



# Ruijie RG-AP820-L(V3) Access Point AP\_RGOS 11.9(6)B9

## Web-based Configuration Guide

## Copyright

Copyright © 2022 Ruijie Networks

All rights are reserved in this document and this statement.

Any reproduction, excerpt, backup, modification, transmission, translation or commercial use of this document or any portion of this document, in any form or by any means, without the prior written consent of Ruijie Networks is prohibited.

Trademarks including  ,  and  are owned by Ruijie Networks.

All other trademarks or registered trademarks mentioned in this document are owned by their respective owners.

## Disclaimer

The products, services, or features you purchase are subject to commercial contracts and terms. Some or all of the products, services or features described in this document may not be within the scope of your purchase or use. Unless otherwise agreed in the contract, Ruijie Networks does not make any express or implied statement or guarantee for the content of this document.

Due to product version upgrades or other reasons, the content of this document will be updated from time to time. Ruijie Networks reserves the right to modify the content of the document without any notice or prompt.

This manual is for reference only. Ruijie Networks endeavors to ensure content accuracy and will not shoulder any responsibility for losses and damages caused due to content omissions, inaccuracies or errors.

# Preface

## Intended Audience

This document is intended for:

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

## Technical Support

- Ruijie Networks Website: <https://www.ruijienetworks.com/>
- Technical Support Website: <https://ruijienetworks.com/support>
- Case Portal: <http://caseportal.ruijienetworks.com>
- Community: <http://community.ruijienetworks.com>
- Technical Support Email: [service\\_rj@ruijienetworks.com](mailto:service_rj@ruijienetworks.com)
- Skype: [service\\_rj@ruijienetworks.com](https://www.skype.com/people/service_rj@ruijienetworks.com)

## Conventions

### 1. 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.

---

# Contents

Preface.....	i
1 Web-based Configuration.....	1
1.1 Overview.....	1
1.2 Application .....	1
1.2.1 Web-based Management.....	1
1.3 Web Configuration .....	3
1.3.1 Config Wizard.....	3
1.3.2 Monitor .....	6
1.3.3 Configuration.....	8
1.3.4 Diagnosis .....	57
1.3.5 Maintenance.....	62
1.3.6 Others .....	70
1.4 Eweb on Mobile Phones.....	72
1.4.1 Home.....	72
1.4.2 Network .....	73
1.4.3 Radio.....	74
1.4.4 Detection Tools.....	75
1.4.5 DNS .....	76
1.4.6 System Mode .....	77
1.4.7 System Info .....	78
1.4.8 Password.....	79
1.4.9 Restart.....	80
1.4.10 Restore.....	81

1.4.11 Switch to PC View .....	82
1.5 Fit AP-Eweb .....	83
1.5.1 SmartAP .....	83
1.6 Enabling the Web Server .....	84
1.7 Configuration Examples .....	87
1.7.1 Constructing a WLAN for the DHCP Server on the AP Device .....	87

# 1 Web-based Configuration

## 1.1 Overview

A user accesses the Web-based management system using a browser such as Internet Explorer (IE) to manage the AP device.

Web-based management involves two parts: Web server and Web client. A Web server is integrated into a device to receive and process requests sent from a client (for example, read a Web file or execute a command request) and returns the processing results to the client. Generally, a Web client refers to a Web browser.

✔ Currently, this file is applicable to only AP devices.

## 1.2 Application

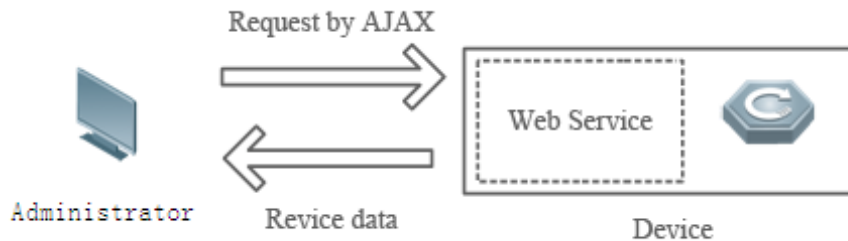
Application	Description
Web-based Management	After configuring, a user can access the Web-based management system through a browser.

### 1.2.1 Web-based Management

#### Scenario

As shown in the following figure, an administrator can access a device through a browser on a PC to manage the device.

Figure 1-1



<b>Note</b>	The Web management system integrates configuration commands and sends them to the device through AJAX requests. Web service is enabled on the device to process HTTP requests to return requested data.
-------------	--

**Function Deployment**

↳ **Configuration Environment Requirements**

Requirements for Client

- An administrator logs in to the Web-based management system using the Web browser on a client to manage the device. Generally, a client refers to a PC. It may also be other mobile terminal devices, for example, a laptop .
- Browsers supported: IE7.0, IE8.0, IE9.0, IE10.0, IE11.0, Google chrome, Firefox, and some IE kernel-based browsers (for example, Maxthon). Exceptions such as messy code and format errors may occur when other browsers are used.
- Resolution: It is recommended that the resolution be set to 1024 x 768, 1280 x 1024, or 1440 x 960. Exceptions such as font alignment error and format error may occur when other resolutions are selected.

Requirements for server

- The Web service must be enabled for the AP device.
- Login authentication information for Web-based management must be configured for the AP device.
- A management IP address must be configured for the AP device.

↳ **Default Configuration**

The following table lists the Web management system default configuration.

Feature	Default Settings
Web service	Enabled
Management IP	192.168.110.1

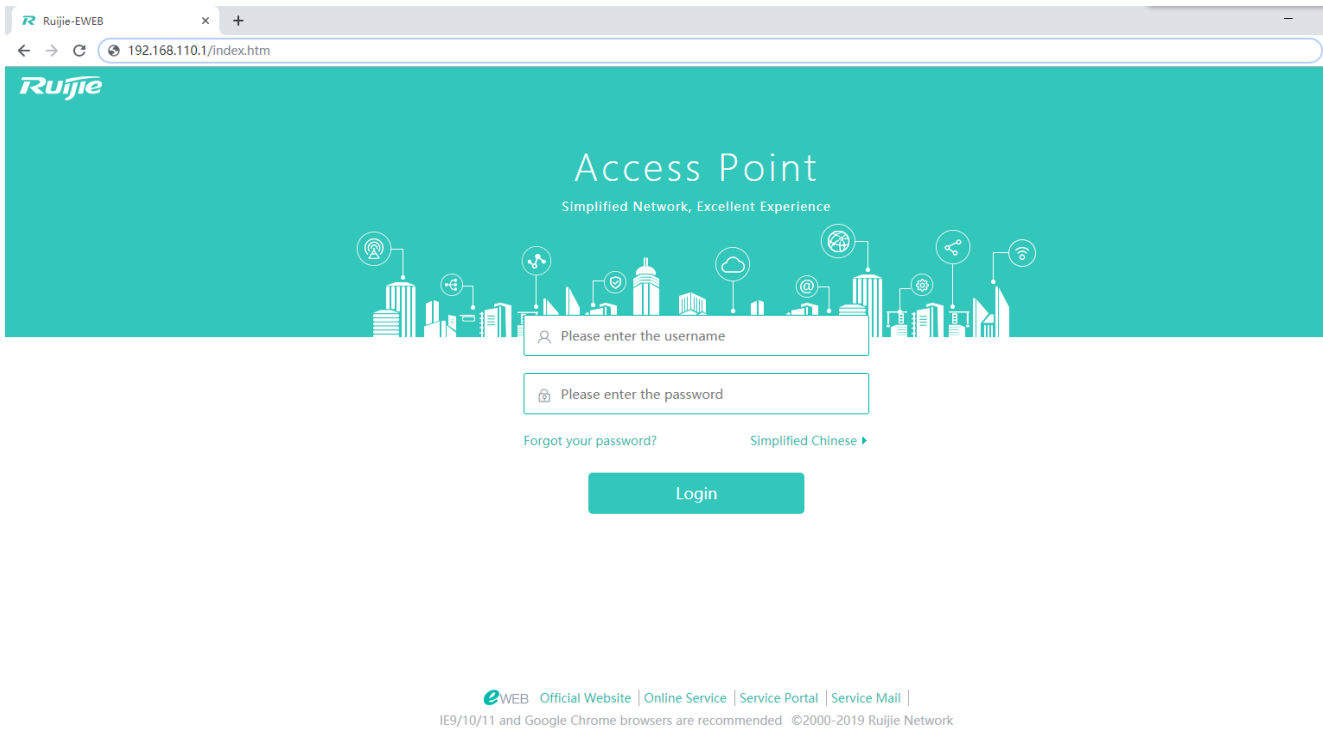
Default Username/Password	Permission Description
admin/admin	Super administrator with all permissions.

**i** The default password is not saved in **show running-config**.

↳ **Login**

Type **http://X.X.X.X** (management IP address), default: <http://192.168.110.1>, in the address bar of a browser and press **Enter** to access the login page, as shown in the following figure.

Figure 1-2 Login page



After typing the username and password, click **Login**.

Enter the username and password. Click **Login** to access the Web management system.

Click **Online Service** for configuration help.

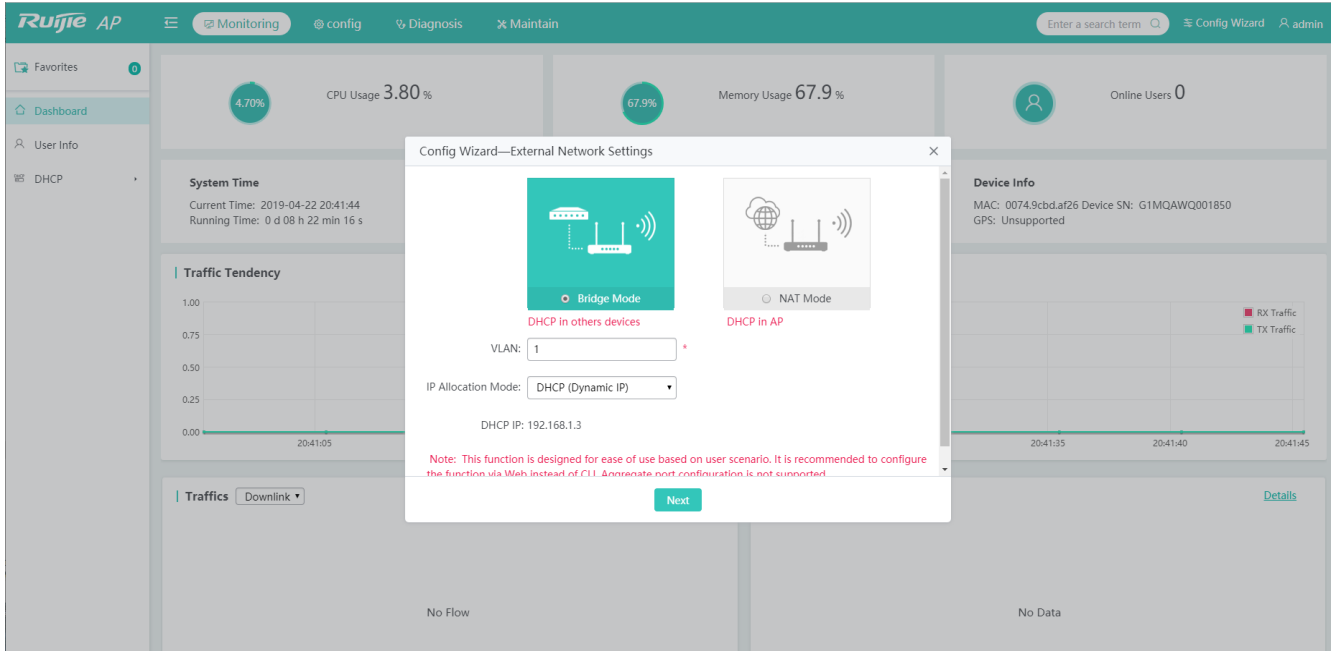
If you enter the wrong username or password for five consecutive times, your account will be locked for 10 minutes.

## 1.3 Web Configuration

### 1.3.1 Config Wizard

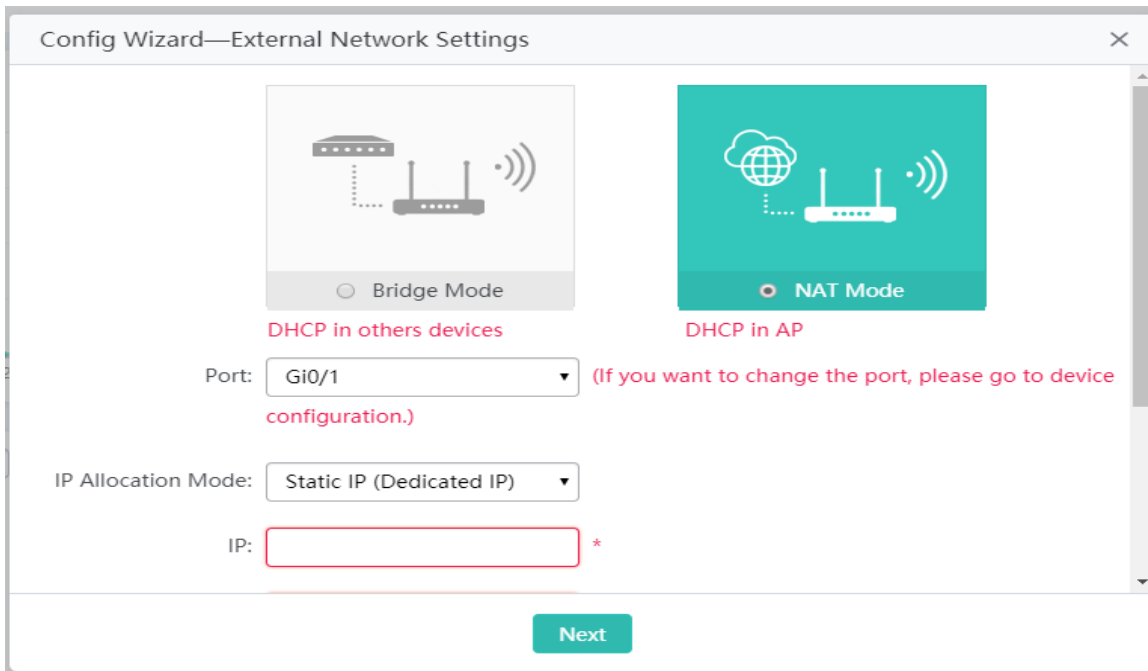
Build a WiFi network for STAs to access for Internet services.





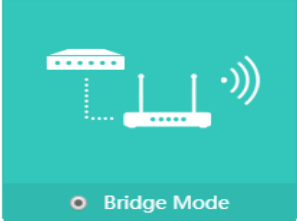
- 1) The **Config Wizard** page is displayed **after successfully logging in** to the Web if the device is in the default factory setting state, as shown in the preceding figure.
- 2) The **Config Wizard** page is also displayed when you click the **Config Wizard** link in the upper-right corner on the homepage.

The device supporting NAT can work in Bridge mode or NAT mode.




A device not supporting NAT can work only in Bridge Mode.

Config Wizard—External Network Settings



Bridge Mode

DHCP in others devices



NAT Mode

DHCP in AP

VLAN:  \*

IP Allocation Mode:

DHCP IP: 192.168.2.47

Note: This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI. Aggregate port configuration is not supported.

Config Wizard—WiFi

SSID:  \*

WiFi Password:   Show Password

DHCP:  Enable (IP addresses are allocated by AP)

VLAN ID:

IP Range:   to

DHCP Gateway:

Preferred DNS Server:  Optional

Secondary DNS Server:  Optional

Configure the WiFi parameters, and click **Finish** to finish the configuration.

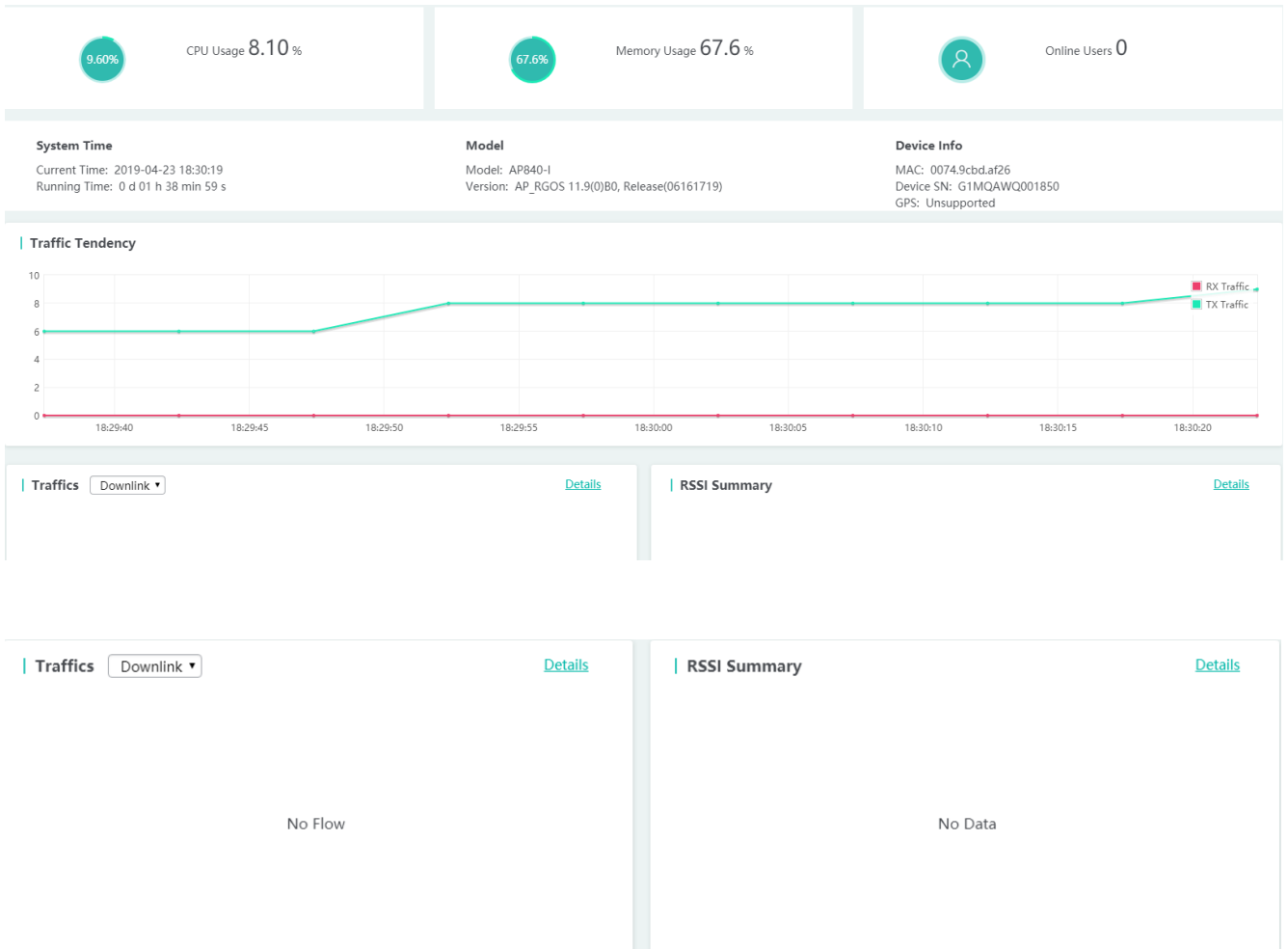
 After the AP device is initialized, please configure the AP device through the **Config Wizard** page.

- ⚠ All quick settings are scenario-based settings. And some of the configuration is delivered by default. If configurations such as NAT, interface, or address pool are changed via CLI or MACC system, it is recommended to not change the configuration again via Quick Settings, otherwise there could be incompatibility.
- ⚠ If the AP device is in access mode, it is recommended to build the gateway and address pool on the other device. If the AP device is in routing mode, it is recommended to build the gateway and address pool on the AP device and configure the NAT for it.

### 1.3.2 Monitor

#### 1.3.2.1 Dashboard

The dashboard enables viewing basic information for the AP device, including the device MAC address, device model, system alarm information, flow trends of AP device ports, latest trends of all management APs, and STA information corresponding to each management AP. In addition, it enables you to know the distribution condition of STA signal strength in real time.



Click the **Traffics > Details** or **RSSI Summary > Details** link in the lower left corner to view the STA details on the displayed page, for example, the MAC address and RSSI.

### 1.3.2.2 User Info

User information is displayed here.

Note: If you want to delete STAs from blacklist or whitelist, please go to [Blacklist/Whitelist](#).

[Refresh](#) [Blacklist](#) [Whitelist](#) MAC-based:  [Search](#)

STA	MAC	IP	Uptime	Speed(Kbps)	RSSI	Channel(Radio)	Network	Action
No Data Found								

Show No.:  Total Count:0 First < Pre Next > Last 1 [GO](#)

### 1.3.2.3 DHCP

DHCP includes DHCP client list and DHCP server status.

#### 1.3.2.3.1 DHCP Client List

DHCP clients are displayed here.

IP-based  [Search](#)

IP	MAC	Lease Time	Allocation Type	Action
192.168.23.3	14bd.61a9.79c2	0 Day(s) 23 hour(s) 44 minute(s)	Dynamic Allocation	<a href="#">Delete</a>

Show No.:  Total Count:1 First < Pre 1 Next > Last 1 [GO](#)

#### 1.3.2.3.2 DHCP Server Status

DHCP server status and address pool usage are displayed here.

DHCP Server Status: ● On ⚙️ Config DHCP

**IPv4 DHCP** Name:  Search

Name	Usage	IP Address Range	Lease Time	DNS	Default Gateway
macc_sta_pool	<div style="width: 40%; height: 10px; background-color: #ccc;"></div> 0.40% ( 1 / 253 )	192.168.23.0/255.255.255.0	1 Day(s)	114.114.114.114	192.168.23.1
test_sta	<div style="width: 0%; height: 10px; background-color: #ccc;"></div> 0.00% ( 0 / 253 )	192.168.2.0/255.255.255.0	8 hour(s)		192.168.2.1

Show No.:  Total Count:2 K First < Pre 1 Next > Last >  GO

---

**IPv6 DHCP** Name:  Search

Name	IP Address Range	Lease Time	DNS
No Data Found			

Show No.:  Total Count:0 K First < Pre Next > Last >  GO

### 1.3.3 Configuration

#### 1.3.3.1 WiFi/WLAN

A Wireless Local Area Network (WLAN) refers to a network system that allows different PCs to communicate and share resources with each other by interconnecting different PCs through wireless communication technologies. The essence of a WLAN is that PCs are interconnected with each other in wireless rather than wired mode, thus constructing a network and allowing terminals to move more flexibly.

Wi-Fi or WiFi is a technology for wireless local area networking with devices based on the IEEE 802.11 standards. Devices that can use Wi-Fi technology include personal computers, video-game consoles, smartphones, digital cameras, tablet computers, smart TVs, digital audio players and modern printers. Wi-Fi compatible devices can connect to the Internet via a WLAN and a wireless access point. Such an access point (or hotspot) has a range of about 20 meters (66 feet) indoors and a greater range outdoors. Hotspot coverage can be as small as a single room with walls that block radio waves, or as large as many square kilometers achieved by using multiple overlapping access points.

Service Set Identifier (SSID), also referred to as ESSID: It is used to distinguish different networks, that is, identifying an ESS. An SSID contains a maximum of 32 characters. A WNIC configured with different SSIDs can access different networks. SSIDs are usually broadcasted by an AP or a wireless router. The scanning function delivered with the XP can be used to view SSIDs within the current area. In consideration of security, SSIDs may not be broadcasted. In this case, users need to manually set SSIDs to access corresponding networks. To be simple, an SSID is the name of a WLAN. Only computers with the same SSID can communicate with each other.

The WLAN allows wireless STAs to access the AP through WiFi for Internet services. Multiple WLANs can be added or deleted.

The following figure shows the page for adding a WLAN.

WIFI-1 + ▾

**Note:** This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI.

WLAN ID:  \* Range: 1-16

SSID:  \*

Encryption Type:  ▾

WiFi Password:  \*  Show Password

» Advanced Settings

### 1.3.3.1.1 Adding WiFi/WLAN

WIFI-1 WiFi-2 × + ▾

**Note:** This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI.


WLAN ID:  \* Range: 1-16

SSID:  \*

Encryption Type:  ▾

WiFi Password:  \*  Show Password

» Advanced Settings

- 1) Click , and a new panel for WiFi configuration is displayed.
- 2) Set the WiFi parameters.
- 3) Click **Save** to finish the configuration.

#### Editing WiFi/WLAN

- 1) Click the WiFi panel you want to edit.
- 2) Edit the WiFi configuration.
- 3) Click **Save**. The **Edit succeeded** message is displayed.

- WLAN ID

WLAN ID is used to identify a WLAN network.

- SSID

An SSID is the name of a wireless local area network.

- Encryption Type

Open: No password is required.

WPAWPA2-PSK: This encryption type is secure and simple, often used in homes and small offices.

WPAWPA2-802.1x: An authentication server is required. This encryption type is complicated and costs much, not recommended for common users.

### Advanced Settings

- Hide SSID

This function is disabled by default.

- SSID Code

UTF-8: Most terminals support UTF-8. The default code is UTF-8.

GBK: Some terminals and PCs support GBK.

- WiFi Type

Radio1 is a 2.4GHz network and Radio2 is a 5GHz network.

- Rate Limiting

The device only supports rate limiting on each user currently.

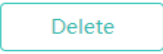
wlan-qos wlan-based \* per-user-limit up-streams average-data-rate \*\* burst-data-rate \*\*

wlan-qos wlan-based \* per-user-limit down-streams average-data-rate \*\* burst-data-rate \*\*

- 5G-prior Access

This feature will be displayed if supported by the device.

### Deleting WiFi/WLAN

- 1) Click the WiFi panel you want to delete a WiFi.
- 2) Click .
- 3) Click **OK** in the dialog box displayed to finish the deletion operation.

### 1.3.3.2 AP

#### 1.3.3.2.1 Radio Settings

Wireless channels transmit RF medium between APs and wireless STAs. The use of channels varies with different countries and frequencybands. For example, the 2.4 GHz frequency band can be configured with 13 channels (channel 1 to channel 13), and the 5 GHz frequency band can be configured with five channels (channels 149, 153, 157, 161, and 165). The overlapping channels in the 2.4 GHz frequency band generate interference. It is recommended that these channels be configured as non-overlapping channels (for example, channels 1, 6, and 11) to avoid radio signal collision. The five channels in the 5 GHz frequency band do not overlap or generate interference.



Wireless channel settings are mainly about adjusting the strength of the WiFi signal sent out by the device. Channel parameters can be set for the 2.4G and 5G networks.

Enabling the 2.4G Network

**Note:** If the signal is unstable or poor, please modify the following parameters.  
**Note:** Take the following factors into consideration: antenna installation, signal interference, magnetic fields, and walls.

2.4G Network:  ON  
 [Force switching from 2.4GHz to 5GHz Network]

Country or Region:

Radio Protocol:

Radio Channel:  Current Channel: 1

RF Bandwidth:

Power:  ?

STA Limit:  (Range: 1 - 128 )

- 1) Click  ON to enable or disable the 2.4G network.
- 2) Click **Enforce switching from 2.4GHz to 5GHz Network** to switch the network type.

Enabling the 5G Network

5G Network:  ON

Country or Region:


Radio Protocol:

Radio Channel:  Current Channel: 149

RF Bandwidth:

Power:  ?

STA Limit:  (Range: 1 - 128 )

- 1) Click  to enable or disable the 5G network.
- 2) Click **Enforce switching from 5GHz to 2.4GHz Network** to switch the network type.

- Country & Region

The country or region of the current radio.

- Radio Protocol

2.4G Network: (1) 11bgn indicates the set of 802.11b, 802.11g and 802.11n. (2) 11bgn+11ax indicates the set of 802.11b, 802.11g, 802.11n and 802.11ax.

5G Network: (1) 11an indicates the set of 802.11a and 802.11n. (2) 11an+11ac indicates the set of 802.11a, 802.11n, 802.11ac. (3) 11an+11ac+11ax indicates the set of 802.11a, 802.11n, 802.11ac and 802.11ax.

- Radio Channel

The channel of the current radio.

- RF Bandwidth

The channel width of the current radio, including 20 Mhz and 40 Mhz.

- Power

The power of the current radio. **Power Saving**, **Standard** and **Enhanced** indicate 30, 80 and 100 respectively.

- STA Limit

The number of clients associated to the current radio.

### 1.3.3.2.2 Client Limit

Client limit refers to the maximum number of associated STAs.

Note: Client Limit: Client Limit indicates the number of max associated clients allowed by the device

Client Limit:  \* (Range 1 - 512)

### 1.3.3.2.3 Radio Balance

Radio balance refers to the balance of STAs on each radio.

**Note:** Radio balance refers to the balance of STAs on each radio.

Enable Load Balance:  ON

Radio1 : Radio2

RF Access Ratio:  :  \*

### 1.3.3.3 Network

#### 1.3.3.3.1 External Network Settings

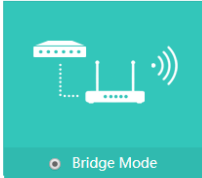
External network settings are mainly about configuration of the communication mode between the AP and external network. Two communication modes are available: Bridge mode and NAT mode.

In **Bridge Mode**, the Ruijie APs act as bridges, allowing wireless clients to obtain their IP addresses from an upstream DHCP server.

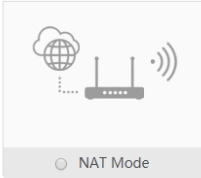
In **NAT Mode**, the Ruijie APs run as DHCP servers to assign IP addresses to wireless clients out of a private 10.x.x.x IP address pool behind a NAT.

 The AP you use might not support this function, which is subject to the actual menu items.

**Note:** This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI. Aggregate port configuration is not supported.



Bridge Mode  
DHCP in others devices



NAT Mode  
DHCP in AP

VLAN:

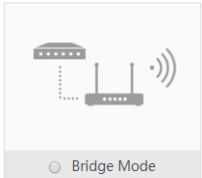
IP Allocation Mode:

IP:  (in the same subnet with the uplink device)

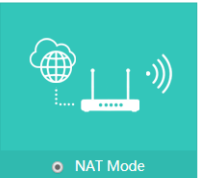
Mask:  \*

Default Gateway:  Optional

**Note:** This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI. Aggregate port configuration is not supported.



Bridge Mode  
DHCP in others devices



NAT Mode  
DHCP in AP

Port:  (If you want to change the port, please go to device configuration.)

IP Allocation Mode:

IP:  \*

IP Mask:  \*

Default Gateway:  \*

NAT:  Check this box if you want to convert all internal addresses to external addresses.

You can select the AP working mode to determine the AP role and then configure based on the corresponding working mode.

Set corresponding parameters and save the configuration.

### 1.3.3.3.2 Interface

A port is a physical entity that is used for connections on the network devices.

### Speed

Generally, the speed of an Ethernet physical port is determined through negotiation with the peer device. The negotiated speed can be any speed within the interface capability. You can also configure any speed within the interface capability for the Ethernet physical port on the Web page.

When you configure the speed of an AP port, the configuration takes effect on all of its member ports. (All these member ports are Ethernet physical ports.)

### Duplex Mode

Set the duplex mode of the interface to full-duplex so that the interface can receive packets while sending packets.

Set the duplex mode of the interface to half-duplex so that the interface can receive or send packets at a time.

Set the duplex mode of the interface to auto-negotiation so that the duplex mode of the interface is determined through auto negotiation between the local interface and peer interface.

### Interface Name

You can configure the name of an interface based on the purpose of the interface. For example, if you want to assign GigabitEthernet 1/1 for exclusive use by user A, you can describe the interface as "Port for User A."

### Administrative Status

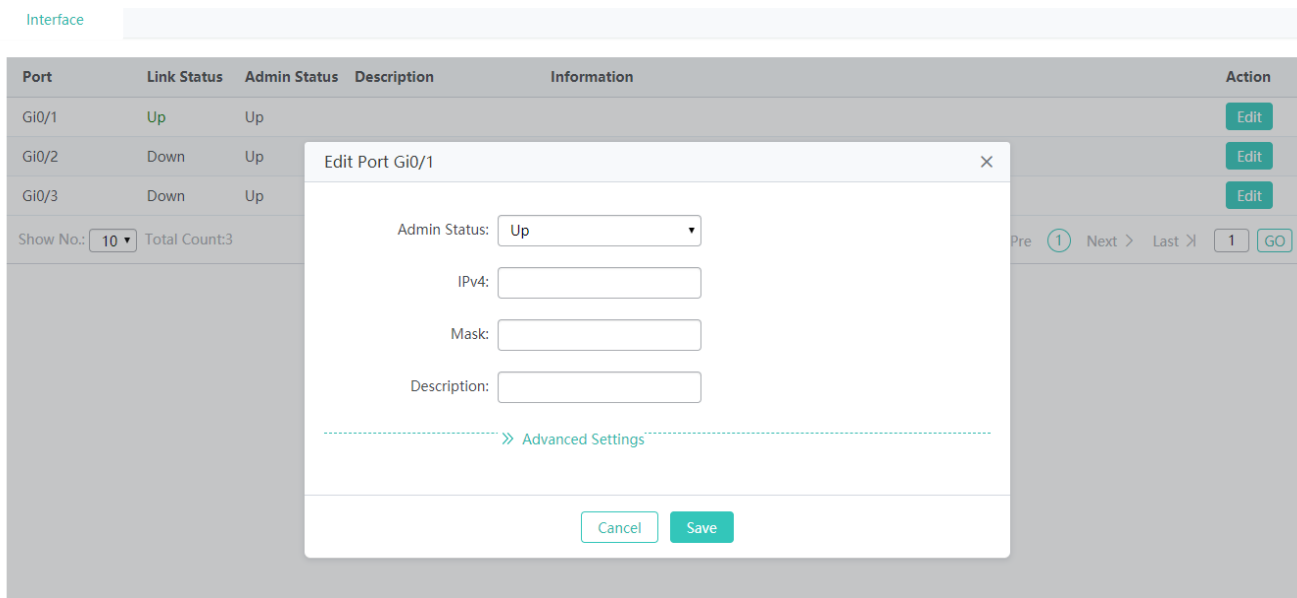
You can configure the administrative status of an interface to disable the interface as required. If the interface is disabled, no frame will be received or sent on this interface, and the interface will lose all its functions. You can enable a disabled interface by configuring the administrative status of the interface. Two types of interface administrative status are defined: Up and Down. The administrative status of an interface is Down when the interface is disabled, and Up when the interface is enabled.

### Interface Settings

Interface					
Port	Link Status	Admin Status	Description	Information	Action
Gi0/1	Up	Up			<a href="#">Edit</a>
Gi0/2	Down	Up		IPv4: 192.168.111.1, Mask: 255.255.255.0	<a href="#">Edit</a>
Gi0/3	Down	Up		IPv4: 192.168.112.1, Mask: 255.255.255.0	<a href="#">Edit</a>

Show No.:  Total Count:3 K First < Pre 1 Next > Last > 1 GO

Editing port settings



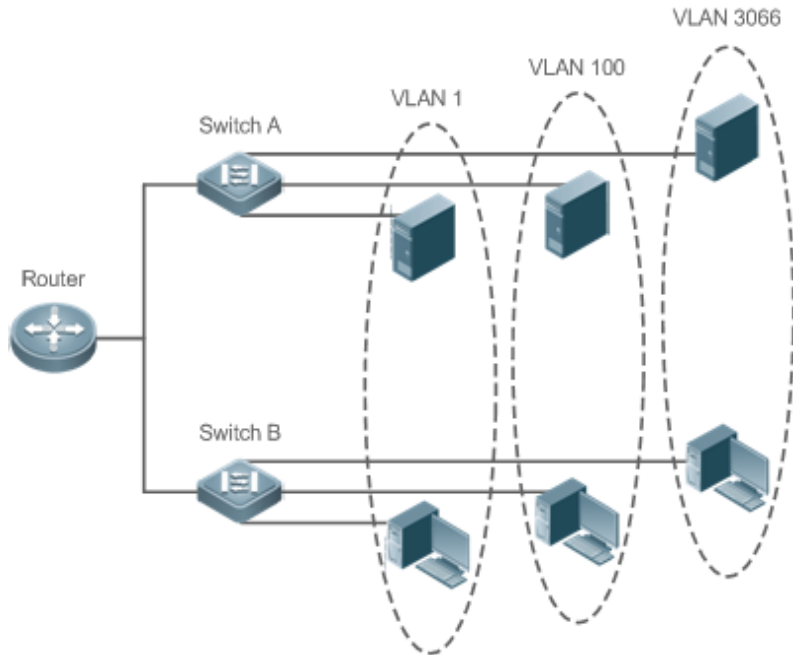
- 1) Click the **Edit** button for a port in the list.
- 2) The configuration for the port is displayed in the dialog box. Next, edit the configuration.
- 3) Click **Save**. The **Save operation succeeded** message is displayed.

### 1.3.3.3.3 VLAN

A Virtual Local Area Network (VLAN) is a logical network created based on a physical network. A VLAN can be categorized into Layer-2 networks of the OSI model.

A VLAN has the same properties as a common LAN, except for physical location limitation. Unicast, broadcast and multicast frames of Layer 2 are forwarded and transmitted within a VLAN, keeping traffic segregated.

We may define a port as a member of a VLAN, and all terminals connected to this port are parts of a virtual network that supports multiple VLANs. You do not need to adjust the network physically when adding, removing and modifying users. Communication among VLANs is realized through Layer-3 devices, as shown in the following figure.



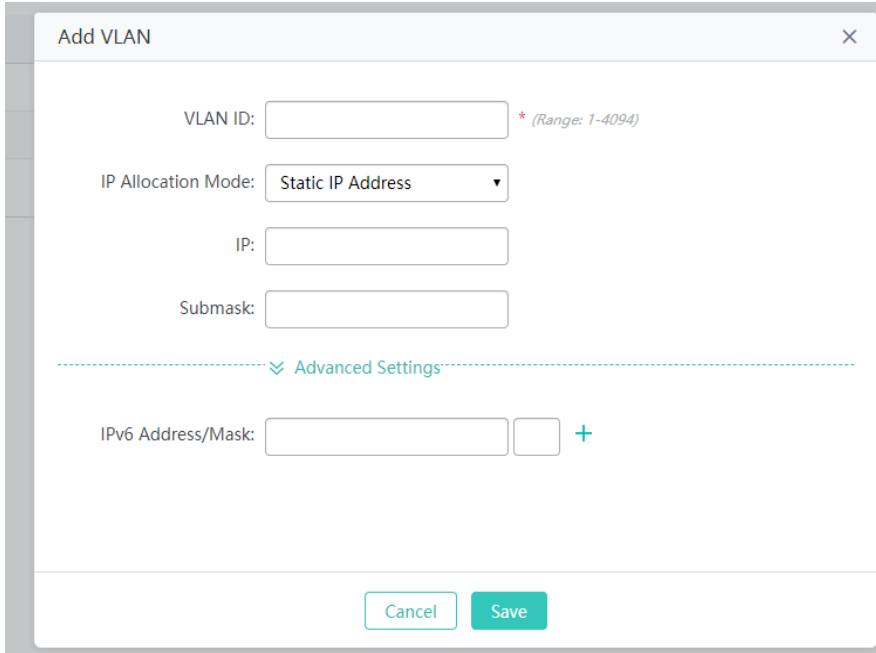
The VLANs supported by Ruijie products comply with the IEEE802.1Q standard. A maximum of 4094 VLANs (VLAN ID 1-4094) are supported, among which VLAN 1 cannot be deleted.

[+ Add VLAN](#) [x Delete Selected](#)

<input type="checkbox"/>	VLAN ID	IPv4	IPv4 Mask	IPv6 Address/Mask	IP Allocation Mode	Action
<input type="checkbox"/>	1	192.168.1.3	255.255.255.0		DHCP	<a href="#">Edit</a>
<input type="checkbox"/>	2	192.168.10.1	255.255.255.0		Static IP Address	<a href="#">Edit</a> <a href="#">Delete</a>

Show No.:  Total Count:2 K First < Pre 1 Next > Last >  [GO](#)

### Adding a VLAN



The 'Add VLAN' dialog box contains the following fields and controls:

- VLAN ID:** A text input field with a red asterisk and the text '(Range: 1-4094)' to its right.
- IP Allocation Mode:** A dropdown menu currently set to 'Static IP Address'.
- IP:** A text input field.
- Submask:** A text input field.
- Advanced Settings:** A section header with a downward arrow, separated by a dashed line.
- IPv6 Address/Mask:** Two adjacent text input fields followed by a plus sign (+).
- Buttons:** 'Cancel' and 'Save' buttons at the bottom.

Click **Add VLAN**. A dialog box is displayed, as shown in the preceding figure. Set corresponding parameters in the dialog box and click **Save**. The newly added VLAN is displayed in the VLAN list after the **Add operation succeeded** message is displayed.

### Deleting VLANs in batches

+ Add VLAN × Delete Selected

<input type="checkbox"/>	VLAN ID	IPv4	IPv4 Mask	IPv6 Address/Mask	IP Allocation Mode	Action
<input type="checkbox"/>	1	192.168.1.3	255.255.255.0		DHCP	<input type="button" value="Edit"/>
<input type="checkbox"/>	2	192.168.10.1	255.255.255.0		Static IP Address	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:2 K First < Pre ① Next > Last >

- 1) Select the VLAN to be deleted from the list.
- 2) Click **Delete Selected** to finish deleting.

### Editing a VLAN



**Edit VLAN** [Close]

VLAN ID:  \* (Range: 1-4094)

IP Allocation Mode:

IP:

Submask:

----->> [Advanced Settings](#)

[Cancel] [Save]

Click the **Edit** button. A dialog box is displayed, as shown in the preceding figure. Click **Save**. The **Save operation succeeded** message is displayed.

### Deleting a VLAN

+ Add VLAN X Delete Selected

<input type="checkbox"/>	VLAN ID	IP4	IPv4 Mask	IPv6 Address/Mask	IP Allocation Mode	Action
<input type="checkbox"/>	1	192.168.1.3	255.255.255.0		DHCP	[Edit]
<input type="checkbox"/>	2	192.168.10.1	255.255.255.0		Static IP Address	[Edit] [Delete]

Show No.:  Total Count:2

[?] Are you sure you want to delete the VLAN?  
[Cancel] [OK]

K First < Pre 1 Next > Last X 1 [GO]

Click the **Delete** button for a VLAN in the list and then click **OK** in the displayed dialog box to finish deleting.

### 1.3.3.3.4 Route

Routing is the process of selecting a path for traffic in a network, or between or across multiple networks.

Static routing is a form of routing that occurs when a router uses a manually-configured routing entry. In many cases, static routes are manually configured by a network administrator by adding in entries into a routing table, though this may not always be the case.

Default route is a setting on a computer that defines the packet forwarding rule to use when no specific route can be determined for a given Internet Protocol (IP) destination address. All packets for destinations not established in the routing table are sent via the default route.

Note: Routing includes a primary route and backup routes. When the primary route does not work, a backup route takes effect in accordance with the priority level. The Backup Route-1 has higher priority than the Backup Route-2.

+ Add Static Route + Add Default Route X Delete Selected

<input type="checkbox"/>	Destination Subnet	Subnet Mask	Next Hop Address	Egress Port	Routing	Type	Action
<input type="checkbox"/>	0.0.0.0	0.0.0.0	192.168.1.1	VLAN1	Primary Route	Default Route	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:1

K First < Pre  Next > Last X|

### Adding a static route

Note: Routing includes a primary route and backup routes. When the primary route does not work, a backup route takes effect in accordance with the priority level. The Backup Route-1 has higher priority than the Backup Route-2.

+ Add Static Route + Add Default Route X Delete Selected

<input type="checkbox"/>	Destination Subnet	Subnet Mask	Next Hop Address	Egress Port	Routing	Type	Action
<input type="checkbox"/>	0.0.0.0	0.0.0.0	192.168.1.1	VLAN1	Primary Route	Default Route	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:1

IP Type:  IPv4  IPv6

Destination Subnet:  \*

Subnet Mask:  \*

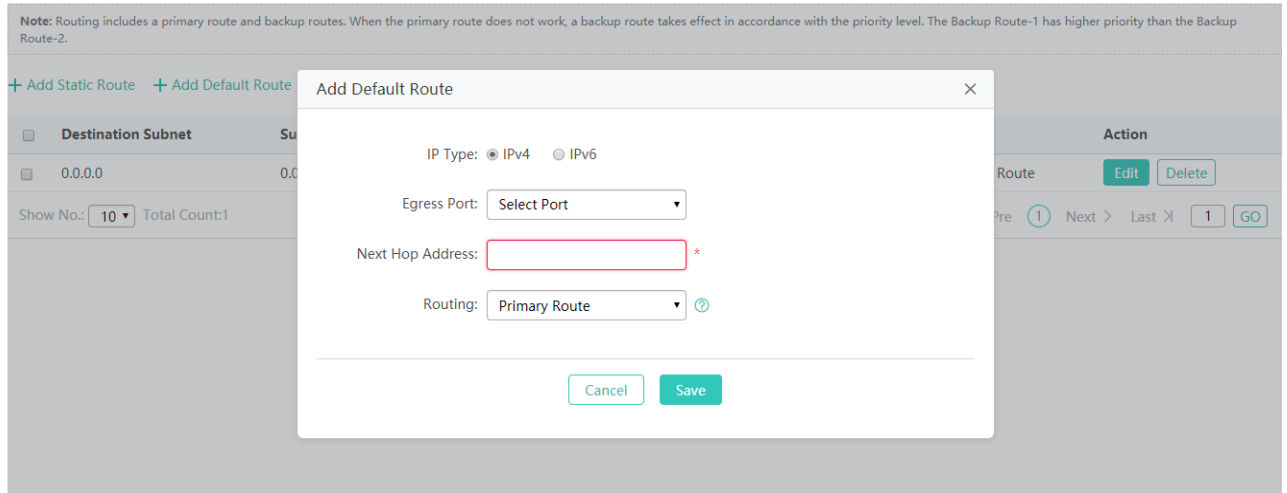
Egress Port:  ▼

Next Hop Address:  \*

Routing:  ▼ Ⓢ

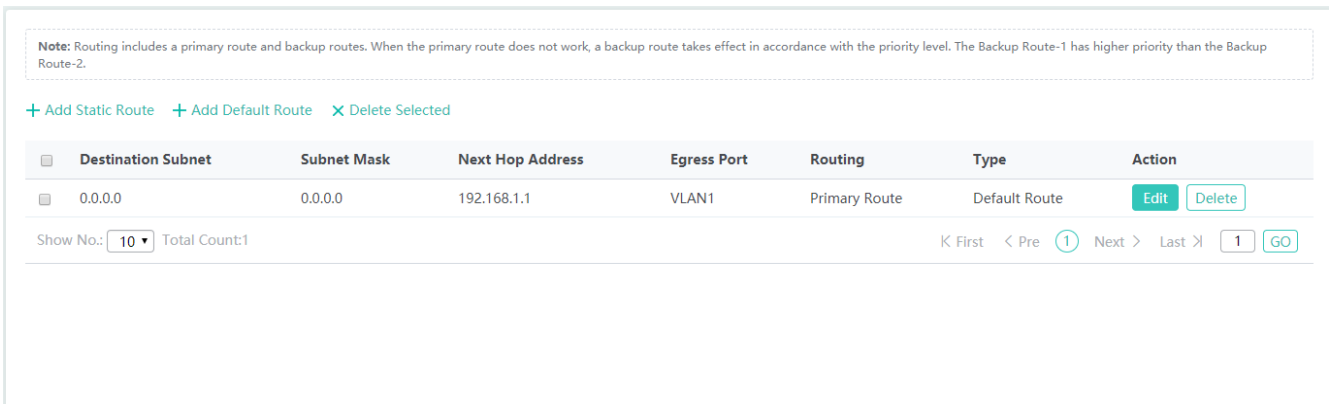
Click **Add Static Route**, set the configuration items in the dialogbox displayed, and click **Save**. The newly added static route is displayed in the route list after the **Save operation succeeded** message is displayed.

### Adding the default route

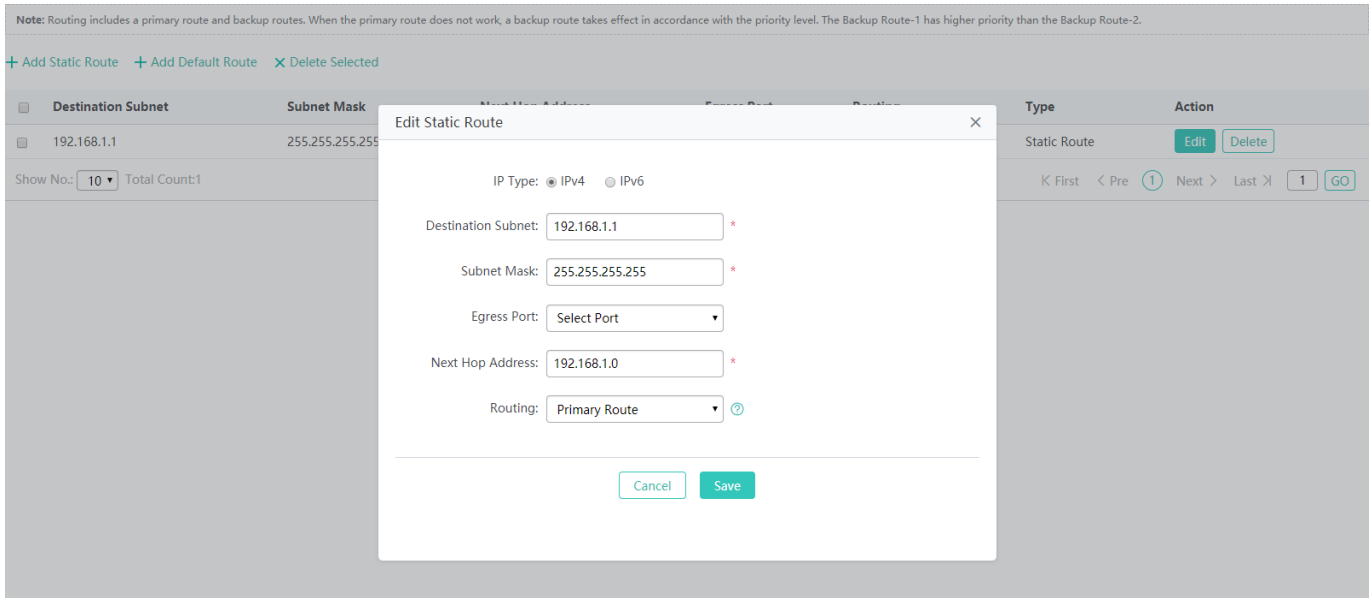


Click **Add Default Route**. Set the configuration items in the displayed dialog box, and click **Save**. The newly added route is displayed in the route list after the **Save operation succeeded** message appears.

Deleting routes in batches

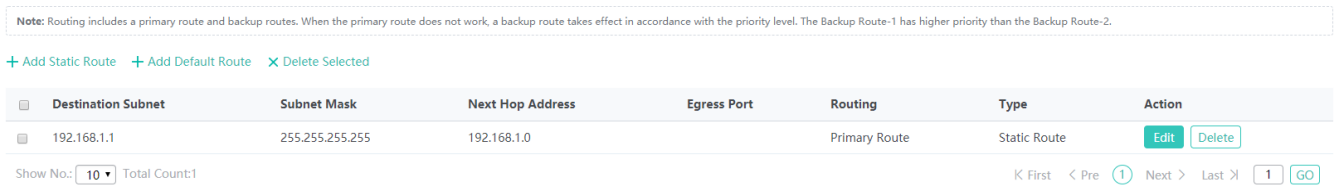


- 1) Select the route from the list.
  - 2) Click **Delete Selected Route** to finish deleting.
- Editing a route



- 1) Click the **Edit** button for a route in the list.
- 2) A dialog box is displayed, as shown in the preceding figure. The configuration for the route is displayed. Next, edit the configuration.
- 3) Click **Save**. The **Save operation succeeded** message is displayed.

- **Deleting a route**



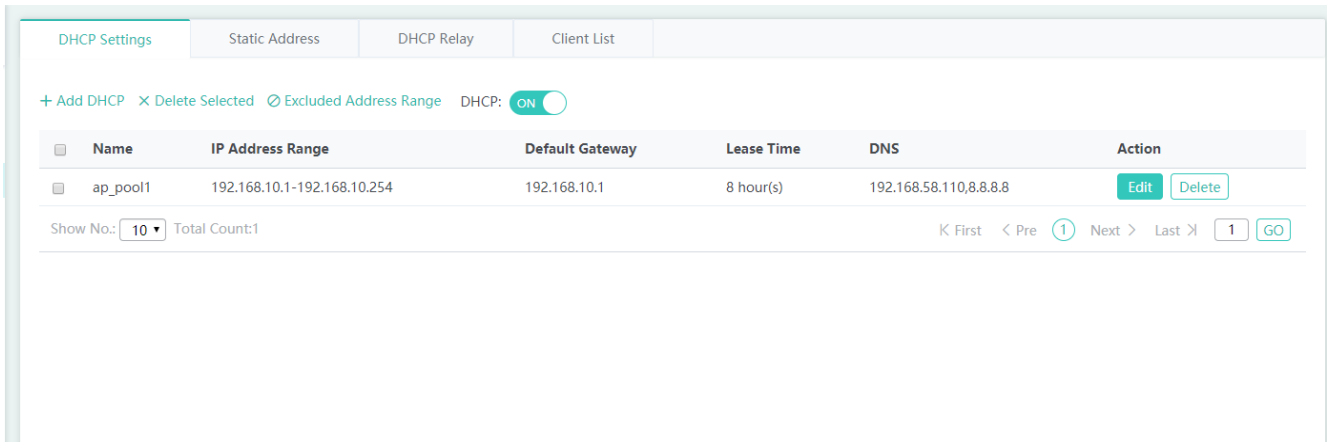
Click the **Delete** button for a route in the list and then click **OK** in the displayed dialog box to finish deleting.

### 1.3.3.3.5 DHCP

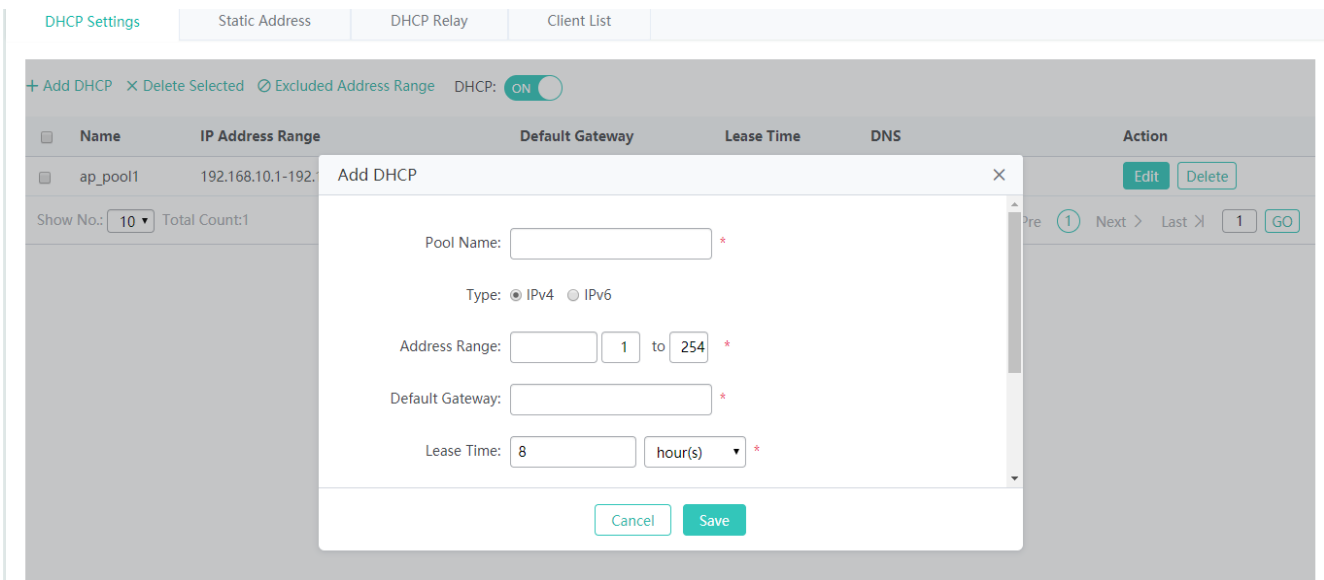
Dynamic Host Configuration Protocol (DHCP) is a client/server protocol that automatically provides an Internet Protocol (IP) host with its IP address and other related configuration information such as the subnet mask and default gateway. RFCs 2131 and 2132 define DHCP as an Internet Engineering Task Force (IETF) standard based on Bootstrap Protocol (BOOTP), a protocol with which DHCP shares many implementation details. DHCP allows hosts to obtain required TCP/IP configuration information from a DHCP server.

DHCP supports three mechanisms for IP address allocation. In "automatic allocation", DHCP assigns a permanent IP address to a client. In "dynamic allocation", DHCP assigns an IP address to a client for a limited period of time (or until the client explicitly relinquishes the address). In "static allocation", a client's IP address is assigned by the network administrator, and DHCP is used simply to convey the assigned address to the client. A particular network will use one or more of these mechanisms, depending on the policies of the network administrator.

➤ **DHCP Settings**

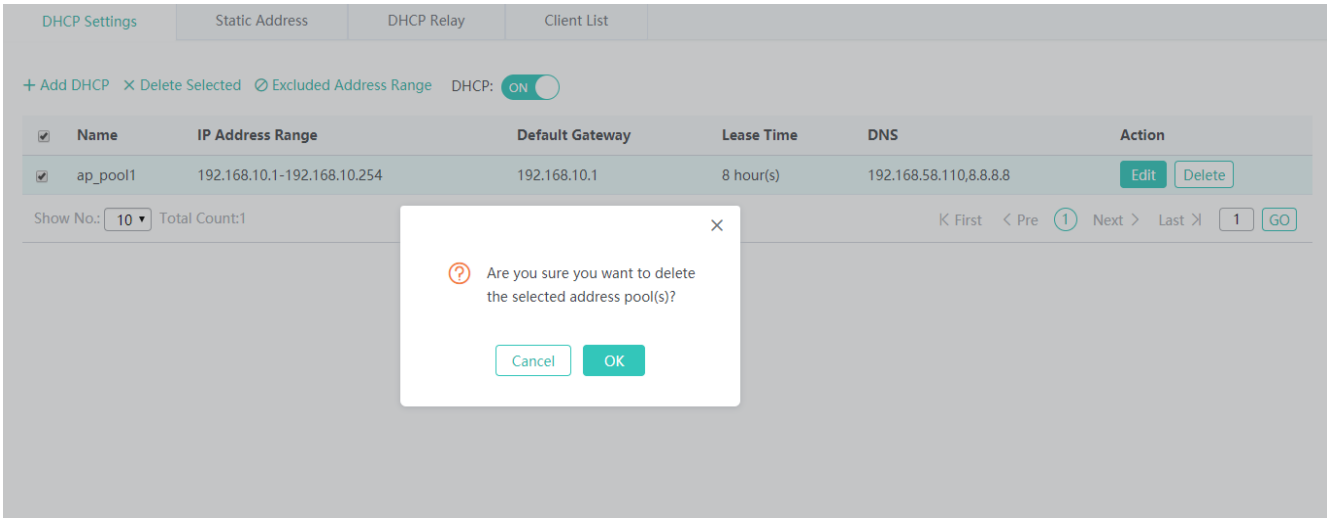


● **Adding a DHCP Pool**

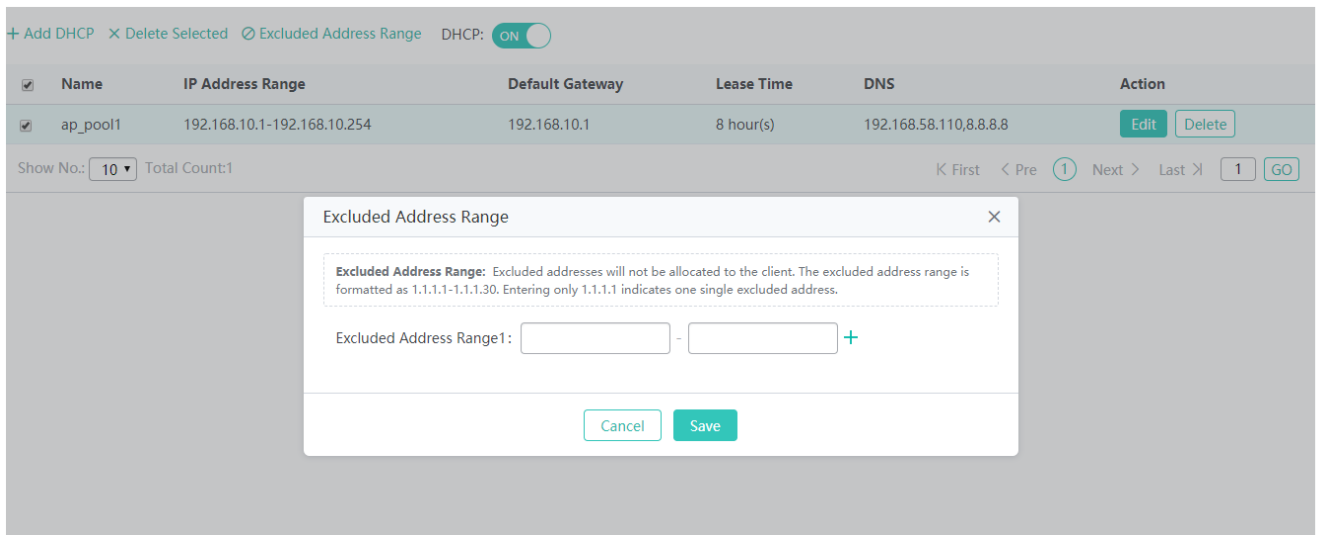


Click **Add DHCP**, set the configuration items in the dialog box displayed, and click **Save**. The newly added DHCP pool is displayed in the DHCP pool list after the **Save operation succeeded** message is displayed.

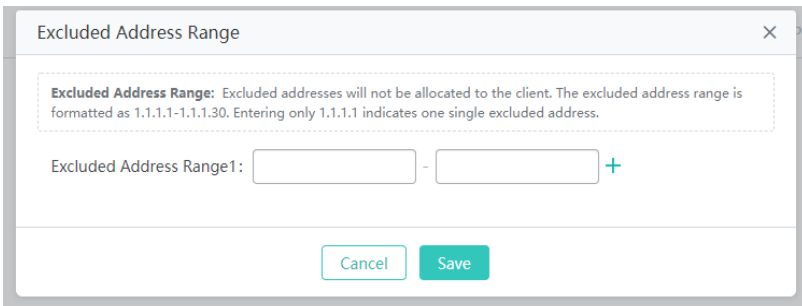
● **Deleting DHCPs in batches**



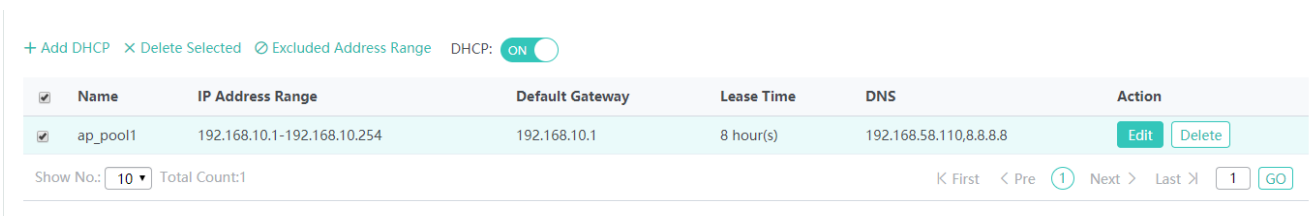
- 1) Select the DHCP pool from the list.
  - 2) Click **Delete Selected DHCP** and then click **OK** in the dialog box displayed to finish deleting.
- **Configuring excluded address range**




Click **Excluded Address Range**. A dialog box is displayed, as shown in the preceding figure. Set the configuration items in the displayed dialog box, and click **Save**. The newly configured address range is displayed in the DHCP pool list after the **Save operation succeeded** message is displayed.

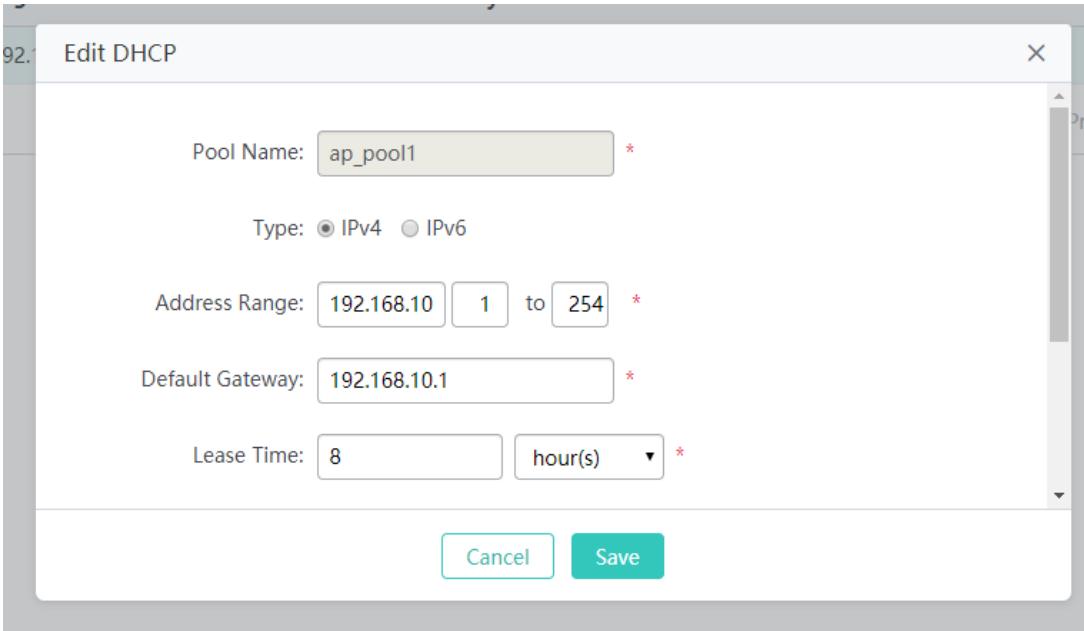


● DHCP service



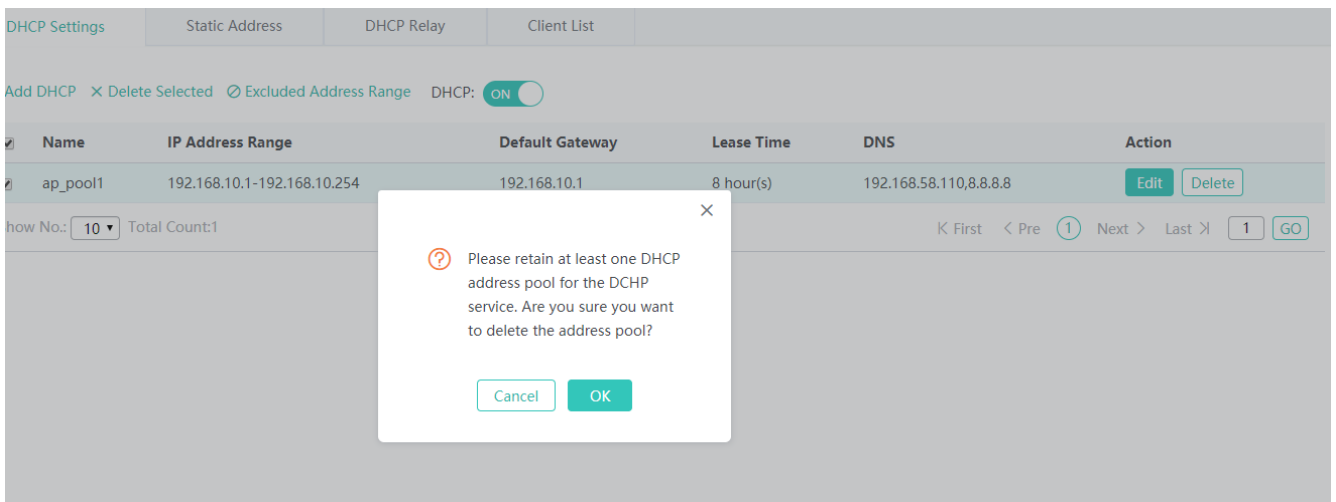
Click  to enable or disable the DHCP service.

● Editing a DHCP pool



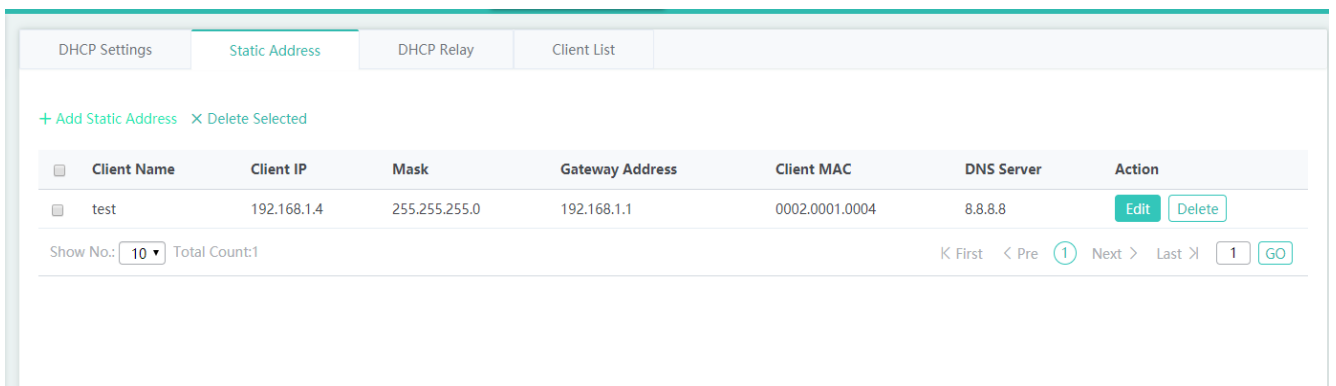
- 1) Click the **Edit** button for a DHCP pool in the list.
- 2) The configuration for the DHCP pool is displayed in the dialog box. Next, edit the configuration.
- 3) Click **Save**. The **Save operation succeeded** message is displayed.

- Deleting a DHCP pool



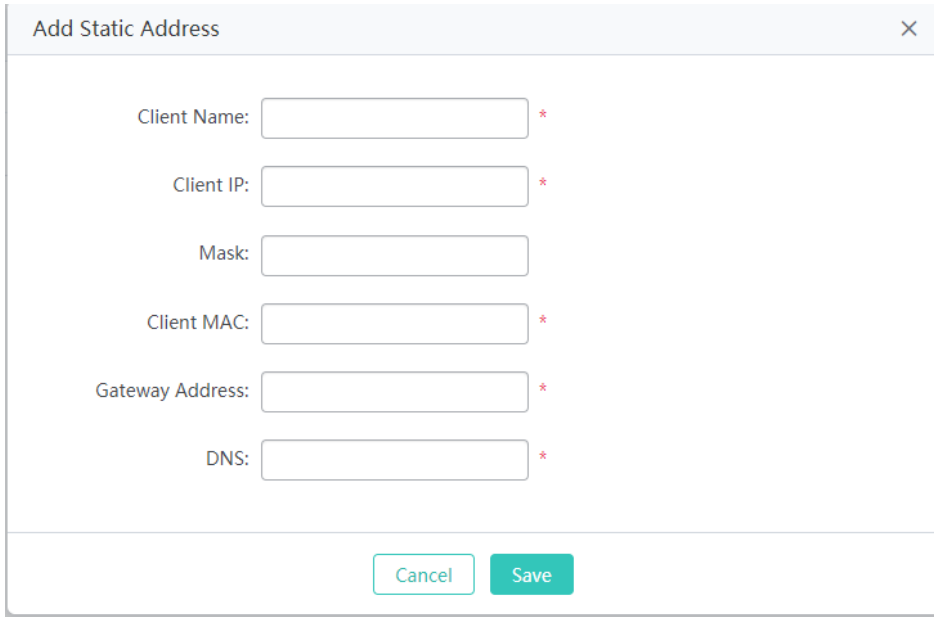
Click **Delete** to finish deleting.

➤ **Static Address**



- Adding a static address





The dialog box titled "Add Static Address" contains the following fields:

- Client Name:  \*
- Client IP:  \*
- Mask:
- Client MAC:  \*
- Gateway Address:  \*
- DNS:  \*

Buttons:

Click **Add Static Address**, set the configuration items in the displayed dialog box, and then click **Save**. The newly added static address is displayed in the list after the **Save operation succeeded** message is displayed.

- Deleting static addresses in batches

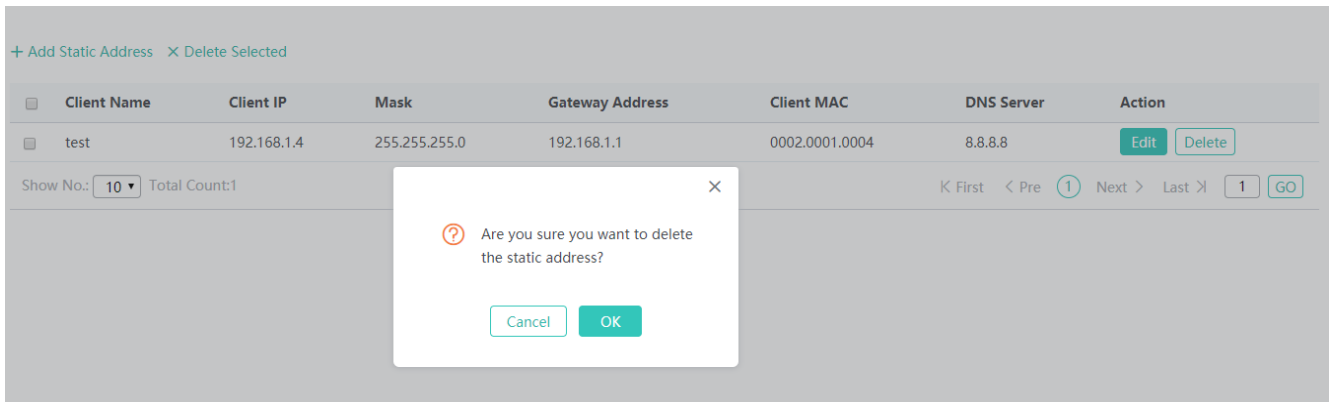


Table with columns: Client Name, Client IP, Mask, Gateway Address, Client MAC, DNS Server, Action.

<input type="checkbox"/>	Client Name	Client IP	Mask	Gateway Address	Client MAC	DNS Server	Action
<input type="checkbox"/>	test	192.168.1.4	255.255.255.0	192.168.1.1	0002.0001.0004	8.8.8.8	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Dialog box: Are you sure you want to delete the static address?

- 1) Select the static address from the list.
- 2) Click **Delete Selected Address** and then click **OK** in the dialog box displayed to finish deleting.

- Editing a static address

Edit Static Address
✕

Client Name:  \*

Client IP:  \*

Mask:

Client MAC:  \*

Gateway Address:  \*

DNS:  \*

- 1) Click the **Edit** button for a static address in the list. A dialog box is displayed.
- 2) The configuration for the static address is displayed in the dialog box. Next, edit the configuration.
- 3) Click **Save**. The **Save operation succeeded** message is displayed.

- **Deleting a static address**

+ Add Static Address
✕ Delete Selected

	Client Name	Client IP	Mask	Gateway Address	Client MAC	DNS Server	Action
<input type="checkbox"/>	test	192.168.1.4	255.255.255.0	192.168.1.1	0002.0001.0004	8.8.8.8	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:1

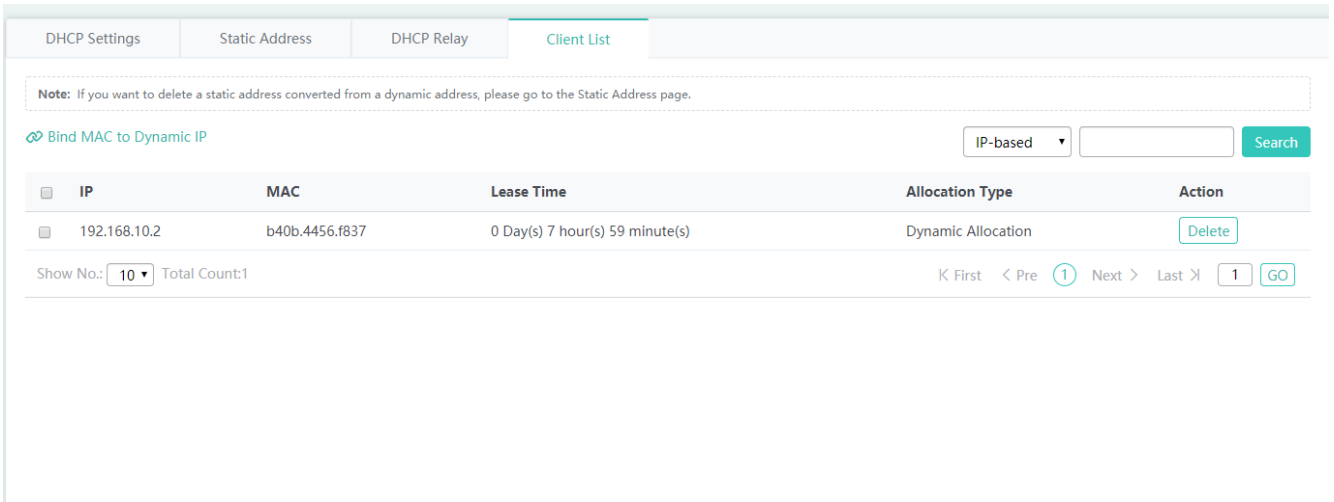
⏪ First
< Pre
1
Next >
Last ⏩
1

✕

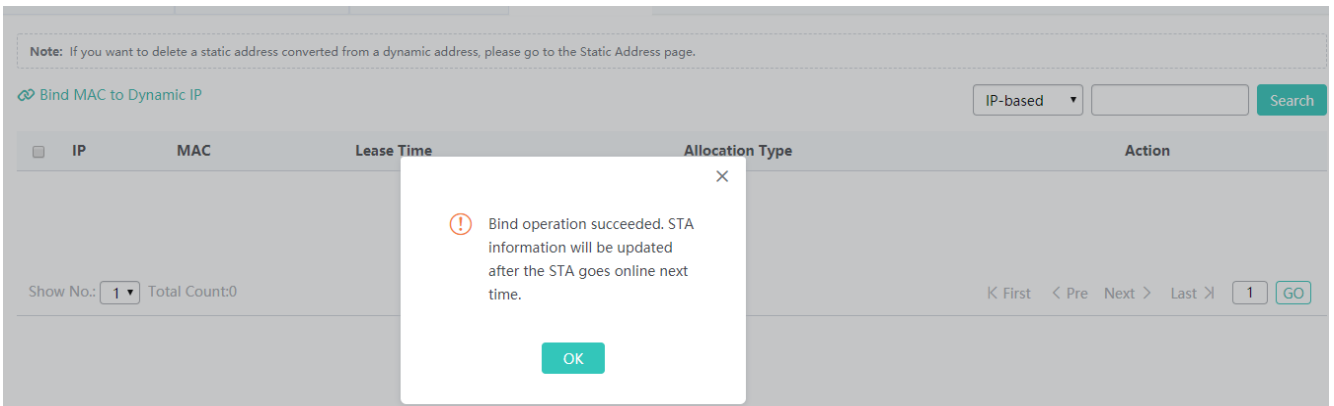
? Are you sure you want to delete the static address?

Click the **Delete** button for a static address in the list to finish deleting.

➤ **Client List**

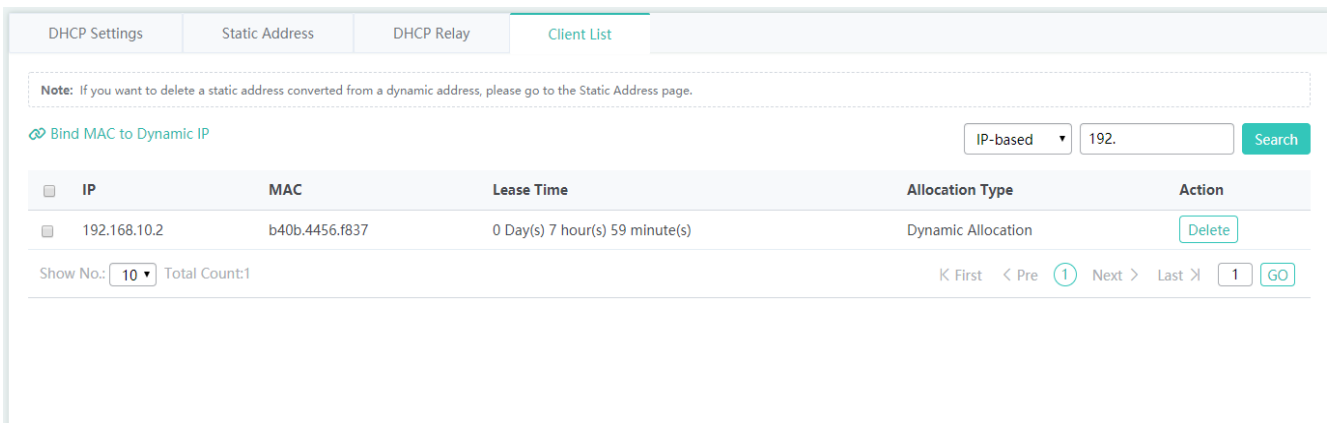


- Binding a MAC address to a dynamic IP address



- 1) Select the static address from the list.
- 2) Click **Bind MAC to Dynamic IP** and then click **OK** in the displayed dialog box to finish deleting.

- Querying clients based on IP address:



Input the IP address in the text box. Click **Search**. The search results meeting the criterion are displayed in the list.

### 1.3.3.3.6 Port Mapping

Generally, this function is used to map a specified port of a specified host in the internal network to a specified port of an external network address.

 This function may not be supported. The actual menu may vary with the device.

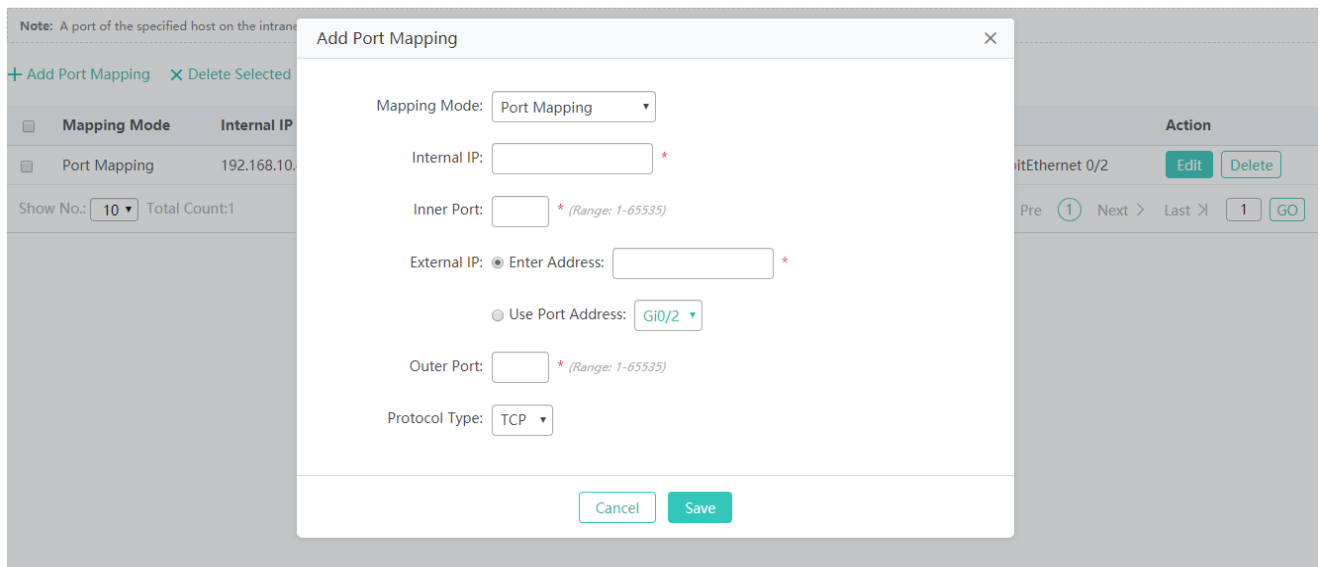
Note: A port of the specified host on the intranet is mapped to the specified port on the internet generally.

+ Add Port Mapping    X Delete Selected

<input type="checkbox"/>	Mapping Mode	Internal IP Address	Inner Port	External IP Address	Outer Port	Protocol Type	Port	Action
<input type="checkbox"/>	Port Mapping	192.168.10.4	8083	-	8083	TCP	GigabitEthernet 0/2	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:1 K First < Pre **1** Next > Last >

- Adding port mapping



Click **Add Port Mapping**, set the configuration items in the dialog box displayed, and then click **Save**. The newly added port mapping is displayed in the list after the **Save operation succeeded** message is displayed.

- Batch deleting port mapping entries

Note: A port of the specified host on the intranet is mapped to the specified port on the internet generally.

+ Add Port Mapping    X Delete Selected

<input type="checkbox"/>	Mapping Mode	Internal IP Address	Inner Port	External IP Address	Outer Port	Protocol Type	Port	Action
<input type="checkbox"/>	Port Mapping	192.168.10.4	8083	-	8083	TCP	GigabitEthernet 0/2	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:1

K First < Pre 1 Next > Last >

- 1) Select the port mapping from the list.
  - 2) Click **Delete Selected Port Mapping** and then click **OK** in the displayed dialog box to finish deleting.
- Editing port mapping

Edit Port Mapping X

Mapping Mode:

Internal IP:  \*

Inner Port:  \* (Range: 1-65535)

External IP:  Enter Address:  \*  
 Use Port Address:

Outer Port:  \* (Range: 1-65535)

Protocol Type:

- 1) Click the **Edit** button for a port mapping in the list.
  - 2) The configuration for port mapping is displayed in the dialog box. Next, edit the configuration.
  - 3) Click **Save**. The **Save operation succeeded** message is displayed.
- Deleting port mapping

Note: A port of the specified host on the intranet is mapped to the specified port on the internet generally.

+ Add Port Mapping X Delete Selected

<input type="checkbox"/>	Mapping Mode	Internal IP Address	Inner Port	External IP Address	Outer Port	Protocol Type	Port	Action
<input type="checkbox"/>	Port Mapping	192.168.10.4	8083	-	8083	TCP	GigabitEthernet 0/2	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.: 10 Total Count:1 K First < Pre 1 Next > Last X 1 GO

Click the **Delete** button for a port mapping entry in the list to finish deleting.

### 1.3.3.3.7 VPN

It is only allowed to configure VPN settings on a WAN port.

Note: IPSec settings only take effect on a layer-3 interface.

WAN Port:  (If you change the WAN port here, please also change the uplink port on the device.)

Local IP Address:  \*(Example: 192.168.0.0)

Local Submask:  \*

HQ IP Address:  \*(Example: 192.168.0.0)

HQ Submask:  \*

VPN Address:  \*

Shared Key:  \*

The **Advanced Settings** include some algorithm settings. It is recommended to use the default settings.

Advanced Settings

Encryption Algorithm:  DES  3DES  AES256  AES192  AES128

Auth Algorithm:  MD5  SHA

DH Group  5  2  1

ESP Encryption  esp-des

Algorithm:

ESP Auth Algorithm:  esp-md5-hmac

Keepalive Time(s):


### 1.3.3.4 Security

#### 1.3.3.4.1 Containment

Rogue APs may exist in a WLAN. Rogue APs may have security vulnerabilities and can be manipulated by attackers to seriously threaten and endanger network security. The containment function can be enabled on the AP to attack rogue devices and prevent other wireless STAs from being associated with rogue devices.

#### ↳ Containment Settings

Containment Settings	Trusted Device List	Keyword
<b>Note:</b> The function detects and contains unauthorized or malicious APs (such as rogue AP, unauthorized AP, attacker-controlled AP, illegal bridge and unauthorized ad-hoc device) to protect users. <b>Note:</b> If you want to view rogue APs, please click[ <a href="#">Rogue AP</a> ]		
Rogue AP Containment: <input checked="" type="checkbox"/> ON <a href="#">[Scan All Neighboring APs]</a>		
Working Mode: <input type="radio"/> Monitor <input type="radio"/> Hybrid <input checked="" type="radio"/> Normal <a href="#">?</a>		
Apply to: <input checked="" type="radio"/> AP <input type="radio"/> Radio <input type="radio"/> AI Radio <a href="#">?</a>		
Containment Mode: <input type="checkbox"/> SSID Mode: Contain APs emitting the same WiFi signal as the current AP [ <a href="#">Configure Phishing WiFi Keyword</a> ]		
<input type="checkbox"/> AdHoc Mode: Contain APs emitting signals simulated by non-APs (such as AdHoc)		
<input type="checkbox"/> Rogue Mode: Contain APs according to RSSI		
<input type="checkbox"/> CONFIG Mode: Contain APs by configuring the MAC address and the SSID blacklist manually [ <a href="#">+MAC Address</a> ] [ <a href="#">+SSID Blacklist</a> ]		
<input type="checkbox"/> Enable Fuzzy Containment <a href="#">?</a>		
Containment Range: <input checked="" type="radio"/> Scan/Contain APs in the same channel as the current AP		
<input type="radio"/> Scan/Contain APs in all channels (consuming more resources)		
<input type="button" value="Save"/>		

Click  to enable or disable rogue AP containment for the device.

- Adding a MAC address

You can add the MAC address to be contained here.

Add MAC Address(BSSID) to be Contained ✕

+ Add

---

**Current MAC:** 8005.8808.17e0 Cancel Save

- Adding an SSID blacklist

You can add the MAC address to be contained here.



### Add SSID Blacklist

#### Trusted AP

When the rogue AP containment function is enabled, the APs not authorized will be contained. However, some APs are trusted devices and special processing is required. You can configure the MAC addresses of trusted devices.

Containment Settings | **Trusted Device List** | Keyword

Note: The following MAC addresses correspond to trusted APs, which will not be contained.

**Trusted MAC(BSSID):**

Trusted Vendor List

**OUI:**

**SSID:**

Multi-to-Multi

### Phishing WiFi Keyword

If an SSID matches with the keyword fuzzily, the WiFi is a phishing WiFi.

#### 1.3.3.4.2 Blacklist & Whitelist

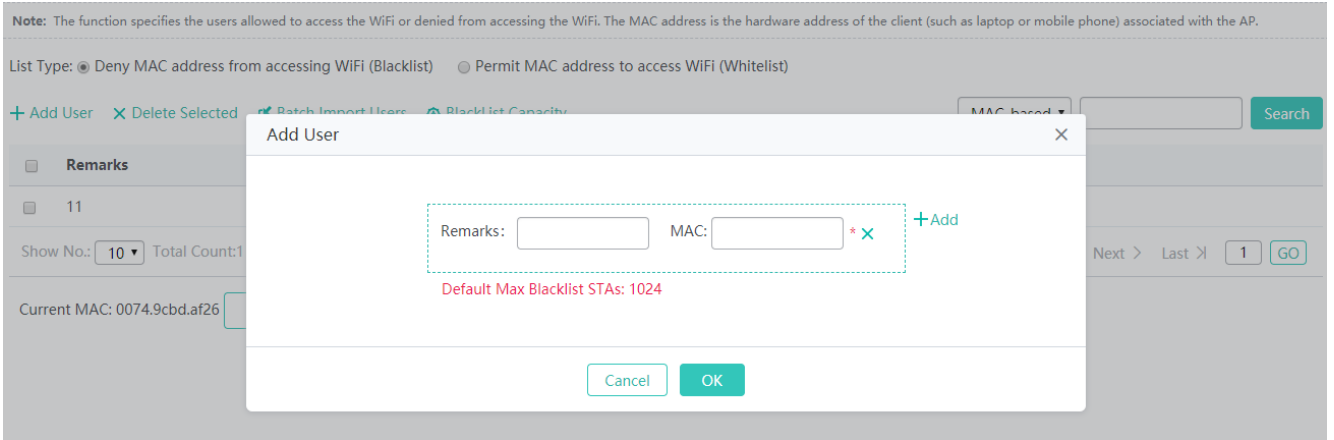
This function allows or blocks specified users from accessing the WiFi.

The whitelist/blacklist capacity is 1024 by default.

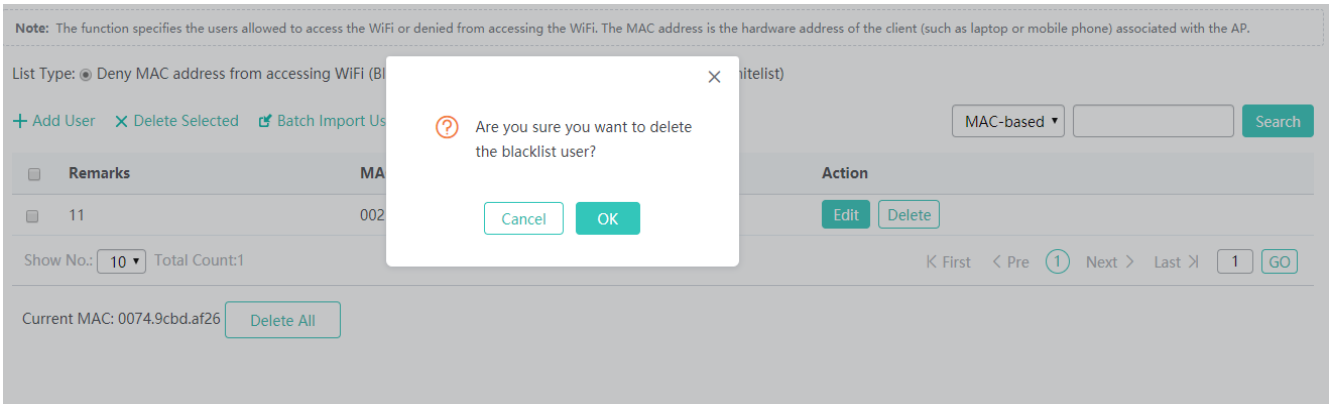
Add the blacklist or whitelist user by adding the MAC address.

Click [+ Add User](#) to add a MAC address for a user. You can add multiple MAC addresses.

Click the **SSID-based Access Control** link to configure the blacklist and whitelist for each WiFi.

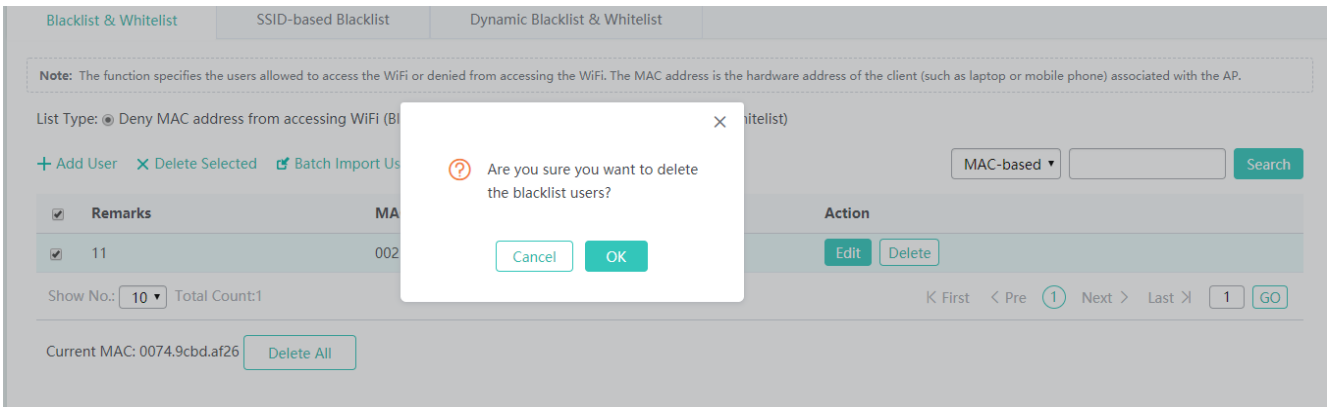


● Deleting a blacklist user



● Deleting blacklist users in batches

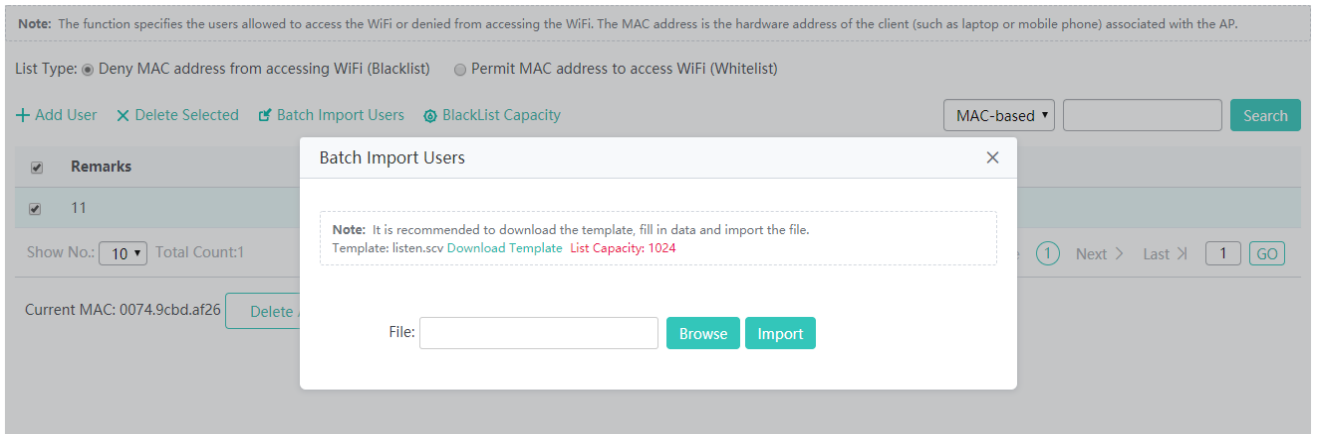
- 1. Select one or more records from the list.
- 2. Click **Delete Selected**.



● Importing blacklist users

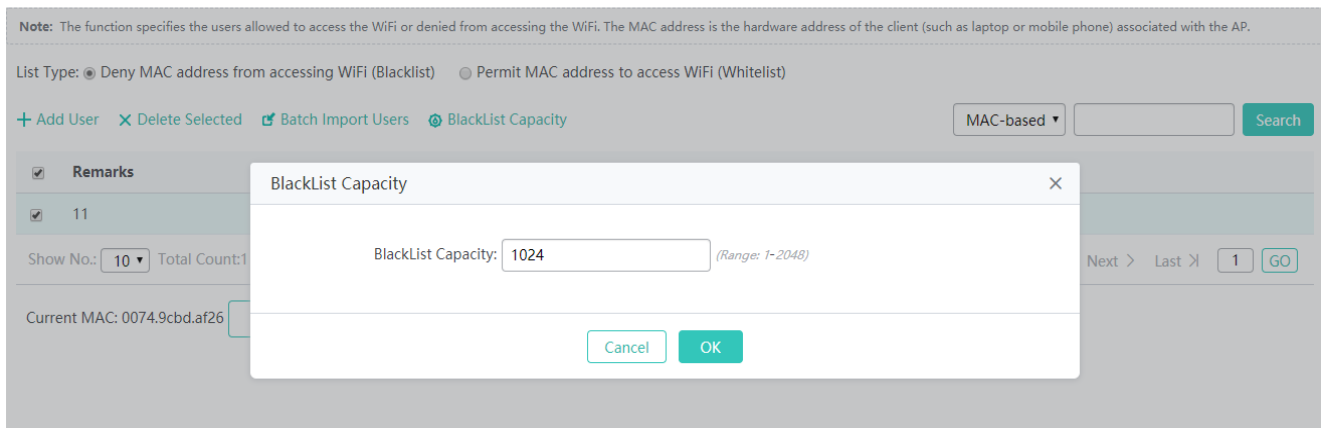
- 1. Click **Batch Import Users**.

- 2. Download the template file and enter the data.
- 3. Import the file.

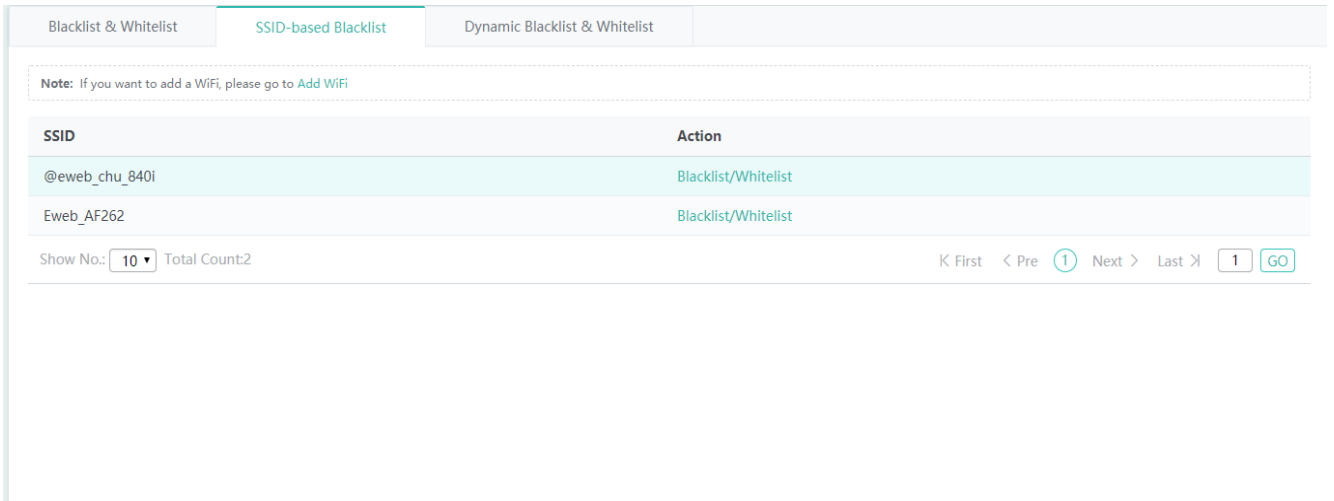


● Setting blacklist capacity

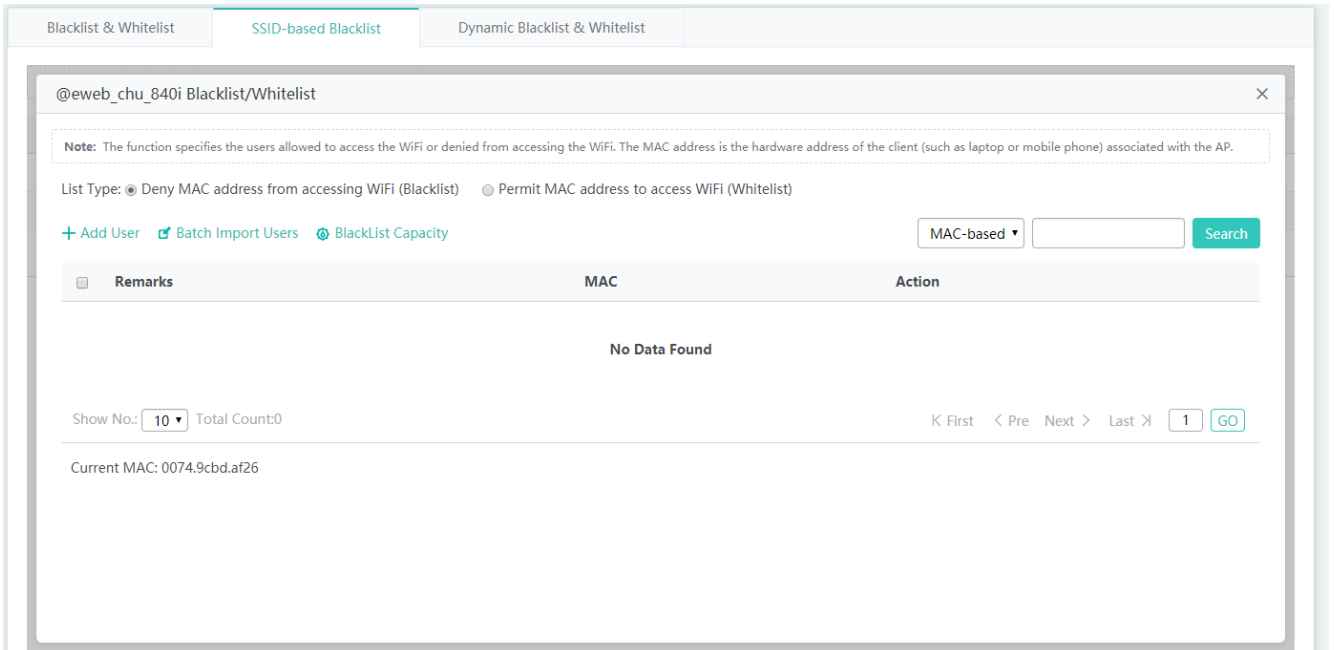
- 1. Click **BlackList Capacity**.
- 2. Enter a value.
- 3. Click **OK**. The message "Configuration succeeded." will be displayed.



➤ **SSID-based Blacklist**



Click **Blacklist/Whitelist** in the list and configure the whitelist/blacklist for the specified SSID.



You can select the blacklist/whitelist type, add blacklist/whitelist users, import blacklist/whitelist users and set blacklist/whitelist capacity.

### Dynamic Blacklist & Whitelist

Add malicious attack sources to the dynamic blacklist to prohibit access.

Blacklist & Whitelist    SSID-based Blacklist    **Dynamic Blacklist & Whitelist**

**Note:** With attack detection and dynamic blacklist function enabled, the AP adds the attack source to the dynamic blacklist automatically after identifying the attack. When the effective time runs out, the attack source is removed from the blacklist automatically.

Detection Mode:  Flood Attack Detection    Spoofing Attack Detection    Weak Initialization Vector Detection    DDoS attack

Dynamic Blacklist:  On

Effective Time:  \* (Range: 60-86400 seconds)

**Save**

[Refresh](#)   [Delete Selected](#)

<input type="checkbox"/>	Number	MAC	Effective Time	Action
No Data Found				

Show No.:  Total Count:0      < First   < Pre   Next >   Last >    **GO**

Blacklist & Whitelist    SSID-based Blacklist    **Dynamic Blacklist & Whitelist**

**Note:** With attack detection and dynamic blacklist function enabled, the AP adds the attack source to the dynamic blacklist automatically after identifying the attack. When the effective time runs out, the attack source is removed from the blacklist automatically.

Detection Mode:  Flood Attack Detection    Spoofing Attack Detection    Weak Initialization Vector Detection    DDoS attack

Dynamic Blacklist:  On

Effective Time:  \* (Range: 60-86400 seconds)

**Save**

[Refresh](#)   [Delete Selected](#)

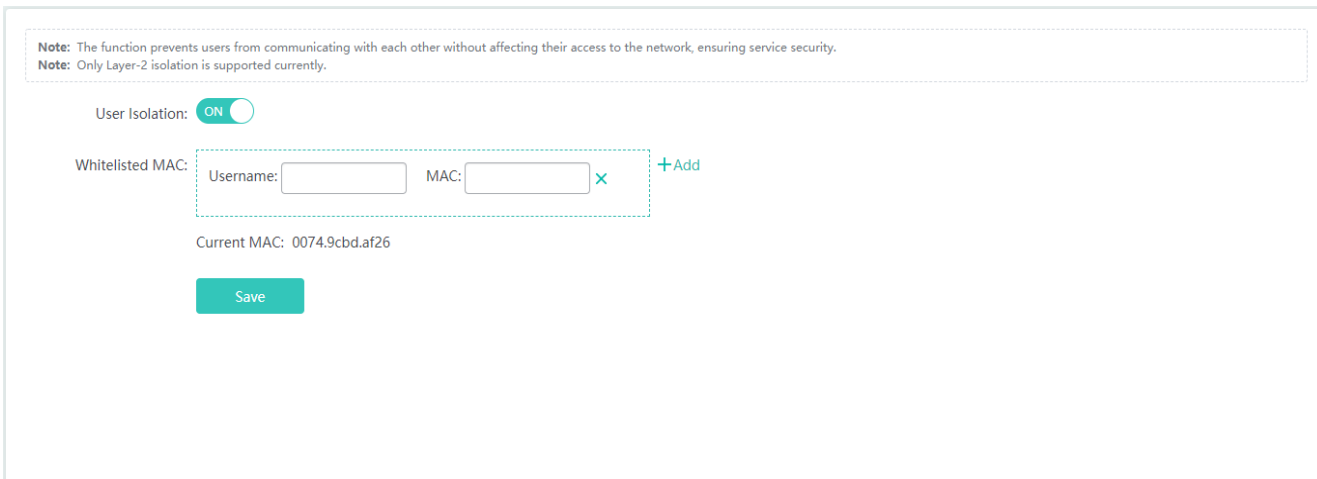
<input type="checkbox"/>	Number	MAC	Effective Time	Action
No Data Found				



Show No.:  Total Count:0      < First   < Pre   Next >   Last >    **GO**

- 1) Set the parameters and then save the configuration.
- 2) Select the blacklist from the list.
- 3) Click **Delete Selected** and then click **OK** in the displayed dialog box to finish deleting.

### 1.3.3.4.3 User Isolation

To ensure network security and prevent unwitting information transfer, you can prohibit communication between internal network users by means of configuration. Some special users (users who can access each other) can be identified based on the user name and MAC address.



- 1) Click **User Isolation:**  to enable or disable mutual access for internal network users.
- 2) Click  to delete the MAC address of the user.
- 3) Click the **Add** icon to add a MAC address for a mutual-access user. You can add multiple MAC addresses.
- 4) Click **Save** to finish the configuration.

#### 1.3.3.4.4 Anti-attack

Some malicious attacks are always found in the network environment. These attacks may bring about an extremely heavy burden for the switch, resulting in the switch using an excessive amount of CPU power and giving rise to a potential operational failure.

#### ↘ NFPP

ARP-guard:  Enable ARP-guard, so as to prevent a large number of invalid ARP packets from attacking the device.

[\[ARP-guard List\]](#)

IP-guard:  Enable IP-guard, so as to prevent hackers from scanning the entire network and consuming bandwidth.

[\[IP-guard List\]](#)

ICMP-guard:  Enable ICMP-guard, so as to prevent a large number of invalid ICMP packets from consuming bandwidth and CPU resources.

[\[ICMP-guard List\]](#)

DHCP-guard:  Enable DHCP-guard, so as to prevent malicious requests from exhausting DHCP pools and leaving legitimate users unable to access the Internet.

[\[DHCP-guard List\]](#)

DHCPv6-guard:  Enable DHCPv6-guard, so as to prevent malicious requests from exhausting DHCPv6 pools and leaving legitimate users unable to access the Internet.

[\[DHCPv6-guard List\]](#)

ND-guard:  Enable ND-guard, so as to prevent Neighbor Discovery packets from consuming bandwidth.

Display NFPP Log: [\[Display NFPP Log\]](#)

Save

Restore Default Settings

- 1) **ARP-guard:** Enables ARP-guard configuration. Click the **ARP-guard List** link to view the host where ARP attack is detected.
- 2) **IP-guard:** Enables IP-guard configuration. Click the **IP-guard List** link to view the host where IP scanning is detected.
- 3) **ICMP-guard:** Enables ICMP-guard configuration. Click the **ICMP-guard List** link to view the host where an ICMP attack is detected.
- 4) **DHCP-guard:** Enables DHCP-guard configuration. Click the **DHCP-guard List** link to view the host where a DHCPv4 attack is detected.
- 5) **DHCPv6-guard:** Enables DHCPv6-guard configuration. Click the **DHCPv6-guard List** link to view the host where a DHCPv6 attack is detected.
- 6) **ND-guard:** Enables ND-guard configuration.



1.3.3.4.5 ARP

Dynamic Binding>>Static Binding Delete Selected Manual Binding IP-based:  Search

IP	MAC	Type	Action
192.168.1.1	00d0.f822.3574	Dynamic Binding	Dynamic Binding>>Static Binding
192.168.1.3	0074.9cbd.af27	Local ARP Entry	Dynamic Binding>>Static Binding
192.168.10.1	0074.9cbd.af27	Local ARP Entry	Dynamic Binding>>Static Binding
192.168.10.2	b40b.4456.f837	Dynamic Binding	Dynamic Binding>>Static Binding

Show No.: 10 Total Count: 4 K First < Pre 1 Next > Last > 1 GO

● Dynamic Binding>>Static Binding

Dynamic Binding>>Static Binding Delete Selected Manual Binding IP-based:  Search

IP	MAC	Type	Action
192.168.1.1	00d0.f822.3574	Dynamic Binding	Dynamic Binding>>Static Binding
192.168.1.3	0074.9cbd.af27	Local ARP Entry	Dynamic Binding>>Static Binding
192.168.10.1	0074.9cbd.af27	Local ARP Entry	Dynamic Binding>>Static Binding
192.168.10.2	b40b.4456.f837	Dynamic Binding	Dynamic Binding>>Static Binding

Show No.: 10 Total Count: 4 K First < Pre 1 Next > Last > 1 GO

- 1) Select one or multiple records from the ARP list.
- 2) Click the **Dynamic Binding>>Static Binding** icon to switch from dynamic binding to static binding in batches.

● Remove static Binding

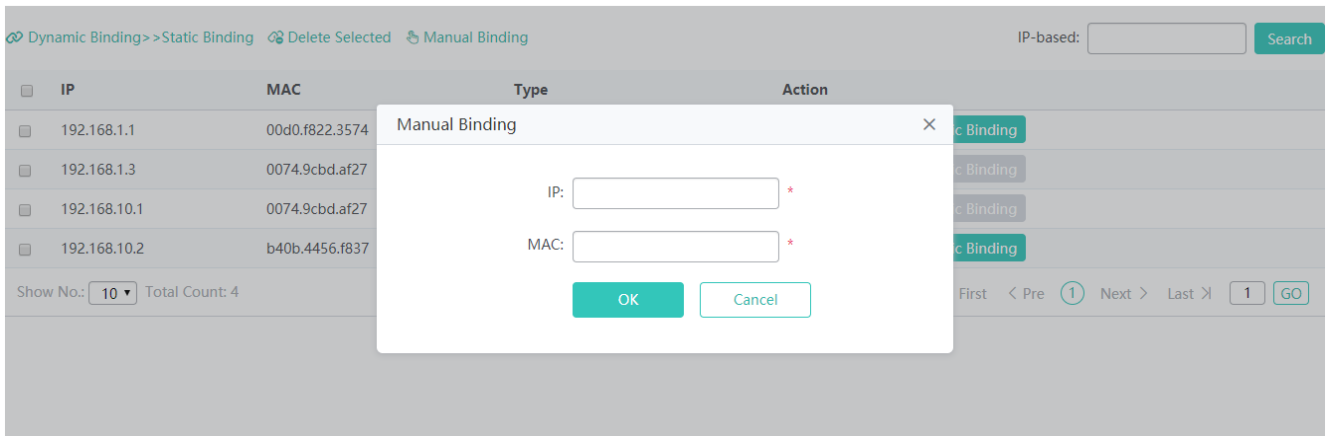
Dynamic Binding>>Static Binding Delete Selected Manual Binding IP-based:  Search

IP	MAC	Type	Action
192.168.1.1	00d0.f822.3574	Dynamic Binding	Dynamic Binding>>Static Binding
192.168.1.3	0074.9cbd.af27	Local ARP Entry	Dynamic Binding>>Static Binding
192.168.10.1	0074.9cbd.af27	Local ARP Entry	Dynamic Binding>>Static Binding
192.168.10.2	b40b.4456.f837	Dynamic Binding	Dynamic Binding>>Static Binding

Show No.: 10 Total Count: 4 K First < Pre 1 Next > Last > 1 GO

- 1) Select one or multiple records from the ARP list.
- 2) Click the **Remove Static Binding** icon to remove static binding in batches.

- Manual Binding



- 1) Click the **Manual Binding** icon.
- 2) Set the IP address and MAC address.

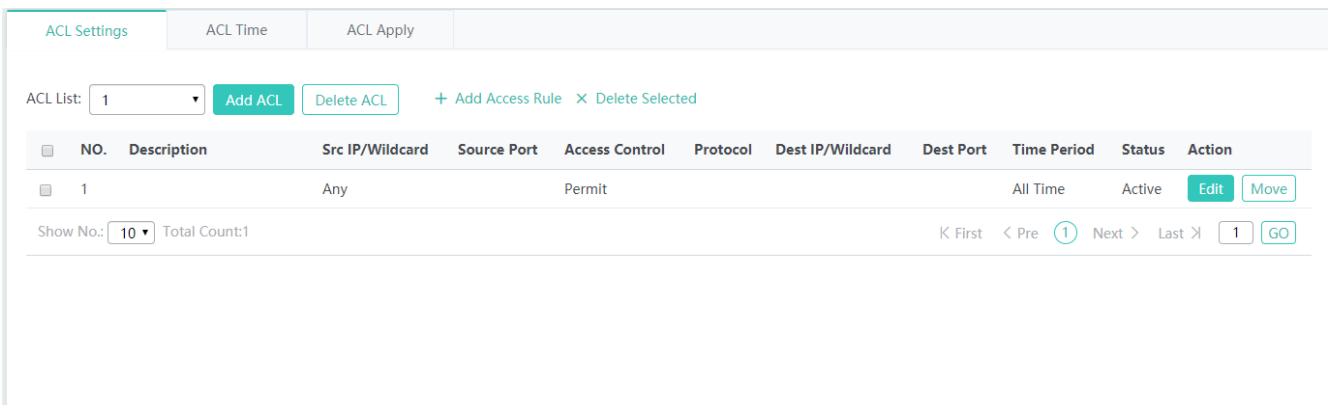
Click **OK**. The newlybound ARP is displayed in the ARP list after the **Save operation succeeded** message is displayed.

### 1.3.3.4.6 ACL

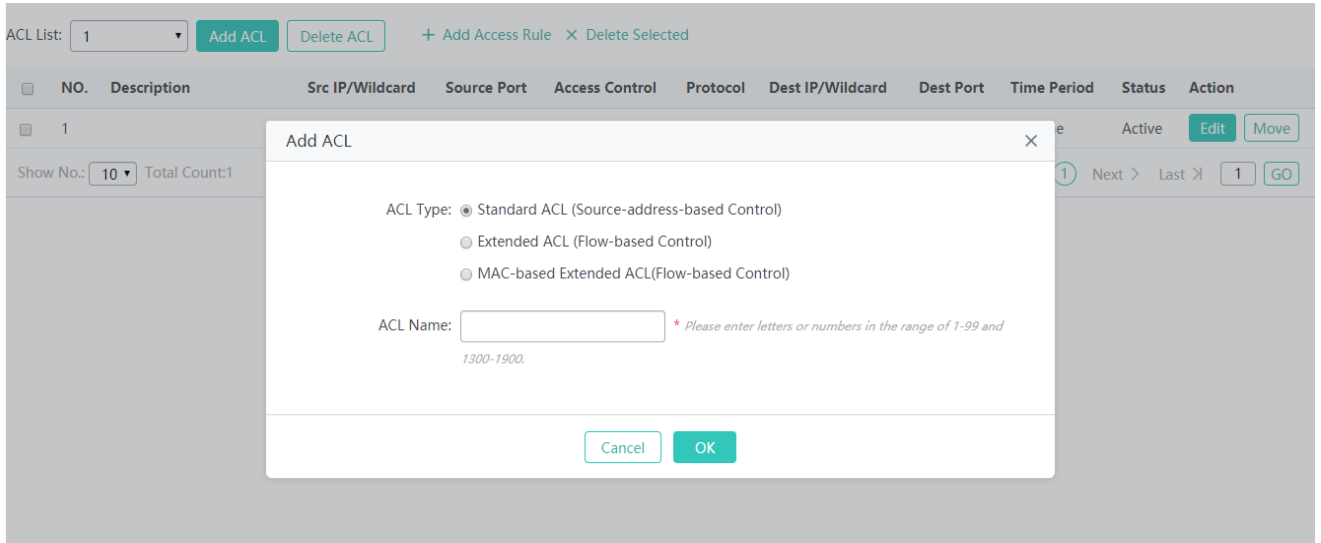
When receiving a packet on a port, the input ACL checks whether the packet matches the ACE entry for this port. When the device intends to output a packet through a port, the output ACL checks whether the packet matches the ACE entry for this port.

When there are different filtration rules, multiple rules may be applied simultaneously and only several of them can be applied. If a packet matches an ACE entry, this packet is processed (permitted or denied) according to the action policy defined by this ACE.

#### ACL Settings

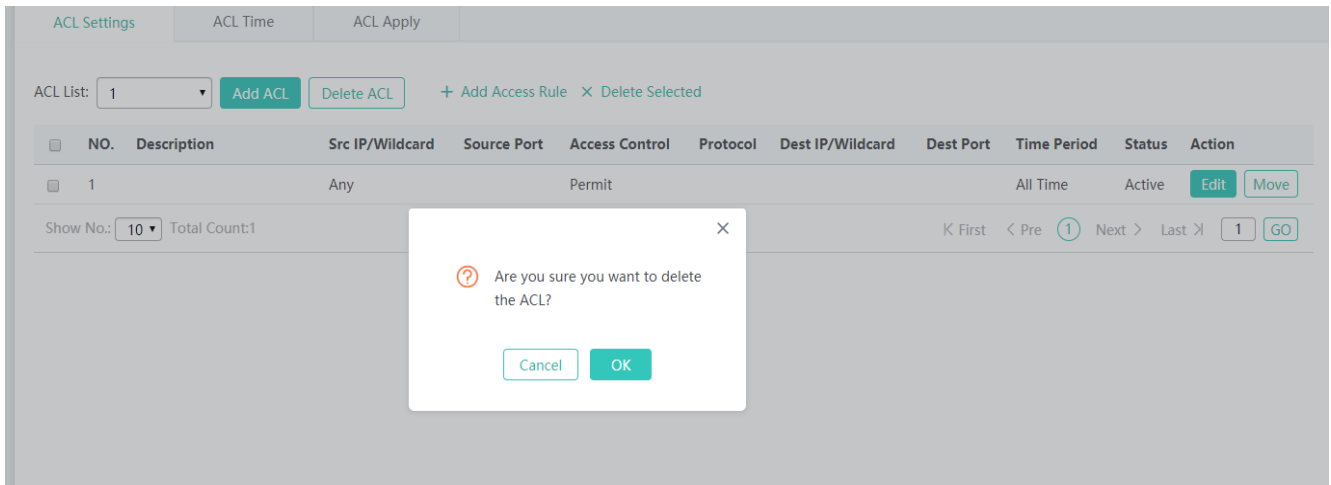


- Adding an ACL



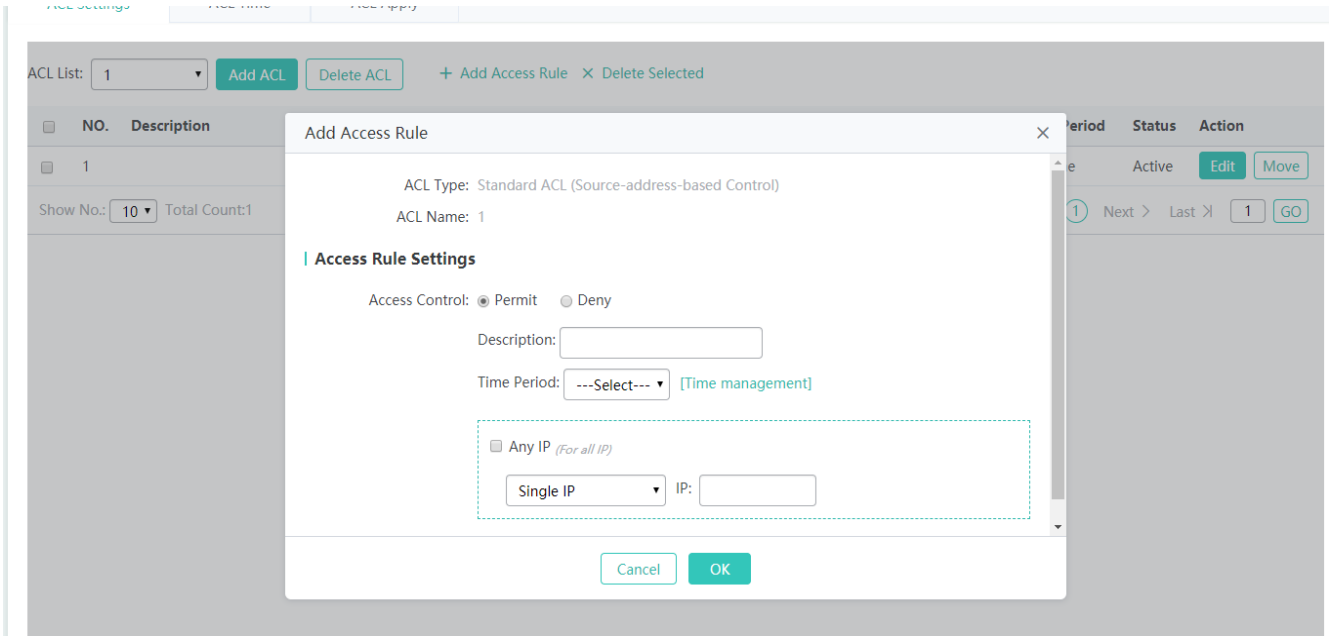
Click **Add ACL** and set the configuration items in the dialog box displayed. Click **OK**. The newly added ACL is displayed in the **ACL List** drop-down list on the left after the **Save operation succeeded** message is displayed.

- **Deleting an ACL**

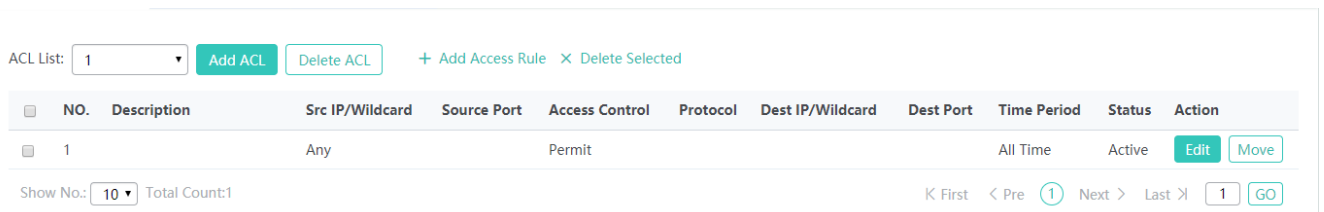


- 1) Select the ACL from the **ACL List** drop-down list.
- 2) Click **Delete ACL** to finish deleting.

- **Adding an access rule**



- 1) Click **Add Access Rule**.
  - 2) Set the configuration items in the dialog box displayed.
  - 3) Click **OK**. The newly added access rule is displayed in the access rule list after the **Save operation succeeded** message is displayed.
- **Editing an access rule**
    - 1) Click the **Edit** button for an access rule in the access rule list.
    - 2) The configuration for the access rule is displayed in the dialog box and the configuration can be edited.
    - 3) Click **OK**. The **Save operation succeeded** message is displayed.
  - **Deleting an access rule**

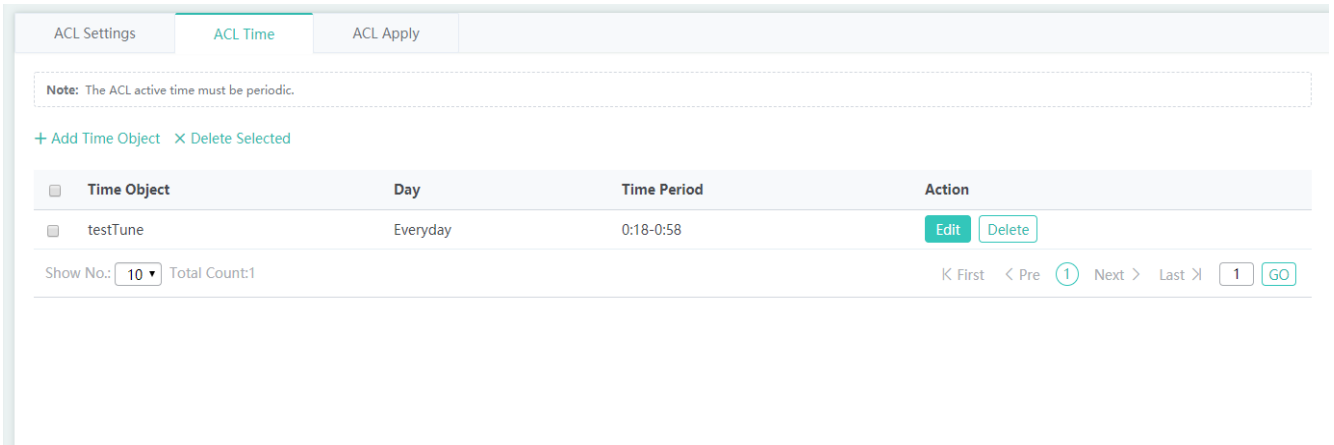


- 1) Select one or multiple records from the access rule list.

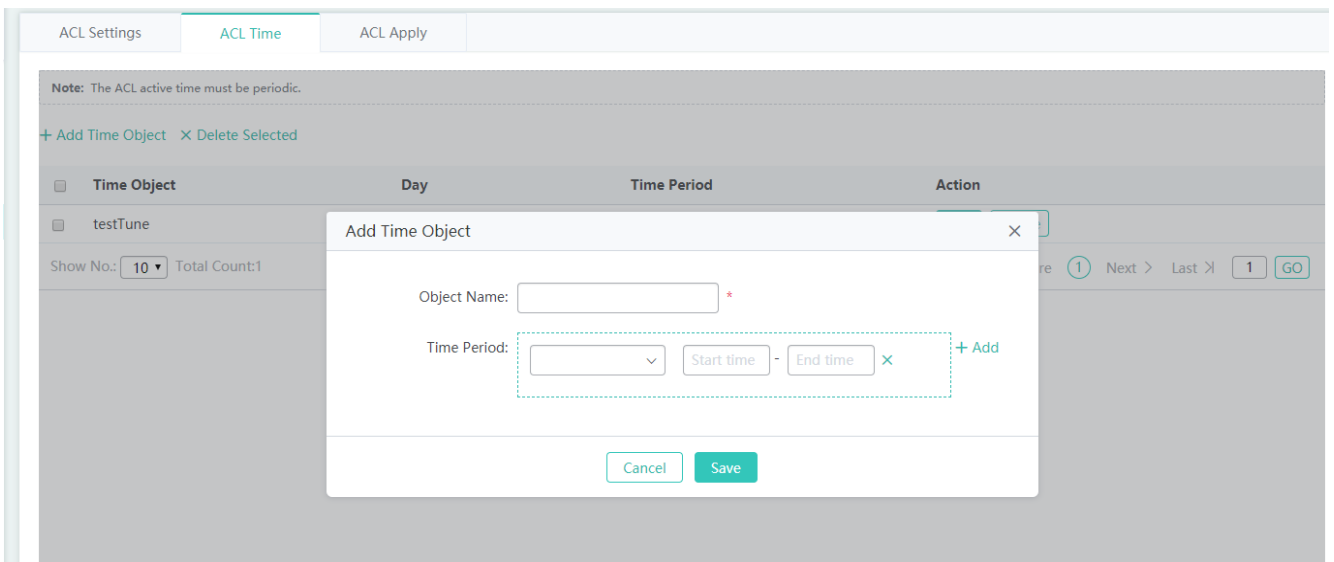
Click **Delete Selected** and then click **OK** in the displayed dialog box to finish deleting ACL Time

ACLs based on time can be enabled. For example, you can set ACLs to take effect in different time segments for a week, but first a time object must be configured.

ACL Time



- Adding a time object



Click **Add Time Object**, then set the configuration items in the dialog box displayed, and click **Save**. The newly added time object is displayed in the time object list after the **Save operation succeeded** message is displayed.

- Deleting time objects in batches

Note: The ACL active time must be periodic.

+ Add Time Object X Delete Selected

Time Object	Day	Time Period	Action
<input type="checkbox"/> test2	Tuesday	16:00-21:58	<input type="button" value="Edit"/> <input type="button" value="Delete"/>
<input type="checkbox"/> testTune	Everyday	0:18-0:58	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:2 K First < Pre ① Next > Last X 1 GO

- 1) Select one or multiple records from the time object list.
  - 2) Click **Delete Selected** and then click **OK** in the dialog box displayed to finish deleting.
- Editing a time object

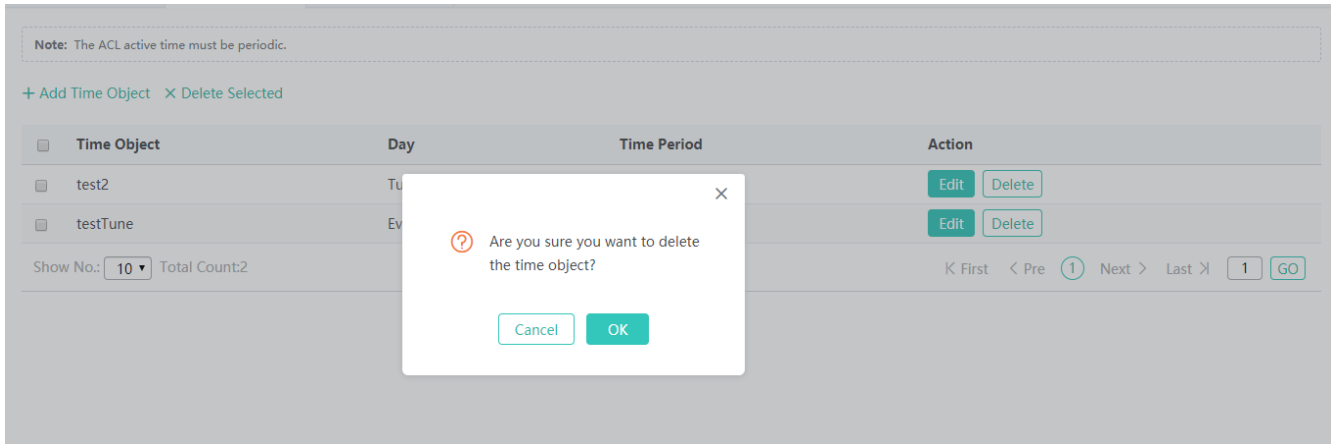
✕

### Edit Time Period

Object Name:  \*

Time Period: 
  -  ✕
 + Add

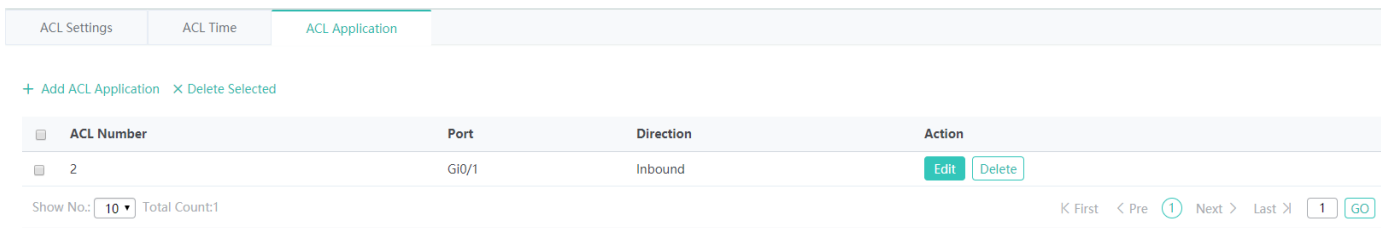
- 1) Click the **Edit** button for a time object in the list.
  - 2) The configuration about the time object is displayed in the dialog box. Then edit the configuration.
  - 3) Click **Save**. The **Save operation succeeded** message is displayed.
- Deleting a time object



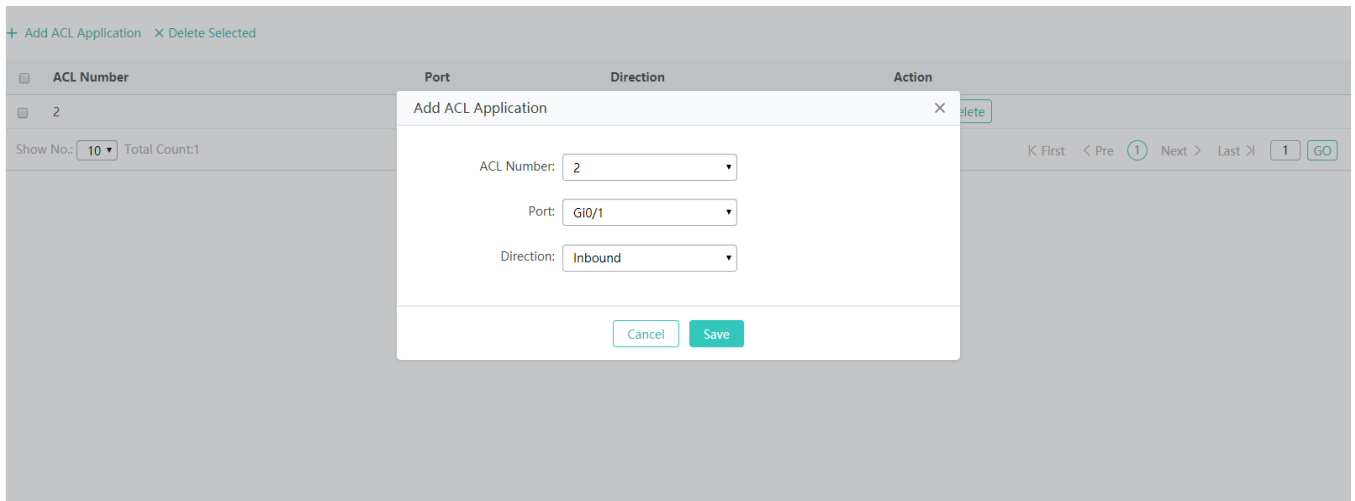
Click the **Delete** button for a time object in the list.

### ACL Application

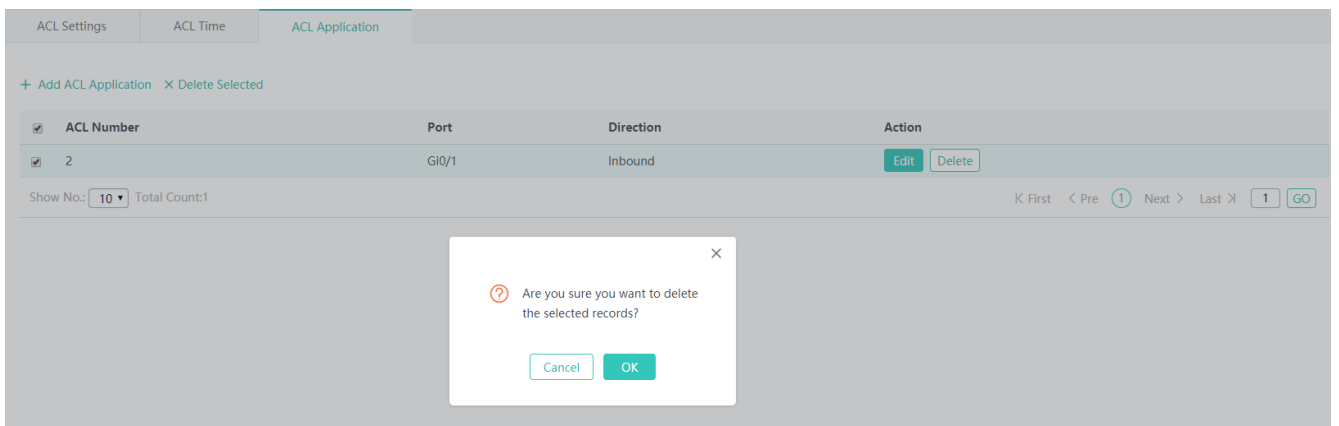
Apply an ACL to a port or a WiFi to limit user access.



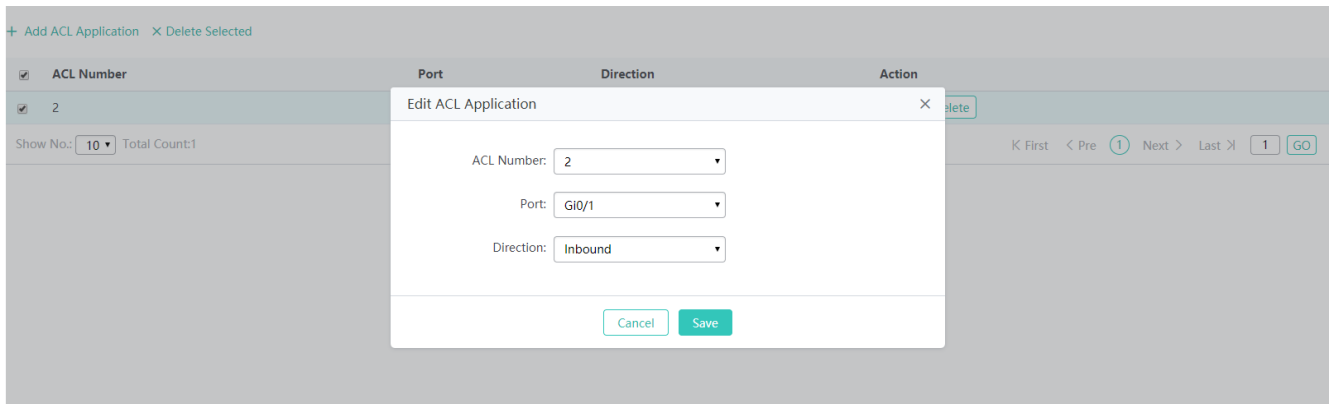
- Adding an ACL application
1. Click **+ Add ACL Application** .
  2. Select ACL number, port and direction in the popup window.
  3. Click **Save**. After the message "Configuration succeeded." is displayed, the ACL will appear in the list.



- Deleting selected ACL applications



- Editing an ACL application





### 1.3.3.5 Authentication

#### 1.3.3.5.1 Web Authentication

Web authentication allows you to control user access to the Internet. The users can perform authentication on the browser without installing any application, which is easy and convenient. Web authentication can be classified into iPortal authentication and ePortal authentication based on the server location.

##### ↳ ePortal Authentication

Unauthenticated users will be redirected to the specified website for authentication. If the Portal is not built into the AC, please select ePortal authentication.

##### ↳ iPortal Authentication

Unauthenticated users will be redirected to the specified website for authentication. If the Portal is built into the AC, please select iPortal authentication.

ePortal Authentication | **iPortal Authentication**

Download Template: [Default](#)

Authentication Package:  Default Package  Custom Package

Authentication Mode:  [Radius Server] [SNMP Server]

iPortal Server Port:  (Range: 1025-65535, Default: 8081)

AD Push Mode:

SSID:

» Advanced Settings

### 1.3.3.5.2 WeChat Authentication

WeChat Auth is an authentication solution that relieves users from the need of entering usernames and passwords. Besides, it provides an AD space on WeChat for WiFi service providers.

The following two authentication modes are available: WiFi Auth 3.x and WiFi+SMS Auth. (The default is the WeChat template)

**Note:** WeChat Auth is an authentication solution that relieves users from the need of entering usernames and passwords. Besides, it provides an AD space on WeChat for WiFi service providers. The following two Auth modes are available: WiFi Auth 3.x and WiFi+SMS Auth. (The default Auth template is WeChat template)

Auth Server IP:  \*

Auth Server Key:  \*

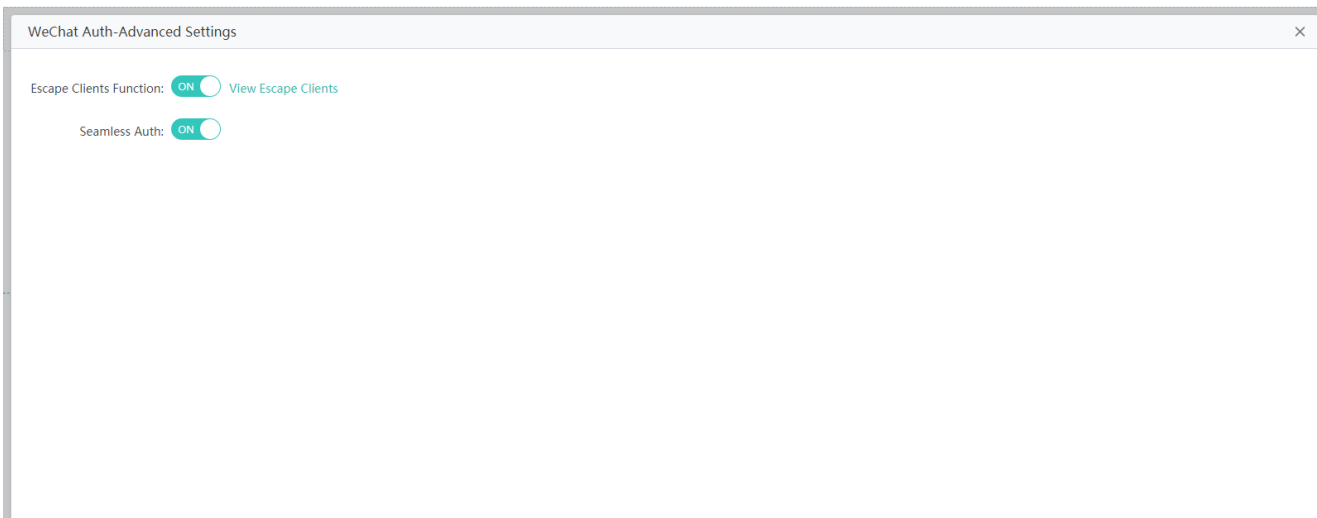
NAS IP:  \*

Target WiFi:  [WiFi/WLAN Settings]

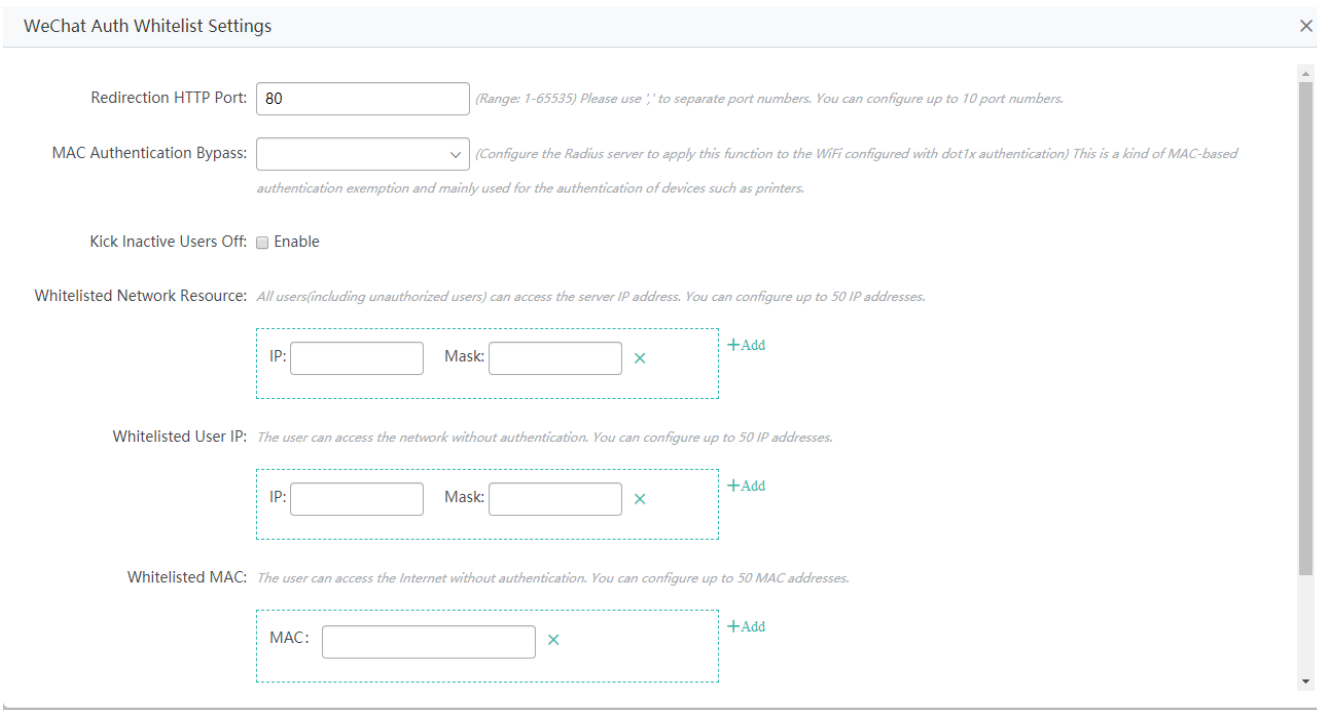
DNS:  \*

» Advanced Settings

Choose **Advanced Settings > Parameter Settings > Advanced.**



Choose **Advanced Settings > Parameter Settings > Whitelist Settings.**



### 1.3.3.5.3 WiFiDog Authentication

WiFiDog Authentication enables new users to be redirected to the authentication page.

**Note:** WiFiDog authentication enables new users to be redirected to the authentication page

Portal Server IP:  \* [More](#)

Redirection URL:  \*

NAS IP:  \*

Gateway ID:

Redirection Mode:

SSID:  [WiFi/WLAN Settings]

---

[Advanced Settings](#)

Parameter Settings: [\[Advanced Settings\]](#)

### Advanced Settings

Advanced Settings provide some optional features applicable to both Web authentication V1 and Web authentication V2.

Advanced Settings ✕

Redirection HTTP Port:  (Range: 1-65535) Please use ',' to separate port numbers. You can configure up to 10 port numbers.

MAC Authentication Bypass:  (Configure the Radius server to apply this function to the WiFi configured with dot1x authentication) This is a kind of MAC-based authentication exemption and mainly used for the authentication of devices such as printers.

Kick Inactive Users Off:  Enable

Whitelisted Network Resource: All users(including unauthorized users) can access the server IP address.Up to 50 records can be configured on Web. You can configure more records using CLI commands.

IP:  Mask:   [+Add](#)

Whitelisted User IP: The user can access the network without authentication. Up to 50 records can be configured on Web. You can configure more records using CLI commands.

IP:  Mask:   [+Add](#)

Whitelisted MAC: The user can access the Internet without authentication. Up to 50 records can be configured on Web. You can configure more records using CLI commands.

MAC:   [+Add](#)

Whitelisted URL:  Enable

### 1.3.3.6 Optimization

#### 1.3.3.6.1 RF Navigation

This function is used to optimize RF performance by configuring the navigation mode and navigation type.

**AP Settings**

RF Navigation:

Navigation Mode:  Auto  Fixed  
Auto mode can help adjust STAs to different bands based on RF load automatically.

Navigation Type:  11axonly  11ac\_11ax

---

**Overall Growth**

RF navigation is not enabled yet.

**STA Summary**

RF navigation is not configured yet.

#### Navigation Mode

There are two navigation modes: Auto Mode and Fixed Mode. The Auto Mode adjusts STAs to different bands based on RF load automatically. The Fixed Mode navigates high-STAs to a fixed band and will not change due to differences in the RF environment.

#### Navigation Type

You can enable 11ax only or enable 11ac and 11ax both.

### 1.3.3.7 Advanced

#### 1.3.3.7.1 Unicast/Multicast

Unicast refers to a one-to-one transmission from one point in the network to another point; that is, one sender and one receiver, each identified by a network address.

Multicast is group communication where information is addressed to a group of destination computers simultaneously. Multicast can be one-to-many or many-to-many distribution. Multicast should not be confused with physical layer point-to-multipoint communication.

**Simple Multicast:** It is used to broadcast learning in classroom situations. PCs for students and teachers are in the same broadcast domain. Multicast packets are sent in the broadcast domain without the need to cross over different devices and segments.

**Standard Multicast:** It is applied in school-wide broadcast in colleges that have their own multicast video servers.

Communication Mode:  Broadcast  Multicast  Unicast

Dynamic Aging Time(s):  Range: 1-65535, Default: 260. 65535 indicates no aging.

Ignore Query Timer:  Enable

Query Interval(s):  Range: 1-18000

Response Time(s):  Range: 1-25

Proxy Server:  IP:

VLAN-based Multicast:  All

Vid=1  Vid=2

Multicast-to-Unicast Conversion:  OFF

Set parameters as required, and then click **Save**.

### 1.3.3.7.2 Antenna

The antenna is divided into internal and external, and can generate directional or omnidirectional radiation patterns. Whether antenna type switchover and orientation switchover are supported depends on the radio capacity, which is displayed on the page.

**Note:** The antenna is divided into internal and external, and can generate directional or omnidirectional radiation patterns. A directional antenna is an antenna which radiates or receives greater power in specific directions allowing increased performance and reduced interference from unwanted sources. [Click to view diagram.](#)

Radio:

Antenna Type:  Internal  External This radio does not support switching the type.

Orientation:  Omni-directional  Directional This radio does not support switching the orientation.

## 1.3.4 Diagnosis

### 1.3.4.1 Network Diagnosis

#### 1.3.4.1.1 Network Diagnosis

##### ↳ Connectivity Test

When the network malfunctions, you can test the network connectivity to facilitate troubleshooting.

Connectivity Test | Ping | Tracert

- ✓ Port Status
- ✓ AC-AP Connection Status
- ✓ Internet Connection Status

Test Again

**Port Status**

The system detects whether an interface of the AC is in the up state.

**AC-AP Connection Status**

The system detects whether an AP is online on the AC.

**Internet Connection Status**

The system detects whether the AC is reachable to an external network by pinging 114.114.114.114, or pinging 8.8.8.8 if the AC is deployed abroad.

↘ **Ping**

Connectivity Test | Ping | Tracert

Ping Type: Not via Management Port ▾

Dest IP/Domain Name:  \*

Timeout Interval(s):  Range: 1-10

Repeat Times:  Range: 1-100

Packet Size(Bytes):  Range: 36-18024

Fragment:  Enable

Test

**Ping Type**

Sets the out-of-band channel. It is supported only on MGMT-supported devices. When a MGMT interface is configured as a source interface, **Ping Type** must be set to **via Management Port**, or otherwise, set to **Not via Management Port**.

**Dest IP/Domain Name**

Indicates the address or domain name to be pinged.

**Timeout Interval(s)**

Indicates the timeout interval.

**Repeat Times**

Indicates the number of data packets to be transmitted.

**Packet Size (Bytes)**

Indicates the length of the data padding section in a data packet to be transmitted.

**Fragment**

Indicates the DF flag bit of an IP address. When the DF flag bit is set to **1**, data packets are not fragmented. The DF flag bit is **0** by default.

↘ **Tracert**

Connectivity Test	Ping	Tracert
-------------------	------	---------

Tracert Type:

Dest IP/Domain Name:  \*

Timeout Interval(s):

**Tracert Type**

Sets the out-of-band channel. It is supported only on MGMT-supported devices. When a MGMT interface is configured as a source interface, **Tracert Type** must be set to **via Management Port**, or otherwise, set to **Not via Management Port**.

**Dest IP/Domain Name**

Indicates the Tracert destination address or domain name address.

**Timeout Interval(s)**

Indicates the timeout interval.



### 1.3.4.2 One-Click Collection

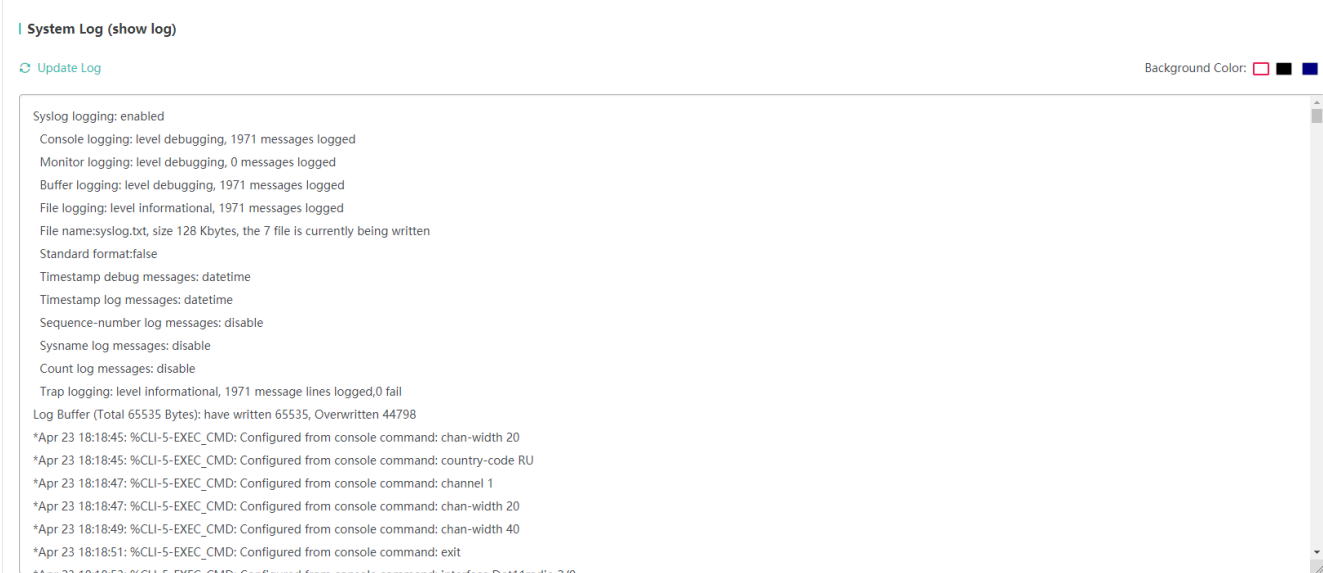
**Note:** One-Click Collection is used to collect fault information for troubleshooting.



### 1.3.4.3 Syslog

#### 1.3.4.3.1 Syslog

Syslog helps technical support to locate problems.



### 1.3.4.4 WIDS

#### 1.3.4.4.1 Rogue AP

Rogue APs pose threat to the network security.

The following containment modes are available.

SSID mode: Contain APs emitting the same WiFi signals as the local AP.

Containment Mode:  Refresh Every One Minute  SSID-based:

SSID	MAC	Channel	Rate(Mbps)	RSSI
No Data Found				

Show No.:  Total Count:0 < First < Pre Next > Last >

AdHoc mode: Contain AdHoc devices simulating the same WiFi signals.

Containment Mode:  Refresh Every One Minute  SSID-based:

SSID	MAC	Channel	Rate(Mbps)	RSSI
No Data Found				

Show No.:  Total Count:0 < First < Pre Next > Last >

Rogue mode: Contain APs according to RSSI.

Containment Mode:  Refresh Every One Minute  SSID-based:

SSID	MAC	Channel	Rate(Mbps)	RSSI
No Data Found				

Show No.:  Total Count:0 < First < Pre Next > Last >

CONFIG mode: Contain APs by configuring the MAC address and the SSID blacklist manually.

Containment Mode:  Refresh Every One Minute   SSID-based:

SSID	MAC	Channel	Rate(Mbps)	RSSI
No Data Found				

Show No.:  Total Count:0 < First < Pre Next > Last >

## 1.3.5 Maintenance

### 1.3.5.1 Settings

#### 1.3.5.1.1 Upgrade

##### Local Upgrade

Download the main program or Web package to the local device and perform local upgrade.

**Note:** Please download the corresponding firmware version from the official website, and then upgrade the device with the following tips.  
**Tips:** 1. Make sure that the firmware version (main program or Web package) matches the device model. 2. The page may have no response during upgrade. Please do not power off or restart the device until an upgrade succeeded message is displayed.

Download Firmware: [Check for Later Version & Download](#)

File Name:

Click to select the main program or Web package to be upgraded.

You can click **Cancel** to terminate an ongoing upgrade.

Click the **DNS Server** and **Route** links to check network connection.

### 1.3.5.1.2 Restart

Conveniently restart the system with a click.

**Note:** Click 'Restart' to restart the device. Please wait a few minutes and the page will be refreshed after restart.

Restart

Click **Restart** to restart the device.

### 1.3.5.1.3 Backup & Restore

#### Backup

Back up the configuration file on the device. You can export current settings for batch operation.

Backup	Restore
--------	---------

**Note:** Please don't close or update the page during import, or import will fail. If you want to apply the new settings, please restart the device on this page, or the settings will not take effect.

File Name:

#### Restore

After you restore the device to factory settings, please use the default IP address to access Eweb.

Note: After the device is reset to the factory default settings, all settings will be cleared. Please Export Current Settings before resetting the device.

Restore Factory Settings

Display Current Settings

### 1.3.5.1.4 System Time

The network device system clock records the time of events on the device. For example, the time shown in system logs is obtained from the system clock. Time is recorded in the format of *year-month-day, hour:minute:second*, day of the week.

When you use a network device for the first time, set its system clock to the current date and time manually.

Set the system time based on the region for the device.

Current Time: **1970-1-7-14:36:24**

Reset Time:

Time Zone:

Time Synchronization:  Automatically synchronize with an Internet time server **(Please set DNS Server first, otherwise the system time will not be synchronized.)**

Save

### 1.3.5.1.5 System Mode

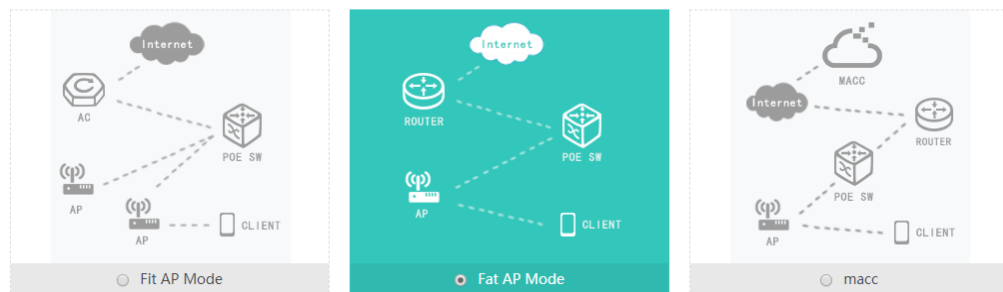
Two types of APs are available: Fat Access Points and Fit Access Points.

A FAT AP is suitable for family and small-scaled networks and provides full features. Generally, one device can implement access, authentication, routing, VPN, address translation, and even the firewall functions.

A FIT AP is suitable for large-scale wireless network deployment. A dedicated wireless controller is needed to provide unified management. A FIT-AP can be used only after the wireless controller delivers configurations and it cannot complete configuration by itself.

Select the AP mode.

Current Mode: Fat AP Mode



Note: The device restarts after mode switch. Please wait for a minute.

### 1.3.5.1.6 Log Server

The device sends local logs to the server for storage. History logs are stored for ease of query.

**Server Logging** can be set to **ON/OFF** to enable/disable the server log function.

Note: Local logs are sent to the corresponding server in order of priority level. Higher the level is, sooner the log is sent. The highest level is level 0 and the lowest is 7.

Server Logging:  ON

Server IP:

Logging Level:

### 1.3.5.1.7 DNS

Domain names can be dynamically parsed only after a DNS server is configured.

DNS Server 1:  ×

DNS Server 2:  ×

DNS Server 3:  +

## 1.3.5.2 System

### 1.3.5.2.1 Web Management

#### Admin Password

To enhance the system security and information interaction security, you need to change the default password of the system.

On the **Admin Password** tab page, enter the old password, new password, and confirm password, and click **Save**.

Admin Password	Basic Settings	Permissions	
----------------	----------------	-------------	--

Username: admin

Old Password:  \*

New Password:  \*

Confirm Password:  \*

#### Basic Settings

Configure the device location to better inspect devices and facilitate device management. Set the timeout time. When you do not perform operations on the system for long, the Web-based system automatically exits to ensure your system security.

**Web Access Port:** Indicates the access port. It needs to be added when you access the Web-based system from a browser.

**Login Timeout:** Indicates the timeout time.

**Device Location:** Indicates the device location. Setting this parameter facilitates management.

Admin Password    **Basic Settings**    Permissions

Web Access Port:  \* (Range: 80-65535)

Login Timeout:

Device Location:

Access Redirection:  HTTP Redirection to HTTPS In NAT scenario, redirection may cause HTTP access failure.

### Permissions

A system may have multiple users of different levels that correspond to different permissions. You can set or view permissions through the **Permission Settings** page. The system has two default users: user **admin**

[+ Add Admin](#)

Username	Action
test	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:1 < First   < Pre   ①   Next >   Last >  

- Adding an administrator

Admin Password    Basic Settings    **Permissions**

[+ Add Admin](#)

Username	Action
test	<input type="button" value="Edit"/> <input type="button" value="Delete"/>

Show No.:  Total Count:1 ①   Next >   Last >  

**Add Admin** ✕

Username:  \*

New Password:  \*

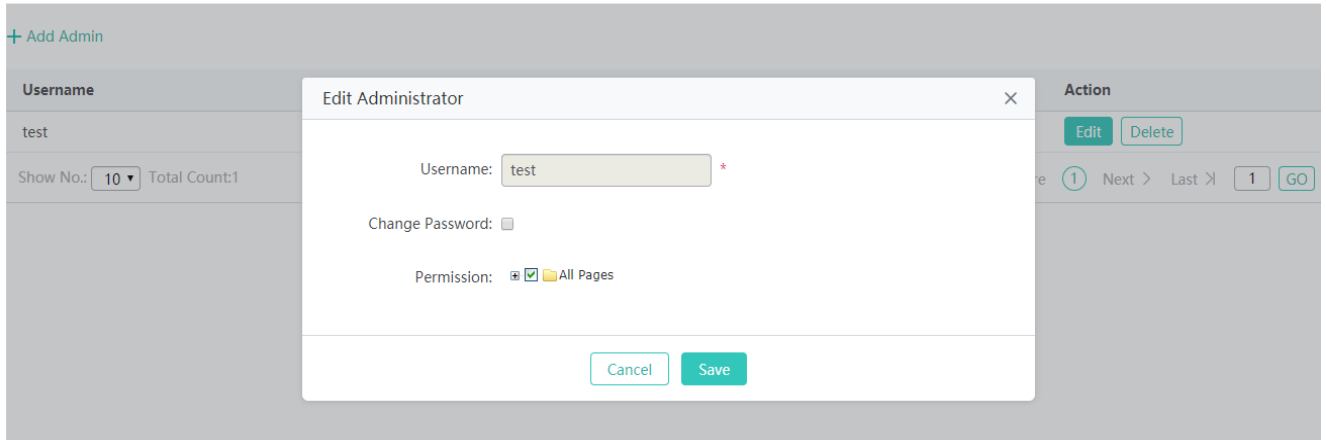
Confirm Password:  \*

Permission:  All Pages



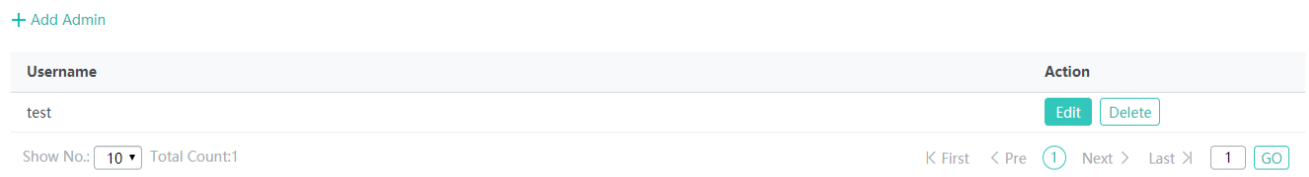
Click **Add Administrator**. A dialog box is displayed, as shown in the preceding figure. Set the configuration items in the dialog box, and click **Save**. The newly added administrator is displayed in the list after the **Save succeeded** message is displayed.

- Editing administrator information



- 1) Click the **Edit** button for an administrator in the list.
- 2) A dialog box is displayed, as shown in the preceding figure. The configuration about the administrator is displayed in the dialog box. Then edit the configuration.
- 3) Click **Save**. The **Save operation succeeded** message is displayed.

- Deleting an administrator



Click **Delete** to delete an administrator.

### 1.3.5.2.2 Telnet

Enable Telnet access for security purposes.

Telnet Service:  ON

SSH Service:  ON

New Password:  \*

Confirm Password:  \*

### 1.3.5.2.3 Web Console

The Web console function is similar to the Telnet function and you can configure any command on the console. However, the Web console function does not support commands in shell mode, telnetting to APs, or batch refresh of commands.

Console Output: Background Color:

Ruijie#

Command Input:

### 1.3.5.2.4 SNMP

The Simple Network Management Protocol (SNMP) is by far the dominant protocol in network management. This Protocol (SNMP) was designed to be an easily implementable, basic network management tool that could be used to meet network management needs. It is named Simple Network Management Protocol as it is really easy to understand. A key reason for its widespread acceptance, besides being the chief Internet standard for network management, is its relative simplicity. There are different versions of SNMP, such as SNMP V1, SNMP V2c, and SNMP V3.

**Note:** Either SNMPv2 or SNMPv3 is supported

SNMP Version:  v2  v3

Device Location:

SNMP Community:  \*

Trap Community:  The Trap Community must be the same as the SNMP Community.

Trap Receiver Address:  \* You can configure up to 10 Trap receivers. Please use ',' or press the Enter key to separate addresses.

### 1.3.6 Others

#### 1.3.6.1 Favorites

After you add frequently configured functions to favorites, you can click menu items in the favorites and configure the functions rapidly next time.

**i** Currently, a maximum of ten menu items can be added to favorites.

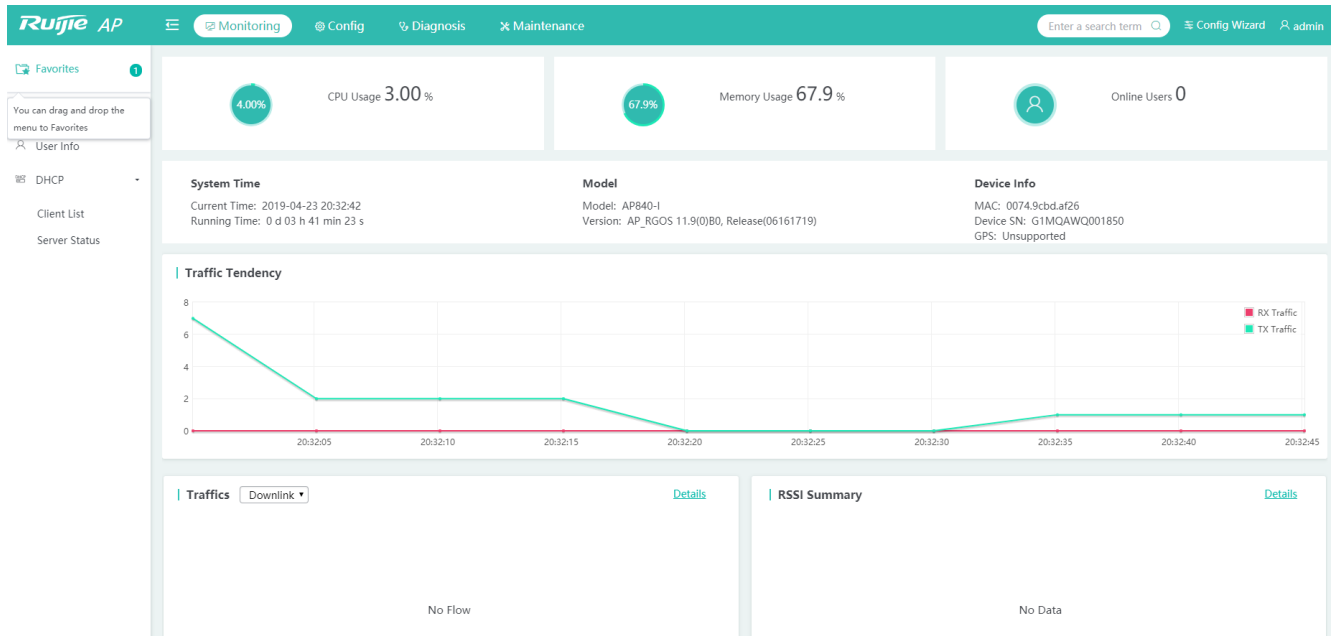
- Adding to favorites

Select a required menu and drag it to **Favorites**.

The screenshot shows the Ruijie AC configuration interface. On the left, there is a 'Favorites' sidebar with a list of menu items: AC, AP, STA, and DHCP. The 'AC' item is selected. The main area displays the configuration for the selected AC device, including its name 'Ruijie', model 'WS5708', and serial number 'SN:1234942570002'. Below this, there are several status indicators: CPU Usage at 1.10% and Memory Usage at 51.9%. On the right side, there is a 'Traffic Tendency' graph showing TX and RX traffic over time for interface Gi0/5. The graph shows a peak in traffic around 17:25:30.

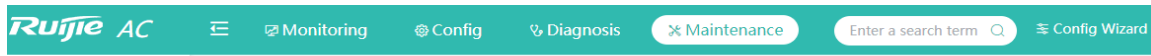
- Canceling favorites

Click **Favorites** to display the favorites list. Select a menu item from the list and click the deletion icon. Confirm the delete operation to delete the menu item from the favorites.



### 1.3.6.2 Fast Query Menu

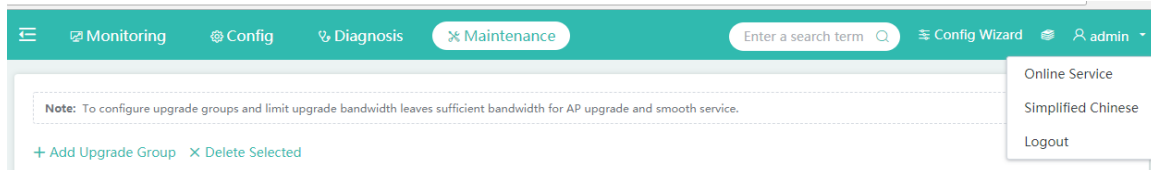
There are increasing functions in the system. The fast query menu helps users rapidly search for required functions. Enter a search condition in the search box on the home page. A list of records meeting the search condition is rapidly displayed. Click a function to redirect to the function page.



### 1.3.6.3 More Functions of the System

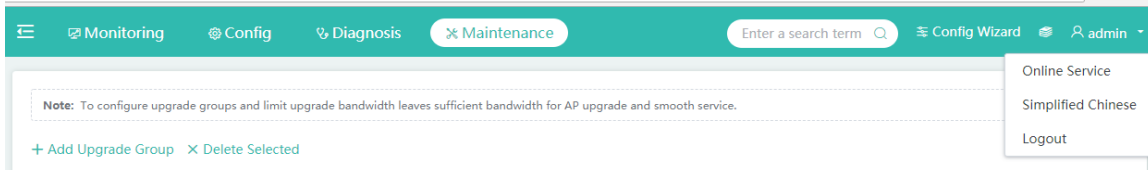
- Displaying the current account

The current account is displayed in the upper right corner of the home page. The current account is **admin**, as shown in the figure below.



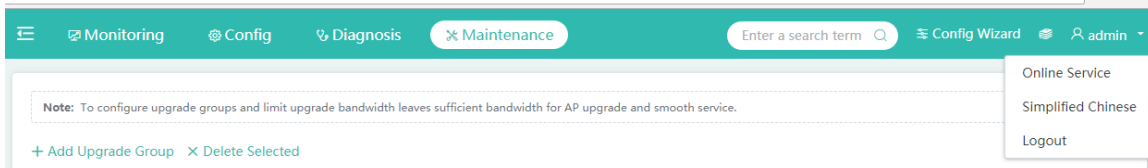
- Online Service

Click the current account icon in the upper right corner. A function drop-down list is displayed. Click **Online Service** when you need to seek help.



- Language switching

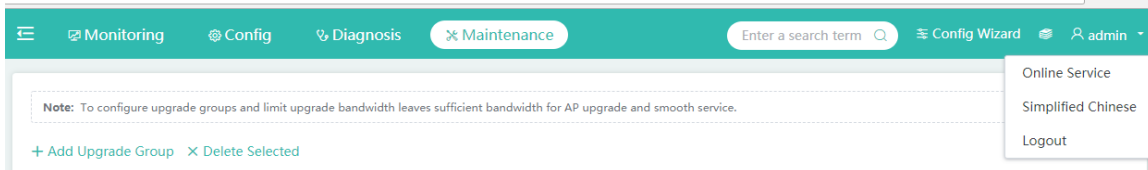
Click the current account icon in the upper right corner. A function drop-down list is displayed. The second item is used for language switching. If the system is in Chinese, click **English** to switch to the English edition; if the system is in English, click **Simplified Chinese** to switch to the Chinese edition.



The language switching item is displayed based on actual requirements. If only Chinese is supported, this item is not displayed. It is displayed only when both Chinese and English are supported.

- Exiting the system

Click the current account icon in the upper right corner. A function drop-down list is displayed. Click **Logout** and click **OK** to exit the system.

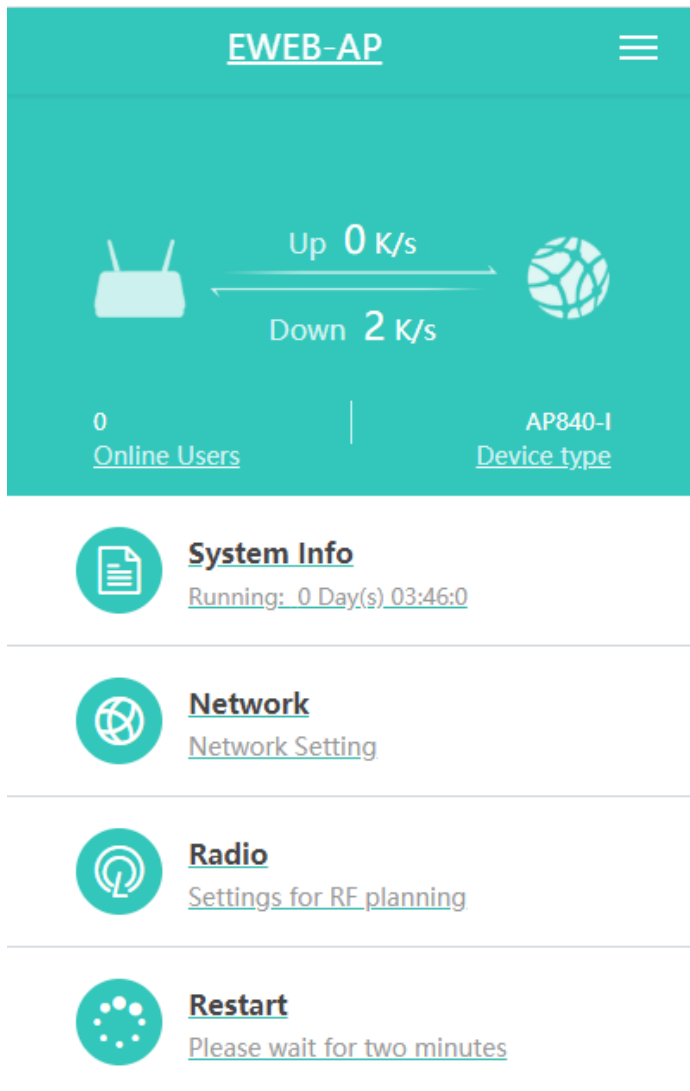


## 1.4 Eweb on Mobile Phones


Only some Eweb features are available on mobile phones, including **Home**, **Network**, **Radio**, **Detection Tools**, **DNS**, **System Mode**, **System Info**, **Password**, **Restart**, **Restore**, and **Switch to PC View**.

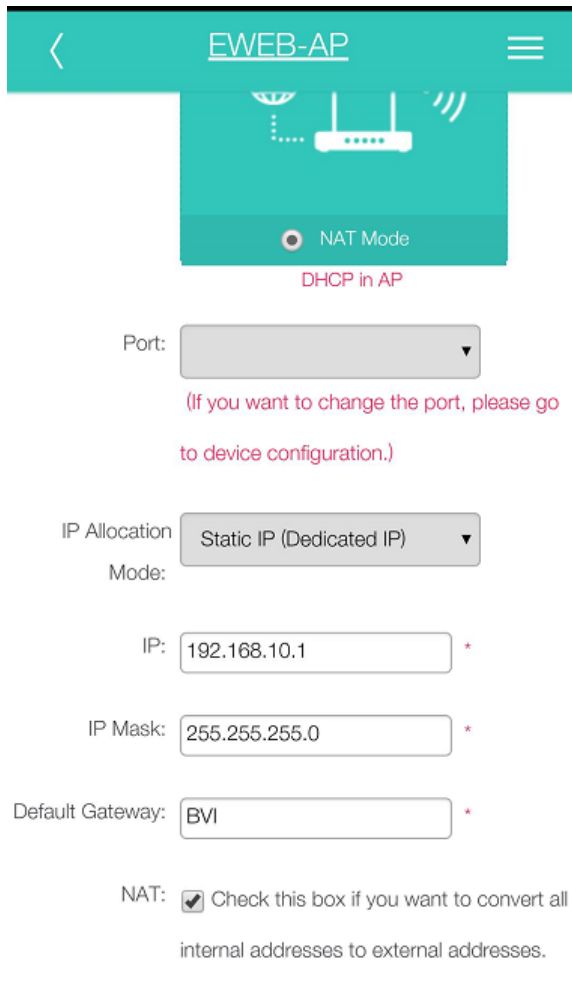
### 1.4.1 Home

You can view basic information on homepage, including model, uplink/downlink traffic and number of online users on homepage.




### 1.4.2 Network

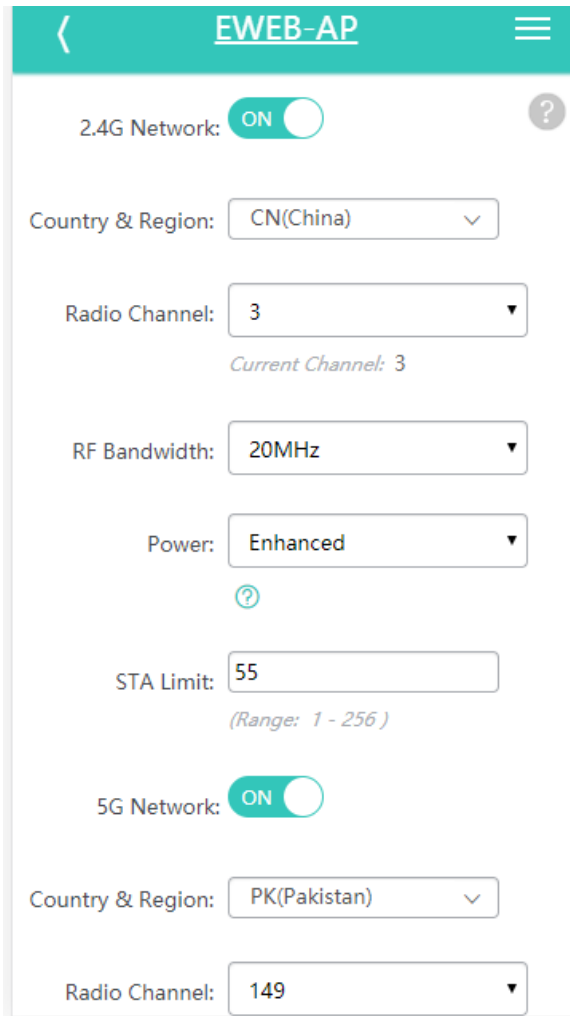
Expand the menu by clicking  in the upper right corner and select **Network**. Or you can click **Network** on the homepage.



The screenshot shows the EWEB-AP configuration page. At the top, there is a teal header with a back arrow, the text "EWEB-AP", and a menu icon. Below the header is a teal box containing a white icon of a wireless router and the text "NAT Mode" with a radio button. Underneath this box, the text "DHCP In AP" is displayed in red. The main configuration area includes a "Port:" dropdown menu, followed by a red note: "(If you want to change the port, please go to device configuration.)". Below this is an "IP Allocation Mode:" dropdown menu set to "Static IP (Dedicated IP)". There are three input fields: "IP:" with the value "192.168.10.1", "IP Mask:" with the value "255.255.255.0", and "Default Gateway:" with the value "BVI". Each of these three input fields has a red asterisk to its right. At the bottom, there is a "NAT:" section with a checked checkbox and the text: "Check this box if you want to convert all internal addresses to external addresses."


### 1.4.3 Radio

Expand the menu by clicking  in the upper right corner and select **Radio**. Or you can click **Radio** on the homepage.

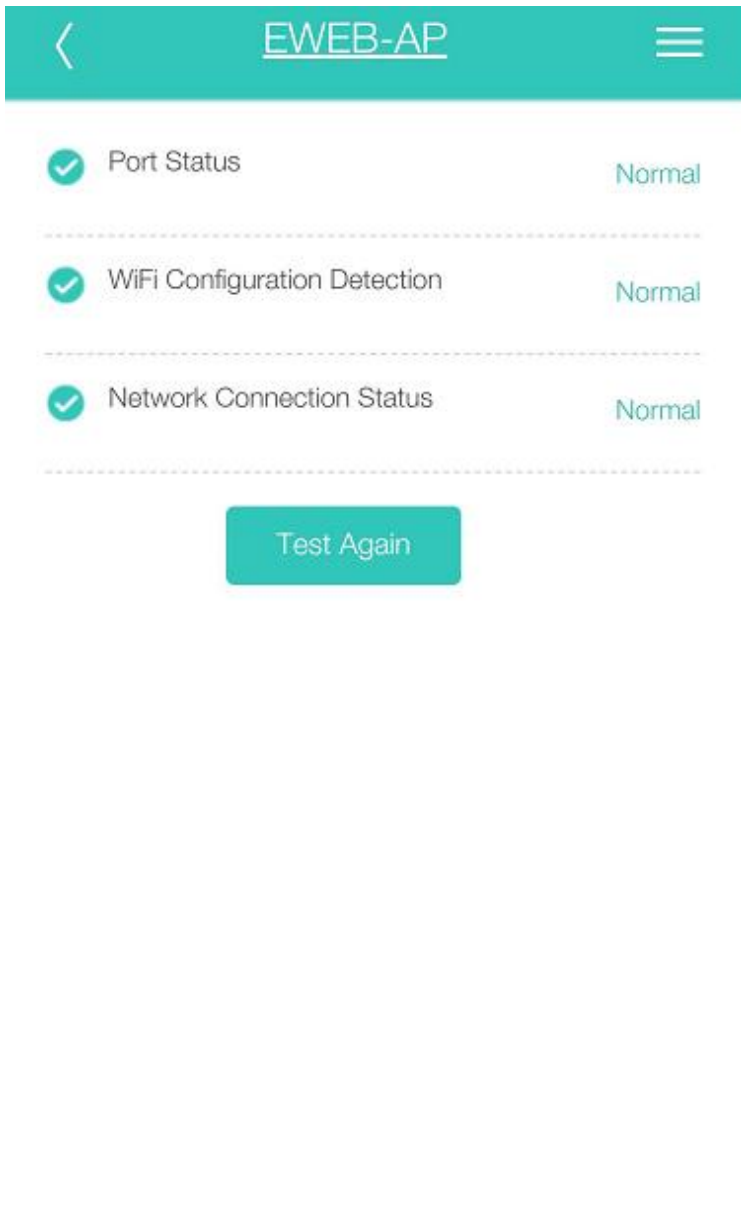


The screenshot displays the EWEB-AP configuration interface. At the top, there is a teal header with a back arrow, the title "EWEB-AP", and a menu icon. Below the header, the configuration is organized into two sections: 2.4G Network and 5G Network. The 2.4G Network section includes a toggle switch for "2.4G Network" which is turned "ON", a dropdown for "Country & Region" set to "CN(China)", a dropdown for "Radio Channel" set to "3" with a note "Current Channel: 3", a dropdown for "RF Bandwidth" set to "20MHz", and a dropdown for "Power" set to "Enhanced" with a help icon. The 5G Network section includes a toggle switch for "5G Network" which is turned "ON", a dropdown for "Country & Region" set to "PK(Pakistan)", and a dropdown for "Radio Channel" set to "149". A "STA Limit" field is also present, set to "55" with a note "(Range: 1 - 256)".


#### 1.4.4 Detection Tools

Expand the menu by clicking  in the upper right corner and select **Detection Tools** to test port status, WiFi configuration and network connection.






### 1.4.5 DNS

Expand the menu by clicking  in the upper right corner and select **DNS**. Enter the DNS server address.

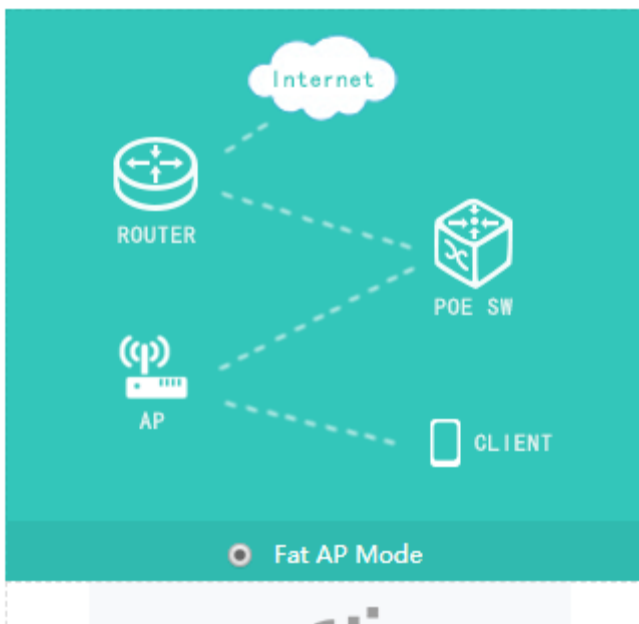
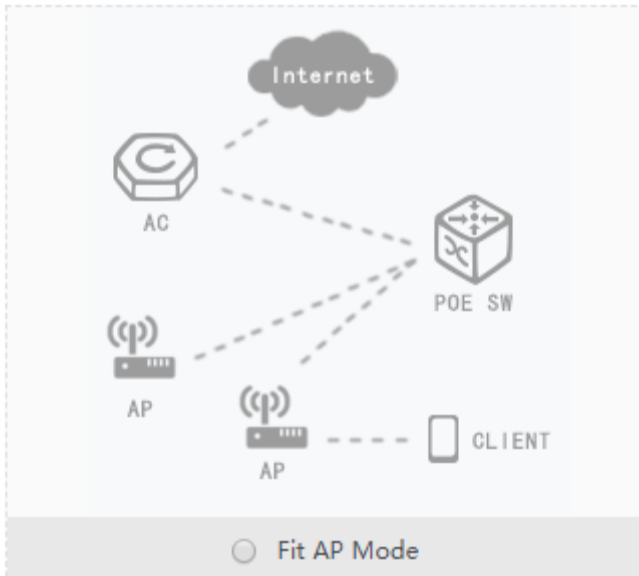
The screenshot shows a configuration page for 'EWEB-AP'. At the top, there is a teal header bar with a back arrow on the left, the text 'EWEB-AP' in the center, and a hamburger menu icon on the right. Below the header, there are two input fields for DNS servers. The first is labeled 'DNS Server 1:' and contains the IP address '192.168.58.100', with a teal 'x' icon to its right. The second is labeled 'DNS Server 2:' and contains the IP address '8.8.8.8', with a teal '+' icon to its right. Below these fields is a teal button with the text 'Save'.

### 1.4.6 System Mode


Expand the menu by clicking  in the upper right corner and select **System Mode**. Select a mode on the popup page.

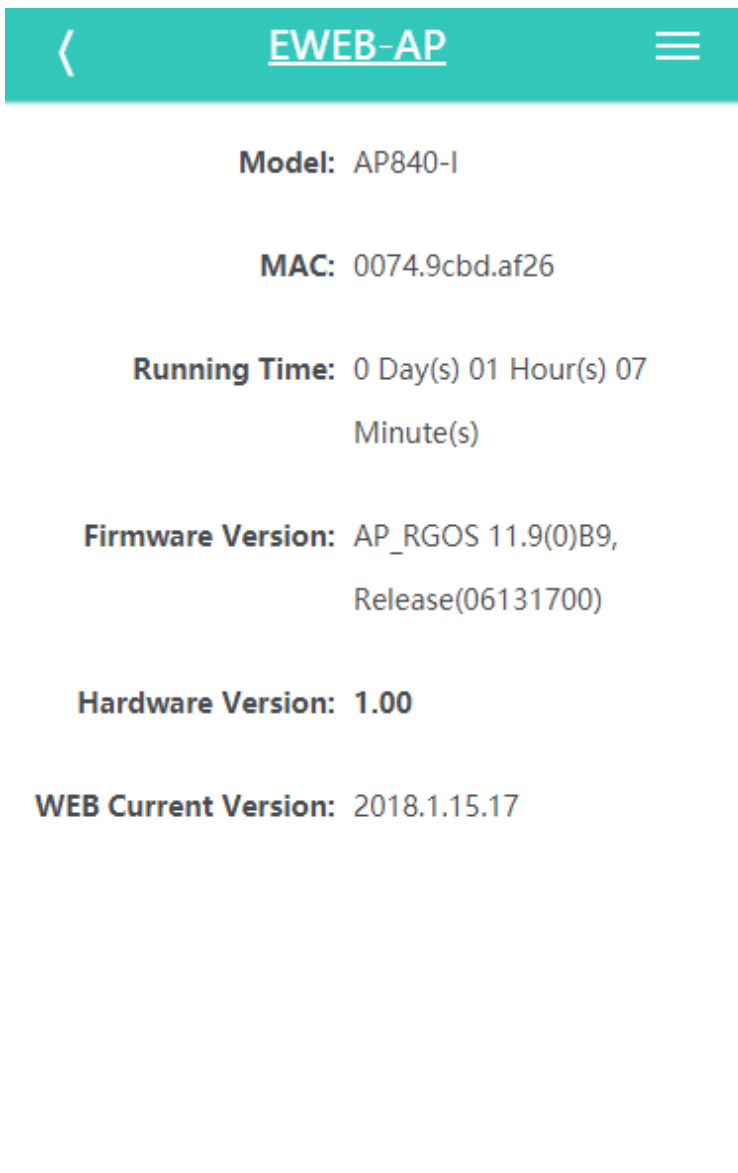


Current Mode: Fat AP Mode



### 1.4.7 System Info

Expand the menu by clicking  in the upper right corner and click **System Info** to view system information.



The screenshot shows a web-based configuration interface for an EWEB-AP device. The page has a teal header with a back arrow on the left, the text "EWEB-AP" in the center, and a hamburger menu icon on the right. Below the header, the following information is displayed:

- Model:** AP840-I
- MAC:** 0074.9cbd.af26
- Running Time:** 0 Day(s) 01 Hour(s) 07 Minute(s)
- Firmware Version:** AP\_RGOS 11.9(0)B9, Release(06131700)
- Hardware Version:** 1.00
- WEB Current Version:** 2018.1.15.17

### 1.4.8 Password

Please change your password for security purposes.



### Web Management Password

Username: admin

Old Password:  \*

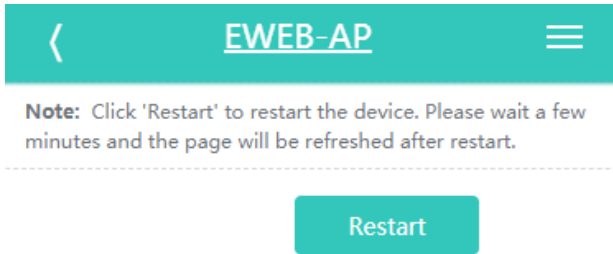
New Password:  \*

Confirm  \*

Password:

### 1.4.9 Restart

You can restart the system with a simple click.



The screenshot shows a teal header bar with a back arrow on the left, the text 'EWEB-AP' in the center, and a hamburger menu icon on the right. Below the header, a note is displayed: 'Note: Click 'Restart' to restart the device. Please wait a few minutes and the page will be refreshed after restart.' A dashed horizontal line is positioned below the note. Centered below the line is a teal button with the text 'Restart'.

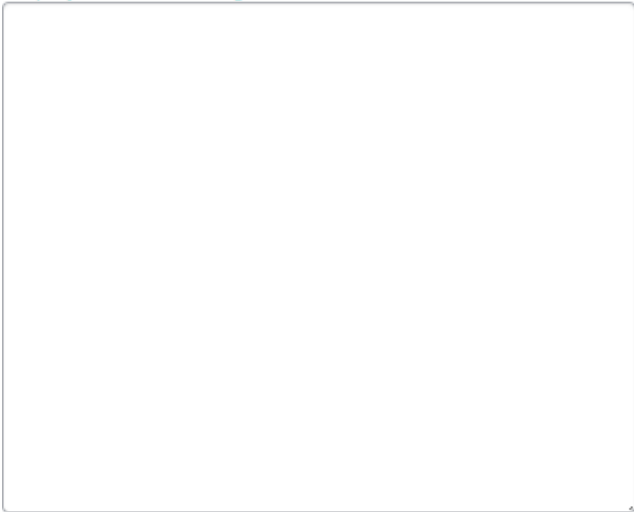
### 1.4.10 Restore

Clear the configuration and restore the device to factory settings. You can export current settings for batch operation.

**Note:** After the device is reset to the factory default settings, all settings will be cleared. Please [Export Current Settings](#) before resetting the device.

[Restore Factory Settings](#)

[Display Current Settings](#)



### 1.4.11 Switch to PC View

You can switch to the PC view for more features.

The screenshot shows the Ruijie AP web configuration interface. At the top, there is a navigation bar with 'Monitoring', 'config', 'Diagnosis', and 'Maintain' tabs. A search bar and 'Config Wizard' are also visible. On the left, a sidebar menu includes 'Favorites', 'NetWork', 'External Network', 'Interface', 'VLAN', 'Route', 'DHCP', 'Port Mapping', 'Security', 'Auth', and 'Advanced'. The main content area features a note: 'Note: This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI. Aggregate port configuration is not supported.' Below the note are two mode selection cards: 'Bridge Mode' (with 'DHCP in others devices') and 'NAT Mode' (with 'DHCP in AP'). The 'NAT Mode' card is selected. Below the cards, there are configuration fields: 'Port:' (dropdown), 'IP Allocation Mode:' (dropdown set to 'Static IP (Dedicated IP)'), 'IP:' (text box with '192.168.10.1'), 'IP Mask:' (text box with '255.255.255.0'), and 'Default Gateway:' (text box with 'BVI'). A 'NAT:' checkbox is checked with the text 'Check this box if you want to convert all internal addresses to external addresses.' A 'Save' button is at the bottom.

## 1.5 Fit AP-Eweb

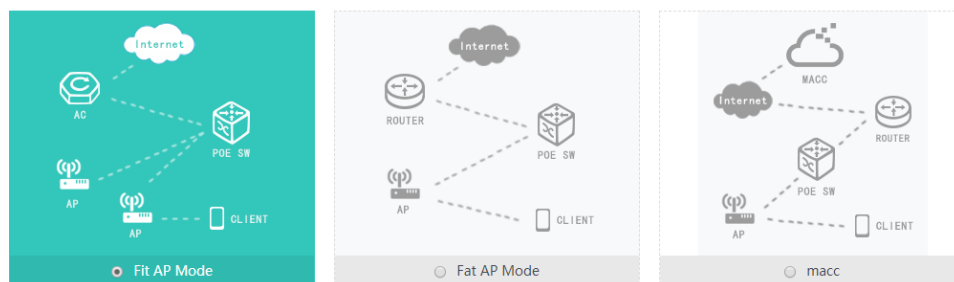
### 1.5.1 SmartAP

SmartAP allows you to deploy APs in mobile office scenario. Click **Config Wizard** to end the SmartAP configuration page, including **System Mode**, **Network Configuration** and **Change WebNMS Password**. If APs are not applied to mobile office scenario, only system mode will be displayed.

#### 1. System Mode

Click **Change** and the **System Mode** window is displayed. You can select a mode among three modes available: Fit AP, Fat AP and MACC.

Current Mode: Fit AP Mode



Note: The device restarts after mode switch. Please wait for a minute.

#### 2. Network Configuration



IP Allocation Type:

SSID:  \*

Hide:  Enable

Active AC IP:  \*

Standby AC IP:

L2TP Tunnel:  ON

HQ IP:   \* (Peer ip address for l2tp tunnel)

Access AC Through  Yes  No

Tunnel:

» Advanced Settings

3. Change Web NMS Password

Old Password:  \*

New Password:  \*

Confirm Password:  \*

## 1.6 Enabling the Web Server

The Web service is enabled for an AP device when this AP is delivered. By default, the IP address is 192.168.110.1. The following describes how to enable Web service on the CLI when it is disabled.

Configuration	Commands	
Configuring the Webserver	<b>enable service web-server</b>	Enables the Web service.
	<b>ip address</b>	(Optional) Configures the IP address.
	<b>webmaster level username password</b>	(Optional) Configures the username and password for logging in to the Web-based management system.

### Configuration Method

#### ↳ Enabling the Web Service

- Mandatory configuration.

- This configuration is performed on the AP device.

↳ **Configuring the IP Address**

- Optional configuration.

↳ **Configuring the Username and Password for Logging in to the Web-Based Management System**

- Optional configuration.
- When the Web service is enabled, the administrator username/passwords (admin/admin) and guest user/passwords (guest/guest) are created by default. The passwords of these two accounts can be changed. In addition, you can create other Web-based management accounts.

Verification

Log in to the Web page by using the preset IP address and Web-based management account and password, then check whether the login is successful.

Relevant Commands

↳ **Enabling the Web Service**

<b>Comm and</b>	<b>enable service web-server [ http   https   all ]</b>
<b>Parameter Description</b>	<b>http   https   all:</b> Enables corresponding services. <b>http</b> enables the HTTP service, <b>https</b> enables the HTTPS service, and <b>all</b> enables both the HTTP and HTTPS services. By default, both the HTTP and HTTPS services are enabled.
<b>Comm and Mode</b>	Global configuration mode.

↳ **Configuring the IP Address**

<b>Comm and</b>	<b>ip address ip-address ip-mask</b>
<b>Parameter Description</b>	<i>ip-address</i> : IP address. <i>ip-mask</i> : network mask.
<b>Comm and Mode</b>	Interface configuration mode.

↳ **Configuring the Account and Password for Logging in to the Web-Based Management System**

<b>Command</b>	<b>webmaster level</b> <i>privilege-level</i> <b>username</b> <i>name</i> <b>password</b> { <i>password</i>   [ <b>0</b>   <b>7</b> ] <i>encrypted-password</i>
<b>Parameter Description</b>	<p><i>privilege-level</i>: indicates the level of the permission bound to the user. Three levels are available, which are 0, 1, and 2. The super administrator account (admin) created by default corresponds to level 0, a guest account (guest) corresponds to level 2, and other accounts correspond to level 1.</p> <p><i>name</i>: address of the static RP.</p> <p><i>password</i>: The ACL is used to limit the group address range of the static RP service. The default range is all group services.</p> <p><b>0</b>   <b>7</b>: password encryption type. <b>0</b> indicates no encryption, and <b>7</b> indicates simple encryption. The default value is 0.</p> <p><i>encrypted-password</i>: password.</p>
<b>Command Mode</b>	Global configuration mode.
<b>Usage Guide</b>	N/A

Configuration Example

↳ **Configuring the Web Server**

<b>Configuration Steps</b>	<p>Enable the Web service.</p> <p>Configure the local username and password.</p> <p>Configure the device management IP address. The default management VLAN is VLAN 1.</p> <p>Configure an IP address for VLAN 1. Ensure that the management IP address can be pinged from the user's PC.</p>
	<pre>Ruijie# configure terminal Ruijie(config)# enable service web-server Ruijie(config)# webmaster level 0 username admin password admin Ruijie(config)#interface vlan 1 Ruijie(config-if-VLAN 1)#ip address 192.168.1.200 255.255.255.0 Ruijie(config)# end</pre>
<b>Verification</b>	Run the <b>show running-config</b> command to display related configuration commands.
	<pre>Ruijie(config)#show running-config Building configuration... Current configuration : 6312 bytes  ! hostname ruijie !</pre>

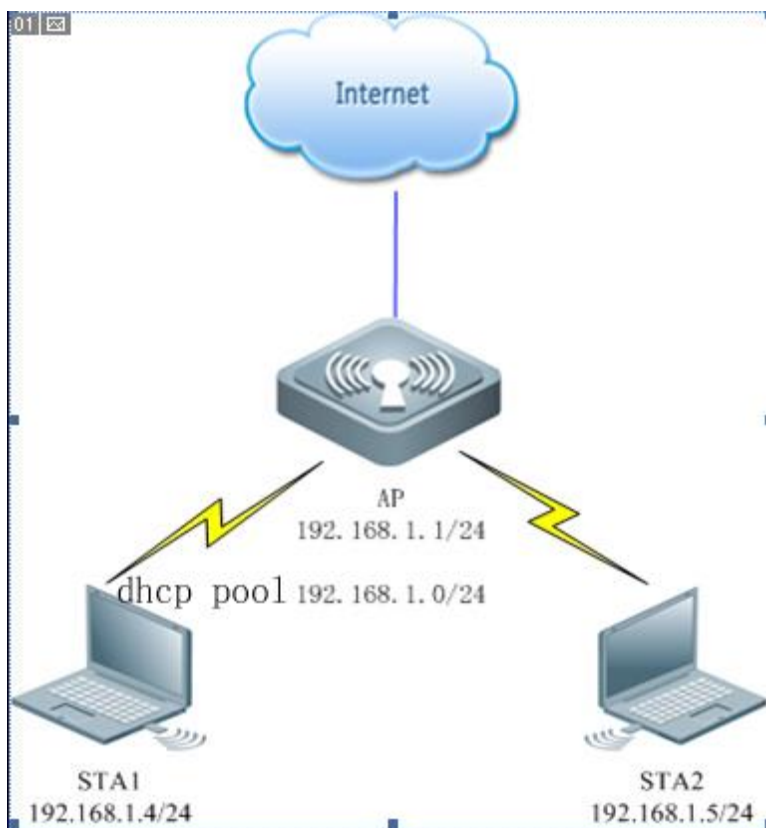
```
!  
webmaster level 0 username admin password 7 08022b181b29  
webmaster level 1 username manager password 7 06073f  
webmaster level 2 username guest password 7 14155f083206  
http update mode auto-detect  
!  
!  
interface VLAN 1  
 ip address 192.168.1.200 255.255.255.0  
 no shutdown  
!  
line con 0  
line vty 0 4  
 login  
!  
!  
End
```

## 1.7 Configuration Examples

### 1.7.1 Constructing a WLAN for the DHCP Server on the AP Device

The AP is regarded as a wireless router and constructs a small-scale network as a fat AP. The DHCP server is configured on the AP device. The following figure shows the topology.

Figure 1-3 Topology1 (AP is in routing mode)

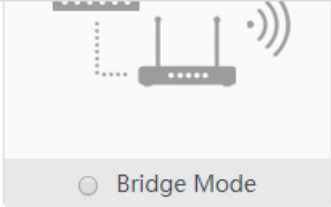


Configuration	Description and Command	
Construction of a WLAN for the DHCP server on the AP	<p><b>i</b> Mandatory. It is used to configure a WLAN.</p>	
	WiFi name	Associates internet access wireless signals for an STA
	WiFi password	An STA inputs the password for internet access.
	DHCP configuration	Allocates IP addresses to wireless STAs.

**Verification**

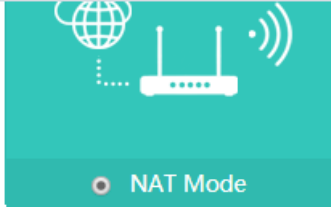
- Select AP working mode and set the Internet connection type

### Config Wizard—External Network Settings



Bridge Mode

DHCP in others devices



NAT Mode

DHCP in AP

Port:  (If you want to change the port, please go to device configuration.)

IP Allocation Mode:

IP:  \*

IP Mask:  \*

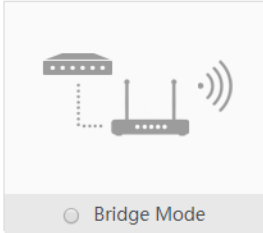
Default Gateway:  \*

NAT:  Check this box if you want to convert all internal addresses to external addresses.

Note: This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI. Aggregate port configuration is not supported.

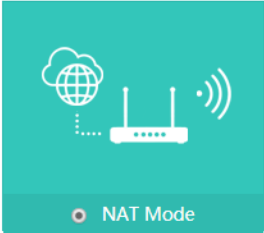
- The AP works in wireless routing mode.
- You can select the following Internet connection types when the AP works in wireless routing mode.
- Static IP (dedicated IP)

Config Wizard—External Network Settings



Bridge Mode

DHCP in others devices



NAT Mode

DHCP in AP

Port:  (If you want to change the port, please go to device configuration.)

IP Allocation Mode:

IP:  \*

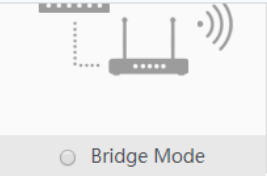
IP Mask:  \*

Default Gateway:  \*

NAT:  Check this box if you want to convert all internal addresses to external addresses.

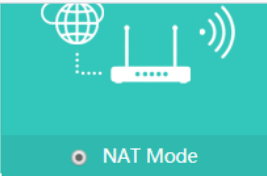
- PPPoE (ADSL line)

### Config Wizard—External Network Settings



Bridge Mode

DHCP in others devices



NAT Mode

DHCP in AP

Port:  (If you want to change the port, please go to device configuration.)

IP Allocation Mode:

Account:  \*

Password:  \*

PPPOE IP: Not Obtained

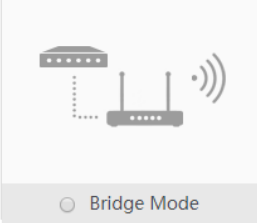
NAT:  Check this box if you want to convert all internal addresses to external addresses.

Note: This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI. Aggregate port configuration is not supported.

- DHCP (dynamic IP)

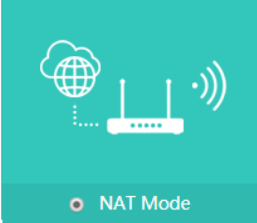


Config Wizard—External Network Settings



Bridge Mode

DHCP in others devices



NAT Mode

DHCP in AP

Port:  (If you want to change the port, please go to device configuration.)

IP Allocation Mode:

Default Gateway:  Optional

DHCP IP: Not Obtained

NAT:  Check this box if you want to convert all internal addresses to external addresses.

Note: This function is designed for ease of use based on user scenario. It is recommended to configure the function via Web instead of CLI. Aggregate port configuration is not supported.

- **Configure a WiFi name (use a simple name that is easy to remember). A WiFi name contains up to 32 characters.**

Figure 1-4 AP Quick Settings for SSID

The screenshot shows a web-based configuration window titled "Config Wizard—WiFi". The window contains several configuration fields:

- SSID:** A text input field containing "@test\_ssid" with a red asterisk to its right.
- WiFi Password:** A text input field with masked characters (dots) and a "Show Password" checkbox to its right.
- DHCP:** A checkbox labeled "Enable (IP addresses are allocated by AP)" which is checked.
- Vlan ID:** A text input field containing the number "2".
- IP Range:** Three text input fields containing "192.168.1", "1", and "254" with the word "to" between the second and third fields.
- DHCP Gateway:** A text input field containing "192.168.1.1".
- Preferred DNS Server:** A text input field containing "192.168.58.110" with the word "Optional" to its right.
- Secondary DNS Server:** A text input field containing "8.8.8.8" with the word "Optional" to its right.

At the bottom of the window, there are two buttons: a teal "Finish" button and a white "Back" button with a teal border.

- **Security configuration**

By default, the WPA2-PSK mode is selected. A password consists of 8 to 64 characters and can be a combination of letters, digits, and special characters.

Figure 1-5 AP Quick Settings for Security

Config Wizard—WiFi✕

SSID:  \*

WiFi Password:   Show Password

DHCP:  Enable (IP addresses are allocated by AP)

Vlan ID:

IP Range:   to

DHCP Gateway:

Preferred DNS Server:  Optional

Secondary DNS Server:  Optional

Finish

Back

DHCP configuration

Figure 1-6 AP Quick Settings for DHCP

- IP address range: 192.168.1.0/24 to 192.168.1.254/24.
- DNS server: 192.168.58.110 (Perform configuration based on actual conditions.)
- Click **Finish**.

Verification

- Associate an STA with WiFi: Eweb\_AAAA1 and obtain the IP address 192.168.1.4.
- Verify that the STA can connect to the WiFi and then visit the Web through 192.168.1.1.

**i** If the management IP address is changed, use the new management IP address to use the Web again.