Ruijie Reyee EST_AirMetro Series Wireless Bridges ReyeeOS 1.246.1924

Web-Based Configuration Guide

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Preface

Intended Audience

This document is intended for:

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

Technical Support

- Official website of Ruijie Reyee: https://www.ruijienetworks.com/products/reyee
- Technical Support Website: https://ruijienetworks.com/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://ruijienetworks.com/rita

Conventions

1. Signs

The signs used in this document are described as below:

Danger

An alert that calls attention to safety operation instructions that if not understood or followed when operating the device can result in physical injury.

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.

2. Note

This manual provides the device installation steps, hardware troubleshooting, module technical specifications, and specifications and usage guidelines for cables and connectors. It is intended for the users who have some experience in installing and maintaining network hardware. At the same time, it is assumed that the users are already familiar with the related terms and concepts.

Contents

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1 Login

1.1 Configuration Environment Requirements

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.

1.2 Default Configuration

Table 1-1 Default Web Configuration

Item	Default Value
IP address	10.44.77.254
Username/Password	A username is not required on your first login. You can enter the initial password “admin” to log in, and directly start the configuration after login.

1.3 Login to Eweb on a PC

1.3.1 Connecting to the Device

You can open the management page and complete the bridge configuration only after connecting a PC to the bridge. You can connect a PC to the bridge in either of the following ways.

- Wired Connection

  Connect a local area network (LAN) port of the bridge to the network port of the PC, and set the IP address of the PC. See 1.3.2 Configuring the IP Address of the Management Computer.

Note

Only RG- AirMetro550G-B, RG-EST100-E and RG-EST350 V2 have two LAN ports.

- Wireless Connection

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

1.3.2 Configuring the IP Address of the Management Computer

Configure an IP address for the management computer 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 computer can access the device. For example, set the IP address of the management computer to 10.44.77.10.

Caution

The IP address of the management computer cannot be set to 10.44.77.253, because this IP address is reserved by the device. If the management computer uses this IP address, it cannot access the device.

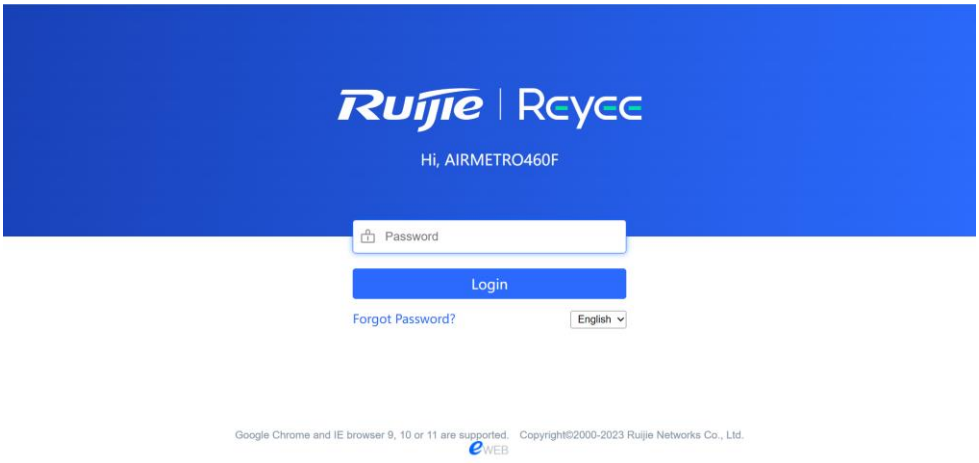
1.3.3 Logging in to the Web Page

(1) Enter the IP address (10.44.77.254 by default) of the bridge 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 computer and the device are in the same network segment of a LAN.

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



A username is not required on your first login. You can enter the initial password “admin” to log in, and directly start the configuration after login.

For device security, you are advised to set the management password after your first login to the web management system. After the password is set, you need to enter the password when you log in to the web management system again.

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 to log in without entering a password.

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.

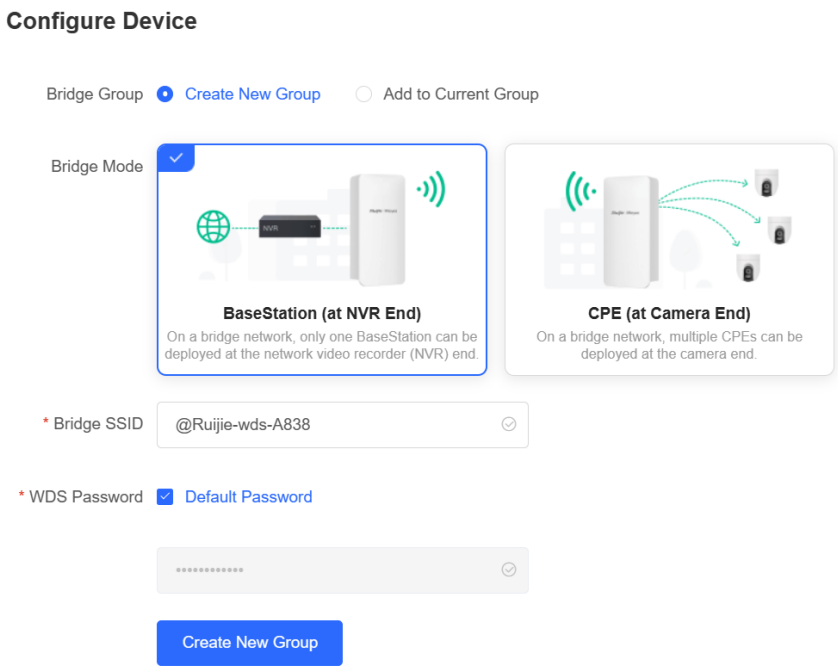
1.3.4 Configuring the Wireless Bridge

Note

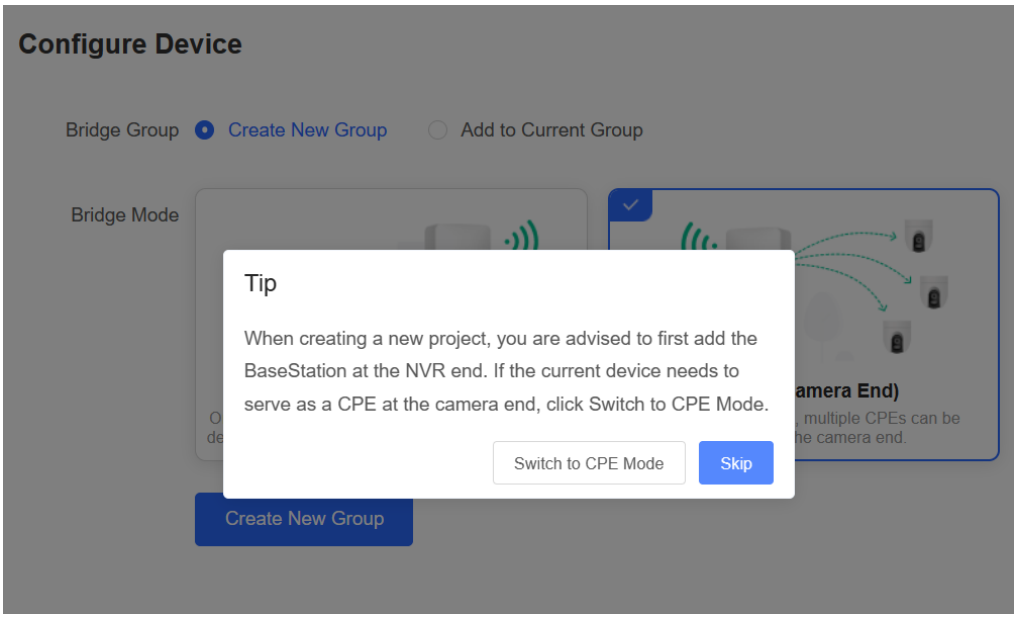
The configuration page is displayed only after the wireless bridge is restored to factory settings.

1. Create a bridge group

If the **Bridge Mode** is set to **BaseStation(at NVR End)**, click **Create New Group** to access the configuration page.

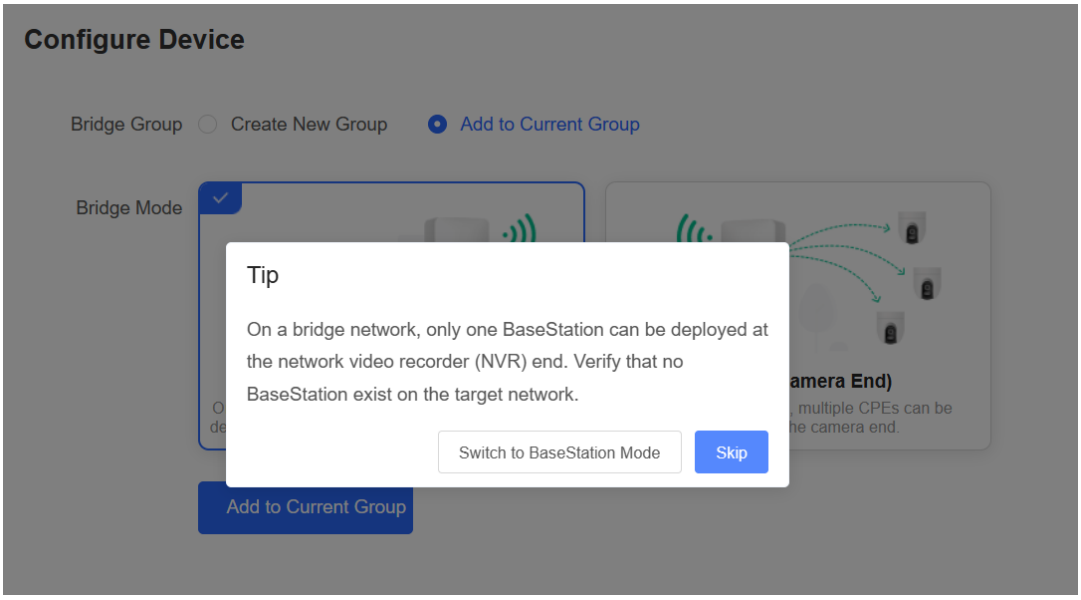


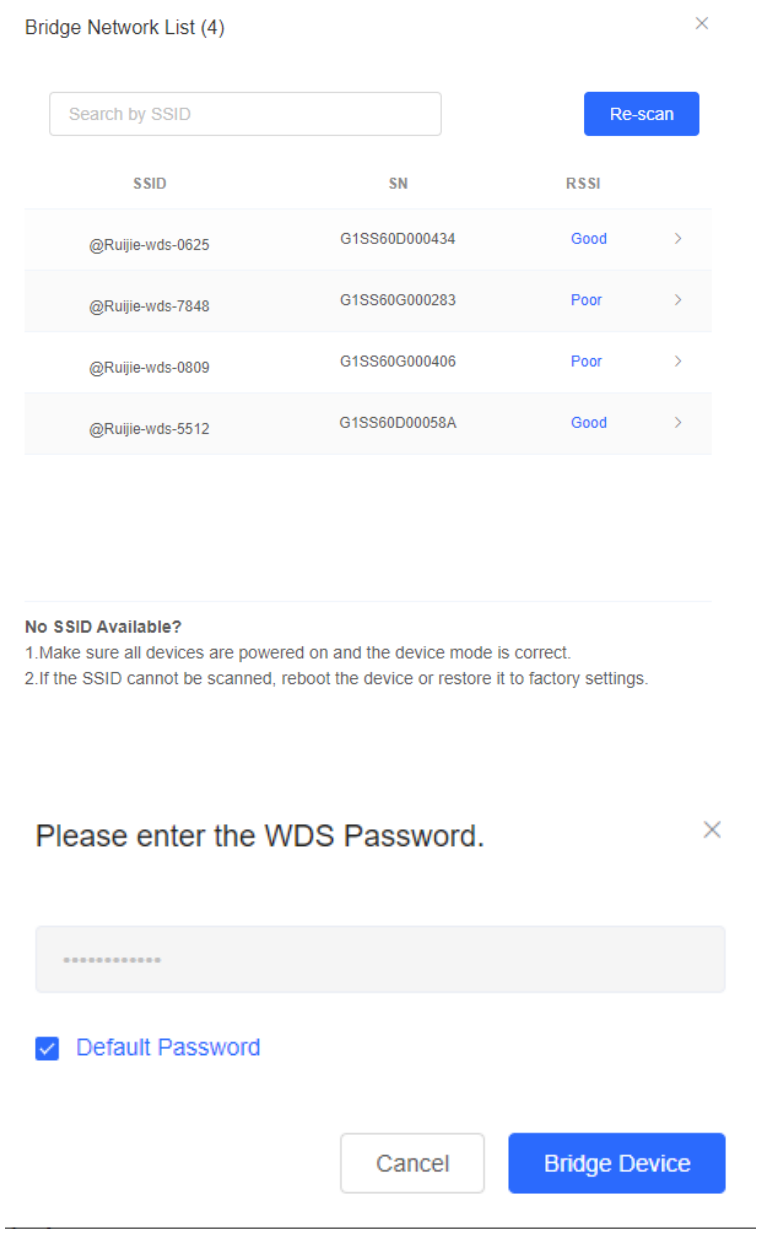
If the **Bridge Mode** is set to **CPE (at Camera End)**, a pop-up window is displayed. Click **Switch to CPE Mode** to proceed.



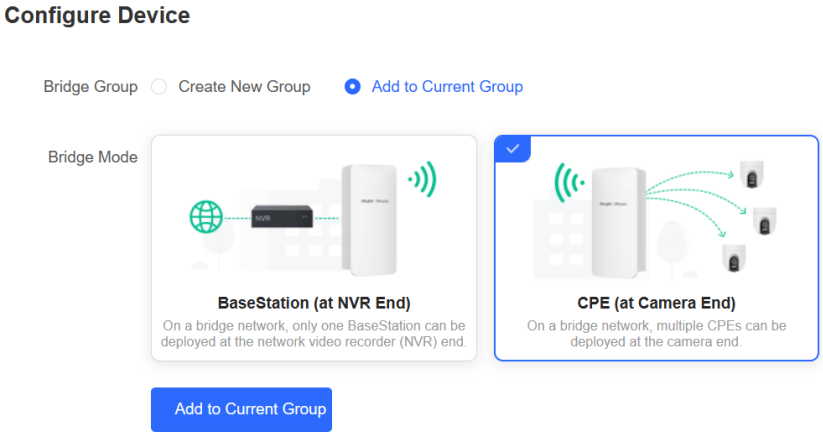
2. Add to the current group

Set the **Bridge Group** to **Add to Current Group**, and select the bridge mode as required. If **BaseStation (at NVR End)** is selected, click **Switch to BaseStation Mode** on the pop-up window, and then click **Add to Current Group** to proceed.





If **CPE (at Camera End)** is selected, then click **Add to Current Group** to proceed.


Configure Device
Bridge Group
Create New Group
Add to Current Group
Bridge Mode
BaseStation (at NVR End)
On a bridge network, only one BaseStation can be deployed at the network video recorder (NVR) end.
CPE (at Camera End)
On a bridge network, multiple CPEs can be deployed at the camera end.
Add to Current Group

2 Wi-Fi Network Settings

2.1 Overview

2.1.1 NVR and Camera

Bridges purchased in pairs in the same package can be paired automatically with each other after power-on. You can also manually pair the devices by setting up a WDS network. See 2.7 Setting WDS Wi-Fi for a Single NVR or Camera. In a paired WDS group, bridges can work in access point (BaseStation) or Customer Premises Equipment (CPE) mode.

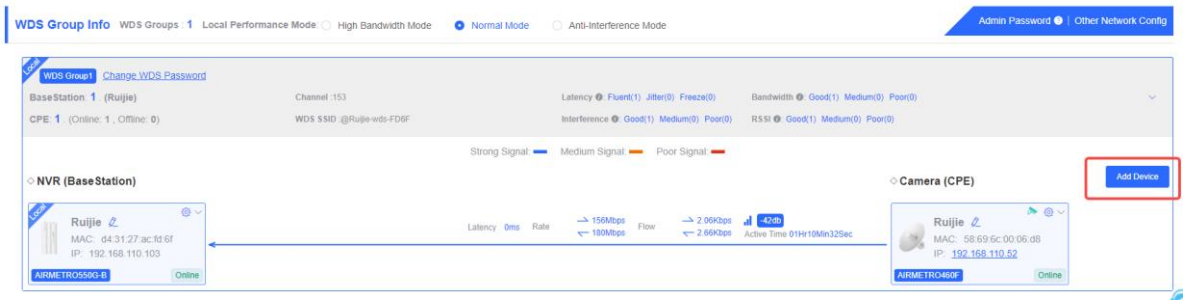
- **NVR end (BaseStation)**: A bridge sending bridging signals is generally connected to the NVR end in a surveillance room. A WDS group can contain at most one BaseStation.
- **Camera end (CPE)**: A bridge that enables customers to access ISP's communication services is generally connected to the camera end. A WDS group can contain multiple CPE.

2.1.2 WDS Wi-Fi and Management Wi-Fi

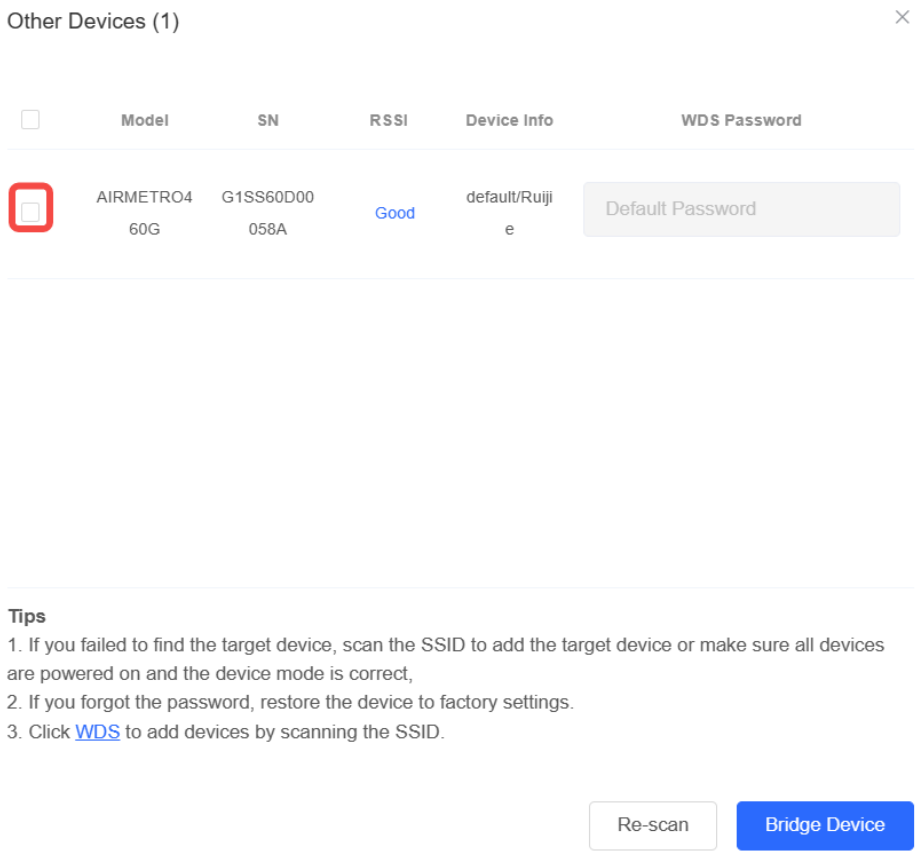
- **WDS Wi-Fi**: An BaseStation broadcasts the WDS Wi-Fi signal. A CPE accesses the WDS Wi-Fi and upload videos or other data to the BaseStation.
- **Management Wi-Fi**: Both an BaseStation and a CPE can broadcast management Wi-Fi signal. You can use a mobile phone or laptop to access the management Wi-Fi and log in to the web page to configure bridges.

2.2 Scanning and Pairing the Camera (CPE)

- Log in to the web interface of the NVR (BaseStation), click **Add Device** on the home page, and add a camera (CPE).



Check the box next to the target camera (CPE), enter the bridge password in the **WDS Password** field (leave it blank if the default password is used), and click **Bridge Device**.

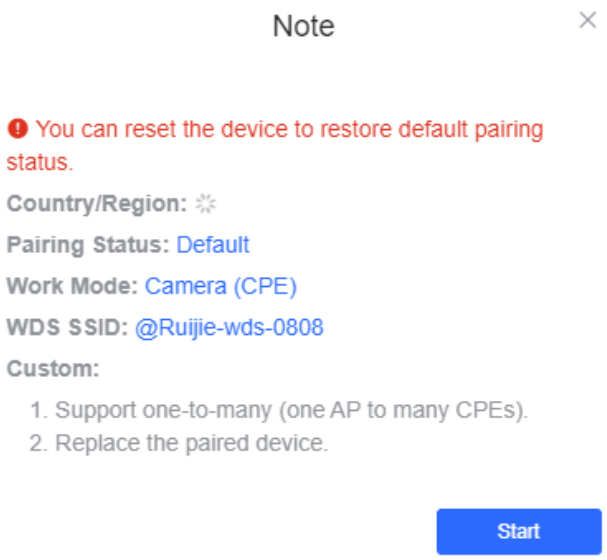


2.3 Switching NVR and Camera Mode

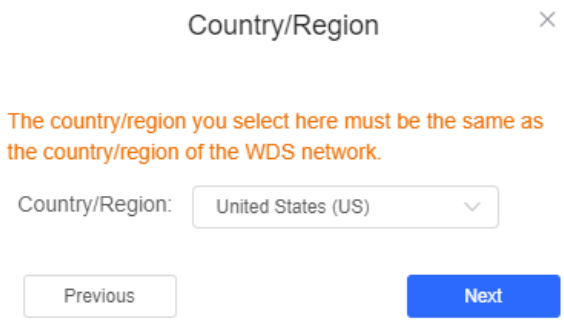
If an NVR fails, replace it and switch the new device to NVR (BaseStation). If multiple cameras (CPE) are required, a device newly joining the WDS group needs to be switched to Camera (CPE).

(1) You can check the current mode in the upper right corner of the web page and click **Pair Again** to switch the mode.

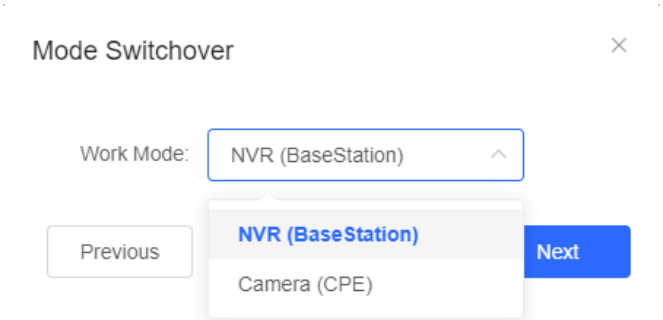
(2) In the displayed dialog box, click **Start**.



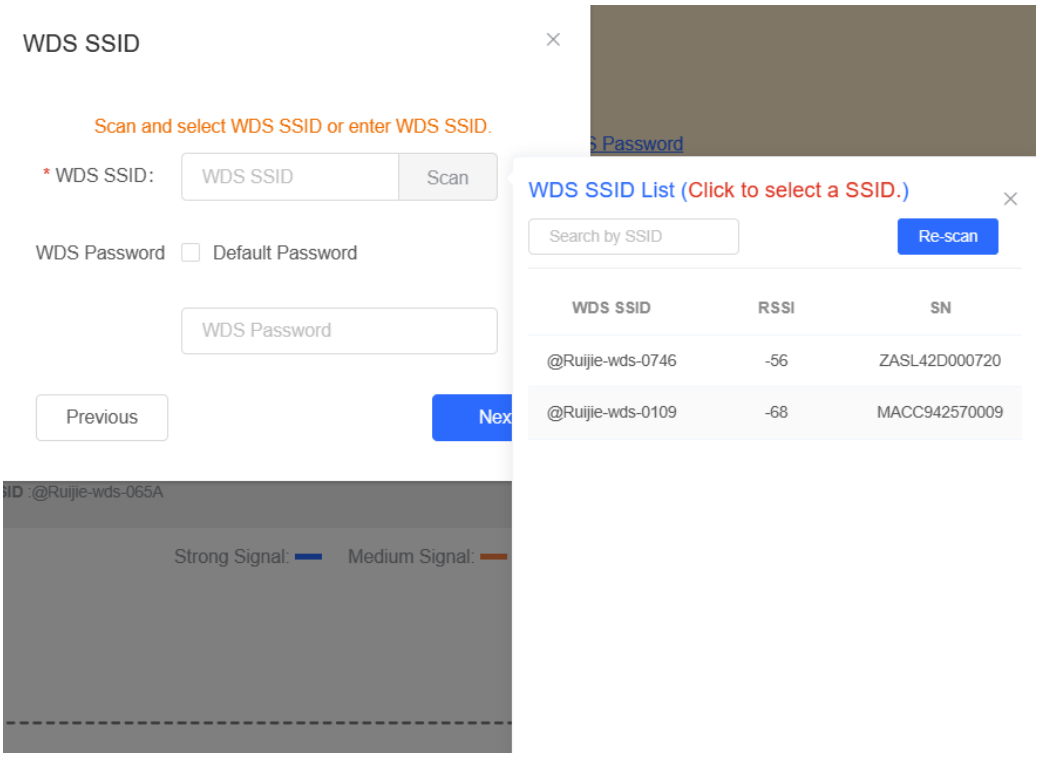
(3) Click **Next**.



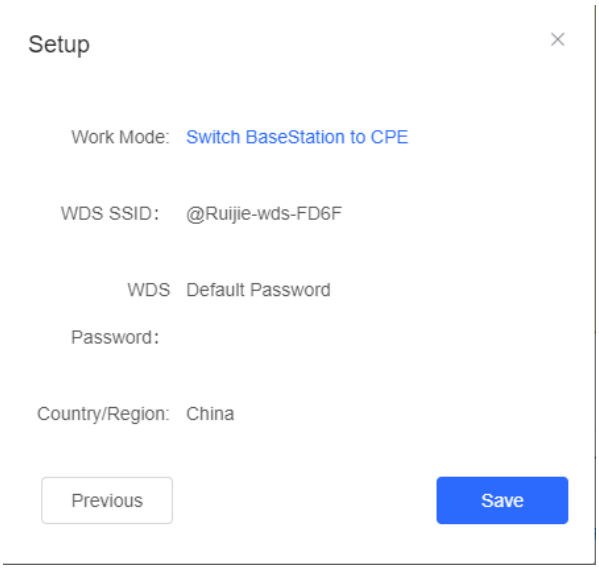
(4) Select a mode from the **Work Mode** drop-down list.



(5) Click **Scan**. A list of camera (CPE) is displayed. Select the target camera (CPE), enter the WDS password, and click **Next**.



(6) Verify the settings on the **Setup** page. Then, click **Save**.

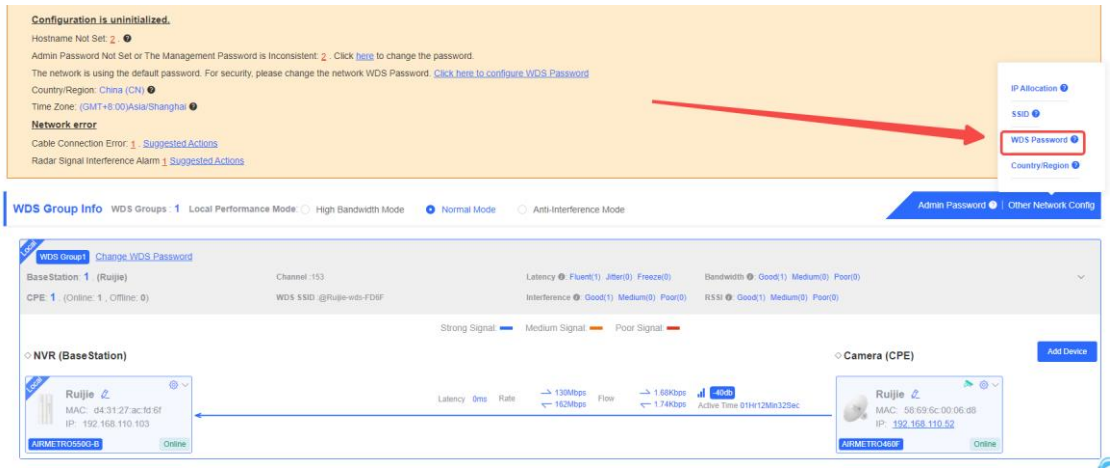


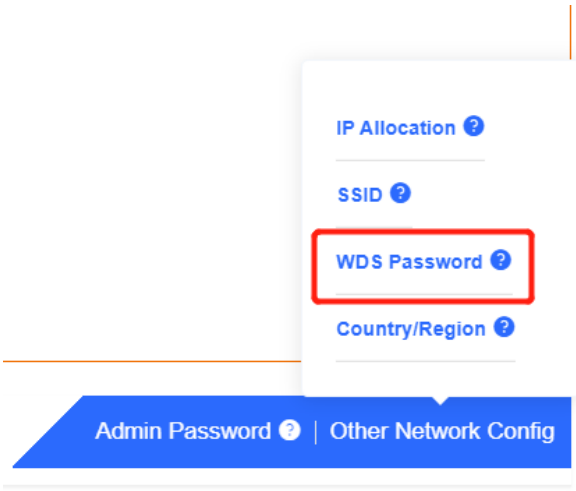
Caution

Switching the mode will reboot the device. Therefore, exercise caution when performing this operation.

2.4 Configuring the WDS Password for All Bridges in the LAN

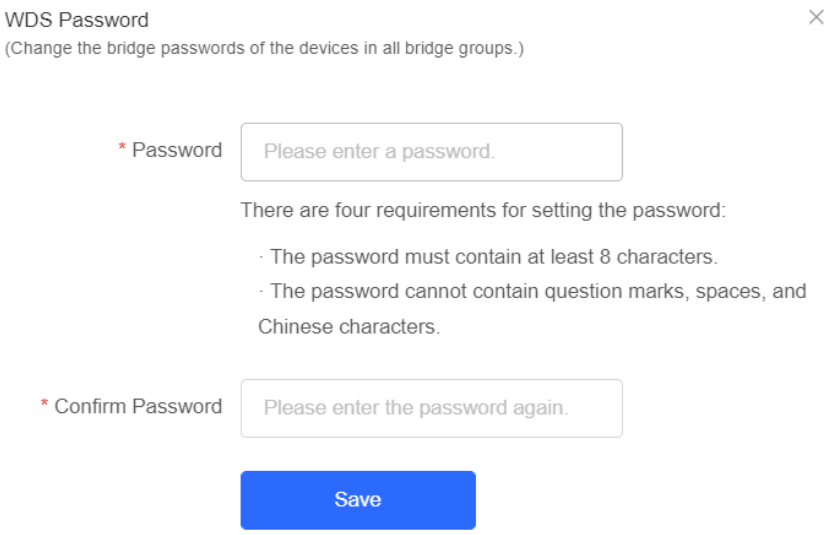
Choose: **Overview > Other Network Config > WDS Password**





Click **WDS Password**, enter the password in the displayed dialog box, and click **Save**.

Hover the cursor over to view the help information.



Caution

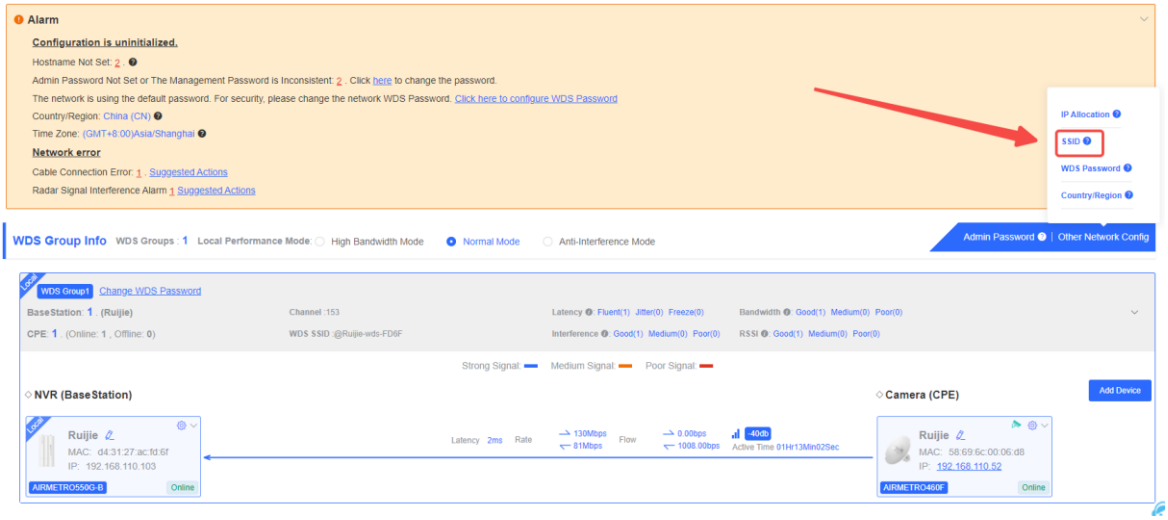
When configuring the WDS password for the entire network, ensure that all devices in the network are online. Otherwise, the WDS passwords of the devices will be inconsistent.

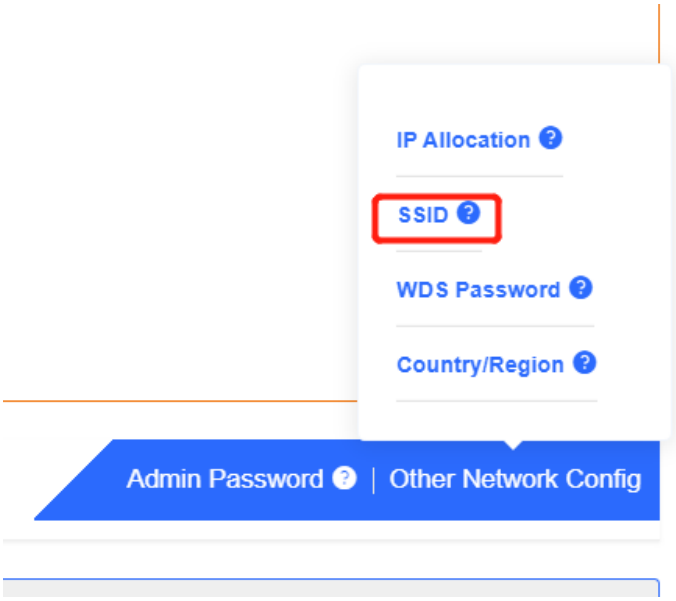
Configuring the WDS password for the entire network will reconnect all devices in the network. Therefore, exercise caution when performing this operation.

If there is an unbridged device in the network, the WDS password cannot be configured.

2.5 Configuring the Management SSID and Password for All Bridges in the LAN

Choose: **Overview > Other Network Config >SSID**





Note

The management Wi-Fi network is used only for login to the web page and device management, and cannot be used for Internet access. It is isolated from the service network.

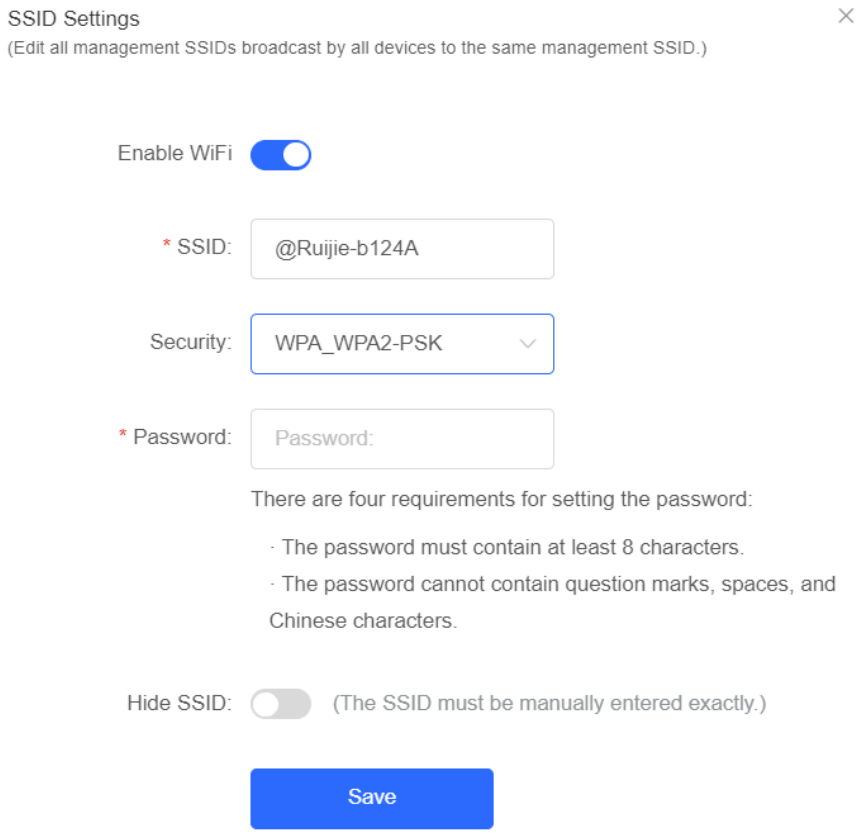
The default device management service set identifier (SSID) is @**Ruijie-b***XXXX*. (XXXX is the last four digits of the MAC address of each device, and the default management SSID varies with device.) Click **SSID** on the page to set the same management SSID and password for all bridges in the LAN.

Enable WiFi: Choose whether to enable the management Wi-Fi for all devices in the network.

SSID: The SSID is the name of the management Wi-Fi network.

Security: The following encryption types are available: Open, WPA-PSK, WPA2-PSK, and WPA_WPA2-PSK. You are advised to choose WPA_WPA2-PSK and set the password to improve the security.

Hide SSID: When this function is enabled, mobile phones or computers cannot find the Wi-Fi name, and users need to manually enter the correct name and password. This can prevent Wi-Fi from being accessed by unauthorized users and can enhance security.



Caution

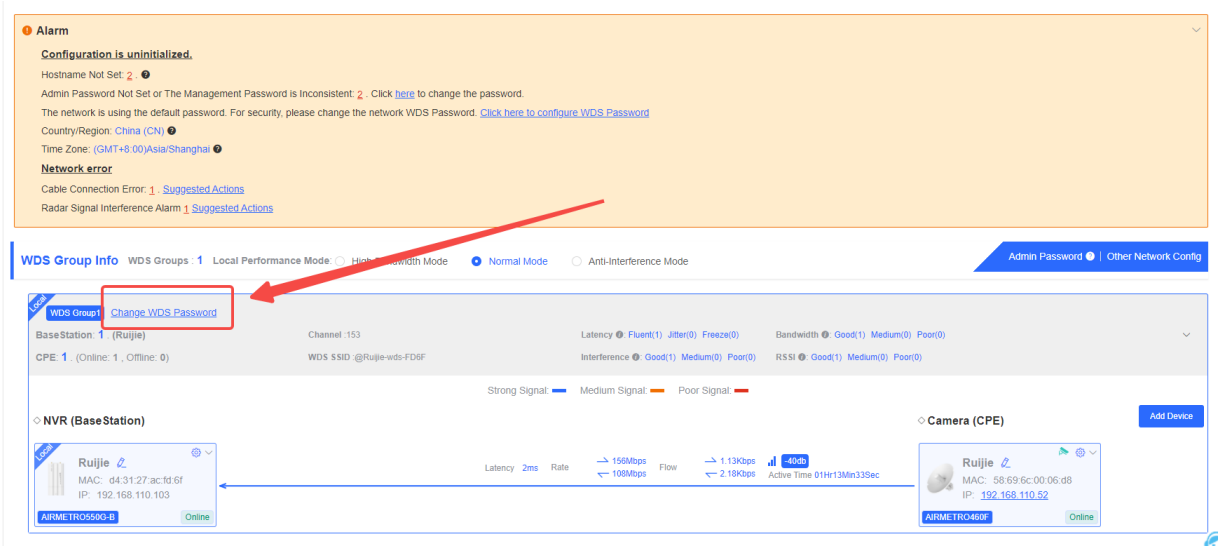
After the configuration is saved, NVRs and cameras in the network will be reconnected. Therefore, exercise caution when performing this operation.

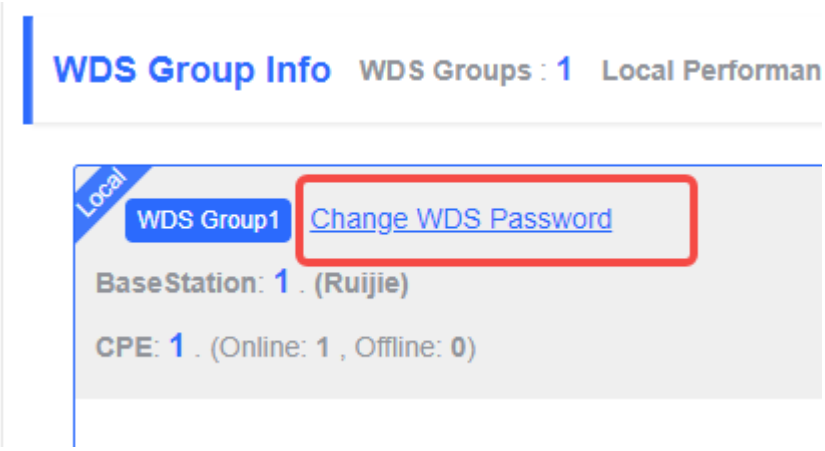
2.6 Configuring the WDS Password for All Bridges in the WDS Group

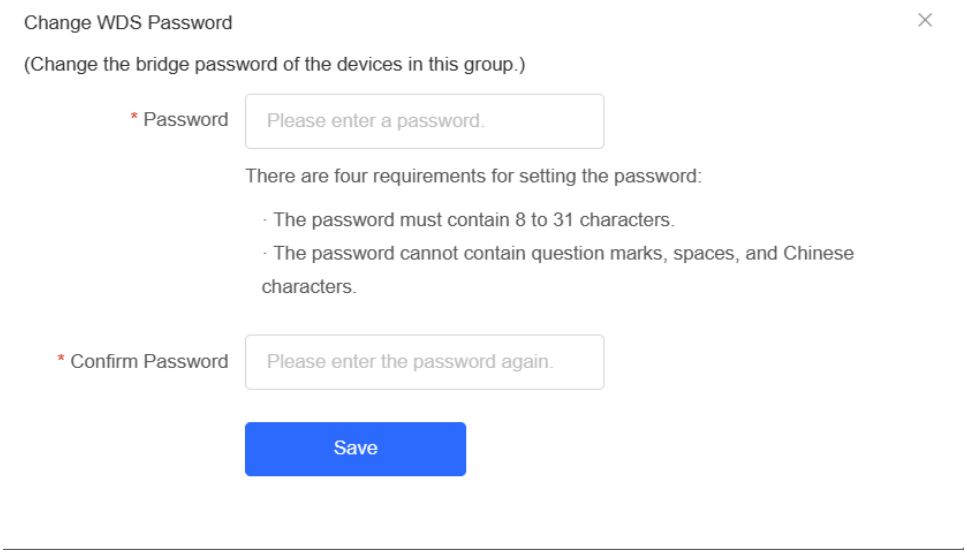
Choose **Overview** > **Change WDS Password**.

The default WDS password of devices is the same. Changing the WDS password can prevent others from illegally accessing the user network by using a device of the same model.

When configuring the WDS password for bridges in the entire network is unavailable or unnecessary, you can click **Change WDS Password** to configure the WDS password for bridges in the WDS group. If there is an unbridged device in the group, the **Change WDS Password** function will be unavailable.







Caution

When configuring the WDS password for a WDS group, ensure that all devices in the group are online. Otherwise, WDS passwords of the devices will be inconsistent.

Configuring the WDS password for a WDS group will reconnect devices in the group. Therefore, exercise caution when performing this operation.

If there is an unbridged device in the WDS group, this function will be unavailable.

2.7 Setting WDS Wi-Fi for a Single NVR or Camera

2.7.1 Setting the WDS SSID

Choose **Wireless > WDS > WDS**

To prevent network exceptions, you are advised to keep the default WDS SSID unless otherwise specified.

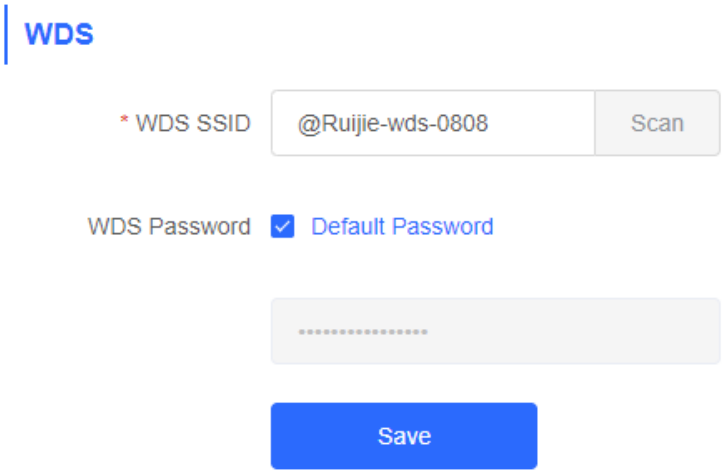
If a new WDS SSID is set for a device in a WDS group, other bridges in the group need to change to the new SSID as well to connect with this device.

When a new device is connected, you can either configure a new WDS SSID or click **Scan** to select a target WDS SSID.

To check the WDS SSIDs of WDS groups, choose **Overview** > **WDS Group Info**. For details, see 2.11 Displaying WDS Group Information.

Caution

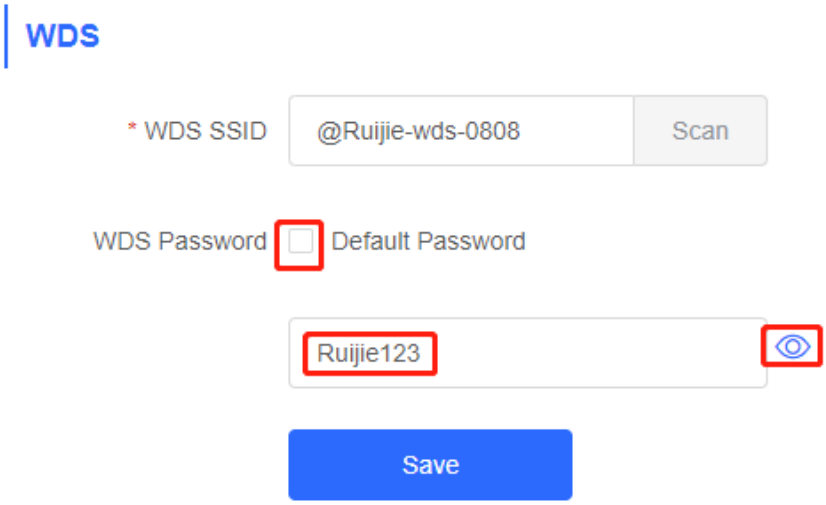
Configuring a WDS SSID will disconnect the WDS link. Incorrect WDS SSID will cause a WDS connection failure. Therefore, exercise caution when performing this operation.



2.7.2 Configuring the WDS Password

Choose **Wireless > WDS > WDS**

A correct WDS password is required for a successful WDS link. To prevent unauthorized devices from connecting to the WDS Wi-Fi network, high-security passwords are used for devices by default, and the password for devices of the same model is the same. You are advised to change the password for devices in the entire network or in a WDS group to prevent others from accessing the network using a device of the same model.



Caution

- WDS passwords can be configured only for cameras, and not for NVRs.
- Configuring a WDS password will disconnect the WDS link. An incorrect WDS password will cause a WDS connection failure. Therefore, exercise caution when performing this operation.

2.7.3 Saving the Settings

After changing the WDS SSID or password, click **Save** to activate settings at once.

2.8 Optimizing Wireless Network

2.8.1 Overview

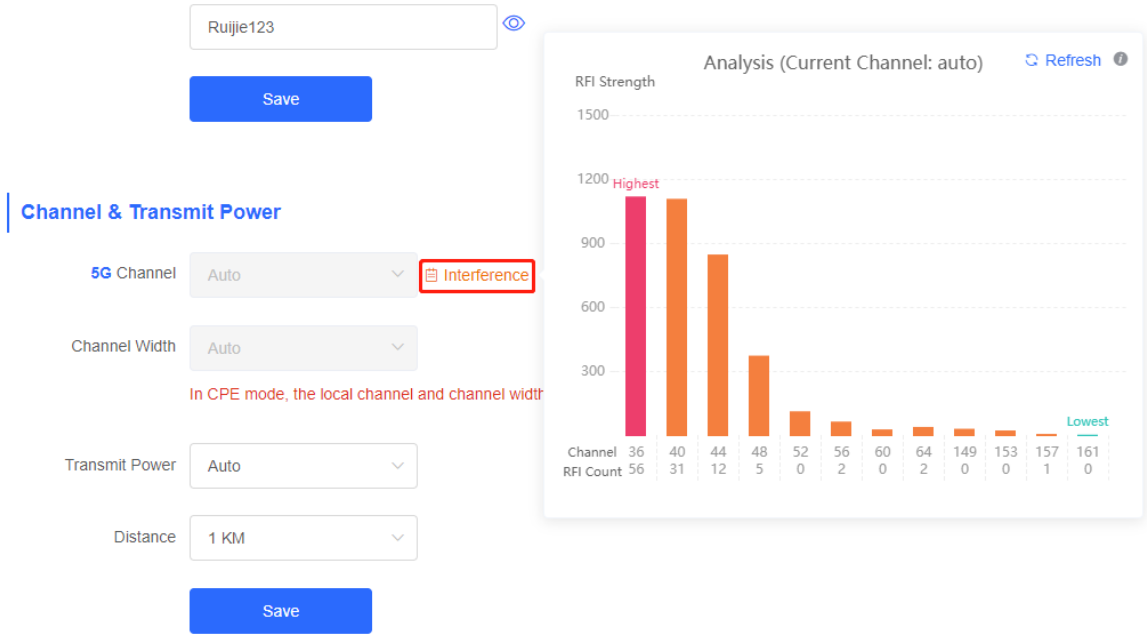
The device detects the surrounding wireless environment and selects the appropriate configuration upon power-on. However, network stalling caused by wireless environment changes cannot be avoided. You can also analyze the wireless environment around the bridge and manually select appropriate parameters.

2.8.2 Getting Started

Before configuration, you can check the interference in the current environment in the following way to find the optimal channel.

Choose **Wireless** > **WDS** > **Channel & Transmit Power**.

Click **Interference** to check the interference of current channels. The channel with the smallest interference is the optimum.



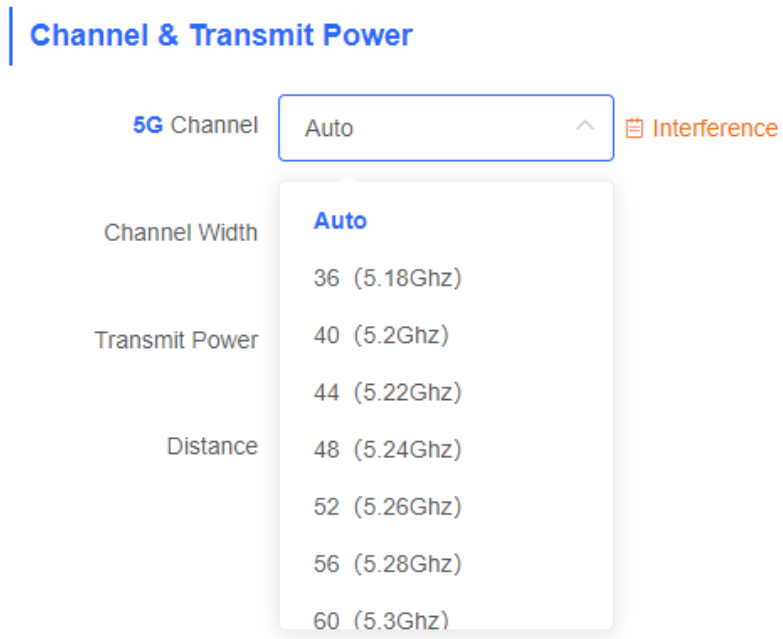
2.8.3 Configuration Steps

1. Optimizing the Radio Channel

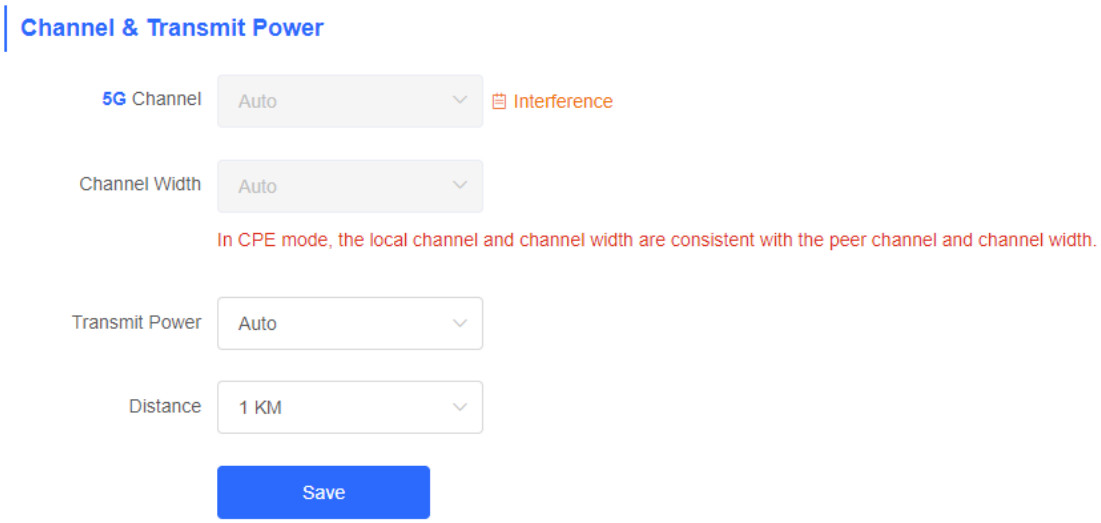
(1) Channel settings

Choose **Wireless** > **WDS** > **Channel & Transmit Power** > **5G Channel**.

The default channel is **Auto**, indicating automatic channel adaption based on the surrounding environment upon power-on. Choose the optimal channel identified through the above analysis. Click **Save** to activate settings immediately. Excess STAs connected to a channel can bring stronger wireless interference.



The camera mode does not support independent channel settings. After the channel at the NVR end is adjusted, the camera end automatically changes its channel to be the same as the NVR end.



Note

The available channel is related to the country/region code. Select the local country or region.

The above figure provides guidance on 5 GHz channel configuration. Take the same steps for 2.4 GHz channel configuration. The single-radio (2.4 GHz) device does not support 5 GHz configuration.

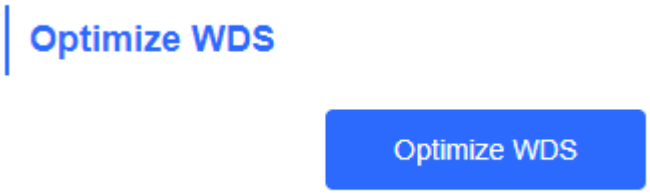
Caution

After the channel is changed, the NVR will be reconnected to the camera. Therefore, exercise caution when performing this operation.

(2) One-click optimization

Choose **Wireless** > **WDS** > **Optimize WDS**.

Click **Optimize WDS** so that the device automatically selects the channel again based on the interference in the current environment, ensuring that the device works in the optimal channel. You are advised to optimize WDS when the original channel is not the optimum.



Caution

After you click **Optimize WDS**, the NVR will be reconnected to the camera. Therefore, exercise caution when performing this operation.

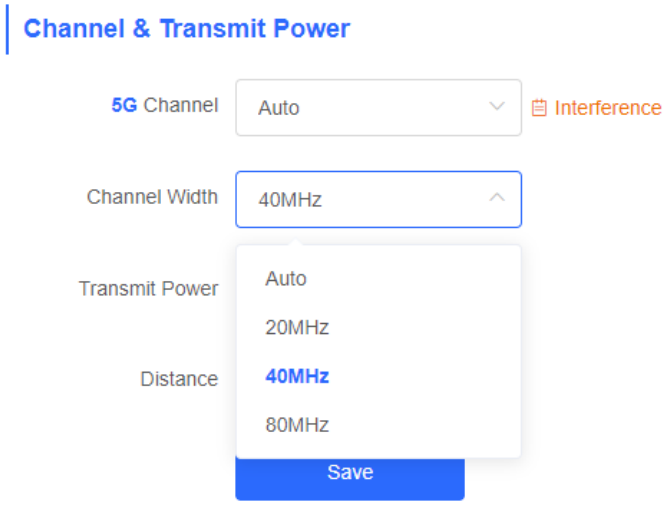
2. Optimizing the Channel Width

Choose **Wireless** > **WDS** > **Channel & Transmit Power** > **Channel Width**.

If the interference is severe, choose a lower channel width to avoid network stalling. A 5 GHz bridge supports channel widths of 20 MHz, 40 MHz, and 80 MHz, while a 2.4 GHz bridge supports channel widths of 20 MHz and 40 MHz. The network is stable when the channel width is smaller. A larger channel width is more susceptible to interference. The default channel width of a 2.4 GHz bridge is 20 MHz (recommended configuration). The default channel width of a 5 GHz bridge is 40 MHz (recommended configuration). After changing the channel width, click **Save** to activate settings immediately.

Caution

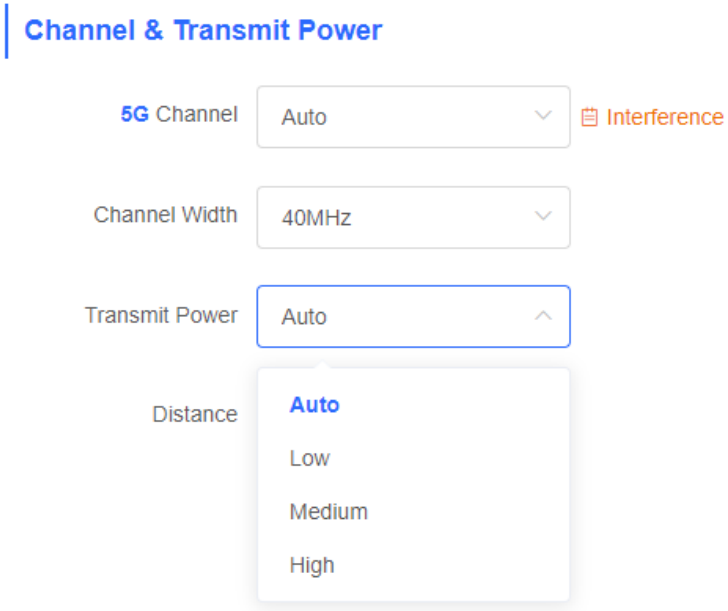
After the channel width is changed, the NVR will be reconnected to the camera. Therefore, exercise caution when performing this operation.



3. Optimizing the Transmit Power

Choose **Wireless** > **WDS** > **Channel & Transmit Power** > **Transmit Power**.

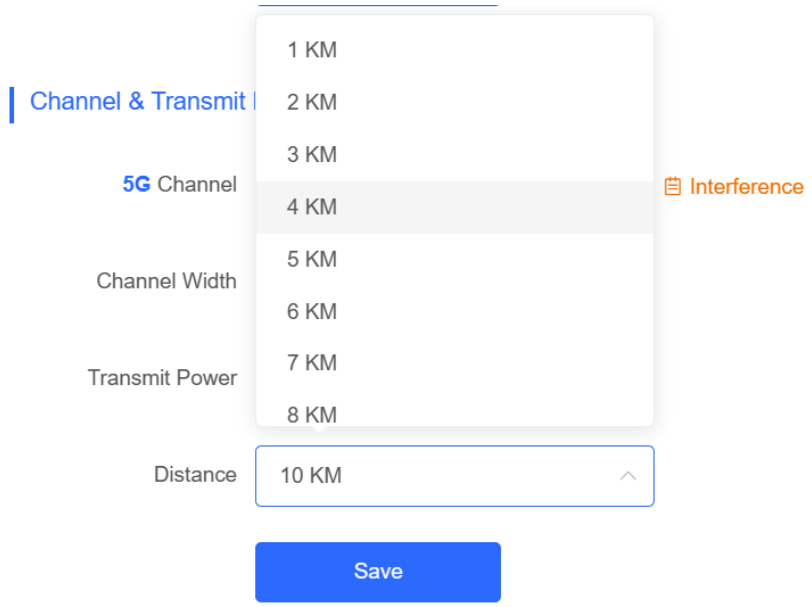
Greater transmit power indicates larger coverage and brings stronger interference to surrounding wireless devices. The default value is **Auto**, indicating automatic adjustment of the transmit power. In a scenario in which wireless devices are installed densely, a lower power is recommended. **Low**, **Medium**, and **High** indicate 50%, 75%, and 100% power, respectively.



4. Configuring the Distance

Choose **Wireless** > **WDS** > **Channel & Transmit Power** > **Distance**.

It is recommended that the configured distance between the NVR and camera be greater than their actual distance. If the configured distance is much smaller than the actual distance, the wireless performance will deteriorate, and WDS connection may fail.



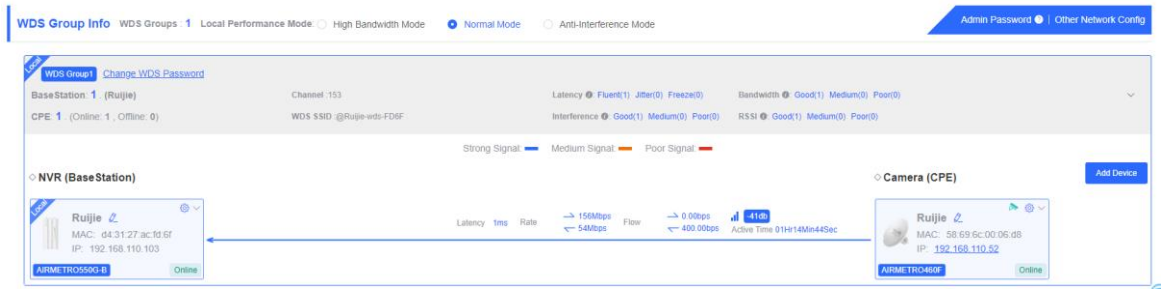
Note

Distance configuration is supported on RG-AirMetro460F, RG-AirMetro460G , RG-AirMetro550G-B ,RG-EST310, RG-EST310 V2, RG-EST350 and RG-EST350 V2 only. RG-EST310 and RG-EST310 V2 support a maximum actual distance of 1 km, while RG-EST350 and RG-EST350 V2 support a maximum actual distance of 5 km. RG-AirMetro460F, RG-AirMetro460G , RG-AirMetro550G-B support a maximum actual distance of 15 km

2.9 Changing the Country/Region Code

2.9.1 Getting Started

Country/region code change takes effect on all devices in the entire network, that is, all bridges on the **Overview** page. Therefore, before changing the country/region code, confirm that the target device is on the live network and the WDS link works well.



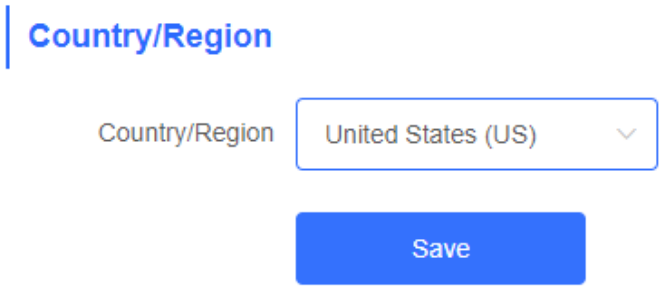
Caution

If you change the country/region code in the case of device disconnection, WDS connection may fail.

2.9.2 Configuration Steps

Choose **Wireless** > **Country/Region** > **Country/Region**.

Choose the target country/region from the drop-down list, and click **Save**.



Caution

After the country/region code is changed, the Wi-Fi network will restart, and the NVR and the camera will be reconnected after the Wi-Fi network is restarted.

The current channel may be switched to **Auto** because it is not supported by the country/region. Therefore, exercise caution when performing this operation.

2.10 Configuring Antenna Alignment

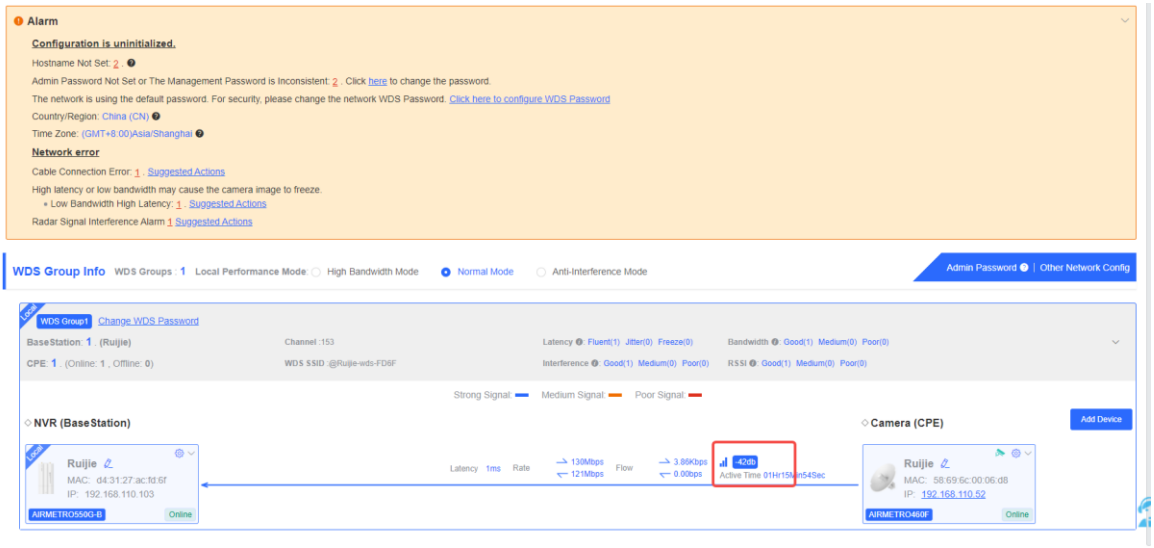
Note

Antenna Alignment is supported on RG- AirMetro550G-B, RG- AirMetro460F and RG- AirMetro460G only.

Choose **Overview** > **WDS Group Info**.

To optimize the usage of the Antenna Alignment feature, ensure that the device is in **Normal Mode**. This feature allow you to quickly and accurately align the antennas for optimal performance when operating the device outdoors. Additionally, as the device moves horizontally, the signal strength values are dynamically updated in real time.

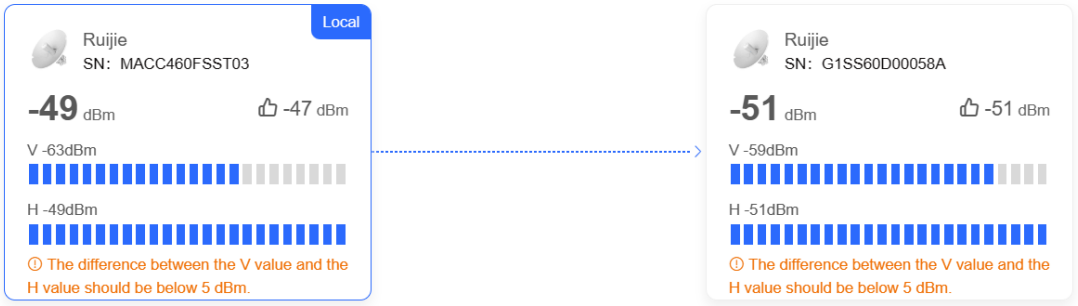
Click on the RSSI. The **Antenna Alignment** pop-up window is displayed.



Note

When the wireless bridge is in Base Station mode, you can view the information of all devices in CPE mode. Conversely, if the wireless bridge is in CPE mode, you can only view information of the local device and other devices in Base Station mode.

The following bridge group information are displayed: the current highest vertical and horizontal signal strengths achieved by the Base Station and CPE in the bridge group, the historical highest signal strength achieved through antenna alignment, and the real-time updates of vertical and horizontal signal strengths.



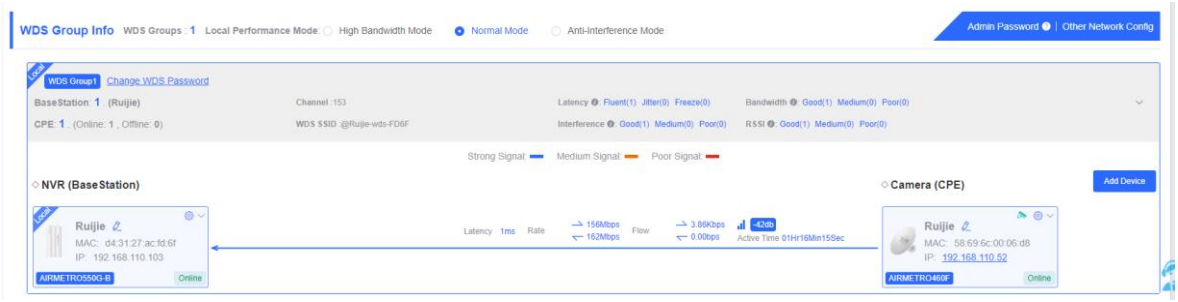
Note

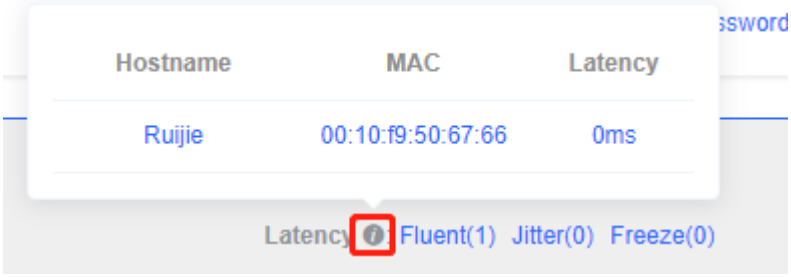
The left pane displays the information about the Base Station device, while the right pane displays the information about the CPE device.

2.11 Displaying WDS Group Information

Choose **Overview > WDS Group Info.**

Displayed WDS group information includes the number of BaseStations and CPEs in the group, current working channel, SSID, latency, interference, wireless bandwidth and quality, RSSI and quality, data rate, real-time traffic, and uptime. Hover the cursor over to view the detailed information of every item.





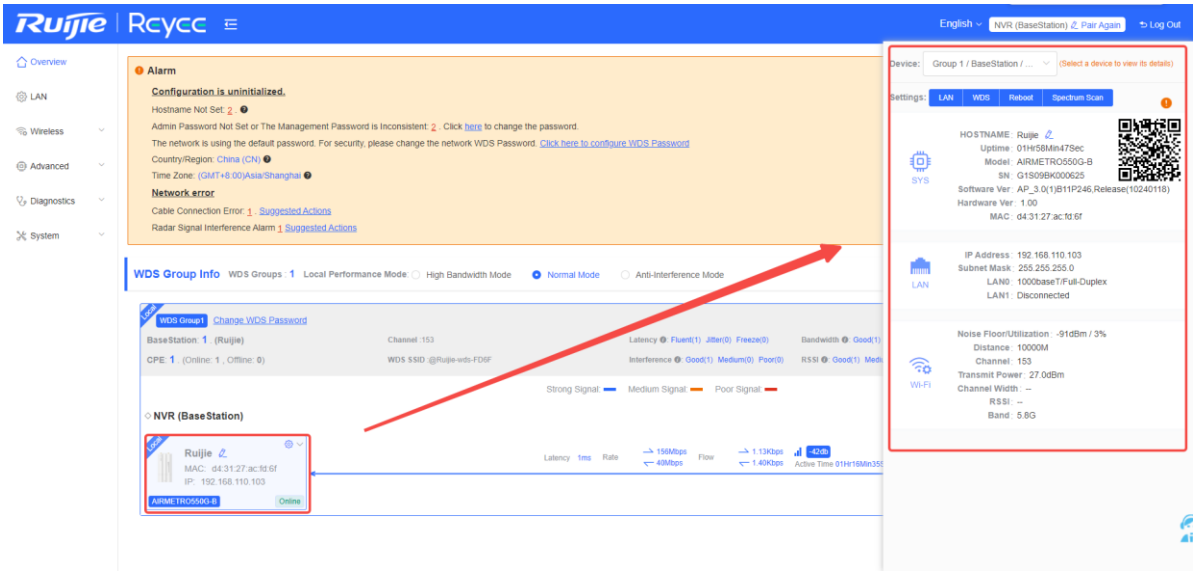
Note

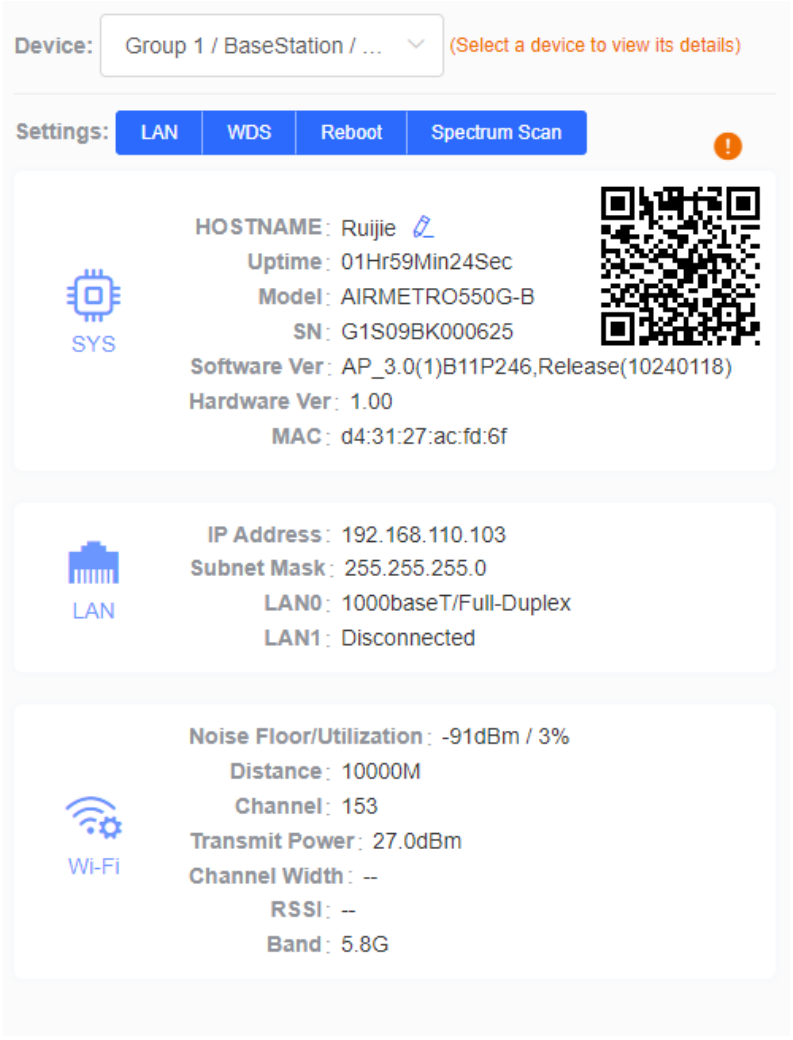
BaseStation is at the NVR end, while CPE is at the camera end.

2.12 Displaying the Information About a Single Device

- Choose **Overview** > **WDS Group Info** > **NVR (BaseStation)/Camera (CPE)**.

Click the  icon of a device to display the basic information about the device in the right panel of the page, including the hostname, uptime, online status, model, SN, MAC address, software and hardware versions, IP address, subnet mask, LAN port status, noise floor/utilization, distance, channel, transmit power, channel width, RSSI, and band.


Ruijie | Rcycc
English
NVR (BaseStation)
Pair Again
Log Out
Overview
LAN
Wireless
Advanced
Diagnostics
System
Alarm
Configuration is uninitialized.
Hostname Not Set: 2
Admin Password Not Set or The Management Password is Inconsistent: 2 . Click here to change the password.
The network is using the default password. For security, please change the network WDS Password. Click here to configure WDS Password
Country/Region: China (CN)
Time Zone: (GMT+8:00)Asia/Shanghai
Network error
Cable Connection Error: 1 . Suggested Actions
Radar Signal Interference Alarm 1 Suggested Actions
WDS Group Info
WDS Groups : 1
Local Performance Mode:
High Bandwidth Mode
Normal Mode
Anti-Interference Mode
WDS Group1
Change WDS Password
BaseStation: 1 (Ruijie)
CPE: 1 (Online: 1 , Offline: 0)
Channel :153
WDS SSID :@Ruijie-wds-FD6F
Strong Signal:
Medium Signal:
Poor Signal:
NVR (BaseStation)
Ruijie
MAC: d4:31:27:ac:fd:6f
IP: 192.168.110.103
AIRMETRO550G-B
Online
Device:
Group 1 / BaseStation / ...
(Select a device to view its details)
Settings:
LAN
WDS
Reboot
Spectrum Scan
HOSTNAME: Ruijie
Uptime: 01Hr58Min47Sec
Model: AIRMETRO550G-B
SN: G1S09BK000625
Software Ver: AP_3.0(1)B11P246,Release(10240118)
Hardware Ver: 1.00
MAC: d4:31:27:ac:fd:6f
SYS
IP Address: 192.168.110.103
Subnet Mask: 255.255.255.0
LAN0: 1000baseT/Full-Duplex
LAN1: Disconnected
LAN
Noise Floor/Utilization: -91dBm / 3%
Distance: 10000M
Channel: 153
Transmit Power: 27.0dBm
Channel Width: --
RSSI: --
Band: 5.8G
Wi-Fi


Device:
Group 1 / BaseStation / ...
(Select a device to view its details)
Settings:
LAN
WDS
Reboot
Spectrum Scan
HOSTNAME: Ruijie
Uptime: 01Hr59Min24Sec
Model: AIRMETRO550G-B
SN: G1S09BK000625
Software Ver: AP_3.0(1)B11P246,Release(10240118)
Hardware Ver: 1.00
MAC: d4:31:27:ac:fd:6f
SYS
IP Address: 192.168.110.103
Subnet Mask: 255.255.255.0
LAN0: 1000baseT/Full-Duplex
LAN1: Disconnected
LAN
Noise Floor/Utilization: -91dBm / 3%
Distance: 10000M
Channel: 153
Transmit Power: 27.0dBm
Channel Width: --
RSSI: --
Band: 5.8G
Wi-Fi

Note

The device at the NVR end does not involve channel width and RSSI, and only the device at the camera end does.

2.13 Configuring TDMA Mode

Note

TDMA Mode is supported on RG- AirMetro550G-B, RG- AirMetro460F and RG- AirMetro460G only.

2.13.1 Overview

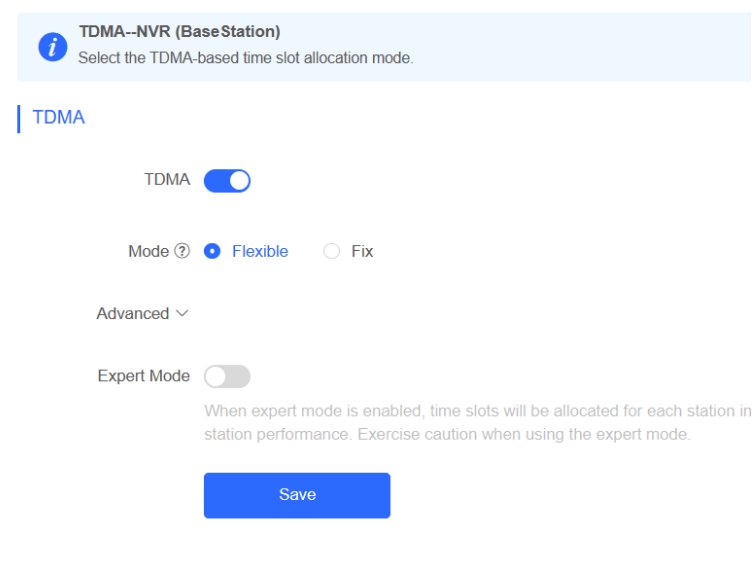
Time Division Multiple Access (TDMA) is specifically designed to address the challenge of CPE nodes being hidden from each other over long distances. In the traditional Wi-Fi mechanism utilizing Carrier Sense Multiple Access with Collision Detection (CSMA/CD), the nodes are unable to listen to each other, leading to significant performance degradation. With the TDMA mode enabled, the traffic of each node remains unaffected by long distances, ensuring high performance.

2.13.2 Selecting the TDMA Mode

Choose **Wireless > TDMA.**

1. Flexible mode

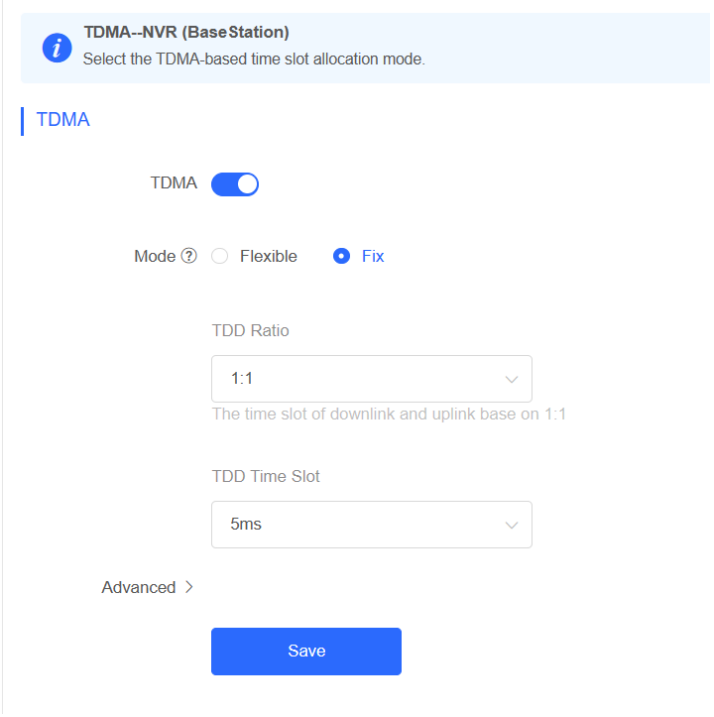
The flexible mode is the default TDMA mode. When enabled, it employs an algorithm to automatically calculate the necessary time slots for each CPE or BaseStation. Additionally, the ratio between BaseStation and CPE is dynamically adjusted to optimize uplink and downlink traffic for maximum efficiency.

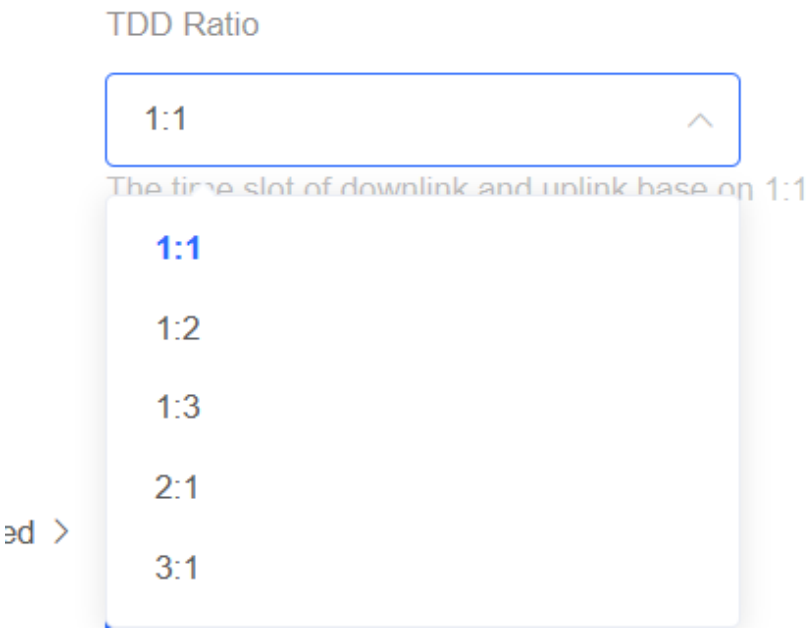


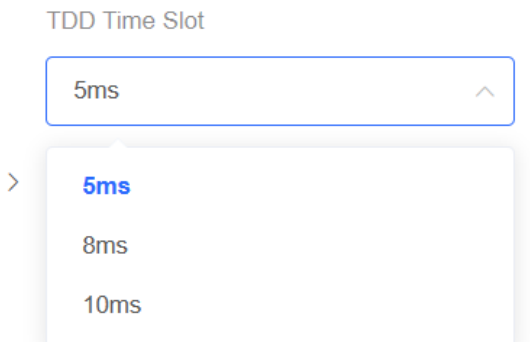
2. Fixed mode

The fixed mode is designed for scenarios that require traffic balance, consistent latency, and consistent uplink and downlink throughput for each node. By utilizing fix intervals (such as 5 ms, 8 ms, and 10 ms), the duration

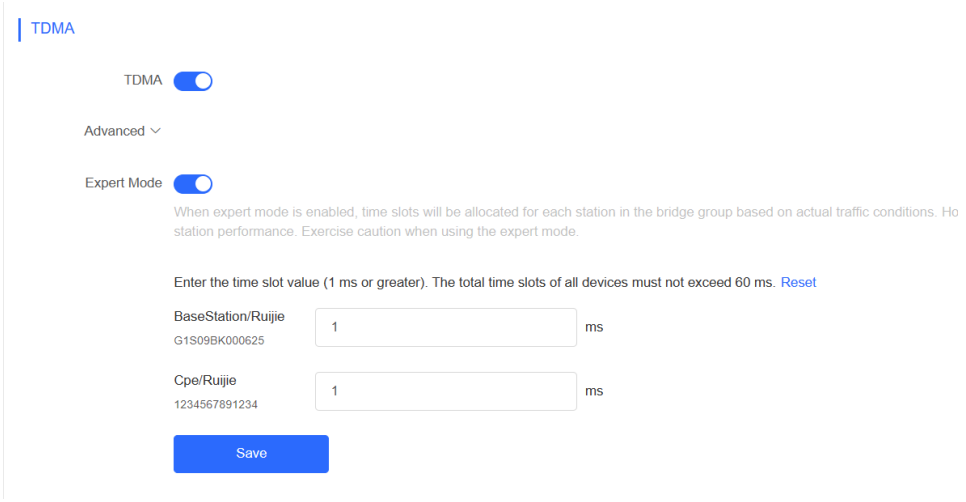
of each frame can be fixed to achieve a consistent latency. In terms of the uplink and downlink throughput, you can set the uplink and downlink ratio accordingly. Currently, there are five ratios available: 1:1, 1:2, 1:3, 2:1, and 3:1, which can be selected from the provided drop-down menu.







3. Expert mode



Caution

The expert mode is designed for situations where a specific node requires a dedicated and fixed time slot, unaffected by algorithm adjustments. In this mode, the desired time slot can be set by the customer. However, it is important to note that the expert mode is not recommended for general customers and should only be configured by individuals with relevant professional knowledge. Incorrect configuration in this mode may result in the device failing to go online.

2.14 Configuring One-Touch Pairing

Note

One-Touch Pairing is supported on RG- AirMetro550G-B, RG- AirMetro460F and RG- AirMetro460G only.

2.14.1 Overview

When the One-Touch Pairing feature is enabled, a simple press of the One-Touch Pairing button on the device triggers the mesh operation. During the mesh process, the BaseStation promptly forms a mesh connection with the factory-configured and unbridged CPE, streamlining the networking process.

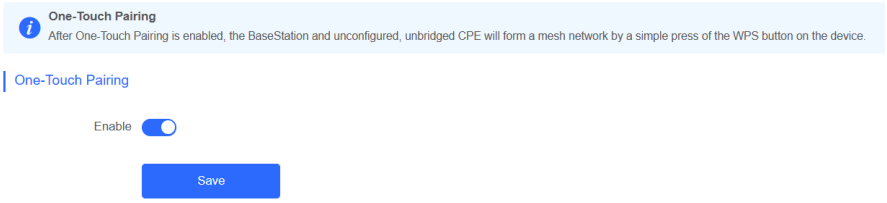
The One-Touch Pairing feature is designed to simplify the process of setting up a network bridge for users who have purchased a wireless bridge that supports this feature. By pressing a physical button on the wireless bridge, the wireless bridge will automatically search for and connect with a factory-configured CPE that has not been connected to any network. This will add the CPE to the LAN of the BaseStation without complex network configuration or setup. The One-Touch Pairing feature enables users to establish a network connection quickly and easily, right out of the box, greatly simplifying the setup and configuration process for the wireless bridge.

2.14.2 Configuration Steps

Choose **Wireless** > **One-Touch Pairing**

Toggle on **Enable** and click **Save**.

Check whether the bridge is in BaseStation mode or CPE mode. If the bridge is currently in BaseStation mode, pressing the One-Touch Pairing button on the wireless bridge will bridge it to all nearby devices operating in CPE mode. If the device is currently in CPE mode, pressing the **One-Touch Pairing** button will switch it to BaseStation mode and continue bridging with all nearby devices operating in CPE mode.



Note

The One-Touch Pairing feature is enabled by default.

3 Network Settings

3.1 Setting the Address of a LAN Port

The address of a LAN port is used only for login to the web page and does not affect the service network.

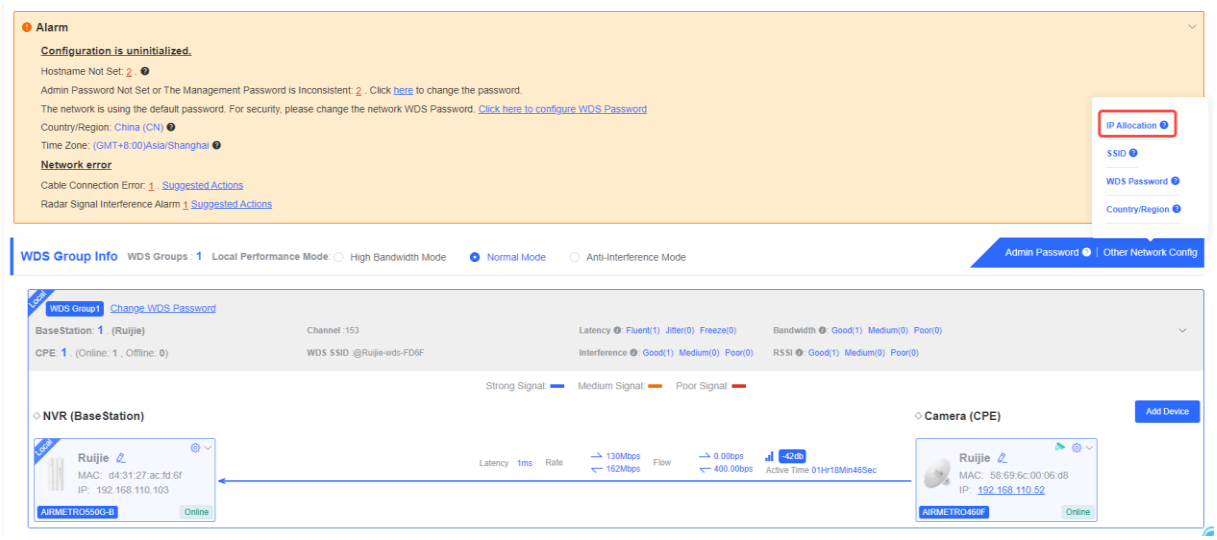
Allocating IP Addresses to All Bridges in the NetworkChoose: **Overview > Other Network Config > IP Allocation**

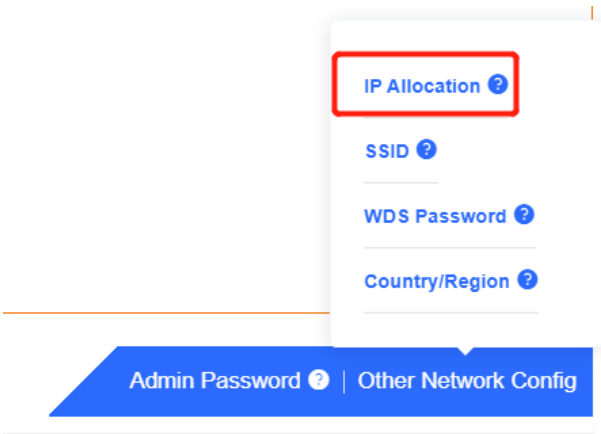
- Static IP address

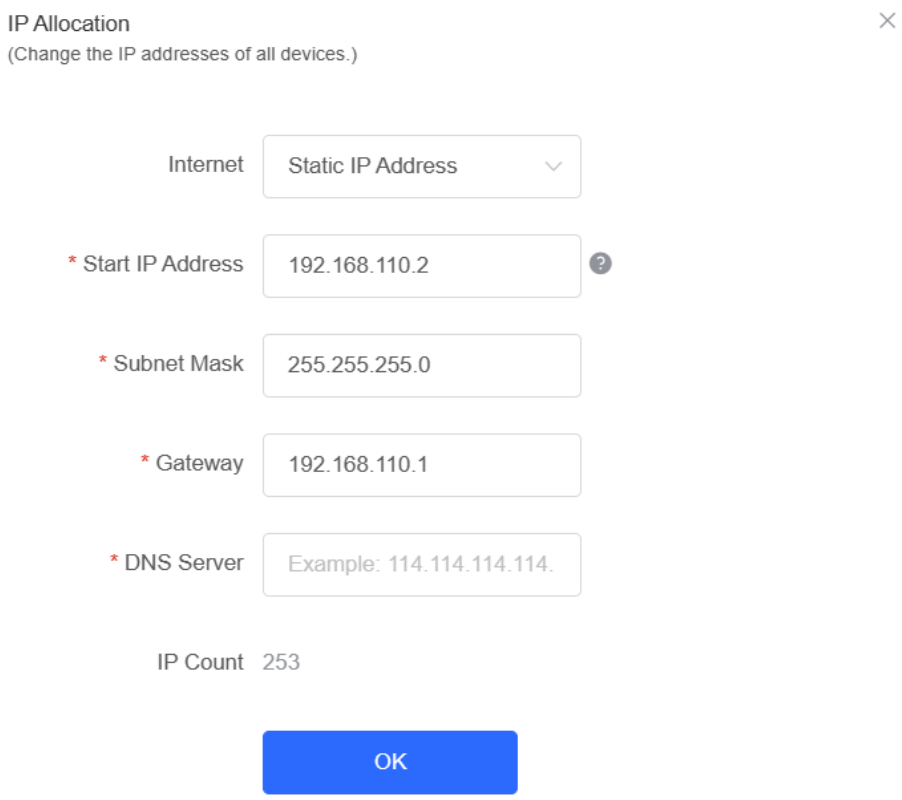
Configuring static IP addresses for the entire network:

When a large number of devices in the network require static IP addresses, you can use **IP Allocation** to automatically allocate a static IP address for each device. Click **IP Allocation**, set **Internet** to **Static IP Address**, set **Start IP Address**, **Subnet Mask**, **Gateway**, and **DNS Server**, and click **OK**.

Hover the cursor over to view the help information.







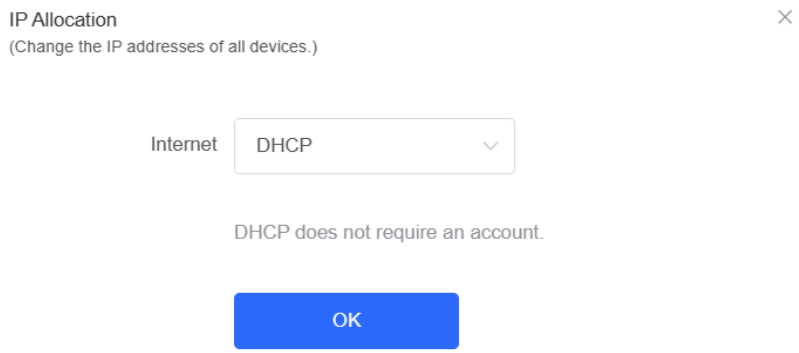
Caution

The start IP address cannot be in the same network segment as the current IP address. Otherwise, the configuration will fail.

After the configuration, the device IP address changes, and the device web page cannot be accessed. You need to enter the new IP address in the browser address bar and ensure that the IP addresses of the management computer and the device are in the same network segment. If they are not in the same network segment, reconfigure the IP address of the management computer. (See 1.3.2 Configuring the IP Address of the Management Computer) Therefore, exercise caution when performing this operation.

- Dynamic IP address (DHCP)

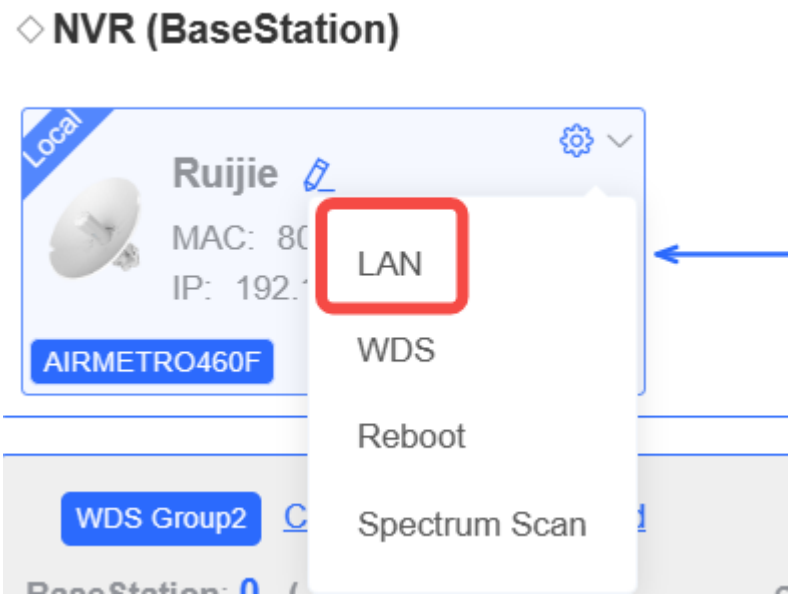
When a large number of devices in the network require dynamic IP addresses, you can configure dynamic IP addresses (DHCP) for the entire network so that each device can dynamically obtain an IP address. Set **Internet** to **DHCP**, and click **OK**.

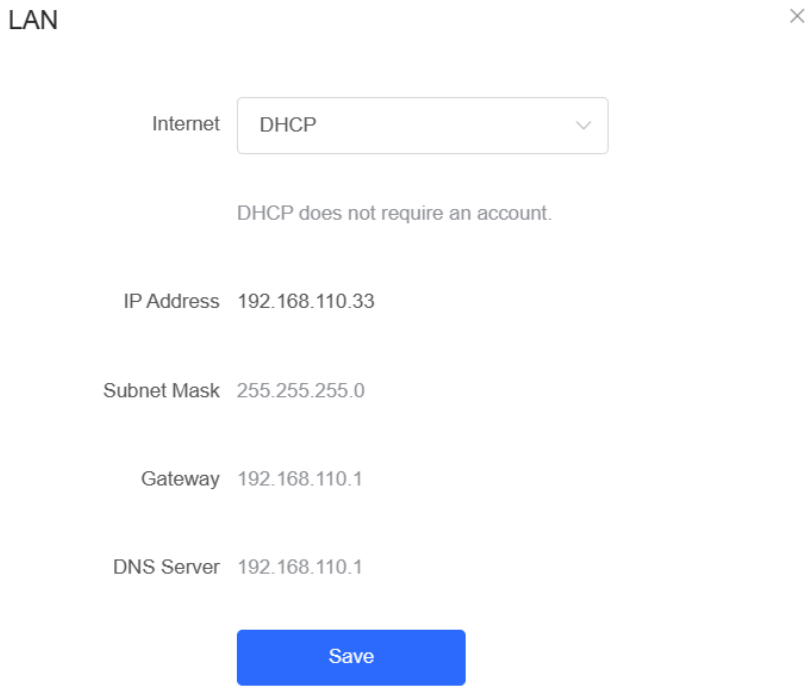


3.1.1 Setting the Address of a LAN Port for a Single Online Bridge

Choose **Overview > WDS Group Info > NVR (BaseStation)/Camera (CPE).**

To set the IP address for a single device, click , and select LAN from the drop-down list. For the configuration method, see 0Allocating IP Addresses to All Bridges in the Network.





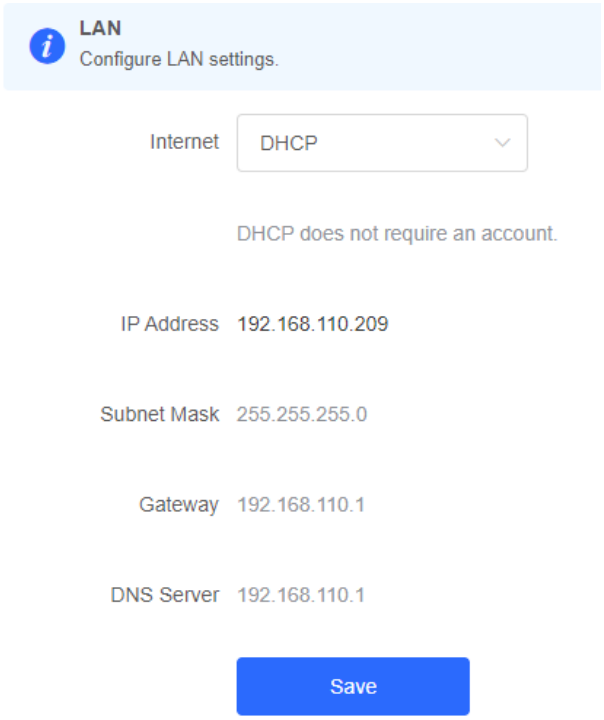
Caution

After the IP address and subnet mask are changed, the device web page may not be accessed. You need to enter the new IP address in the browser address bar and ensure that the IP addresses of the management computer and the device are in the same network segment. If they are not in the same network segment, reconfigure the IP address of the management computer. (See 1.3.2 Configuring the IP Address of the Management Computer) Therefore, exercise caution when performing this operation.

3.1.2 Setting the Address of a LAN Port on the Local Device

Open the **LAN** page.

If a DHCP server is deployed in the network, you are advised to set **Internet** to **DHCP**. If no DHCP server is deployed, set **Internet** to **Static IP Address**, set **IP Address**, **Subnet Mask**, **Gateway**, and **DNS Server**, and click **Save**.



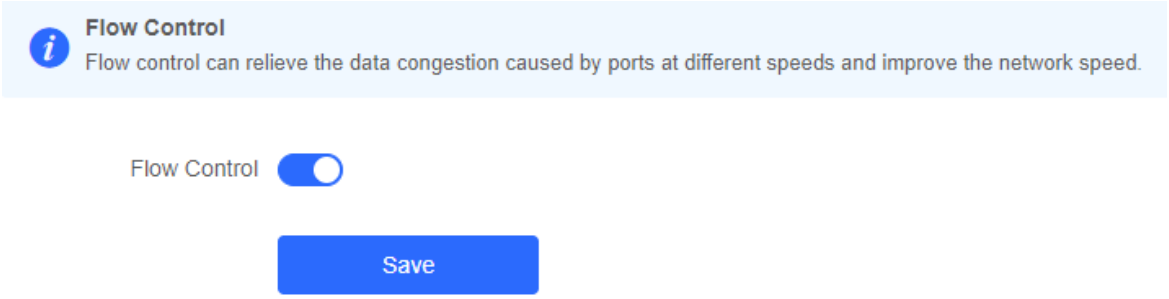
Caution

After the IP address and subnet mask are changed, the device web page may not be accessed. You need to enter the new IP address in the browser address bar and ensure that the IP addresses of the management computer and the device are in the same network segment. If they are not in the same network segment, reconfigure the IP address of the management computer. (See 1.3.2 Configuring the IP Address of the Management Computer) Therefore, exercise caution when performing this operation.

3.2 Port-based Flow Control

Choose **Advanced** > **Flow Control**.

Flow control can relieve the data congestion caused by ports at different speeds and improve the network speed. This function is enabled by default and can be manually disabled.



3.3 Packet Rate Limiting

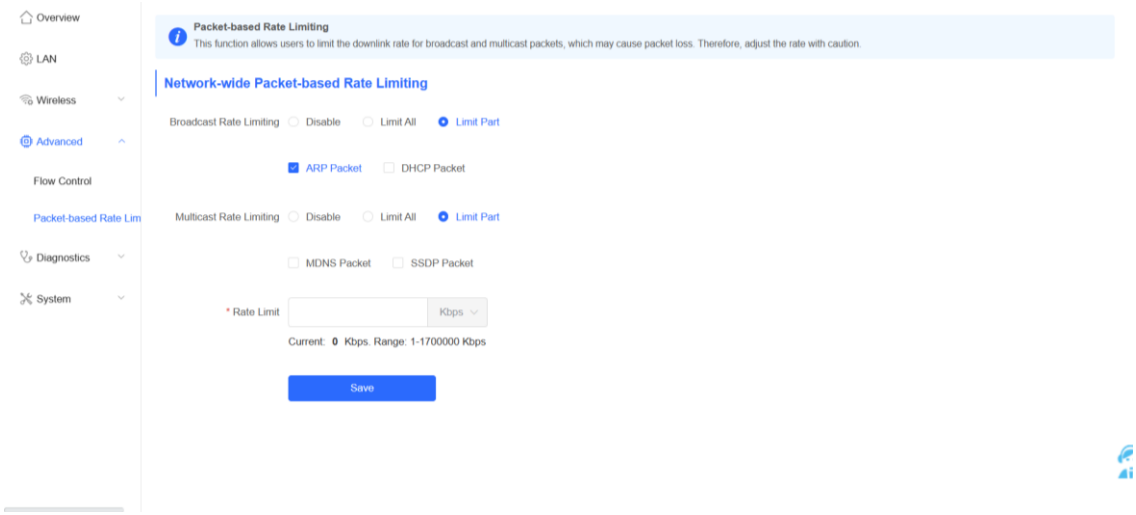
Enable rate limiting on broadcast or multicast packets to avoid congestion on the air interface.

The device supports rate limiting on specified broadcast packets (ARP and DHCP), specified multicast packets (MDNS and SSDP), or all broadcast and multicast packets.

Caution

Packet rate limiting takes effect on all devices over the network, that is, all bridges capable of rate limiting on the homepage.

Choose **Advanced** > **Packet-based Rate Limiting**.

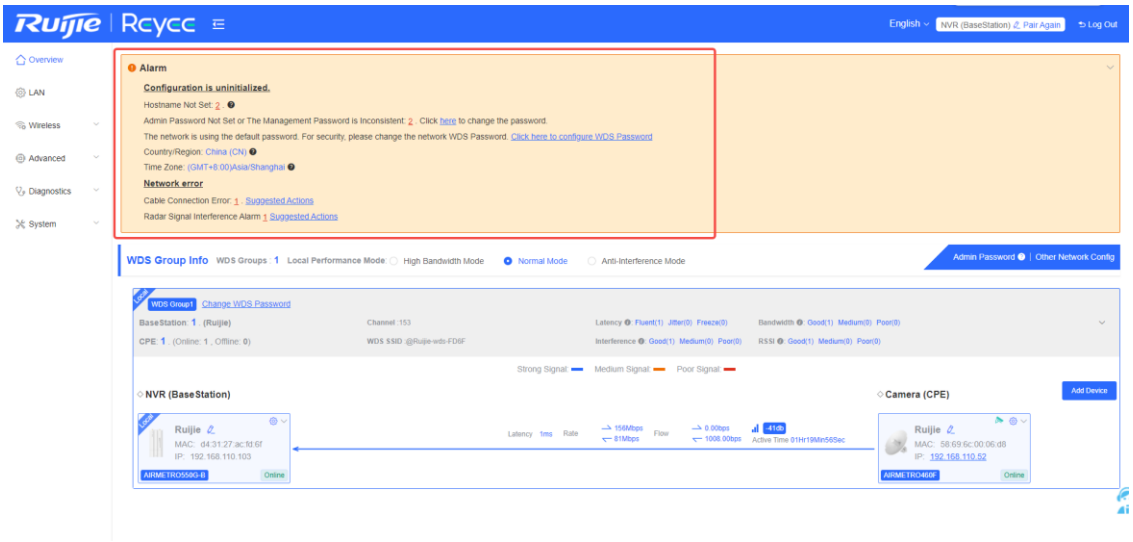


4 Alarm and Fault Diagnosis

4.1 Alarm Information and Suggested Action

When bridges fail or lack some necessary security configuration, the system prompts key alarms about the bridges on the homepage, so that users can handle the exceptions promptly.

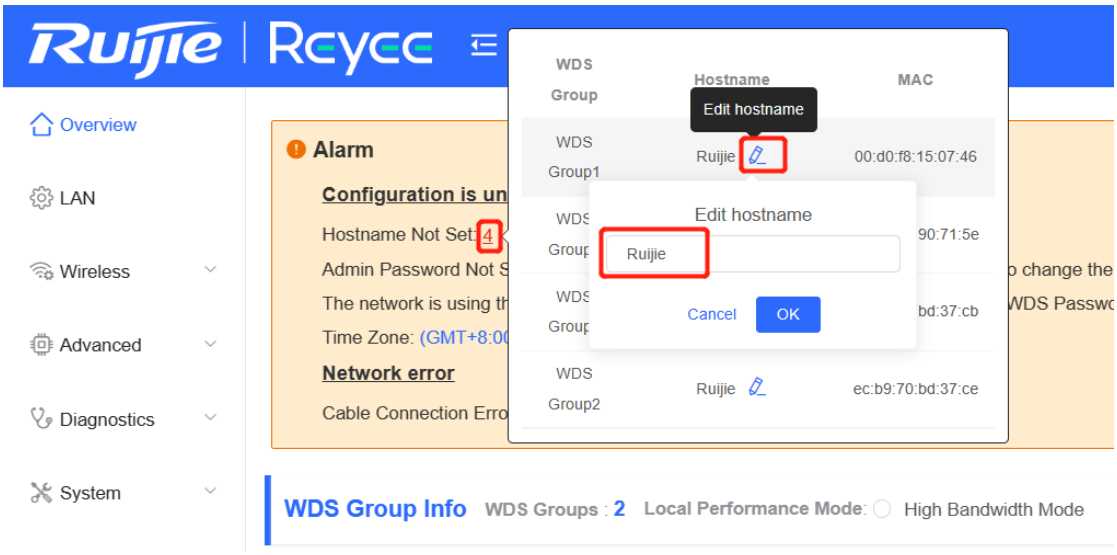
Choose **Overview** > **Alarm**.



4.1.1 Default Device Name Is Not Modified

Modifying device names can help you better distinguish each bridge. Unless otherwise specified, you are advised to modify default device names.

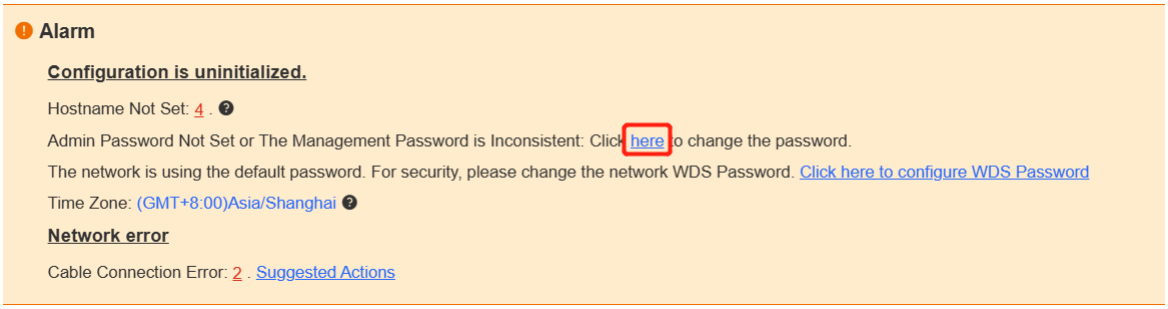
When viewing the alarm, hover the cursor over the orange number of the prompt and click  in the displayed dialog box to modify the name of each device. (The orange number, 2 in the figure, indicates the number of devices that still use the default name in the network.) Enter the new device name and click **OK** to make the change take effect immediately.



4.1.2 Default Admin Password Is Still Used

For device and network security, you are advised to configure the admin password for the network to prevent login of unauthorized users.

Click the prompt to configure the admin password for the network. Hover the cursor over the orange number (1 in the figure) of the prompt to configure the device password. For configuration steps, refer to 4.1.1 Default Device Name Is Not Modified.



Caution

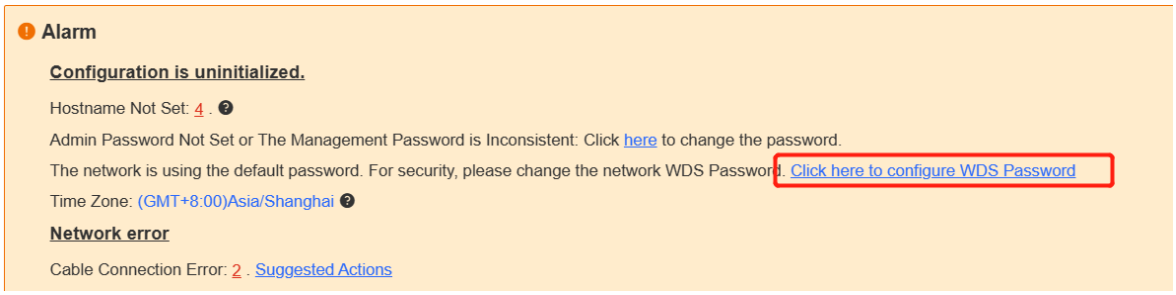
The admin password is used to log in to the web page of any device in the network. Therefore, remember the admin password. If you forget the admin password, restore factory settings. For the method, see 1.3.3 Logging in to the Web Page.

If there is an unbridged device in the network, the function of configuring the admin password will be disabled.

4.1.3 Default WDS Password Is Still Used by All Devices

The default WDS password of devices of the same model is the same. Changing the WDS password can prevent others from illegally accessing the network by using a device of the same model.

Click **Click here to configure WDS Password**, enter the new password, and click **Save** to change the WDS password for the entire network.



Caution

When configuring the WDS password for the entire network, ensure that all devices are online. Otherwise, WDS passwords of the devices will be inconsistent.

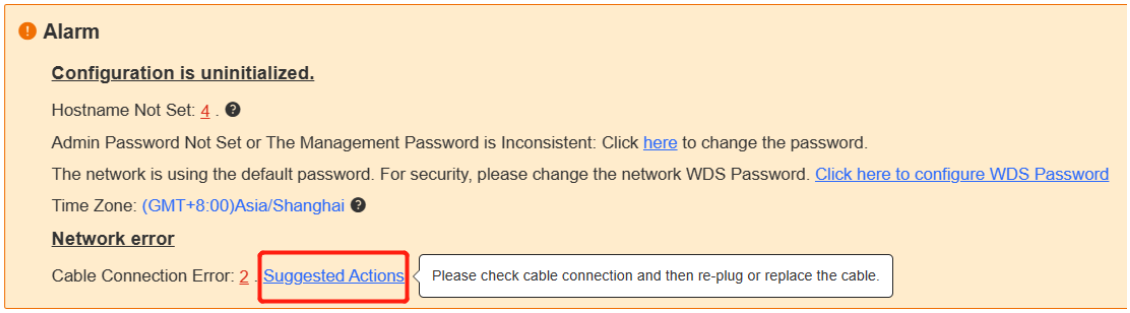
Configuring the WDS password for the entire network will reconnect all devices in the network. Therefore, exercise caution when performing this operation.

If there is an unbridged device in the network, the function of configuring the WDS password for the entire network will be disabled.

4.1.4 Network Cable Is Disconnected or Incorrectly Connected

Hover the cursor over the orange number of the prompt to display the alarm details.

Click the suggested action to check the solution.



4.1.5 Latency Is High or Bandwidth Is Insufficient

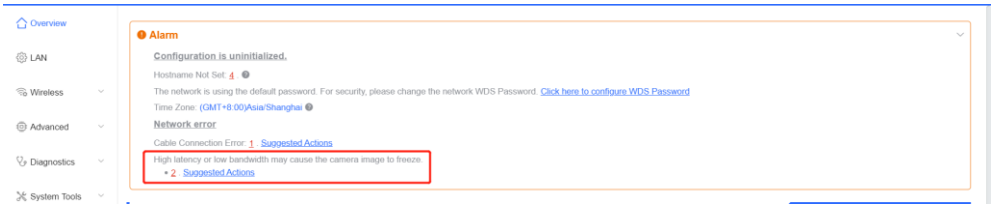
First, check whether the device latency is too high. If yes, the interference in the environment may be severe. Then, you are advised to change to a channel with smaller interference.

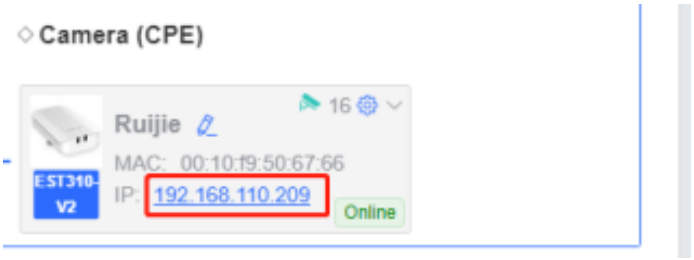
If not, increase the channel width. For channel settings, see 2.8.3 1. (1) Channel settings. For channel width settings, see 2.8.3 2. Optimizing the Channel Width.

To check whether the latency is too high, perform as follows:

Hover the cursor over the orange number of the prompt to display all WDS groups, and click a group to display the details.

On the **Overview** page, check whether **Latency** is **Freeze**. If so, the latency is too high. Otherwise, the latency is normal.



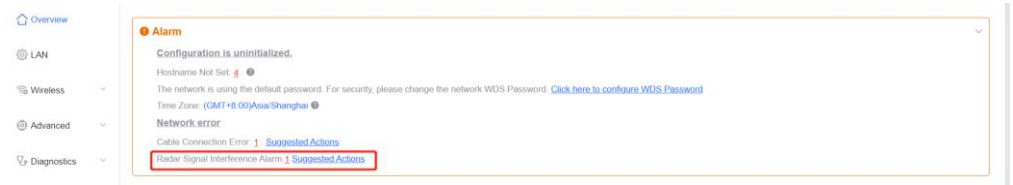


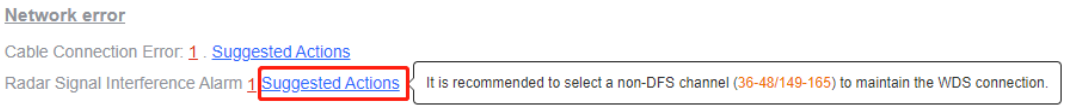
Caution

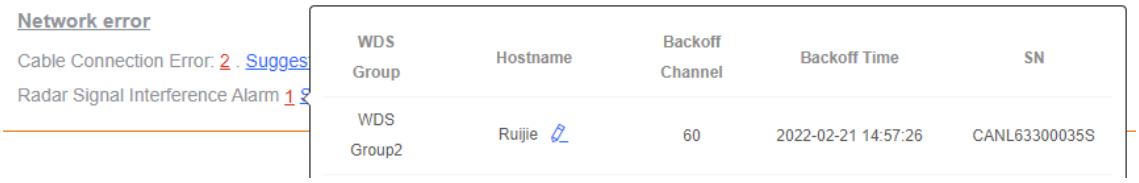
Channel and channel width settings described in this section are performed on the local device. You can click the IP address of a device to open the management page of the device and set the channel and channel width.

4.1.6 Radar Signal Interference

When the device detects a radar signal in a channel, it generates an alarm and automatically switches the channel. Hover the cursor over the orange number of the prompt to display alarm details.







According to the information about the WDS group and back-off channel in the alarm record, check whether the current working channel in the WDS group (group 2 in the example) is consistent with the back-off channel. (See 2.1.1 Displaying WDS Group Information.) If so, manually switch the channel to a non-dynamic frequency selection (DFS) channel. For the setting method, see 2.8.3 1. (1) Channel settings.

Note

Non-DFS channels include 36-48 and 149-165.

Detecting radar signal interference is supported on RG-EST310, RG-EST310 V2, RG-EST350 and RG-EST350 V2 only.

4.2 Network Diagnosis Tools

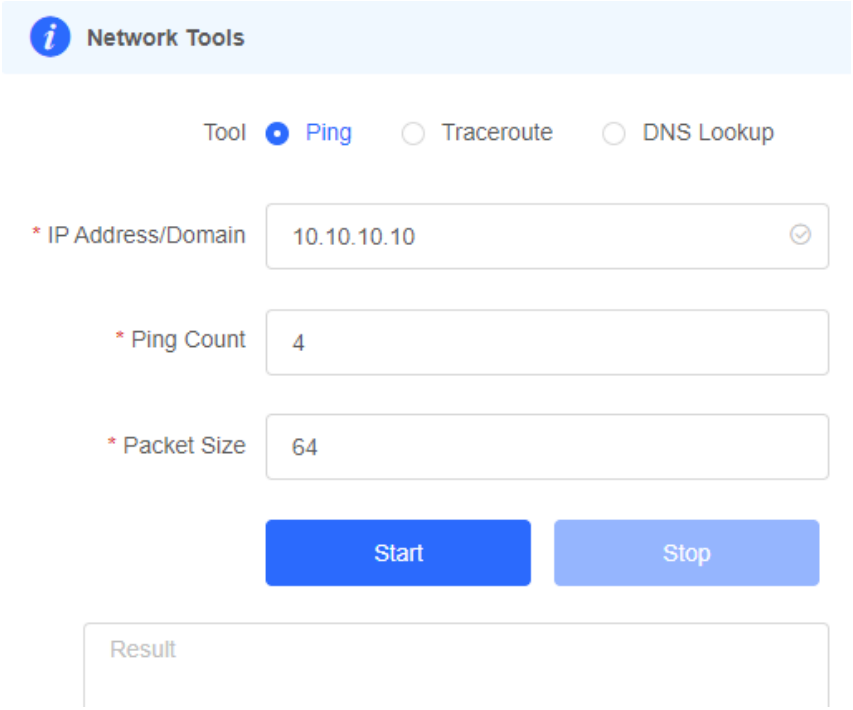
4.2.1 Network Test Tool

Choose **Diagnostics** > **Network Tools**.

When you select the ping tool, you can enter the IP address or URL and click **Start** to test the connectivity between the bridge and the IP address or URL. The message "Ping failed" indicates that the bridge cannot reach the IP address or URL.

The Traceroute tool displays the network path to a specific IP address or URL.

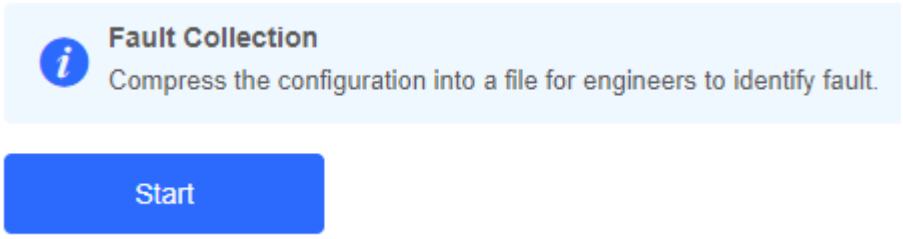
The DNS Lookup tool displays the DNS server address used to resolve a URL.



4.2.2 Collecting Fault Info

Choose **Diagnostics**> **Fault Collection**.

Click **Start** to collect fault information and compress it into a file for engineers to identify fault.



4.3 Configuring Spectrum Scan

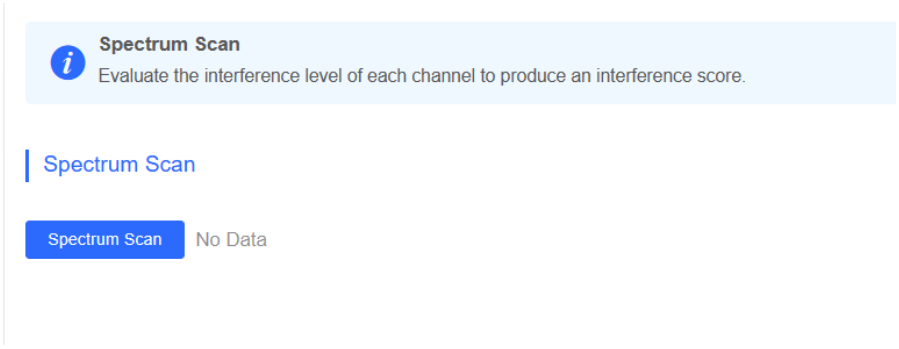
Note

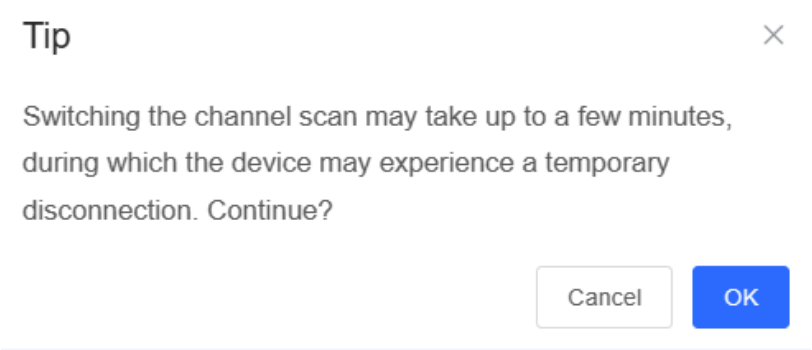
Spectrum Scan is supported on RG- AirMetro550G-B, RG- AirMetro460F and RG- AirMetro460G only.

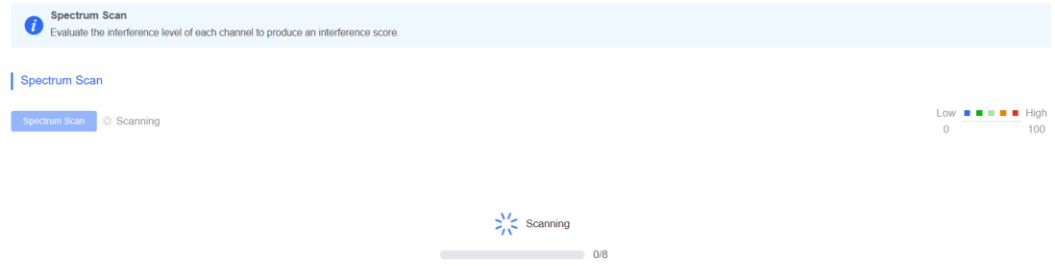
Choose **Diagnostics** > **Spectrum Scan.**

This feature is only supported when the bridge is in Base Station mode, and is not supported when it is CPE mode.

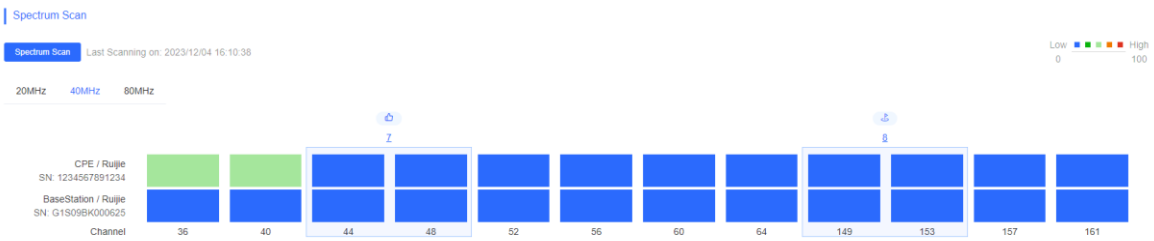
Click **Spectrum Scan**, and then click **OK** on the pop-up window. The **Spectrum Scan** page is displayed.



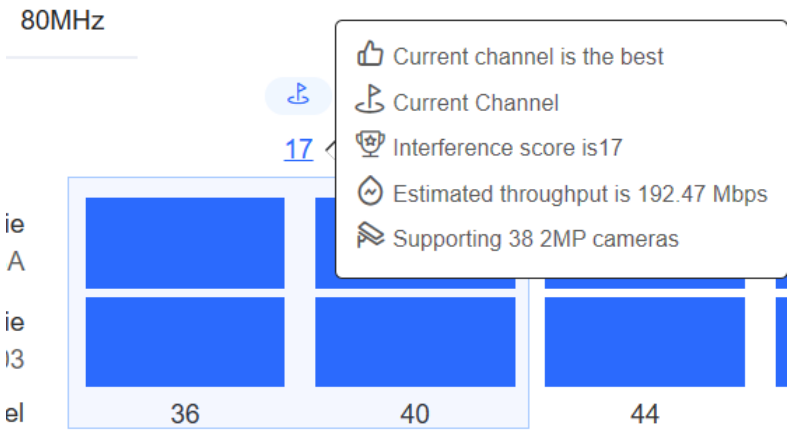




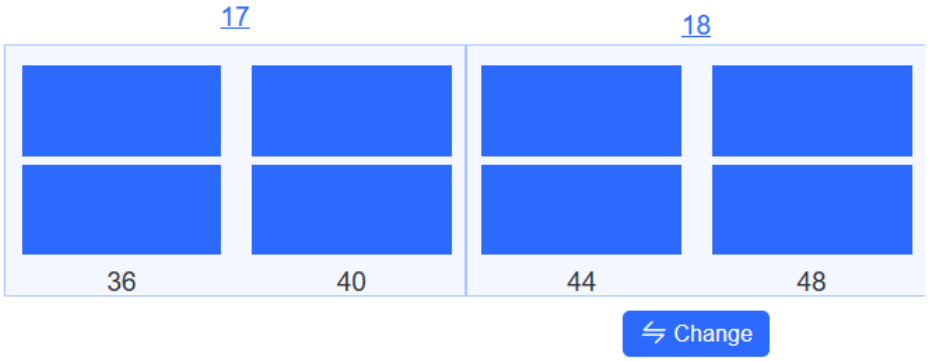
You can click the **20 MHz**, **40 MHz**, or **80 MHz** tabs to view the channel interference. The color gradient from left to right indicates the level of interference, ranging from low to high. Each row represents the channels used by a device.

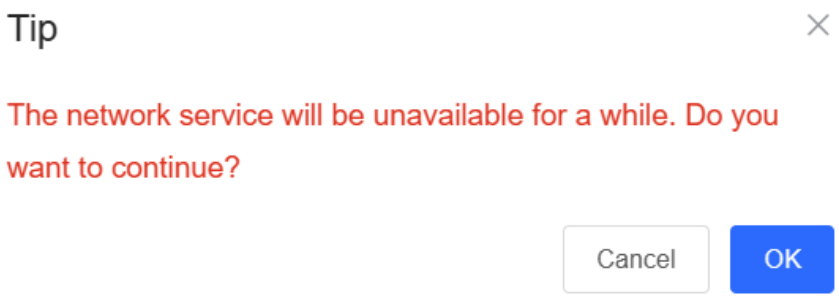


Hovering the mouse over it will display detailed information about the current channel, including throughput and estimated number of cameras that can be supported.



To change channels, click on the target channels, and then click **Change Channel**. A pop-up window is displayed. Click **OK**.

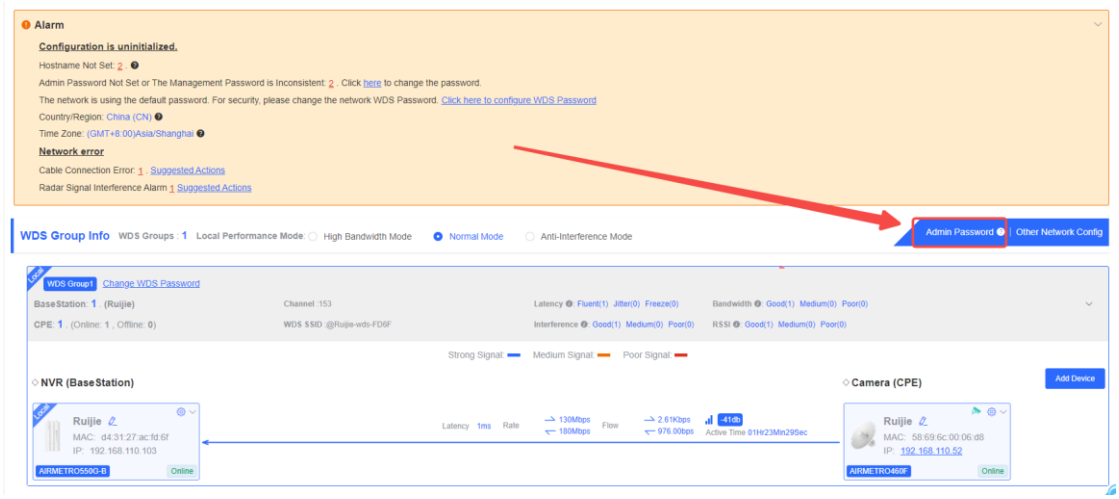


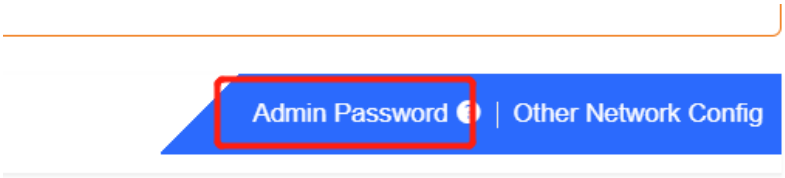


5 System Settings

5.1 Configuring Management Password

Choose: **Overview > Admin Password**

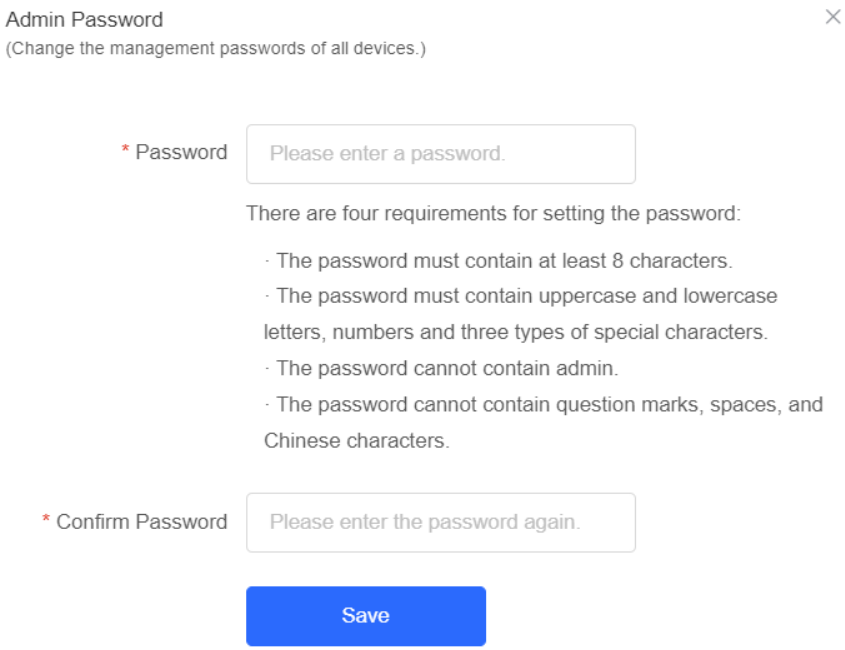




Click **Admin Password** to change the login password for all devices.

If there is an unbridged device in the network, the link will be unavailable.

Hover the cursor over to view the help information.



Caution

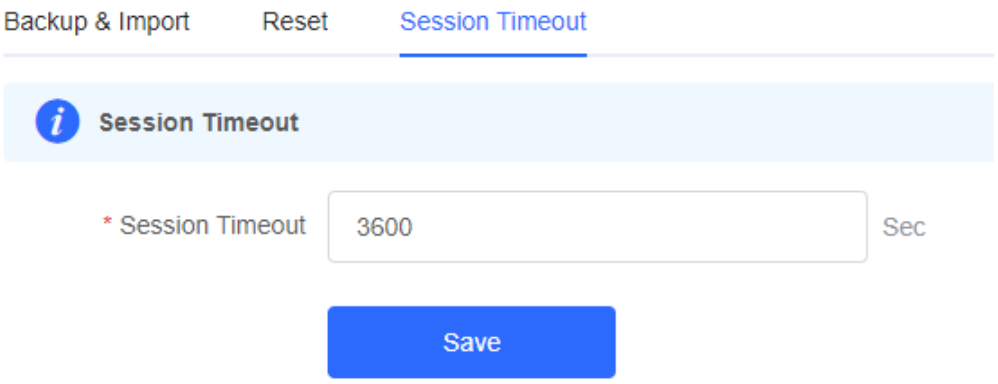
This password is used to log in to Eweb system of any device in the network.

If there is an unbridged network in the network, the function of configuring the admin password will be disabled.

5.2 Configuring Session Timeout Duration

Choose **System** > **Management** > **Session Timeout**.

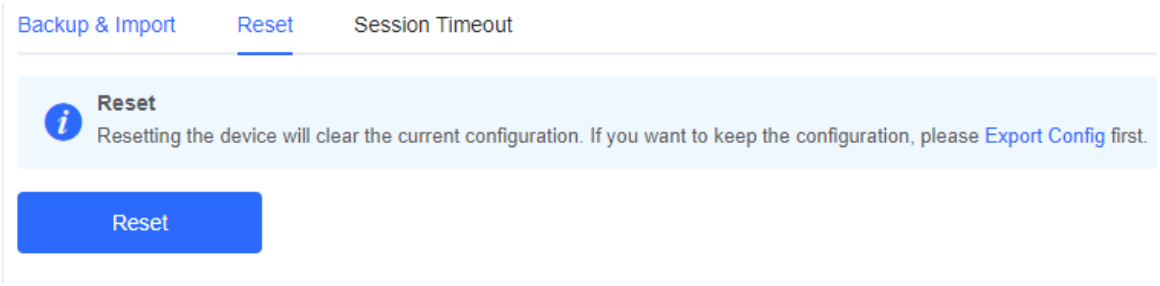
If no operation is performed on the page within a period of time, the session will be down. When you need to perform operations again, enter the password to open the configuration page. The default timeout duration is 3600 seconds, that is, 1 hour.



5.3 Resetting Factory Settings

Choose **System** > **Management** > **Reset**

Click **Reset** to restore factory settings.



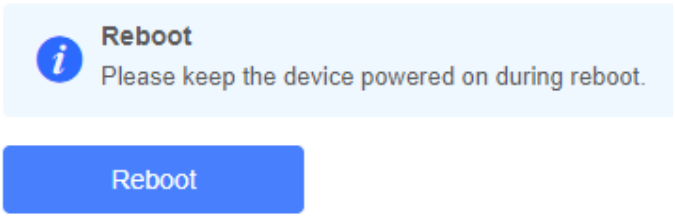
Caution

This operation will clear existing settings and restart the device. Therefore, exercise caution when performing this operation. If there is any configuration in the current system, please export the configuration before resetting the device.

5.4 Rebooting the Device

Choose **System** > **Reboot** > **Reboot**

Click **Reboot** to reboot the device immediately.



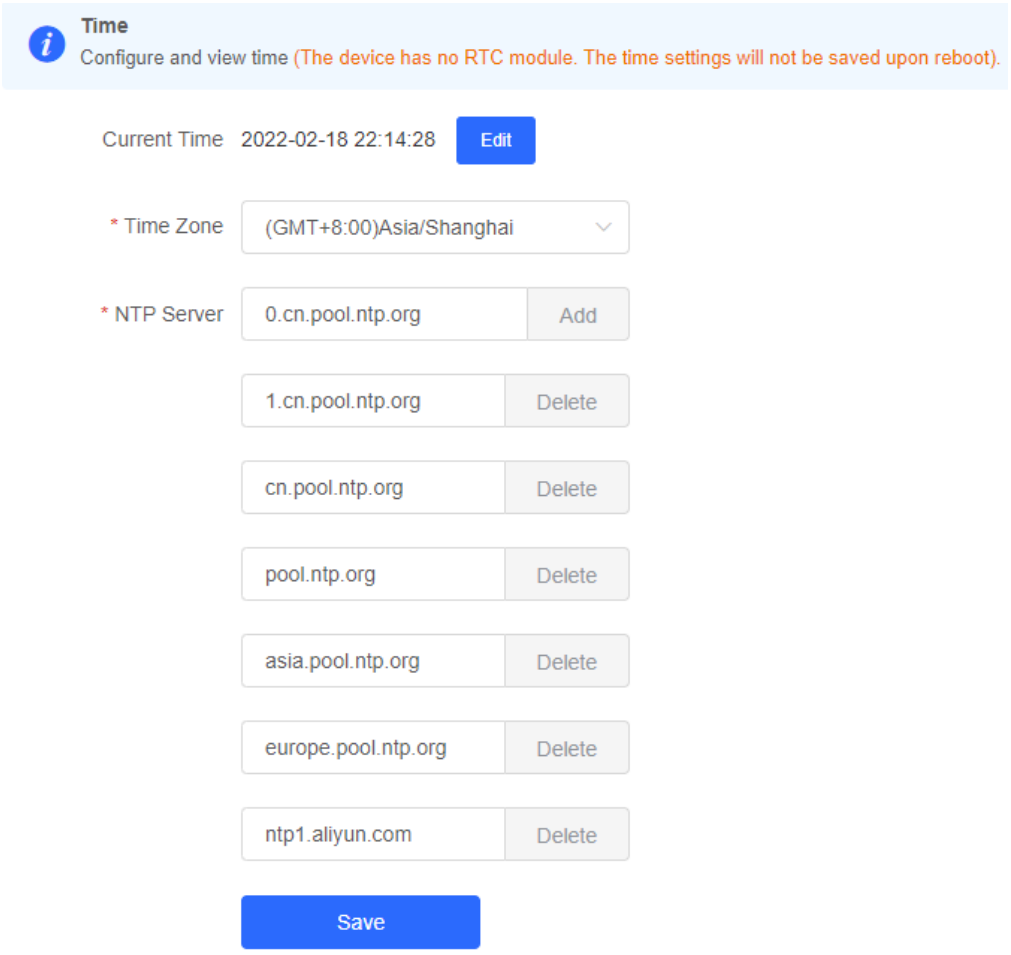
Caution

Please keep the device powered on during reboot. Otherwise, the device may be damaged.

5.5 Configuring System Time

Choose **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 bridge supports Network Time Protocol (NTP) servers. By default, multiple servers serve as the backup of each other. You can add or delete local servers as required.

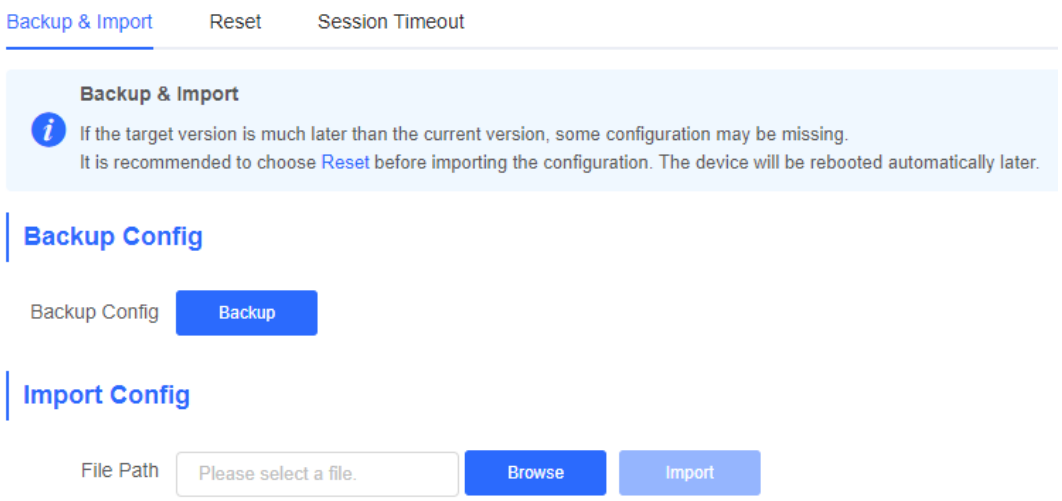


5.6 Configuring Config Backup and Import

Choose **System** > **Management** > **Backup & Import**

Configure backup: Click **Backup** to download a configuration file locally.

Configure import: Click **Browse**, select a configuration file backup on the local PC, and click **Import** to import the configuration file. The device will restart.



5.7 Performing Update and Displaying the System Version

5.7.1 Online Update

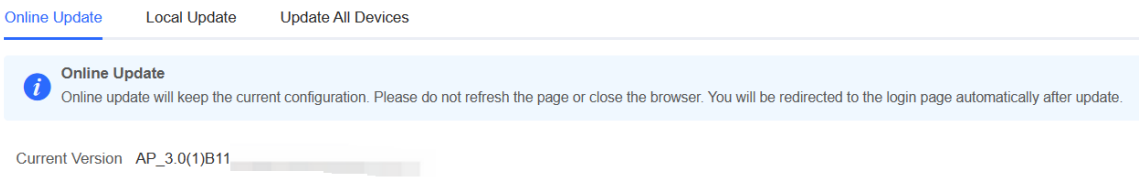
Choose **System** > **Update** > **Online Update**.

If there a new version available, you can click it for an update.

Caution

After being updated, the device will reboot. Therefore, exercise caution when performing this operation.

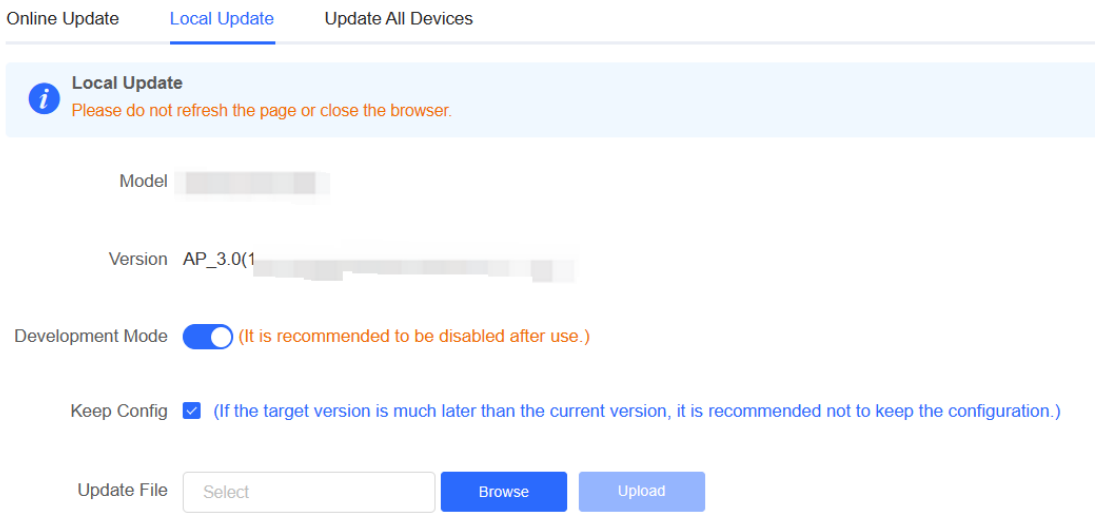
If no version update is detected or online update cannot be performed, check whether the bridge is connected to the Internet.



5.7.2 Local Update

Choose **System > Update** > **Local Update**.

You can view the current software version, hardware version and device model. If you want to update the device with the configuration retained, check **Keep Config**. Click **Browse**, select an update package on the local PC, and click **Upload** to upload the file. The device will be updated.



Caution

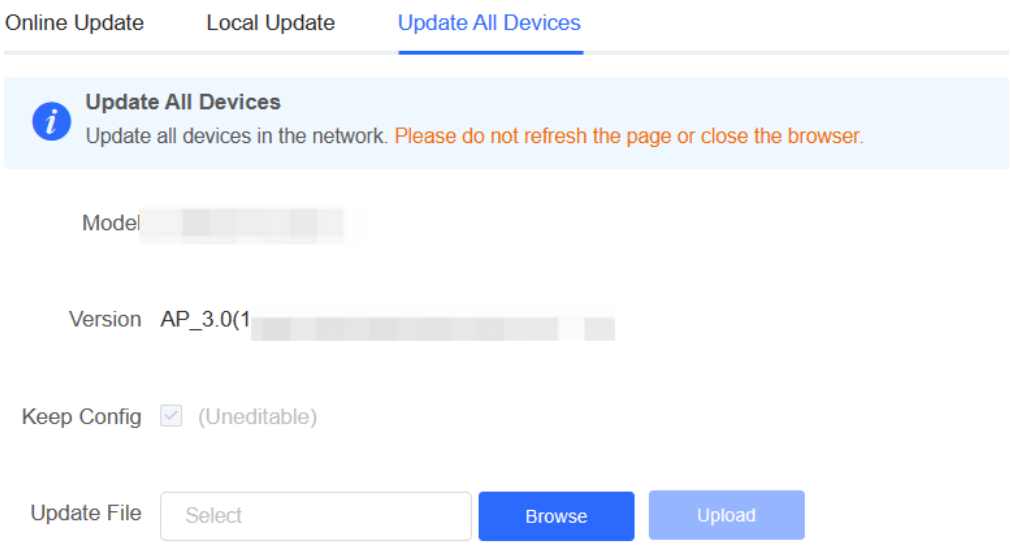
After being updated, the device will reboot. Therefore, exercise caution when performing this operation.

5.7.3 Update All Devices

Choose **System** > **Update** > **Update All Devices**.

You can view the current software version, hardware version and device model. You are advised to update all devices with configuration data retained.

Click **Browse**, select an update package on the local PC, and click **Upload** to upload the file. In the pop-up page, click **Details** to check the target update package and devices. Click **Update** to start updating all devices.

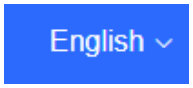


Caution

After being updated, all devices in the network will reboot, which may take a long time. Therefore, exercise caution when performing this operation.

After the update is complete, please log in to Eweb to check the software version number (see 2.12 Displaying the Information About a Single Device). If update fails, please choose **Local Update** or **Update All Devices** to perform update again.

5.8 Switching System Language

Click 

in the upper right corner of the page.

Select the target language from the drop-down list.

Note

Only Chinese and English are available.

5.9 Configuring SNMP

Note

SNMP is supported on RG- AirMetro550G-B, RG- AirMetro460F and RG- AirMetro460G only.

5.9.1 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.

5.9.2 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.

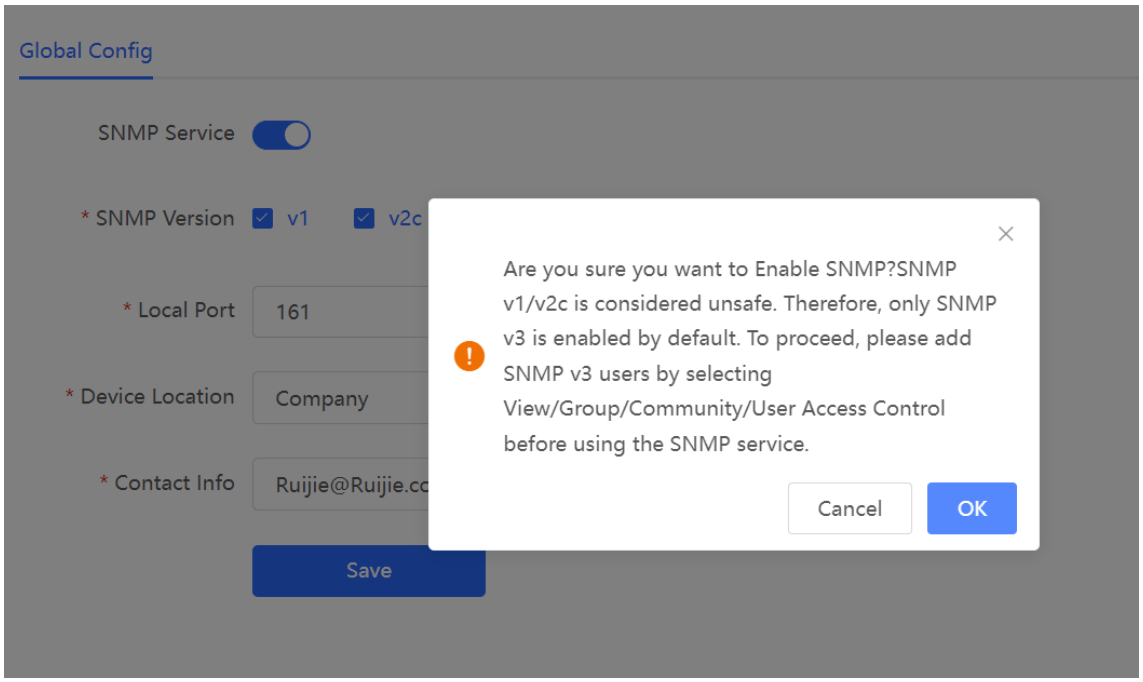
SNMP v2c: As an improved version of SNMP v1, SNMP v2c supports richer functions and more complex data types, with enhanced security. SNMP v2c performs better than SNMP v1 in terms of security and functionality, and is more flexible. It can be configured according to different needs.

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

System > **SNMP** > **Global Config**

(1) Enable 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.

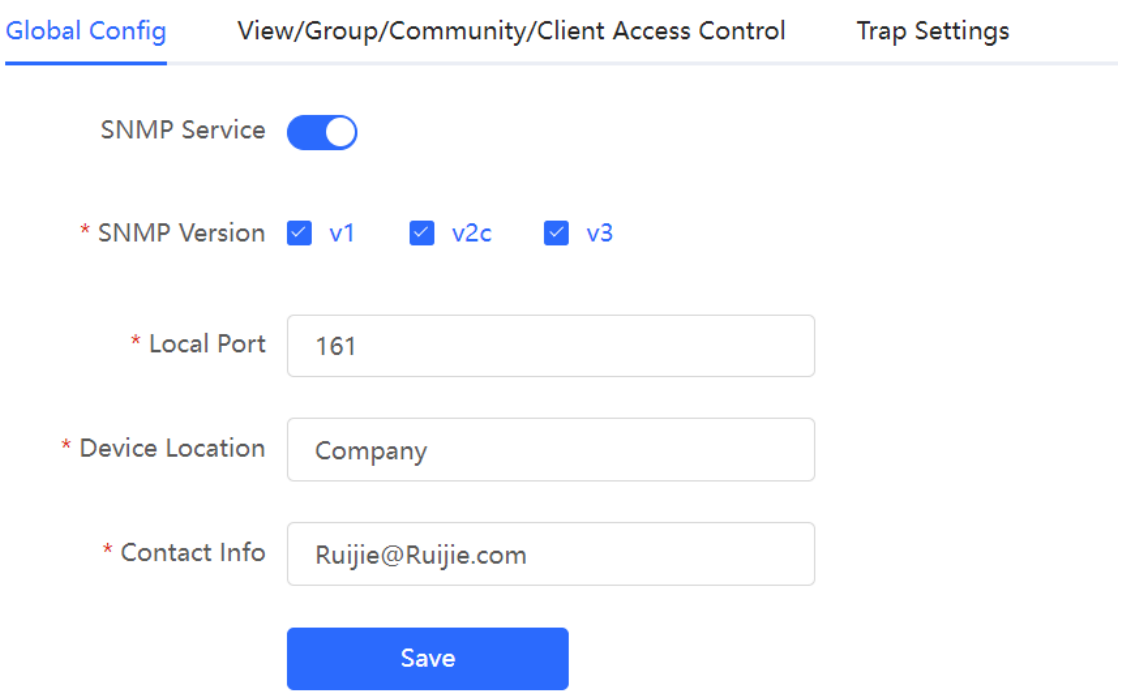


Table 5-1 Global Configuration Parameters

Parameter	Description
SNMP Server	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.

5.9.3 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.

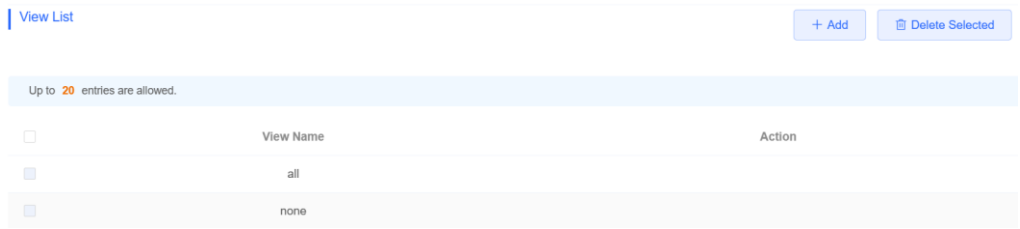
Views in SNMP can limit the range of MIB nodes that the management system can access, thereby improving the security and reliability of network management. Views are an indispensable part of SNMP and need to be configured or customized according to specific management requirements.

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

System > **SNMP** > **View/Group/Community/Client Access Control**

(1) Click **Add** under the **View List** to add a view.



(2) Configure basic information of a view.

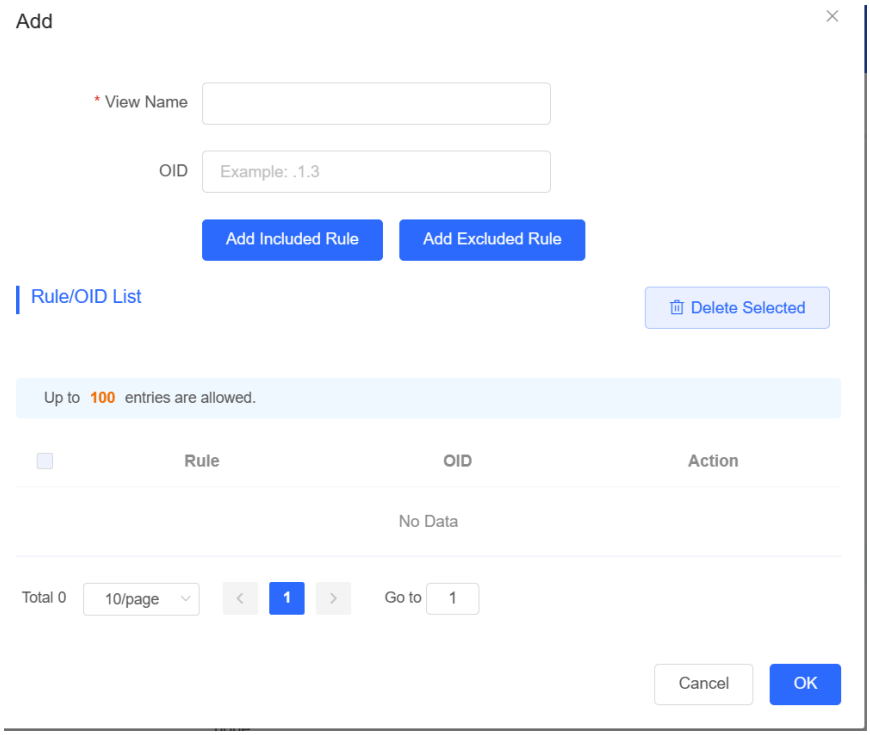


Table 5-2 View Configuration Parameters

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.

Parameter	Description
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

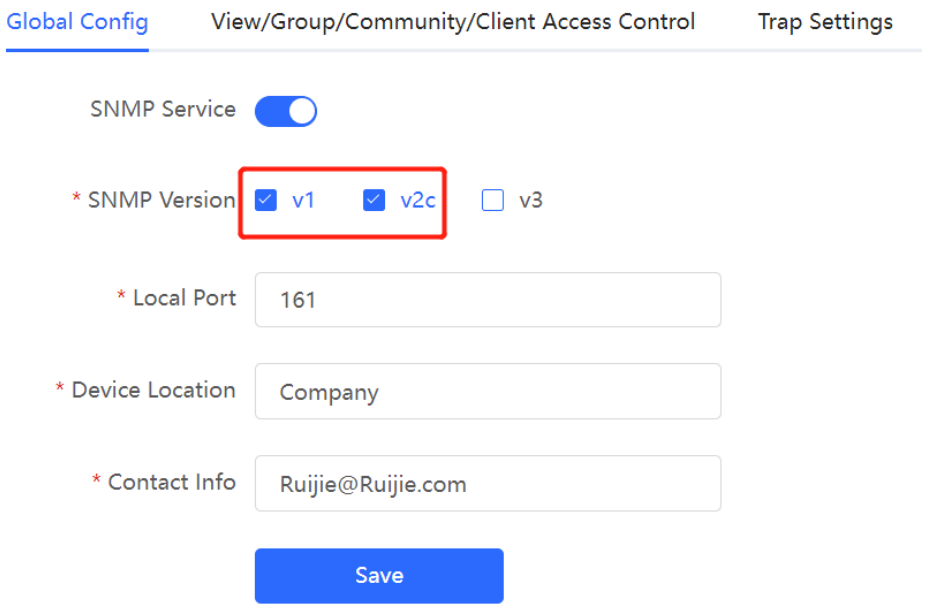
A least one OID rule must be configured for a view. Otherwise, an alarm message will appear.

(3) Click **OK**.

2. Configuring v1/v2c Users

- Overview

When the SNMP version is set to v1/v2c, user configuration is required.



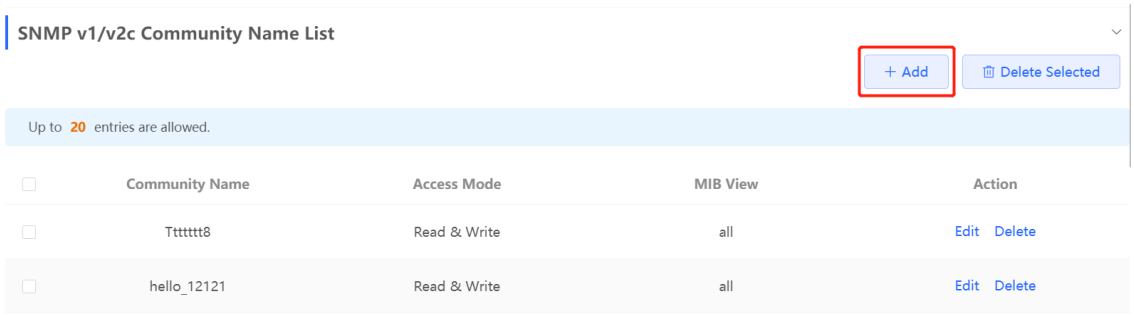
Note

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

System > **SNMP** > **View/Group/Community/Client Access Control**

(1) Click Add in the SNMP v1/v2c Community Name List pane.



(2) Add a v1/v2c user.

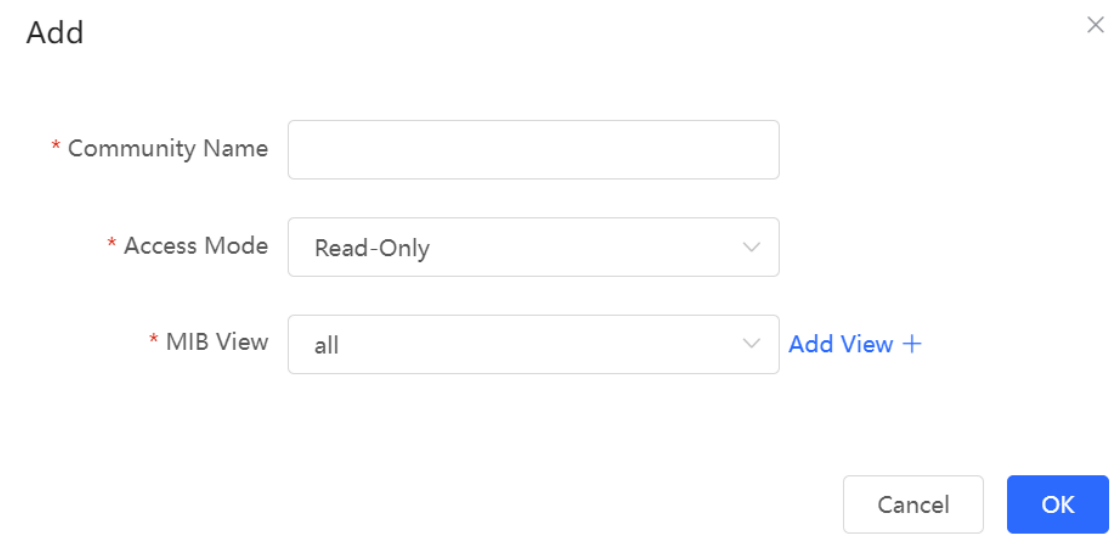


Table 5-3 v1/v2c User Configuration Parameters

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).

Note

- Community names cannot be the same among v1/v2c users.
- Click **Add View** to add a view.

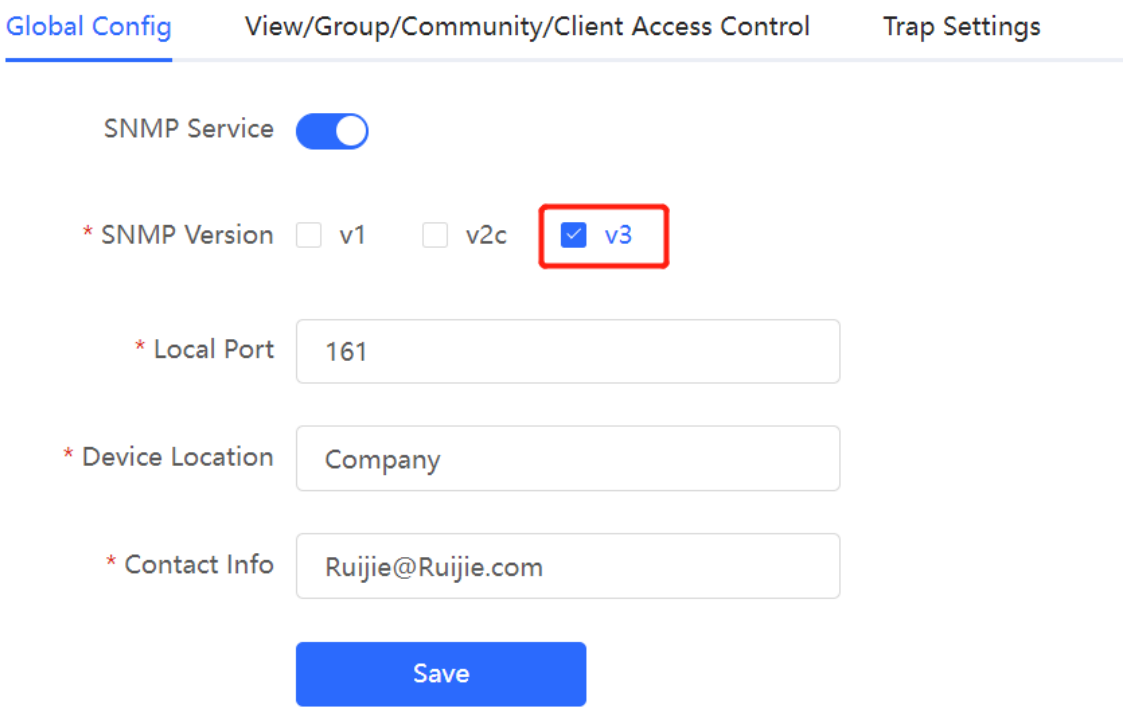
3. Configuring v3 Groups

- 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.



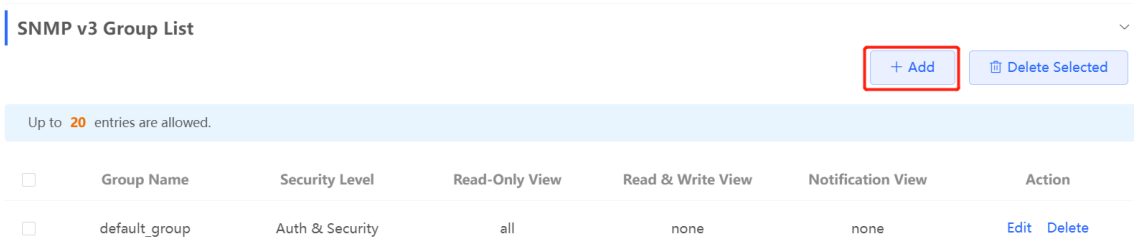
Note

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

System > **SNMP** > **View/Group/Community/Client Access Control**

(1) Click **Add** in the **SNMP v3 Group List** pane to create a group.



(2) Configure v3 group parameters.

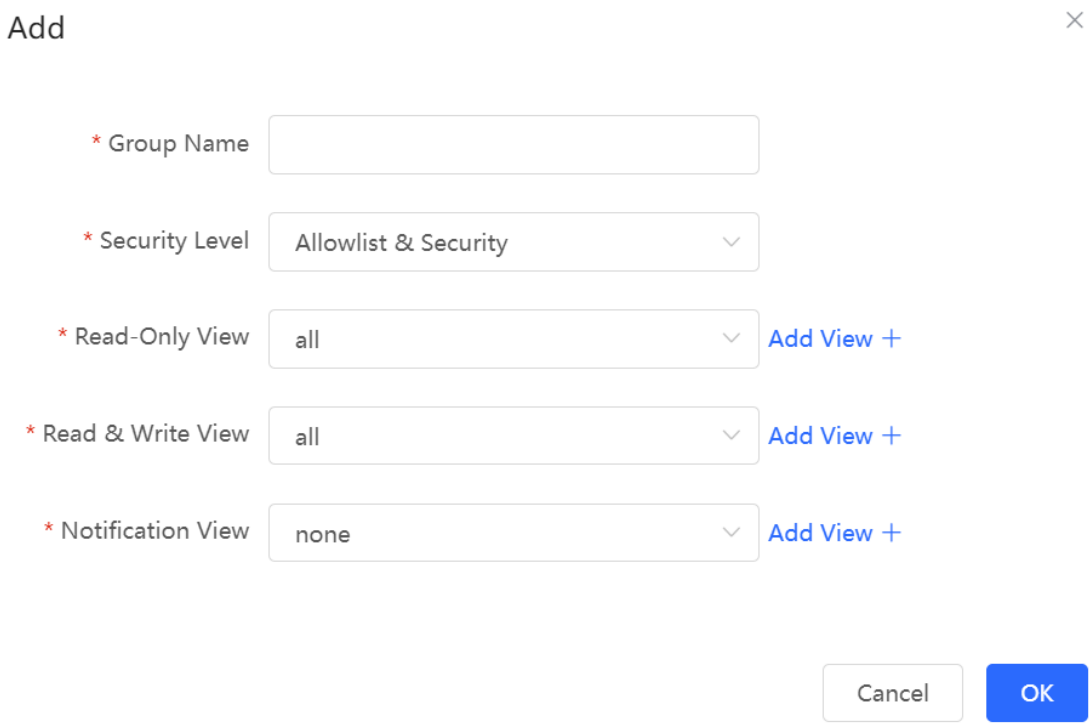


Table 5-4 v3 Group Configuration Parameters

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).

Parameter	Description
Read & Write View	The options under the drop-down box are configured views (default: all, none).
Notify View	The options under the drop-down box are configured views (default: all, none).

Note

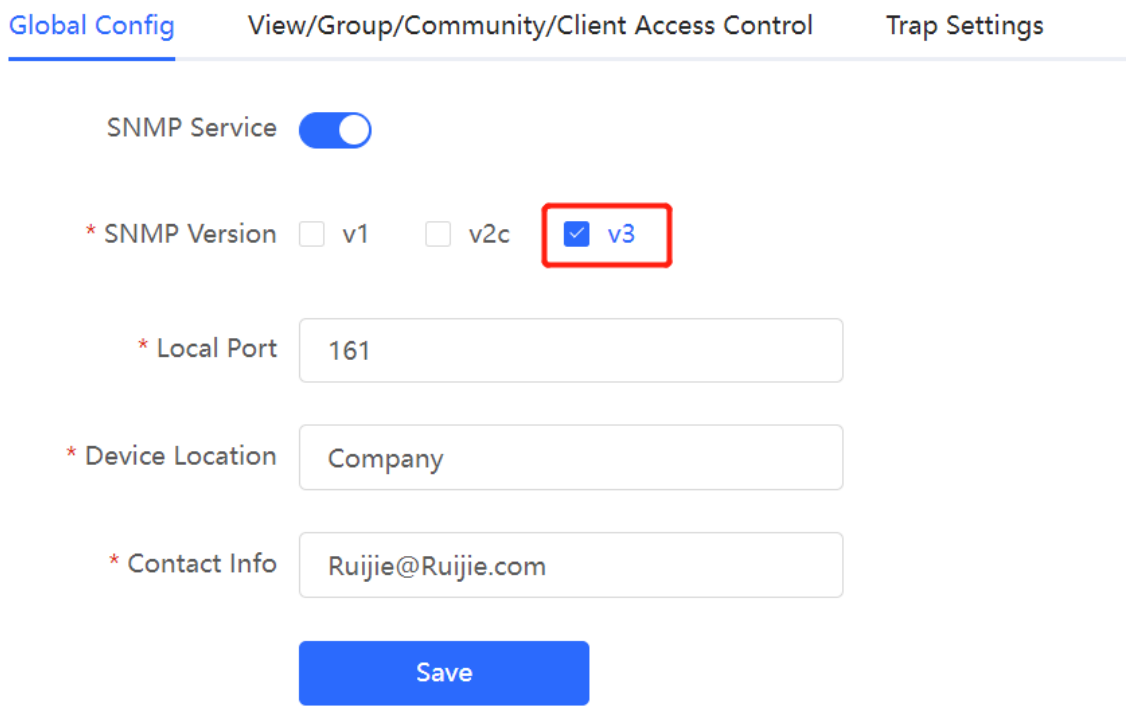
- A group defines the minimum security level, read and write permissions, and scope for users within the group.
- The group name must be unique. To add a view, click **Add View**.

(3) Click **OK**.

4. Configuring v3 Users

- Prerequisites

When the SNMP version is set to v3, the v3 group configuration is required.



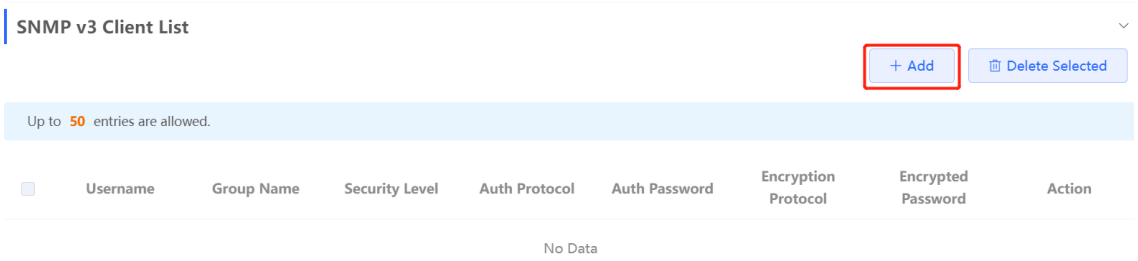
Note

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

System > **SNMP** > **View/Group/Community/Client Access Control**

(1) Click **Add** in the **SNMP v3 Client List** pane to add a v3 user.



(2) Configure v3 user parameters.

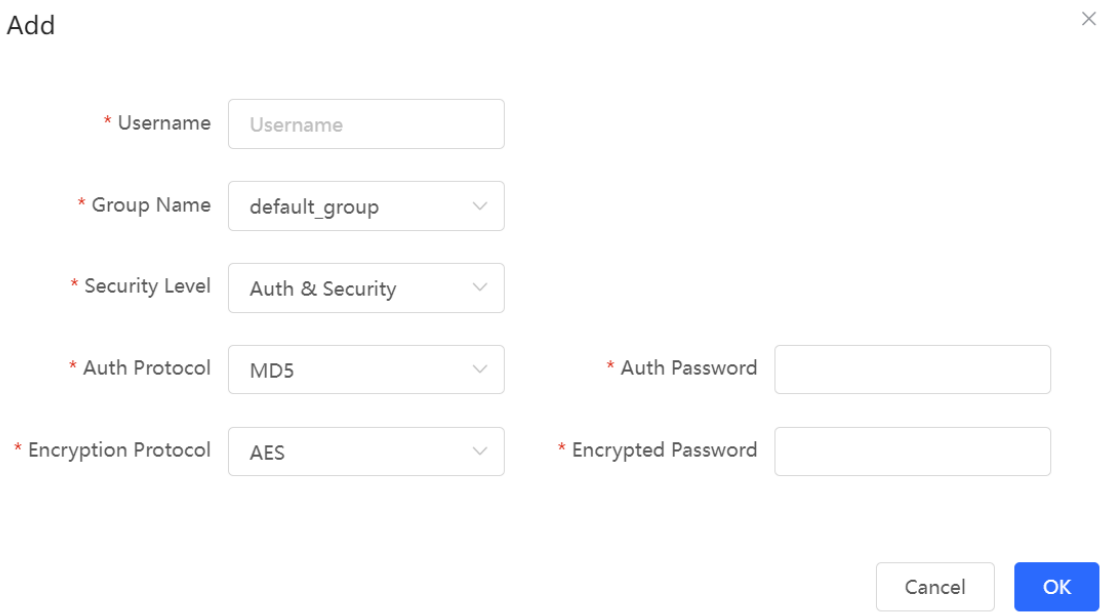


Table 5-5 v3 User Configuration Parameters

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.

Parameter	Description
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.
Encryption Protocol, Encryption 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.

Note

- 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.

5.9.4 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:

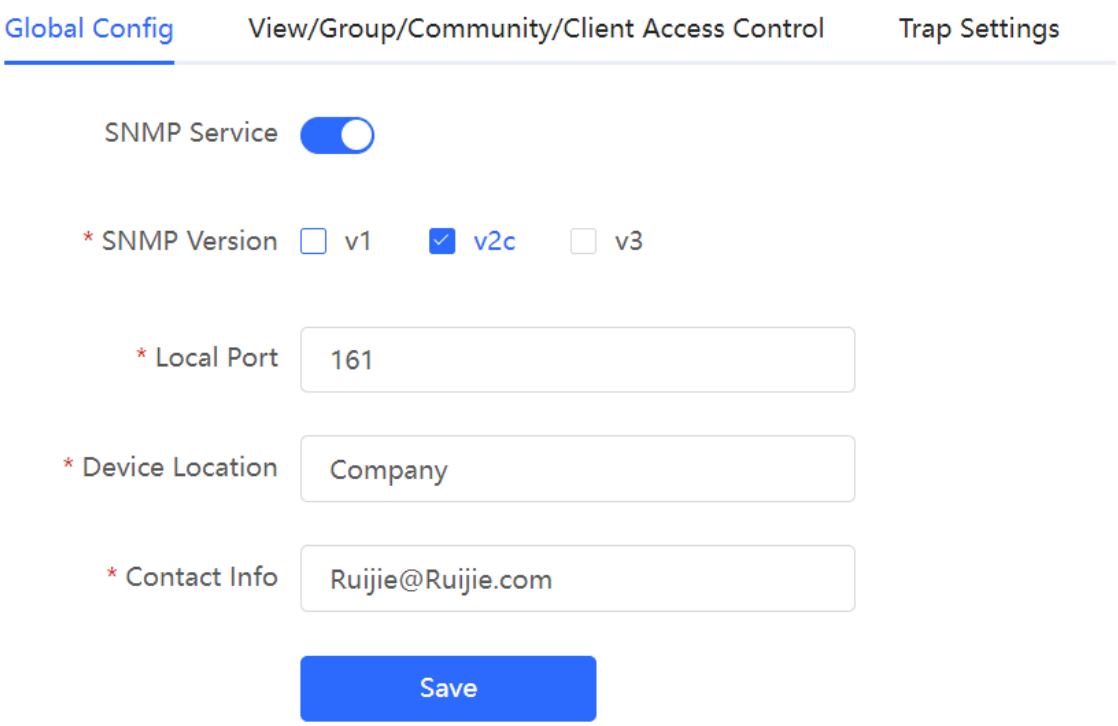
Table 5-6 User Requirement Specification

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 "public", and the default port number is 161.

Item	Description
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**.

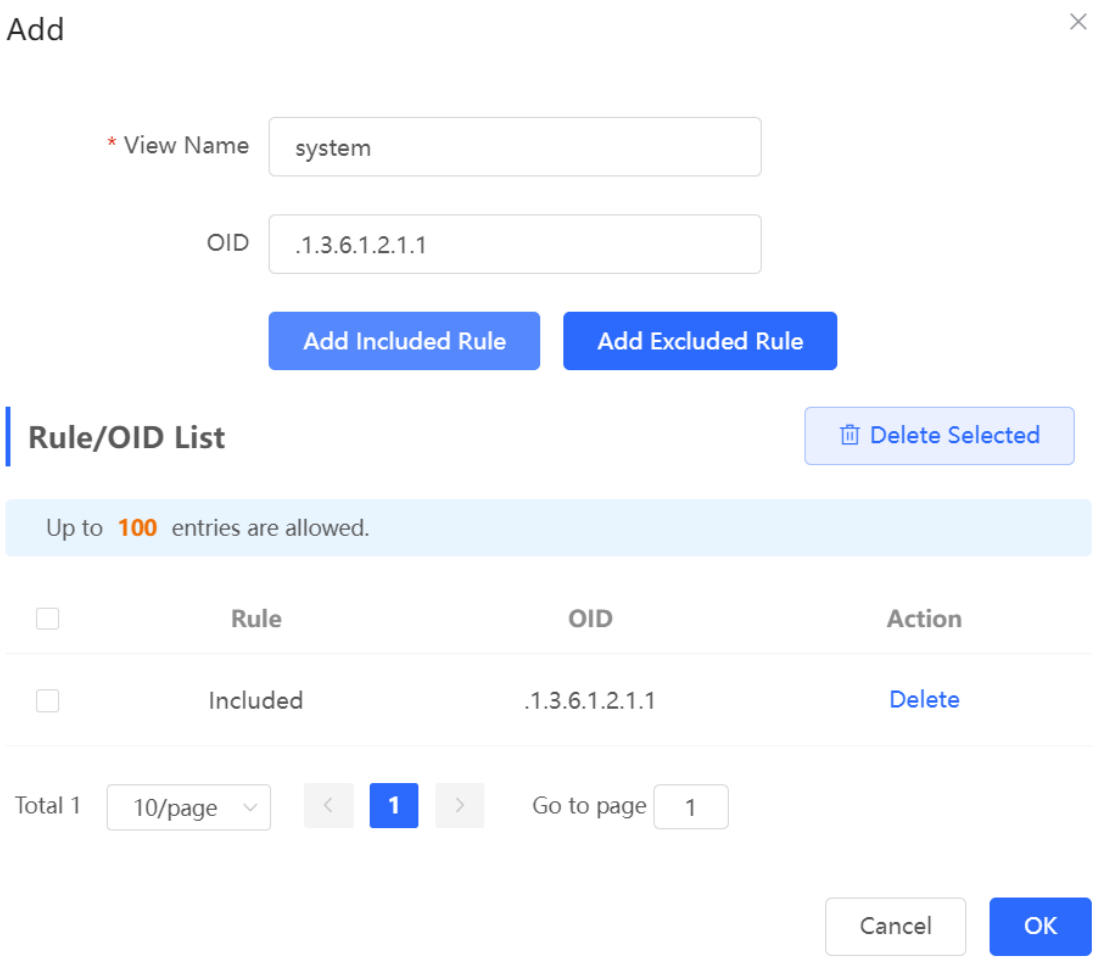


(2) Add a view on the View/Group/Community/Client Access Control interface.

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**.

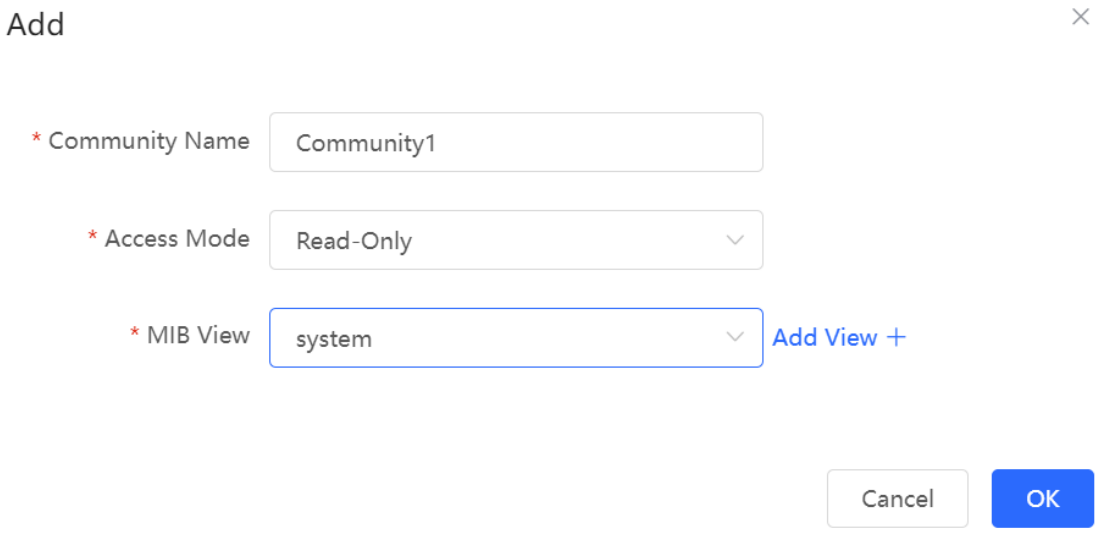


(3) On the View/Group/Community/Client Access Control interface, enter the SNMP v1/v2c community name.

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**.



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

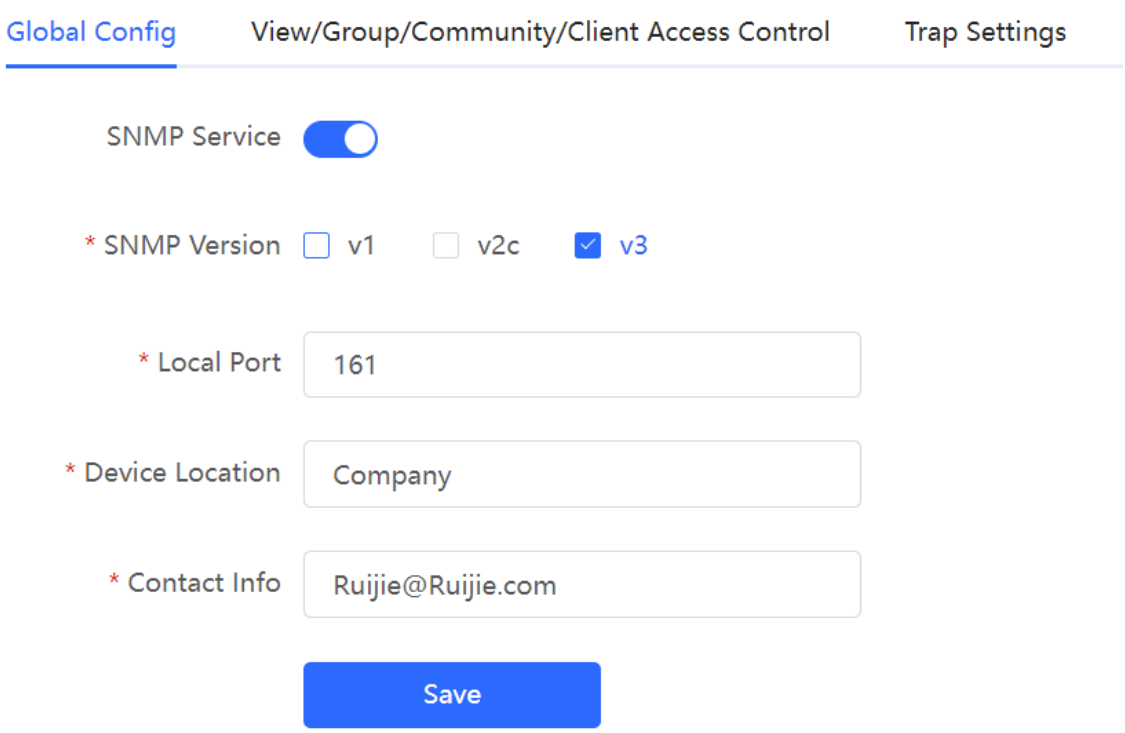
According to the user's application scenario, the requirements are shown in the following table:

Table 5-7 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**.

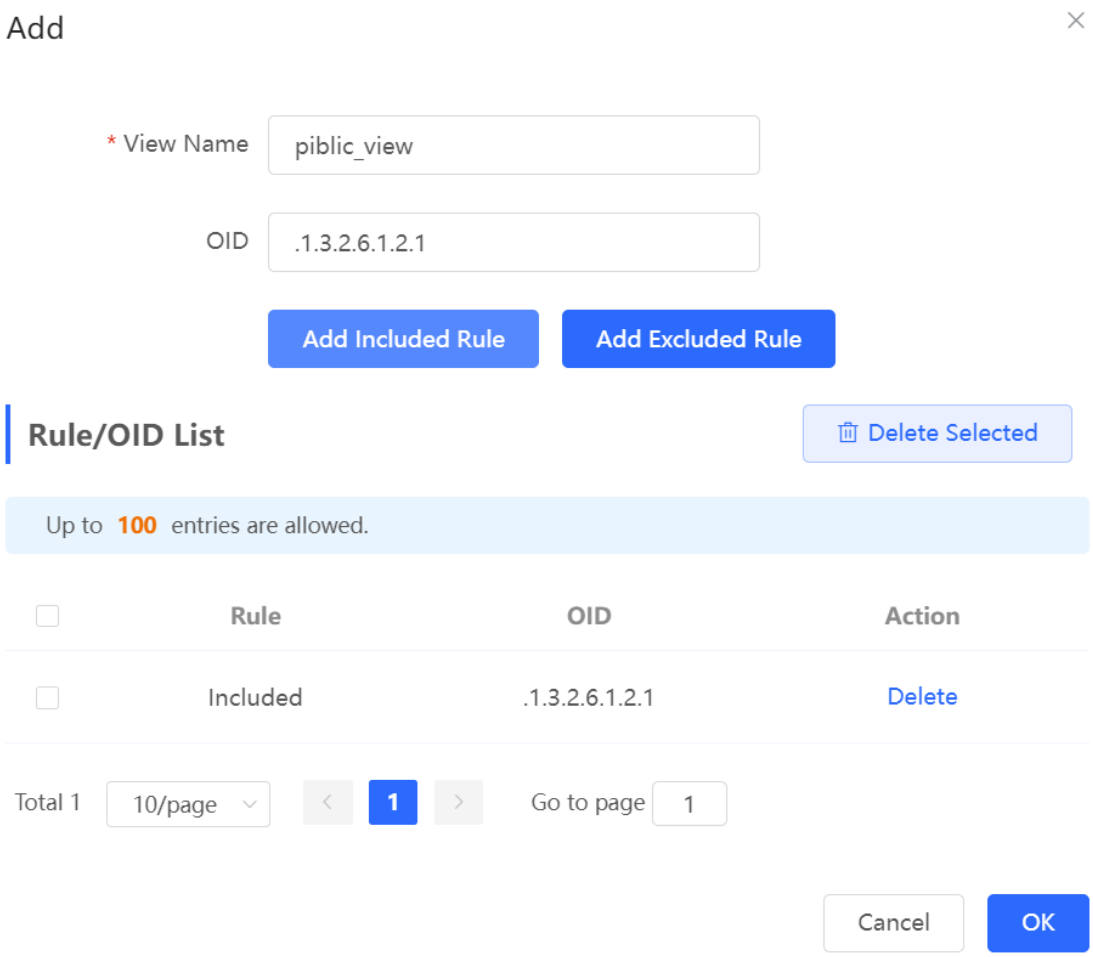


(2) Add a view on the View/Group/Community/Client Access Control interface.

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**.

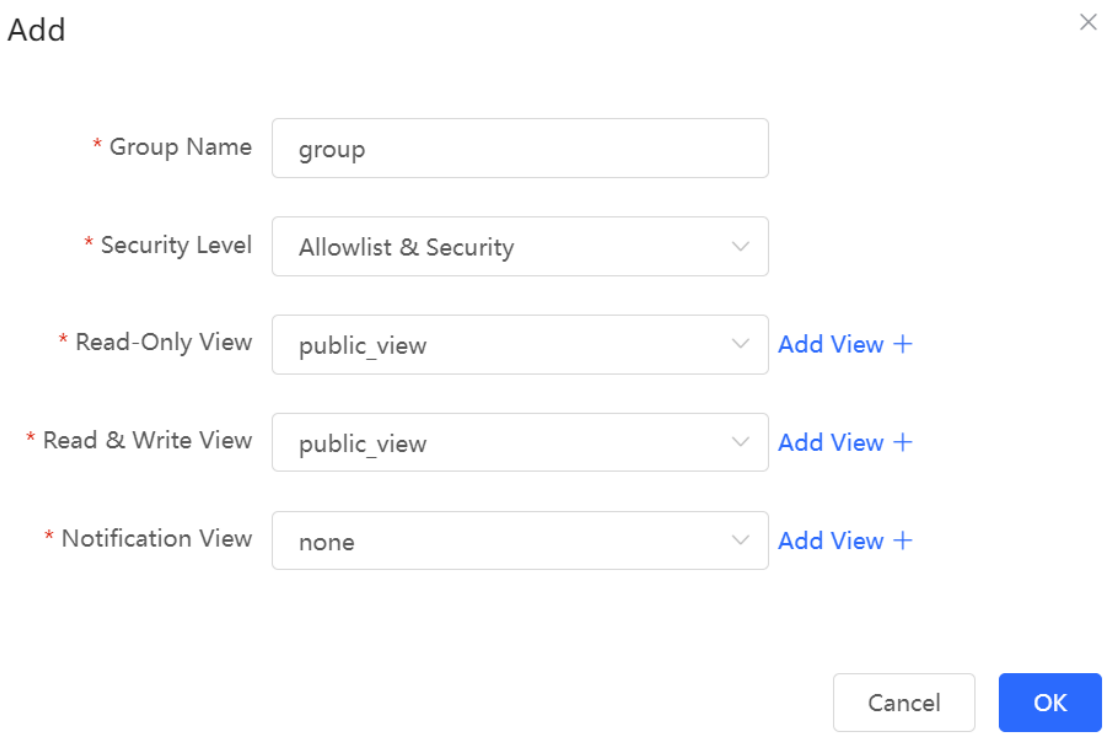


(3) On the View/Group/Community/Client Access Control interface, add an SNMP v3 group.

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**.

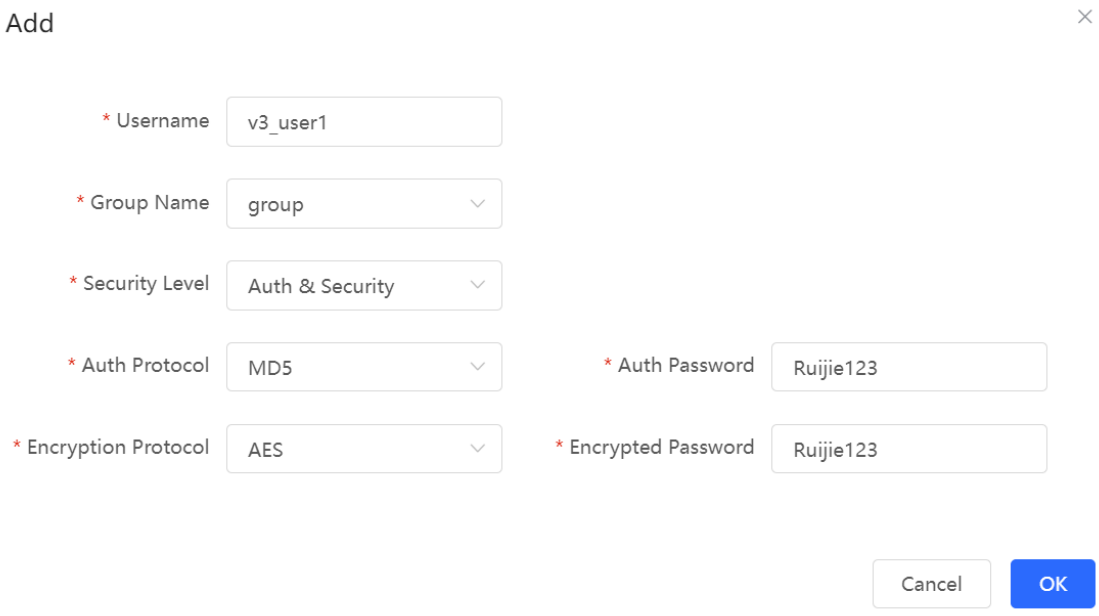


(4) On the View/Group/Community/Client Access Control interface, add an SNMP v3 user.

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**.



5.9.5 Configuring Trap Service

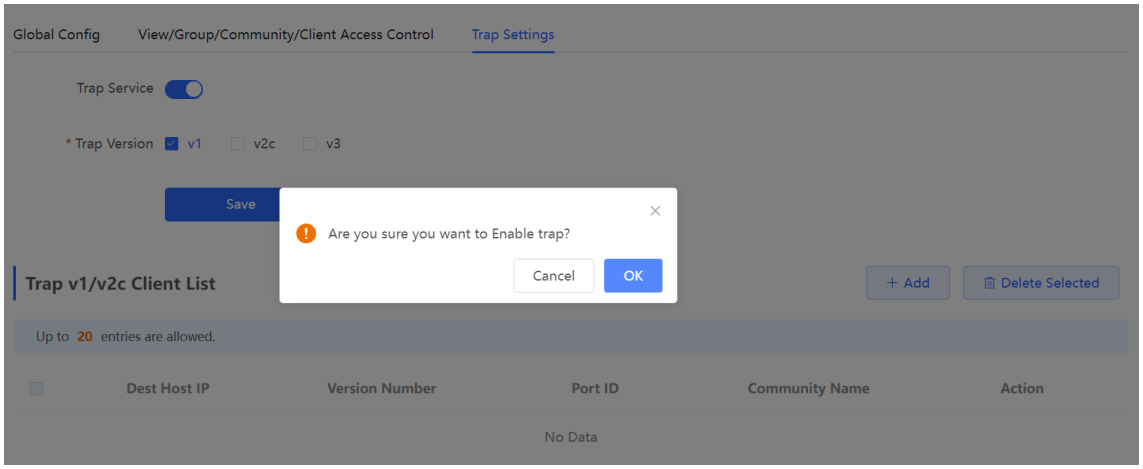
Trap is a notification mechanism of the Simple Network Management Protocol (SNMP) protocol. It is used to report the status and events of network devices to administrators, including device status, faults, performance, configuration, and security management. Trap provides real-time network monitoring and fault diagnosis services, helping administrators discover and solve network problems in a timely manner.

1. Enabling Trap Service

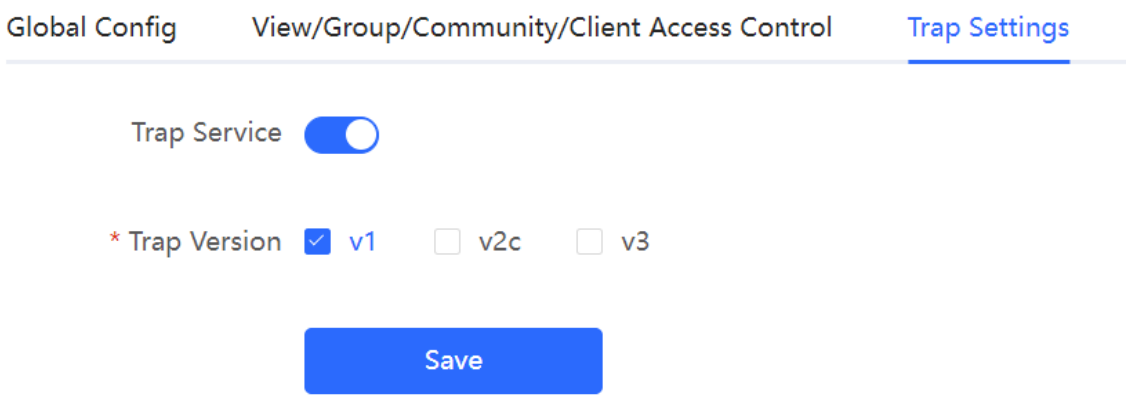
Enable the trap service and select the effective trap version, including v1, v2c, and v3 versions.

System > **SNMP** > **Trap Setting**

(1) Enable the trap service.



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 **OK**.

After the trap service is enabled, click **Save** for the configuration to take effect.

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.

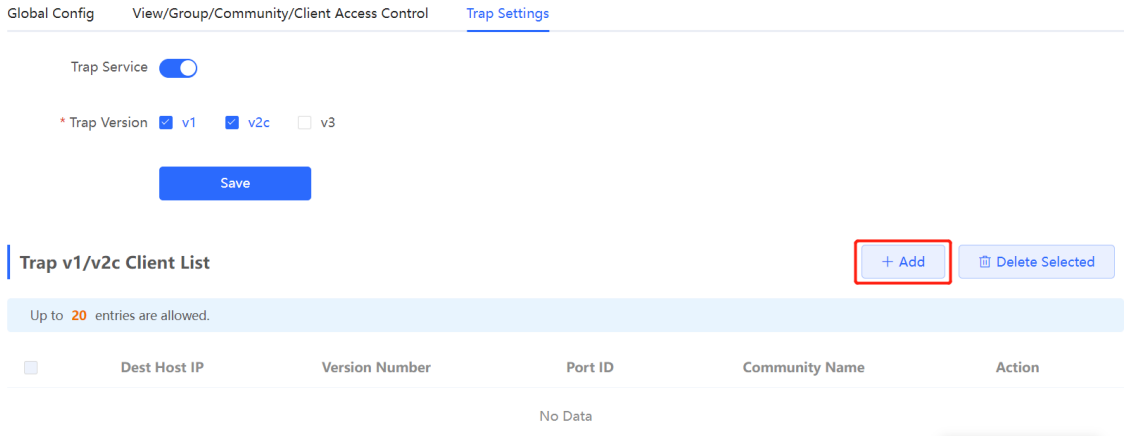
- Prerequisites

Once trap v1 and v2c versions are selected, it is necessary to add trap v1v2c users.

- Procedure

System > **SNMP** > **Trap Setting**

(1) Click **Add** in the **Trap v1/v2c Client List** pane to add a trap v1/v2c user.



(2) Configure trap v1/v2c user parameters.

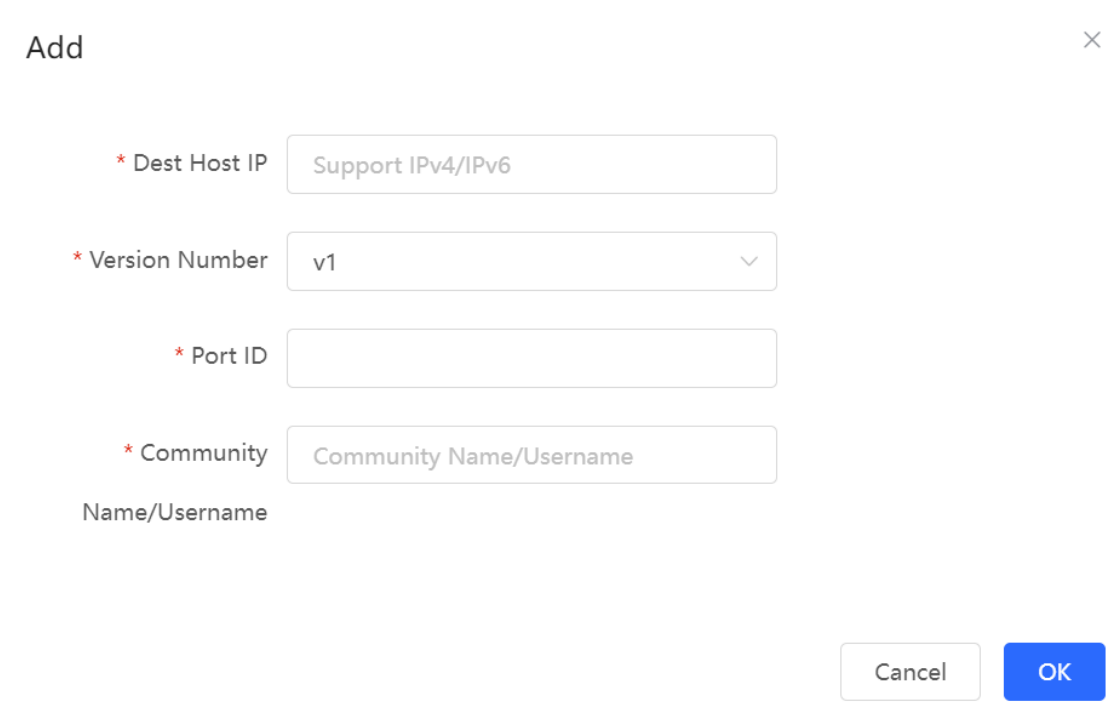


Table 5-8 Trap v1/v2c User Configuration Parameters

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/User name	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.

Note

- 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.

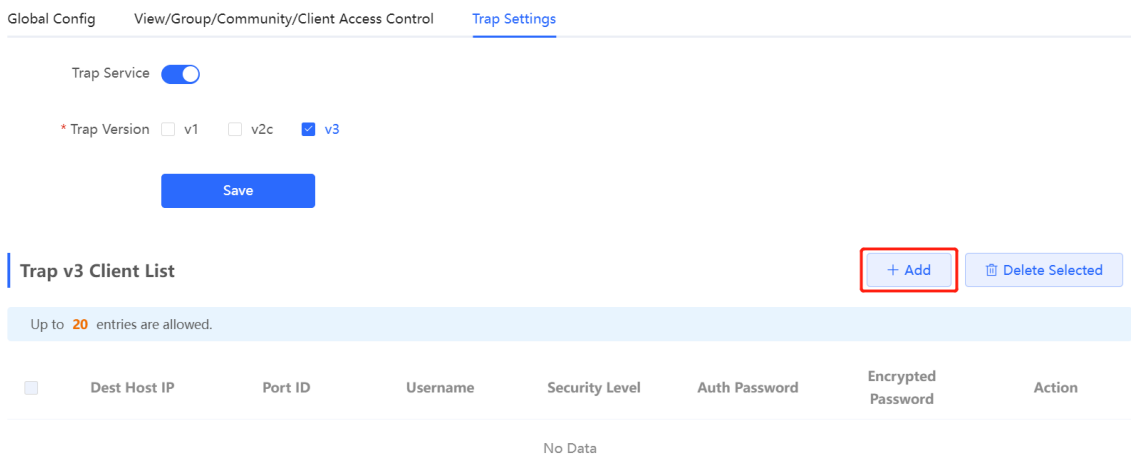
- Prerequisites

When the v3 version is selected for the trap service, it is necessary to add a trap v3 user.

- Configuration Steps

System > **SNMP** > **Trap Setting**

(4) Click **Add** in the **Trap v3 User** pane to add a trap v3 user.



(5) Configure trap v3 user parameters.

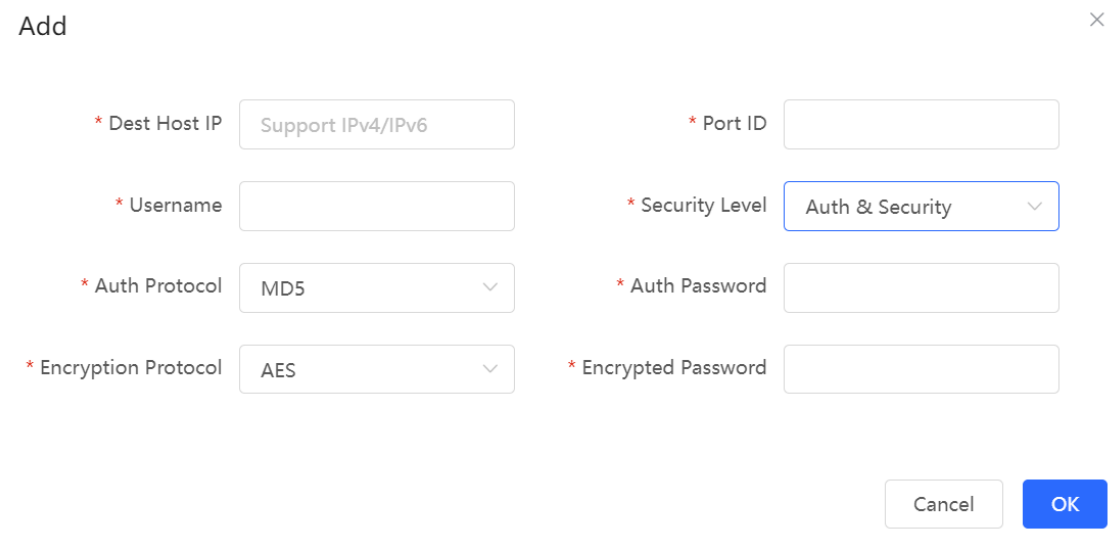


Table 5-9 Trap v3 User Configuration Parameters

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.
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.

Parameter	Description
Security Level	Indicates the security level of the trap v3 user. The security levels include authentication and encryption, authentication but no encryption, and no authentication and encryption.
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.
Encryption Protocol, Encryption 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.

Note

The destination host IP address of trap v1/ v1/v2c users cannot be the same.

5.9.6 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:

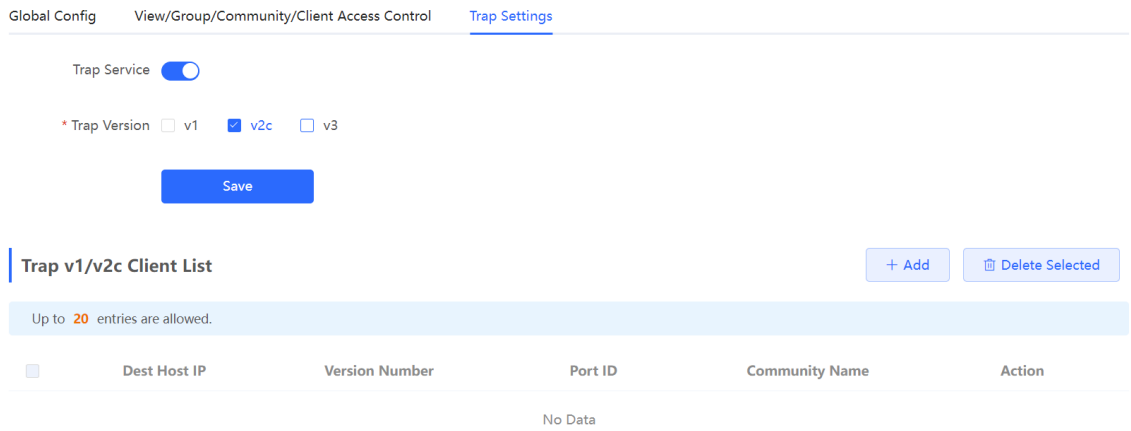
Table 5-10 User Requirement Specification

Item	Description
IP address and port number	The destination host IP is 192.168.110.85, and the port number is 166.

Item	Description
Version	Select the v2 version.
Community name/User name	Trap_user

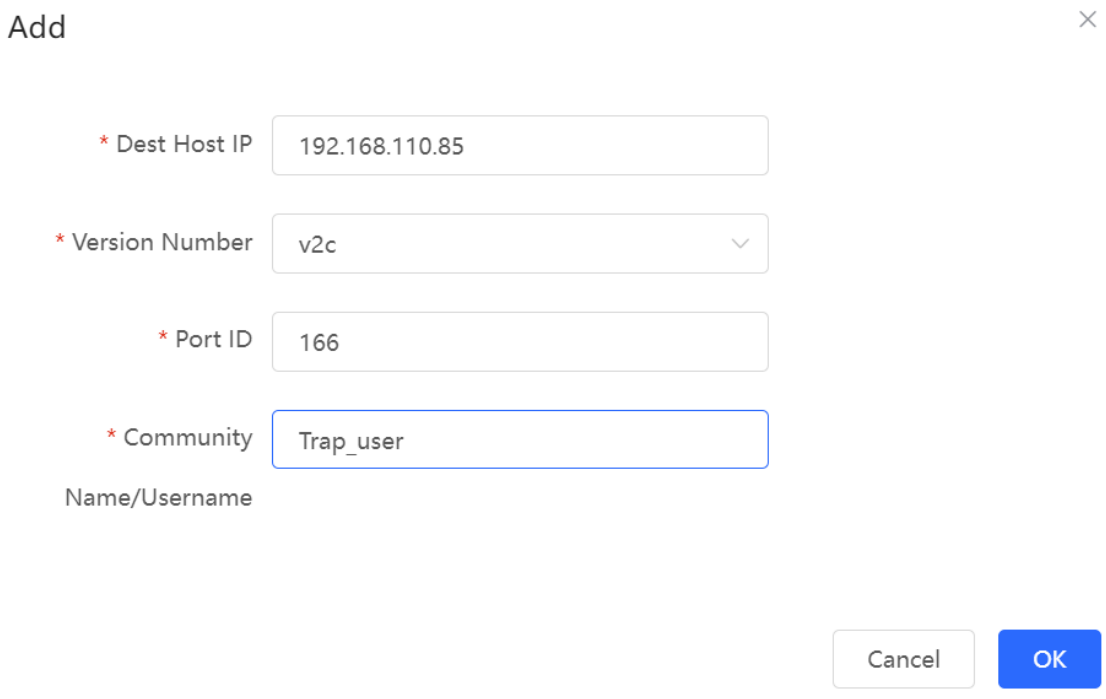
- Configuration Steps

(1) Select the v2c version in the **Trap Setting** interface and click **Save**.



(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**.



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

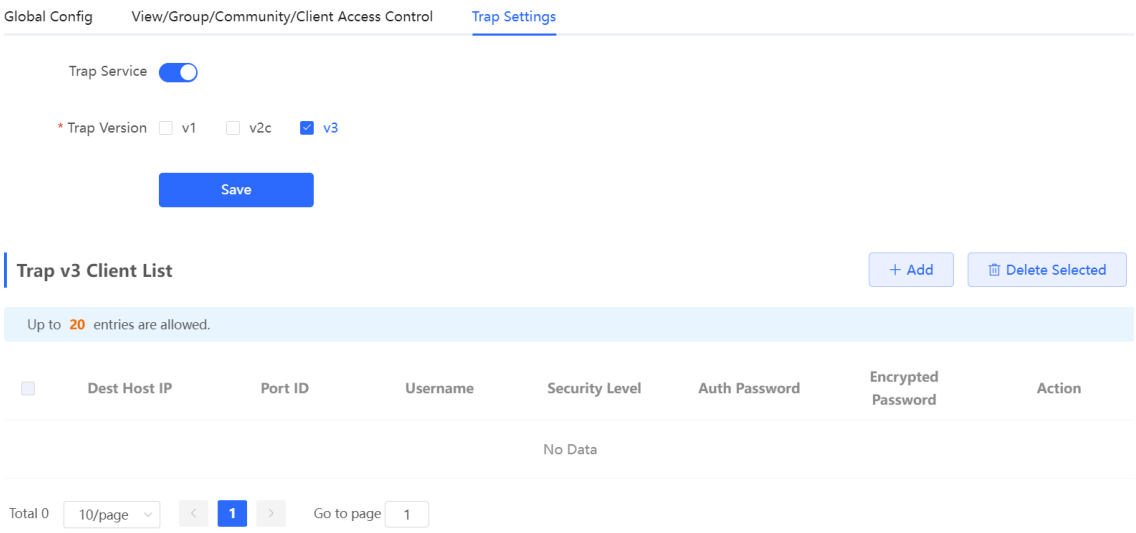
According to the user's application scenario, the requirements are shown in the following table:

Table 5-11 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_user for the user name.
Authentication protocol/authentication password Encryption protocol/encryption password	Authentication protocol/password: MD5/Ruijie123 Encryption protocol/password: AES/Ruijie123

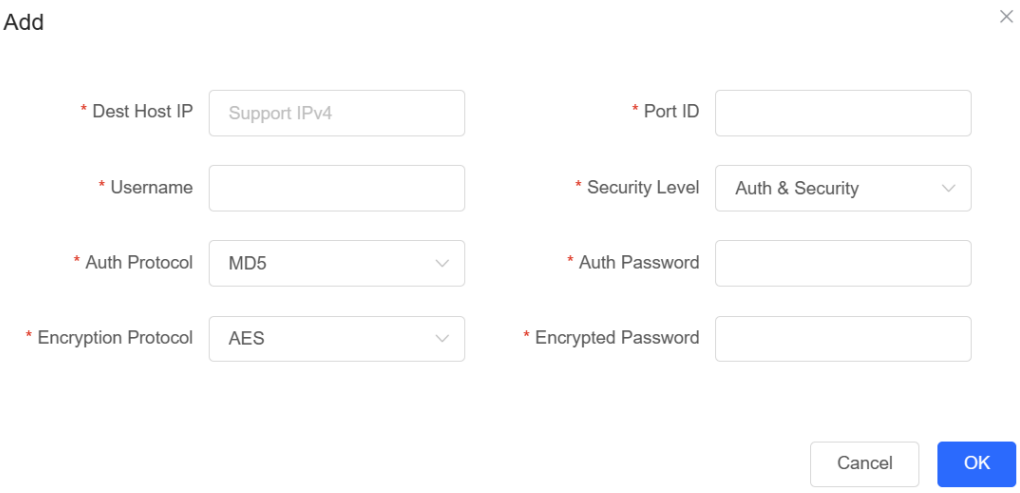
- Configuration Steps

(1) Select the v3 version in the **Trap Setting** interface and click **Save**.



(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
Support IPv4
* Port ID
* Username
* Security Level
Auth & Security
* Auth Protocol
MD5
* Auth Password
* Encryption Protocol
AES
* Encrypted Password
Cancel
OK