Reyee RG-EW300R Mesh Repeater

Web-based Configuration Guide ReyeeOS 1.85

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Preface

Technical Support

- The official website of Reyee: https://www.ireyee.com/
- Technical Support Website: https://www.ruijienetworks.com/support
- Case Portal: https://caseportal.ruijienetworks.com
- Community: https://community.ruijienetworks.com
- Technical Support Email: service_rj@ruijienetworks.com

Conventions

1. GUI Symbols

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

2. Signs

The signs used in this document are described as follows:

Warning

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

Caution

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

Note

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

Specification

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

3. Note

This manual introduces the features of the product and offers guidance on configuration and testing.

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1 Overview

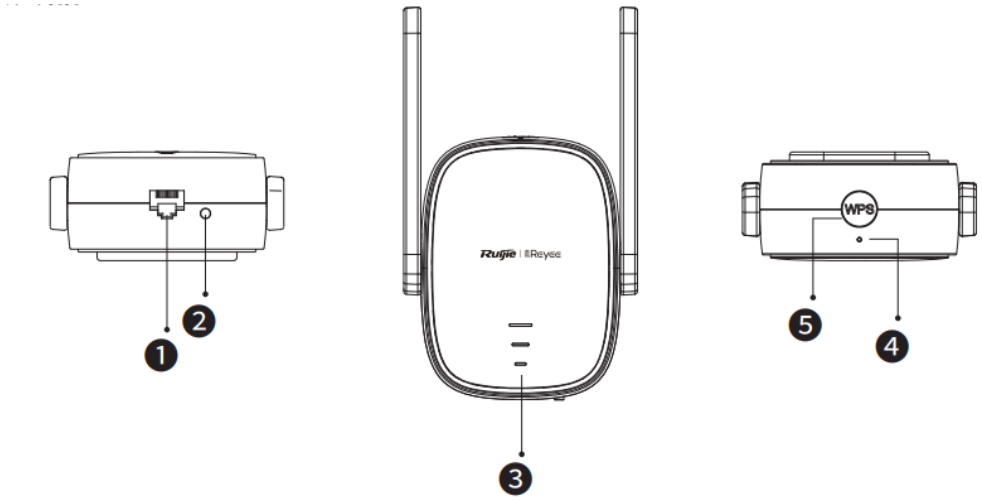
The EW300R mesh repeater uses binaural antennas to support 2.4 GHz dual bands and is equipped with two independent signal amplification chips. It can extend the dual-band Wi-Fi coverage. The maximum wireless rate of the entire device is 1200 Mbps. The EW300R can extend the signals of other devices, and can also connect to the Internet independently.

The signals that the EW300R can extend are:

- Wi-Fi of any model from Reyee.
- Wi-Fi of other vendors' devices. The compatibility problem may exist.
- For the open hotspots in the merchant stores, the repeater function may be denied. The signals may not be extended. In addition, open networks have security risks, so it is not recommended to extend such signals.

Caution

The supported encryption types include WPA-PSK, WPA2-PSK, and WPA-PSK/WPA2-PSK. If you want to extend encrypted signal, please enter the correct Wi-Fi password.



1.1 Network Interface

In the factory settings state, the network interface works in WAN mode, which can be connected to an optical modem as a router. To log in to the web page of the mesh repeater, connect to the Wi-Fi of mesh repeater.

1.2 System Status LED

Status		Description
Blue	Solid on	The device is functioning properly. / The port has made a successful link.

Status		Description
	Blinking	The device is starting up. / The device is restoring factory settings.
Red	Solid on	The network is unreachable.

1.3 Signal Status LED

Status		Description
Blinking alternately		The device is accessing the Wi-Fi network of the primary router.
White	Three bars on	The signal strength is high.
	Two bars on	The signal strength is medium.
	One bar on	The signal strength is low.
Off		1. The device is set to the router mode. 2. The device fails to access the Wi-Fi network of the primary router.

1.4 Buttons

Button		Description
WPS Button	Short press for less than 2s	Establish a WPS network with other routers.
Reset Button	Short press for less than 2s	Turn on or off the signal status LED.
	Long press for more than 5s	The device restores factory settings.

2 Fast Internet Access

2.1 Connecting the Device

1. Wireless Connection

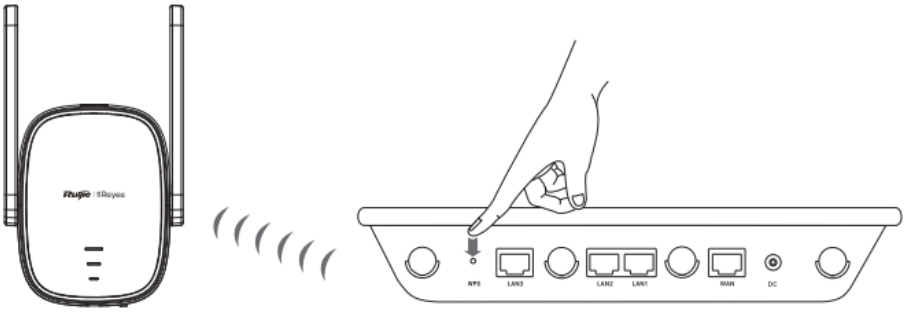
- **Connecting the Device to a Primary Router (WPS)**

(1) Connect the mesh repeater to power source, and wait 1-2 minutes until the status of blue indicator changes from blinking to solid on. The mesh repeater is started.

(2) Press the WPS button on the primary router.

(3) Press the WPS button of the mesh repeater within 2 minutes. When the system status LED is solid blue and the three-bar signal status LED lights up in turn, the device connects to the primary router successfully. In this situation, the default Wi-Fi disappears, and the Wi-Fi name and password are synchronized with the primary router. Clients can connect to the amplified Wi-Fi of the primary router to access the Internet.

(4) If system status LED is solid red and the signal status LED is solid white, the network connection fails. Check whether the primary router can access the Internet. If the system status LED is solid red and the signal indicator is off, the connection to the primary router fails. Move the mesh repeater to a position closer to the primary router, remove obstacles, and repeat the preceding operations.



- **Connect the Device to the Modem or the Other Router**

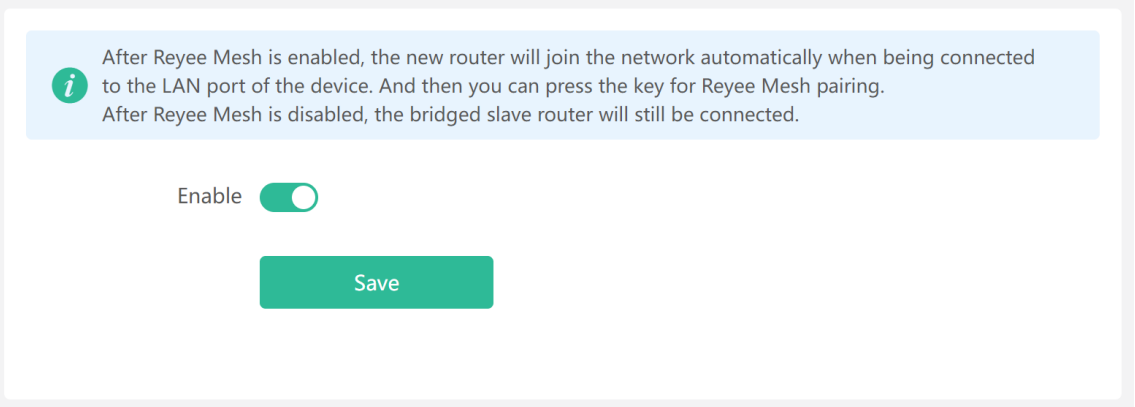
Before performing this step, you need to connect to the Internet. Search for the wireless network with the Wi-Fi name **@Reyee-sXXXX** by using a mobile phone or laptop. The mobile phone and laptop can log in to the web management page through a browser.

Note

XXXX in the Wi-Fi name is the last four digits of the MAC address of each device. You can find the default wireless network name and web login address at the bottom of the device.

Caution

When an EW300R is connected to a Reyee router, it is automatically networked and functions as a mesh repeater without any manual configurations. If you want to use an EW300R as a router, disable the Reyee Mesh discovery function of the primary router.



2. Wired Connection

After an EW300R is powered as an extended router, connect the LAN port of the primary router to the network port of the EW300R through a network cable and wait 1-2 minutes. Then, the EW300R can extend the Wi-Fi network of the primary router. After associating a client with the default Wi-Fi network of the EW300R, enter the default management IP address (192.168.110.1) of the EW300R in the browser to log in to the management page of the EW300R. Then, you can set the name and password of the extended Wi-Fi network.

Caution

If the address delivered by the primary router belongs to the 192.168.110.0 network segment, the management address of the EW300R will be changed to 192.168.111.1. You are advised to use Reyee Router App to manage the extended router.

2.2 Login

The configuration wizard page will pop up automatically if you log in for the first time. If no configuration page pops up, please input the IP address into the address bar of the browser and press **Enter** to navigate to the login page.

Table 2-1 Default Configuration

Item	Default
IP address	192.168.110.1
Username/Password	Username and password are not required at your first login and you can configure the access point directly.

If you forget the IP address or password, press the reset button for over 5 seconds to restore the default settings. After that, log in again with the default IP address and password.

Caution

Restoring the factory settings will clear the current configuration and require a re-login. Please exercise caution when performing this operation.

2.3 Network Settings (As a Mesh Repeater)

2.3.1 Getting Started

- Ensure that the primary router can connect to the Internet successfully.
- To use the device as a mesh repeater, remove the network cable from the device first.

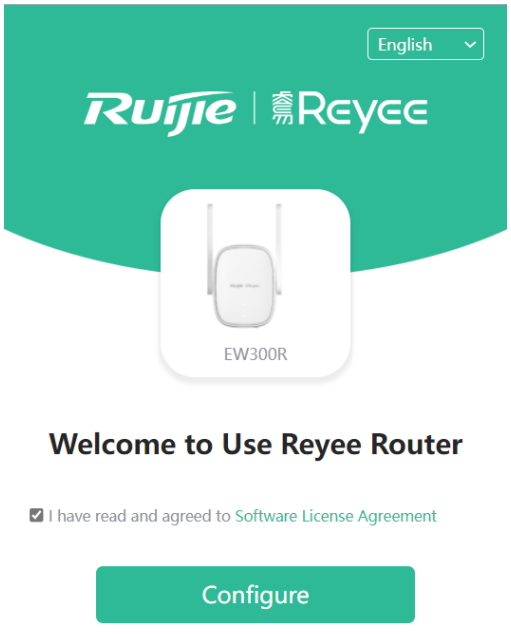
2.3.2 Configuration Steps

- Extend the Wi-Fi of WPS-supported router

  Press the WPS button of the primary router and then the WPS button of the mesh repeater for networking. For details, see 2.1 Connecting the Device.

- Extend the Wi-Fi of **other** routers

  Click **Configure**. The General Mode mode and WISP mode are available.



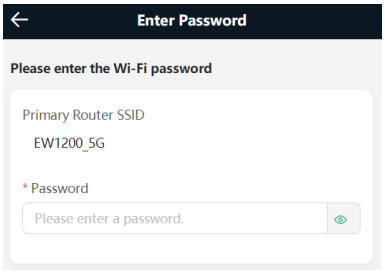
- **General Mode**:

Note

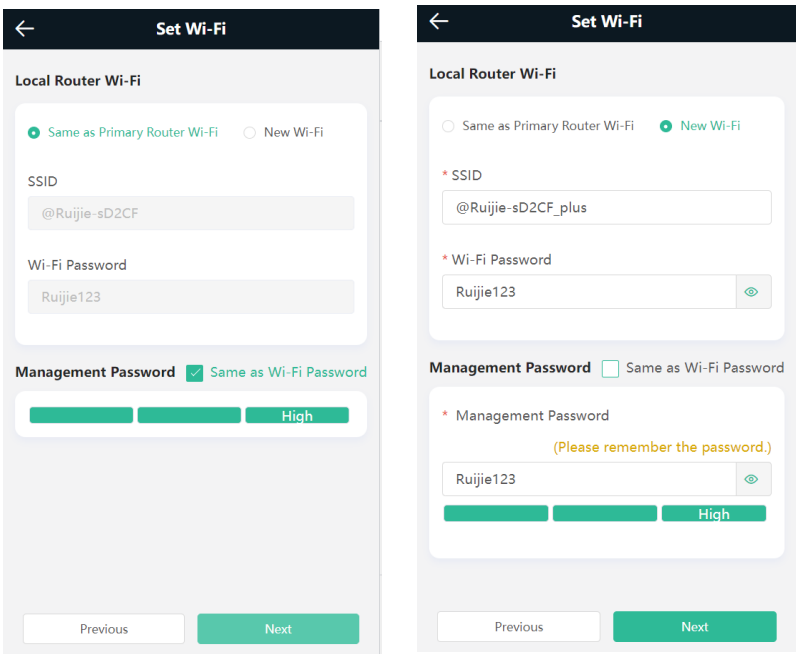
In the wireless repeater mode, the device extends Wi-Fi signals and disables its DHCP function. When clients connect to the wireless network, the primary router assigns addresses for them. When the device in the wireless repeater mode extends the network of primary router, the WAN interface is unchanged. If you connect the network cable to the WAN interface, the device automatically switches to the wired repeater mode.

(1) Click **Repeater Mode** and select **General Mode** (Recommended) from the drop-down list. Select the **Wi-Fi** of the primary router, and enter the **Wi-Fi password** of the primary router to connect to the Wi-Fi.





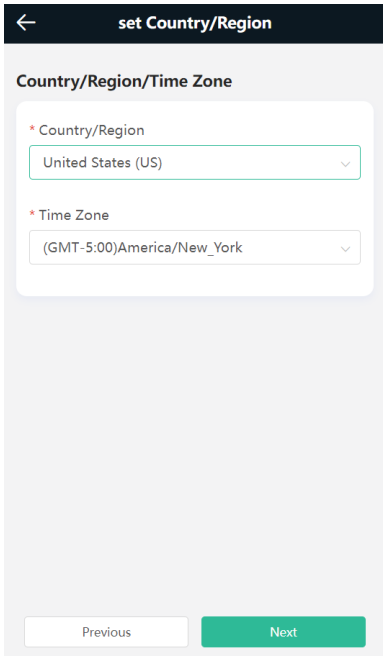
(2) Click **Next**. On the **Set Wi-Fi** page that opens, enter the Wi-Fi SSID and password of local router and the management password for the extender. You can select **Same as Primary Router** Wi-Fi, in which Wi-Fi SSID and password will be same as the primary router Wi-Fi, or select New Wi-Fi to set new Wi-Fi SSID and password. You can select **Same as Primary Router** Wi-Fi or **New Wi-Fi**. For the management password, you can check **Same as Wi-Fi Password**.



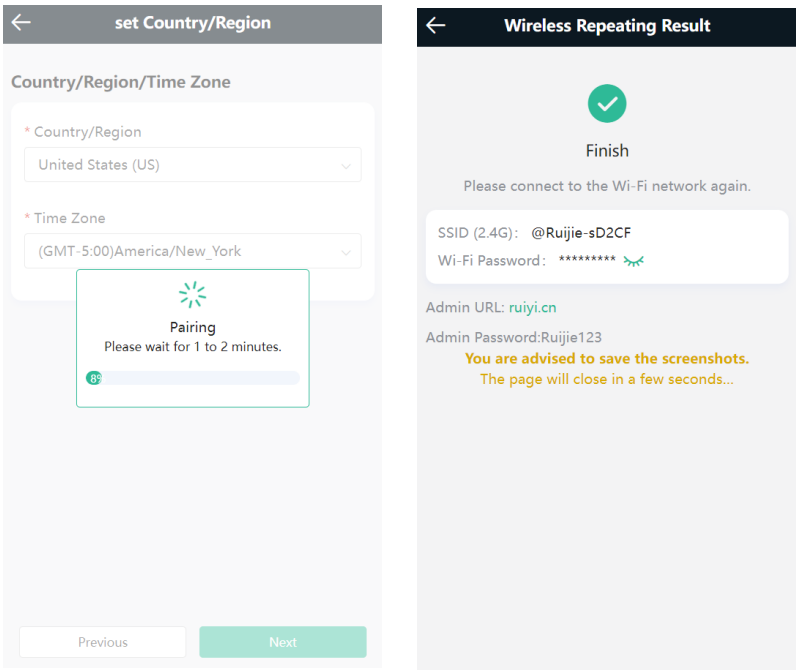
(3) Click **Next** and set **Country/Region**.

Country/Region: The Wi-Fi channel may vary from country to country. To ensure that clients search out Wi-Fi signals successfully, select the actual country or region.

Time Zone: Set the system time. The network time server is enabled to provide the time service by default. Select the actual time zone.



(4) Click **Next** to complete the configuration.



- **WISP Mode**:

Note

In the WISP mode, the device still supports routing and DHCP. The clients connected to the primary router are assigned IP addresses by the primary router; the clients connected to the secondary router are assigned IP addresses by the secondary router. When the device connects to the Internet wirelessly, the network interface functions as a LAN interface.

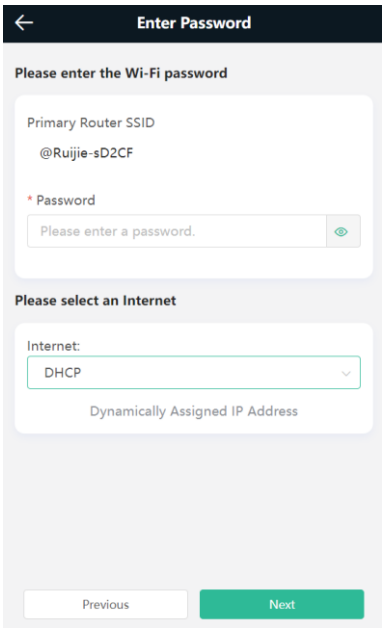
(1) Click **Repeater Mode** and select **WISP** from the drop-down list. Select the Wi-Fi of the primary router.

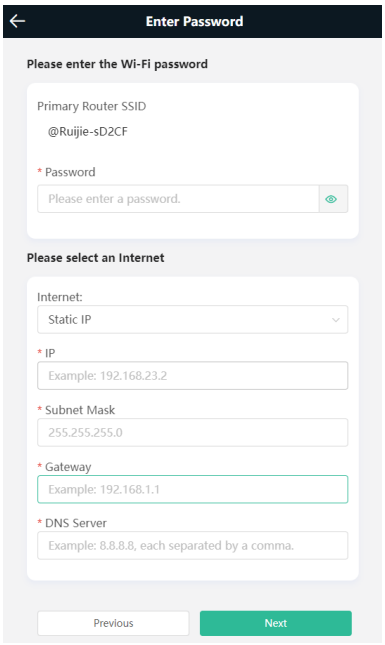


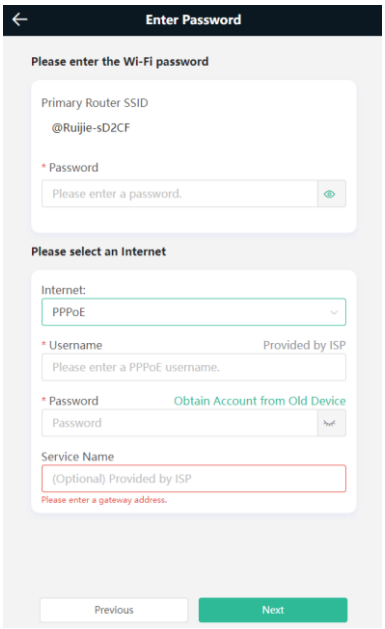
(2) Enter the password of the primary router Wi-Fi.

- Select DHCP and the extender will automatically obtain an IP address.
- If the primary router cannot assign IP addresses, select **Static IP**.

Select the Wi-Fi of primary router, and enter the Wi-Fi password to connect to the primary router.



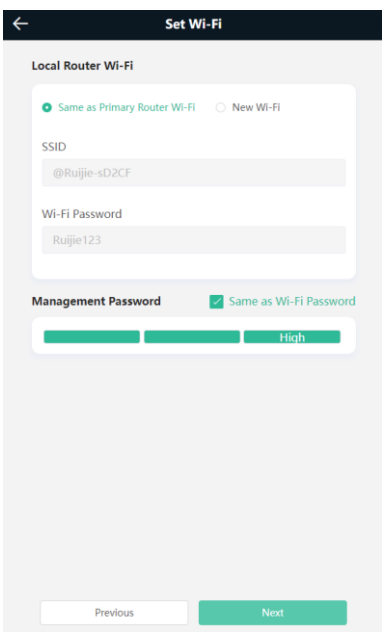


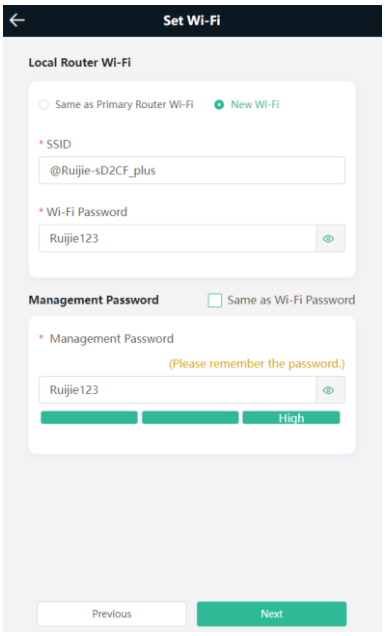


(3) Click **Next**. On the **Set Wi-Fi** page that opens,

enter the Wi-Fi SSID and password and management password for the extender.

- You can select **Same as Primary Router Wi-Fi**, in which Wi-Fi SSID and password will be same as the primary router Wi-Fi,
- or select **New Wi-Fi** to set new Wi-Fi SSID and password. For the management password, you can check **Same as Wi-Fi Password**.

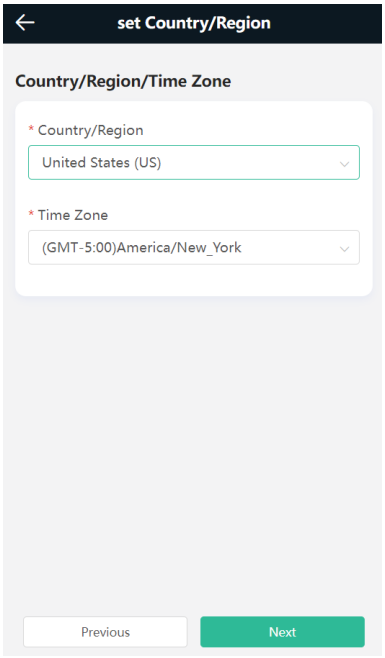




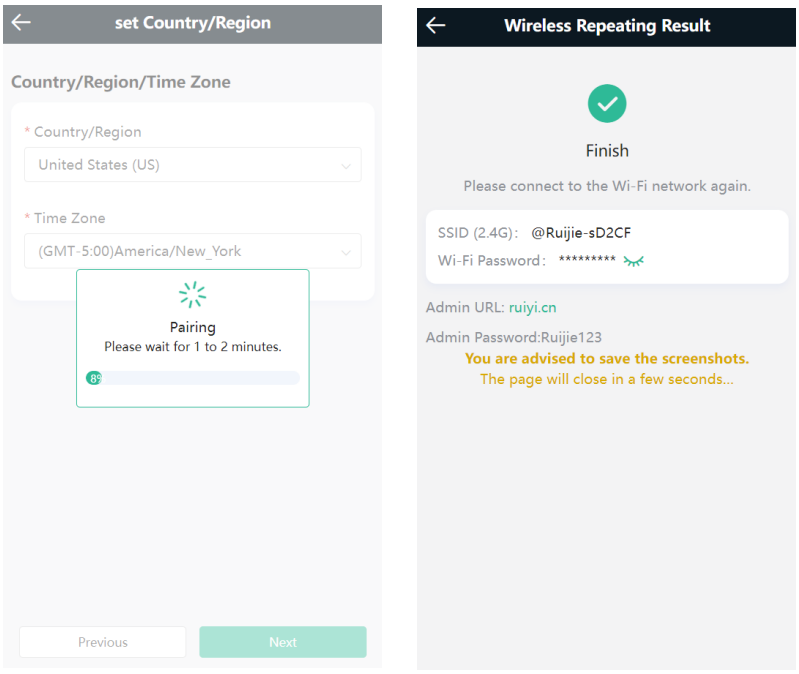
(4) Click **Next** and set **Country/Region**.

Country/Region: The Wi-Fi channel may vary from country to country. To ensure that clients search out Wi-Fi signals successfully, select the actual country or region.

Time Zone: Set the system time. The network time server is enabled to provide the time service by default. Select the actual time zone.



(5) Click **Next** to complete the configuration.



2.3.3 Verifying Configuration

The device can access the Internet after connecting to the Wi-Fi network of the primary router.

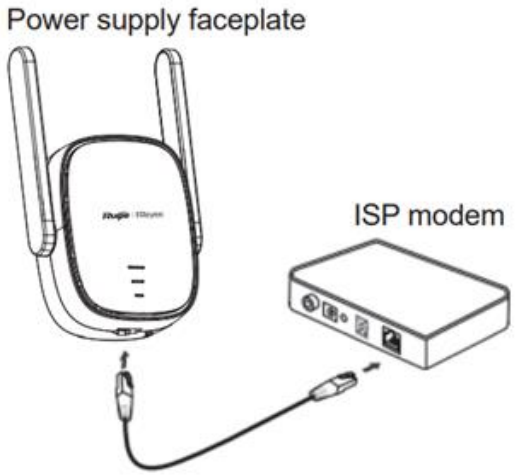
2.4 Network Settings (As a Router)

2.4.1 Getting Started

(1) Connect the mesh repeater to the power source.

(2) Connect the LAN interface of the optical modem to the network interface of the mesh repeater through a network cable. If the network cable is not connected, the wireless repeater page is automatically displayed.

(3) Log in to the web management interface of the mesh repeater. For details, see 2.2 Login.



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

Figure out whether the Internet connection type is PPPoE, DHCP mode, or static IP address mode.

- In the PPPoE mode, a username, a password, and possibly a service name are needed.
- In the static IP address mode, an IP address, a subnet mask, a gateway, and a DNS server need to be configured.
- In the DHCP mode, DHCP automatically assigns network parameters without manual intervention.

2.4.2 Configuration Steps

1. Configuring the Internet Type

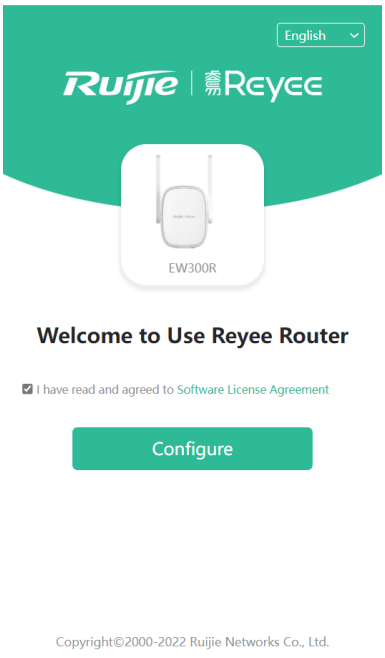
Click **Configure** and select the Internet type confirmed with the ISP.

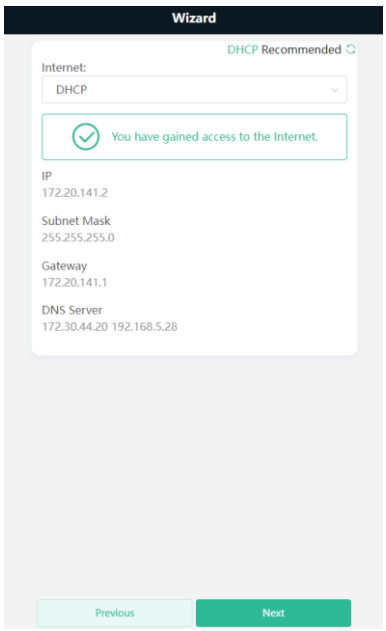
- **DHCP**: The device detects whether it can obtain an IP address via DHCP by default. If the device connects to the Internet successfully, you can click **Next** without entering an account.

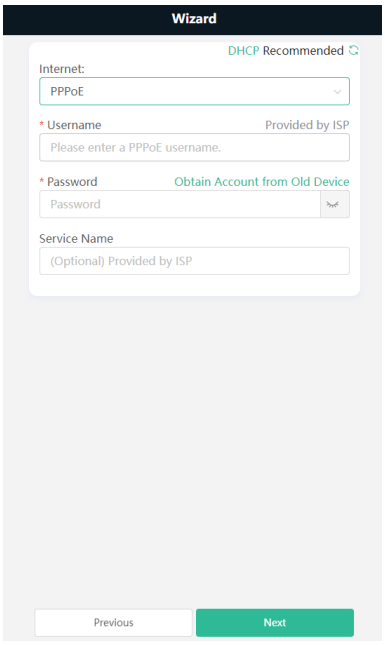
Caution

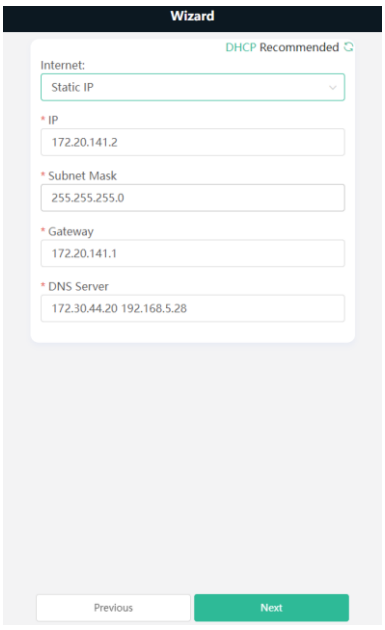
- If the primary router assigns an IP address from the 192.168.110.0 network to the mesh repeater, the mesh repeater will change the IP address of its LAN port to 192.168.111.1 automatically. Mistaking the mesh repeater for the primary router and changing its configuration may cause a network disconnection. You are advised to refer to the model and Wi-Fi information on the homepage.

- **PPPoE**: Click **PPPoE**, and enter the username, password, and service name. Click **Next**.
- **Static IP**: Enter the IP address, subnet mask, gateway, and DNS server, and click **Next**.









2. Configuring the Wi-Fi Network

Note

- EW300R supports only 2.4 GHz channels.

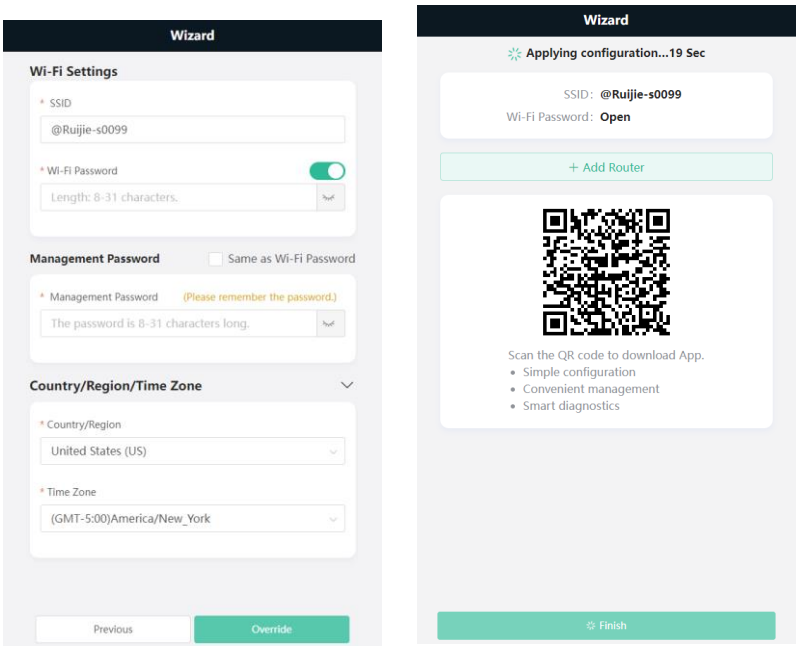
(1) **Setting the SSID and Wi-Fi password**: The device has no Wi-Fi password by default, indicating that the Wi-Fi network is an open network. You are advised to configure a complex password to enhance the network security. The password must be a string of 8 to 31 characters, which can contain uppercase and lowercase letters, digits, and English characters but cannot contain special characters such as single quotation marks ('), double quotation marks ("), or spaces.

(2) **Setting the management password**: The password is used for logging in to the management page. The management password must be a string of 8 to 31 characters that contain at least three types among uppercase letters, lowercase letters, digits, and English characters but cannot contain **admin**, Chinese characters, spaces, or question marks (?). You can select **Same as Wi-Fi Password**.

(3) **Setting the country or region**: The Wi-Fi channel may vary from country to country. To ensure that a client searches for a Wi-Fi network successfully, you are advised to select the actual country or region.

(4) **Setting time**: Set the system time. The network time server is enabled by default to provide the time service. You are advised to select the actual time zone.

(5) **Overriding the configuration**: Click **Override**. The Wi-Fi network will be restarted. You need to enter the new Wi-Fi password to connect to the new Wi-Fi network.



2.4.3 Verifying Configuration

The device can access the Internet after connecting to the Wi-Fi network.

3 Wi-Fi Network Settings

3.1 Changing the SSID and Password

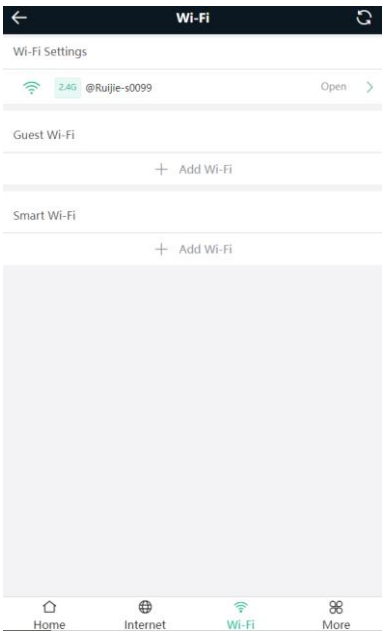
Mobile Phone View: **Wi-Fi**->**Wi-Fi Settings**

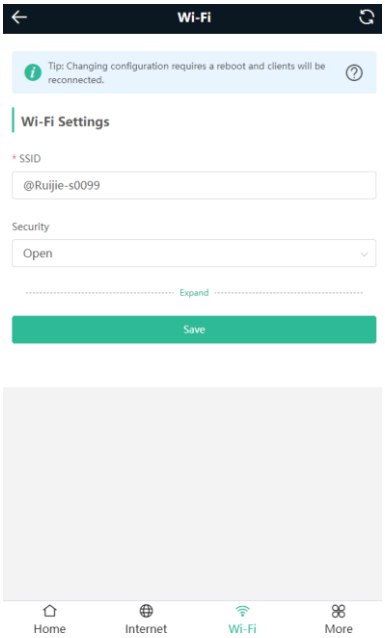
Click the target Wi-Fi network, change the SSID and password of the Wi-Fi network, and click **Save**.

PC View: **Wi-Fi**->**Wi-Fi Settings**

Caution

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





3.2 Hiding the SSID

3.2.1 Overview

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

3.2.2 Getting Started

Remember the SSID so that you can enter the correct SSID after the function is enabled.

3.2.3 Configuration Steps

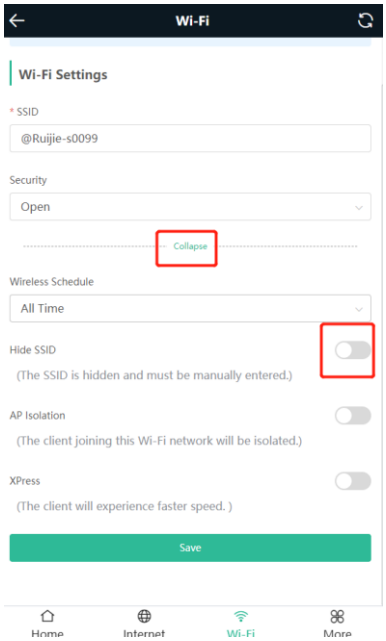
Mobile Phone View: **Wi-Fi** > **Wi-Fi Settings**

PC View: **More** > **WLAN**> **Wi-Fi Settings**

Click to expand the advanced settings. Turn on **Hide SSID** and click **Save**.

Caution

After **Hide SSID** is enabled, all clients need to enter the SSID and password manually to search for the Wi-Fi network. Exercise caution when performing this operation.



Note

Users need to manually enter the SSID and password each time they connect to a hidden Wi-Fi network. Take an Android-based device as an example: To connect it to a hidden Wi-Fi network, choose **WLAN** > **Add network** > **Network name**, enter the Wi-Fi name, select **WPA/WPA2** from the **Security** dropdown list, enter the password, and click **Connect**.

3.3 Configuring the Wi-Fi

3.3.1 Overview

The mesh repeater supports three types of Wi-Fi, including primary Wi-Fi, guest Wi-Fi and smart Wi-Fi.

- **Primary Wi-Fi**: The primary Wi-Fi network is listed in the first line of the page and is enabled by default.
- **Guest Wi-Fi**: This Wi-Fi network is provided for guests and is disabled by default. It supports user isolation, that is, access users are isolated from each other. They can only access the Internet via Wi-Fi, but cannot

access each other, improving security.

The guest Wi-Fi network can be turned off as scheduled. You can configure to turn off the guest Wi-Fi network one hour later. When the time expires, the guest network is off.

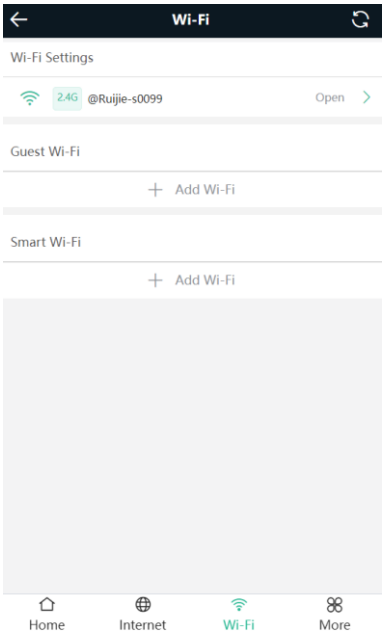
- **Smart Wi-Fi**: The smart Wi-Fi network is disabled by default. Smart clients can connect to the smart Wi-Fi network for long. The smart Wi-Fi network cannot be turned off as scheduled.

3.3.2 Configuration Steps

Mobile Phone View: Choose **Wi-Fi** > **Wi-Fi Settings**.

The page displays the primary Wi-Fi network, guest Wi-Fi network, and smart Wi-Fi network from top to bottom. Click **Add Wi-Fi** and set the SSID and password.

PC View: Choose **More** > **WLAN** > **Wi-Fi** > **Wi-Fi Settings**/**Guest Wi-Fi**/**Smart Wi-Fi**.



3.4 Configuring the Wi-Fi Blacklist or Whitelist

3.4.1 Overview

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

3.4.2 Configuration Steps

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **WLAN** > **Blacklist/Whitelist**.

PC View: Choose **More** > **WLAN** > **Blacklist/Whitelist**.

The following takes the blacklist configuration as an example. If you want to configure a whitelist, take the same steps.

(1) Select the blacklist mode and click **Add**. The default mode is blacklist mode.

In the pop-up dialog box, enter the MAC address and remarks of the client to be blacklisted.

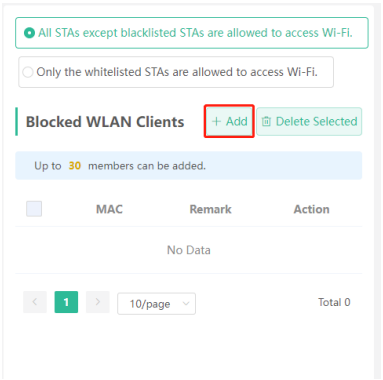
The device displays information about the connected clients. Select a client, and it will be added to the blacklist automatically.

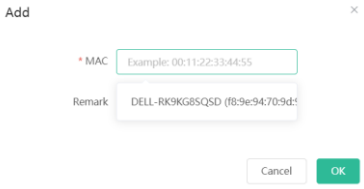
Click **OK** to save the configuration.

The client will be disconnected and prevented from connecting to the Wi-Fi network.

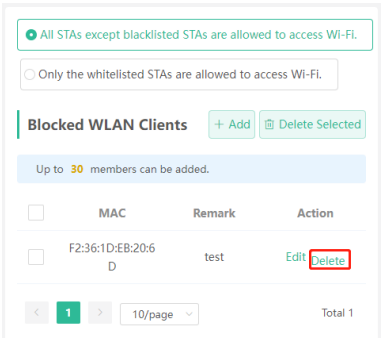
Caution

This configuration prevents some devices from connecting to the Wi-Fi network. Exercise caution when performing this operation.





(2) Click **Delete**. The client can connect to the Wi-Fi network again.



3.5 Optimizing the Wi-Fi Network

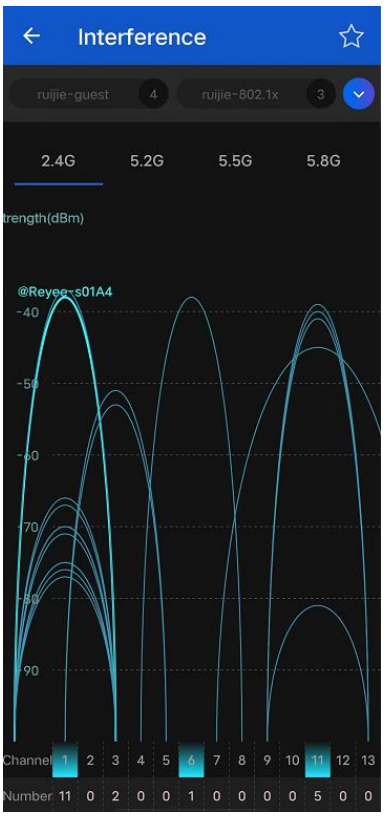
3.5.1 Overview

The device detects the surrounding wireless environment and selects the appropriate configuration upon power-on. However, network stalling caused by wireless environment changes cannot be avoided. Restarting the mesh repeater is a convenient and effective method to cope with network stalling. The mesh repeater supports

scheduled restart. For details, see 5.4 Configuring Scheduled Reboot. You can also analyze the wireless environment around the mesh repeater and select appropriate parameters.

3.5.2 Getting Started

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



3.5.3 Configuration Steps

1. Optimizing the radio channel

Mobile Phone View: Choose **More** > **Channel Transmit Power**.

PC View: Choose **More** > **WLAN** > **Radio Frequency**.

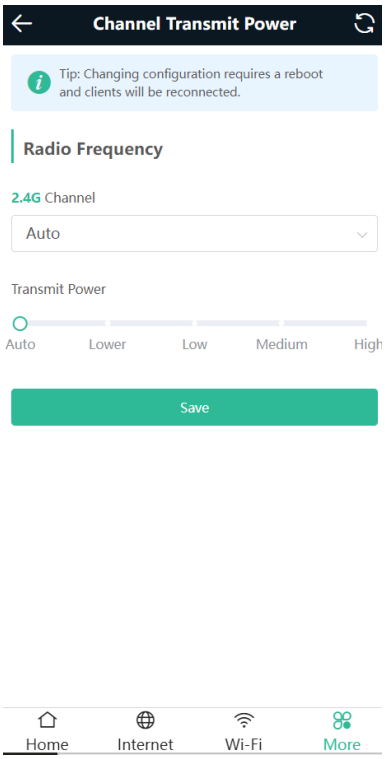
Choose the best channel identified by Wi-Fi Moho or other Wi-Fi scanning App. Click **Save** to make the configuration take effect immediately. Excess clients connected to a channel can bring stronger wireless interference.

Note

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

Caution

The Wi-Fi network will restart after the radio channel is changed. Therefore, exercise caution when performing this operation.



2. Optimizing the channel width

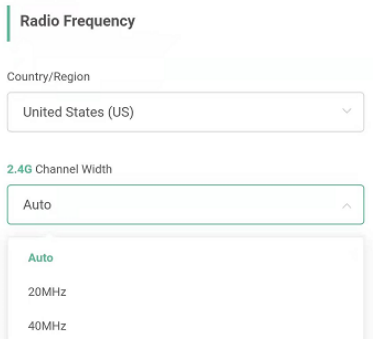
Mobile Phone View: Choose **More**> **Country(Region)/Channel Width**.

PC View: Choose **More** > **WLAN** > **Radio Frequency**.

EW300R supports only 2.4 GHz channels. The mesh repeater supports the 20 MHz and 40 MHz channel width. The Wi-Fi network speed is more stable when the channel width is smaller, and a larger channel width makes the device more prone to interference. You are advised to select **20 MHz** for the 2.4G radio. After changing the channel width, click **Save** to make the configuration take effect immediately.

Caution

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



3. Optimizing the transmit power

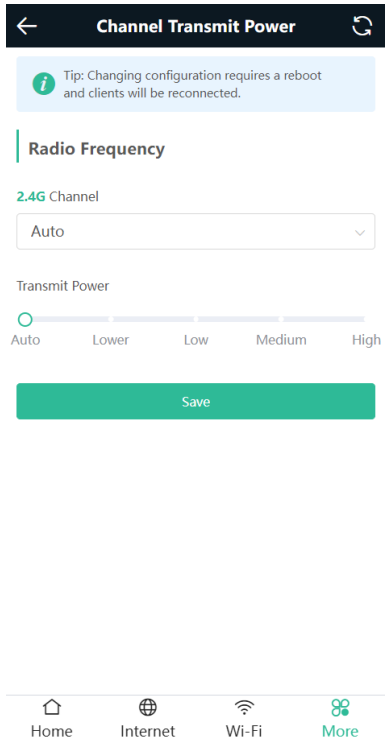
Mobile Phone View: Choose **More** > **Channel Transmit Power**.

PC View: Choose **More** > **WLAN** > **Radio Frequency**.

A greater transmit power indicates a larger coverage and brings stronger interference to surrounding wireless routers. The default value is **Auto**, indicating automatic adjustment of the transmit power. In a scenario in which routers are installed densely, a lower transmit power is recommended.

Caution

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



3.6 Configuring the Healthy Mode

Mobile Phone View: Choose **More** > **Healthy Mode** > **Healthy Mode**.

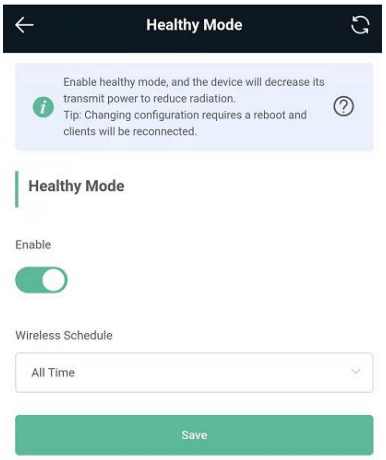
PC View: Choose **More** > **WLAN** > **Wi-Fi** > **Healthy Mode**.

Click **Enable** to enable the healthy mode. You are allowed to set the effective time period for the healthy mode.

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

Note

All Reyee mesh repeaters have undergone stringent radiation detection and evaluation, and comply with IEC/EN62311, EN 50385 and other standards. Wi-Fi networks will not affect human health and you can be rest assured to use them.



4 Networks Settings

4.1 Configuring Internet Connection Type

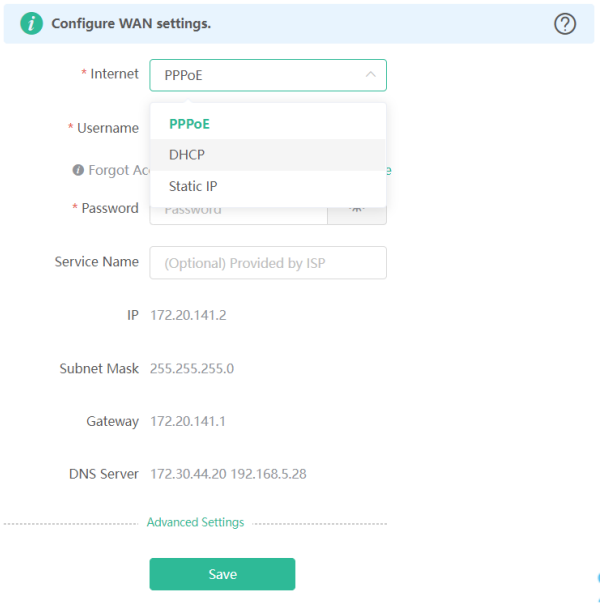
Caution

This feature is supported by only the router mode and the WISP mode.

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **WAN**.

PC View: **More** > **Basics** > **WAN**.

Please see 2.4 Network Settings (As a Router) for details.



4.2 Changing the Address of a LAN Port

Caution

This feature is supported by only the router mode and the WISP mode.

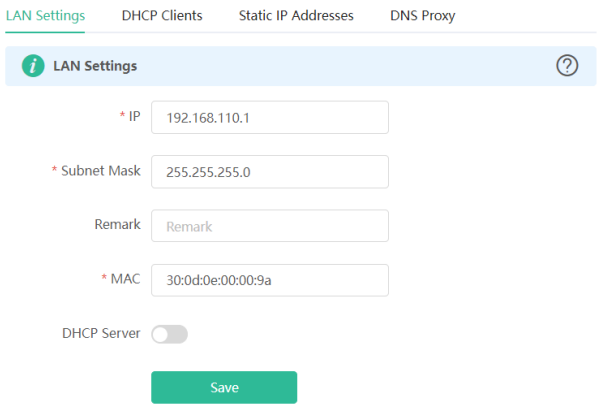
Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **LAN**.

PC View: Choose **More** > **Basics** > **LAN**.

Change the IP address and subnet mask, and click **Save**. After changing the IP address of the LAN port, please log in again with the new IP address.

Caution

Changing the IP address and subnet mask will disconnect the Wi-Fi network. You need to reconnect to the Wi-Fi network. Therefore, exercise caution when performing this operation.



4.3 Changing the MAC Address

Caution

This feature is supported by only the router mode and the WISP mode.

The ISP may restrict the access of devices with unknown MAC addresses to the Internet for the sake of security. In this case, you can change the MAC address of the WAN port to another address. You are advised to use the MAC address of an old router that is allowed to access the Internet (the MAC address can be found on the bottom label of the device).

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **WAN** > **Advanced Settings**.

PC View: Choose **More** > **Basics** > **WAN** > **Advanced Settings**.

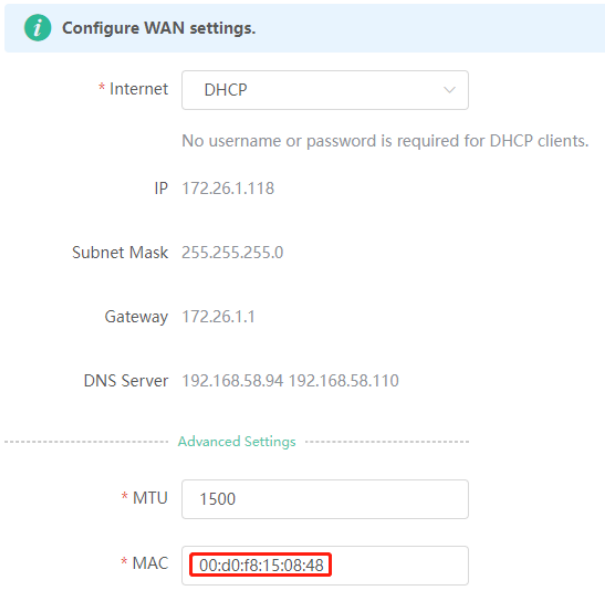
Enter the MAC address in the format of 00:11:22:33:44:55.

If you want to change the MAC address of the LAN port, choose **Basics** > **LAN**.

Caution

Changing the MAC address of the LAN or WAN port will disconnect the network. You need to reconnect to the mesh repeater or restart the mesh repeater. Therefore, exercise caution when performing this operation.

Figure 4-1 WAN Port Settings



4.4 Changing the MTU

Caution

This feature is supported by only the router mode and the WISP mode.

Sometimes, the ISP restrict the speed of large data packets or prevent large data packets from passing through. As a result, the network speed is low or even the network is disconnected. In this case, you are required to set the maximum transmission unit (MTU) to a smaller value.

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **WAN** > **Advanced Settings**.

PC View: Choose **More** > **Basics** > **WAN** > **Advanced Settings**.

The default MTU value is 1500, which is the maximum MTU size. You are advised to gradually adjust the value to 1492, 1400, or even smaller if necessary.

For details about the page, see Figure 4-1.

4.5 Configuring the Repeater Mode

4.5.1 Wired Repeater

Mobile Phone View: Choose **More** > **Repeater Mode**.

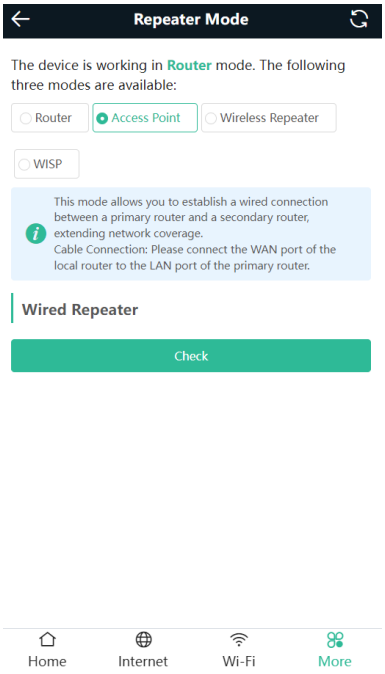
PC View: **More** > **Basics** > **Repeater/WISP**.

Connect the network interface of the mesh repeater to the LAN interface of primary router through a network cable.

Select **Access Point** and click **Check**. After confirming the Wi-Fi settings of the mesh repeater, click **Save**. The network coverage range is extended.

Caution

After the configuration is saved, the connected clients are disconnected from the network for a short time and need to be connected to Wi-Fi again.



4.5.2 Wireless Repeater

The wireless repeater can extend the Wi-Fi coverage range of the primary router. It extends only 2.4 GHz signals of the primary router.

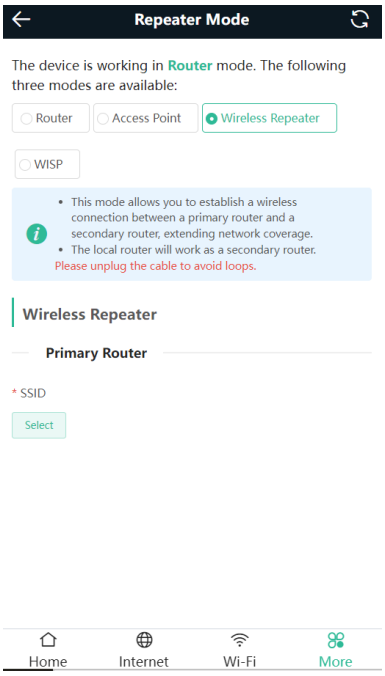
Note

- Before using the wireless repeater function, remove the network cable from the mesh repeater first.
- Confirm the Wi-Fi name and password of the primary router before performing the configuration.

Mobile Phone View: Choose **More** > **Repeater Mode**.

PC View: **More** > **Basics** > **Repeater/WISP**.

(1) Click **Wireless Repeater**, and click **Select**. The list of surrounding Wi-Fi signals is displayed.



(2) Select the Wi-Fi signal of the primary router you want to extend. The setting options of this router are displayed. If the signal of selected primary router is encrypted, enter the Wi-Fi password of the primary router. You can configure 2.4 GHz signals of primary router as backup.

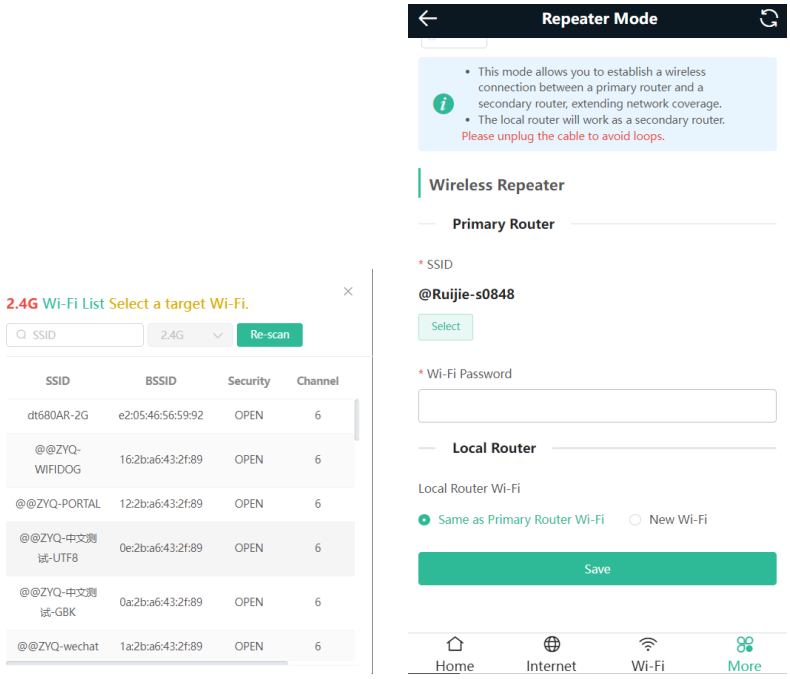
(3) Configure the Wi-Fi of this router. You can choose whether the Wi-Fi is the same as the Wi-Fi of primary router.

- If you set them the same, the Wi-Fi settings of the mesh repeater will be automatically synchronized with the primary router. Generally, clients consider the Wi-Fi networks with identical name as one network; therefore, they can find only the Wi-Fi of the primary router.
- If you set them different, configure the local Wi-Fi name and password. Then clients will find different Wi-Fi networks.

Caution

- After the configuration is saved, the Wi-Fi is disconnected. The clients need to connect to the new Wi-Fi. Remember the configured Wi-Fi name and password, and exercise caution when performing the configuration.
- You are advised to install the mesh repeater in a position where more than two grids of signal is available to prevent serious signal loss in the repeating process. If the signal at the installation position is too weak, Wi-Fi extension may fail or signal quality is poor after amplification.

Figure 4-2 Selecting and Connecting to the Wi-Fi of Primary Router



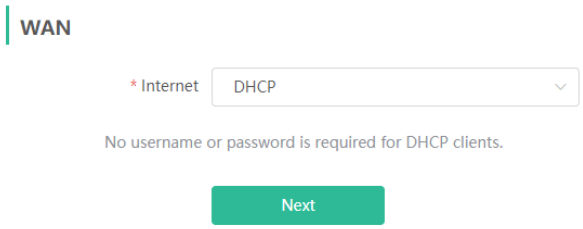
4.5.3 WISP

WISP allows users to establish their own WLAN for Internet access in public spaces, including coffee, hotel, airport or restaurant.

Mobile Phone View: More > **Repeater Mode**.

PC View: **More** > **Basics** > **Repeater/WISP**.

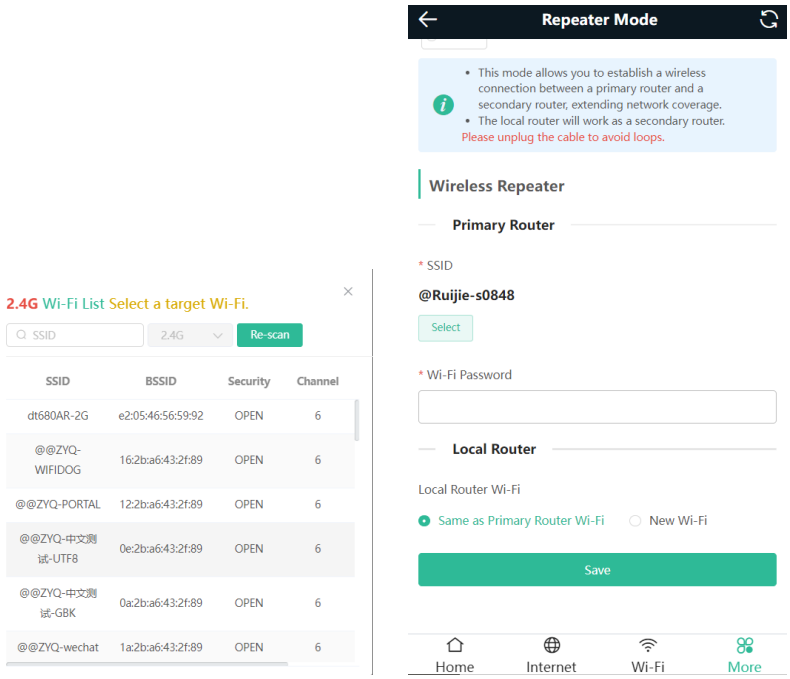
(1) Click **WISP** and select an Internet connection type. Click **Next**.



(2) Click **Select**, choose network signal, enter the password, and click **Save**.

Caution

After the configuration is saved, the Wi-Fi restarts. The clients need to connect to the new Wi-Fi. Remember the configured Wi-Fi name and password, and exercise caution when performing the configuration.



4.6 Online Time Control

Caution

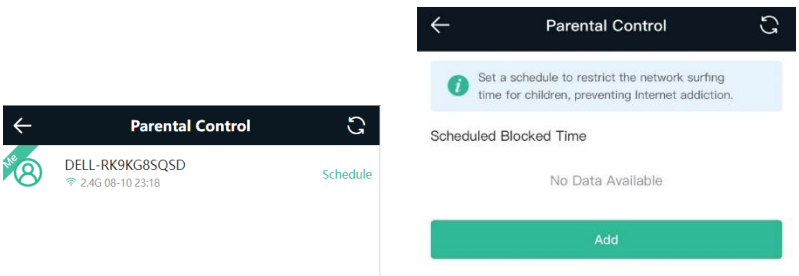
This feature is supported by only the router mode and the WISP mode.

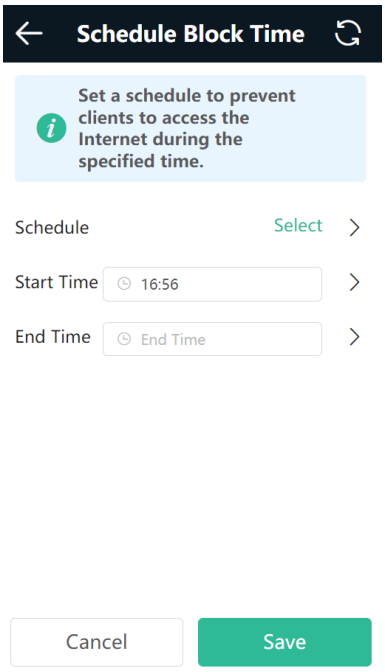
Mobile Phone View: Choose **More** > **Parental Control**.

PC View: Choose **Clients** > **Add Blocked Time**.

Select a client and click **Schedule**, click **Add**, and set the restriction time. The client cannot access the network from the start time to the end time.

In the PC edition, you can choose **Weekdays** or **Weekends** to prevent a client from accessing the Internet all day long, or set **Blocked Time** to **Custom** and set a restriction period.



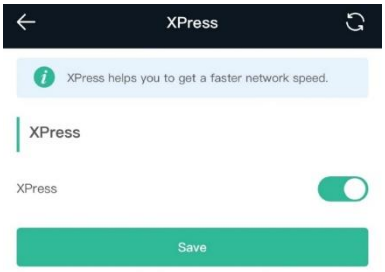


4.7 Configuring XPress

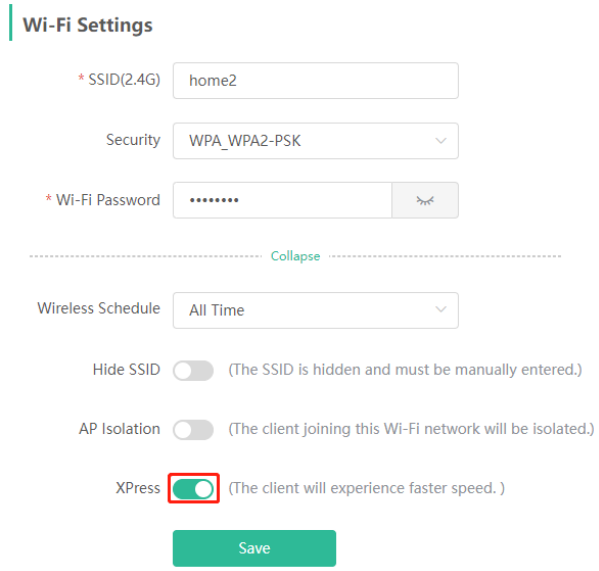
Mobile Phone View: Choose **More** > **XPress**.

PC View: Choose **More** > **WLAN** > **Wi-Fi** > **Wi-Fi Settings** > **Expand** > **XPress**.

Turn on **XPress** and click **Save** to save the configuration. After XPress is enabled, you will have a more stable gaming experience.



In the PC view, turn on **XPress** as follows.



4.8 Configuring the DHCP Server

Caution

This feature is supported by only the **Router** mode and the **WISP** mode.

4.8.1 Overview

A DHCP server is responsible for assigning dynamic IP addresses to clients in the Wi-Fi network for Internet access.

4.8.2 Configuration Steps

- Configuring the DHCP Server

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **LAN** > **LAN Settings**.

PC View: Choose **More** > **Basics** > **LAN** > **LAN Settings**.

DHCP Server: The DHCP server function is enabled by default. You are advised to enable it when only a single router is used.

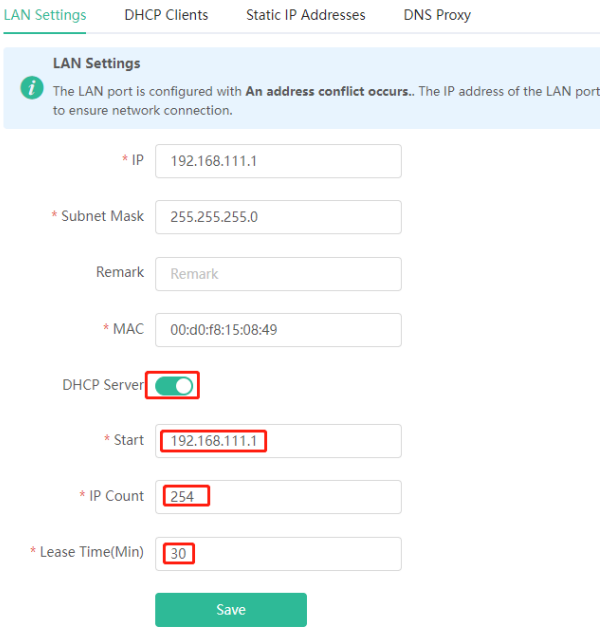
Caution

If all DHCP servers in the network are disabled, all clients will fail to obtain the dynamic IP addresses. In this case, please enable at least one DHCP server or configure the client with a static IP address manually.

Start: Enter the start IP address of the DHCP address pool. A client obtains an IP address from the address pool. If all the addresses in the address pool are used up, the client will fail to obtain the IP address.

IP Count: Enter the number of IP addresses in the address pool. The default value is **254**.

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

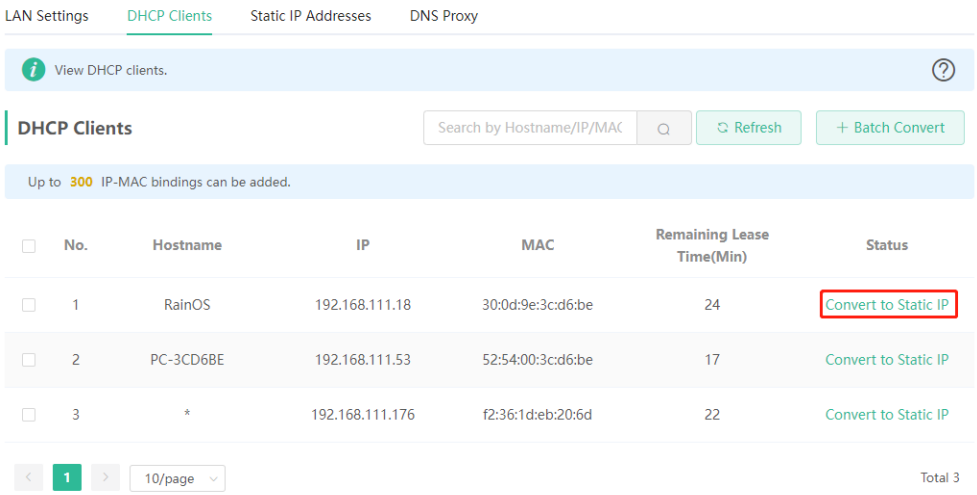


- Viewing DHCP Clients

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **LAN** > **DHCP Clients**.

PC View: Choose **More** > **Basics** > **LAN** > **DHCP Clients**.

Check information about an online client. Click **Convert to Static IP**. The client will be assigned with the specified IP address.

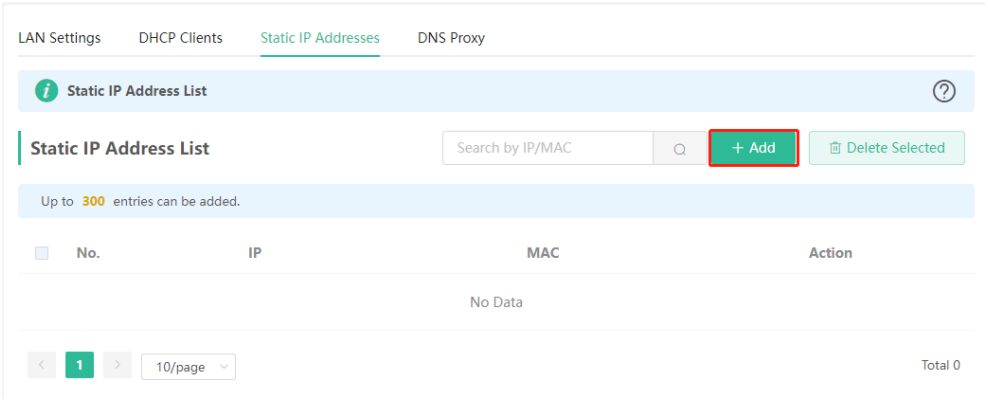


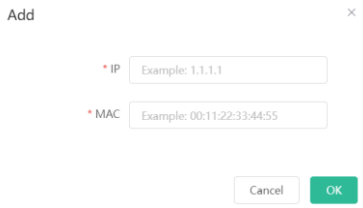
- Binding a Static IP Address

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **LAN** > **Static IP Addresses**.

PC View: Choose **More** > **Basics** > **LAN** > **Static IP Addresses**.

Click **Add**. In the displayed static IP address dialog box, enter the MAC address and IP address of the target client, and click **OK**. After a static IP address is bound, the client will be assigned with the specified IP address.





4.9 Configuring DNS

4.9.1 Local DNS

When the WAN interface runs DHCP or PPPoE protocol, the device automatically obtains the DNS server address. If the primary router does not deliver the DNS server address or the DNS server needs to be changed, you can manually configure a new DNS server.

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Advanced** > **Local DNS**

PC View: Choose **More** > **Advanced** > **Local DNS**

Local DNS Server: Configure the DNS server address used by the local device. If there are multiple DNS addresses, separate them with spaces.



4.9.2 DNS Proxy

Caution

This feature is supported by only the router mode and the WISP mode.

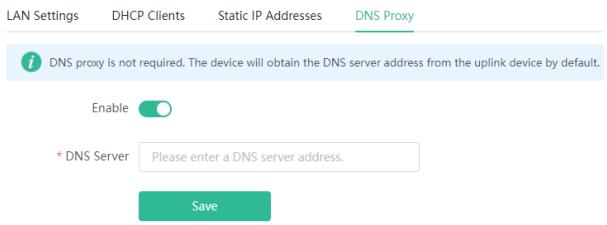
The DNS server proxy is optional. By default, the device obtains the DNS server address from the uplink device.

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Basics** > **LAN** > **DNS Proxy**.

PC View: Choose **More** > **Basics** > **LAN** > **DNS Proxy**.

DNS proxy: By default, the DNS proxy is disabled, and the DNS address delivered by the ISP is used. If the DNS configuration is incorrect, the network may be successfully connected and mobile phones can access the Internet by using APPs, but web pages cannot be opened. You are advised to keep the DNS proxy disabled.

DNS Server: By default, clients use the DNS service provided by the primary router when accessing the Internet. The default settings are recommended. After the DNS proxy is enabled, you can enter the IP address of the DNS server. The DNS address varies according to regions, and you can consult the local ISP.



4.10 Configuring Port Mapping

Caution

This function is supported only in router mode.

4.10.1 Overview

Port mapping needs to be set in the following scenarios:

- Scenario 1: When you need to access network cameras or PCs at home while you are away from home, port mapping needs to be configured.
- Scenario 2: When a server is set up on the home network so that you can access it while you are away from home, port mapping or demilitarized zone (DMZ) needs to be configured.
- Port mapping maps the IP address of a device on the LAN to an external network in the form of WAN IP address and port number, so as to provide the access service for the external network.
- Port mapping maps the WAN port IP address of a router to an LAN host and port so that Internet users can proactively access hosts on the LAN.
- DMZ forwards all packets from the Internet to DMZ hosts to provide the Internet access service.

4.10.2 Configuration Preparations

- Confirm the IP address of the device to be mapped on the LAN and service port ID.
- Ensure that the service to be mapped to an external network can be properly used on the LAN.

4.10.3 Procedure

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Advanced** > **Port Mapping**.

PC View: Choose **More** > **Advanced** > Port Mapping.

Click **Add**. In the pop-up dialog box, enter the name, service type, protocol type, external port/range, internal IP address, and internal port/range. A maximum of 50 port mapping rules can be configured.

Name: Enter a name for ease of maintenance.

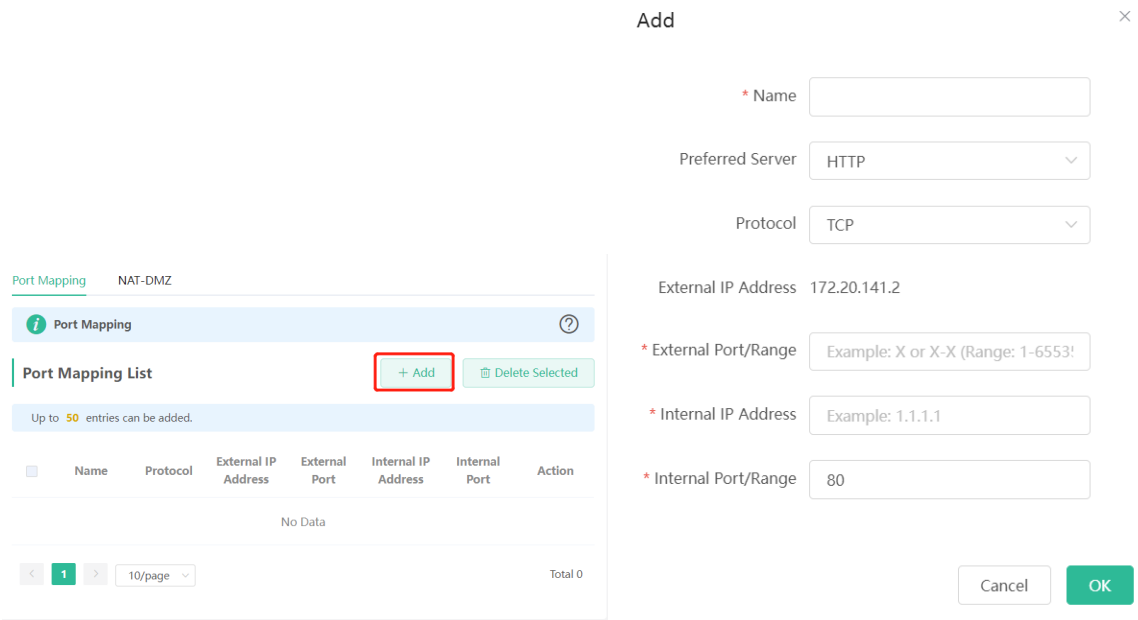
Preferred Server: Select a service to be mapped, such as HTTP or FTP. The device automatically fills in the internal port number of the service. If you are not sure of the service, you can select **Custom**.

Protocol: Select the transport-layer protocol used by the selected service, such as **ALL**, **TCP**, or **UDP**. The configuration must be consistent with the client configuration of the selected service.

External Port/Range: Enter the port number used by an external network to access the service. You need to confirm the port number in software, such as camera monitoring software.

Internal IP Address: Enter the IP address of the internal server that needs to be mapped to a WAN port, that is, the IP address of the LAN device to be accessed by an external network, such as the IP address of a network camera.

Internal Port/Range: Enter the port number used by an application accessed by an external network, such as port 8080 used by the Web service.



4.10.4 Verification and Testing

Use an external device to test whether the destination service can be accessed based on the external IP address and port number.

4.10.5 Solution to a Test Failure

(1) Use a new port number and perform a test again. The test often fails on the ports blocked by firewalls of some carriers.

(2) Enable the remote access permission on the server. The common cause is that remote access is disabled on the server by default. As a result, the internal network access is successful but the access across different network segments fails.

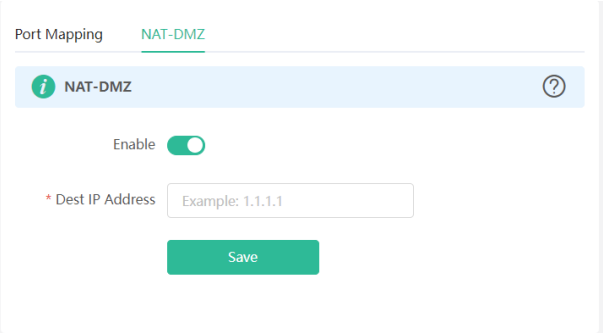
(3) Attempt to enable the DMZ service. For details, see 4.10.6 . The common cause is that configured port information is incorrect or incomplete.

4.10.6 DMZ Configuration Steps

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Advanced** > **Port Mapping** > **NAT-DMZ**.

PC View: Choose **More** > **Advanced** > **Port Mapping** > **NAT-DMZ**.

Click **Enable**, enter the IP address of the internal server, and click **Save**.



4.11 Configuring ARP Binding and Guard

Caution

This function is supported only in router mode.

4.11.1 Overview

The router learns the ARP table from all devices connected to its ports. You can search for a device by MAC address, bind ARP mapping, and enable ARP guard to improve network security.

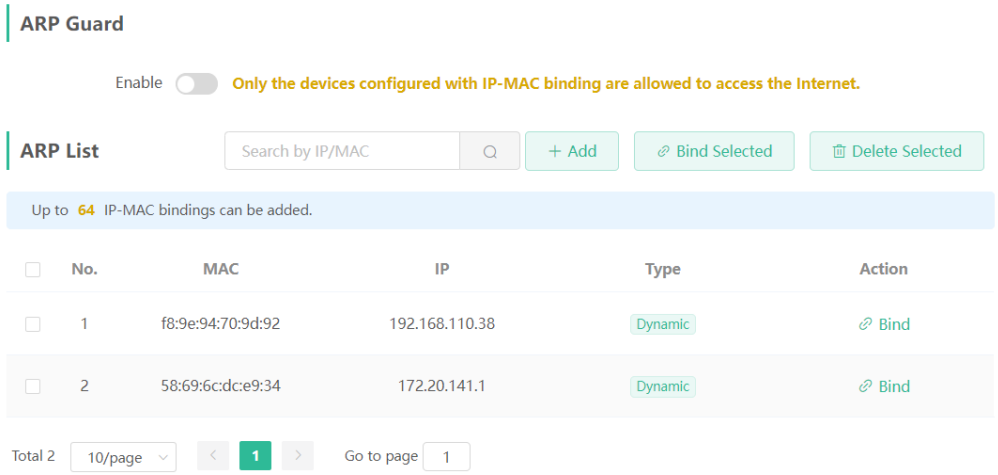
4.11.2 Procedure

(1) Binding ARP information

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Security** > **ARP List**.

PC View: Choose **More** > **Security** > **ARP List**.

Bind MAC addresses and IP addresses on the LAN, that is, bind ARP information.



(2) Enabling ARP guard

Turn on the switch below **ARP Guard** to enable the ARP guard function. After enabling, only clients whose ARP information is bound are allowed to access the Internet.

Caution

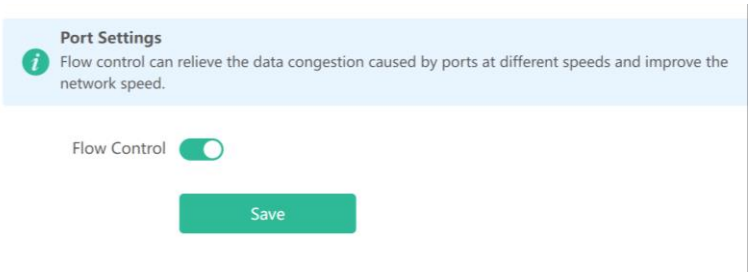
Enabling this function will disconnect some devices from the network. Therefore, exercise caution when performing this operation.

4.12 Enabling Port-based Flow Control

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Advanced** > **Port Settings**.

PC View: Choose **More** > **Advanced** > **Port Settings**.

Flow control can resolve the data congestion problem when wired interfaces work at different rates, thus improving network speed.

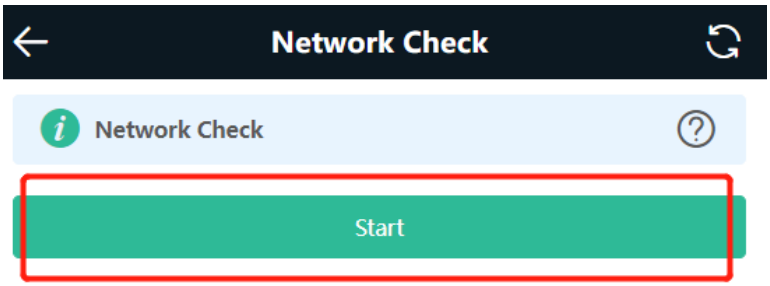


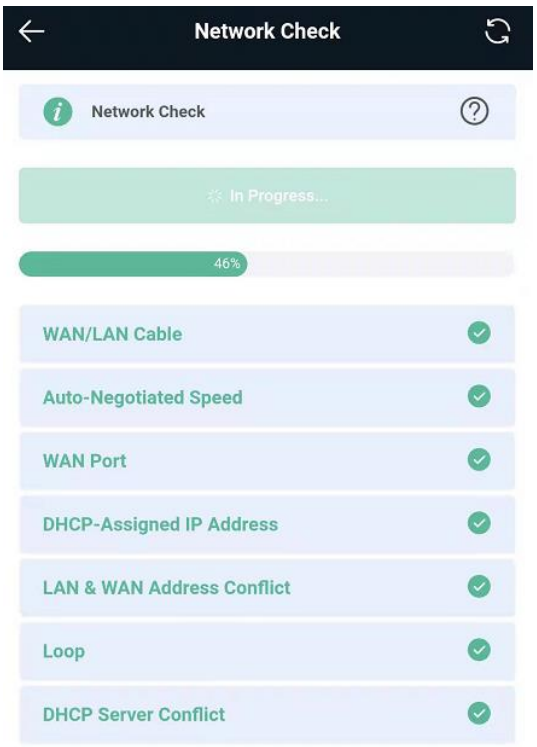
4.13 Network Problem Diagnosis

Mobile Phone View: Choose **More** > **Network Check**.

PC View: Choose **More** > **Diagnostics** > **Network Check**.

Click **Start**. Then the device will check the problems existing on the network, including the problems of interfaces, routing, flow control, and Reyee Cloud platform, and provides solutions and suggestions on the risks.





4.14 Setting UPnP

Caution

This function is supported only in router mode.

4.14.1 Overview

After the universal plug and play (UPnP) function is enabled, the device is capable of converting the ports used by clients to access the Internet service based on clients' requests. When a client on the Internet wants to access internal network resources of the device, the device automatically adds port mapping entries to implement traversal between the internal and external networks for some services. Common applications that support UPnP include MSN Messenger, Xunlei, BT, and PPLive.

Before using the UPnP service, ensure that clients (PCs and mobile phones) that work with the UPnP function also support the UPnP function.

4.14.2 Procedure

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Advanced** > **UPnP Settings**.

PC View: Choose **More** > **Advanced** > **UPnP Settings**.

You are advised to disable the function. Any applications that have ports converted will be listed in the lower part of the page.



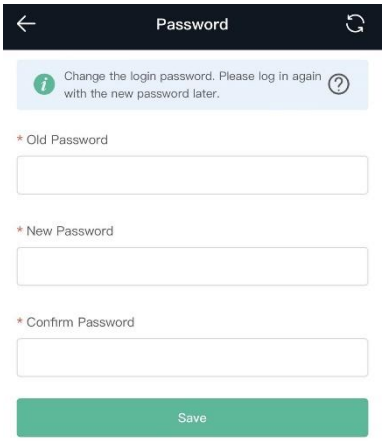
5 System Settings

5.1 Configuring the Login Password

Mobile Phone View: Choose **More** > **System** > **Password**.

PC View: Choose **More** > **System** > **Login** > **Login Password**.

Enter the old password and new password. After saving the configuration, log in again with the new password.



5.2 Restoring Factory Settings

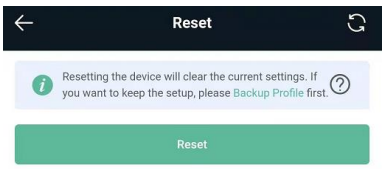
Mobile Phone View: Choose **More** > **System** > **Reset**.

PC View: Choose **More** > **System** > **Management** > **Reset**.

Click **Reset** to restore factory settings.

Caution

This operation will clear existing settings and restart the device. Therefore, exercise caution when performing this operation.

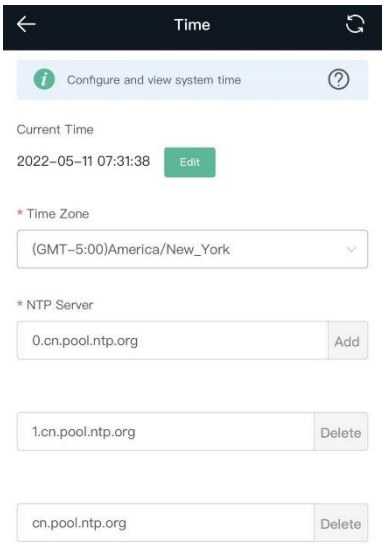


5.3 Configuring System Time

Mobile Phone View: Choose **More** > **System** > **Time**.

PC View: Choose **More** > **System** > **System Time**.

You can view the current system time. If the time is incorrect, check and select the local time zone. If the time zone is correct but time is still incorrect, click **Edit** to manually set the time. In addition, the mesh repeater supports Network Time Protocol (NTP) servers. By default, multiple servers serve as the backup of each other. You can add or delete local servers as required.



5.4 Configuring Scheduled Reboot

5.4.1 Getting Started

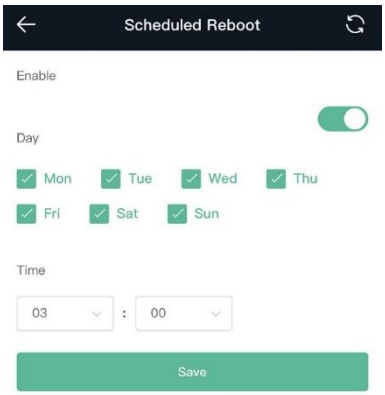
Confirm that the system time is accurate to avoid network interruption caused by device reboot at the wrong time. For details, see 5.3 Configuring System Time.

5.4.2 Configuration Steps

Mobile Phone View: Choose **More** > **System** > **Scheduled Reboot**.

PC View: Choose **More** > **System** > **Reboot** > **Scheduled Reboot**.

Click **Enable**, and select the date and time of weekly scheduled reboot. Click **Save**. When the system time matches the scheduled reboot time, the device will restart.



5.5 Performing Online Upgrade and Displaying the System Version

Mobile Phone View: Choose **More** > **System** > **Online Upgrade**.

PC View: Choose **More** > **System** > **Upgrade** > **Online Upgrade**.

You can check the current system version. If there is a new version available, you can click it for an upgrade. The upgrade time can be set. You are advised to set the upgrade time to idle network time, for example, 4:15 a.m.

Caution

After being upgraded, the device will restart. Therefore, exercise caution when performing this operation. You are advised to set the scheduled upgrade time to an early morning time to avoid affecting Internet access.

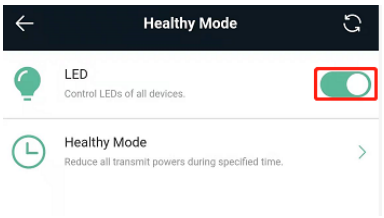
If no new version is detected and online upgrade cannot be performed, check whether the DNS is correctly obtained or go to **More** > **Advanced** > **Local DNS** to set the DNS server for the mesh repeater.



5.6 Turning On/Off the Indicator

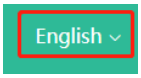
Mobile Phone View: Choose **More** > **Healthy Mode**. > **LED**.

PC View: Choose **More** > **System** > **LED**.



5.7 Switching System Language

Mobile Phone View: Choose **More** > **Language**.

PC View: Click 

in the upper right corner of the page.

Click a required language to switch the system language.



5.8 Network Diagnosis Tools

1. Network Test Tool

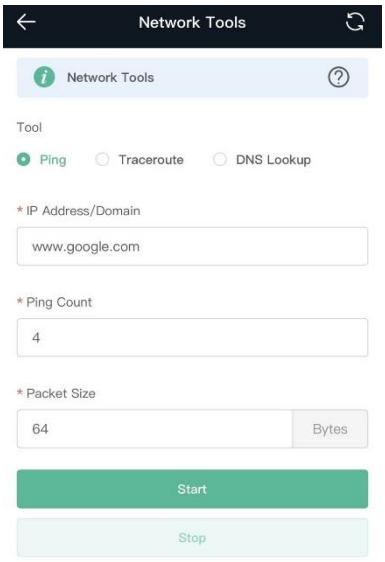
Mobile Phone View: Choose **More** > **System** > **Network Tools**.

PC View: Choose **More** > **Diagnostics** > **Network Check**.

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

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

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



2. Packet Capture Tool

Caution

This feature is only supported by only the **Router** mode and the **WISP** mode.

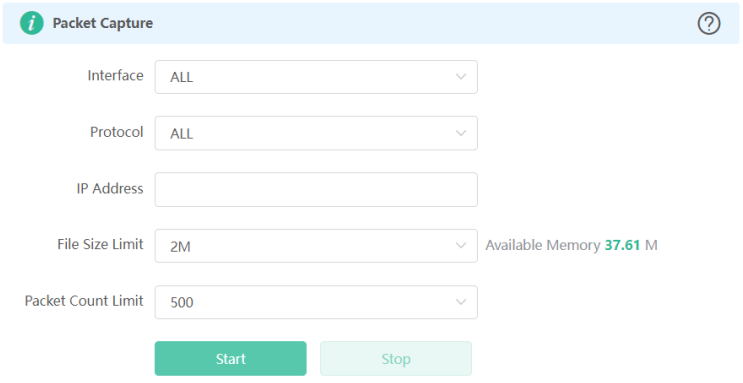
Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **Diagnostics** > **Packet Capture**.

PC View: Choose **More** > **Diagnostics** > **Packet Capture**.

Set the interface, protocol, and IP address whose packets need to be captured, file size limit, and packet count limit to limit the volume of packets captured. Click **Start**. Packet capture can be stopped at any time and a link to the generated file is generated. You can use Wireshark and other analysis software to open and view the file.

Caution

Packet capture may occupy many system resources and cause network stalling. Exercise caution when performing this operation.



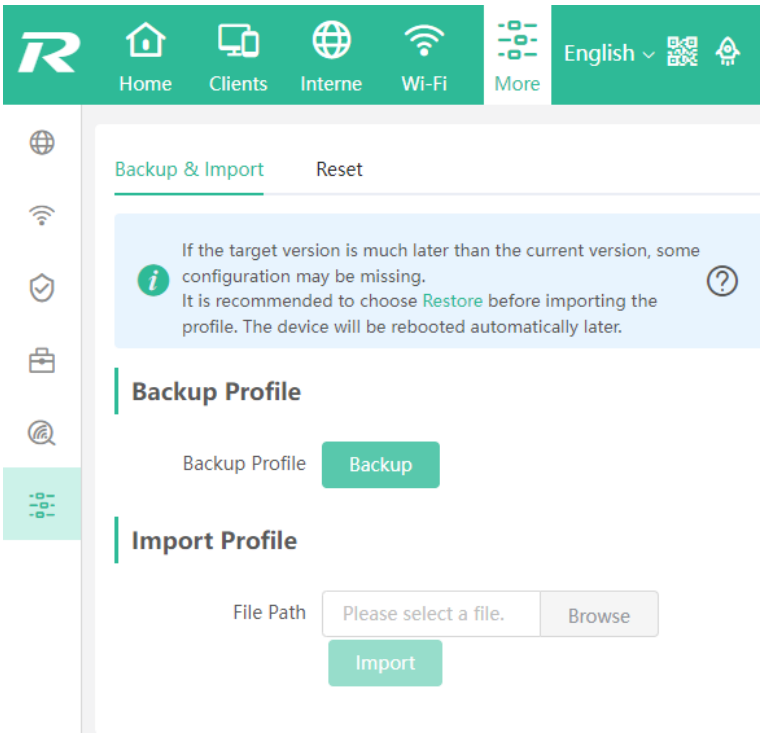
5.9 Configuring Config Backup and Import

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **System** > **Management** > **Backup & Import**.

PC View: Choose **More** > **System** > **Management** >**Backup & Import**.

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

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

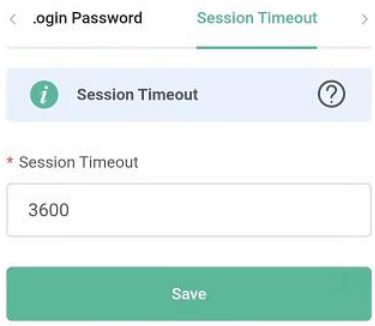


5.10 Configuring Session Timeout Duration

Mobile Phone View: Choose **More** > **Switch to PC view** > **More** > **System** > **Login** >**Session Timeout**.

PC View: Choose **More** > **System** > **Login** >**Session Timeout**.

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

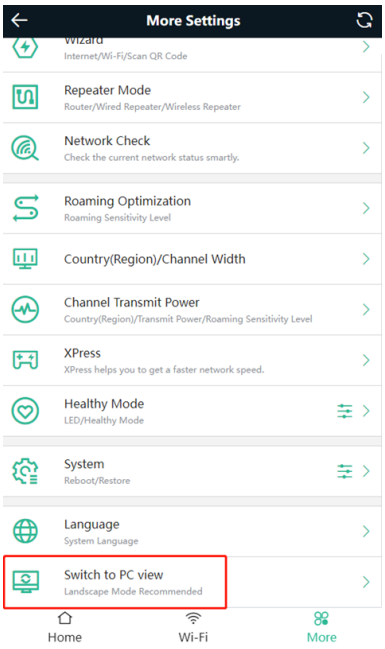


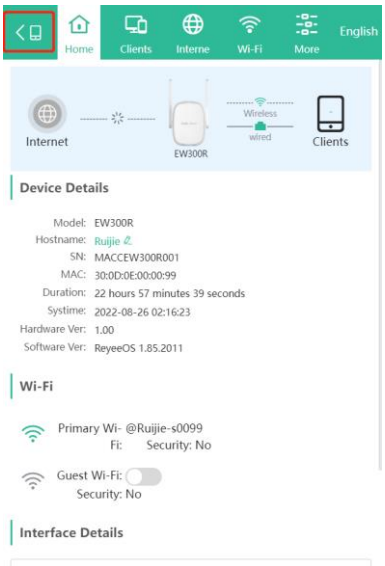
5.11 Switching to PC View

Mobile Phone View: Choose **More** > **Switch to PC view**.

The PC view is the view that you can see after logging in through a PC, and the page layout will be different from the mobile phone view.

To return to the mobile phone view, click  on the top left corner (or drag the page on the PC view to the narrowest).





6 FAQ

6.1 How Can I Restore the Factory Settings?

Press and hold the reset button for more than 5 seconds. When the indicator starts blinking, the device is restoring the factory settings. The device will automatically restart after the restoration is completed. After the device is started, that is, the indicator is solid on, reconfigure the Internet access. The wireless signal name in the factory settings is **@Reyee-sXXXX**.

6.2 How Can I Do If I Forgot the Password of Mesh Repeater?

- Forgot the management password of the web page: You can try to log in with the Wi-Fi password. If the error still occurs, restore the factory settings.
- Forgot Wi-Fi password: If the mesh repeater is configured to extend the signals of other routers, the Wi-Fi password is usually the same as the primary router's password. You can check the configuration of the primary router. If the Wi-Fi password of the primary router is incorrect, you can restore the factory settings and reconfigure the password.

6.3 How Do I Manage the Mesh Repeater After Installation Is Successful?

You are advised to use the **Reyee Router** App to manage the mesh repeater, or you can access the mesh repeater's IP address in a browser to manage it (the default address is 192.168.110.1). When working as a mesh repeater, the device obtains a new IP address. In this situation, the default address cannot be accessed. You are advised to manage the mesh repeater by using the **Reyee Router** App.