijie	Edit Delete

You can click ⊕ Add Server to add multiple servers to a server group, and click 🗑 Server to delete a selected server.



Add

* Server group name:

🗑 Server 1

* Server IP:

* Server name:

* Auth Port: 1812

* Accounting Port: 1813

* Shared Password:

* Match Order:

⊕ Add Server

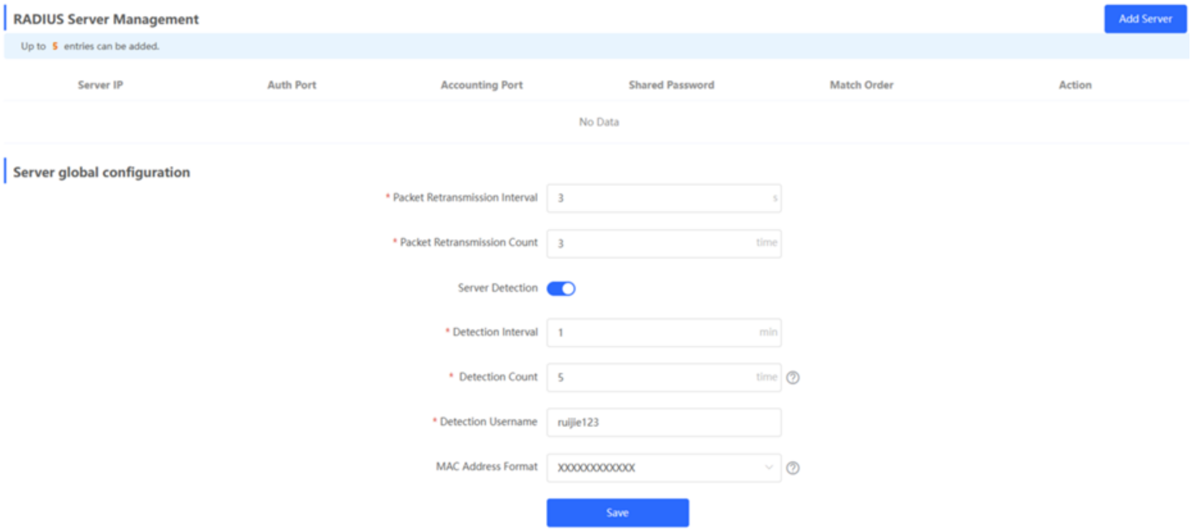
Cancel | OK

Table 3-21 Server Group Configuration Parameters

Parameter	Description
Server group name	Name of RADIUS server group
Server IP	IP address of the RADIUS server.
Server name	Name of RADIUS server
Auth Port	The port number for the RADIUS server to perform user authentication.
Accounting Port	The port number for the RADIUS server to perform user accounting.

Parameter	Description
Shared Password	Shared key of the RADIUS server.
Match Order	The system supports up to five RADIUS servers. A larger value indicates a higher priority.

(4) Configure the server and click **Save**.



RADIUS Server Management

Up to 5 entries can be added.

Server IP	Auth Port	Accounting Port	Shared Password	Match Order	Action
No Data					

Server global configuration

* Packet Retransmission Interval: 3 s

* Packet Retransmission Count: 3 time

Server Detection: on

* Detection Interval: 1 min

* Detection Count: 5 time

* Detection Username: ruijie123

MAC Address Format: XXXXXXXXXXXX

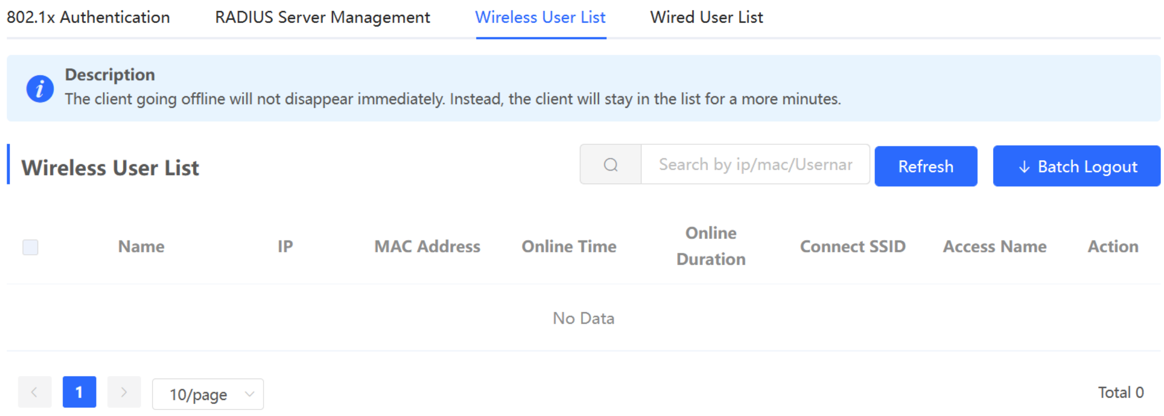
Table 3-22 Server Global Configuration Parameters

Parameter	Description
Packet Retransmission Interval	Configure the interval during which the device sends a request to a RADIUS server before confirming that the RADIUS server is unreachable.
Packet Retransmission Count	Configure the number of times that the device sends requests to a RADIUS server before confirming that the RADIUS server is unreachable.
Server Detection	If this function is enabled, it is necessary to set the server detection cycle, server detection times, and server detection username. Determines the server status and whether to enable functions such as the escape function.
MAC Address Format	Configure the format of the MAC address used in attribute 31 (**Calling-Station-ID**) of a RADIUS message. The following formats are supported: ● Dotted hexadecimal format. For example, 00d0.f8aa.bbcc. ● IETF format. For example: 00-D0-F8-AA-BB-CC. ● Unformatted (default). For example: 00d0f8aabbcc

3.27.3 Viewing Wireless User List

When the 802.1X feature is configured globally, and a client is authenticated and connected to the network in a wireless manner, you can view the client in the **Wireless User List**.

Choose **Network-Wide** > **Workspace** > **Wireless** > **802.1x Authentication** > **Wireless User List**.



Description
The client going offline will not disappear immediately. Instead, the client will stay in the list for a more minutes.

Wireless User List

□	Name	IP	MAC Address	Online Time	Online Duration	Connect SSID	Access Name	Action
				No Data				

Total 0

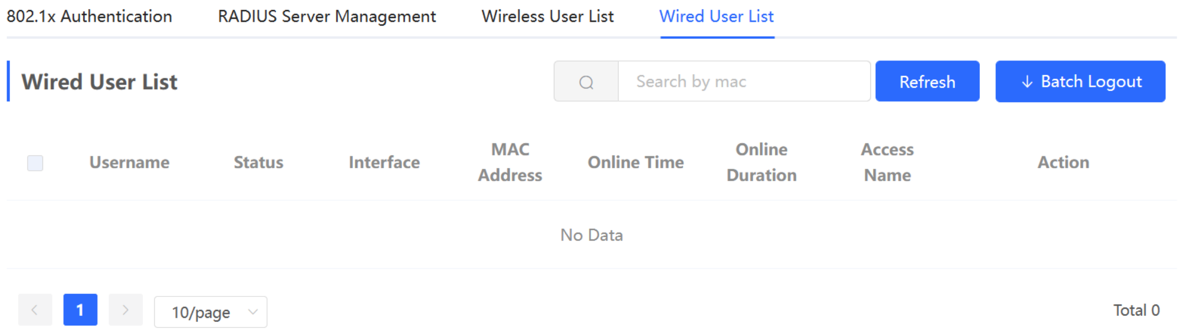
Click **Refresh** to view the latest user list.

If you want to disconnect a user from the network, select the user and click **Logout** under the **Action** column. You can also select multiple users and click **Batch Logout** to disconnect selected users.

3.27.4 Viewing Wired User List

When the 802.1X feature is configured globally, and a client is authenticated and connected to the network in a wired manner, you can view the client in the **Wired User List**.

Choose **Network-Wide** > **Workspace** > **Wireless** > **802.1x Authentication** > **Wired User List.**



Wired User List

□	Username	Status	Interface	MAC Address	Online Time	Online Duration	Access Name	Action
				No Data				

Total 0

Click **Refresh** to view the latest user list.

If you want to disconnect a user from the network, select the user and click **Logout** under the **Action** column. You can also select multiple users and click **Batch Logout** to disconnect selected users.

4 Network Settings

Note

This chapter takes the currently logged in device as an example to describe the entry of each function setting page. If you need to configure other devices in the network, please refer to the following path to enter the configuration page of the corresponding device, and then configure the function: For RG-RAP72Pro, RG-RAP72-Wall and RG-RAP72Pro-OD: Click 2.3 Managing Network Devices.

4.1 Switching Work Mode

4.1.1 Work Mode

See 1.4 Work Mode for details.

4.1.2 Self-Organizing Network Discovery

When setting the work mode, you can set whether to enable the self-organizing network discovery function. This function is enabled by default.

After the self-organizing network discovery function is enabled, the device can be discovered in the network and discover other devices in the network. Devices network with each other based on the device status and synchronize global configuration. You can log in to the Web management page of any device in the network to check information about all devices in the network. After this function is enabled, clients can maintain and manage the current network more efficiently. You are advised to keep this function enabled.

If the self-organizing network discovery function is disabled, the device will not be discovered in the network and it runs in local device mode. After logging in to the Web page, you can configure and manage only the currently logged in device. If only one device is configured or global configuration does not need to be synchronized to the device, you can disable the self-organizing network discovery function.

4.1.3 Configuration Steps

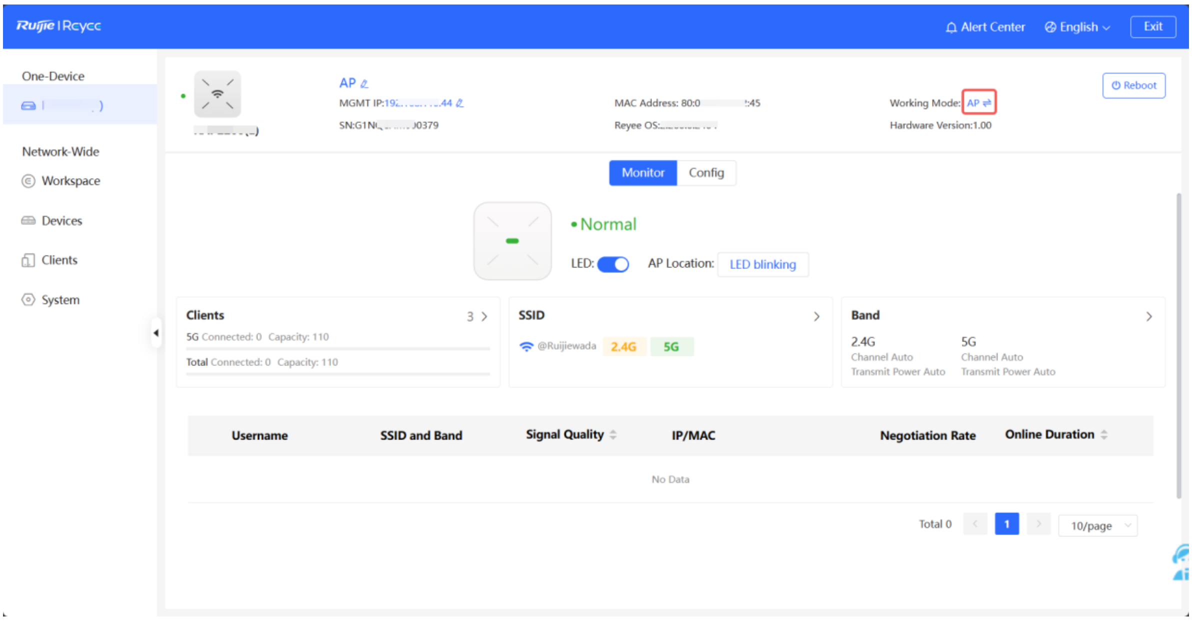
Note

If you need to switch the work mode to wireless bridging mode, please see 4.5.2 Wireless Repeater for details.

Go to the configuration page:

- Method 1: Choose **One-Device**. Click the device model.
- Method 2: Choose **Network-Wide** > **Devices** > **AP**. Select the target device in the list and click **Manage**.

Click the current work mode to change the work mode.



AP

MAC Address: 80:0

Working Mode: AP

Hardware Version:1.00

Normal

LED: ●

AP Location: LED blinking

Clients 3
5G Connected: 0 Capacity: 110
Total Connected: 0 Capacity: 110

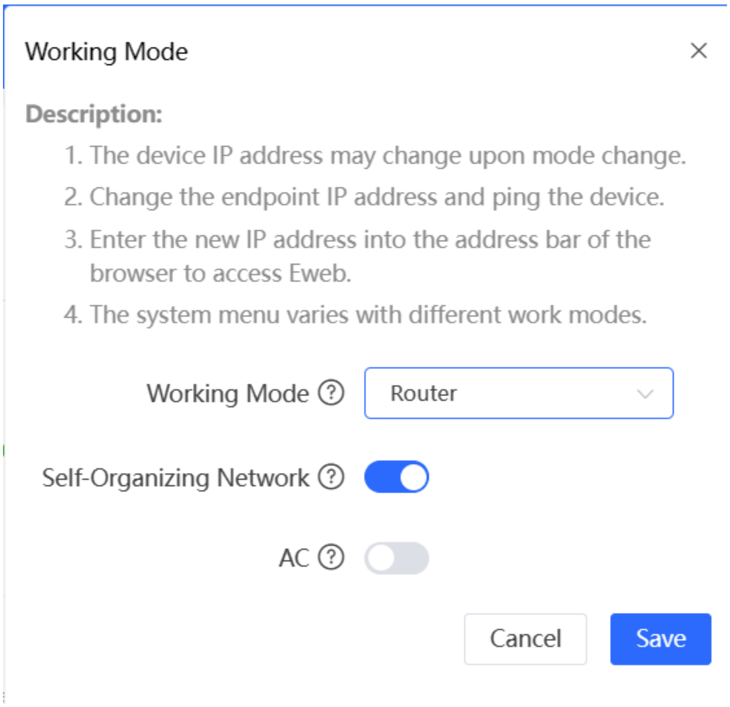
SSID
@Ruijiewada 2.4G 5G

Band
2.4G Channel Auto Transmit Power Auto
5G Channel Auto Transmit Power Auto

Username	SSID and Band	Signal Quality	IP/MAC	Negotiation Rate	Online Duration
No Data					

Total 0 1 10/page

AC function switch: If a device works in the router mode and the self-organizing network discovery function is enabled, you can enable or disable the AC function. After the AC function is enabled, the device in the router mode supports the virtual AC function and can manage downlink devices. If this function is disabled, the device needs to be elected as an AC in self-organizing network mode and then manage downlink devices.



Working Mode

Description:

1. The device IP address may change upon mode change.
2. Change the endpoint IP address and ping the device.
3. Enter the new IP address into the address bar of the browser to access Eweb.
4. The system menu varies with different work modes.

Working Mode: Router

Self-Organizing Network: ●

AC: ○

Caution

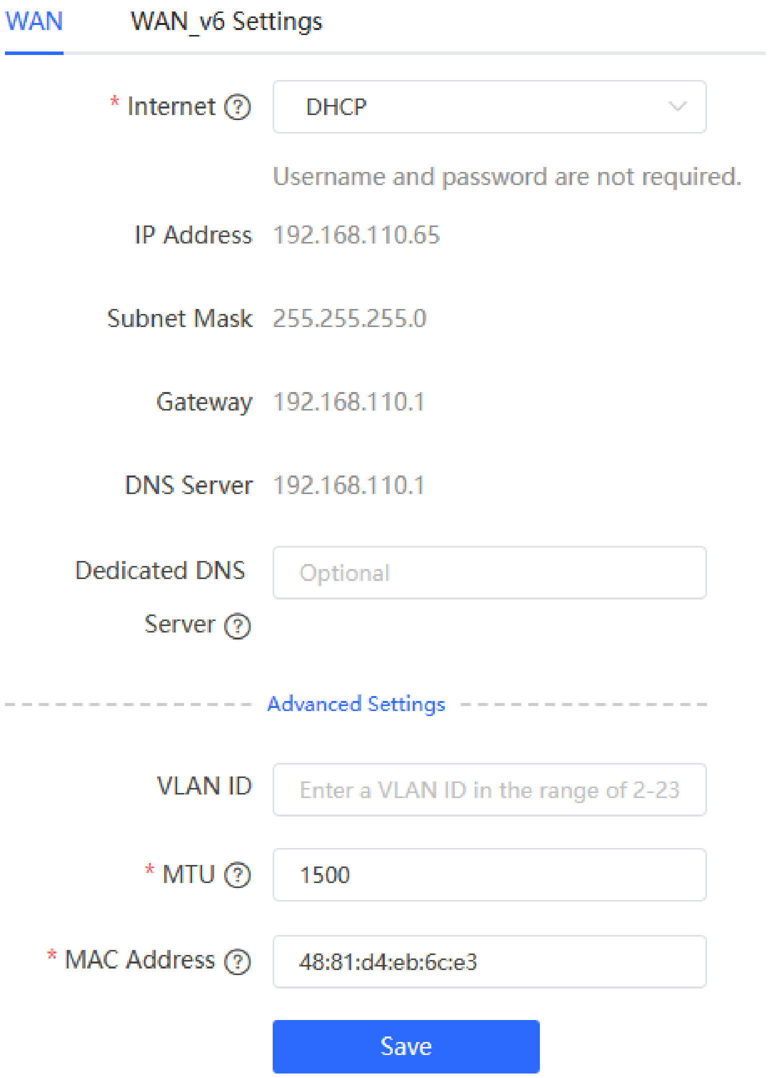
After the self-organizing network discovery is enabled, you can check the role of the device in self-organizing network mode.

4.2 Configuring Internet Connection Type (IPv4)

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network** > **WLAN** > **WAN.**
- Method 2: Choose **Network-Wide** > **Workspace** > **Wired** > **WAN** > **WAN**.

Select the Internet connection type after confirming with the ISP. For detailed configuration, see 1.5 Configuration Wizard (Router Mode). After completing the configuration, click **Save**.



* Internet: DHCP

Username and password are not required.

IP Address: 192.168.110.65

Subnet Mask: 255.255.255.0

Gateway: 192.168.110.1

DNS Server: 192.168.110.1

Dedicated DNS Server: Optional

VLAN ID: Enter a VLAN ID in the range of 2-23

* MTU: 1500

* MAC Address: 48:81:d4:eb:6c:e3

The device supports the following Internet connection types:

- **PPPoE**: This Internet connection type is supported only when the device works in routing mode. You need to manually configure the PPPoE username and password.
- **DHCP**: The current device will act as a DHCP client and apply for the IPv4 address/prefix from the upstream network device.
- **Static IP**: If this Internet connection type is selected, you need to manually configure a static IPv4 address, subnet mask, gateway address, and DNS server.

4.3 Configuring Internet Connection Type (IPv6)

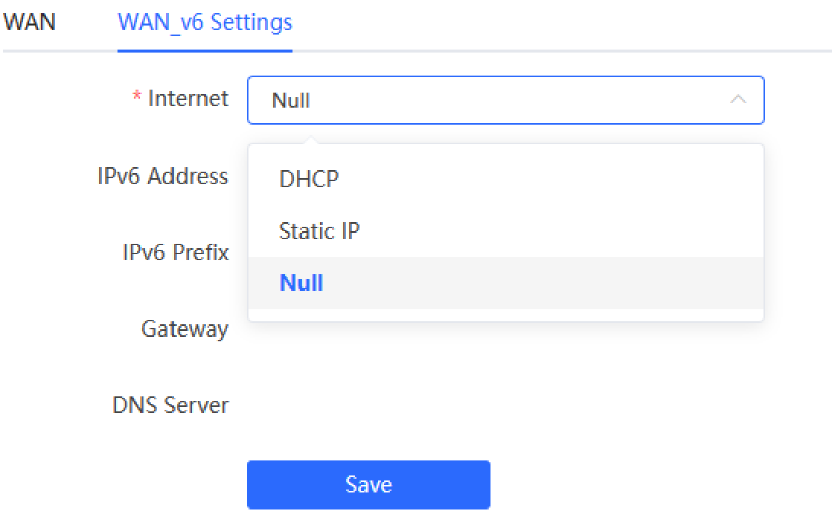
⚠ **Caution**

This function is supported when the device works in AP mode.

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network** > **WLAN** > **WAN_V6 Settings.**
- Method 2: Choose **Network-Wide** > **Workspace** > **Wired** > **WAN** > **WAN_V6 Settings**.

Select the Internet connection type after confirming with the ISP. After completing the configuration, click **Save**.



The device supports the following Internet connection types:

- **DHCP**: The current device will act as a DHCPv6 client and apply for the IPv6 address/prefix from the upstream network device.
- **Static IP**: If this Internet connection type is selected, you need to manually configure a static IPv6 address, gateway address, and DNS server.
- **Null**: The IPv6 function is disabled on the current WAN port.

4.4 Configuring LAN Port

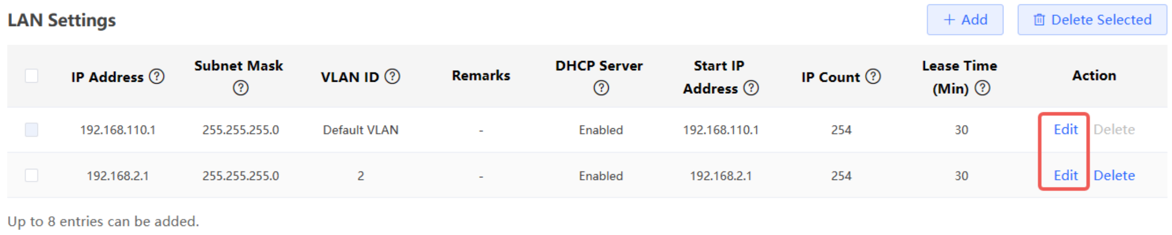
⚠ **Caution**

This function is not supported when the device works in AP mode.

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network** > **LAN** > **LAN Settings.**
- Method 2: Choose **Network-Wide** > **Workspace** > **Wired** > **LAN** > **LAN Settings**.

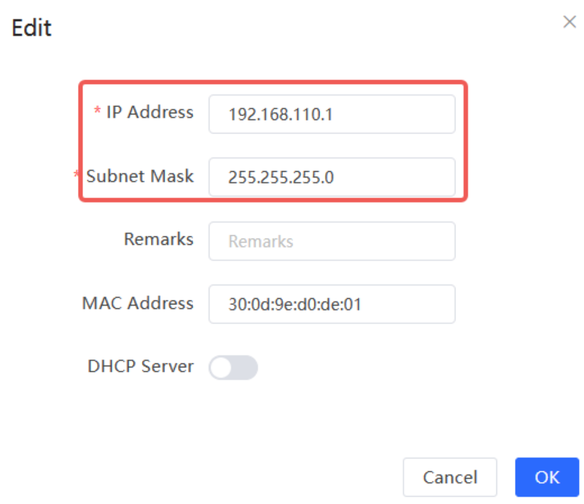
Click **Edit**. In the displayed dialog box, enter the IP address and subnet mask, and click **OK**. Change the IP address of the LAN port. Enter the new IP address in the browser and log in to the device again to configure and manage the device.



LAN Settings

□	IP Address	Subnet Mask	VLAN ID	Remarks	DHCP Server	Start IP Address	IP Count	Lease Time (Min)	Action
□	192.168.110.1	255.255.255.0	Default VLAN	-	Enabled	192.168.110.1	254	30	Edit Delete
□	192.168.2.1	255.255.255.0	2	-	Enabled	192.168.2.1	254	30	Edit Delete

Up to 8 entries can be added.



Edit

* IP Address: 192.168.110.1

* Subnet Mask: 255.255.255.0

Remarks: Remarks

MAC Address: 30:0d:9e:d0:de:01

DHCP Server: ○

Table 4-1 LAN Settings

Parameter	Description
IP Address	Default gateway for devices connected to the Internet through this LAN.
Subnet Mask	Subnet mask of devices on the LAN.
VLAN ID	VLAN ID.
Remarks	VLAN description.
DHCP Server	After this function is enabled, devices on the LAN can automatically obtain the IP address. You need to configure the start IP address, IP count and lease time, as well as DHCP server options. For details, see4.10 Configuring DHCP Server
Start IP Address	Start IP address that a DHCP server automatically assigns to clients. The start IP address must be within the network segment calculated based on the IP address and subnet mask.
IP Count	The number of assignable IP addresses depends on the LAN segment and the start IP address.

Parameter	Description
Lease Time (Min)	Lease time of the automatically assigned IP addresses. When the lease time expires, devices on the LAN will obtain IP addresses again.

4.5 Configuring Repeater Mode

4.5.1 Wired Repeater

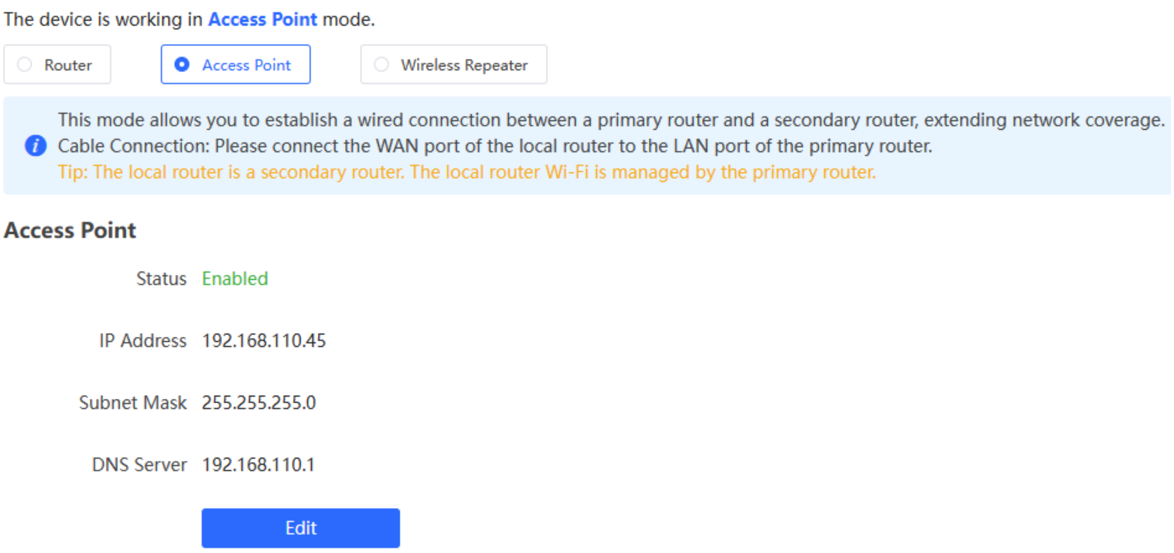
Choose **One-Device**. Click the device mode, and then choose **Config** > **Network** > **Work Mode**.

Connect a network cable from the WAN port (uplink LAN port) of the device to the upper-layer device.

Select **Access Point**, click **Check**, confirm the Wi-Fi settings of the AP, and then click **Save** to expand the network coverage.

⚠ **Caution**

After the configuration is saved, connected clients will be disconnected from the network for a short period of time. You can reconnect the clients to the Wi-Fi network for restoration.



The device is working in **Access Point** mode.

○ Router ● Access Point ○ Wireless Repeater

This mode allows you to establish a wired connection between a primary router and a secondary router, extending network coverage.
Cable Connection: Please connect the WAN port of the local router to the LAN port of the primary router.
Tip: The local router is a secondary router. The local router Wi-Fi is managed by the primary router.

Access Point

Status: Enabled

IP Address: 192.168.110.45

Subnet Mask: 255.255.255.0

DNS Server: 192.168.110.1

4.5.2 Wireless Repeater

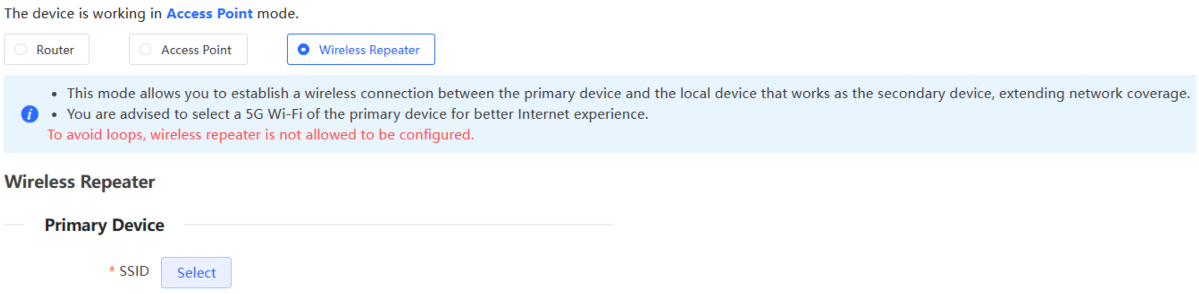
The wireless repeater mode extends the Wi-Fi coverage range of the primary device. The device supports the dual-link wireless repeater mode and can extend both 2.4 GHz and 5 GHz signals of the primary device.

Note

- To avoid loops in wireless repeater mode, remove the network cable from the WAN port.
- Obtain the Wi-Fi name and Wi-Fi password of the upper-layer router.

Choose One-Device. Click the device mode, and then choose **Config** > **Network** > **Work Mode**.

Click **Wireless Repeater** and then click **Select**. A list of surrounding Wi-Fi signals pops up. A list of nearby 5 GHz Wi-Fi networks is displayed by default. You can switch from 5 GHz to 2.4 GHz band by selecting **2.4G** from the drop-down list box. You are advised to select a strong 5 GHz Wi-Fi network signal.



The device is working in **Access Point** mode.

○ Router ○ Access Point ● Wireless Repeater

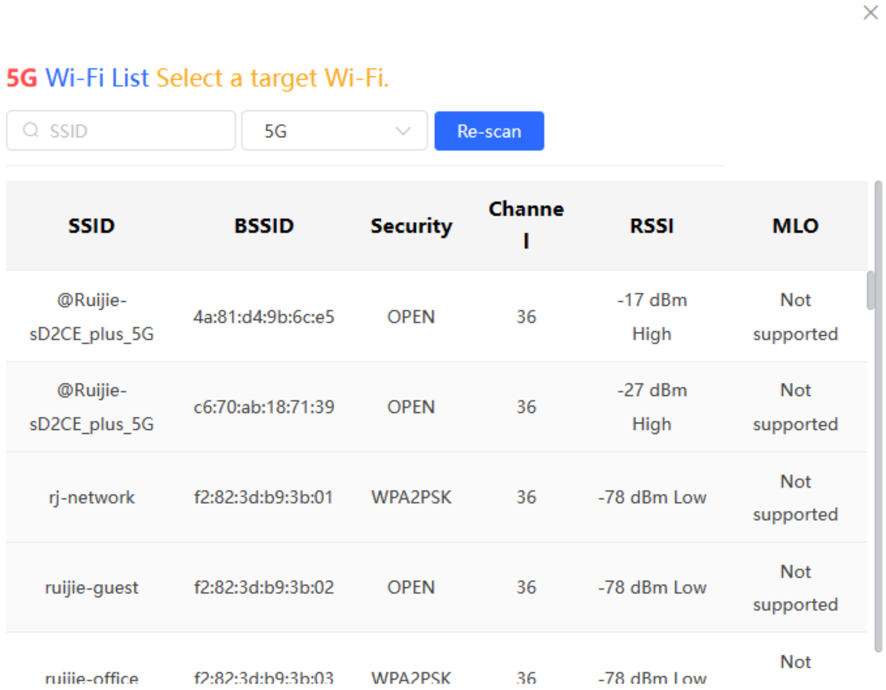
- This mode allows you to establish a wireless connection between the primary device and the local device that works as the secondary device, extending network coverage.
- You are advised to select a 5G Wi-Fi of the primary device for better Internet experience.

To avoid loops, wireless repeater is not allowed to be configured.

Wireless Repeater

Primary Device

* SSID Select



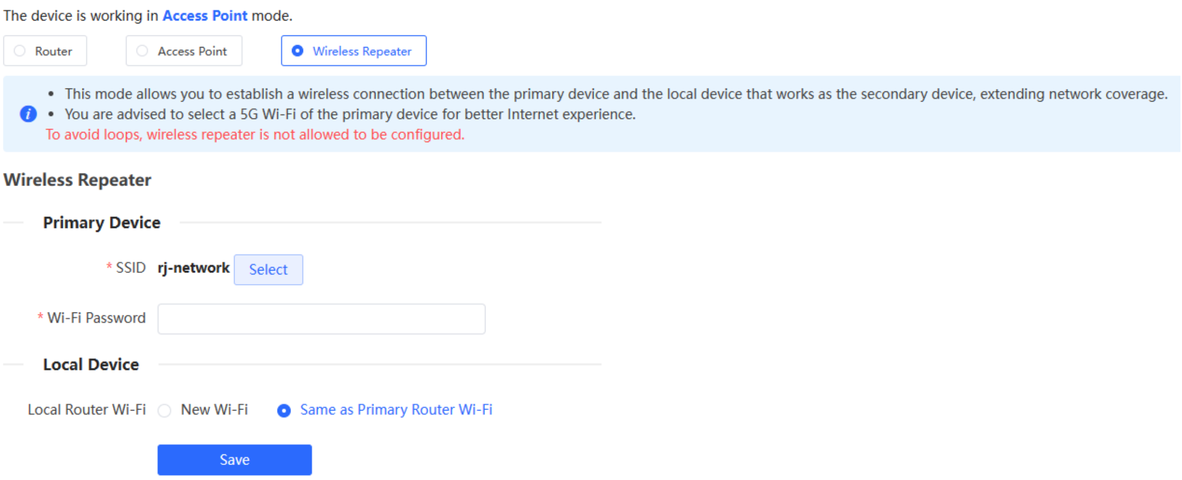
5G Wi-Fi List Select a target Wi-Fi.

SSID	BSSID	Security	Channel	RSSI	MLO
@Ruijie-sD2CE_plus_5G	4a:81:d4:9b:6c:e5	OPEN	36	-17 dBm High	Not supported
@Ruijie-sD2CE_plus_5G	c6:70:ab:18:71:39	OPEN	36	-27 dBm High	Not supported
rj-network	f2:82:3d:b9:3b:01	WPA2PSK	36	-78 dBm Low	Not supported
ruijie-guest	f2:82:3d:b9:3b:02	OPEN	36	-78 dBm Low	Not supported
ruijie-office	f2:82:3d:b9:3b:03	WPA2PSK	36	-78 dBm Low	Not

(1) Select the Wi-Fi signal of the upper-layer device that you want to extend. The configuration items of the local device are displayed. If the signal of the upper-layer device is encrypted, enter the Wi-Fi password of the upper-layer device.

(2) Configure Local Router Wi-Fi. You can select New Wi-Fi or Same as Primary Router Wi-Fi.

- If you select **Same as Primary Router Wi-Fi**, the Wi-Fi settings of the router are automatically synchronized with those on the primary router. Generally, clients merge Wi-Fi signals with the same name into one Wi-Fi signal, and they can search out only the Wi-Fi signal of the primary router.



The device is working in **Access Point** mode.

○ Router ○ Access Point ● Wireless Repeater

- This mode allows you to establish a wireless connection between the primary device and the local device that works as the secondary device, extending network coverage.
- You are advised to select a 5G Wi-Fi of the primary device for better Internet experience.

To avoid loops, wireless repeater is not allowed to be configured.

Wireless Repeater

Primary Device

* SSID **rj-network** Select

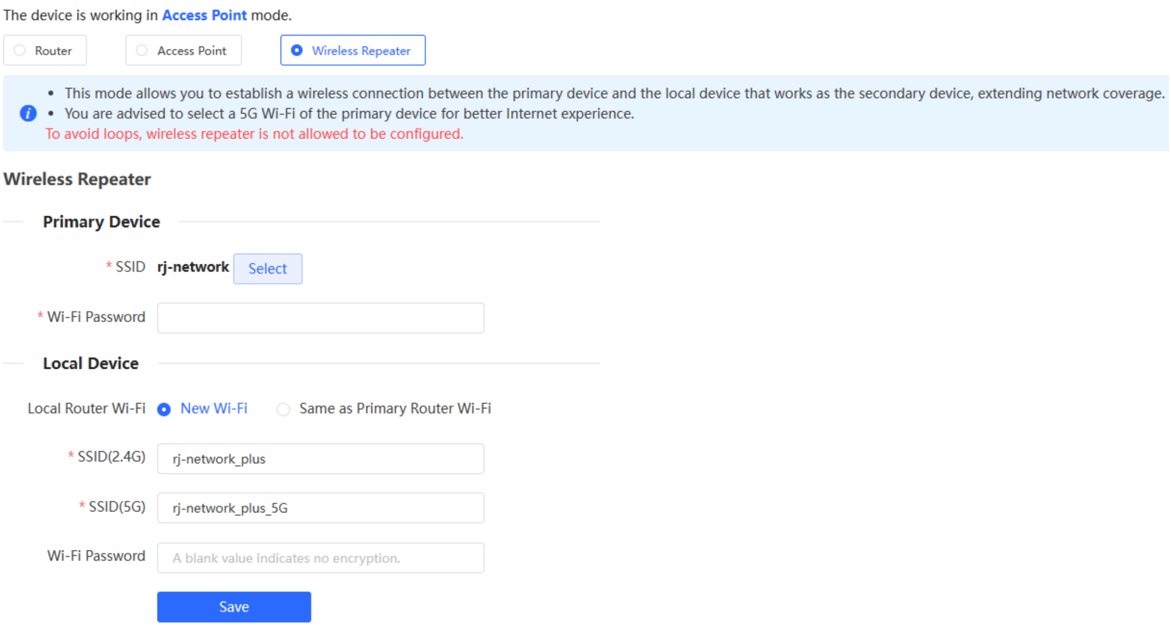
* Wi-Fi Password

Local Device

Local Router Wi-Fi ○ New Wi-Fi ● Same as Primary Router Wi-Fi

Save

- If **New Wi-Fi** is selected, you can set a local Wi-Fi name and password. Clients will search out different Wi-Fi signals.



The device is working in **Access Point** mode.

○ Router ○ Access Point ● Wireless Repeater

- This mode allows you to establish a wireless connection between the primary device and the local device that works as the secondary device, extending network coverage.
- You are advised to select a 5G Wi-Fi of the primary device for better Internet experience.

To avoid loops, wireless repeater is not allowed to be configured.

Wireless Repeater

Primary Device

* SSID **rj-network** Select

* Wi-Fi Password

Local Device

Local Router Wi-Fi ● New Wi-Fi ○ Same as Primary Router Wi-Fi

* SSID(2.4G) rj-network_plus

* SSID(5G) rj-network_plus_5G

Wi-Fi Password A blank value indicates no encryption.

Save

Caution

- After the configuration is saved, the AP will be disconnected from the Wi-Fi network and needs to connect to the new Wi-Fi network. Exercise caution when performing this operation. Record the new Wi-Fi name and password.
- You are advised to install the AP in a position where the RSSI is greater than two bars of signal to prevent signal loss. If the signal at the installation position is too weak, the Wi-Fi extension may fail or the quality of extended signal may be poor.

4.6 Creating a VLAN

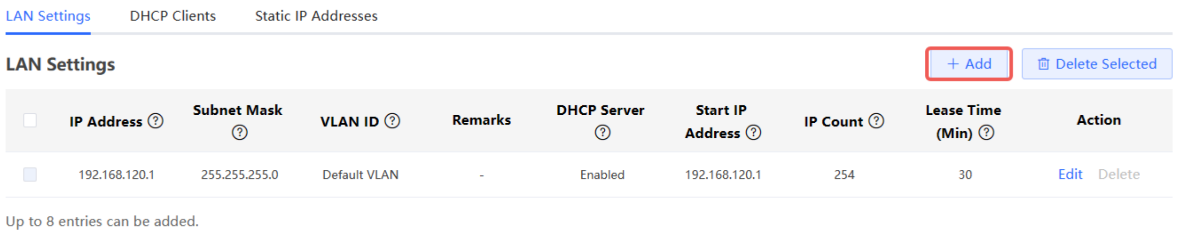
Caution

This function is not supported when the device works in AP mode.

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network > LAN > LAN Settings**.
- Method 2: Choose **Network-Wide > Workspace > Wired > LAN > LAN Settings**.

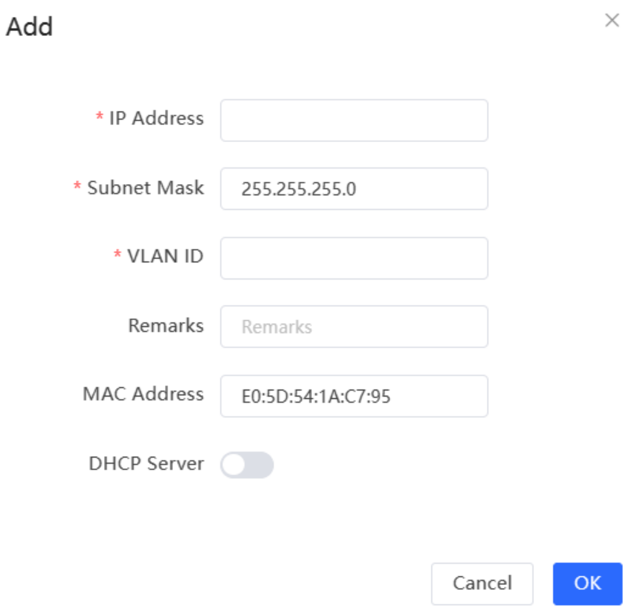
A LAN can be classified into multiple VLANs. Click **Add** to create a VLAN.



LAN Settings

□	IP Address ?	Subnet Mask ?	VLAN ID ?	Remarks	DHCP Server ?	Start IP Address ?	IP Count ?	Lease Time (Min) ?	Action
□	192.168.120.1	255.255.255.0	Default VLAN	-	Enabled	192.168.120.1	254	30	Edit Delete

Up to 8 entries can be added.



* IP Address	
* Subnet Mask	255.255.255.0
* VLAN ID	
Remarks	Remarks
MAC Address	E0:5D:54:1A:C7:95
DHCP Server	○

Table 4-2 VLAN Configuration Parameters

Parameter	Description
IP Address	IP address of the VLAN interface. The default gateway of devices that access the Internet through the current LAN should be set to this IP address.
Subnet Mask	Subnet mask of the IP address of the VLAN interface.
VLAN ID	VLAN ID.
Remark	VLAN description.
MAC	MAC address of the VLAN interface.

Parameter	Description
DHCP Server	Enable the DHCP server function. After it is enabled, devices on the LAN can automatically obtain IP addresses. After the DHCP service is enabled, you need to configure the start IP address to be assigned, number of IP addresses to be assigned, and address lease term for the DHCP server, and other DHCP server options. For details, see 4.10 Configuring DHCP Server.

Caution

VLAN configuration is associated with the configuration of the uplink device. Therefore, refer to the configuration of the uplink device when configuring a VLAN.

4.7 Configuring Port VLAN

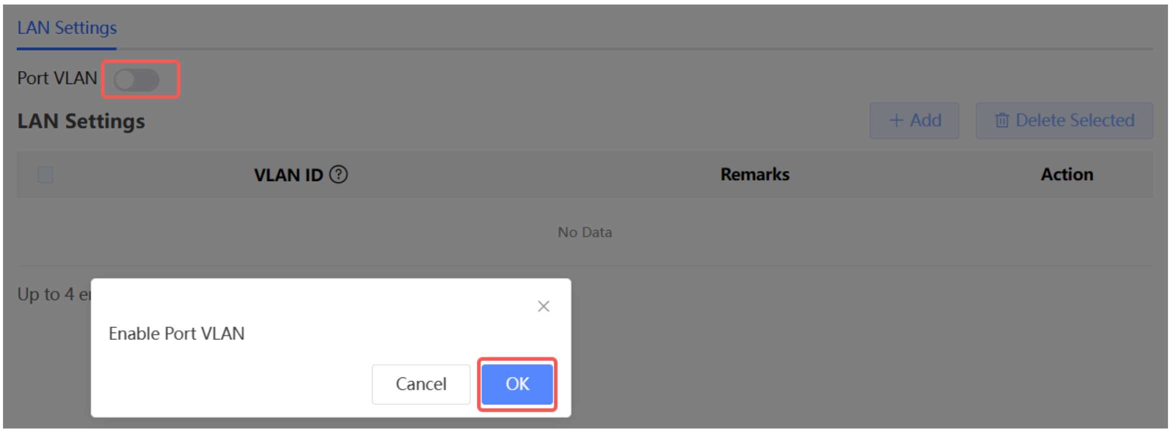
Caution

The port VLAN can be configured only when the device works in AP mode.

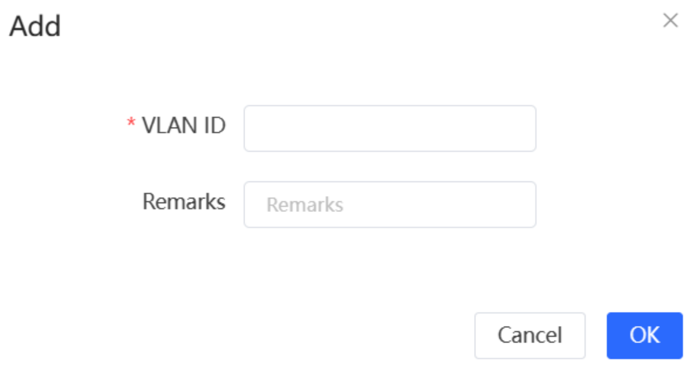
Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network > LAN > LAN Settings**.
- Method 2: Choose **Network-Wide > Workspace > Wired > LAN > LAN Settings**.

(1) On the **LAN Settings** tab page, turn on **Port VLAN**, and click **OK** in the confirmation dialog box.



(2) Click **Add**. Enter the VLAN ID and description, and click **OK** to create a VLAN. The added VLAN is used to set the VLAN, to which a port belongs.

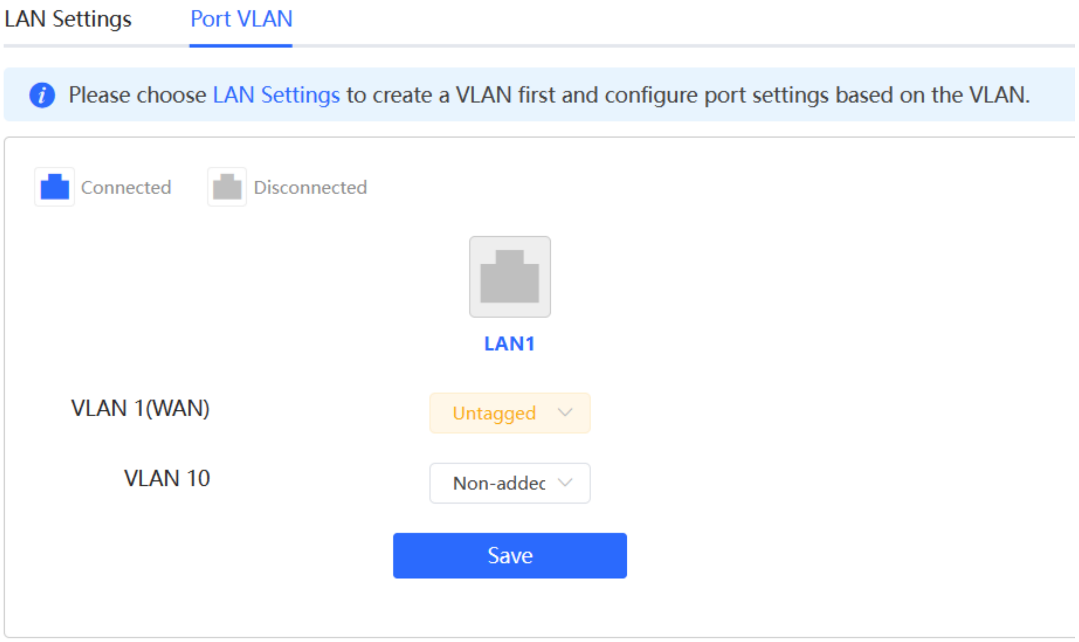

Add

* VLAN ID

Remarks: Remarks

(3) Switch to the **Port VLAN** tab page and configure VLANs for the port. Click the option box below the port, select the mapping between a VLAN and the port from the drop-down list box, and click **Save**.

- **Untagged**: Configure the VLAN as the native VLAN of the port. That is, when receiving a packet from this VLAN, the port removes the VLAN tag from the packet and forwards the packet. When receiving an untagged packet, the port adds the VLAN tag to the packet and forwards the packet through the VLAN. Only one VLAN can be configured as an untagged VLAN on each port.
- **Tagged**: Configure the VLAN as an allowed VLAN of the port, but the VLAN cannot be the native VLAN. That is, VLAN packets carry the original VLAN tag when they are forwarded by the port.
- **Non-added**: Configure the port not to allow packets from this VLAN to pass through. For example, if VLAN 10 and VLAN 20 are not added to port 2, port 2 will neither receive nor send packets from or to VLAN 10 and VLAN 20.


LAN Settings Port VLAN

Please choose LAN Settings to create a VLAN first and configure port settings based on the VLAN.

VLAN 1(WAN): Untagged

VLAN 10: Non-addec

4.8 Changing MAC Address

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network > WAN > WAN**.

- Method 2: Choose **Network-Wide > Workspace > Wired > WAN > WAN**.

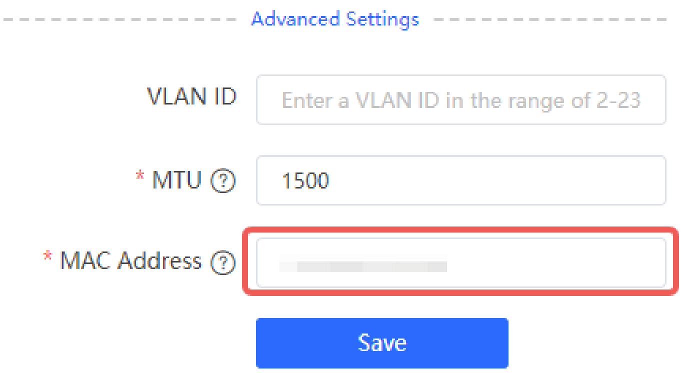
ISPs may restrict the access of devices with unknown MAC addresses to the Internet for the sake of security. In this case, you can change the MAC address of the WAN port.

Click to expand **Advanced Settings**, enter the MAC address, and click **Save**. You do not need to change the default MAC address unless in special cases.

In the router mode, change the MAC address of the LAN port on **LAN > LAN Settings**.

Caution

Changing the MAC address will disconnect the device from the network. You need to reconnect the device to the network or restart the device. Therefore, exercise caution when performing this operation.



Advanced Settings

VLAN ID: Enter a VLAN ID in the range of 2-23

* MTU: 1500

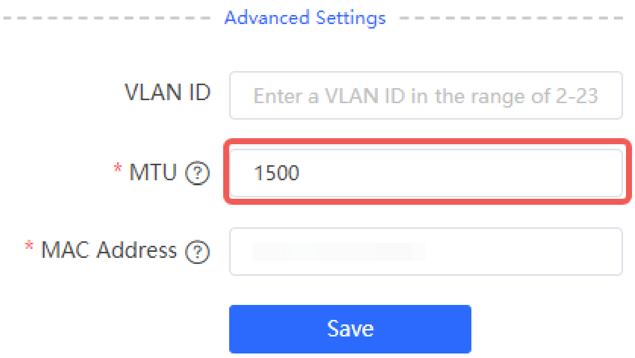
* MAC Address:

4.9 Changing MTU

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network > WAN > WAN**.
- Method 2: Choose **Network-Wide > Workspace > Wired > WAN > WAN**.

WAN interface MTU indicates the maximum transmission unit (MTU) allowed by the WAN interface. The default value is 1500 bytes, indicating the maximum data forwarding efficiency. Sometimes, ISP networks restrict the speed of large data packets or forbid large data packets from passing through. As a result, the network speed is unsatisfactory or even the network is disconnected. In this case, you can set the MTU value to a smaller value.



Advanced Settings

VLAN ID: Enter a VLAN ID in the range of 2-23

* MTU: 1500

* MAC Address:

4.10 Configuring DHCP Server

⚠ **Caution**

This function is not supported when the device works in AP mode.

4.10.1 DHCP Server

In the router mode, the DHCP server function can be enabled on the device to automatically assign IP addresses to clients so that clients connected to the LAN ports or Wi-Fi network of the device obtain IP addresses for Internet access.

4.10.2 Configuring the DHCP Server Function

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network > LAN > LAN Settings**.
- Method 2: Choose **Network-Wide > Workspace > Wired > LAN > LAN Settings**.

DHCP Server: The DHCP server function is enabled by default in the router mode. You are advised to enable the function if the device is used as the sole router in the network. When multiple routers are connected to the upper-layer device through LAN ports, disable this function.

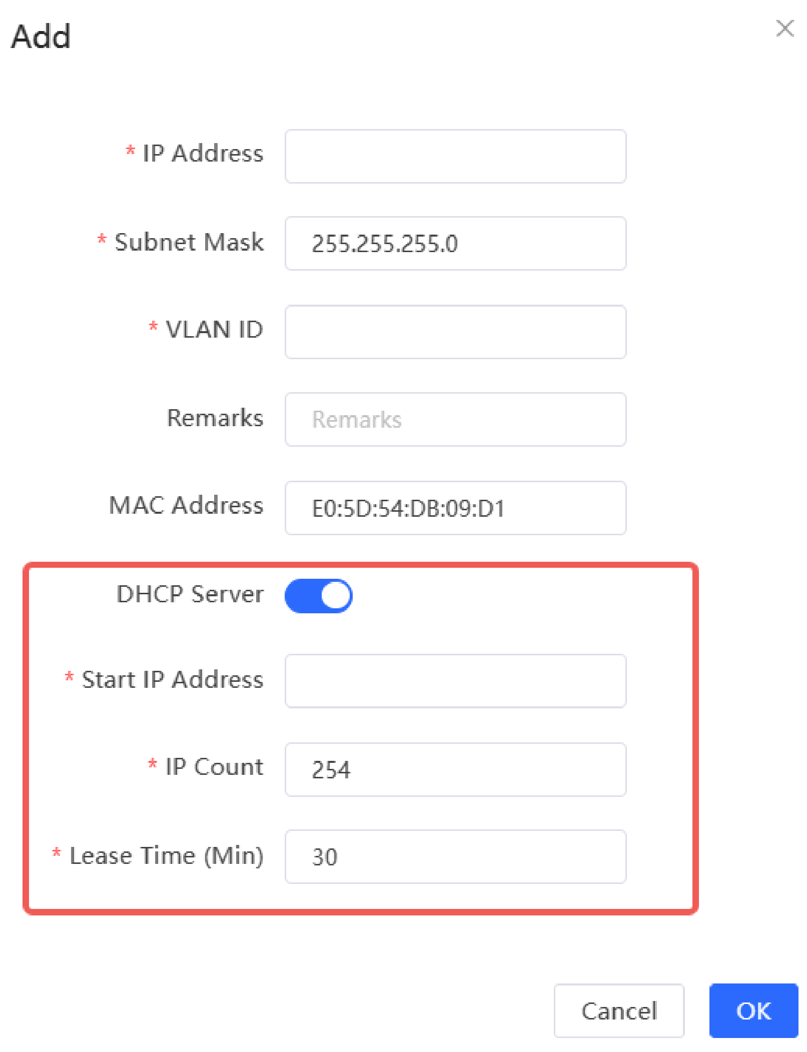
⚠ **Caution**

If the DHCP server function is disabled on all devices in the network, clients cannot automatically obtain IP addresses. You need to enable the DHCP server function on one device or manually configure a static IP address for each client for Internet access.

Start: Enter the start IP address of the DHCP address pool. A client obtains an IP address from the address pool. If all the addresses in the address pool are used up, no IP address can be obtained from the address pool.

IP Count: Enter the number IP addresses in the address pool.

Lease Time(Min): Enter the address lease term. When a client is connected, the leased IP address is automatically renewed. If a leased IP address is not renewed due to client disconnection or network instability, the IP address will be reclaimed after the lease term expires. After the client connection is restored, the client can request an IP address again. The default lease term is 30 minutes.



Add

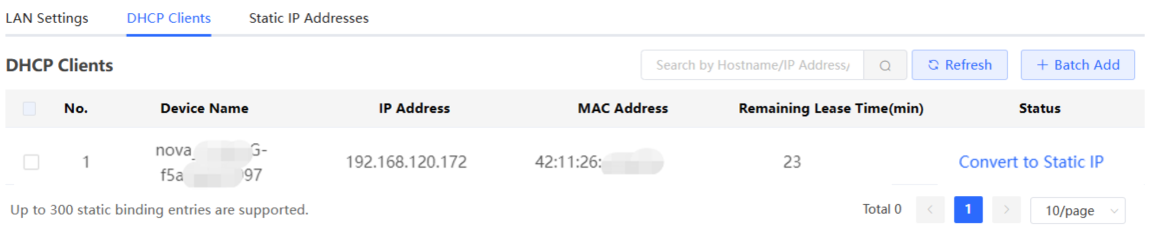
* IP Address	
* Subnet Mask	255.255.255.0
* VLAN ID	
Remarks	Remarks
MAC Address	E0:5D:54:DB:09:D1
DHCP Server	●
* Start IP Address	
* IP Count	254
* Lease Time (Min)	30

4.10.3 Displaying Online DHCP Clients

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network > LAN > DHCP Clients**.
- Method 2: Choose **Network-Wide > Workspace > Wired > LAN > DHCP Clients**.

Check information about an online client. Click **Convert to Static IP**. Then, the static IP address will be obtained each time the client connects to the network.



DHCP Clients

□	No.	Device Name	IP Address	MAC Address	Remaining Lease Time(min)	Status
□	1	nova_[redacted]G- f5a[redacted]97	192.168.120.172	42:11:26:[redacted]	23	Convert to Static IP

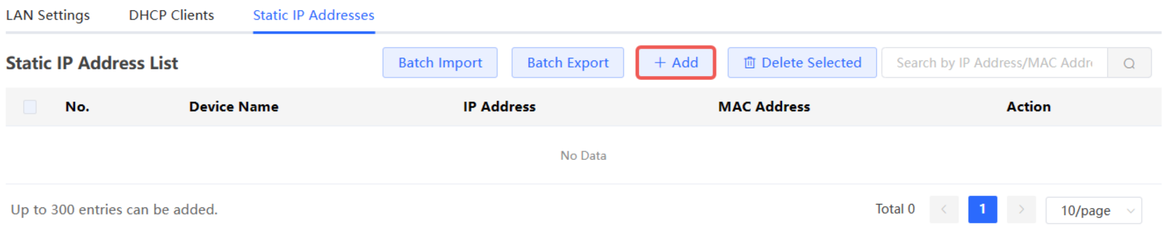
Up to 300 static binding entries are supported.

4.10.4 Displaying the DHCP Static IP Address List

Go to the configuration page:

- Method 1: Choose **One-Device** > **Config** > **Network > LAN > Static IP Addresses**.
- Method 2: Choose **Network-Wide > Workspace > Wired > LAN > Static IP Addresses**.

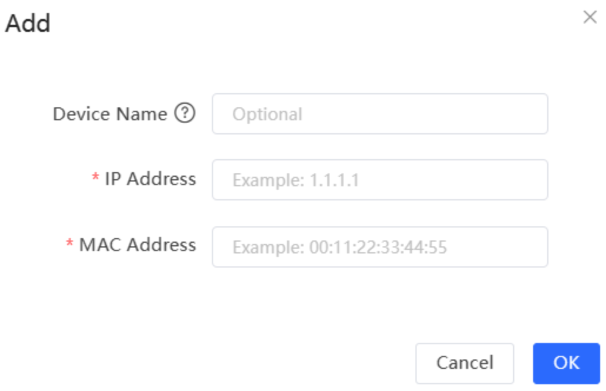
Click **Add**. In the displayed static IP address binding dialog box, enter the MAC address and IP address of the client to be bound, and click **OK**. After a static IP address is bound, the bound IP address will be obtained each time the client connects to the network.



□	No.	Device Name	IP Address	MAC Address	Action

No Data

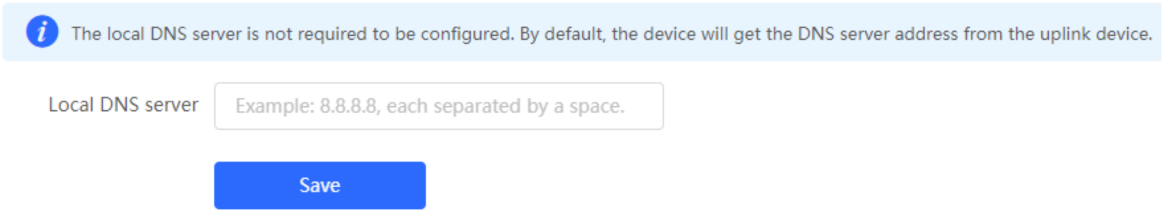
Up to 300 entries can be added.



4.11 Configuring DNS

Choose **One-Device** > **Config** > **Advanced** > **Local DNS**.

Enter the IP address of the DNS server and click **Save**. The local DNS server is optional. The device obtains the DNS server address from the connected uplink device by default. The default configuration is recommended. The available DNS service varies from region to region. You can consult the local ISP.

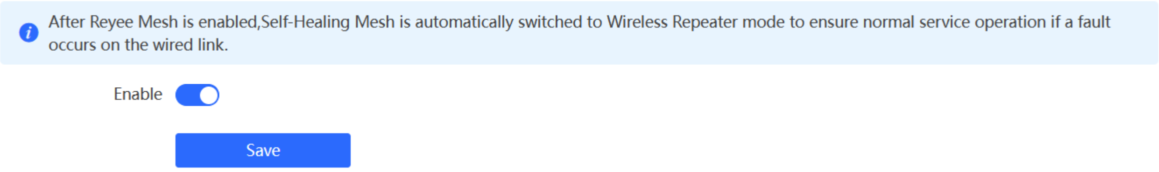


The local DNS server is not required to be configured. By default, the device will get the DNS server address from the uplink device.

4.12 Configuring Self-Healing Mesh

Choose **One-Device** > **Config** > **Advanced** > **Self-Healing Mesh**.

After Reyee Mesh is enabled, Self-Healing Mesh is automatically switched to Wireless Repeater mode to ensure normal service operation if a fault occurs on the wired link.



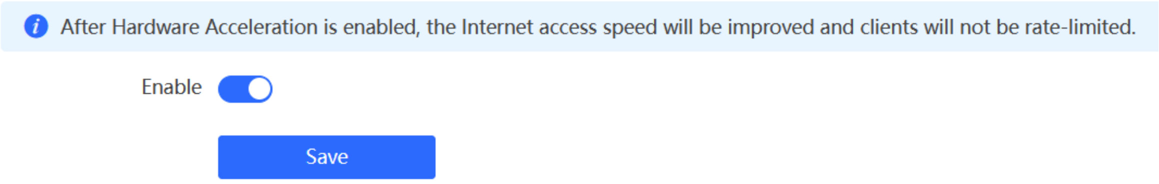
After Reyee Mesh is enabled,Self-Healing Mesh is automatically switched to Wireless Repeater mode to ensure normal service operation if a fault occurs on the wired link.

Enable

4.13 Hardware Acceleration

Choose **One-Device** > **Config** > **Advanced** > **Hardware Acceleration**.

After Hardware acceleration is enabled, the Internet access speed will be improved.



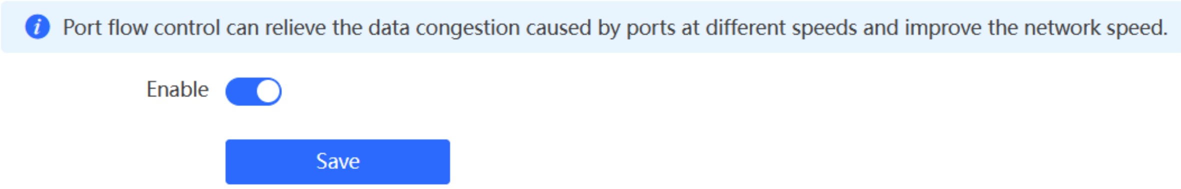
After Hardware Acceleration is enabled, the Internet access speed will be improved and clients will not be rate-limited.

Enable

4.14 Configuring Port Flow Control

Choose **One-Device** > **Config** > **Advanced** > **Port Settings**.

When the LAN ports work at different rates, data congestion may occur, which can slow down the network speed and affect the Internet access experience. Enabling port flow control can help mitigate this problem.



Port flow control can relieve the data congestion caused by ports at different speeds and improve the network speed.

Enable

4.15 Configuring ARP Binding

Caution

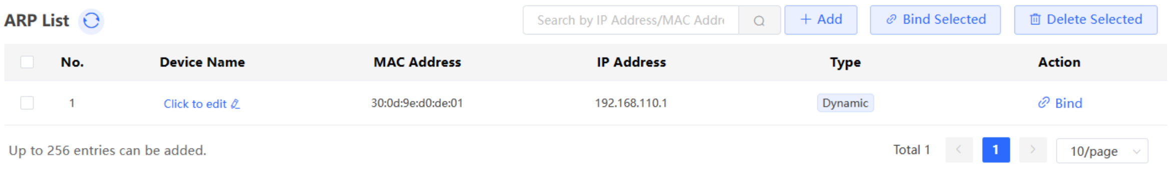
This function is not supported when the device works in AP mode.

The device learns the IP and MAC addresses of network devices connected to ports of the device and generates ARP entries. You can bind ARP mappings to improve network security.

Choose **One-Device** > **Config** > **Security** > **ARP List**.

ARP mappings can be bound in two ways:

(1) Select a dynamic ARP entry in the ARP list and click **Bind**. You can select multiple entries to be bound at one time and click **Bind Selected** to bind them. To remove the binding between a static IP address and a MAC address, click **Delete** in the **Action** column.



ARP List

Search by IP Address/MAC Addr

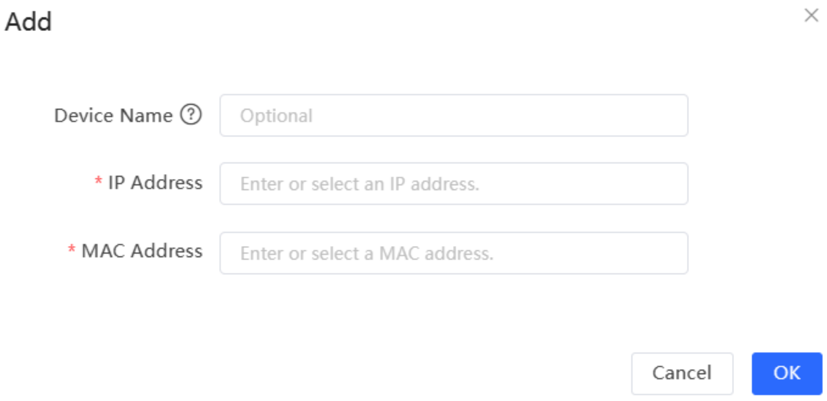
+ Add | Bind Selected | Delete Selected

□	No.	Device Name	MAC Address	IP Address	Type	Action
□	1	Click to edit	30:0d:9e:d0:de:01	192.168.110.1	Dynamic	Bind

Up to 256 entries can be added.

Total 1 < 1 > 10/page

(2) Click **Add**, enter the IP address and MAC address to be bound, and click **OK**. The input box can display existing address mappings in the ARP list. You can click a mapping to automatically enter the address mapping.



Add

Device Name ⓘ: Optional

* IP Address: Enter or select an IP address.

* MAC Address: Enter or select a MAC address.

Cancel | OK

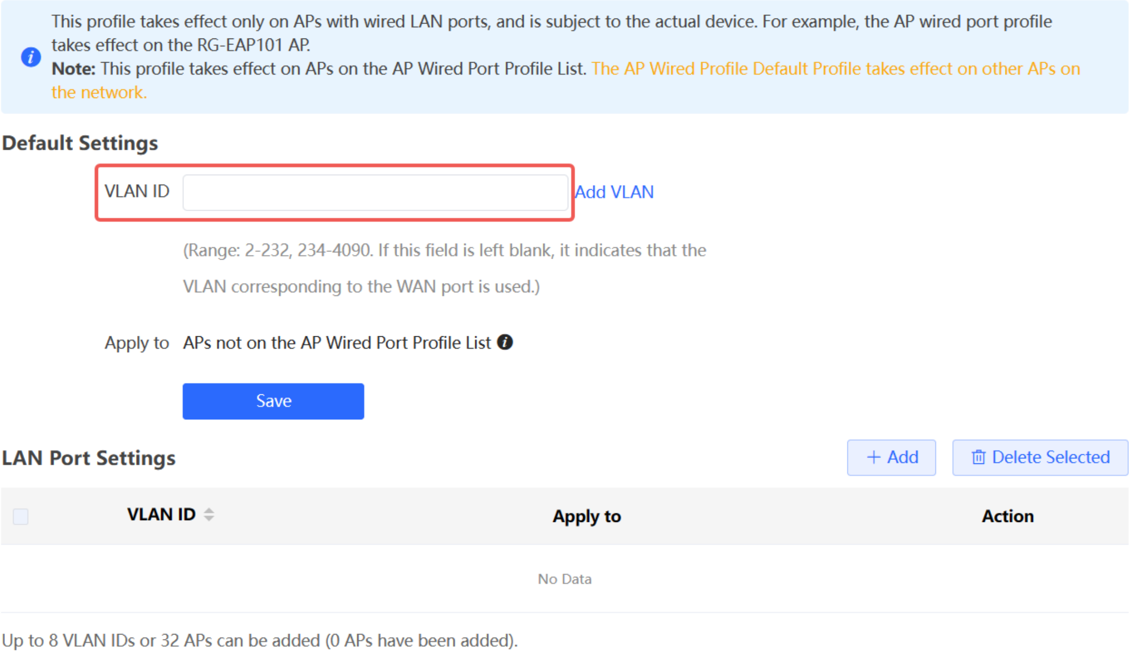
4.16 Configuring LAN Ports

Caution

The configuration takes effect only on APs having wired LAN ports.

Choose **Network-Wide** > **Workspace** > **Wireless** > **LAN Ports**.

Enter the VLAN ID and click **Save** to configure the VLAN, to which the AP wired ports belong. If the VLAN ID is null, the wired ports and WAN port belong to the same VLAN.



This profile takes effect only on APs with wired LAN ports, and is subject to the actual device. For example, the AP wired port profile takes effect on the RG-EAP101 AP.
Note: This profile takes effect on APs on the AP Wired Port Profile List. The AP Wired Profile Default Profile takes effect on other APs on the network.

Default Settings

VLAN ID Add VLAN

(Range: 2-232, 234-4090. If this field is left blank, it indicates that the VLAN corresponding to the WAN port is used.)

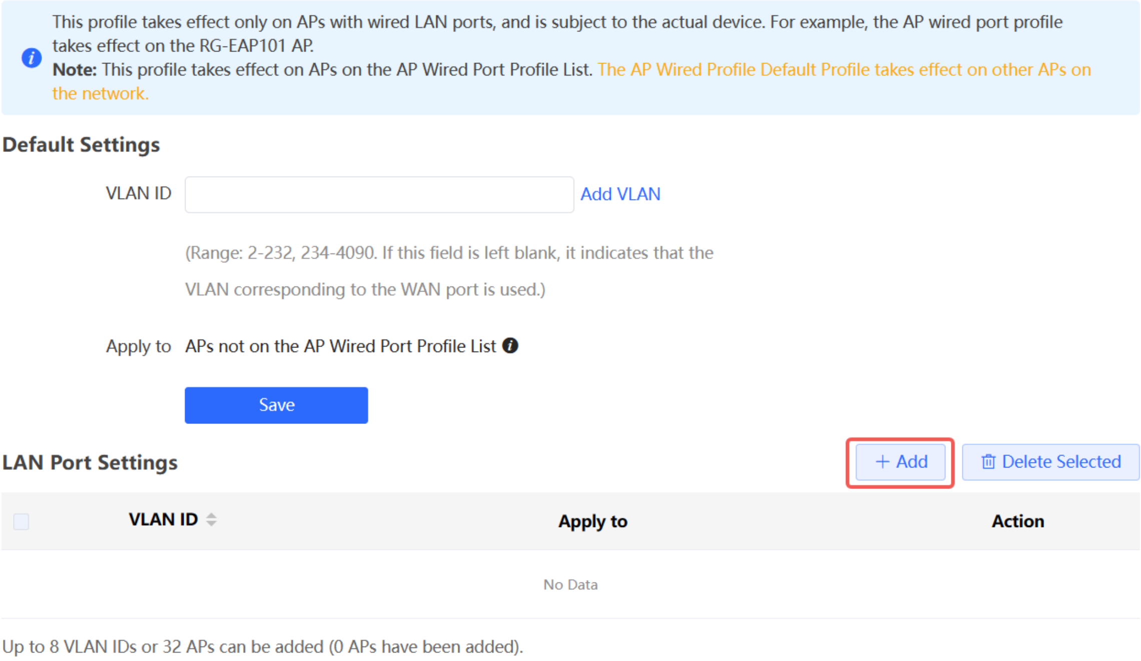
Apply to APs not on the AP Wired Port Profile List

LAN Port Settings

□	VLAN ID	Apply to	Action
No Data			

Up to 8 VLAN IDs or 32 APs can be added (0 APs have been added).

In self-organizing network mode, the AP wired port configuration applies to all APs having wired LAN ports on the current network. The configuration applied to APs in **LAN Port Settings** takes effect preferentially. Click **Add** to add the AP wired port configuration. For APs, to which no configuration is applied in **LAN Port Settings**, the default configuration of the AP wired ports will take effect on them.



This profile takes effect only on APs with wired LAN ports, and is subject to the actual device. For example, the AP wired port profile takes effect on the RG-EAP101 AP.
Note: This profile takes effect on APs on the AP Wired Port Profile List. The AP Wired Profile Default Profile takes effect on other APs on the network.

Default Settings

VLAN ID Add VLAN

(Range: 2-232, 234-4090. If this field is left blank, it indicates that the VLAN corresponding to the WAN port is used.)

Apply to APs not on the AP Wired Port Profile List

LAN Port Settings

□	VLAN ID	Apply to	Action
No Data			

Up to 8 VLAN IDs or 32 APs can be added (0 APs have been added).

4.17 IPv6 Settings

Caution

This function is supported when the device works in router mode.

4.17.1 Overview

Internet Protocol Version 6 (IPv6) is the next generation IP protocol designed by the Internet Engineering Task Force (IETF) to replace IPv4 and solve the IPv4 problems such as address depletion.

4.17.2 IPv6 Basic

1. **IPv6 Address Format**

IPv6 increases the length of the address from 32 bits in IPv4 to 128 bits, and therefore has a larger address space than IPv4.

The basic format of an IPv6 address is **X:X:X:X:X:X:X:X**. The 128-bit IPv6 address is divided into eight 16-bit sections that are separated by colons (:), and 16 bits in each section are represented by four hexadecimal characters (0–9 and A–F). Each **X** represents a 4-character hexadecimal number.

For example: 2001:ABCD:1234:5678:AAAA:BBBB:1200:2100, 800:0:0:0:0:0:0:1, 1080:0:0:0:8:800:200C:417A

The number **0** in the IPv6 address can be abbreviated as follows:

- The starting 0s can be omitted. For example, 2001:00CD:0034:0078:000A:000B:1200:2100 can be written as 2001:CD:34:78:A:B:1200:2100.
- Consecutive 0s can be replaced by two colons (::). For example, **800:0:0:0:0:0:0:1** can be written as **800::1**. Consecutive 0s can be replaced by two colons only when the 16-bit section contains all 0s, and the two colons can only appear once in the address.

2. **IPv6 Prefix**

An IPv6 address consists of two parts:

- Network prefix: It contains n bits, and is equivalent to the network ID in an IPv4 address.
- Interface identifier: It contains (128 - n) bits, and is equivalent to the host ID in an IPv4 address.

The length of the network prefix is separated from the IPv6 address by a slash (/). For example, **12AB::CD30:0:0:0:0/60** indicates that the length of the prefix used for routing in the address is 60 bits.

3. **Special IPv6 Address**

There are also some special IPv6 addresses, for example:

fe80::/8 is a link local address, and equivalent to 169.254.0.0/16 in IPv4.

fc00::/7 is a local address, and similar to 10.0.0.0/8, 172.16.0.0/16, or 192.168.0.0/16 in IPv4.

ff00::/12 is a multicast address, and similar to 224.0.0.0/8 in IPv4.

4. **N/AT66**

IPv6-to-IPv6 Network Address Translation (N/AT66) is the process of converting the IPv6 address in an IPv6 packet header to another IPv6 address. N/AT66 prefix translation is an implementation of N/AT66. It replaces the IPv6 address prefix in the packet header with another IPv6 address prefix to achieve IPv6 address translation. N/AT66 can realize mutual access between an intranet and Internet.

4.17.3 IPv6 Address Assignment Methods

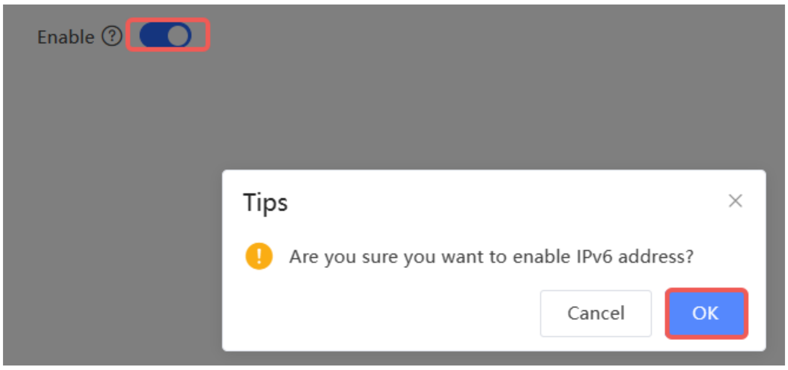
- Manual configuration: The IPv6 address/prefix and other network configuration parameters are manually configured.

- Stateless Address Autoconfiguration (SLAAC): The link local address is generated based on the interface ID, and then the local address is automatically configured based on the prefix information contained in the route advertisement packet.
- Stateful address autoconfiguration, that is, DHCPv6: DHCPv6 is divided into the following two types:
  - DHCPv6 autoconfiguration: The DHCPv6 server automatically configures the IPv6 address/prefix and other network configuration parameters.
  - DHCPv6 Prefix Delegation (PD): The lower-layer network device sends a prefix allocation application to the upper-layer network device. The upper-layer network device assigns an appropriate address prefix to the lower-layer device. The lower-layer device automatically subdivides the obtained prefix (generally less than 64 bits in length) into subnet segments with 64-bit prefix length, and then advertises the subdivided address prefixes to the user link directly connected to the IPv6 host through the route to realize automatic address configuration of the host.

4.17.4 Enabling IPv6

Choose **One-Device** > **Config** > **Network** > **IPv6 Address**.

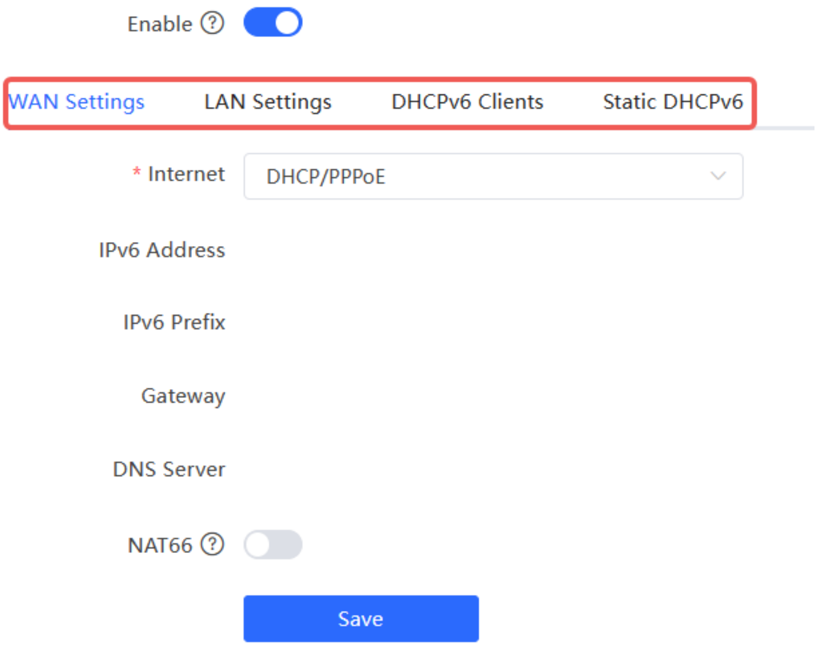
Click **Enable**, and then click **OK** in the dialog box that appears to enable IPv6.



Tips

Are you sure you want to enable IPv6 address?

After IPv6 is enabled, you can configure the IPv6 addresses of WAN and LAN ports, view the DHCPv6 client, and configure a static DHCPv6 address for the client.



4.17.5 Configuring the IPv6 Address for the WAN Port

Choose **One-Device** > **Config** > **Network** > **IPv6 Address** > **WAN Settings**.

Configure the IPv6 address for the WAN port, and click **Save**.

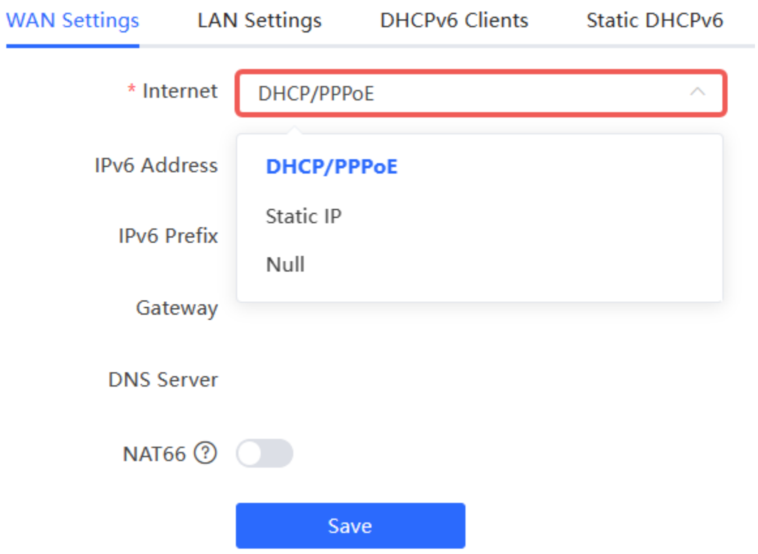


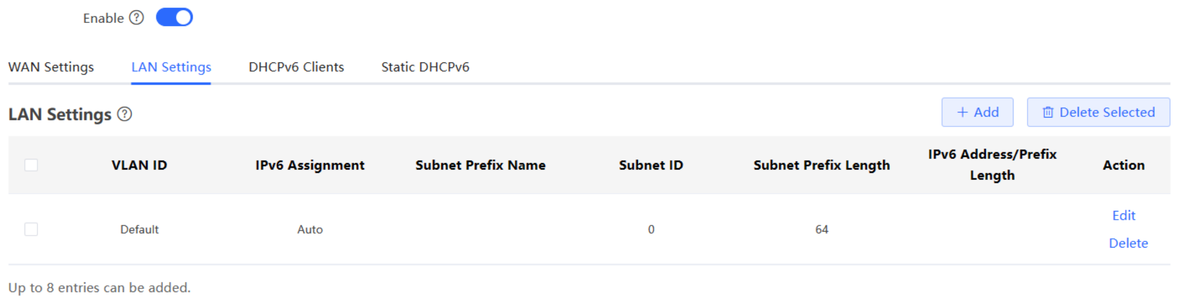
Table 4-3 WAN Port IPv6 Address Configuration Parameters

Parameter	Description
Internet	Specify the method for obtaining an IPv6 address for the WAN port. ● **DHCP/PPPoE**: The current device will act as a DHCPv6 client and apply for the IPv6 address/prefix from the upstream network device. ● **Static IP**: If this Internet connection type is selected, you need to manually configure a static IPv6 address, gateway address, and DNS server. ● **Null**: The IPv6 function is disabled on the current WAN port.
IPv6 Address	If **Internet** is set to **DHCP/PPPoE**, the automatically obtained IPv6 address is displayed. If **Internet** is set to **Static IP**, you need to manually configure this parameter.
IPv6 Prefix	If **Internet** is set to **DHCP/PPPoE** and the current device obtains the IPv6 address prefix from the upstream device. The obtained IPv6 address prefix is displayed.
Gateway	If **Internet** is set to **DHCP/PPPoE**, the automatically obtained gateway address is displayed. If **Internet** is set to **Static IP**, you need to manually configure this parameter.
DNS Server	If **Internet** is set to **DHCP/PPPoE**, the automatically obtained DNS server address is displayed. If **Internet** is set to **Static IP**, you need to manually configure this parameter.
N/AT66	If the current device cannot access the Internet in DHCP mode or cannot obtain the IPv6 address prefix, you must enable N/AT66 to assign the IPv6 address to an intranet client.

4.17.6 Configuring the IPv6 Address for the LAN Port

Choose **One-Device** > **Config** > **Network** > **IPv6 Address** > **LAN Settings**.

When the device accesses the network in DHCP mode, the upstream device can assign an IPv6 address to the LAN port, and assign IPv6 addresses to the clients in the LAN based on the IPv6 address prefix. If the upstream device cannot assign an IPv6 address prefix to the current device, you need to manually configure an IPv6 address prefix for the LAN port, and assign IPv6 addresses to the clients in the LAN by enabling the N/AT66 function (see 4.17.5 Configuring the IPv6 Address for the WAN Port).



LAN Settings

□	VLAN ID	IPv6 Assignment	Subnet Prefix Name	Subnet ID	Subnet Prefix Length	IPv6 Address/Prefix Length	Action
□	Default	Auto		0	64		Edit Delete

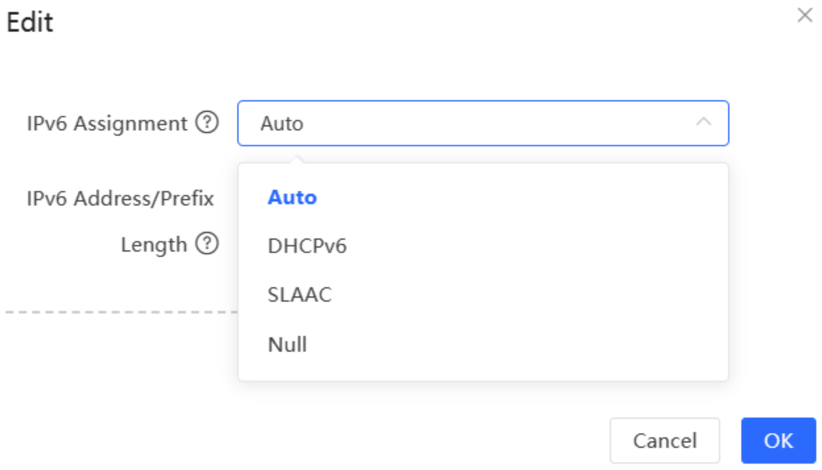
Up to 8 entries can be added.

Click **Edit** corresponding to the default VLAN, and fill in a local address of no more than 64 bits in the **IPv6 Address/Prefix Length** column. This address will also be used as the IPv6 address prefix.

IPv6 Assignment specifies the method for assigning IPv6 addresses for clients. The following options are available:

- **Auto**: Both DHCPv6 and SLAAC are used to assign IPv6 addresses to clients.
- **DHCPv6**: DHCPv6 is used to assign IPv6 addresses to clients.
- **SLAAC**: SLAAC is used to assign IPv6 addresses to clients.
- **Null**: No IPv6 addresses are assigned to clients.

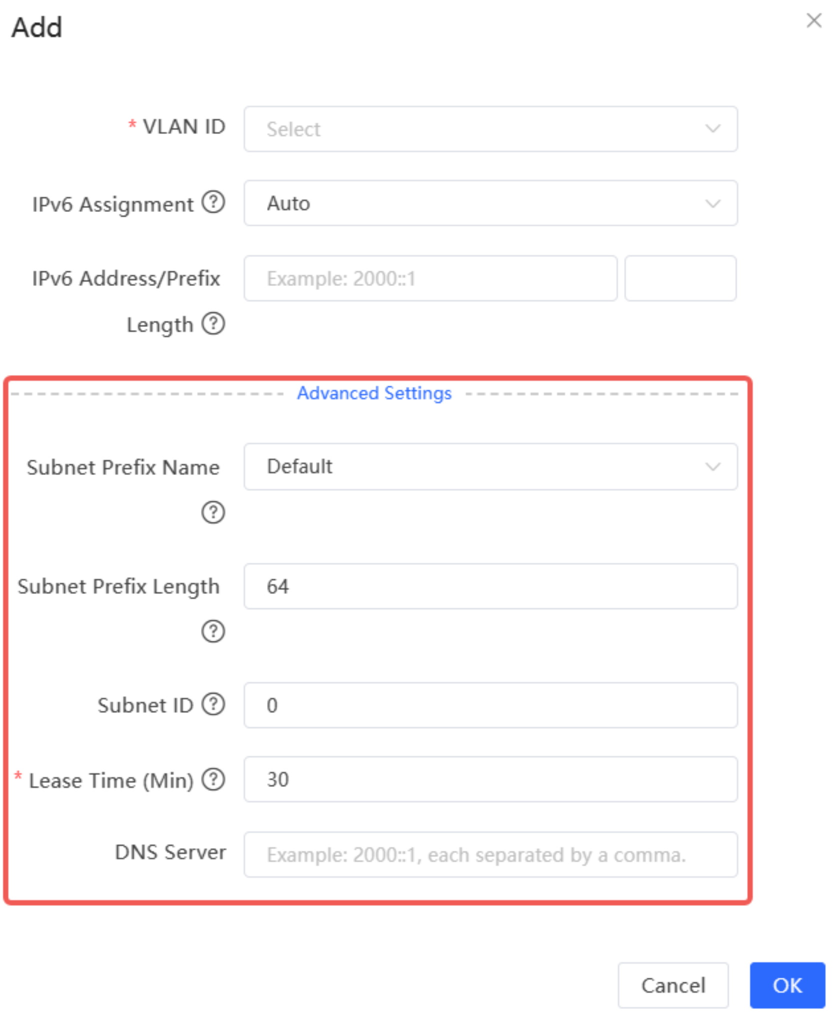
The setting of **IPv6 Assignment** is determined by the protocol supported by intranet clients. If you are not sure about the protocol supported by intranet clients, select **Auto**.



IPv6 Assignment: Auto

IPv6 Address/Prefix Length

You can click **Advanced Settings** to configure more address attributes.



Add

* VLAN ID: Select

IPv6 Assignment: Auto

IPv6 Address/Prefix Length: Example: 2000::1

Advanced Settings

Subnet Prefix Name: Default

Subnet Prefix Length: 64

Subnet ID: 0

* Lease Time (Min): 30

DNS Server: Example: 2000::1, each separated by a comma.

Table 4-4 LAN Port IPv6 Address Configuration Parameters

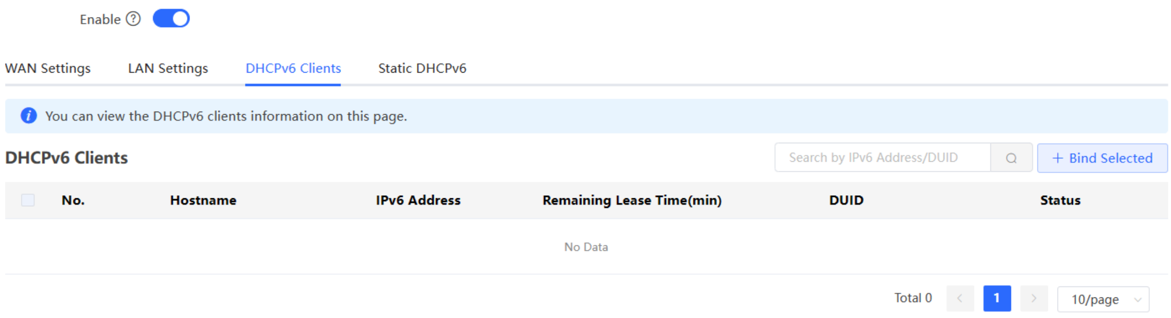
Parameter	Description
Subnet Prefix Name	Configure the interface from which the prefix is obtained, for example, **WAN_V6**. The default value is all interfaces.
Subnet Prefix Length	Configure the length of the subnet prefix. The value ranges from 48 to 64.
Subnet ID	Configure the subnet ID in hexadecimal notation. **0** indicates that the subnet ID automatically increments.
Lease Time (Min)	Configure the lease term of the IPv6 address. The unit is minutes.
DNS Server	Configure the address of the IPv6 DNS server.

4.17.7 Viewing DHCPv6 Clients

Choose **One-Device** > **Config** > **Network** > **IPv6 Address** > **DHCPv6 Clients**.

When the device acts as a DHCPv6 server to assign IPv6 addresses to clients, you can view information about the clients that obtain IPv6 addresses from the device on the current page. The information includes the host name, IPv6 address, remaining lease term, and DHCPv6 Unique Identifier (DUID) of each client.

Enter an IPv6 address or DUID in the search bar, and click 🔍 to quickly find the information of the specified DHCPv6 client.



You can view the DHCPv6 clients information on this page.

DHCPv6 Clients

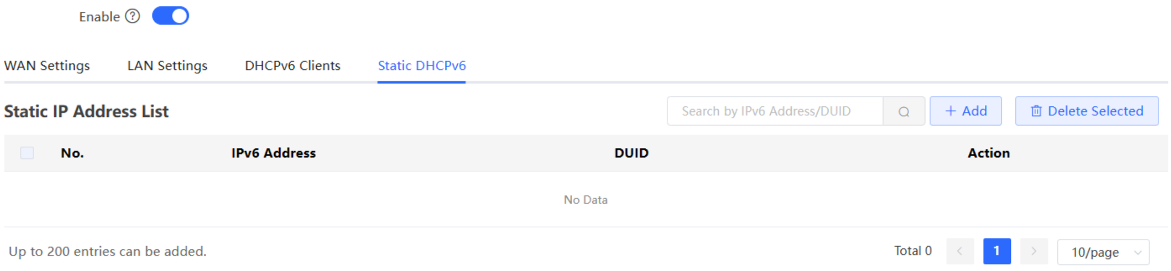
□	No.	Hostname	IPv6 Address	Remaining Lease Time(min)	DUID	Status

No Data

4.17.8 Configuring the Static DHCPv6 Address

Configure the IPv6 address statically bound to the DUID of a client so that the client can obtain the specified address each time.

Choose **One-Device** > **Config** > **Network** > **IPv6 Address** > **Static DHCPv6**.



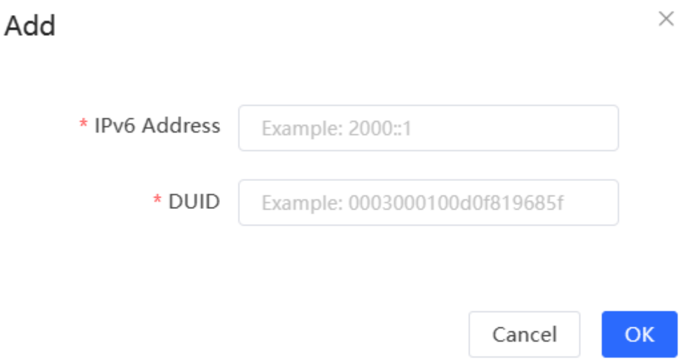
Static IP Address List

□	No.	IPv6 Address	DUID	Action

No Data

Up to 200 entries can be added.

(1) Click **Add**.



* IPv6 Address: Example: 2000::1

* DUID: Example: 0003000100d0f819685f

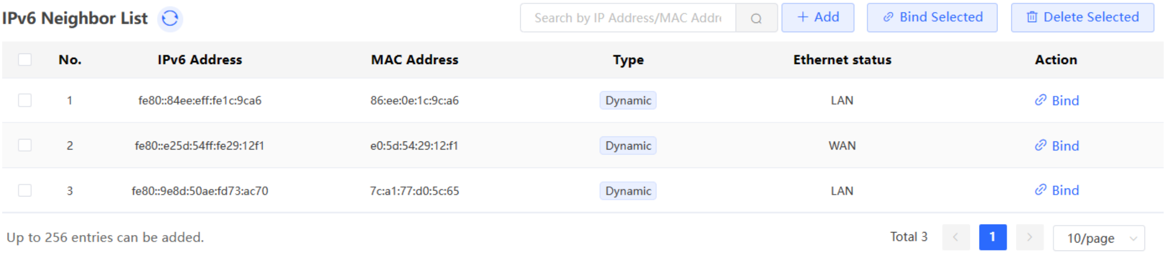
(2) Enter the IPv6 address and DUID of the client.

(3) Click **OK**.

4.17.9 Configuring the IPv6 Neighbor List

In IPv6, Neighbor Discovery Protocol (NDP) is an important basic protocol. NDP replaces the ARP and ICMP route discovery protocols of IPv4, and supports the following functions: address resolution, neighbor status tracking, duplicate address detection, router discovery, and redirection.

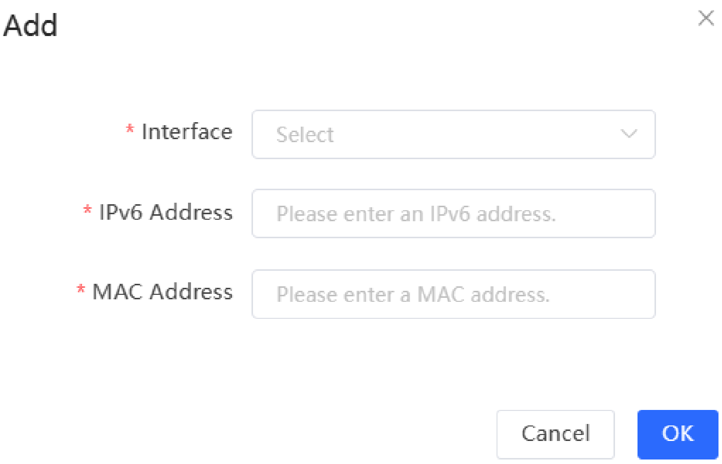
Choose **One-Device** > **Config** > **Security** > **IPv6 Neighbor List**.



□	No.	IPv6 Address	MAC Address	Type	Ethernet status	Action
□	1	fe80::84ee:eff:fe1c:9ca6	86:ee:0e:1c:9c:a6	Dynamic	LAN	Bind
□	2	fe80::e25d:54ff:fe29:12f1	e0:5d:54:29:12:f1	Dynamic	WAN	Bind
□	3	fe80::9e8d:50ae:fd73:ac70	7c:a1:77:d0:5c:65	Dynamic	LAN	Bind

Up to 256 entries can be added.

(1) Click **Add** and add the interface, IPv6 address and MAC address of the neighbor.

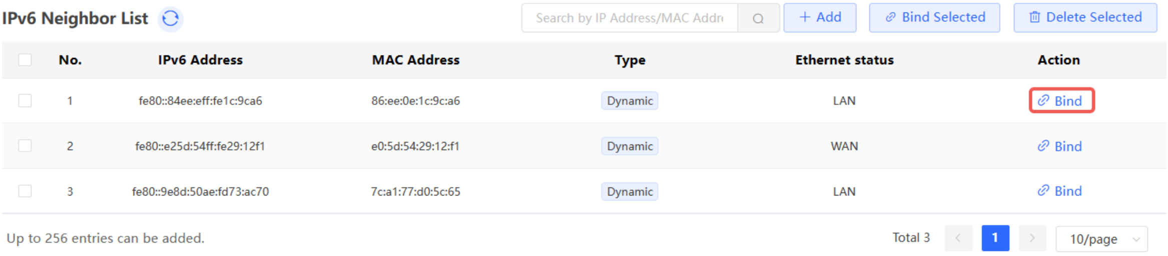


* Interface: Select

* IPv6 Address: Please enter an IPv6 address.

* MAC Address: Please enter a MAC address.

(2) Select the IPv6 neighbor list to be bound, and click **Bind** in the **Action** column to bind the IPv6 address and MAC address.



□	No.	IPv6 Address	MAC Address	Type	Ethernet status	Action
□	1	fe80::84ee:eff:fe1c:9ca6	86:ee:0e:1c:9c:a6	Dynamic	LAN	Bind
□	2	fe80::e25d:54ff:fe29:12f1	e0:5d:54:29:12:f1	Dynamic	WAN	Bind
□	3	fe80::9e8d:50ae:fd73:ac70	7c:a1:77:d0:5c:65	Dynamic	LAN	Bind

Up to 256 entries can be added.

5 Online Client Management

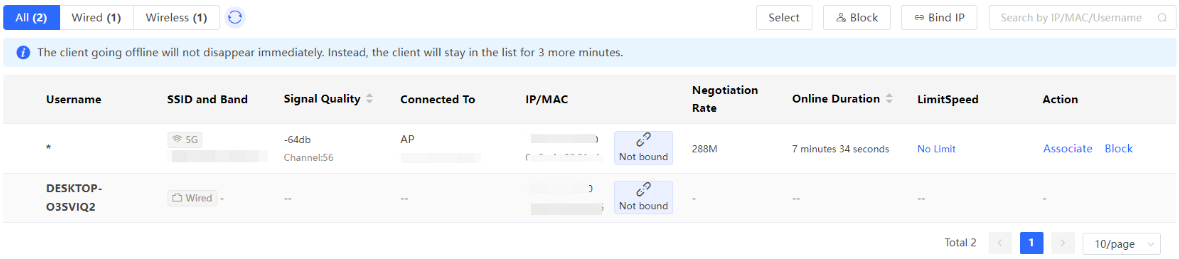
Caution

- When the AP is used as the primary device, clients on the network are only displayed when the AP works in router mode.
- When the AP is used as a secondary device, the functions presented in the web interface are based on the primary device on the network.

Go to the configuration page:

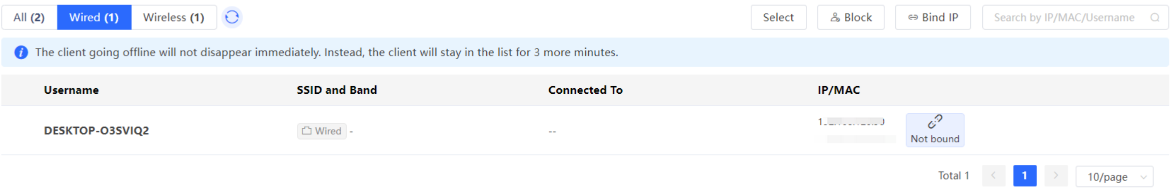
- Choose **Network-Wide** > **Clients**.
- AP as a secondary device: Choose **One-Device** > **Config** > **Clients**.

The client list displays wired and wireless on the current network, including the username, connection mode, associated device, IP/MAC address, IP address binding status, rate, and related operations.



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

Username	SSID and Band	Signal Quality	Connected To	IP/MAC	Negotiation Rate	Online Duration	LimitSpeed	Action
*	5G	-64db Channel:56	AP	Not bound	288M	7 minutes 34 seconds	No Limit	Associate Block
DESKTOP-O3SVIQ2	Wired -	--	--	Not bound	-	--	--	-



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

Username	SSID and Band	Connected To	IP/MAC
DESKTOP-O3SVIQ2	Wired -	--	1. Not bound

- Click **Not Bound** in the **IP/MAC** column to bind the client to a static IP address.
- Click a button in the **Action** column to perform the corresponding operation on the online client. Wireless: Associate, and block can be configured.

Note

Client IP binding is only supported when the AP works in router mode.

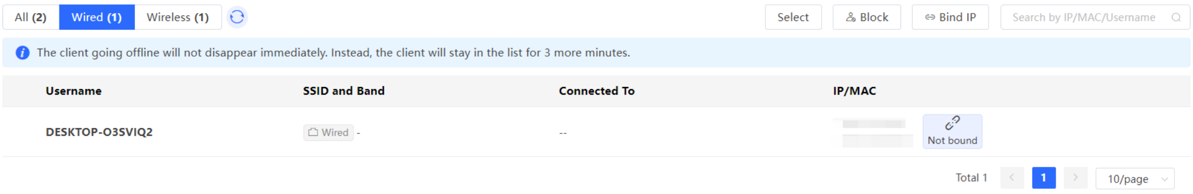
Table 5-1 **Online Client Management Configuration Parameters**

Parameter	Description
Username	Name of the connected client.

Parameter	Description
SSID and Band	Indicates the access mode of the client, which can be wireless or wired. The SSID and frequency band is displayed when a client is connected wirelessly.
Signal Quality	The Wi-Fi signal strength of the client and the associated channel. **Note** This information is displayed only in the wireless online client list.
Connected To	Indicates wired or wireless connection, the associated device and SN.
IP/MAC	Indicates the IP address and MAC address of the client.
Negotiated Rate	Negotiation rate between the client and the AP. **Note** This information is displayed only in the wireless online client list.
Online Duration	Client access duration. **Note** This information is displayed only in the wireless online client list.
LimitSpeed	Implement wireless speed limiting for clients to prevent certain clients from consuming large amounts of bandwidth resources. For details, see 5.4 Configuring Client Rate Limiting. **Note** This information is displayed only in the wireless online client list.
Action	You can click the corresponding button to perform association and block operations on online clients.

Wired Clients

Click the **Wired** tab to see details about wired clients.



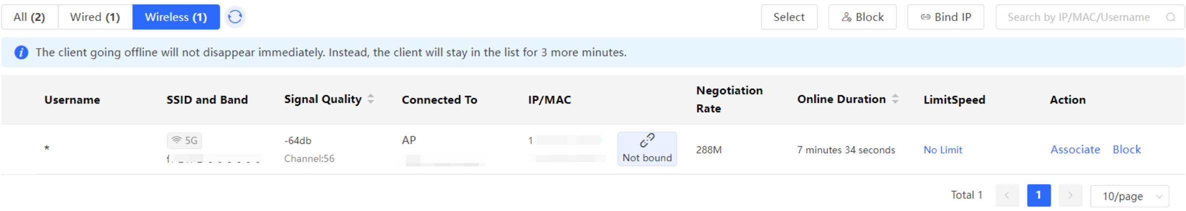
The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

Username	SSID and Band	Connected To	IP/MAC
DESKTOP-O3SVIQ2	Wired -	--	[redacted] Not bound

Total 1 1 10/page

Wireless Clients

Click the **Wireless** tab to see details about wireless clients.



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

Username	SSID and Band	Signal Quality	Connected To	IP/MAC	Negotiation Rate	Online Duration	LimitSpeed	Action
*	5G [redacted]	-64db Channel:56	AP [redacted]	1[redacted] Not bound	288M	7 minutes 34 seconds	No Limit	Associate Block

5.1 Configuring Client IP Binding

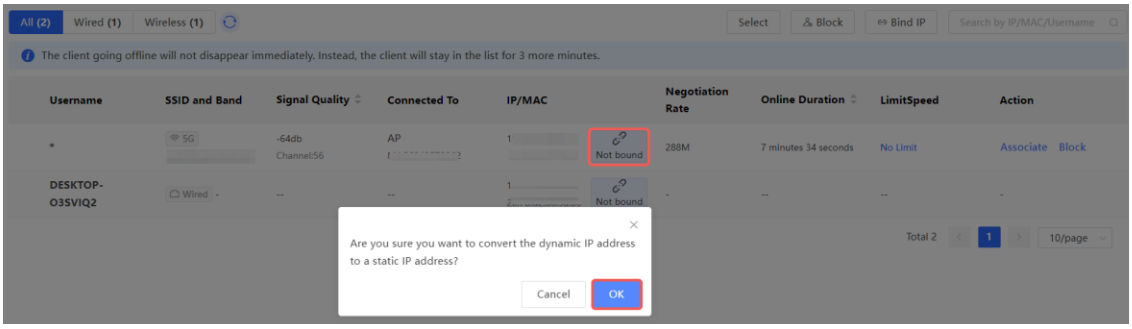
Caution

This function is supported only in router mode.

Choose **Network-Wide** > **Clients**.

IP address binding is a security and access control policy that associates a specific IP address with a specific device or user to achieve identity authentication, access control, monitoring, and accounting.

- Single client IP address binding
  Select the client to be bound with an IP address in the list, click **Not bound**, and click **OK** in the pop-up box to bind the client to a static IP address.

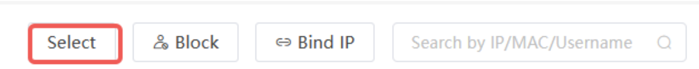


The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

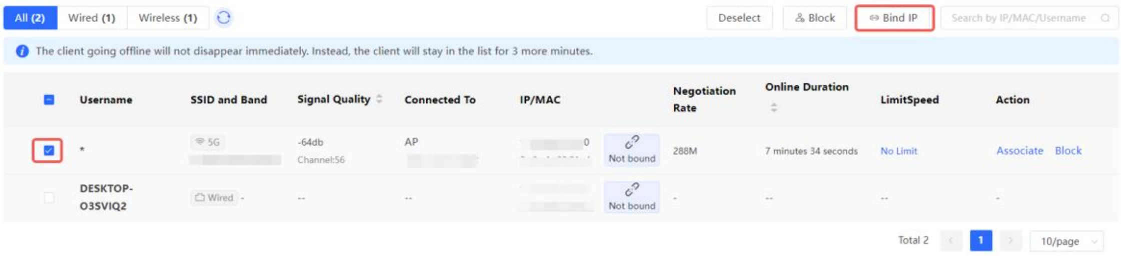
Username	SSID and Band	Signal Quality	Connected To	IP/MAC	Negotiation Rate	Online Duration	LimitSpeed	Action
*	5G [redacted]	-64db Channel:56	AP [redacted]	1[redacted] Not bound	288M	7 minutes 34 seconds	No Limit	Associate Block
DESKTOP-O3SVIQ2	Wired -	--	--	1[redacted] Not bound	-	--	--	-

Are you sure you want to convert the dynamic IP address to a static IP address?

- Batch IP binding
  Click **Select**.



Select the clients to be bound, click **Bind IP**, and click **OK** in the pop-up box to bind the selected clients to a static IP address.

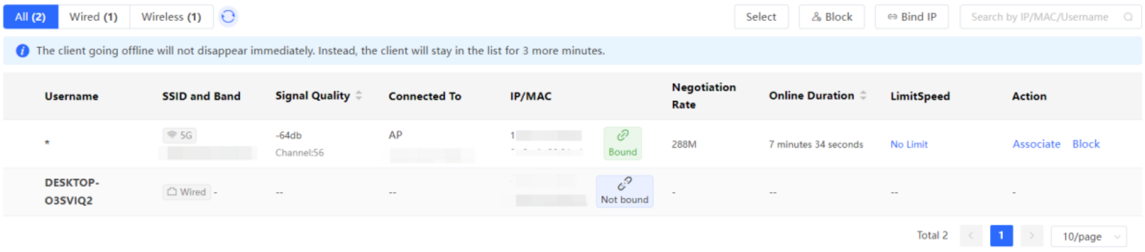


The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

☐	Username	SSID and Band	Signal Quality	Connected To	IP/MAC	Negotiation Rate	Online Duration	LimitSpeed	Action
☑	*	5G [redacted]	-64db Channel:56	AP [redacted]	[redacted] Not bound	288M	7 minutes 34 seconds	No Limit	Associate Block
☐	DESKTOP-O3SVIQ2	Wired -	--	--	[redacted] Not bound	-	--	--	-

- Unbind an IP address

  Select the client to be unbound from the list, click **Bound**, and click **OK** in the pop-up box.



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

Username	SSID and Band	Signal Quality	Connected To	IP/MAC		Negotiation Rate	Online Duration	LimitSpeed	Action
*	5G [redacted]	-64db Channel:56	AP [redacted]	1[redacted]	Bound	288M	7 minutes 34 seconds	No Limit	Associate Block
DESKTOP-O3SVIQ2	Wired -	--	--	[redacted]	Not bound	-	--	--	-

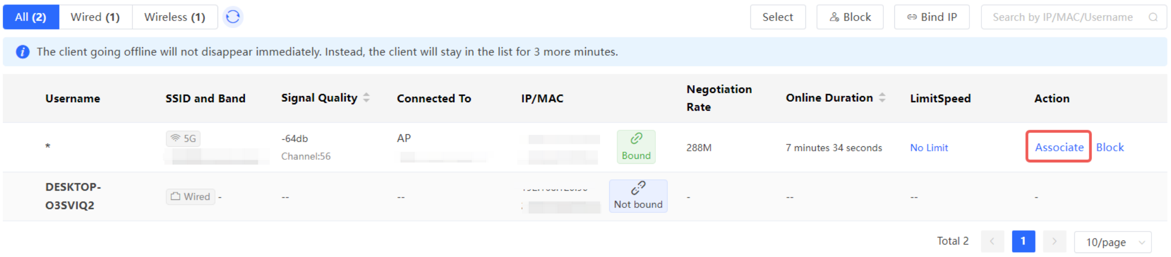
5.2 Configuring Client Association

Choose **Network-Wide** > **Clients**.

Caution

This function applies only to wireless clients.

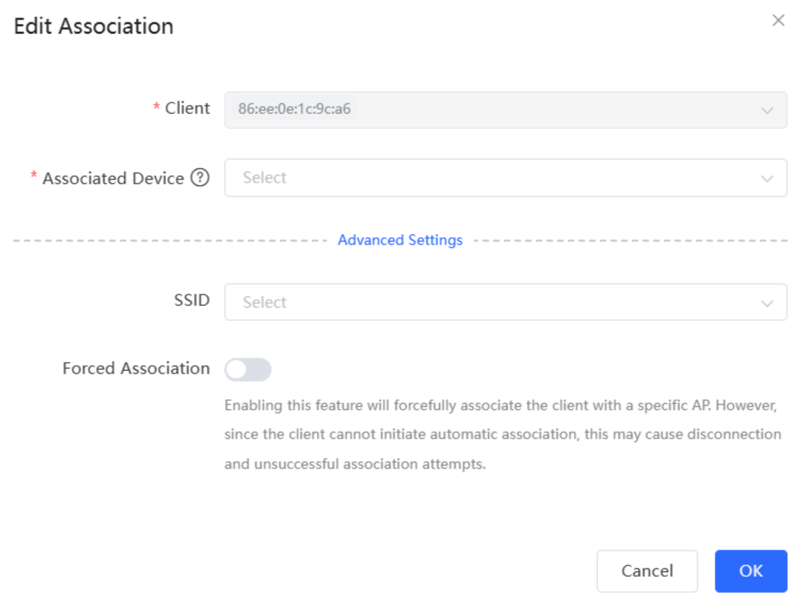
Select a client in the list and click **Associate** in the **Action** column. You will be redirected to the **Edit Association** page.



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

Username	SSID and Band	Signal Quality	Connected To	IP/MAC		Negotiation Rate	Online Duration	LimitSpeed	Action
*	5G [redacted]	-64db Channel:56	AP [redacted]	[redacted]	Bound	288M	7 minutes 34 seconds	No Limit	Associate Block
DESKTOP-O3SVIQ2	Wired -	--	--	[redacted]	Not bound	-	--	--	-

The **Client** field is populated with the MAC address of the selected client and cannot be modified. The **Associated Device** field is populated with the associated device of the client by default. Set the SSID and the Forced Association feature as required, and click **OK**. For details, see 3.24 Client Association.



Edit Association

* Client: 86:ee:0e:1c:9c:a6

* Associated Device: Select

Advanced Settings

SSID: Select

Forced Association: ○

Enabling this feature will forcefully associate the client with a specific AP. However, since the client cannot initiate automatic association, this may cause disconnection and unsuccessful association attempts.

5.3 Blocking Clients

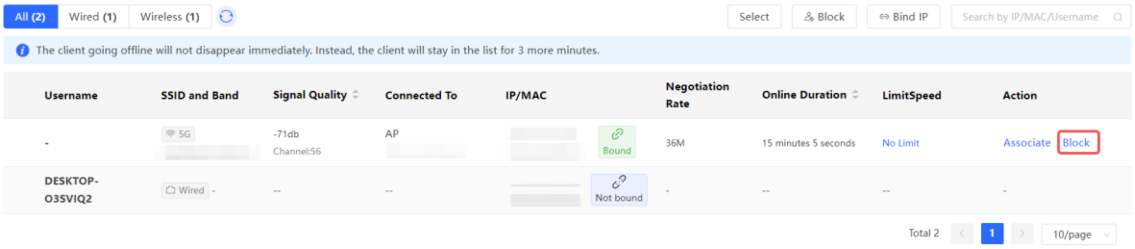
Choose **Network-Wide** > **Clients**.

An unauthorized client may occupy network bandwidth and pose security risks. You can block specified clients to solve the unauthorized access problem.

Caution

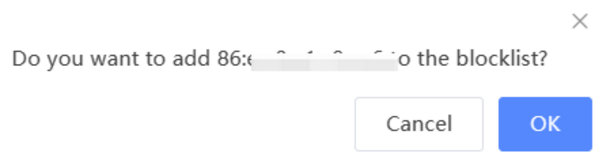
Client block is available only for wireless clients.

- Block a single client
  Select a client to block in the list, click **Block** in the Action column, and click **OK** in the pop-up box to block the selected client.



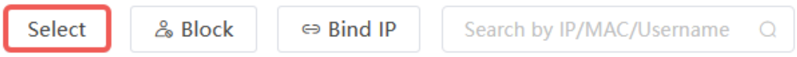
The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

Username	SSID and Band	Signal Quality	Connected To	IP/MAC		Negotiation Rate	Online Duration	LimitSpeed	Action
-	5G [redacted]	-71db Channel:56	AP [redacted]	[redacted]	Bound	36M	15 minutes 5 seconds	No Limit	Associate Block
DESKTOP-O3SVIQ2	Wired -	--	--	[redacted]	Not bound	-	--	--	-

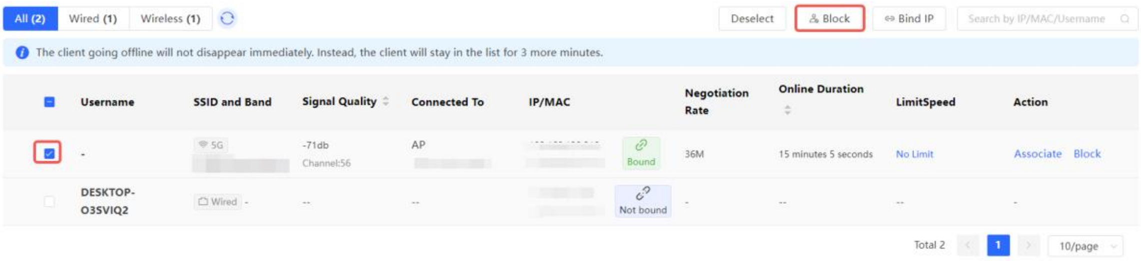


Do you want to add 86:[redacted]o the blocklist?

- Batch block clients
  a Click **Select**.



b Select the target clients, click **Block**, and click **OK** in the pop-up box to block the selected clients.



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

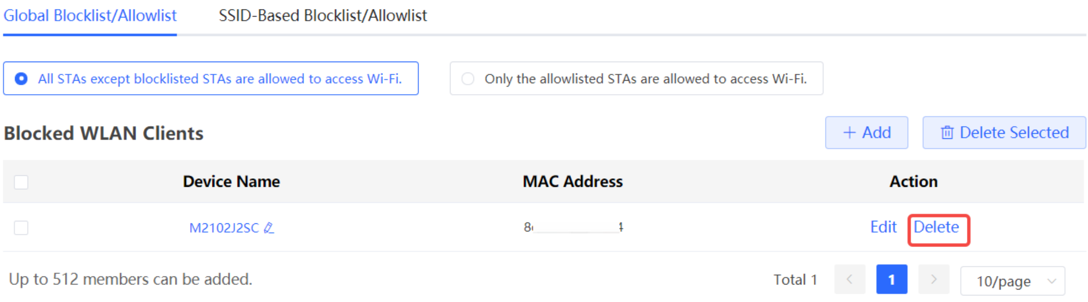
■	Username	SSID and Band	Signal Quality	Connected To	IP/MAC		Negotiation Rate	Online Duration	LimitSpeed	Action
☑	-	5G [redacted]	-71db Channel:56	AP [redacted]	[redacted]	Bound	36M	15 minutes 5 seconds	No Limit	Associate Block
☐	DESKTOP-O3SVIQ2	Wired -	--	--	[redacted]	Not bound	-	--	--	-

Total 2 ‹ 1 › 10/page

- Cancel block

  Choose **Network-Wide** > **Workspace** > **Wireless** > **Blocklist/Allowlist** > **Global Blocklist/Allowlist.**

  Select the client to be removed from the blocklist in the wireless blocklist and click **Delete**.



● All STAs except blocklisted STAs are allowed to access Wi-Fi. ○ Only the allowlisted STAs are allowed to access Wi-Fi.

Blocked WLAN Clients

☐	Device Name	MAC Address	Action
☐	M2102J2SC	8[redacted]	Edit Delete

Up to 512 members can be added.

Total 1 ‹ 1 › 10/page

5.4 Configuring Client Rate Limiting

Choose **Network-Wide** > **Clients** > **Wireless**.

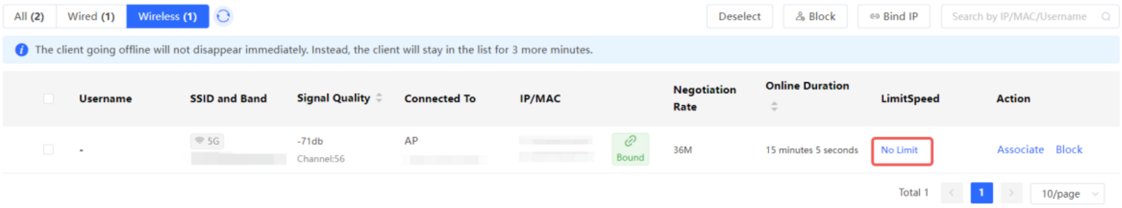
To ensure fair resource allocation, the network administrator can implement wireless rate limiting to prevent some users or devices from occupying a large amount of bandwidth and affecting the network experience of other users.

Caution

Rate limiting applies only to wireless clients.

- Configure rate limits for clients

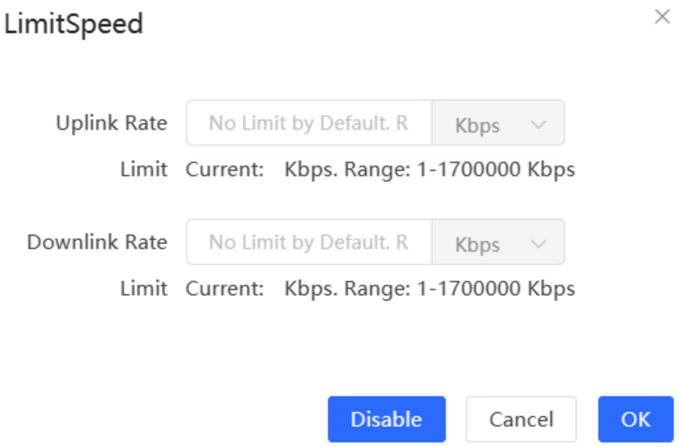
  Click the **Wireless** tab, click the **LimitSpeed** column in the table, set the uplink rate limit and downlink rate limit, and click **OK**.



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

	Username	SSID and Band	Signal Quality	Connected To	IP/MAC	Negotiation Rate	Online Duration	LimitSpeed	Action
□	-	5G [redacted]	-71db Channel:56	AP [redacted]	[redacted] Bound	36M	15 minutes 5 seconds	No Limit	Associate Block

Total 1 < 1 > 10/page

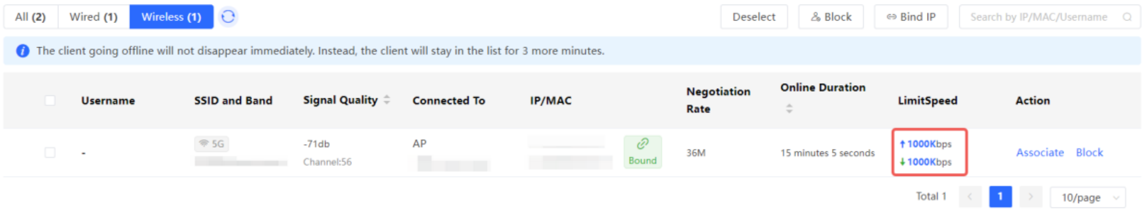

LimitSpeed

Uplink Rate Limit: No Limit by Default. R Kbps
Current: Kbps. Range: 1-1700000 Kbps

Downlink Rate Limit: No Limit by Default. R Kbps
Current: Kbps. Range: 1-1700000 Kbps

- Cancel rate limits

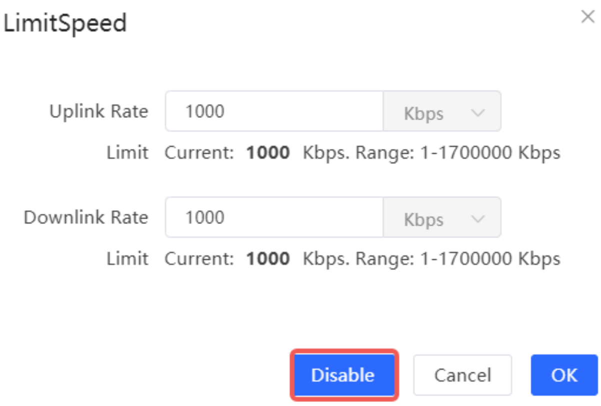
  Click the **Wireless** tab, click the **LimitSpeed** column in the table, and click **Disable**.



The client going offline will not disappear immediately. Instead, the client will stay in the list for 3 more minutes.

	Username	SSID and Band	Signal Quality	Connected To	IP/MAC	Negotiation Rate	Online Duration	LimitSpeed	Action
□	-	5G [redacted]	-71db Channel:56	AP [redacted]	[redacted] Bound	36M	15 minutes 5 seconds	↑1000Kbps ↓1000Kbps	Associate Block

Total 1 < 1 > 10/page


LimitSpeed

Uplink Rate Limit: 1000 Kbps
Current: **1000** Kbps. Range: 1-1700000 Kbps

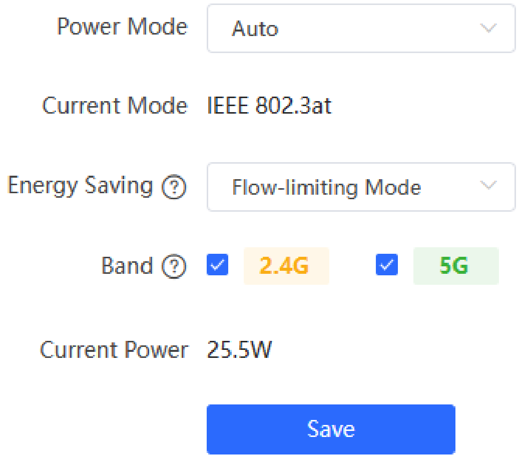
Downlink Rate Limit: 1000 Kbps
Current: **1000** Kbps. Range: 1-1700000 Kbps

6 System Settings

6.1 PoE Settings

Choose **One-Device** > **Config** > **Advanced** > **PoE Settings.**

Set the power mode for the AP to accept power over PoE. In AF mode, the maximum power supported by the device is 15.4 W. In AT mode, the maximum power is 30 W according to the IEEE 802.3at standard. In BT mode, the maximum power is 51 W according to the IEEE 802.3bt standard. By default, the device automatically negotiates with the power sourcing equipment (PSE) about the power mode. The default configuration is recommended.



Power Mode: Auto

Current Mode: IEEE 802.3at

Energy Saving: Flow-limiting Mode

Band: ☑ 2.4G ☑ 5G

Current Power: 25.5W

6.2 Setting the Login Password

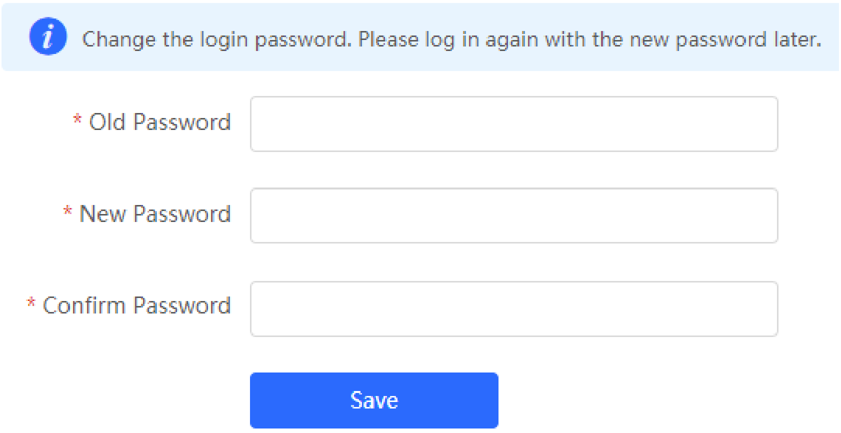
Go to the configuration page:

- In self-organizing network mode: Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Password**.
- In standalone mode: Choose **System** > **Login** > **Password**.

Enter the old password and new password. After saving the configuration, use the new password to log in.

Caution

In self-organizing network mode, the login password of all devices in the network will be changed synchronously.



Change the login password. Please log in again with the new password later.

* Old Password

* New Password

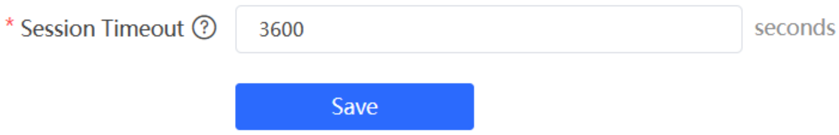
* Confirm Password

6.3 Setting the Session Timeout Duration

Go to the configuration page:

- In self-organizing network mode: Choose **One-Device > Config** > **System** > **Login**.
- In standalone mode: Choose **System** > **Login** > **Session Timeout**.

If no operation is performed on the Web page within a period of time, the session is automatically disconnected. When you need to perform operations again, enter the password to log in again. The default timeout duration is 3600 seconds, that is, 1 hour.



* Session Timeout ⓘ 3600 seconds

6.4 Setting and Displaying System Time

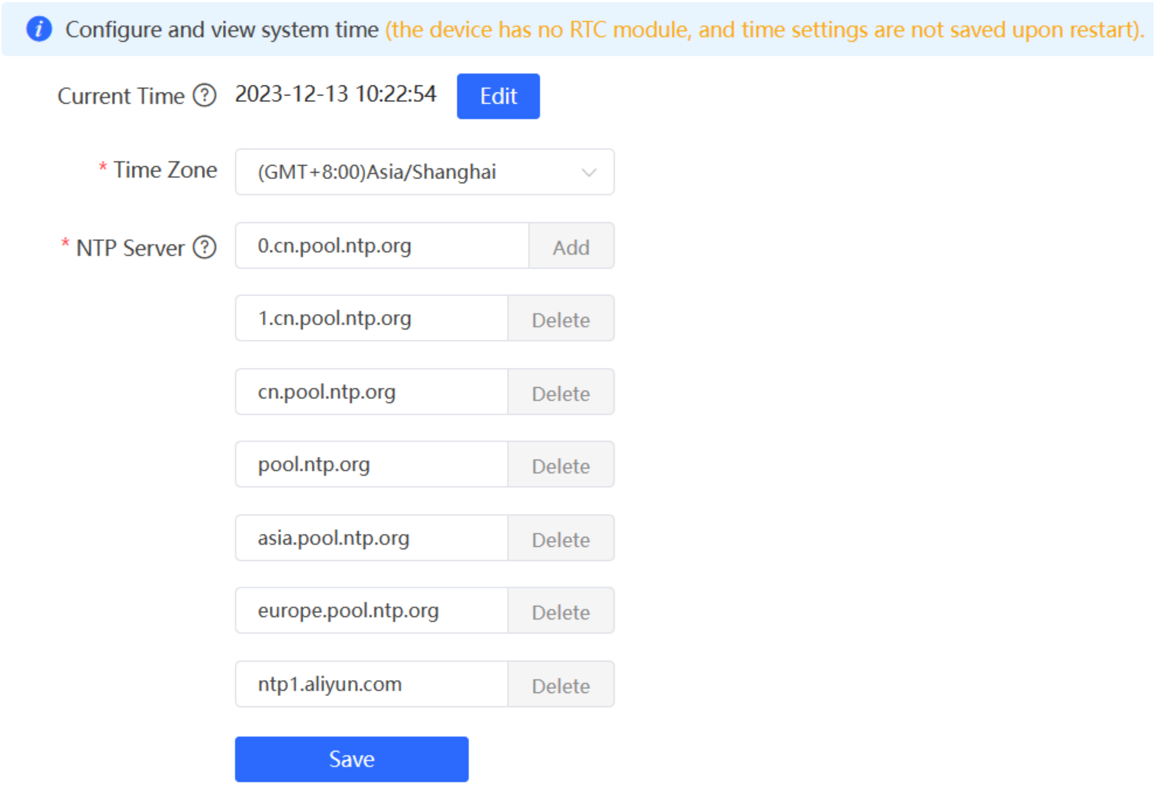
Go to the configuration page:

- In self-organizing network mode: Choose **Network-Wide** > **System** > **System Time**.
- In standalone mode: Choose **System** > **System Time**.

You can view the current system time. If the time is incorrect, check and select the local time zone. If the time zone is correct but time is still incorrect, click **Edit** to manually set the time. In addition, the device supports Network Time Protocol (NTP) servers. By default, multiple servers serve as the backup of each other. You can add or delete the local server.

⚠ **Caution**

In self-organizing network mode, the system time of all devices in the network will be changed synchronously.



Configure and view system time (the device has no RTC module, and time settings are not saved upon restart).

Current Time ⓘ 2023-12-13 10:22:54 Edit

* Time Zone (GMT+8:00)Asia/Shanghai

* NTP Server ⓘ 0.cn.pool.ntp.org Add

1.cn.pool.ntp.org Delete

cn.pool.ntp.org Delete

pool.ntp.org Delete

asia.pool.ntp.org Delete

europe.pool.ntp.org Delete

ntp1.aliyun.com Delete

Save

6.5 Configuring SNMP

6.5.1 Overview

The Simple Network Management Protocol (SNMP) is a protocol for managing network devices. Based on the client/server model, it can achieve remote monitoring and control of network devices.

SNMP uses a manager and agent architecture. The manager communicates with agents through the SNMP protocol to retrieve information such as device status, configuration details, and performance data. It can also be used to configure and manage devices.

SNMP can be used to manage various network devices, including routers, switches, servers, firewalls, etc. You can achieve user management through the SNMP configuration interface and monitor and control devices through the third-party software.

6.5.2 Global Configuration

1. Overview

The purpose of global configuration is to enable the SNMP service and make the SNMP protocol version (v1/v2c/v3) take effect, so as to achieve basic configuration of local port, device location, and contact information.

SNMP v1: As the earliest version of SNMP, SNMP v1 has poor security, and only supports simple community string authentication. SNMP v1 has certain flaws, such as plaintext transmission of community strings and vulnerability to attacks. Therefore, SNMP v1 is not recommended for modern networks.

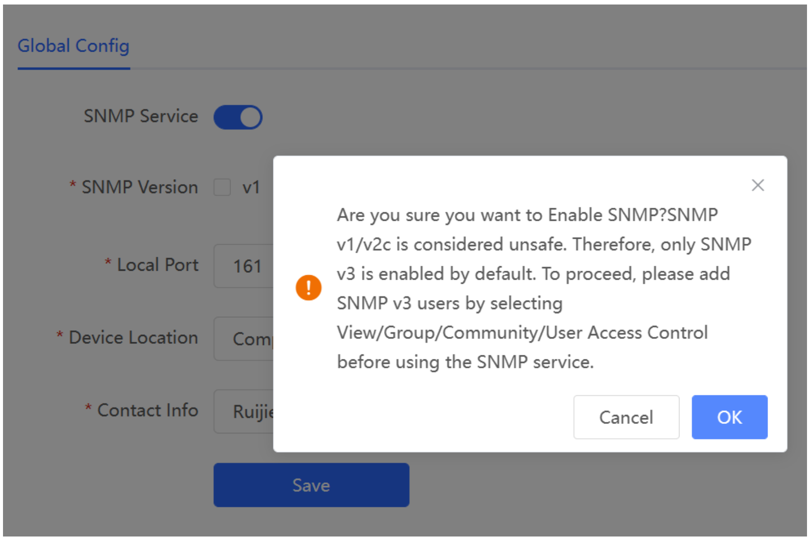
SNMP v2c: As an improved version of SNMP v1, SNMP v2c supports richer functions and more complex data types, with enhanced security. SNMP v2c performs better than SNMP v1 in terms of security and functionality, and is more flexible. It can be configured according to different needs.

SNMP v3: As the newest version, SNMP v3 supports security mechanisms such as message authentication and encryption compared to SNMP v1 and SNMP v2c. SNMP v3 has achieved significant improvements in security and access control.

2. Configuration Steps

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **Global Config**.

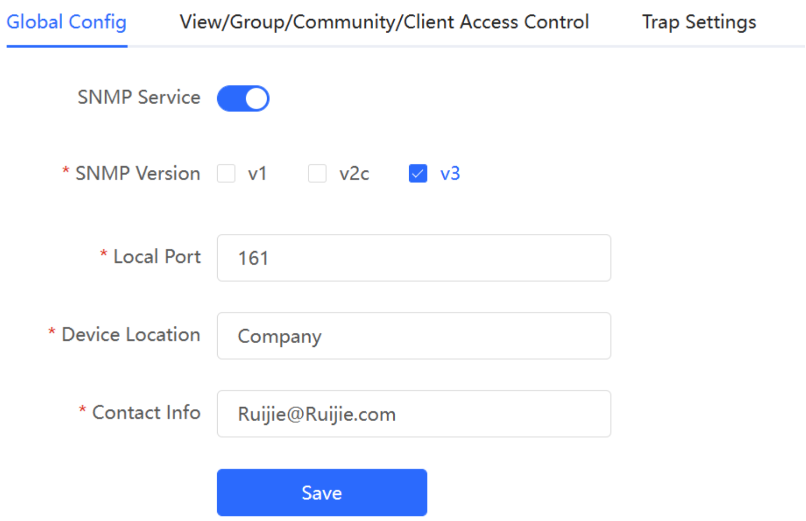
(1) Enable the SNMP service.



Are you sure you want to Enable SNMP?SNMP v1/v2c is considered unsafe. Therefore, only SNMP v3 is enabled by default. To proceed, please add SNMP v3 users by selecting View/Group/Community/User Access Control before using the SNMP service.

When it is enabled for the first time, SNMP v3 is enabled by default. Click **OK**.

(2) Set SNMP service global configuration parameters.



SNMP Service: On

* SNMP Version: □ v1 □ v2c ☑ v3

* Local Port: 161

* Device Location: Company

* Contact Info: Ruijie@Ruijie.com

Table 6-1 **Global Configuration Parameters**

Parameter	Description
SNMP Service	Indicates whether SNMP service is enabled.
SNMP Version	Indicates the SNMP protocol version, including v1, v2c, and v3 versions.
Local Port	The port range is 1 to 65535.
Device Location	1-64 characters. Chinese characters, full-width characters, question marks, and spaces are not allowed.
Contact Info	1-64 characters. Chinese characters, full-width characters, question marks, and spaces are not allowed.

(3) Click **Save**.

After the SNMP service is enabled, click **Save** to make basic configurations such as the SNMP protocol version number take effect.

6.5.3 View/Group/Community/User Access Control

1. Configuring Views

- Overview

Management Information Base (MIB) can be regarded as a database storing the status information and performance data of network devices. It contains a large number of object identifiers (OIDs) to identify the status information and performance data of these network devices.

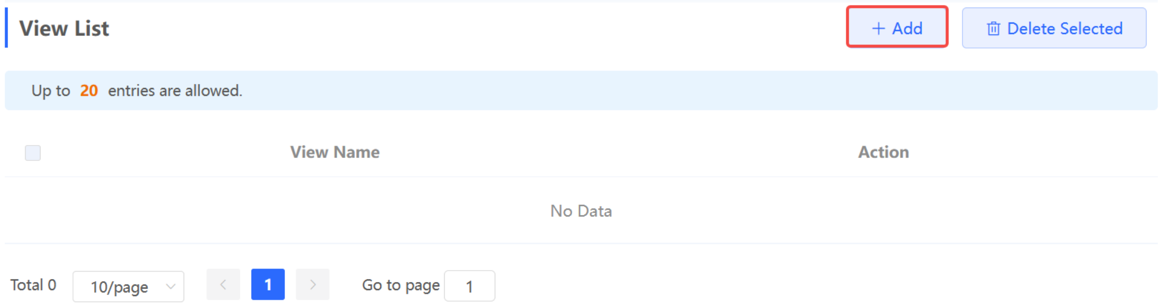
Views in SNMP can limit the range of MIB nodes that the management system can access, thereby improving the security and reliability of network management. Views are an indispensable part of SNMP and need to be configured or customized according to specific management requirements.

A view can have multiple subtrees. The management system can only access MIB nodes in these subtrees, and cannot access other unauthorized MIB nodes. This can prevent unauthorized system administrators from accessing sensitive MIB nodes, thereby protecting the security of network devices. Moreover, views can also improve the efficiency of network management and speed up the response from the management system.

- Configuration Steps

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **View/Group/Community/Client Access Control** > **View List.**

(1) Click **Add** under the View List to add a view.

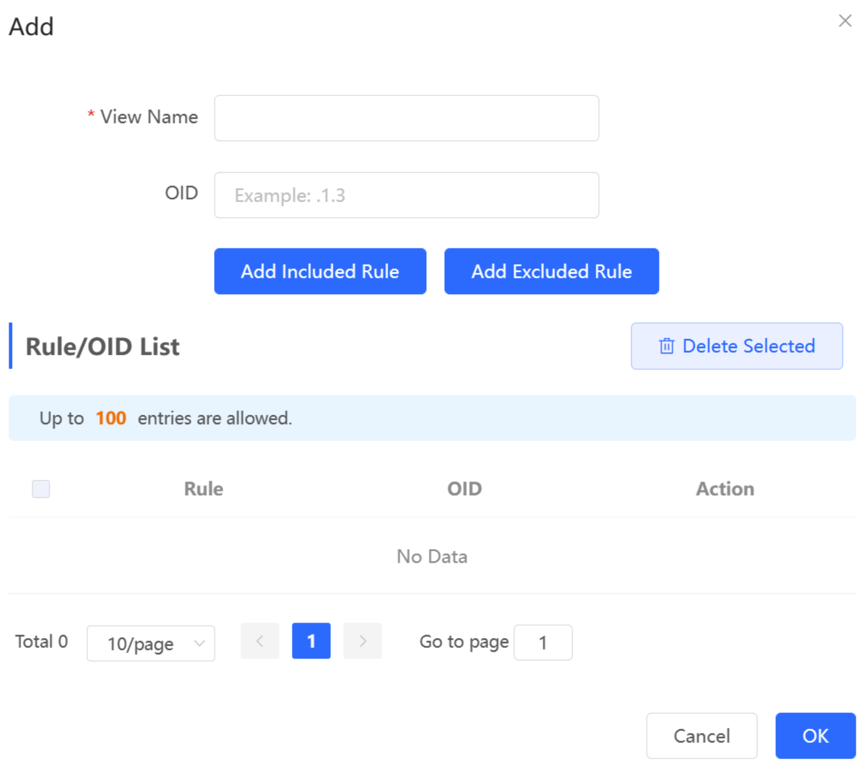


View List

Up to 20 entries are allowed.

□	View Name	Action
No Data		

(2) Configure basic information of a view.



Add

* View Name

OID Example: .1.3

Rule/OID List

Up to 100 entries are allowed.

□	Rule	OID	Action
No Data			

Total 0 10/page 1 Go to page 1

Table 6-2 View Configuration Parameters

Parameter	Description
View Name	Indicates the name of the view. 1-32 characters. Chinese or full width characters are not allowed.
OID	Indicates the range of OIDs included in the view, which can be a single OID or a subtree of OIDs.
Type	There are two types of rules: included and excluded rules. ● The included rule only allows access to OIDs within the OID range. Click **Add Included Rule** to set this type of view. ● Excluded rules allow access to all OIDs except those in the OID range. Click **Add Excluded Rule** to configure this type of view.

Note

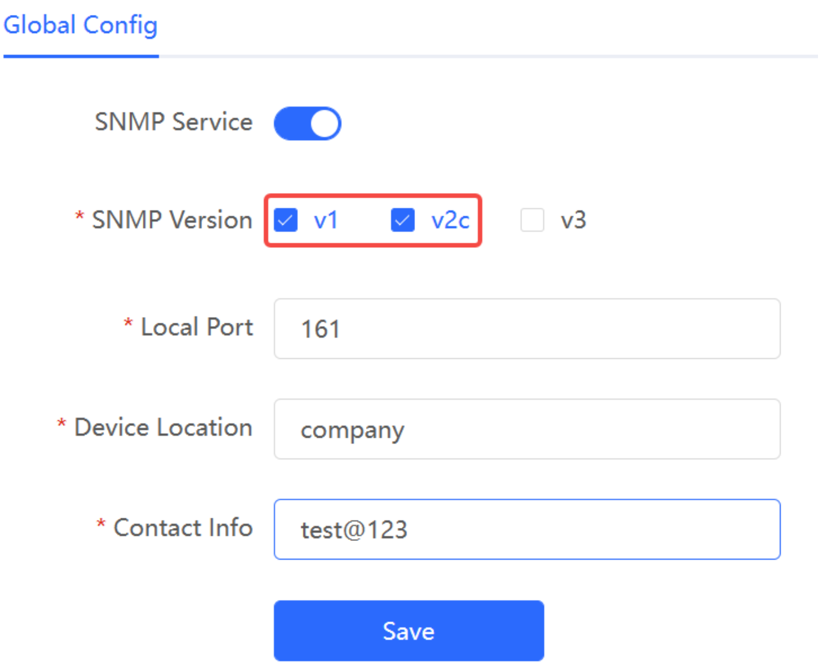
A least one OID rule must be configured for a view. Otherwise, an alarm message will appear.

(3) Click **OK**.

2. Configuring v1/v2c Users

- Overview

When the SNMP version is set to v1/v2c, user configuration is required.



Global Config

SNMP Service: on

* SNMP Version: ☑ v1 ☑ v2c □ v3

* Local Port: 161

* Device Location: company

* Contact Info: test@123

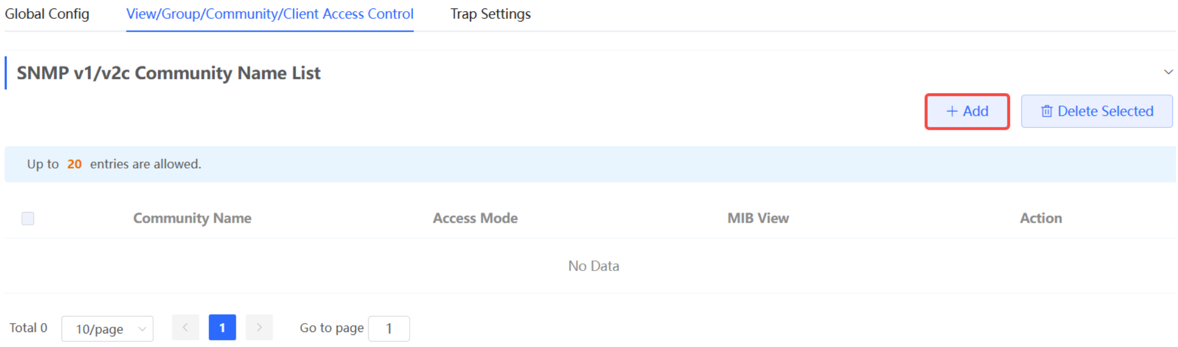
Note

Select the SNMP protocol version, and click **Save**. The corresponding configuration options will appear on the **View/Group/Community/User Access Control** page.

- Configuration Steps

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **View/Group/Community/Client Access Control** > **SNMP v1/v2c Community Name List.**

(1) Click **Add** in the **SNMP v1/v2c Community Name List** pane.

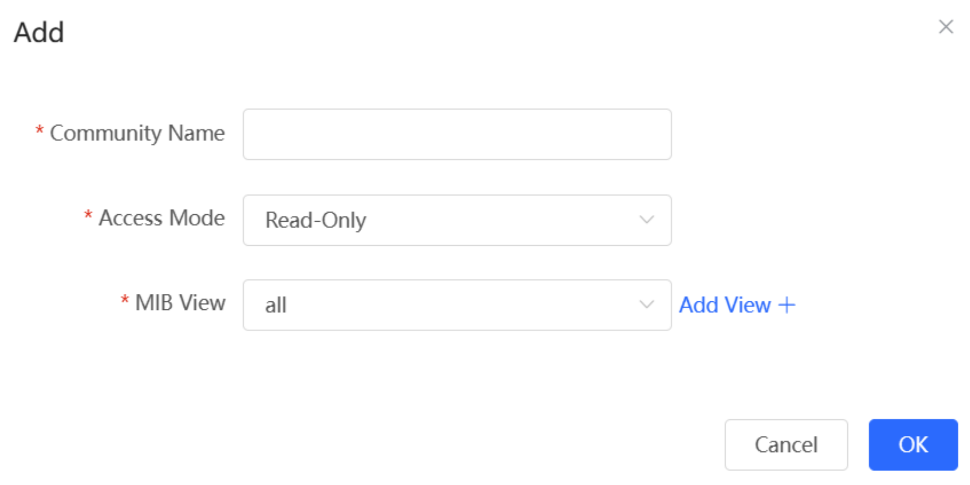


SNMP v1/v2c Community Name List

Up to 20 entries are allowed.

□	Community Name	Access Mode	MIB View	Action
No Data				

(2) Add a v1/v2c user.



Add

* Community Name

* Access Mode: Read-Only

* MIB View: all

Table 6-3 v1/v2c User Configuration Parameters

Parameter	Description
Community Name	At least 8 characters. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Admin, public or private community names are not allowed. Question marks, spaces, and Chinese characters are not allowed.
Access Mode	Indicates the access permission (read-only or read & write) for the community name.
MIB View	The options under the drop-down box are configured views (default: all, none).

⚠ **Caution**

- Community names cannot be the same among v1/v2c users.
- Click **Add View** to add a view.

(3) Click **OK**.

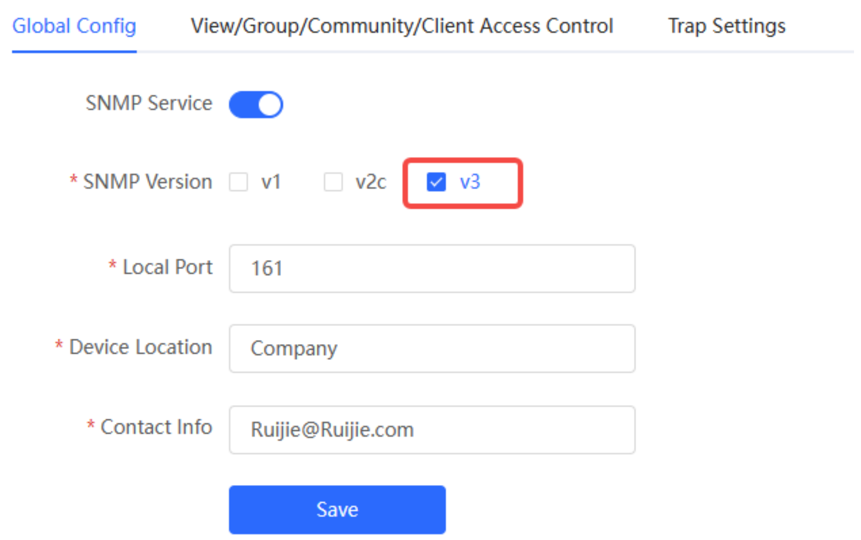
3. Configuring v3 Groups

- Overview

SNMP v3 introduces the concept of grouping to achieve better security and access control. A group is a group of SNMP users with the same security policies and access control settings. With SNMP v3, multiple groups can be configured, each with its own security policies and access control settings. Each group can have one or more users.

- Prerequisites

When the SNMP version is set to v3, the v3 group configuration is required.



SNMP Service: on

* SNMP Version: □ v1 □ v2c ☑ v3

* Local Port: 161

* Device Location: Company

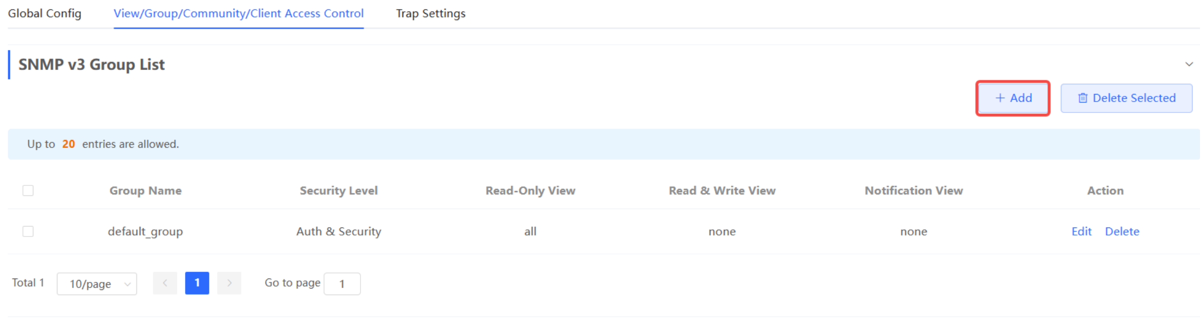
* Contact Info: Ruijie@Ruijie.com

> **Note**
>
> Select the SNMP protocol version, and click **Save**. The corresponding configuration options will appear on the **View/Group/Community/User Access Control** page.

- Configuration Steps

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **View/Group/Community/Client Access Control** > **SNMP v3 Group List.**

(1) Click **Add** in the **SNMP v3 Group List** pane to create a group.

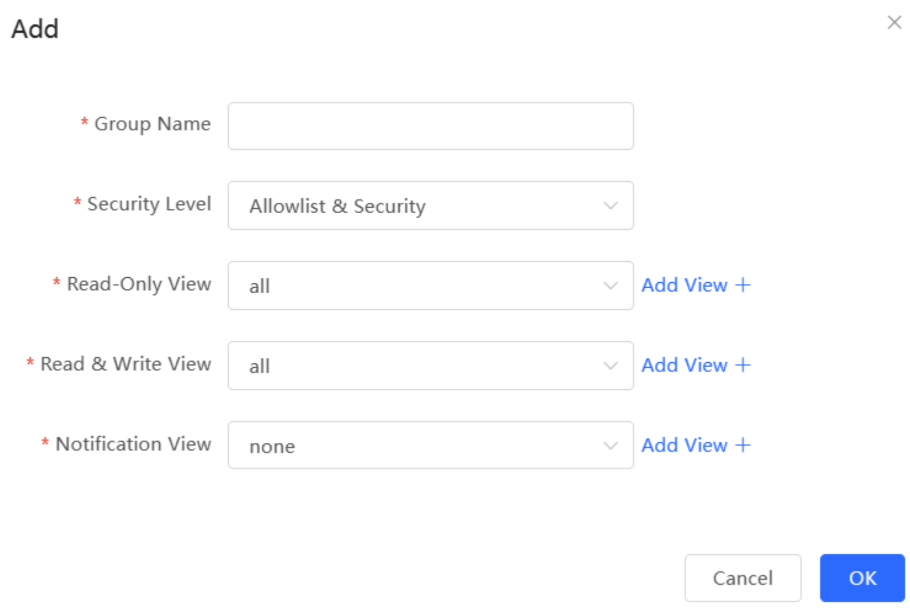


Up to 20 entries are allowed.

□	Group Name	Security Level	Read-Only View	Read & Write View	Notification View	Action
□	default_group	Auth & Security	all	none	none	Edit Delete

Total 1 10/page 1 Go to page 1

(2) Configure v3 group parameters.



Add

* Group Name

* Security Level: Allowlist & Security

* Read-Only View: all

* Read & Write View: all

* Notification View: none

Table 6-4 v3 Group Configuration Parameters

Parameter	Description
Group Name	Indicates the name of the group. 1-32 characters. Chinese characters, full-width characters, question marks, and spaces are not allowed.
Security Level	Indicates the minimum security level (authentication and encryption, authentication but no encryption, no authentication and encryption) of the group.
Read-Only View	The options under the drop-down box are configured views (default: all, none).
Read & Write View	The options under the drop-down box are configured views (default: all, none).
Notification View	The options under the drop-down box are configured views (default: all, none).

Caution

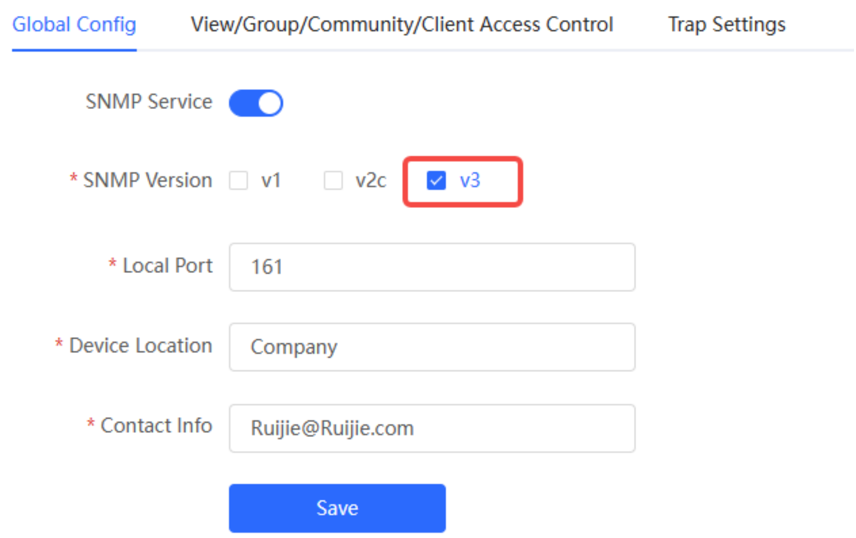
- A group defines the minimum security level, read and write permissions, and scope for users within the group.
- The group name must be unique. To add a view, click **Add View**.

(3) Click **OK**.

4. Configuring v3 Users

- Prerequisites

When the SNMP version is set to v3, the v3 group configuration is required.



Global Config | View/Group/Community/Client Access Control | Trap Settings

SNMP Service: ●

* SNMP Version: □ v1 □ v2c ☑ v3

* Local Port: 161

* Device Location: Company

* Contact Info: Ruijie@Ruijie.com

Save

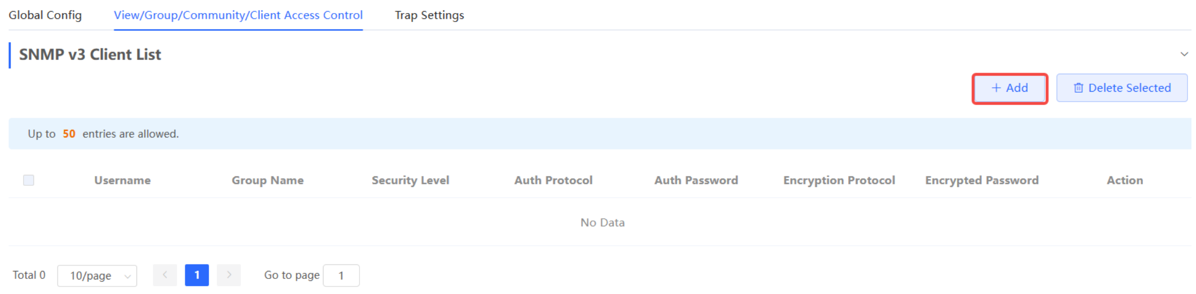
Note

Select the SNMP protocol version, and click **Save**. The corresponding configuration options will appear on the **View/Group/Community/User Access Control** page.

- Configuration Steps

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **View/Group/Community/Client Access Control** > **SNMP v3 Client List.**

(1) Click **Add** in the **SNMP v3 Client List** pane to add a v3 user.



Global Config | View/Group/Community/Client Access Control | Trap Settings

SNMP v3 Client List

+ Add | Delete Selected

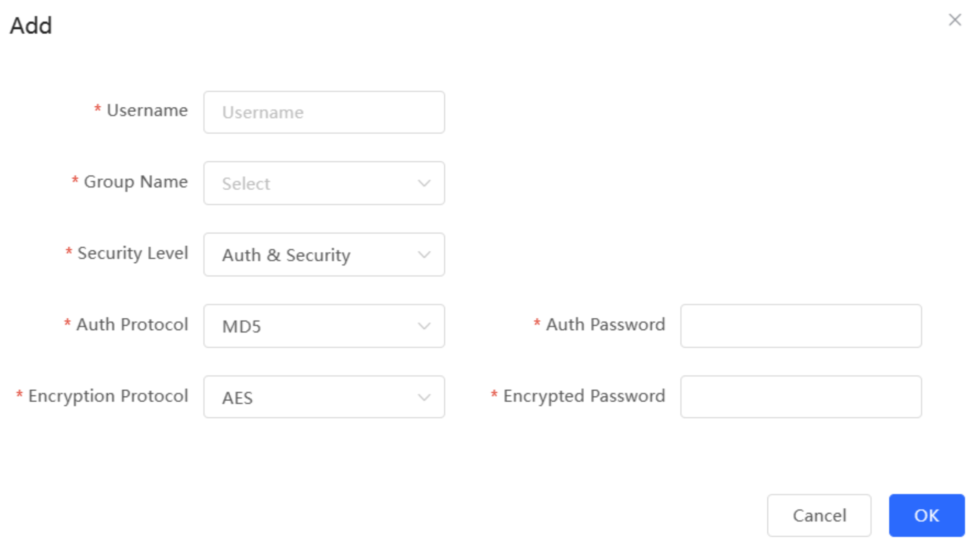
Up to 50 entries are allowed.

□	Username	Group Name	Security Level	Auth Protocol	Auth Password	Encryption Protocol	Encrypted Password	Action

No Data

Total 0 | 10/page | 1 | Go to page 1

(2) Configure v3 user parameters.



Add

* Username	Username		
* Group Name	Select		
* Security Level	Auth & Security		
* Auth Protocol	MD5	* Auth Password	
* Encryption Protocol	AES	* Encrypted Password	

Table 6-5 v3 User Configuration Parameters

Parameter	Description
Username	Username At least 8 characters. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Admin, public or private community names are not allowed. Question marks, spaces, and Chinese characters are not allowed.
Group Name	Indicates the group to which the user belongs.
Security Level	Indicates the security level (authentication and encryption, authentication but no encryption, and no authentication and encryption) of the user.
Auth Protocol, Auth Password	Authentication protocols supported: MD5/SHA/SHA224/SHA256/SHA384/SHA512. Authentication password: 8-31 characters. Chinese characters, full-width characters, question marks, and spaces are not allowed. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Note: This parameter is mandatory when the security level is authentication and encryption, or authentication but no encryption.

Parameter	Description
Encryption Protocol, Encrypted Password	Encryption protocols supported: DES/AES/AES192/AES256. Encryption password: 8-31 characters. Chinese characters, full-width characters, question marks, and spaces are not allowed. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Note: This parameter is mandatory when the security level is authentication and encryption.

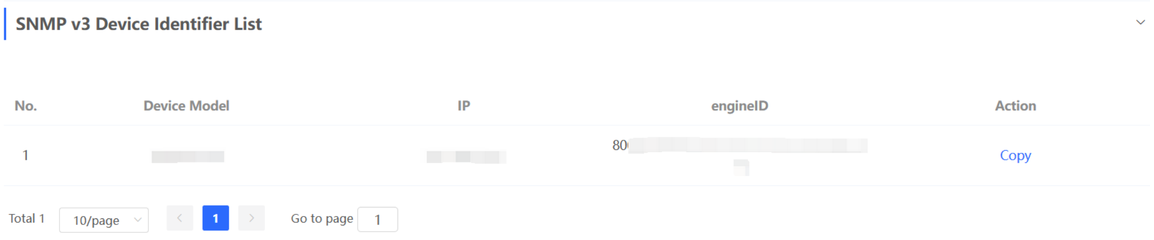
⚠ **Caution**

- The security level of v3 users must be greater than or equal to that of the group.
- There are three security levels, among which authentication and encryption requires the configuration of authentication protocol, authentication password, encryption protocol, and encryption password. Authentication but no encryption only requires the configuration of authentication protocol and encryption protocol, while no authentication and encryption does not require any configuration.

5. Viewing v3 Device Identifier

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **View/Group/Community/Client Access Control** > **SNMP v3 Device Identifier List.**

View the v3 device identifier in the **SNMP v3 Device Identifier List** pane.



SNMP v3 Device Identifier List

No.	Device Model	IP	engineID	Action
1	[redacted]	[redacted]	80[redacted]	Copy

6.5.4 SNMP Service Typical Configuration Examples

1. Configuring SNMP v2c

- Application Scenario

You only need to monitor the device information, but do not need to set and deliver it. A third-party software can be used to monitor the data of nodes like 1.3.6.1.2.1.1 if v2c version is configured.

- Configuration Specification

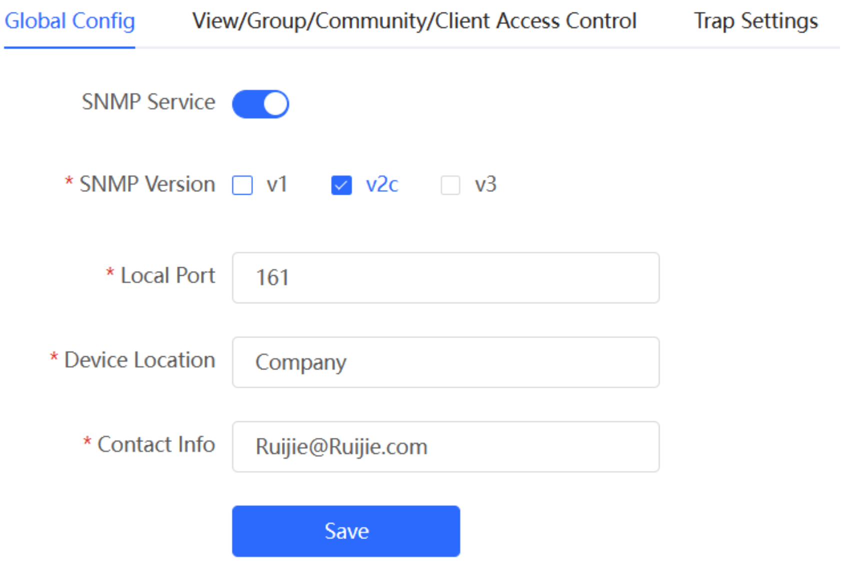
According to the user's application scenario, the requirements are shown in the following table:

Table 6-6 User Requirement Specification

Item	Description
View range	Included rule: the OID is .1.3.6.1.2.1.1, and the custom view name is "system".
Version	For SNMP v2c, the custom community name is "Ruijie_com", and the default port number is 161.
Read & write permission	Read-only permission.

- Configuration Steps

(1) In the global configuration interface, select v2c and set other settings as default. Then, click **Save**.



SNMP Service: on

* SNMP Version: □ v1 ☑ v2c □ v3

* Local Port: 161

* Device Location: Company

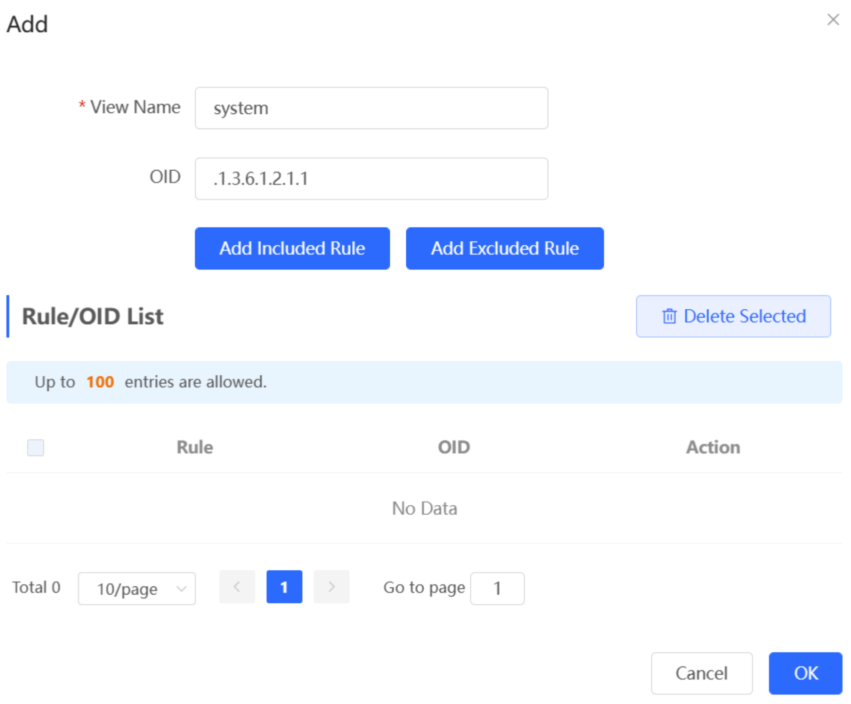
* Contact Info: Ruijie@Ruijie.com

(2) Add a view on the **View/Group/Community/Client Access Control** interface.

a Click **Add** in the **View List** pane to add a view.

b Enter the view name and OID in the pop-up window, and click **Add Included Rule**.

c Click **OK**.



Add

* View Name: system

OID: .1.3.6.1.2.1.1

Up to 100 entries are allowed.

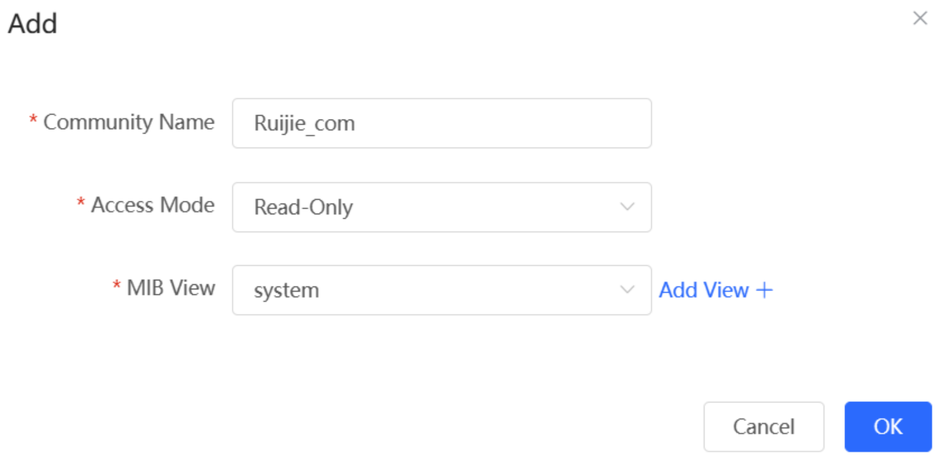
□	Rule	OID	Action
No Data			

(3) On the View/Group/Community/Client Access Control interface, enter the SNMP v1/v2c community name.

a Click **Add** in the **SNMP v1/v2c Community Name List** pane.

b Enter the group name, access mode, and view in the pop-up window.

c Click **OK**.



Add

* Community Name: Ruijie_com

* Access Mode: Read-Only

* MIB View: system

2. Configuring SNMP v3

- Application Scenario

You need to monitor and control devices, and use the third-party software to monitor and deliver device information to public nodes (1.3.6.1.2.1). The security level of v3 is authentication and encryption.

- Configuration Specification

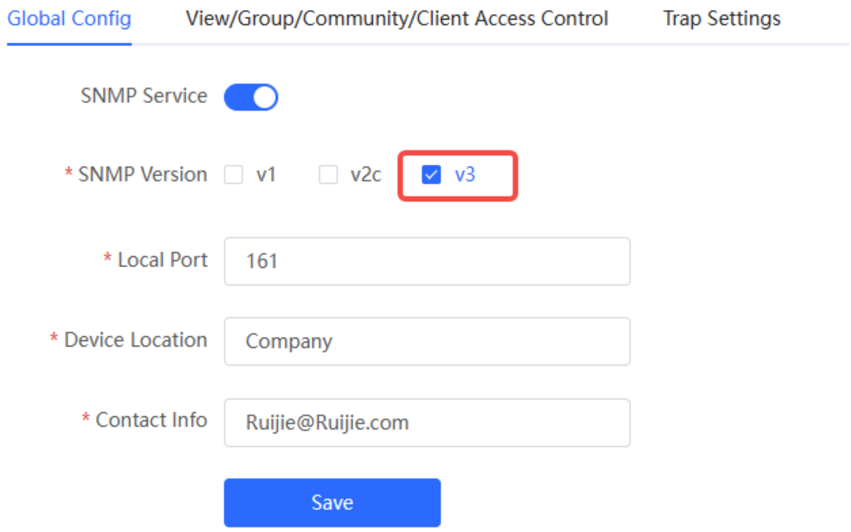
According to the user's application scenario, the requirements are shown in the following table:

Table 6-7 **User Requirement Specification**

Item	Description
View range	Included rule: the OID is .1.3.6.1.2.1, and the custom view name is "public_view".
Group configuration	Group name: group Security level: authentication and encryption Select public_view for a read-only view. Select public_view for a read & write view. Select none for a notify view.
Configuring v3 Users	User name: v3_user Group name: group Security level: authentication and encryption Authentication protocol/password: MD5/Ruijie123 Encryption protocol/password: AES/Ruijie123
Version	For SNMP v3, the default port number is 161.

- Configuration Steps

(1) On the global configuration interface, select v3, and change the port number to 161. Set other settings to defaults. Then, click **Save**.



SNMP Service: on

* SNMP Version: □ v1 □ v2c ☑ v3

* Local Port: 161

* Device Location: Company

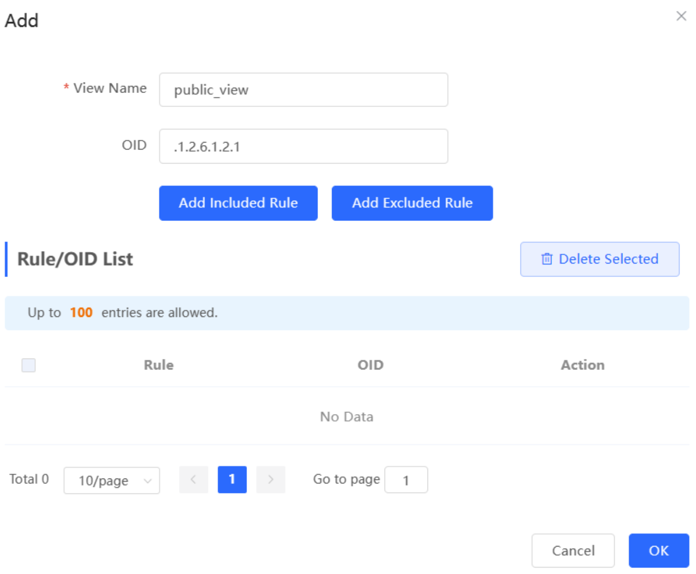
* Contact Info: Ruijie@Ruijie.com

(2) Add a view on the **View/Group/Community/Client Access Control** interface.

a Click **Add** in the **View List** pane.

b Enter the view name and OID in the pop-up window, and click **Add Included Rule**.

c Click **OK**.



Add

* View Name: public_view

OID: .1.2.6.1.2.1

Up to 100 entries are allowed.

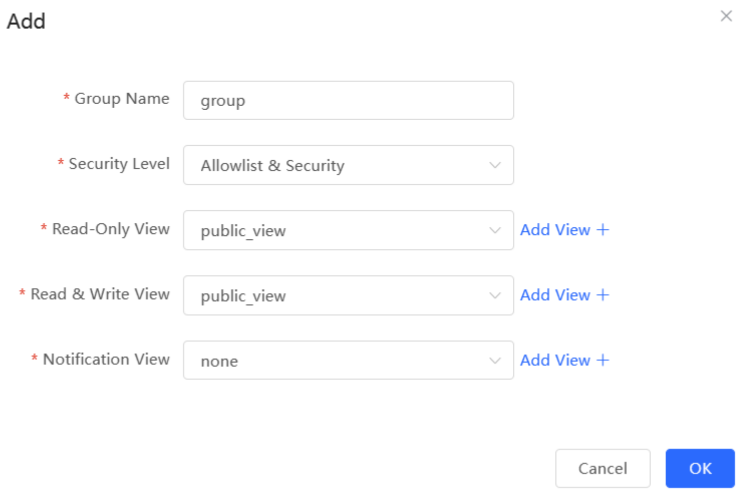
□	Rule	OID	Action
No Data			

(3) On the **View/Group/Community/Client Access Control** interface, add an SNMP v3 group.

a Click **Add** in the **SNMP v3 Group List** pane.

b Enter the group name and security level on the pop-up window. As this user has read and write permissions, select public_view for read-only and read & write views, and select none for notify views.

c Click **OK**.



Add

* Group Name: group

* Security Level: Allowlist & Security

* Read-Only View: public_view

* Read & Write View: public_view

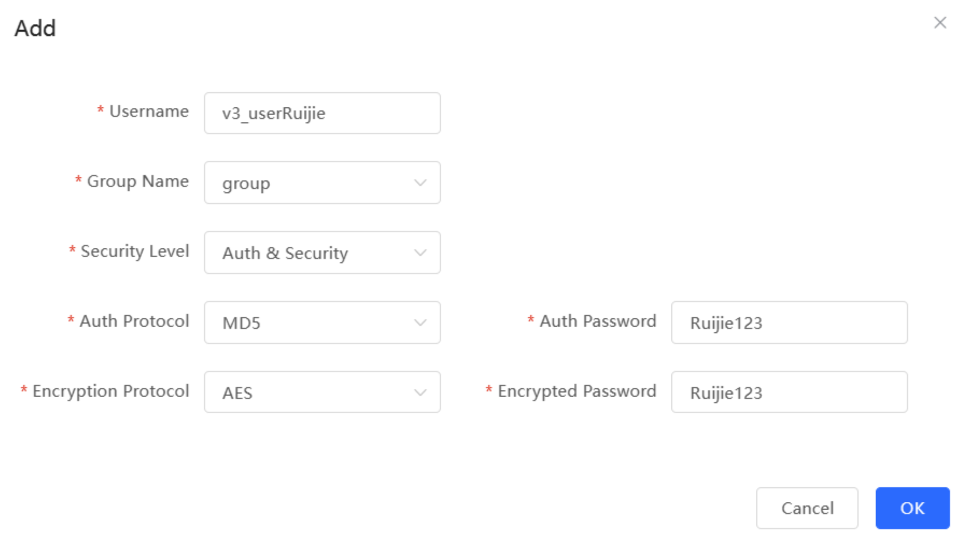
* Notification View: none

(4) On the **View/Group/Community/Client Access Control** interface, add an SNMP v3 user.

a Click **Add** in the **SNMP v3 Client List** pane.

b Enter the user name and group name in the pop-up window. As the user's security level is authentication and encryption, enter the authentication protocol, authentication password, encryption protocol, and encryption password.

c Click **OK**.



Add

* Username: v3_userRuijie

* Group Name: group

* Security Level: Auth & Security

* Auth Protocol: MD5

* Auth Password: Ruijie123

* Encryption Protocol: AES

* Encrypted Password: Ruijie123

6.5.5 Configuring Trap Service

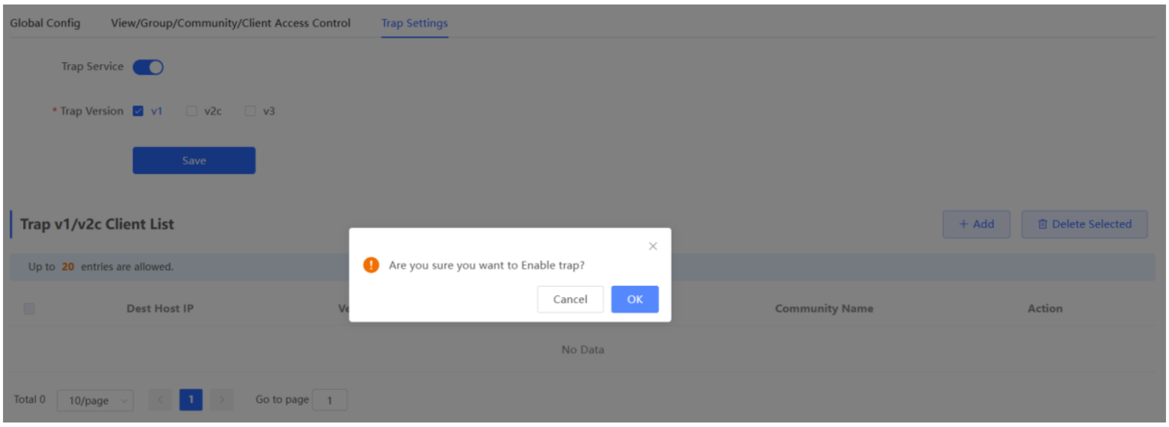
Trap is a notification mechanism of the Simple Network Management Protocol (SNMP) protocol. It is used to report the status and events of network devices to administrators, including device status, faults, performance, configuration, and security management. Trap provides real-time network monitoring and fault diagnosis services, helping administrators discover and solve network problems in a timely manner.

1. Enabling Trap Service

Enable the trap service and select the effective trap version, including v1, v2c, and v3 versions.

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **Trap Settings.**

(1) Enable the trap service.



Trap Service: enabled

* Trap Version: ☑ v1 □ v2c □ v3

Trap v1/v2c Client List

Up to 20 entries are allowed.

Are you sure you want to Enable trap?

□	Dest Host IP	Ve	Community Name	Action

No Data

Total 0

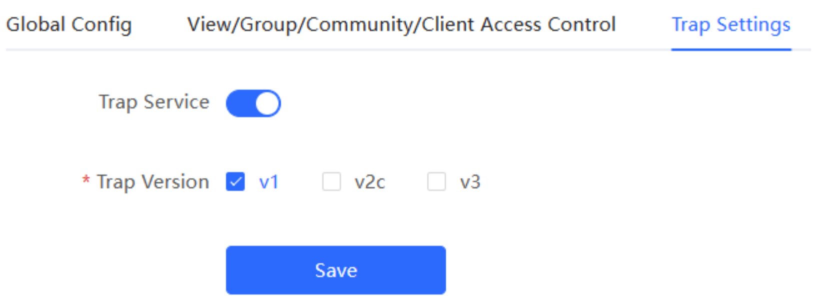
When the trap service is enabled for the first time, the system will pop up a prompt message. Click **OK**.

(2) Set the trap version.

The trap versions include v1, v2c, and v3.

(3) Click **Save**.

After the trap service is enabled, click **Save** for the configuration to take effect.



Trap Service ●

* Trap Version ☑ v1 □ v2c □ v3

2. Configuring Trap v1/v2c Users

- Overview

Trap is a notification mechanism that is used to send alerts to administrators when important events or failures occur on devices or services. Trap v1/v2c are two versions in the SNMP protocol for network management and monitoring.

Trap v1 is the first version that supports basic alert notification functionality. Trap v2c is the second version, which supports more alert notification options and advanced security features.

By using trap v1/v2c, administrators can promptly understand problems on the network and take corresponding measures.

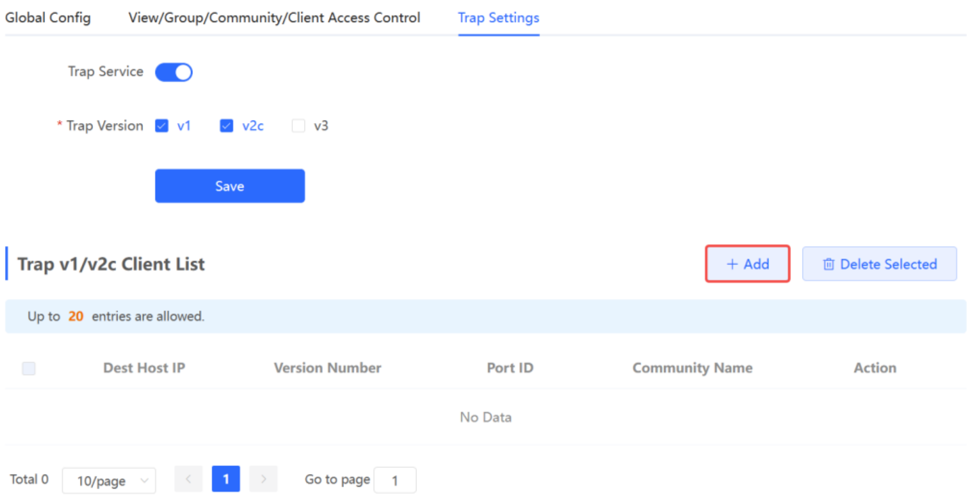
- Prerequisites

  Once trap v1 and v2c versions are selected, it is necessary to add trap v1v2c users.

- Configuration Steps

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **Trap Settings.**

(1) Click **Add** in the **Trap v1/v2c Client List** pane to add a trap v1/v2c user.



Trap Service ●

* Trap Version ☑ v1 ☑ v2c □ v3

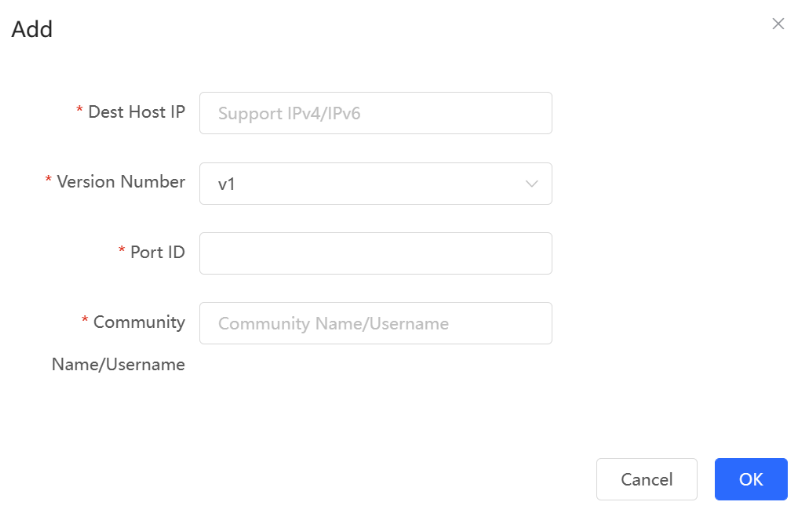
Trap v1/v2c Client List

Up to 20 entries are allowed.

□	Dest Host IP	Version Number	Port ID	Community Name	Action

No Data

(2) Configure trap v1/v2c user parameters.


Add

* Dest Host IP: Support IPv4/IPv6

* Version Number: v1

* Port ID:

* Community Name/Username: Community Name/Username

Table 6-8 Trap v1/v2c User Configuration Parameters

Parameter	Description
Dest Host IP	IP address of the trap peer device. An IPv4 or IPv6 address is supported.
Version Number	Trap version, including v1 and v2c.
Port ID	The port range of the trap peer device is 1 to 65535.
Community Name/Username	Community name of the trap user. At least 8 characters. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Admin, public or private community names are not allowed. Question marks, spaces, and Chinese characters are not allowed.

⚠ **Caution**

- The destination host IP address of trap v1/ v1/v2c users cannot be the same.
- Community names of trap v1/ v1/v2c users cannot be the same.

(3) Click **OK**.

3. Configuring Trap v3 Users

- Overview

Trap v3 is a network management mechanism based on the SNMP protocol. It is used to send alert notifications to administrators. Unlike previous versions, trap v3 provides more secure and flexible configuration options, including authentication and encryption features.

Trap v3 offers custom conditions and methods for sending alerts, as well as the recipients and notification methods for receiving alerts. This enables administrators to have a more accurate understanding of the status of network devices and to take timely measures to ensure the security and reliability of the network.

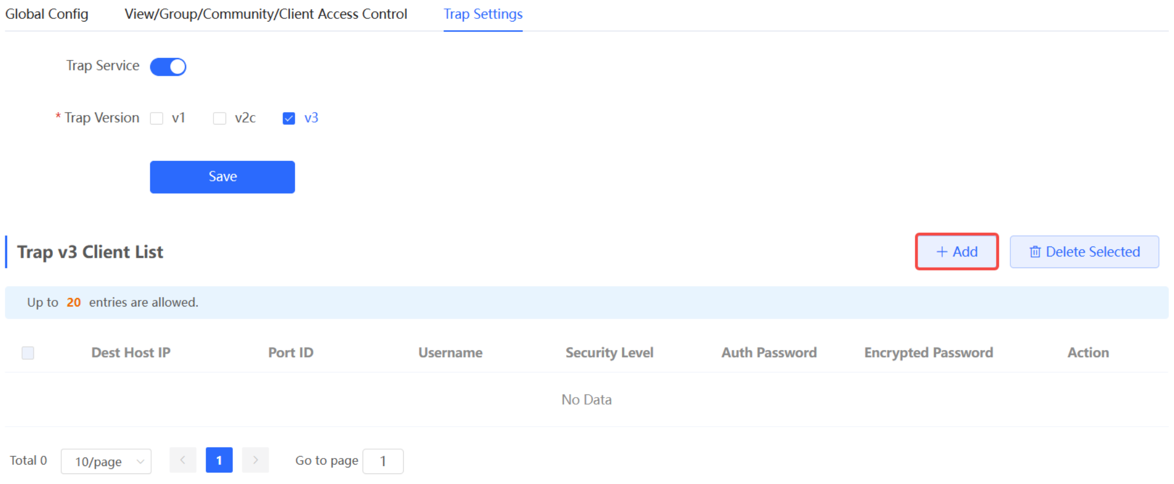
- Prerequisites

When the v3 version is selected for the trap service, it is necessary to add a trap v3 user.

- Configuration Steps

Choose **Network-Wide** > **Workspace** > **Network-Wide** > **SNMP** > **Trap Settings.**

(1) Click **Add** in the **Trap v3 Client List** pane to add a trap v3 user.



Trap Service: on

* Trap Version □ v1 □ v2c ☑ v3

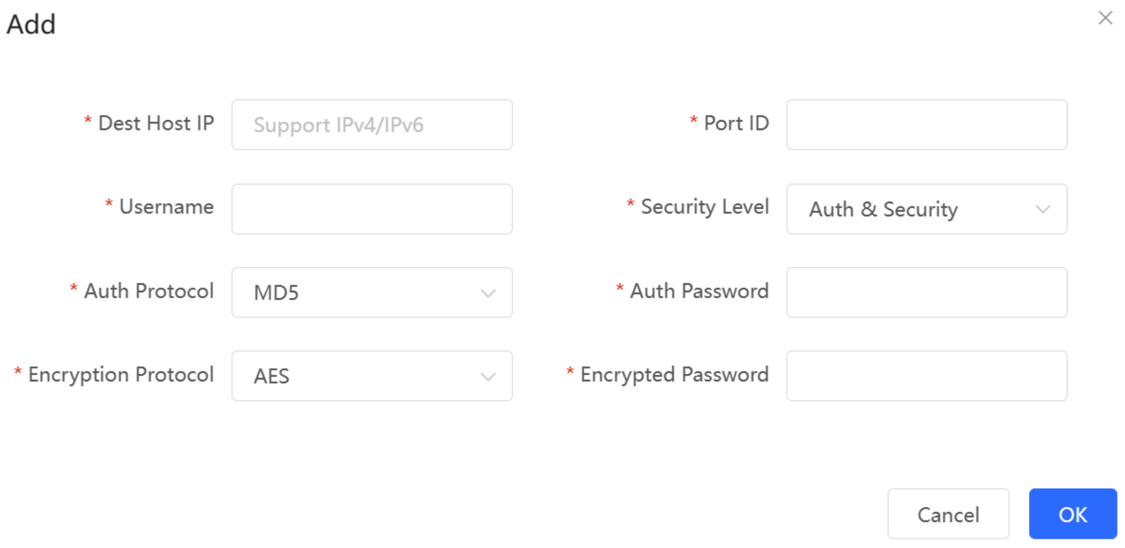
Trap v3 Client List

Up to 20 entries are allowed.

□	Dest Host IP	Port ID	Username	Security Level	Auth Password	Encrypted Password	Action
No Data							

Total 0 10/page 1 Go to page 1

(2) Configure trap v3 user parameters.


Add

* Dest Host IP	Support IPv4/IPv6	* Port ID	
* Username		* Security Level	Auth & Security
* Auth Protocol	MD5	* Auth Password	
* Encryption Protocol	AES	* Encrypted Password	

Table 6-9 **Trap v3 User Configuration Parameters**

Parameter	Description
Dest Host IP	IP address of the trap peer device. An IPv4 or IPv6 address is supported.
Port ID	The port range of the trap peer device is 1 to 65535.

Parameter	Description
Username	Name of the trap v3 user. At least 8 characters. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Admin, public or private community names are not allowed. Question marks, spaces, and Chinese characters are not allowed.
Security Level	There are three security levels for a trap user, which are "Auth & Security", "Auth & Open", and "Allowlist & Security".
Auth Protocol, Auth Password	Authentication protocols supported: MD5/SHA/SHA224/SHA256/SHA384/SHA512. Authentication password: 8-31 characters. Chinese characters, full-width characters, question marks, and spaces are not allowed. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Note: This parameter must be set when the Security Level is Auth & Security or Auth & Open.
Encryption Protocol, Encrypted Password	Encryption protocols supported: DES/AES/AES192/AES256. Encryption password: 8-31 characters. Chinese characters, full-width characters, question marks, and spaces are not allowed. It must contain at least three character categories, including uppercase and lowercase letters, digits, and special characters. Note: This parameter must be set when the Security Level is Auth & Security.

⚠ **Caution**

The destination host IP address of trap v1/v2c/v3 users cannot be the same.

(3) Click **OK**.

6.5.6 Trap Service Typical Configuration Examples

1. Configuring Trap v2c

- Application Scenarios

During device monitoring, if the device is suddenly disconnected or encounters an abnormality, and the third-party monitoring software cannot detect and handle the abnormal situation in a timely manner, you can configure the device with a destination IP address of 192.168.110.85 and a port number of 166 to enable the device to send a v2c trap in case of an abnormality.

- Configuration Specification

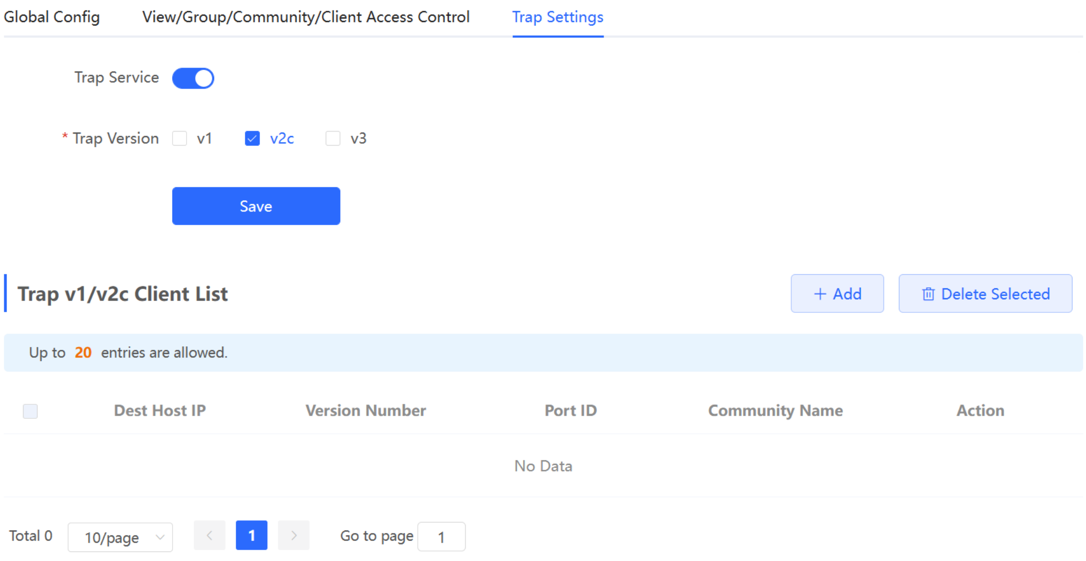
According to the user's application scenario, the requirements are shown in the following table:

Table 6-10 User Requirement Specification

Item	Description
IP address and port number	The destination host IP is 192.168.110.85, and the port number is 166.
Version	Select the v2c version.
Community name/User name	Trap_ruijie

- Configuration Steps

(1) Select the v2c version in the **Trap Setting** interface and click **Save**.



Global Config View/Group/Community/Client Access Control Trap Settings

Trap Service ●

* Trap Version □ v1 ☑ v2c □ v3

Save

Trap v1/v2c Client List + Add Delete Selected

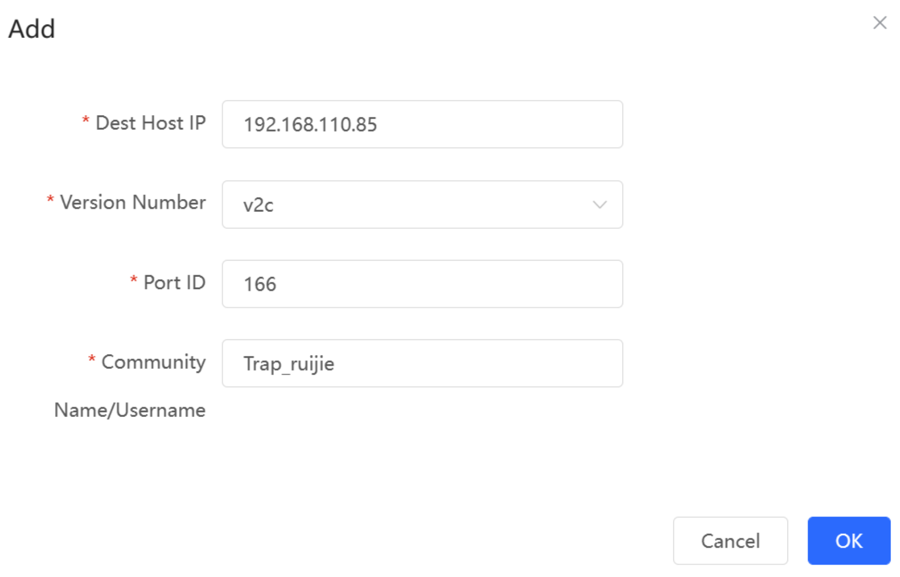
Up to 20 entries are allowed.

□	Dest Host IP	Version Number	Port ID	Community Name	Action
			No Data		

Total 0 10/page < 1 > Go to page 1

(2) Click **Add** in the Trap v1/v2c Client List to add a trap v2c user.

(3) Enter the destination host IP address, version, port number, user name, and other information. Then, click **OK**.


Add

* Dest Host IP: 192.168.110.85

* Version Number: v2c

* Port ID: 166

* Community Name/Username: Trap_ruijie

2. Configuring Trap v3

- Application Scenarios

During device monitoring, if the device is suddenly disconnected or encounters an abnormality, and the third-party monitoring software cannot detect and handle the abnormal situation in a timely manner, you can configure the device with a destination IP address of 192.168.110.87 and a port number of 167 to enable the device to send a v3 trap, which is a safer trap compared with v1/v2c traps.

- Configuration Specification

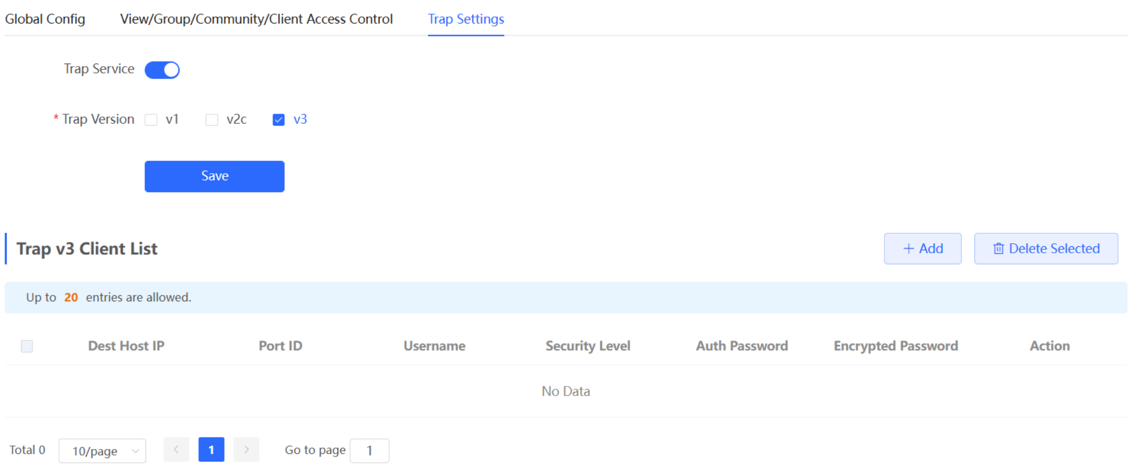
According to the user's application scenario, the requirements are shown in the following table:

Table 6-11 User Requirement Specification

Item	Description
IP address and port number	The destination host IP is 192.168.110.87, and the port number is 167.
Version and user name	Select the v3 version and trapv3_ ruijie for the user name.
Authentication protocol/authentication password Encryption protocol/encryption password	Authentication protocol/password: MD5/Ruijie123 Encryption protocol/password: AES/Ruijie123

- Configuration Steps

(1) Select the v3 version in the **Trap Setting** interface and click **Save**.



Trap Service ●

* Trap Version □ v1 □ v2c ☑ v3

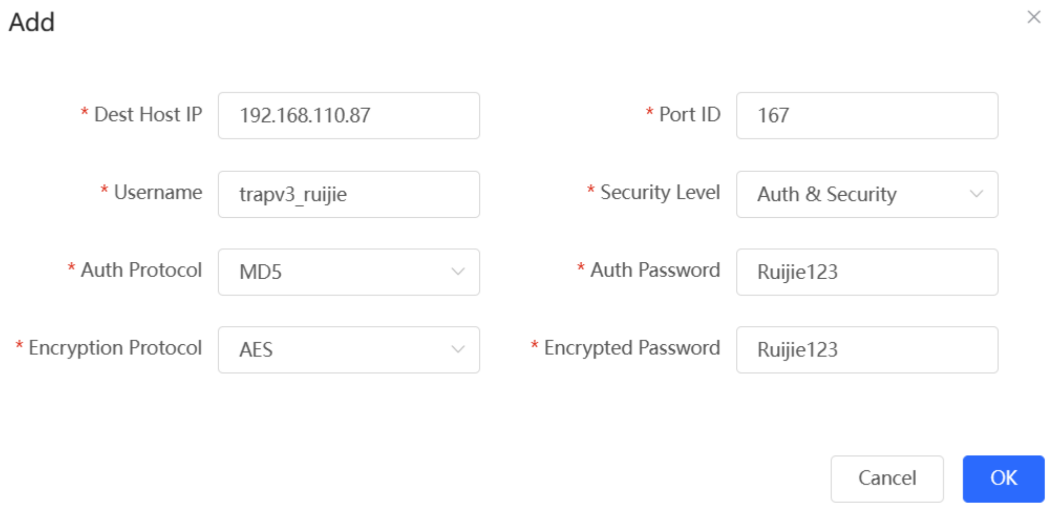
Trap v3 Client List

Up to 20 entries are allowed.

□	Dest Host IP	Port ID	Username	Security Level	Auth Password	Encrypted Password	Action
No Data							

(2) Click **Add** in the Trap v3 Client List to add a trap v3 user.

(3) Enter the destination host IP address, port number, user name, and other information. Then, click **OK**.



Add

* Dest Host IP: 192.168.110.87

* Port ID: 167

* Username: trapv3_ruijie

* Security Level: Auth & Security

* Auth Protocol: MD5

* Auth Password: Ruijie123

* Encryption Protocol: AES

* Encrypted Password: Ruijie123

6.6 Configuring Reboot

Caution

- Do not cut off power during system reboot to avoid device damage.
- Do not refresh the page or close the browser during the reboot. After the device is successfully rebooted and the Web service becomes available, the device automatically jumps to the login page.
- Rebooting the device affects the network. Therefore, exercise caution when performing this operation.

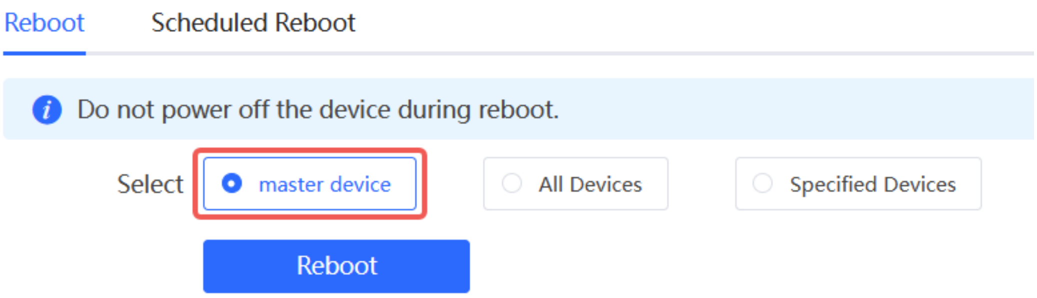
6.6.1 Rebooting the Master Device

In self-organizing network mode:

- Choose **Network-Wide** > **System** > **Reboot**. Click the **Reboot** tab and select **master device**.
- Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Reboot**. Click the **Reboot** tab and select **master**

device.

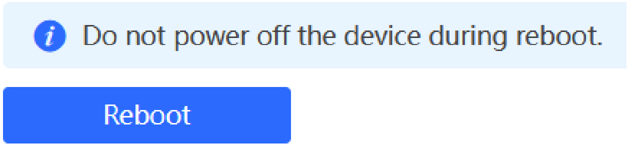
Click the **Reboot** button. The master device will restart.



6.6.2 Rebooting Local Device

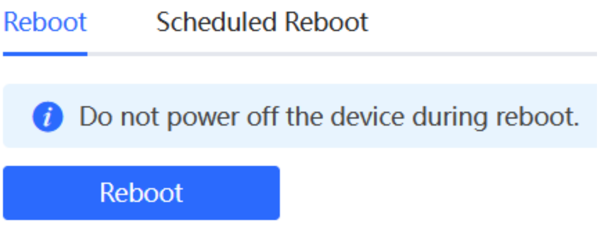
- In self-organizing network mode, choose **One-Device** > **Config** > **System** > **Reboot**.

Click the **Reboot** button. The device will restart.



- In standalone mode: choose **System** > **Reboot** > **Reboot**.

Click the **Reboot** button. The device will restart.



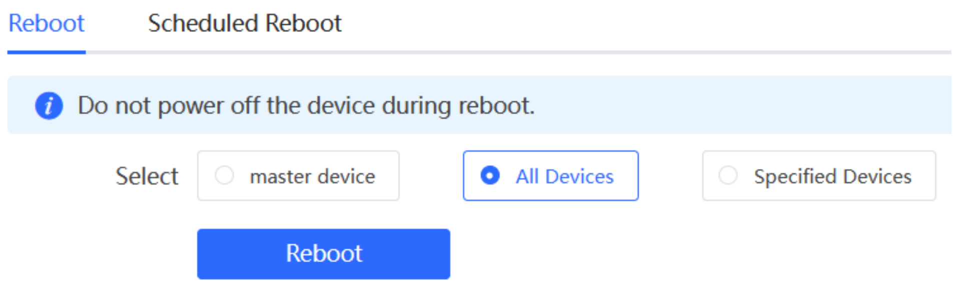
6.6.3 Rebooting All Devices on the Network

In self-organizing network mode, you can batch reboot all devices on the network.

Go to the configuration page:

- Choose **Network-Wide** > **System** > **Reboot**. Click the **Reboot** tab and select **All Devices**.
- Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Reboot**. Click the **Reboot** tab and select **All Devices**.

Click the **Reboot** button to batch reboot all devices on the network.



Reboot | Scheduled Reboot

Do not power off the device during reboot.

Select ○ master device ● All Devices ○ Specified Devices

Reboot

Caution

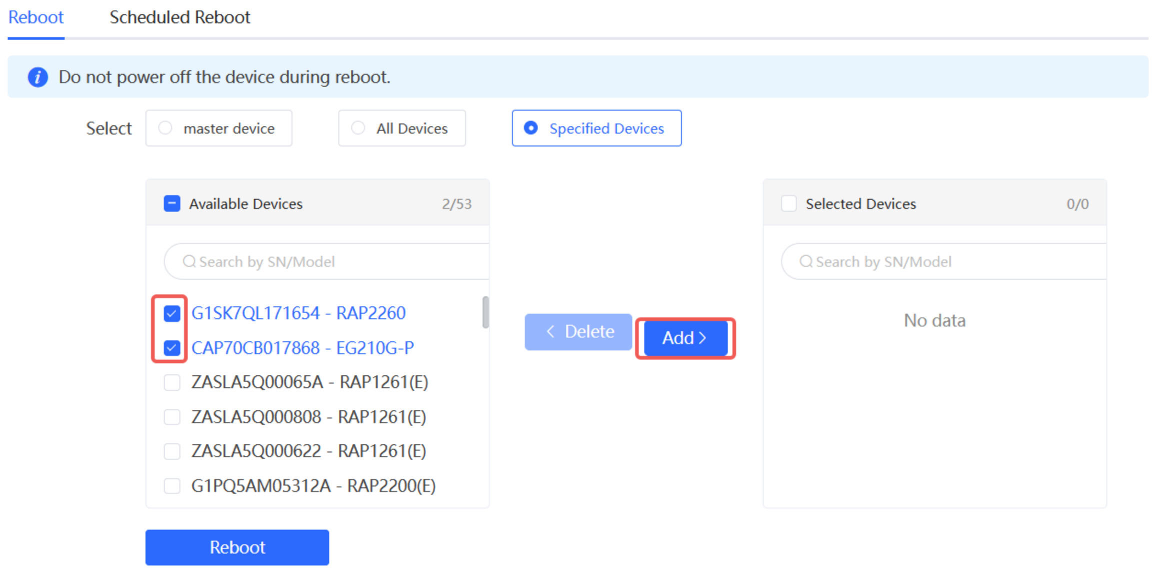
It takes time to reboot all devices in the current network. The action may affect the whole network. Please be cautious.

6.6.4 Rebooting the Specified Devices

In self-organizing network mode, you can reboot specified devices in the network in batches. Go to the configuration page:

- Choose **Network-Wide** > **System** > **Reboot**. Click the **Reboot** tab and select **Specified Devices**.
- Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Reboot**. Click the **Reboot** tab and select **Specified Devices**.

Select required devices from the **Available Devices** list, and click **Add** to add devices to the **Selected Devices** on the right.



Reboot | Scheduled Reboot

Do not power off the device during reboot.

Select ○ master device ○ All Devices ● Specified Devices

Available Devices 2/53

Search by SN/Model

☑ G1SK7QL171654 - RAP2260
☑ CAP70CB017868 - EG210G-P
□ ZASLA5Q00065A - RAP1261(E)
□ ZASLA5Q000808 - RAP1261(E)
□ ZASLA5Q000622 - RAP1261(E)
□ G1PQ5AM05312A - RAP2200(E)

< Delete Add >

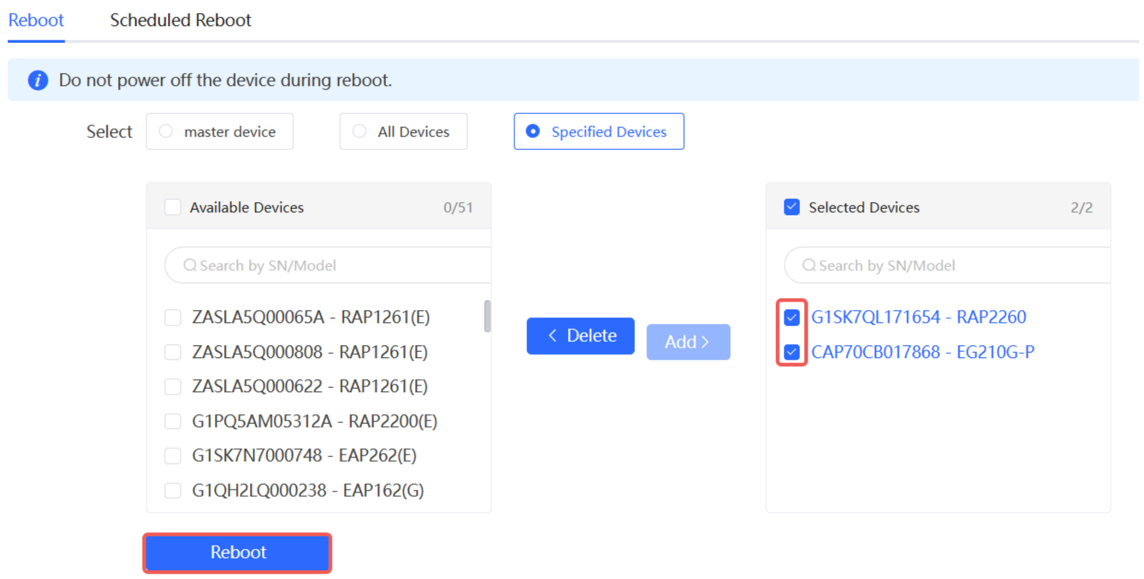
Selected Devices 0/0

Search by SN/Model

No data

Reboot

Click the **Reboot** button. Specified devices in the **Selected Devices** list will be rebooted.



Reboot | Scheduled Reboot

Do not power off the device during reboot.

Select ○ master device ○ All Devices ● Specified Devices

□ Available Devices 0/51

Search by SN/Model

□ ZASLA5Q00065A - RAP1261(E)

□ ZASLA5Q000808 - RAP1261(E)

□ ZASLA5Q000622 - RAP1261(E)

□ G1PQ5AM05312A - RAP2200(E)

□ G1SK7N7000748 - EAP262(E)

□ G1QH2LQ000238 - EAP162(G)

☑ Selected Devices 2/2

Search by SN/Model

☑ G1SK7QL171654 - RAP2260

☑ CAP70CB017868 - EG210G-P

6.7 Configuring Scheduled Reboot

Confirm that the system time is accurate to avoid network interruption caused by device reboot at wrong time. For details about how to configure the system time, see 6.4 Setting and Displaying System Time.

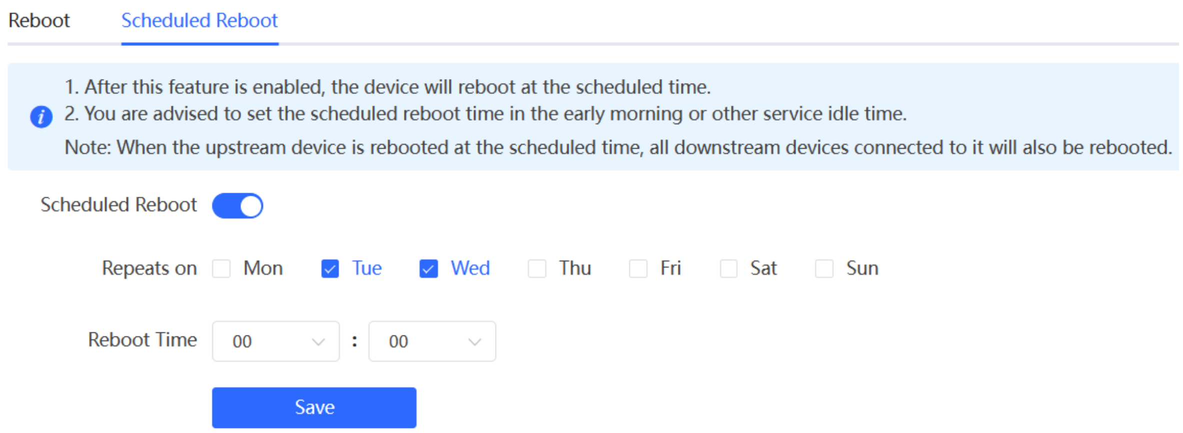
Go to the configuration page:

- Choose **Network-Wide** > **System** > **Reboot** > **Scheduled Reboot.**
- Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Reboot** > **Scheduled Reboot**.
- AP as master device: Choose **One-Device** > **Config** > **System** > **Reboot** > **Scheduled Reboot**.

Caution

If you configure scheduled reboot on the management webpage, all devices will restart when the system time matches with the scheduled reboot time. Please be cautious.

Click **Scheduled Reboot**, and select the date and time of scheduled reboot every week. Click **Save**. When the system time matches with the scheduled reboot time, the device will restart. You are recommended to set scheduled reboot time to off-peak hours.



Reboot | Scheduled Reboot

1. After this feature is enabled, the device will reboot at the scheduled time.
2. You are advised to set the scheduled reboot time in the early morning or other service idle time.

Note: When the upstream device is rebooted at the scheduled time, all downstream devices connected to it will also be rebooted.

Scheduled Reboot: On

Repeats on □ Mon ☑ Tue ☑ Wed □ Thu □ Fri □ Sat □ Sun

Reboot Time 00 : 00

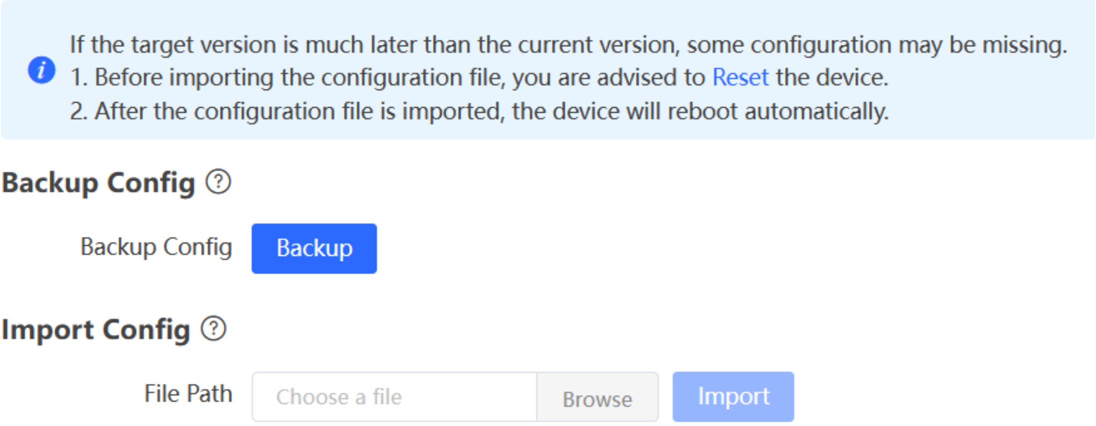
6.8 Configuring Backup and Import

Go to the configuration page:

- Choose **Network-Wide** > **System** > **Backup & Import**.
- Choose **One-Device** > **Config** > **System** > **Backup** > **Backup & Import**.

Configuration backup: Click **Backup** to download a configuration file locally.

Configuration import: Click **Browse**, select a backup file on the local PC, and click **Import** to import the configuration file. The device will restart.



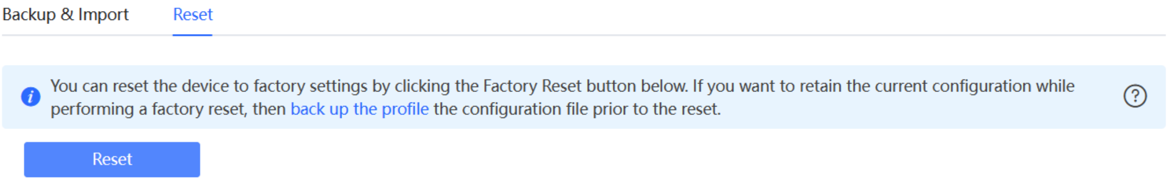
If the target version is much later than the current version, some configuration may be missing.
1. Before importing the configuration file, you are advised to Reset the device.
2. After the configuration file is imported, the device will reboot automatically.

6.9 Restoring Factory Settings

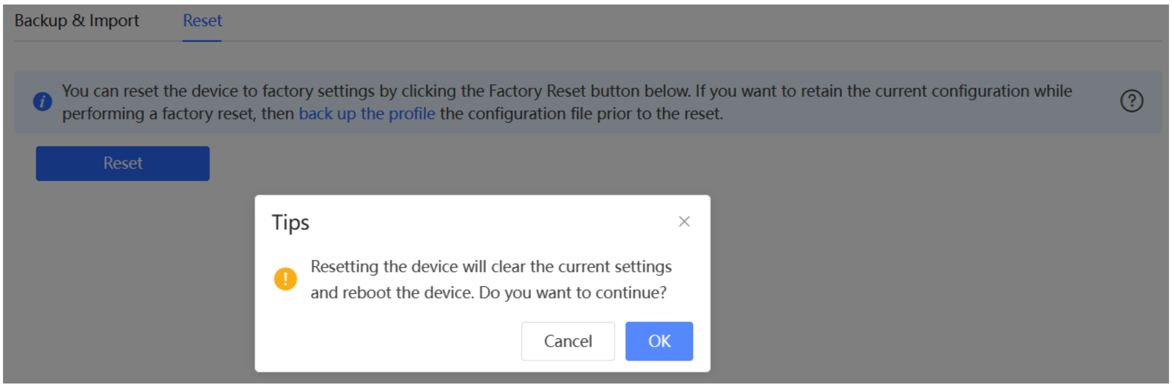
6.9.1 Restoring the Current Device to Factory Settings

Choose **One-Device** > **Config** > **System** > **Backup** > **Reset**.

Click **Reset** to restore the current device to the factory settings.



You can reset the device to factory settings by clicking the Factory Reset button below. If you want to retain the current configuration while performing a factory reset, then back up the profile the configuration file prior to the reset.



You can reset the device to factory settings by clicking the Factory Reset button below. If you want to retain the current configuration while performing a factory reset, then back up the profile the configuration file prior to the reset.

Tips

Resetting the device will clear the current settings and reboot the device. Do you want to continue?

Caution

The operation will clear all configuration of the current device. If you want to retain the current configuration, back up the configuration first (See 6.8 Configuring Backup and Import). Therefore, exercise caution when performing this operation.

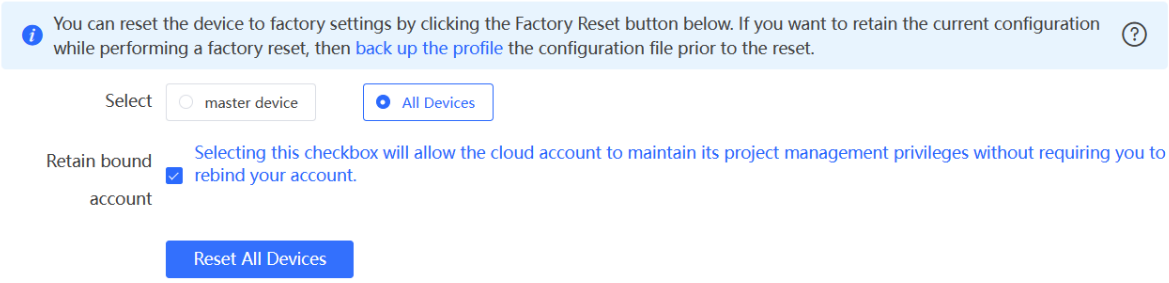
6.9.2 Restoring All Devices to Factory Settings

In the self-organizing network mode, all devices in the network will be restored to factory settings.

Go to the configuration page:

- Choose **Network-Wide** > **System** > **Reset.**
- Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Reset**.

Click **All Devices**, select whether to enable **Retain bound account** and Click **Reset All Devices**. All devices in the network will be restored to factory settings.



You can reset the device to factory settings by clicking the Factory Reset button below. If you want to retain the current configuration while performing a factory reset, then back up the profile the configuration file prior to the reset.

Select ○ master device ● All Devices

Retain bound account ☑ Selecting this checkbox will allow the cloud account to maintain its project management privileges without requiring you to rebind your account.

Caution

The operation will clear all configuration of all devices in the network. If you want to retain the current configuration, back up the configuration first (See 6.8 Configuring Backup and Import). Therefore, exercise caution when performing this operation.

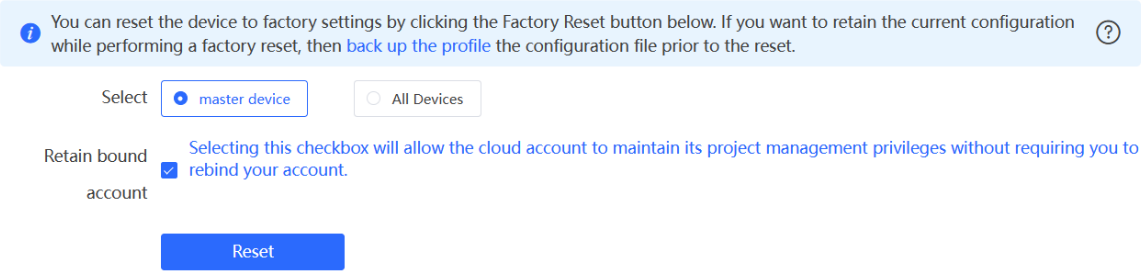
6.9.3 Restoring Master Device to Factory Settings

Go to the configuration page:

- Choose **Network-Wide** > **System** > **Reset.**

- Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Reset**.

Select **master device**, and check or uncheck the box next to **Retain bound account**. Then, click **Reset**. The master device will be restored to factory settings.



You can reset the device to factory settings by clicking the Factory Reset button below. If you want to retain the current configuration while performing a factory reset, then back up the profile the configuration file prior to the reset.

Select ● master device ○ All Devices

Retain bound account ☑ Selecting this checkbox will allow the cloud account to maintain its project management privileges without requiring you to rebind your account.

Caution

This operation will clear the current settings of the master device on the network and reboot the device. If you want to retain the current configuration, back up the configuration first (See 6.8 Configuring Backup and Import). Therefore, exercise caution when performing this operation.

6.10 Performing Upgrade and Checking System Version

Caution

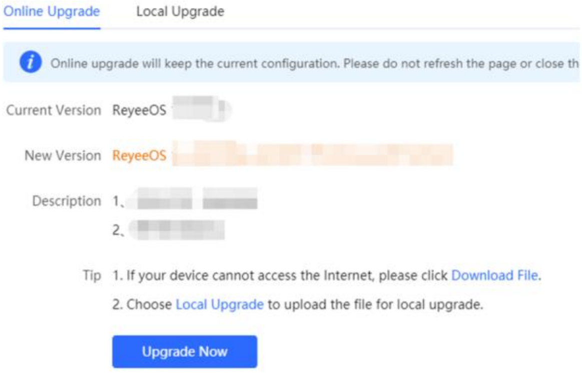
- You are advised to back up the configuration before upgrading the access point.
- After being upgraded, the access point will reboot. Therefore, exercise caution when performing this operation.

6.10.1 Online Upgrade

Go to the configuration page:

- Upgrade master device on the network: Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Upgrade** > **Online Upgrade**.
- Upgrade local device: Choose **One-Device** > **Config** > **System** > **Upgrade** > **Online Upgrade**.

You can view the current system version. If there is a new version available, you can click it for an update.



Online upgrade will keep the current configuration. Please do not refresh the page or close th

Current Version ReyeeOS

New Version ReyeeOS

Description 1、
2、

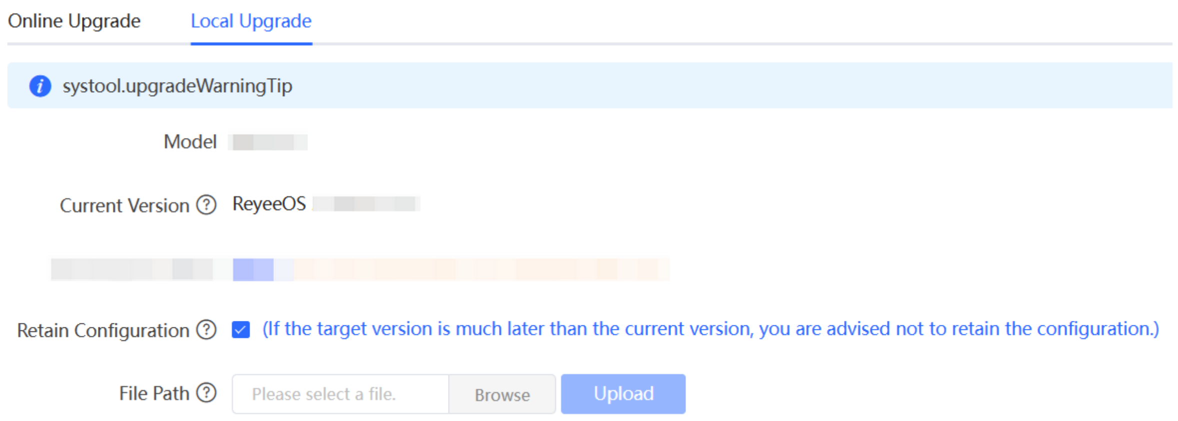
Tip 1. If your device cannot access the Internet, please click Download File.
2. Choose Local Upgrade to upload the file for local upgrade.

6.10.2 Local Upgrade

Go to the configuration page:

- Upgrade master device on the network: Choose **Network-Wide** > **Workspace** > **Network-Wide** > **Upgrade** > **Local Upgrade**.
- Upgrade local device: Choose **One-Device** > **Config** > **System** > **Upgrade** > **Local Upgrade**.

You can view the current software version, hardware version and device model. If you want to upgrade the device with the configuration retained, check **Retain Configuration**. Click **Browse**, select an upgrade package on the local PC, and click **Upload** to upload the file. The device will be upgraded.



Online Upgrade | Local Upgrade

systool.upgradeWarningTip

Model [redacted]

Current Version ⓘ ReyeeOS [redacted]

[redacted]

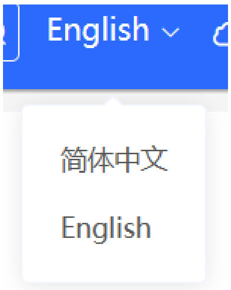
Retain Configuration ⓘ ☑ (If the target version is much later than the current version, you are advised not to retain the configuration.)

File Path ⓘ Please select a file. Browse Upload

6.11 Switching System Language

Choose English ⌄ in the upper right corner of the Web page.

Click a required language to switch the system language.



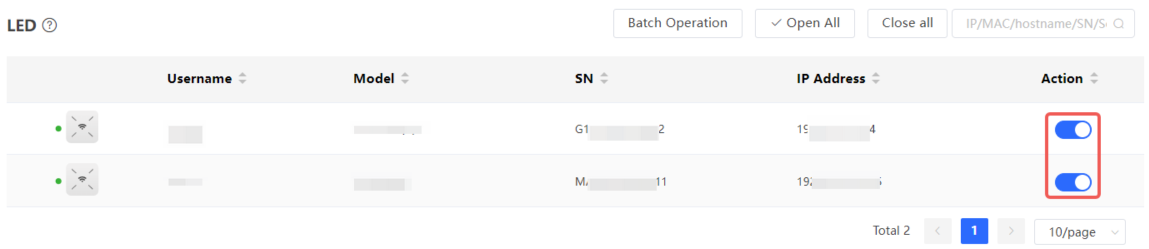
6.12 Configuring LED Status Control

6.12.1 Configuring Standalone LED Status

You can enable or disable the system LED status for individual wireless devices on the network.

Go to the configuration page:

- Method 1: Choose **Network-Wide** > **Workspace** > **Wireless** > **LED**.



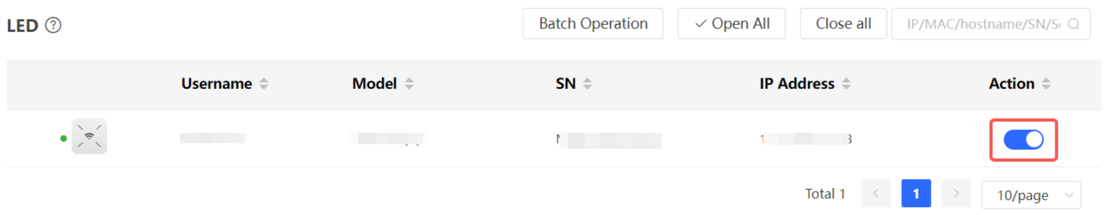
LED ⓘ

Batch Operation | ✓ Open All | Close all | IP/MAC/hostname/SN/S

	Username	Model	SN	IP Address	Action
●	[redacted]	[redacted]	[redacted]	[redacted]	●
●	[redacted]	[redacted]	[redacted]	[redacted]	●

Total 2 < 1 > 10/page

- Method 2: Choose **One-Device** > **Config** > **Network** > **LED**.
  - When the AP is the master device:



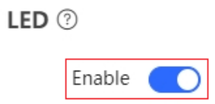
LED ⓘ

Batch Operation | ✓ Open All | Close all | IP/MAC/hostname/SN/S

	Username	Model	SN	IP Address	Action
●	[redacted]	[redacted]	[redacted]	[redacted]	●

Total 1 < 1 > 10/page

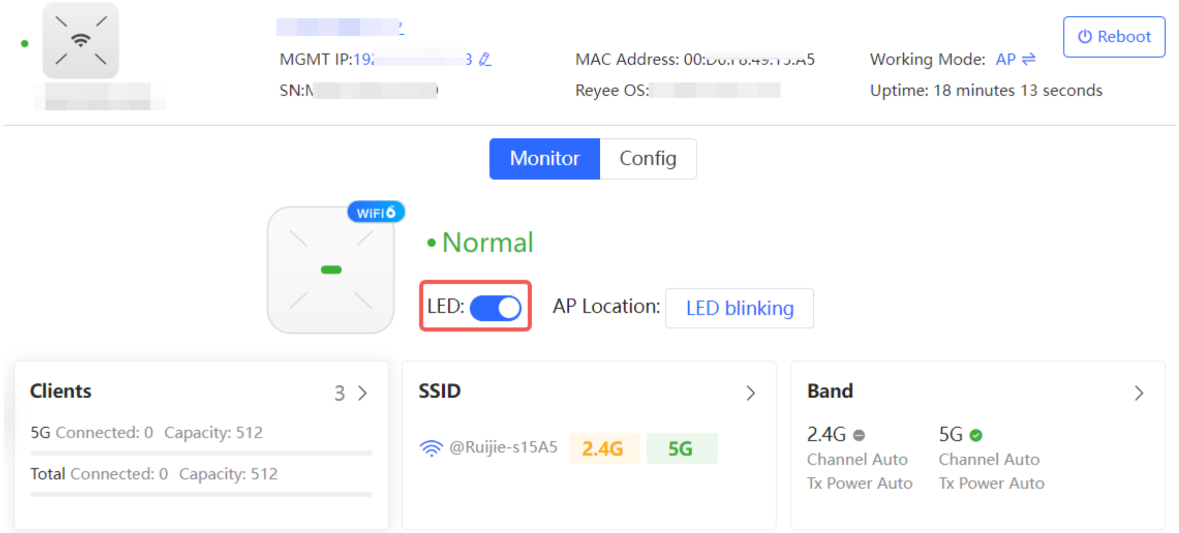
  - When the AP is a slave device.



LED ⓘ

Enable ●

- Method 3: Choose **One-Device** > **Monitor** > **LED**.



[redacted]

MGMT IP: [redacted]

SN: [redacted]

MAC Address: 00:[redacted]A5

Reyee OS: [redacted]

Working Mode: AP ⇌

Uptime: 18 minutes 13 seconds

⏻ Reboot

Monitor | Config

WiFi6

• Normal

LED: ●

AP Location: LED blinking

Clients 3 >

5G Connected: 0 Capacity: 512

Total Connected: 0 Capacity: 512

SSID >

@Ruijie-s15A5 2.4G 5G

Band >

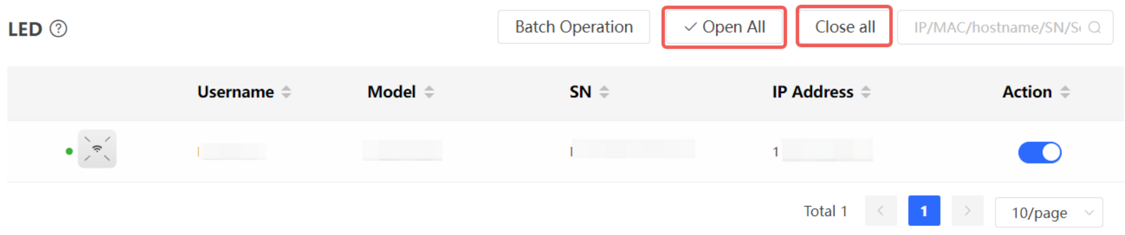
2.4G ●
Channel Auto
Tx Power Auto

5G ✓
Channel Auto
Tx Power Auto

6.12.2 Configuring Network-wide LED Status

Choose **Network-Wide** > **Workspace** > **Wireless** > **LED**.

Turn on the LED of all downlink access points in the network.



LED ?

Batch Operation | ✓ Open All | Close all | IP/MAC/hostname/SN/S

	Username	Model	SN	IP Address	Action
●				1	●

Total 1 < 1 > 10/page

6.13 Configuring Cloud Service

6.13.1 Overview

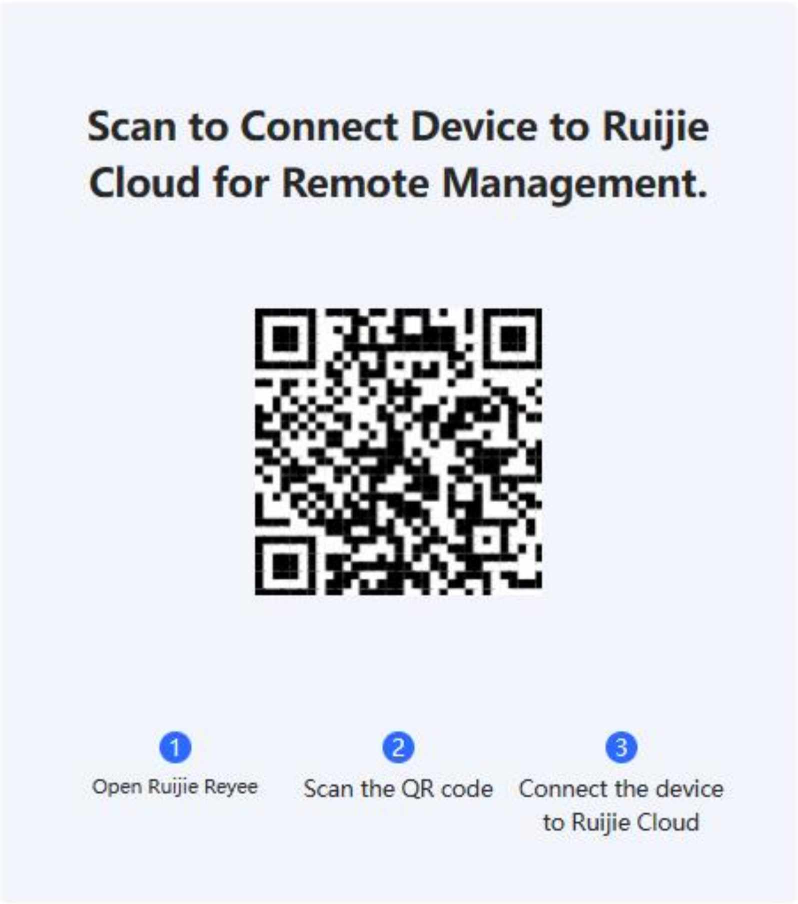
The Cloud Service feature provides powerful remote network management and operation capabilities, making it convenient and efficient to manage geographically dispersed networks with diverse device types. This feature supports wireless devices, switches, and gateways, enabling unified network management and visualized monitoring and operation. Additionally, it also offers various components such as real-name authentication, dedicated Wi-Fi, and passenger flow analysis, allowing for flexible expansion of network services.

By configuring Cloud Service, you can conveniently mange networks through Ruijie Cloud or the Ruijie Reyee app.

6.13.2 Configuration Steps

Choose **One-Device** > **Config** > **System** > **Cloud Service**.

If the device is not currently associated with a cloud account, simply follow the on-screen instructions to add it to the network. Open up the Ruijie Reyee app, click the scan icon at the upper left corner on the **Project** page, and enter the device's management password.



Scan to Connect Device to Ruijie Cloud for Remote Management.

1 Open Ruijie Reyee

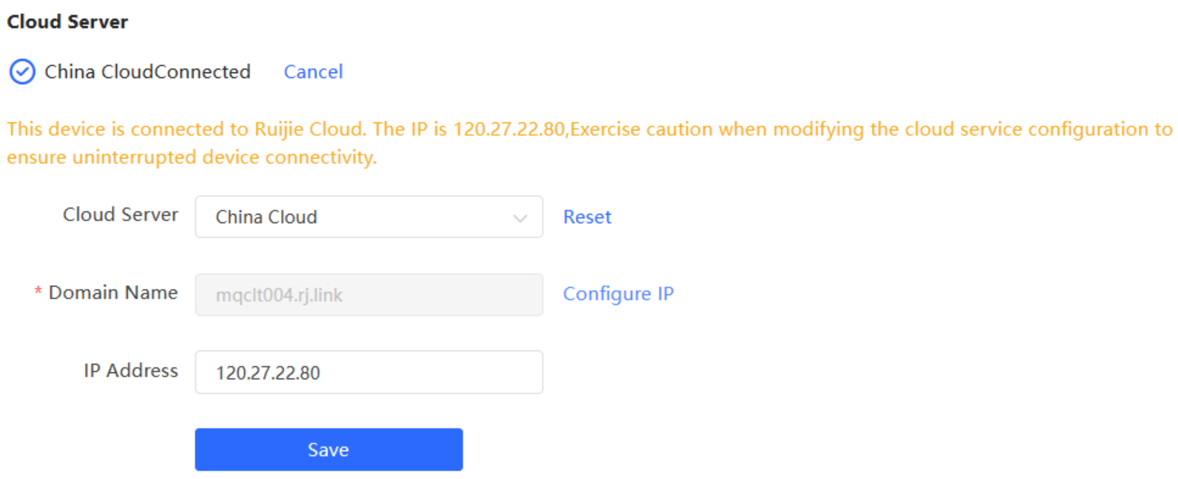
2 Scan the QR code

3 Connect the device to Ruijie Cloud

Once the device is associated with a cloud account, it will automatically be bound to a cloud server based on its geographic location.

Caution

Exercise caution when modifying cloud service configurations as improper modifications may lead to connectivity issues between the device and the cloud service.



Cloud Server

China CloudConnected Cancel

This device is connected to Ruijie Cloud. The IP is 120.27.22.80,Exercise caution when modifying the cloud service configuration to ensure uninterrupted device connectivity.

Cloud Server	China Cloud	Reset
* Domain Name	mqclt004.rj.link	Configure IP
IP Address	120.27.22.80	

To change the Cloud Service configurations, select the cloud server from the **Cloud Server** drop-down list, enter the domain name and IP address, and click **Save**.

Note

If the server selected is not **Other Cloud**, the system automatically fills in the domain name and IP address of the cloud server. When **Other Cloud** is selected, you need to manually configure the domain name and IP address and upload the cloud server certificate.

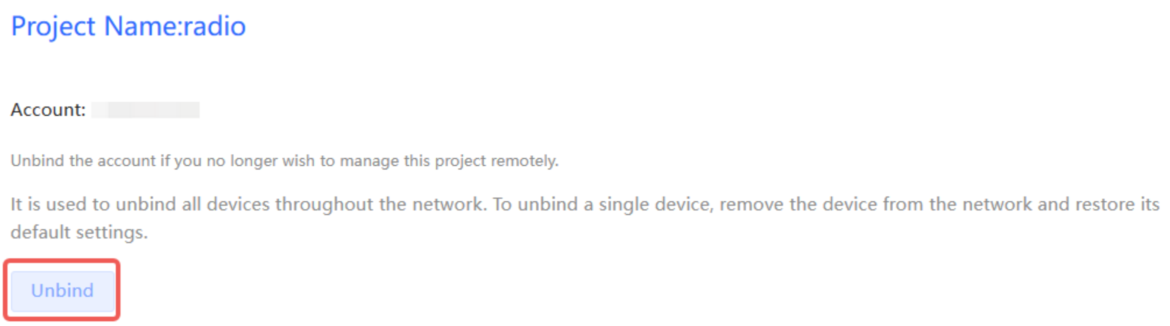
Table 6-12 Cloud Server Description

Parameter	Description
Cloud Server	Geographic location of the cloud server, including China Cloud, Asia Cloud, Europe Cloud, America Cloud, and Other.
Domain Name	Domain name of the cloud server.
IP Address	IP address of the cloud server.

6.13.3 Unbinding Cloud Service

Choose **One-Device** > **Config** > **System** > **Cloud Service**

You can click **Unbind** to unbind the account if you no longer wish to manage this project remotely.



Project Name:radio

Account:

Unbind the account if you no longer wish to manage this project remotely.

It is used to unbind all devices throughout the network. To unbind a single device, remove the device from the network and restore its default settings.

7 Network Diagnosis Tools

⚠ **Caution**

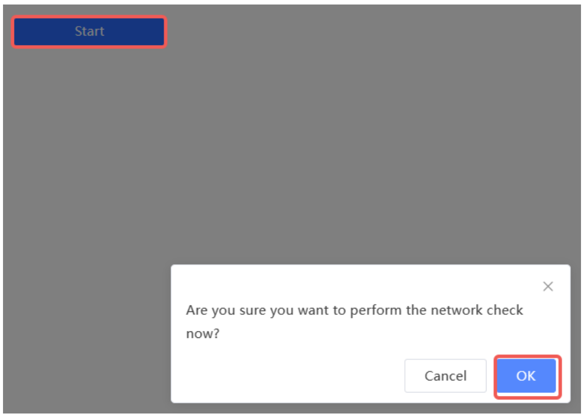
If the issue persists despite following the troubleshooting methods provided in this section, you may require remote support from a technician who will enable developer mode to resolve the issue. We will ensure your data is protected during this process.

7.1 Network Check

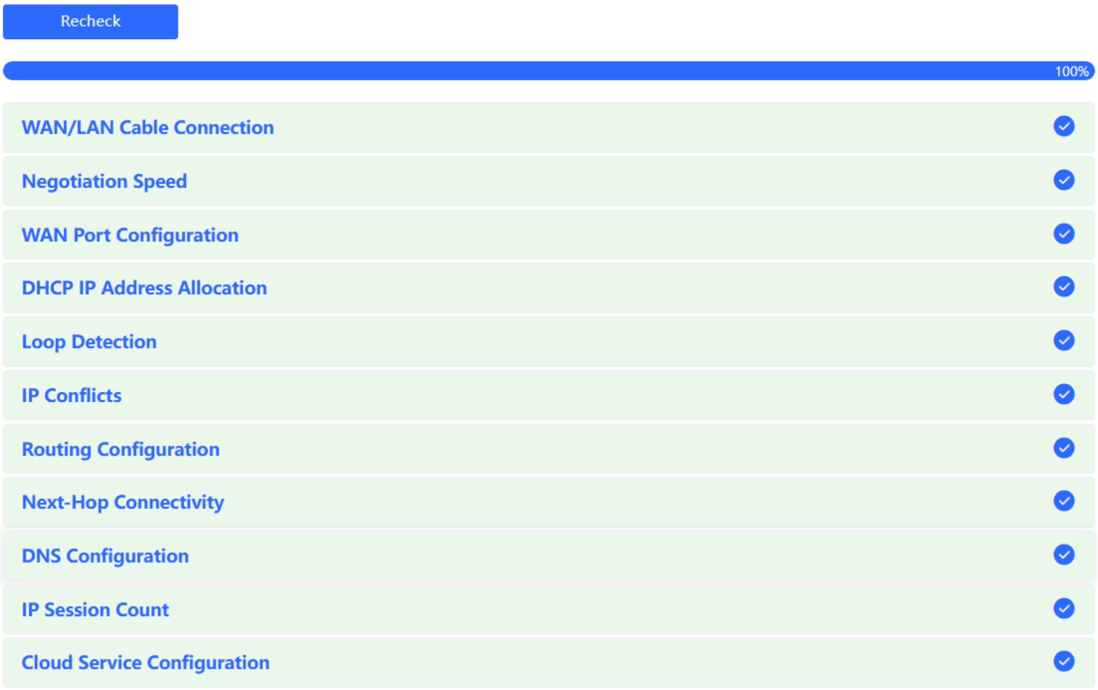
When a network problem occurs on the device, perform a network check and configure the device based on the detection result.

Go to the configuration page: Choose **One-Device** > **Config** > **Diagnostics** > **Diagnose**.

(1) Click **Start** to perform the network check and show the result.



Are you sure you want to perform the network check now?

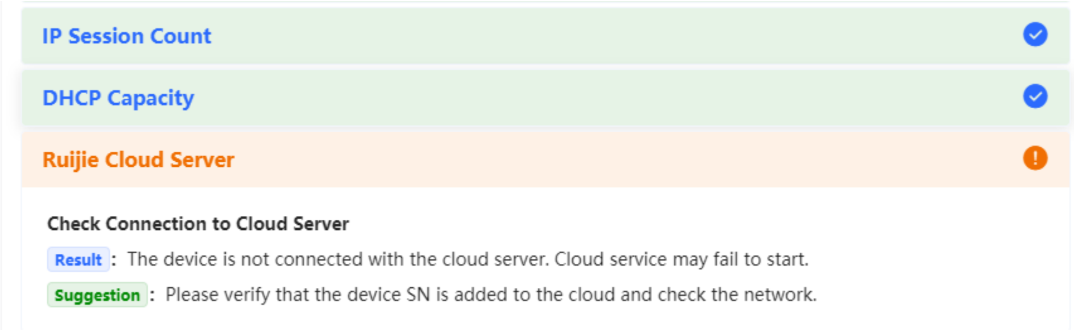


Recheck

100%

- WAN/LAN Cable Connection ✓
- Negotiation Speed ✓
- WAN Port Configuration ✓
- DHCP IP Address Allocation ✓
- Loop Detection ✓
- IP Conflicts ✓
- Routing Configuration ✓
- Next-Hop Connectivity ✓
- DNS Configuration ✓
- IP Session Count ✓
- Cloud Service Configuration ✓

(2) After performing the network check, you will find the check result and suggested action.



- IP Session Count ✓
- DHCP Capacity ✓
- Ruijie Cloud Server !

Check Connection to Cloud Server

Result : The device is not connected with the cloud server. Cloud service may fail to start.

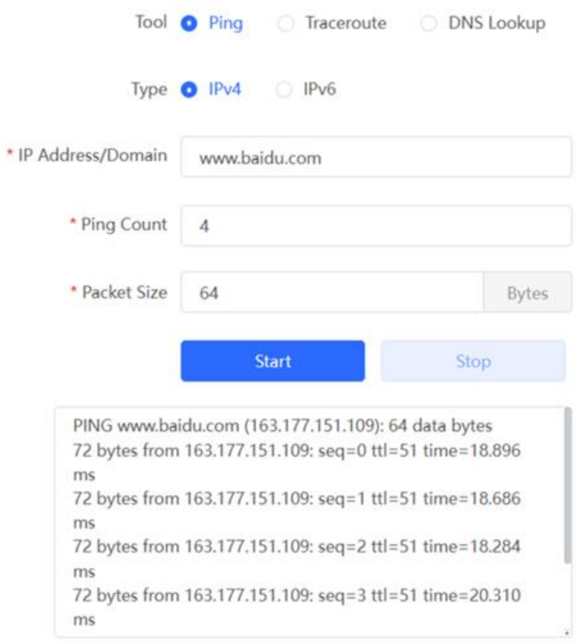
Suggestion : Please verify that the device SN is added to the cloud and check the network.

7.2 Network Tools

Choose **One-Device** > **Config** > **Diagnostics** > **Network Tools**.

- The Ping tool tests the connectivity between the access point and the IP address or URL. The message "Ping failed" indicates that the access point cannot reach the IP address or URL.
- The Traceroute tool displays the network path to a specific IP address or URL.
- The DNS Lookup tool displays the DNS server address used to resolve a URL.

Enter an IP address or a URL, and click **Start**. If you need to perform the ping or Traceroute operation, configure other parameters as required.



Tool ● Ping ○ Traceroute ○ DNS Lookup

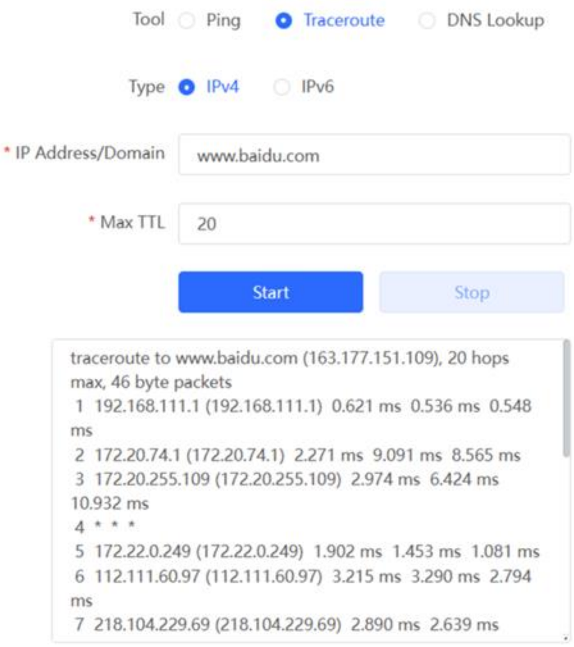
Type ● IPv4 ○ IPv6

* IP Address/Domain: www.baidu.com

* Ping Count: 4

* Packet Size: 64 Bytes

```
PING www.baidu.com (163.177.151.109): 64 data bytes
72 bytes from 163.177.151.109: seq=0 ttl=51 time=18.896
ms
72 bytes from 163.177.151.109: seq=1 ttl=51 time=18.686
ms
72 bytes from 163.177.151.109: seq=2 ttl=51 time=18.284
ms
72 bytes from 163.177.151.109: seq=3 ttl=51 time=20.310
ms
```



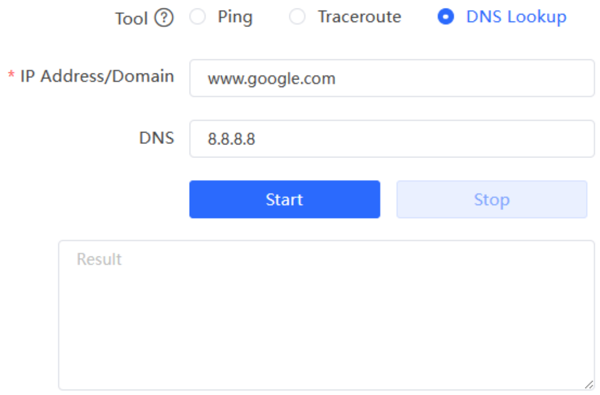
Tool ○ Ping ● Traceroute ○ DNS Lookup

Type ● IPv4 ○ IPv6

* IP Address/Domain: www.baidu.com

* Max TTL: 20

```
traceroute to www.baidu.com (163.177.151.109), 20 hops
max, 46 byte packets
 1  192.168.111.1 (192.168.111.1)  0.621 ms  0.536 ms  0.548
ms
 2  172.20.74.1 (172.20.74.1)  2.271 ms  9.091 ms  8.565 ms
 3  172.20.255.109 (172.20.255.109)  2.974 ms  6.424 ms
10.932 ms
 4  *  *  *
 5  172.22.0.249 (172.22.0.249)  1.902 ms  1.453 ms  1.081 ms
 6  112.111.60.97 (112.111.60.97)  3.215 ms  3.290 ms  2.794
ms
 7  218.104.229.69 (218.104.229.69)  2.890 ms  2.639 ms
```



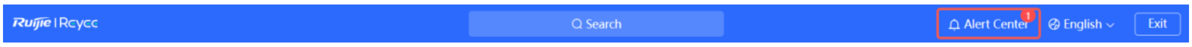
Tool ⓘ ○ Ping ○ Traceroute ● DNS Lookup

* IP Address/Domain: www.google.com

DNS: 8.8.8.8

7.3 Alerts

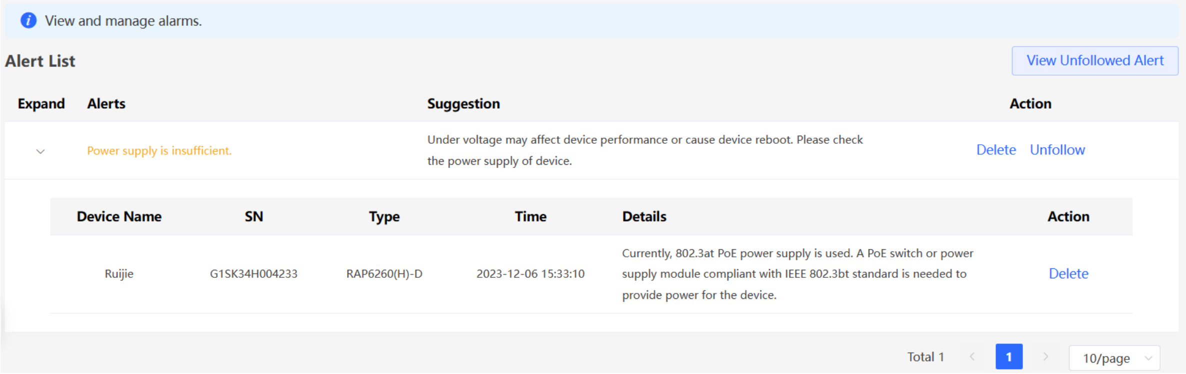
When a network exception occurs, the network overview page will display an alert and provide a suggestion. Click an alert in the **Alert Center** to view the faulty device, problem details, and description. You can troubleshoot the fault based on the suggestion.



The **Alert List** page displays possible problems on the network environment and device. All types of alarms are followed by default. You can click **Unfollow** in the **Action** column to unfollow this type of alarm.

Caution

After unfollowing a specified alert type, you will not discover and process all alerts of this type promptly. Therefore, exercise caution when performing this operation.

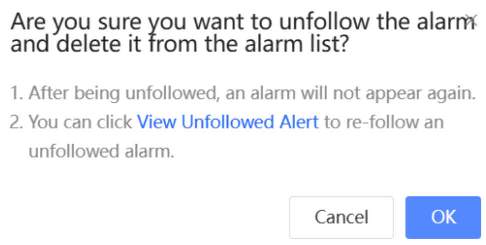


View and manage alarms.

Alert List

Expand	Alerts	Suggestion	Action
⌄	Power supply is insufficient.	Under voltage may affect device performance or cause device reboot. Please check the power supply of device.	Delete Unfollow

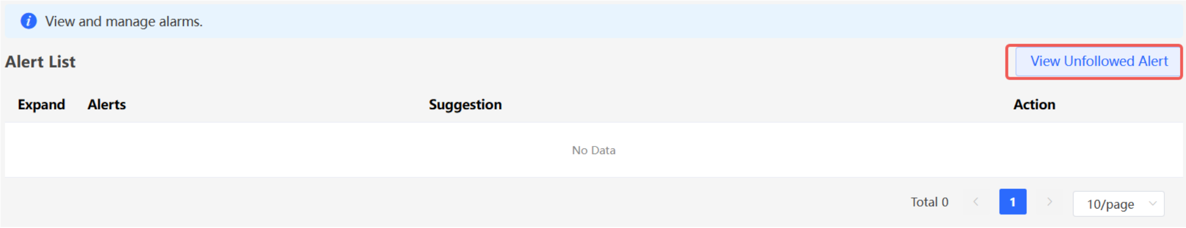
Device Name	SN	Type	Time	Details	Action
Ruijie	G1SK34H004233	RAP6260(H)-D	2023-12-06 15:33:10	Currently, 802.3at PoE power supply is used. A PoE switch or power supply module compliant with IEEE 802.3bt standard is needed to provide power for the device.	Delete



Are you sure you want to unfollow the alarm and delete it from the alarm list?

1. After being unfollowed, an alarm will not appear again.
2. You can click View Unfollowed Alert to re-follow an unfollowed alarm.

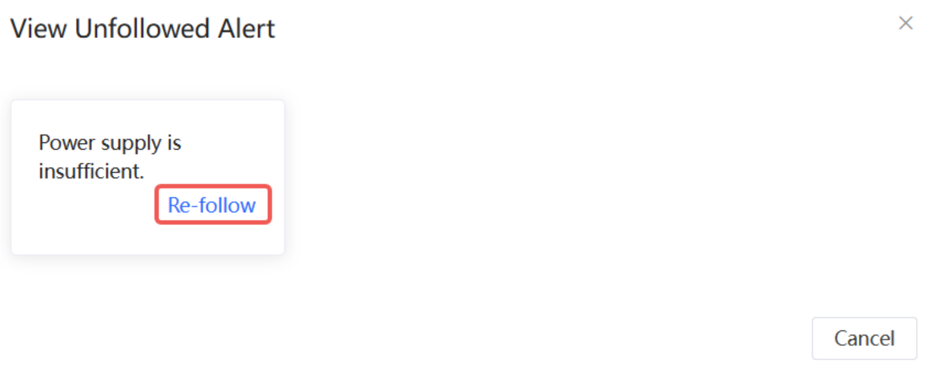
Click **View Unfollowed Alert** to view the unfollowed alert. You can follow the alert again in the pop-up window.



View and manage alarms.

Alert List

Expand	Alerts	Suggestion	Action
		No Data	



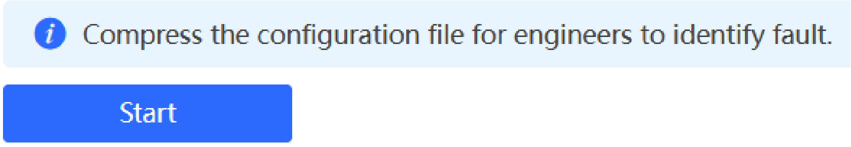
View Unfollowed Alert

Power supply is insufficient.

7.4 Fault Collection

Choose **One-Device** > **Config** > **Diagnostics** > **Fault Collection**.

When an unknown fault occurs on the device, you can collect fault information on this page. Click **Start** to collect fault information and compress it into a file for engineers to identify fault.



Compress the configuration file for engineers to identify fault.

7.5 Packet Capturing

Choose **One-Device** > **Config** > **Diagnostics** > **Packet Collection**.

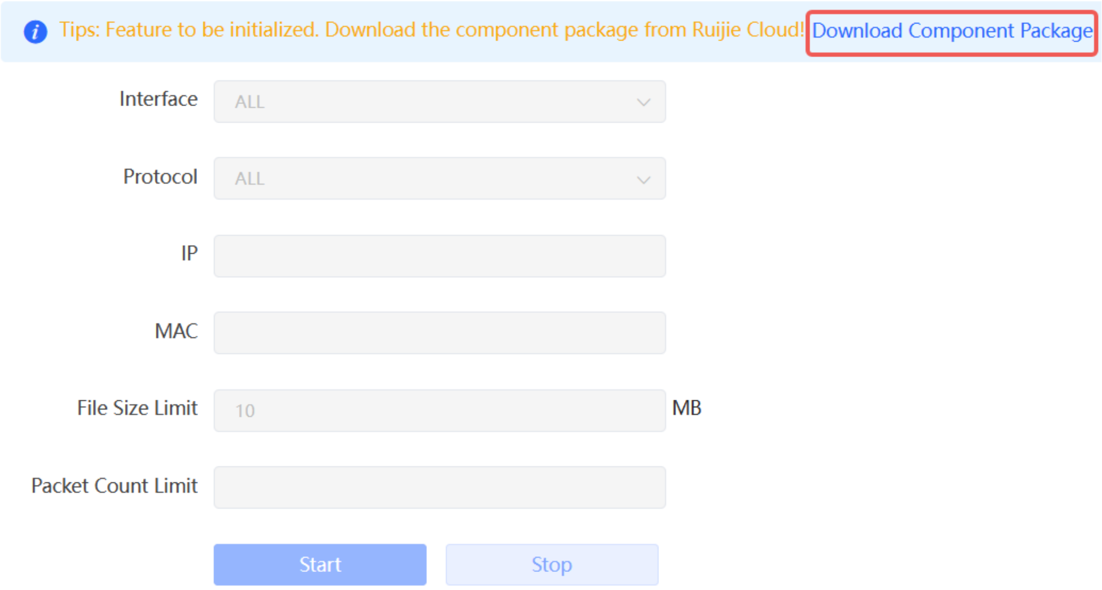
If the device fails and troubleshooting is required, the packet capture result can be analyzed to locate and rectify the fault.

Select an interface and a protocol and specify the host IP address to capture the content in data packets. Select the file size limit and packet count limit to determine the conditions for automatically stopping packet capture. (If the file size or number of packets reaches the specified threshold, packet capture stops and a diagnostic package download link is generated.)

⚠ **Caution**

The packet capture operation may occupy excessive system resources, causing network freezing. Therefore, exercise caution when performing this operation.

If you have not installed the packet capture component, you need to download it from the cloud by clicking **Download Component Package**.



Tips: Feature to be initialized. Download the component package from Ruijie Cloud! Download Component Package

Interface: ALL

Protocol: ALL

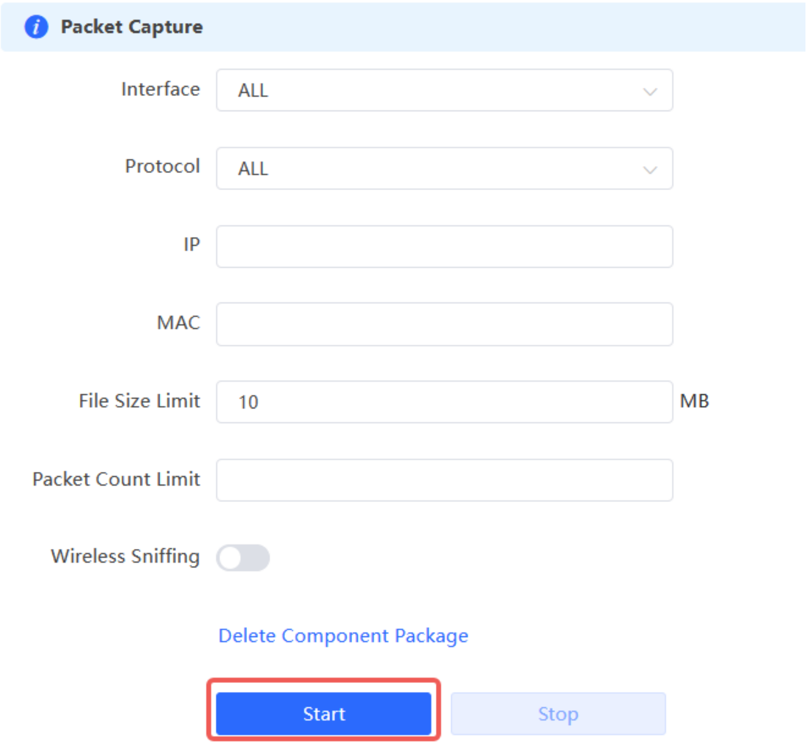
IP:

MAC:

File Size Limit: 10 MB

Packet Count Limit:

The downloaded component package takes effect automatically. Click **Start** to execute the packet capture command.



Packet Capture

Interface: ALL

Protocol: ALL

IP:

MAC:

File Size Limit: 10 MB

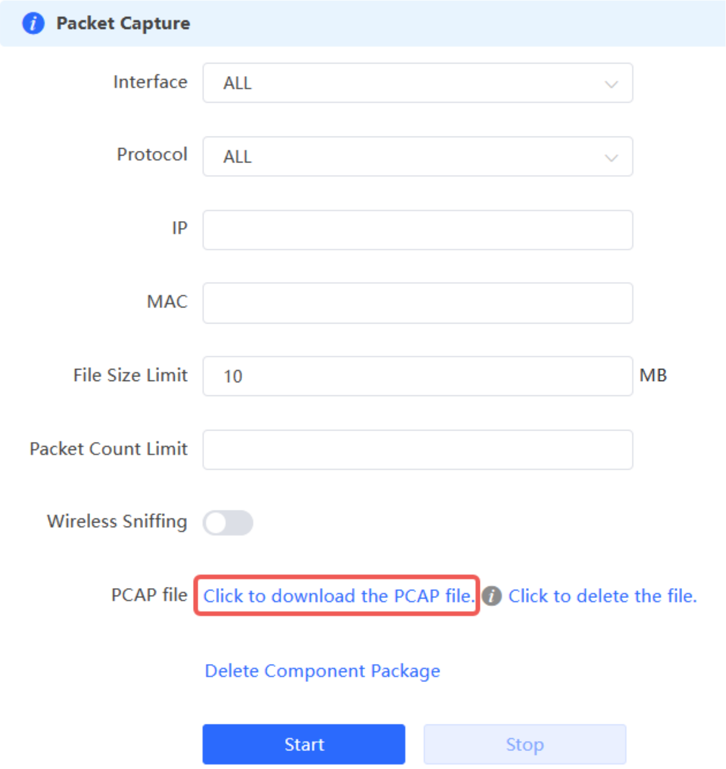
Packet Count Limit:

Wireless Sniffing: ○

Table 7-1 **Packet Collection Configuration Parameters**

Parameter	Description
Interface	Physical or logical interface on the network
Protocol	Protocol used by the packet
IP	IP address of the device
MAC	MAC address of the device
File Size Limit	The maximum amount of data allowed to be stored within a certain time period. If this limit is reached during packet capture, new packet capture will be stopped, or excess packets will be discarded. The maximum limit is 10 MB.
Packet Count Limit	The number of packets stored and analyzed during packet capture. The maximum limit is 1500. ⚠ **Caution** You can configure either the packet count limit or the file size limit, as they are mutually exclusive parameters.
Wireless Sniffing	You can select a wireless interface for packet capture only after enabling this function. After this function is enabled, the interface will be marked as Down, and the Wi-Fi network will be unavailable. To prevent users from forgetting to disable this function and causing the Wi-Fi network to be unusable, the system will automatically disable this function 10 minutes later after it is enabled.

Packet capture can be stopped at any time. After that, a download link is generated. Click this link to save the packet capture result in the PCAP format locally. Use analysis software such as Wireshark to view and analyze the result.



Packet Capture

Interface: ALL

Protocol: ALL

IP:

MAC:

File Size Limit: 10 MB

Packet Count Limit:

Wireless Sniffing: ○

PCAP file: Click to download the PCAP file. Click to delete the file.

8 FAQs

8.1 Login Failure

- **What can I do when I failed to log in to the web interface?**

Perform the following steps:

(1) Check that the Ethernet cable is properly connected to the LAN port of the device.

(1) Before accessing the setup page, you are advised to choose **Auto** for the device enabled with DHCP service to assign an IP address to the PC. If you want to configure a static IP address for the PC, please make sure the IP address of the PC and the LAN port are in the same IP range. The default IP address of the LAN port is 10.44.77.254, and the subnet mask is 255.255.255.0. The IP address of the PC should be set to 10.44.77.X (X is an integer between 2 and 254), and the subnet mask is 255.255.255.0.

(2) Run the **Ping** command to check the connectivity between the PC and the device. If the ping fails, please check the network settings.

(3) If the login failure persists, restore the device to factory settings.

8.2 Factory Setting Restoration

- **How can I restore the device to factory settings?**

Power on the device and press the **Reset** button for more than 5 seconds. The device is restored to factory settings after it is restarted. Then, you can log in to the web interface using the default IP address (10.44.77.254).

8.3 Password Loss

- **What can I do when I forget the password?**

- Webpage management password loss: Please enter the Wi-Fi password. If it is still incorrect, please restore the device to factory settings.
- Wi-Fi password loss: When the access point expands the Wi-Fi coverage, its Wi-Fi password is consistent with that of the master router. Please check the configuration of the master router and enter its Wi-Fi password. If the password is still incorrect, please restore the device to factory settings and reconfigure the Wi-Fi password.