IP-COM

User Guide (for Mobile)

Dual Band Gigabit Wi-Fi 6 Router

Copyright Statement

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Preface

This guide describes how to configure each feature of the following IP-COM Wireless router.

- X2LR Pro
- X12LR Pro

Note

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

Conventions

This guide is for reference only and does not imply that the product supports all functions in the guide.

The functions may differ with different product models or different versions of the same model. The actual product prevails.

The product figures and screenshots in this guide are for examples only. They may be different from the actual products you purchased, but do not affect the normal use.

In this guide, unless otherwise specified:

- The firmware version uses V16.03. 51.11 of X2LR Pro as an example.
- The screenshots use the router mode as an example. For other working modes, the actual web UI prevails.

The typographical elements that may be found in this document are defined as follows.

Item	Presentation	Example
Cascading menus	>	Navigate to **System** > **Live Users**.
Parameter and value	Bold	Set **User Name** to **Tom**.
Variable	Italic	Format: *XX*:*XX*:*XX*:*XX*:*XX*:*XX*
UI control	Bold	On the **Policy** page, tap the **OK** button.

The symbols that may be found in this document are defined as follows.

Symbol	Meaning
	This format is used to highlight information of importance or special interest. Ignoring this type of note may result in ineffective configurations, loss of data or damage to the device.
	This format is used to highlight a procedure that will save time or resources.

More Information and Support

Visit www.ip-com.com.cn and search for the product model to get your questions answered and get the latest documents.

Revision History

IP-COM is constantly searching for ways to improve its products and documentation. The following table indicates any changes that might have been made since the user guide was released.

Version	Date	Description
V1.1	2025-02-13	Compatible Model: X12LR Pro
V1.0	2024-11-20	Original publication.

Contents

1 MESH Networking

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

This chapter introduces Mesh networking methods in the following sections:

1.1 Overview

IP-COM WiFi+ routers support Mesh networking. Mesh networking has such advantages as automatic networking, self-repair, multi-skip cascade, unified management network, node self-management, which can greatly reduce the cost and complexity of network deployment.

1.2 Set Up as an Add-on Node

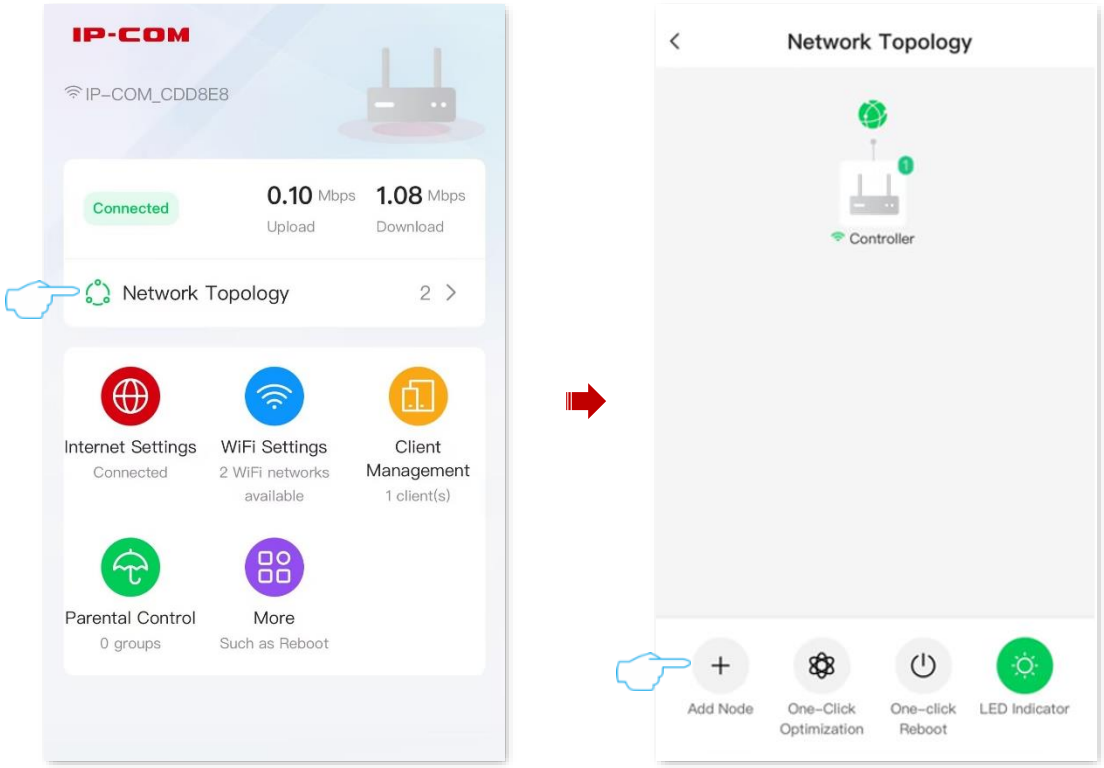
This section describes how to add a new router to extend the wireless network coverage when a router is connected to the internet.

If you are using the router for the first time or have restored the router to factory settings, follow the quick installation guide of the corresponding router model to configure the router to the internet.

Tip

- If there are more than two secondary nodes, place the primary node in the key area and ensure that no more than one node is between the primary node and the secondary node.
- Before using a new router to extend the network, ensure that the existing router (primary node) has been connected to the internet and the new router (secondary node) is restored to the factory settings.
- The router can be networked with **IP-COM WiFi+** routers. If the router fails to be added to an existing network, contact IP-COM customer service for help. The following uses two X2LR Pro routers as an example.

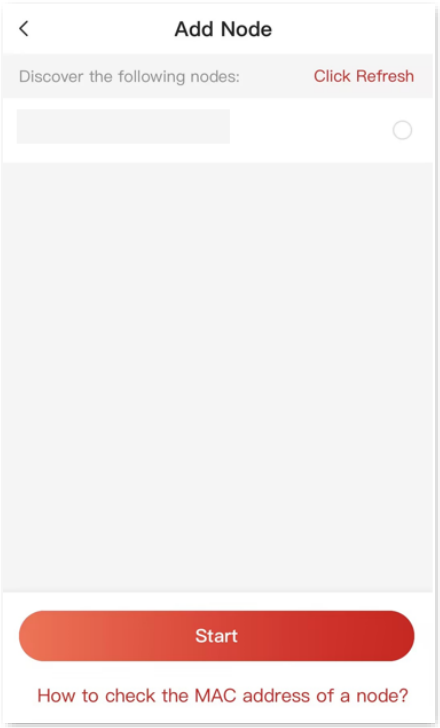
1. Log in to the web UI of the router, and tap **Network Topology**.
2. Tap (+) **(Add Node)**.



3. The system discovers new nodes, select the new router based on the MAC address or Serial Number (SN) of the device, and tap **Start**. The following figure is for reference only.

Tip

- The MAC address and SN of the device can be found on the label of the device body.
- You can add only one node at a time by scanning.



---End

Wait for a moment, the node is added successfully.

On the **Network Topology** page, you can see that the new X2LR Pro has been successfully added to the network as a secondary node.

To access the internet with:

- **Wired devices:** Connect to a LAN port (such as 1, 2 or 3/IPTV) of the node using an Ethernet cable.
- **Wi-Fi-enabled devices:** Connect to the Wi-Fi network of the node. (The Wi-Fi name and Wi-Fi password of all nodes are the same.)

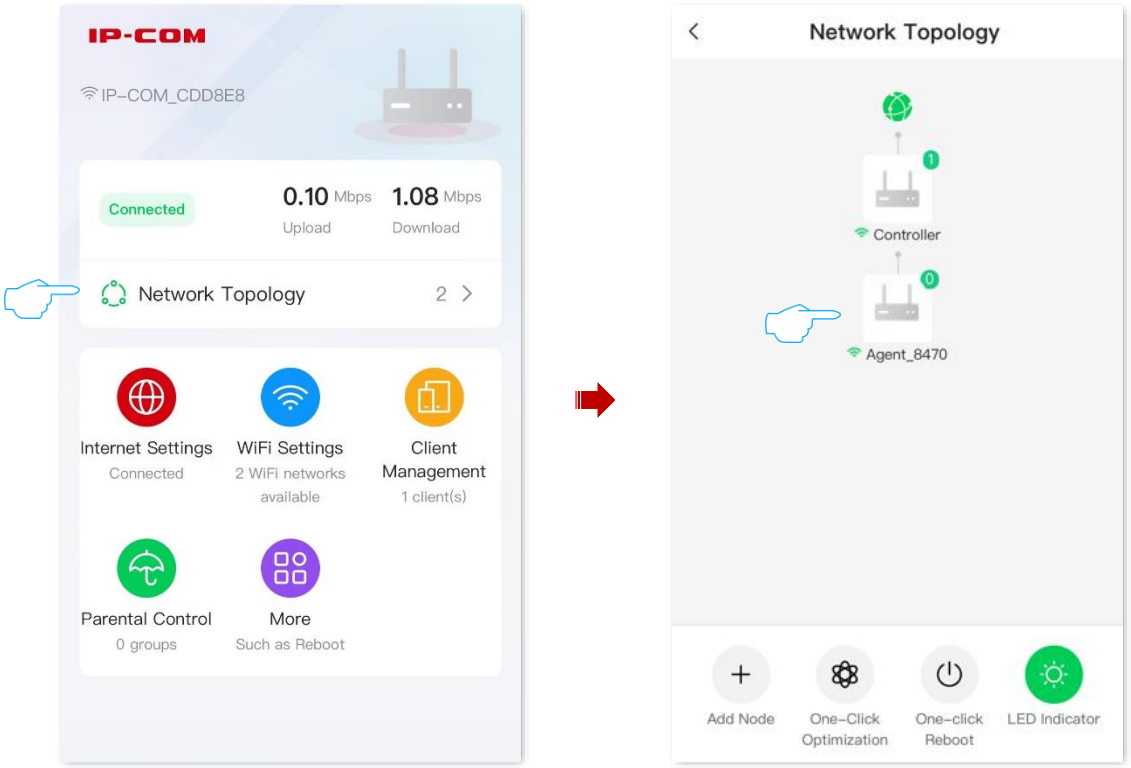
1.3 Remove the Secondary Node from the Network

Removing the secondary node will reduce the network coverage and the node will be restored to factory settings.

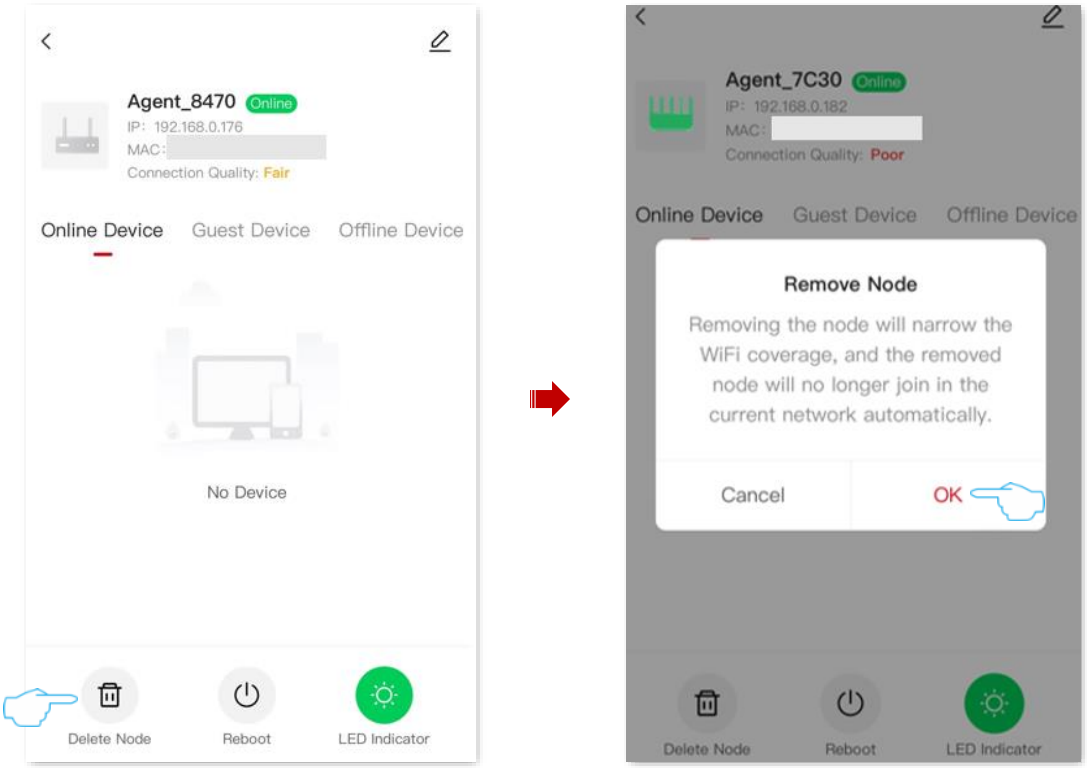
Please use this function according to the actual situation. For example, if you use two routers to network, one can cover the whole house after actual installation. You can remove the other one from the network and then give your friend.

Configuration procedure:

1. Log in to the web UI of the router.
2. Tap **Network Topology**, locate and tap the secondary node you want to remove. The following figure is for reference only.



3. Tap (**Delete Node**). Confirm the prompt message, and tap **OK**.



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2 Connect the Router to the Internet

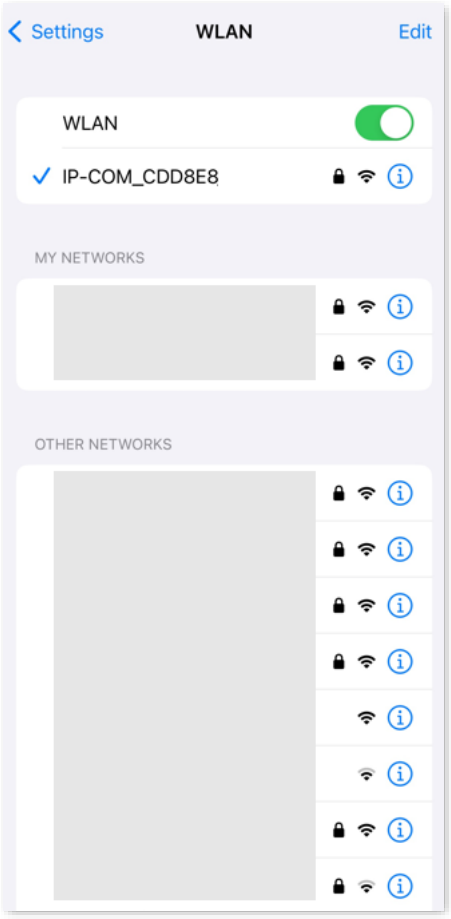
Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

This chapter introduces how to connect the router to the internet in the following sections:

2.1 Wireless Connection

The smartphone is taken as an example.

Connect the smartphone to the router's wireless network. The **IP-COM_CDD8E8** is taken as an example here.



Tip

- At the first login, connect the Wi-Fi name (SSID) on the label of the device.
- When you log in to the router again, use the new Wi-Fi name and Wi-Fi password to connect to the wireless network.

2.2 WPS Connection

The WPS function enables Wi-Fi-enabled devices, such as smartphones, to connect to Wi-Fi networks of the router without entering the password.

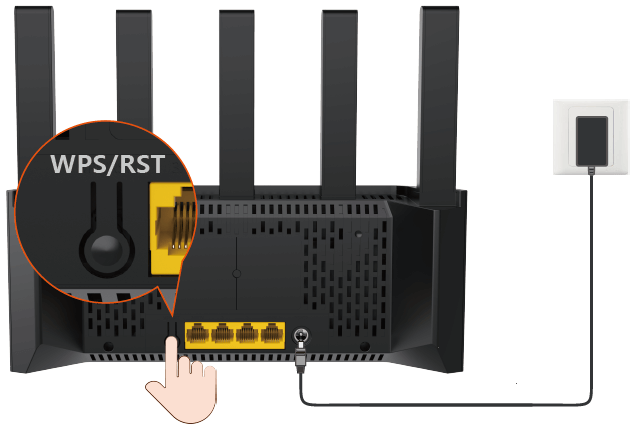
Note

The wireless network whose encryption mode is WPA3 does not support WPS connection. To use the WPS function of the router, you are recommended to set the encryption mode of the router's wireless network to **WPA2-PSK**.

2.2.1 Method 1: Connect to the Router’s Wi-Fi through PBC

1. Enable the WPS-PBC function on the router.

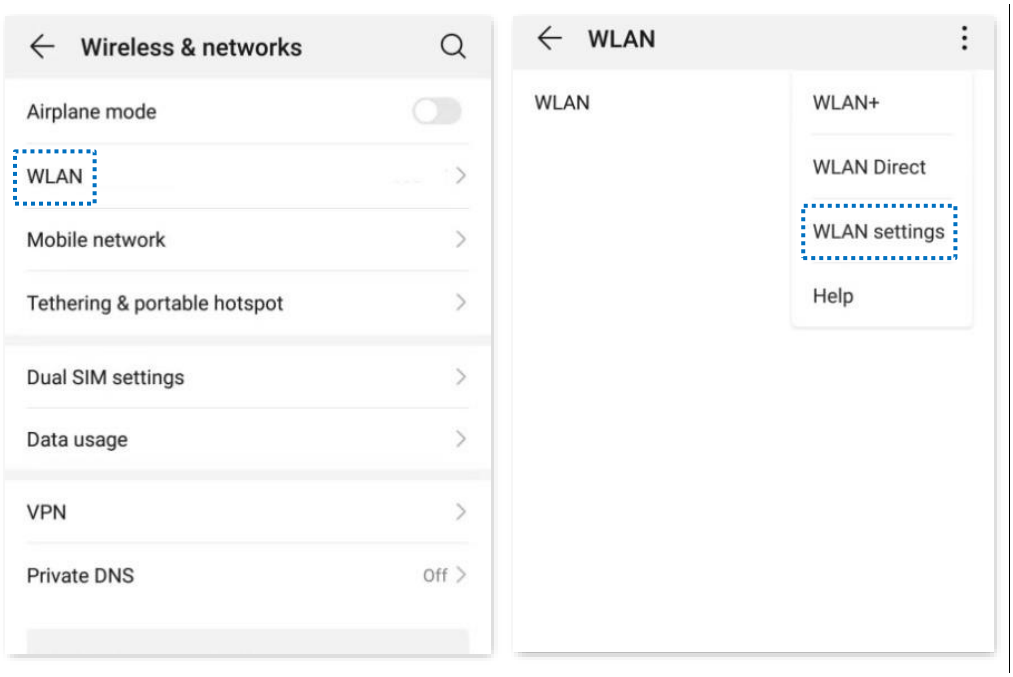
   Press the WPS button on the router body (such as WPS/Reset, RST/WPS, or WPS/RST). The router's indicator blinks fast.



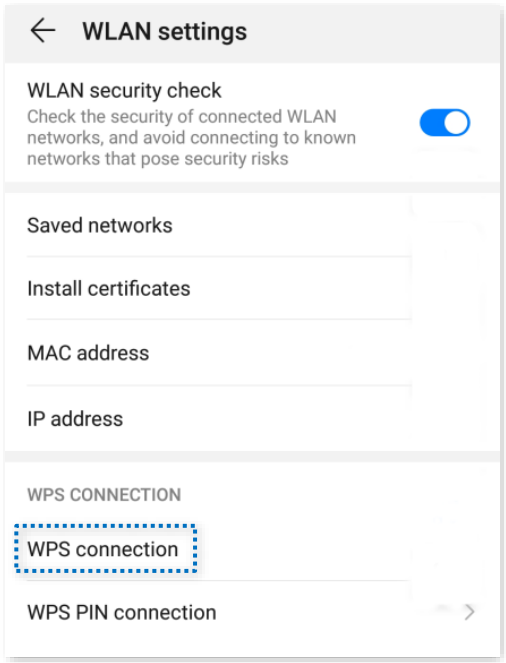
Example: X2LR Pro

2. Configure the WPS function on your Wi-Fi-enabled devices **within 2 minutes**. Configuration on various devices may differ (Example: HUAWEI P10).

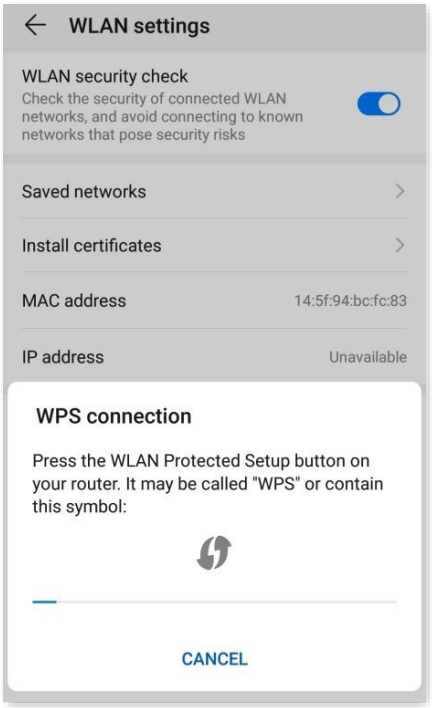
   1) Find WLAN settings on your phone.
   2) Tap ⋮, and choose **WLAN settings**.



3) Choose **WPS connection**.



Wait until the WPS negotiation completes. Now the phone is connected to the Wi-Fi network.



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2.2.2 Method 2: Connect to the Router’s Wi-Fi through PIN Code

Note

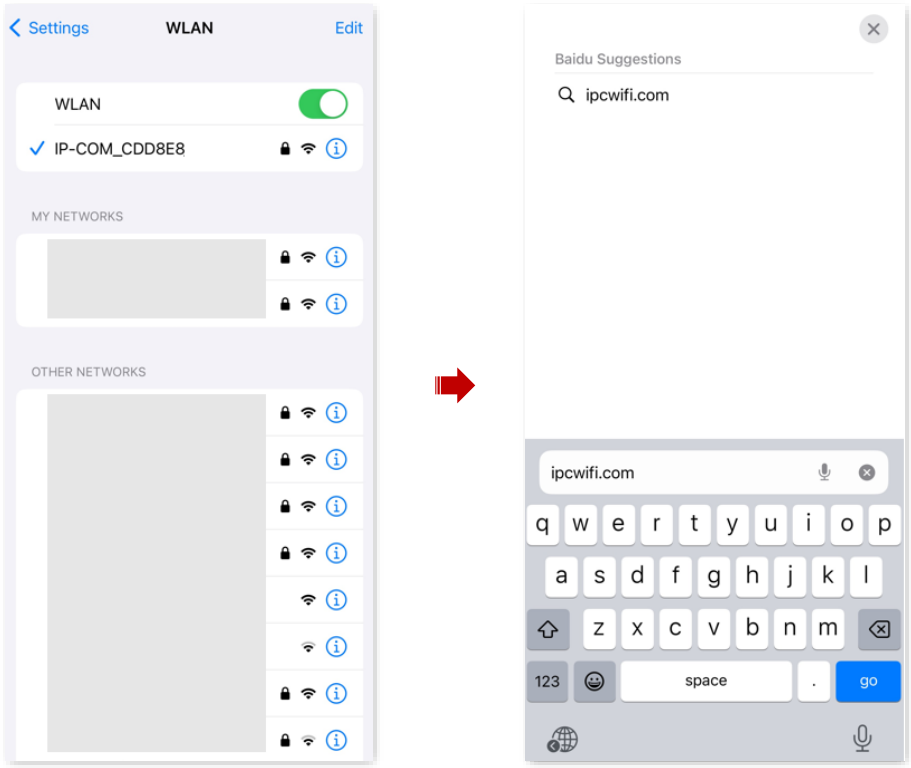
This method only supports entering the WPS PIN code of the router on the wireless clients to connect to the router's Wi-Fi. It is usually used for wireless network adapter to connect to the router's Wi-Fi. For details, see the user guide of the corresponding wireless network adapter.

1. Check and record the WPS PIN code (Pin No.) on the label of the router.
2. Enter the WPS PIN code of the router on the wireless clients for connection. The connection is successful within 2 minutes.

---End

3 Log in to the Web UI

1. On the smartphone connected to the router, start a browser and enter **ipcwifi.com** in the address bar to log in to the web UI.



2. Enter the login password, and tap **Login**.

---End

After logging in to the router's web UI, you can configure the router as required.

Tip

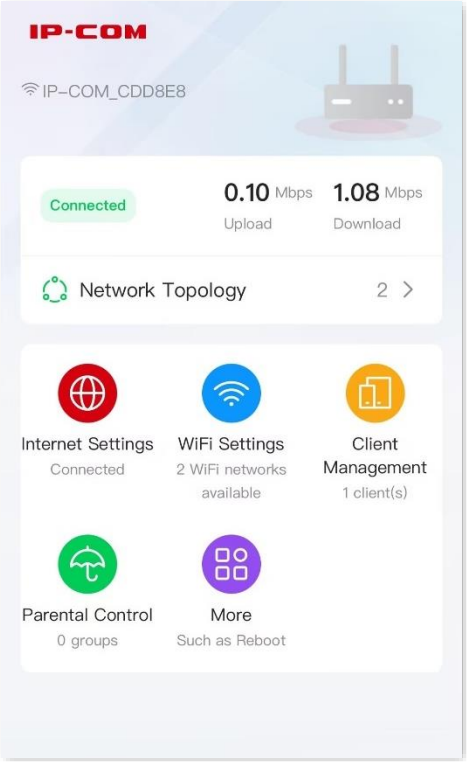
If the login page does not appear, try the following solutions.

- Ensure that the router is powered properly, and the smartphone is connected to the router's Wi-Fi.
- Ensure that the mobile data traffic is disabled.
- Use the router’s default IP address (**192.168.0.1**) to log in to the web UI.
- Restore the router to factory settings and try again.

If you forgot the login password, try the following solutions.

- The Wi-Fi password is set to the login password of the router by default. Try to use the Wi-Fi password to log in to the router.
- If the problem persists, Restore the router to factory settings and try again.

After successfully logging in to the router's web UI, you can configure the router as required.



4 Internet Settings

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

This chapter includes the following parts:

4.1 Modify IPv4 Internet Settings

By configuring the internet settings, you can achieve shared internet access (IPv4) for multiple users within the LAN.

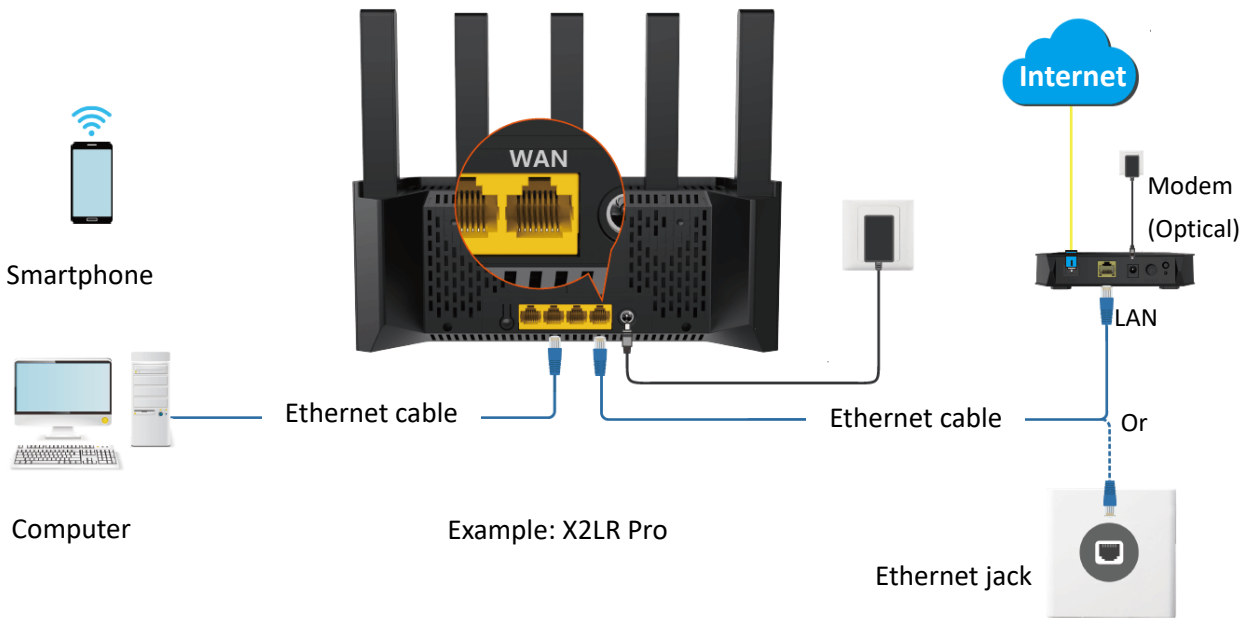
If you are configuring the router for the first time or after restoring it to factory settings, refer to the quick installation guide of the corresponding router to configure the internet access. After that, you can change the internet settings by following the instructions in this chapter.

Tip

Parameters for internet access are provided by your ISP. Contact your ISP for any doubt.

4.1.1 Access the Internet with a PPPoE Account

If the ISP provides you with the PPPoE user name and password, you can choose this connection type to access the internet. The application scenario is shown below.

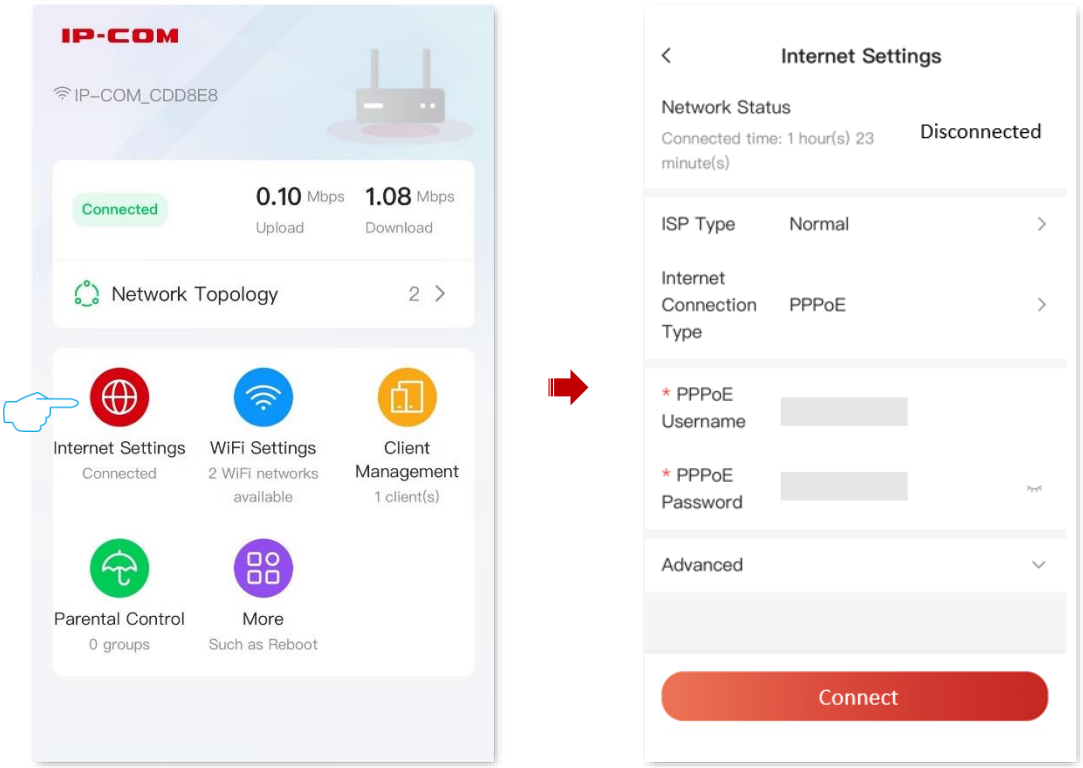


To access the internet with a PPPoE account:

1. Log in to the web UI of the router, and navigate to **Internet Settings**.
2. Set **ISP Type** to **Normal**.
3. Set **Internet Connection Type** to **PPPoE**.
4. Enter the **PPPoE Username** and **PPPoE Password** provided by your ISP.
5. Perform advanced settings as required.

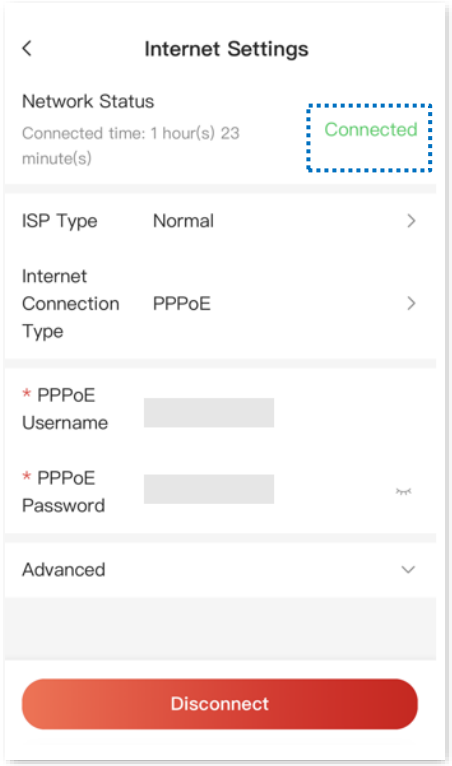
- If the ISP provides **Server Name** and **Service Name**, enter the corresponding parameters in the corresponding box. If not, keep it as default.
- In general, DNS settings can be kept as default. If your ISP provides a DNS address, change the DNS settings to **Manual** and fill in the correct DNS address. If there is only one DNS address, please fill in the **Primary DNS**.

6. Tap **Connect**.



---End

Wait until the network status changes to **Connected**, then you can access the internet.



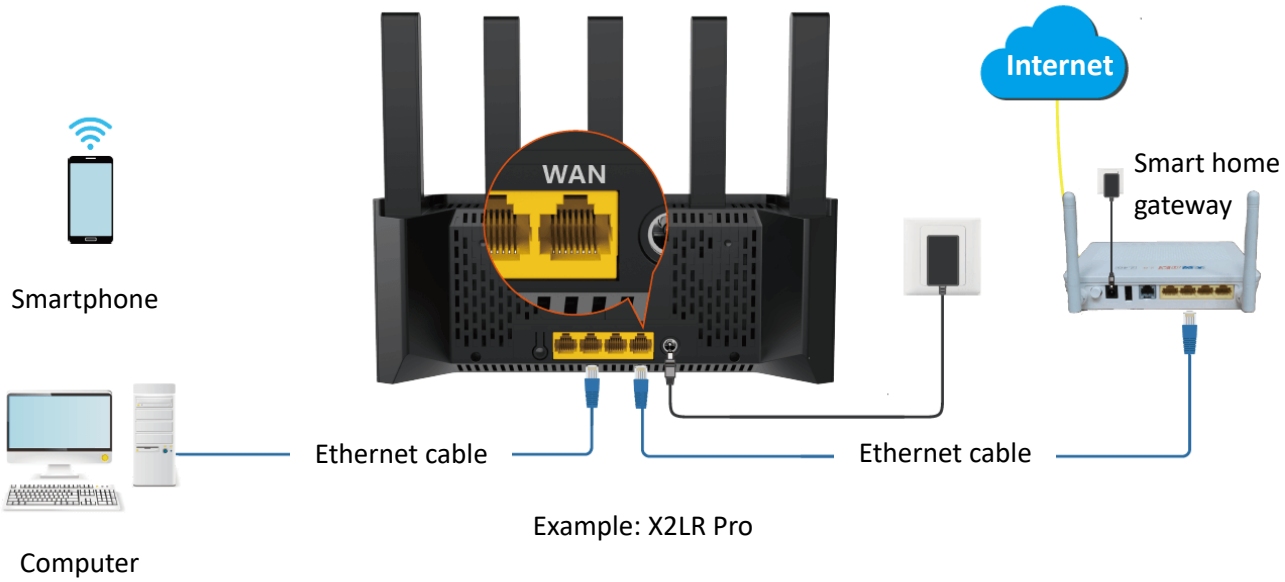
If you cannot access the internet, refer to Router disconnected from the internet to resolve the problem.

4.1.2 Access the Internet through a Dynamic IP Address

Generally, accessing the internet through a dynamic IP address is applicable in the following situations:

- Your ISP does not provide the PPPoE user name and password, or any other information including IP address, subnet mask, default gateway and DNS server.
- You already have a router with internet access and want to add another router.

The application scenario is shown below.

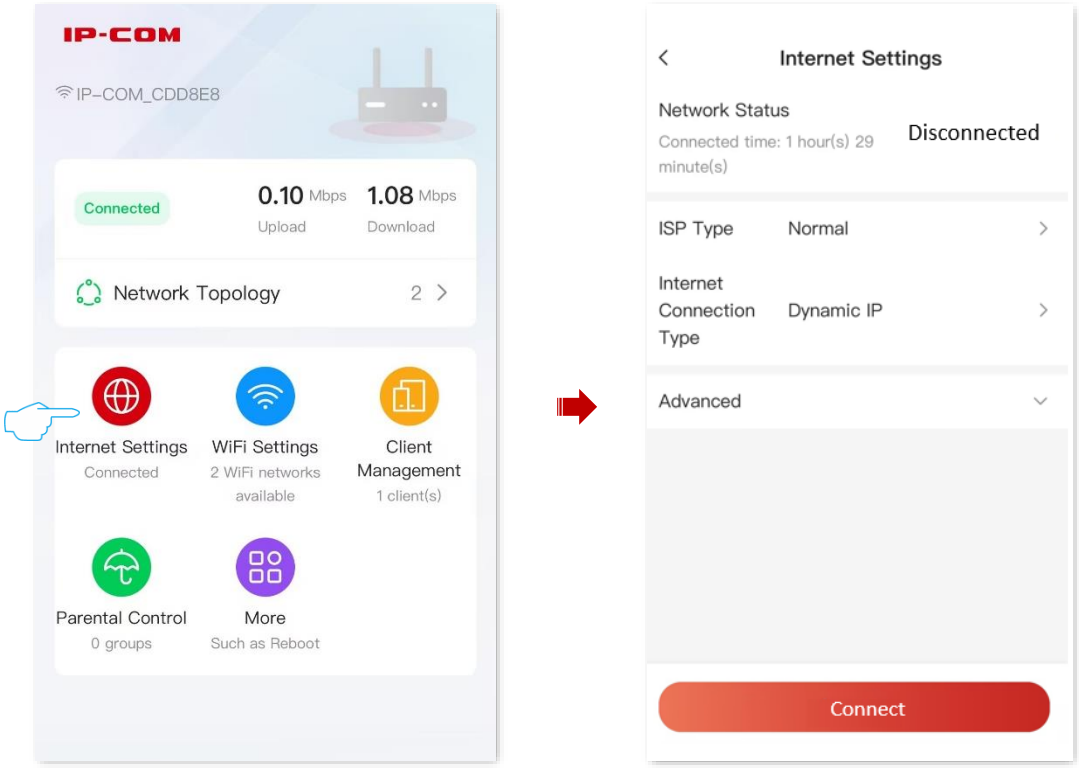


Example: X2LR Pro

To access the internet through dynamic IP address:

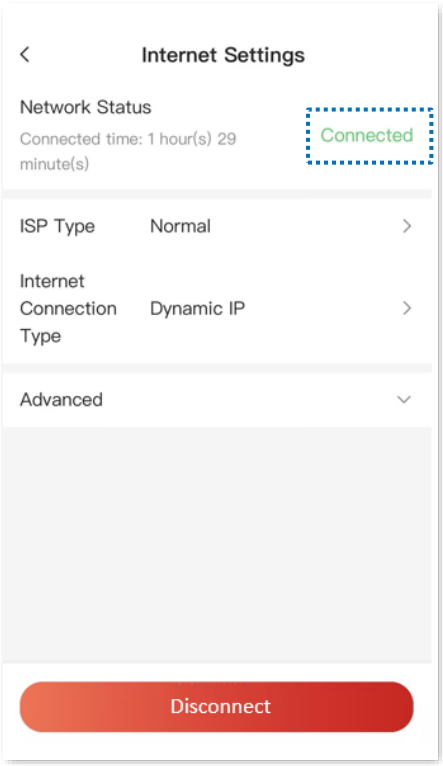
1. Log in to the web UI of the router, and navigate to **Internet Settings**.
2. Set **ISP Type** to **Normal**.
3. Set **Internet Connection Type** to **Dynamic IP**.
4. Perform advanced settings as required.

   In general, DNS settings can be kept as default. If your ISP provides a DNS address, change the DNS settings to **Manual** and fill in the correct DNS address. If there is only one DNS address, please fill in the **Primary DNS**.
5. Tap **Connect**.



---End

Wait until the network status changes to **Connected**, then you can access the internet.



If you cannot access the internet, refer to Router disconnected from the internet to resolve the problem.

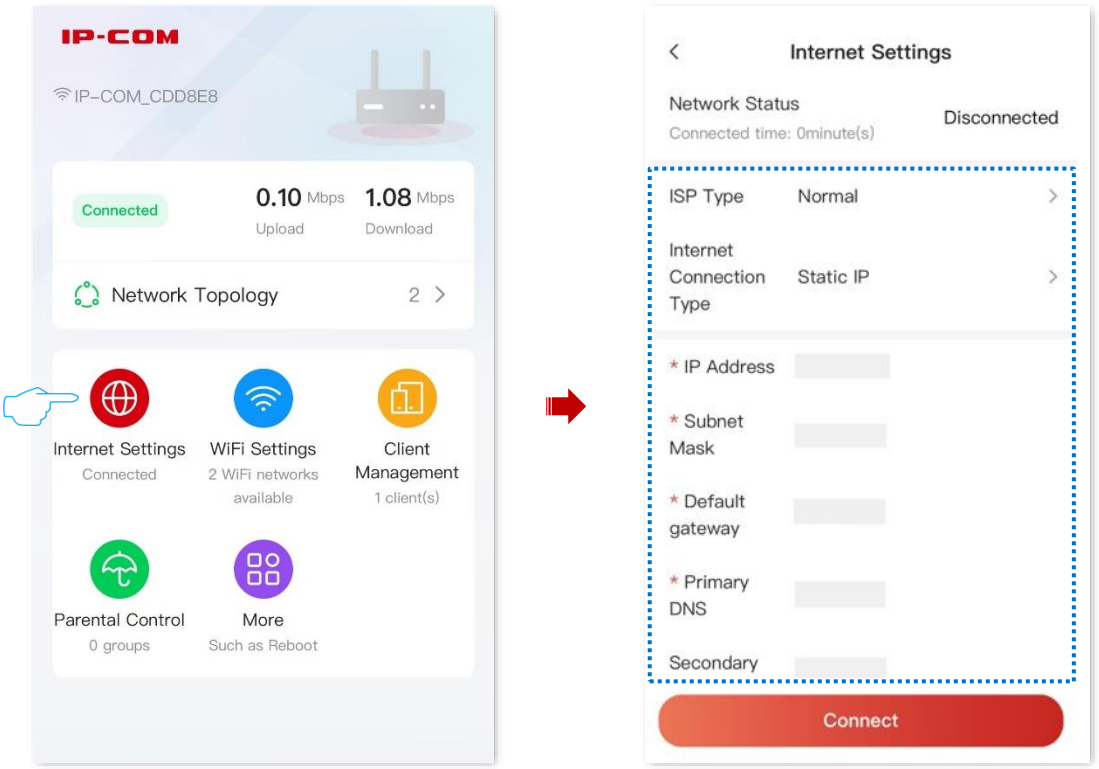
4.1.3 Access the Internet with a Set of Static IP Address Information

When your ISP provides you with information including IP address, subnet mask, default gateway and DNS server, you can choose this connection type to access the internet.

To access the internet with a set of static IP address information:

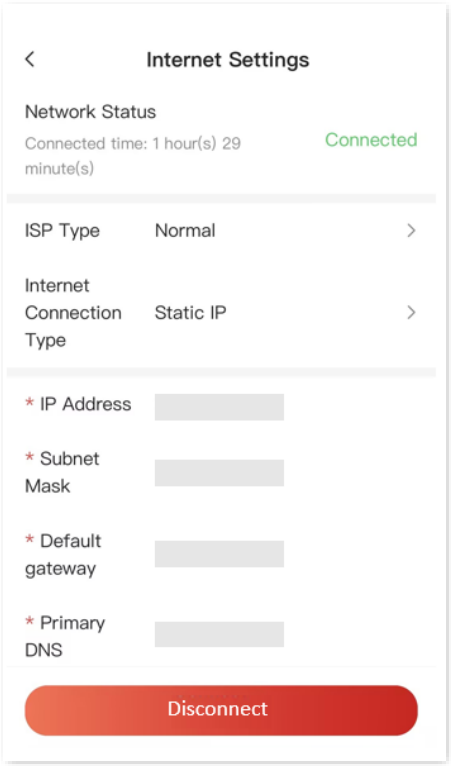
1. Log in to the web UI of the router, and navigate to **Internet Settings**.
2. Set **ISP Type** to **Normal**.
3. Set **Internet Connection Type** to **Static IP**.
4. Set **IP Address**, **Subnet Mask**, **Default gateway** and **Primary DNS**, and **Secondary DNS** with the information provided by your ISP.

   If there is only one DNS address, fill in the **Primary DNS**.
5. Tap **Connect**.



---End

Wait until the network status changes to **Connected**, then you can access the internet.



If you cannot access the internet, refer to Router disconnected from the internet to resolve the problem.

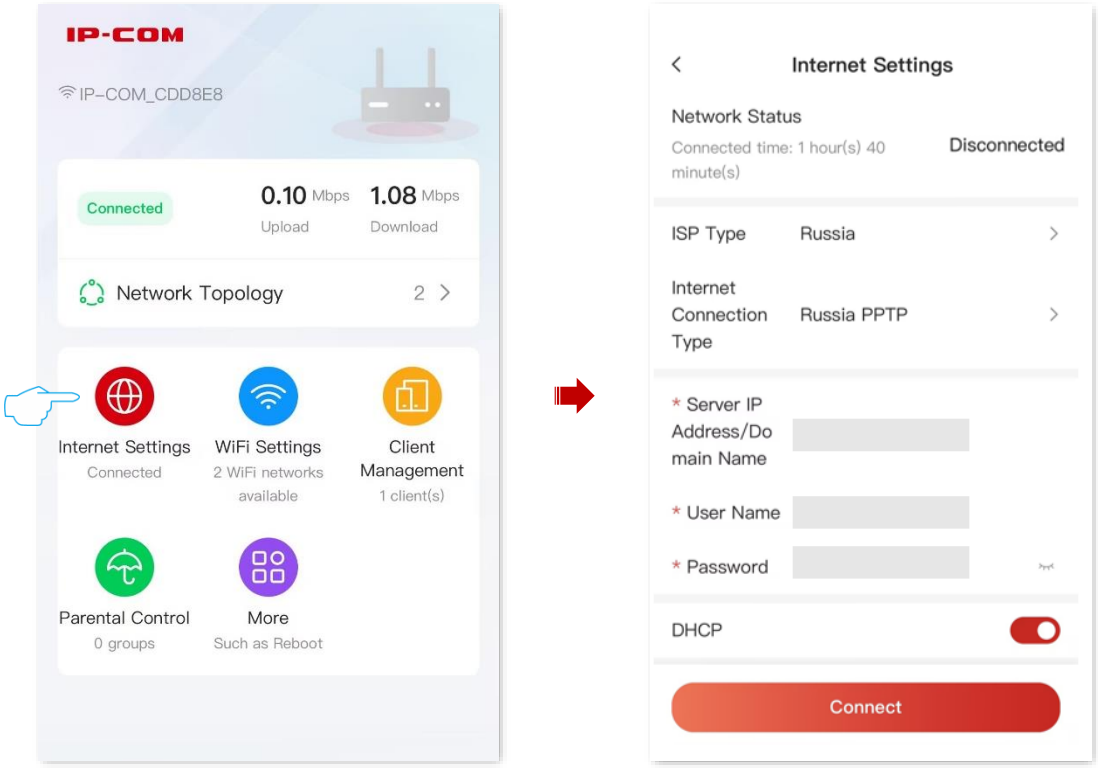
4.1.4 Set Up Dual Access Connection

In countries like Russia, the ISP may require you to set up dual access. One is for access to the internet through PPPoE, PPTP or L2TP, and the other is for access to the "local" resources where the ISP is located through DHCP or static IP address. If your ISP provides such connection information, you can set up dual access to access the internet.

To set up dual access connection:

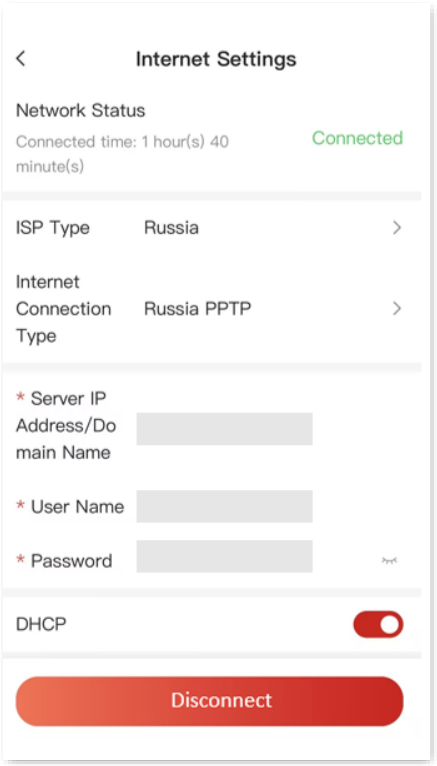
1. Log in to the web UI of the router, and navigate to **Internet Settings**.
2. Set **ISP Type** to **Russia**.
3. Set **Internet Connection Type**, which is **Russia PPTP** in this example, and fill in required parameters.

   If there is only one DNS address, fill in the **Primary DNS**.
4. Tap **Connect**.



---End

Wait until the network status changes to **Connected**, then you can access the internet.



4.2 IPv6 Settings

4.2.1 Overview

IPv6, abbreviated for Internet Protocol Version 6, is the second-generation network layer protocol. IPv6 is an upgraded version of Internet Protocol version 4 (IPv4), which is the solution that addresses the relatively limited number of IP addresses possible under IPv4.

An IPv6 address is 128 bits long and is arranged in eight groups, each of which is 16 bits. Each group is expressed as four hexadecimal digits and the groups are separated by colons. An IPv6 address is split into two parts:

- Network Prefix: n bits, equivalent to the network ID in the IPv4 address.
- Interface Identifier: 128-n bits, equivalent to the host ID in the IPv4 address.

This router supports IPv4 and IPv6. You can connect to the IPv6 network of ISPs through IPv6 WAN settings.

The router can access the IPv6 network of ISPs through three connection types. Choose the connection type by referring to the following chart.

Scenario	Connection Type
- The ISP does not provide any PPPoEv6 user name and password and information about the IPv6 address. - You have a router that can access the IPv6 network.	DHCPv6
IPv6 service is included in the PPPoE user name and password.	PPPoEv6
The ISP provides you with a set of information including IPv6 address, subnet mask, default gateway and DNS server.	Static IPv6 address

Tip

- Before configuring the IPv6 function, ensure that you are within the coverage of the IPv6 network and already subscribe to the IPv6 internet service. Contact your ISP for any doubt about it.
- The router supports automatic NAT66. If the LAN port cannot obtain a prefix after IPv6 is configured, the upstream device may not support PD prefix delivery. In this case, the router automatically enables the NAT66 function.

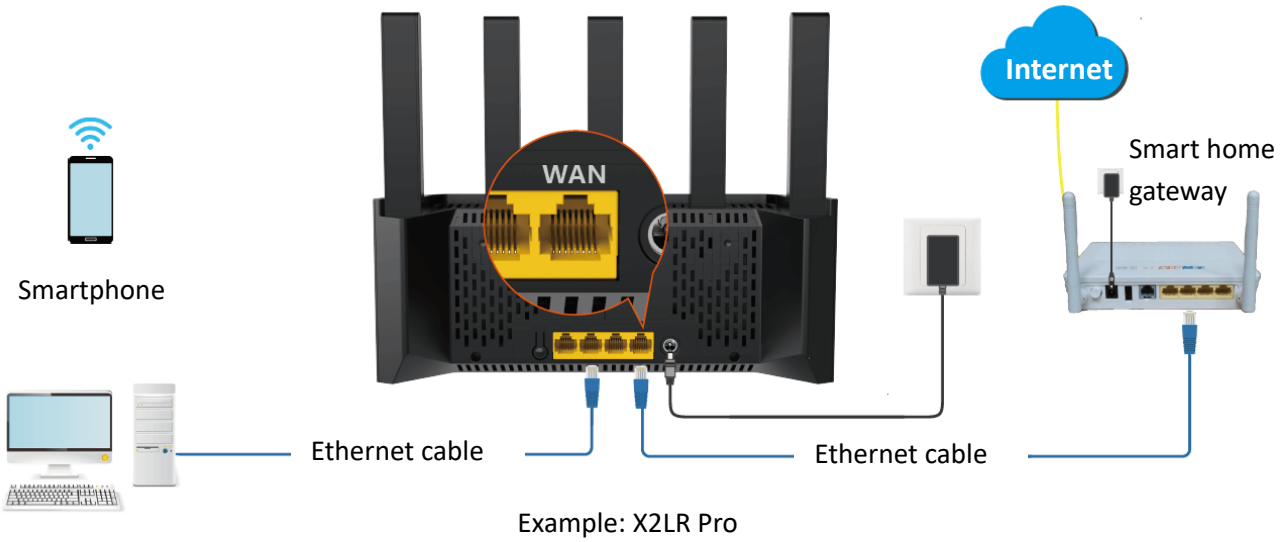
4.2.2 IPv6 WAN Settings

DHCPv6

DHCPv6 enables the router to obtain an IPv6 address from the DHCPv6 server to access the internet. It is applicable in the following scenarios:

- The ISP does not provide any PPPoEv6 user name and password and information about the IPv6 address.
- You have a router that can access the IPv6 network.

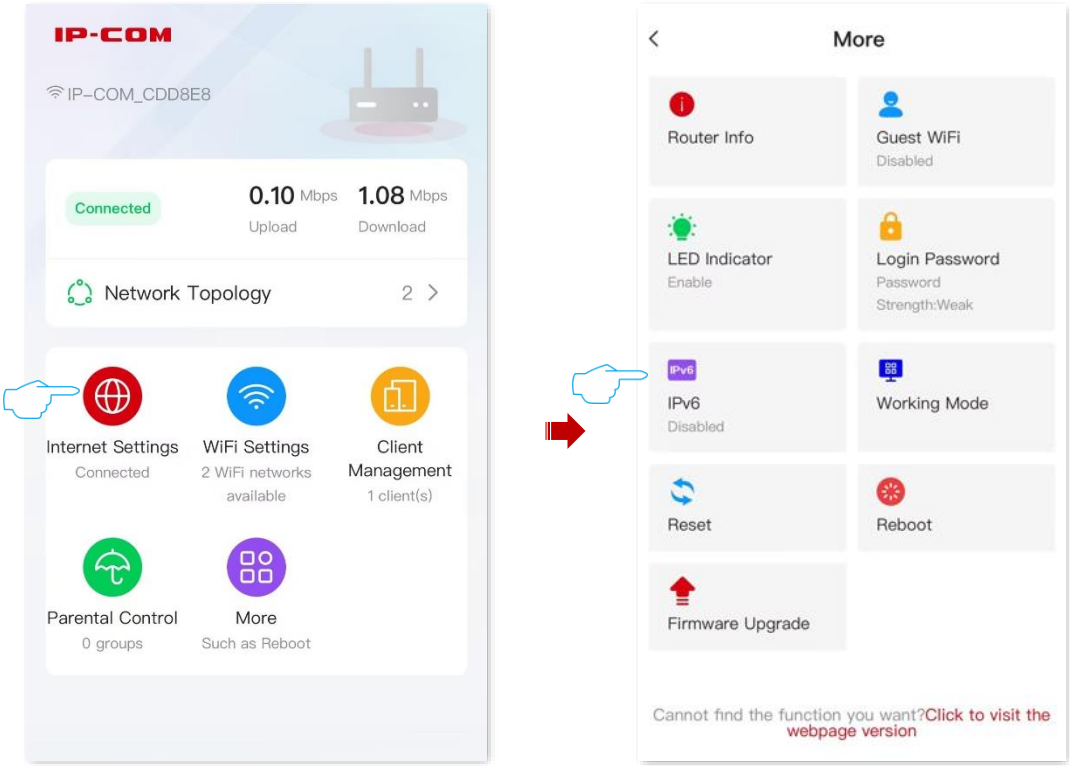
The application scenario is shown below.



Example: X2LR Pro

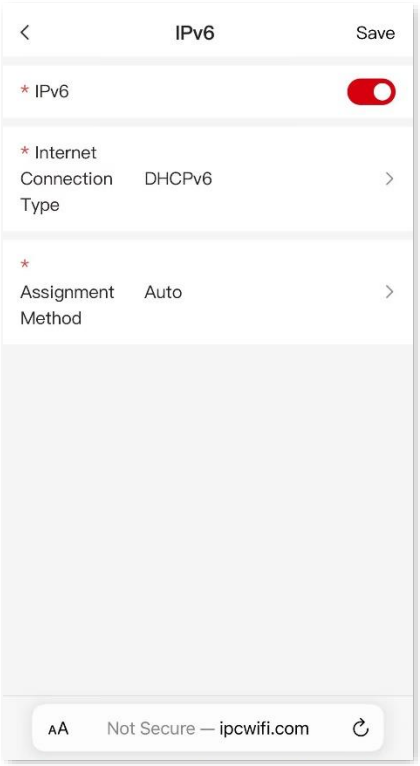
Configuration procedure:

1. Log in to the web UI of the router.
2. Navigate to **More** > **IPv6**.



3. Set **Internet Connection Type** to **DHCPv6**.

4. Tap **Save** in the upper-right corner.

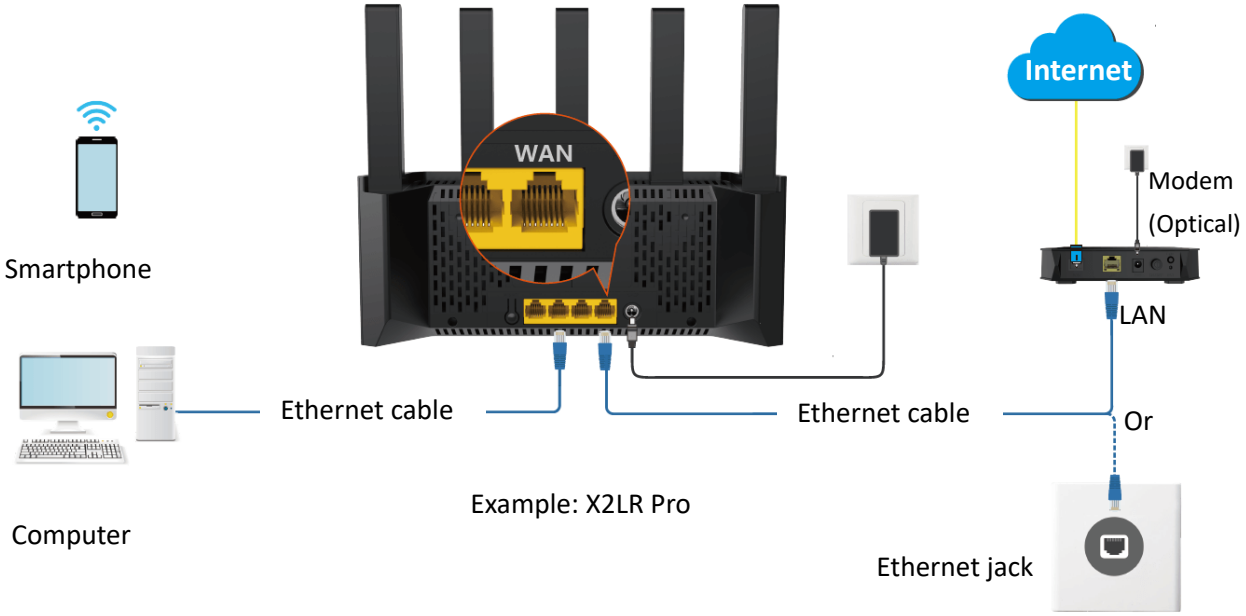


---End

After the settings are completed, you can perform IPv6 network test to check whether IPv6 network settings are successful.

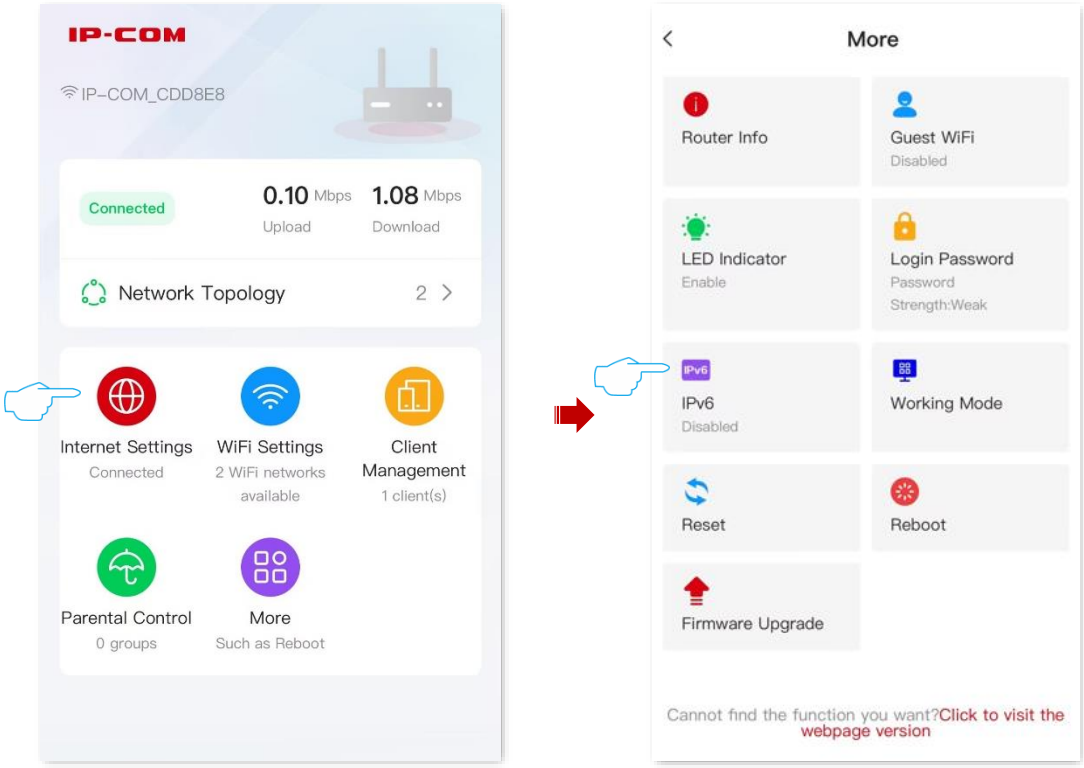
PPPoEv6

If your ISP provides you with the PPPoE user name and password with IPv6 service, you can choose PPPoEv6 to access the internet.



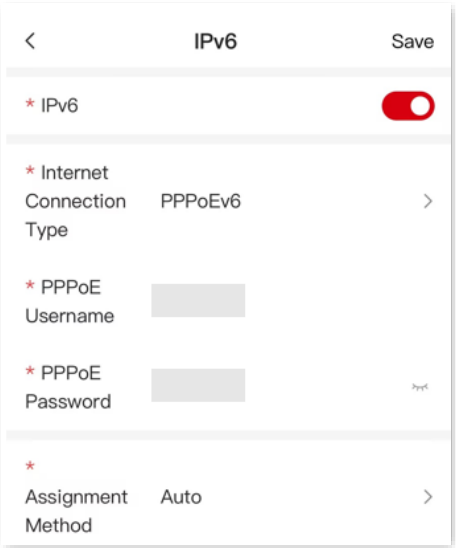
Configuration procedure:

1. Log in to the web UI of the router.
2. Navigate to **More** > **IPv6**.



3. Set **Internet Connection Type** to **PPPoEv6**.
4. Set **PPPoE Username** and **PPPoE Password**.

   Generally, IPv4 and IPv6 services share single PPPoE user name and password.
5. Tap **Save** in the upper-right corner.



---End

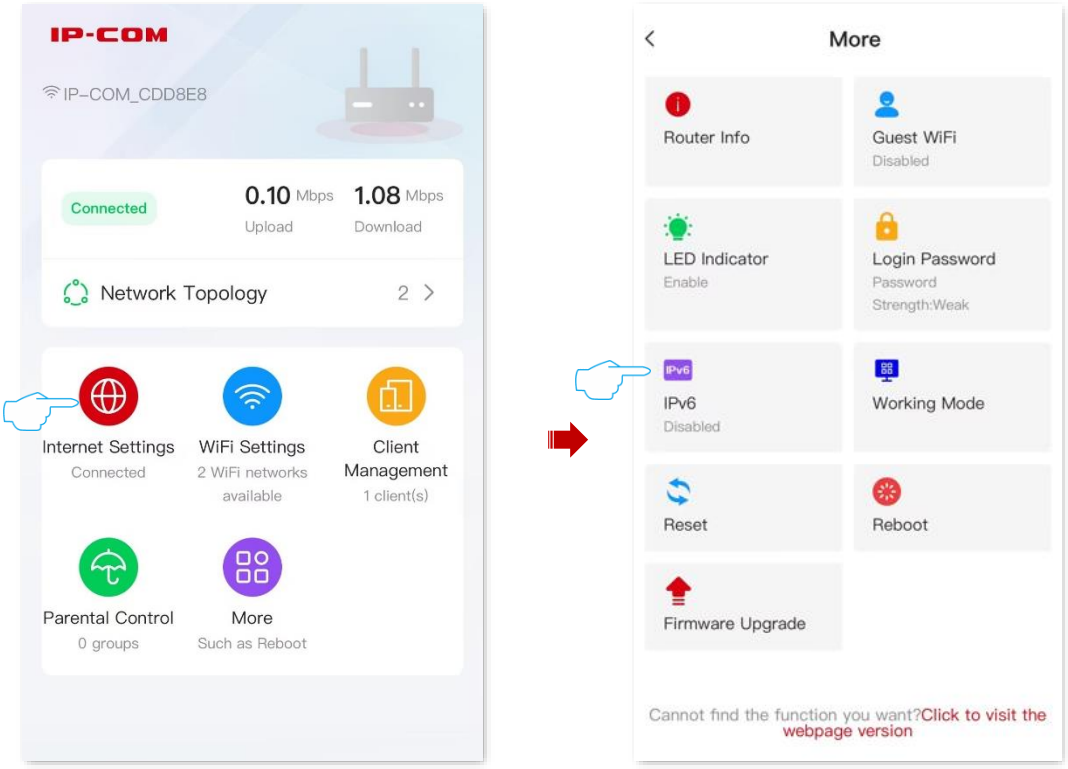
After the settings are completed, you can perform IPv6 network test to check whether IPv6 network settings are successful.

Static IPv6 Address

When your ISP provides you with information including IPv6 address, subnet mask, default gateway and DNS server, you can choose this connection type to access the internet with IPv6.

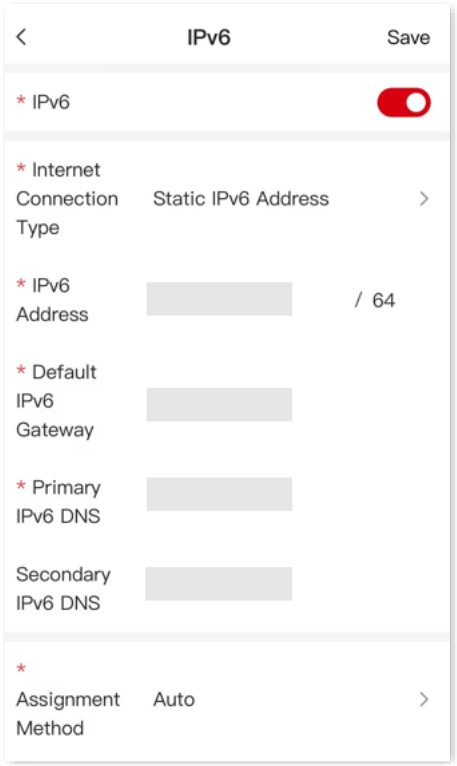
Configuration procedure:

1. Log in to the web UI of the router.
2. Navigate to **More** > **IPv6**.



3. Set the **Internet Connection Type** to **Static IPv6 Address**.
4. Enter the **IPv6 Address**, **Default IPv6 Gateway** and **Primary/Secondary IPv6 DNS** provided by the ISP.

   If the ISP only provides a single DNS address, **Secondary IPv6 DNS** can be left blank.
5. Tap **Save** in the upper-right corner.



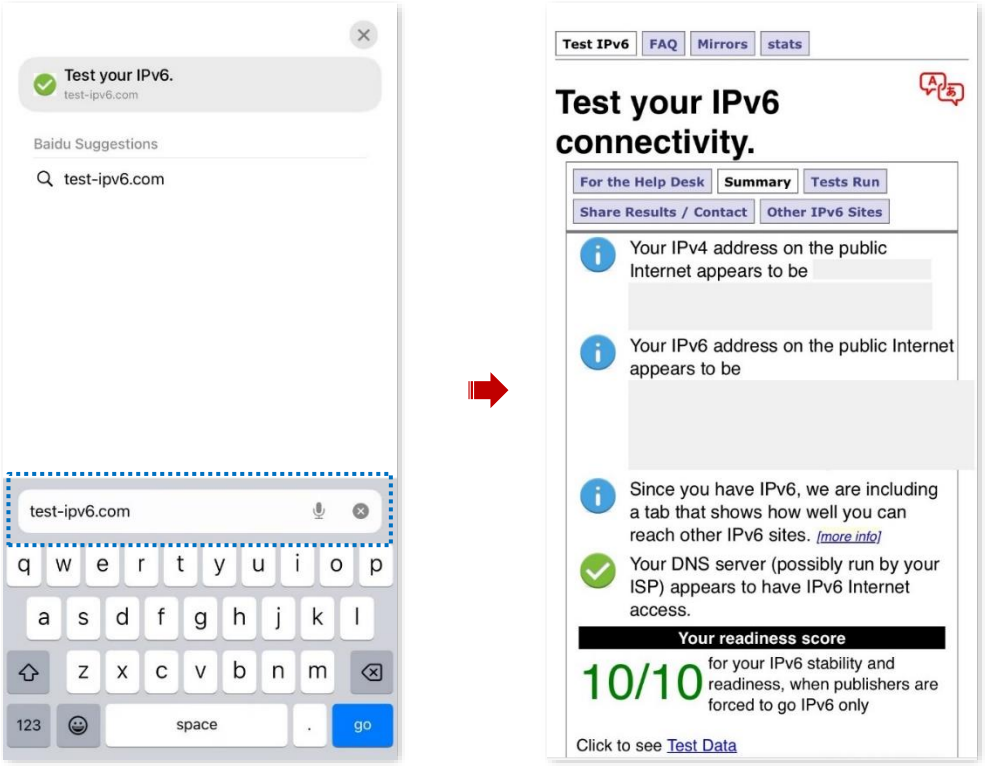
---End

After the settings are completed, you can perform IPv6 network test to check whether IPv6 network settings are successful.

IPv6 Network Test:

On a Wi-Fi-enabled device, such as a smartphone, that is connected to the router, launch a browser and visit test-ipv6.com to the test page, which will give you feedback on your network status.

As shown in the following figure, when the page shows your IPv6 address and clearly states "Since you have IPv6", IPv6 setup is successful and you can access IPv6 services.



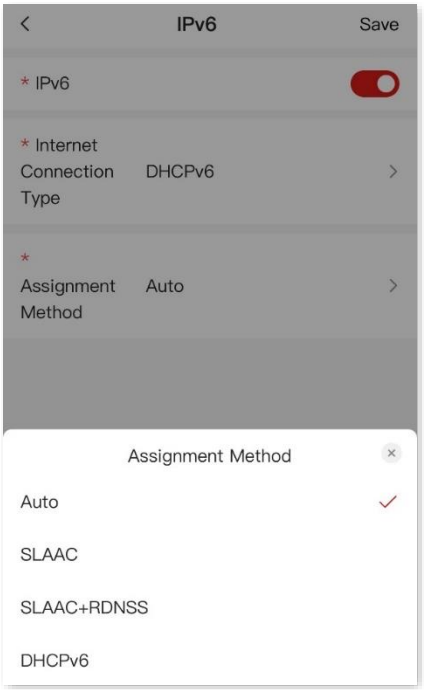
If the IPv6 network test fails, try the following solutions:

- Ensure that the IPv6 address obtaining type of Wi-Fi-enabled devices such as smartphones or computers is set to **Obtain an IPv6 address automatically** and **Obtain DNS server address automatically**.
- If the internet connection type is static IPv6 address, ensure that the IPv6 address of the WAN port, subnet prefix length, default gateway, and DNS are correct.
- Consult your ISP for help.

4.2.3 IPv6 LAN Settings

To access the configuration page, log in to the web UI of the router, and navigate to **More** > **IPv6**.

Locate the **Assignment Method** module, you can configure the method for LAN IPv6 clients to obtain IPv6 addresses, and LAN port prefix addresses, to achieve multiple clients in the LAN to share your broadband service to access internet.



Parameter description

Parameter		Description
Assignment Method	Auto	Specifies the stateful configuration and stateless configuration. The IPv6 prefix address, and DNS server address of the client can be obtained from the DHCPv6 server or through Route Advertisement (RA). The gateway address can be obtained from RA.
	SLAAC	Specifies the DHCPv6 stateless configuration. The IPv6 prefix address and gateway address of the client are obtained through RA, the interface address is generated based on the standard, and the DNS server address is obtained from the DHCPv6 server.
	SLAAC+RDNSS	Specifies the stateless address automatic configuration. The IPv6 prefix address and gateway address of the client are obtained through RA, the interface address is generated based on the standard, and the DNS server address is obtained from the RDNSS option in the RA packet.
	DHCPv6	Specifies the stateful configuration of Dynamic Host Configuration Protocol for IPv6 (DHCPv6). The client obtains the complete IPv6 address information, including the DNS server address, from the DHCPv6 server. The gateway address is obtained through RA.

4.3 Modify MTU

Maximum Transmission Unit (MTU) is the largest data packet that a network device transmits. Generally, keep the default MTU value. Try to change the MTU value when:

- You cannot access some specific websites or encrypted websites (such as E-banking or PayPal websites).
- You cannot receive and send Emails or access an FTP or POP server.

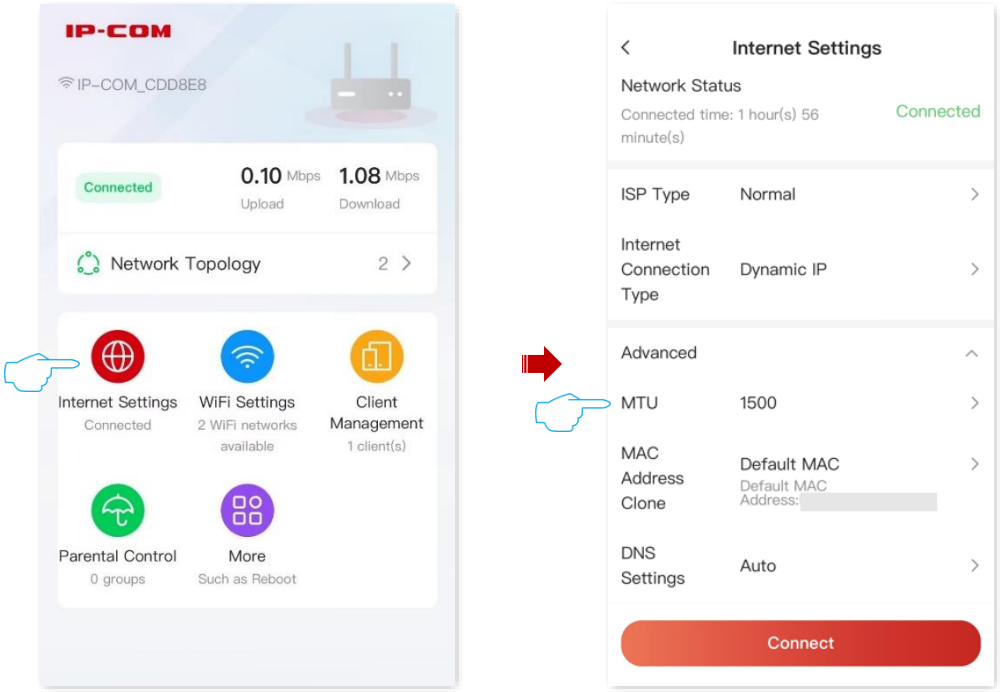
You can try reducing the value of MTU gradually from 1500 until the problem is resolved (The recommended range is 1400 to 1500).

MTU application description

MTU	Application
1500	Used for the most common settings in non-PPPoE connections and non-VPN connections.
1492, 1480	Used for PPPoE connections.
1472	It is the maximum value for the ping command. A packet with a larger size is fragmented.
1468	Used for DHCP connections.
1436	Used for VPN connections.

To access the configuration page, log in to the web UI of the router, and navigate to **Internet Settings**, and tap **Advanced**.

When the internet connection type is **PPPoE**, the default MTU value is **1480**. If the internet connection type is set to **Dynamic IP** or **Static IP,** the default MTU value is **1500**.



4.4 Clone MAC Address

When the internet settings are completed, if the router is still cannot be connected to the internet, it is possible that the ISP is bound to a certain MAC address (physical address). You can try to solve the problem through MAC address cloning.

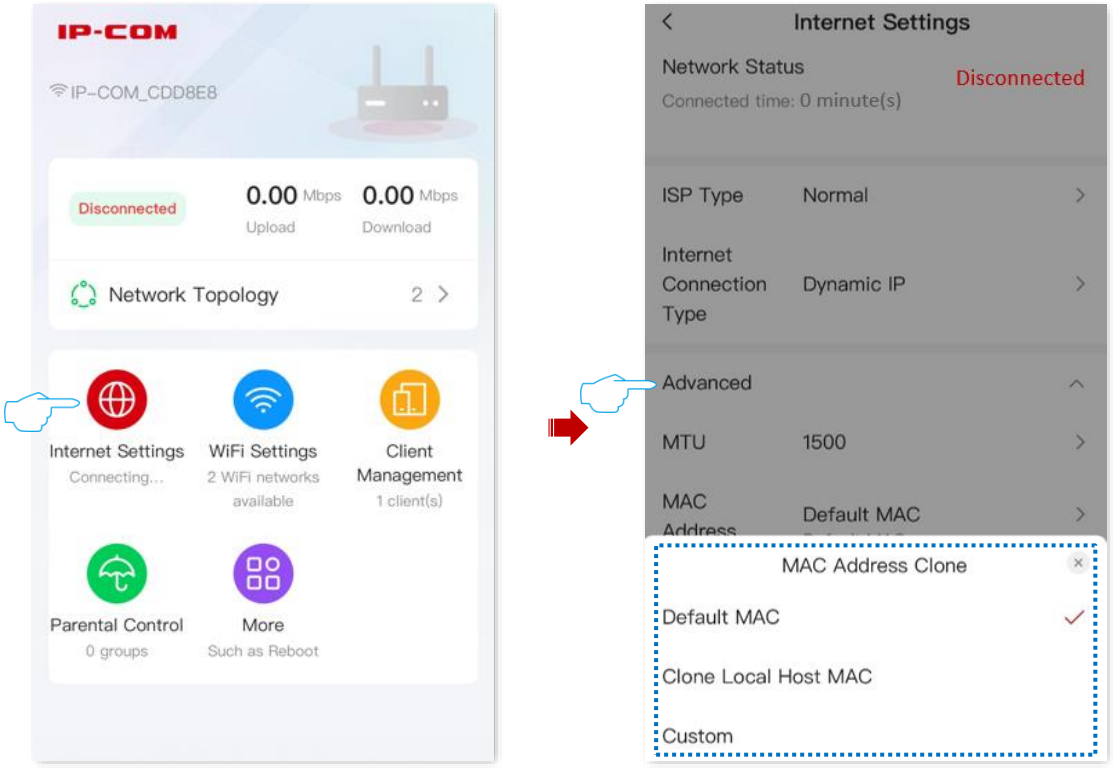
Use the correct MAC address to clone. The correct MAC address is the MAC address of the computer that can access the internet when the router is not in use, or the MAC address of the router's WAN port that can access the internet before.

Configuration procedure:

1. Log in to the web UI of the router.
2. Navigate to **Internet Settings**, and tap **Advanced**.
3. Tap the drop-down menu of **MAC Address Clone** to change the MAC address.
   - If you are using "a computer that can access the internet when the router is not in use to configure the router", select **Clone Local Host MAC**.
   - If you are using another computer to configure the router, select **Custom** and fill in the correct MAC address (this could be "MAC address of the computer that successfully connected to the internet when connected directly to the Ethernet cable" or "MAC address of the router's WAN port that was previously connected to the internet").

To restore the MAC address of the WAN port to the factory MAC address, set **MAC Address Clone** to **Default MAC**.

4. Tap **Connect**.


IP-COM
IP-COM_CDD8E8
Disconnected
0.00 Mbps
Upload
0.00 Mbps
Download
Network Topology
2
Internet Settings
Connecting...
WiFi Settings
2 WiFi networks available
Client Management
1 client(s)
Parental Control
0 groups
More
Such as Reboot
Internet Settings
Network Status
Connected time: 0 minute(s)
Disconnected
ISP Type
Normal
Internet Connection Type
Dynamic IP
Advanced
MTU
1500
MAC Address
Default MAC
MAC Address Clone
Default MAC
Clone Local Host MAC
Custom

---End

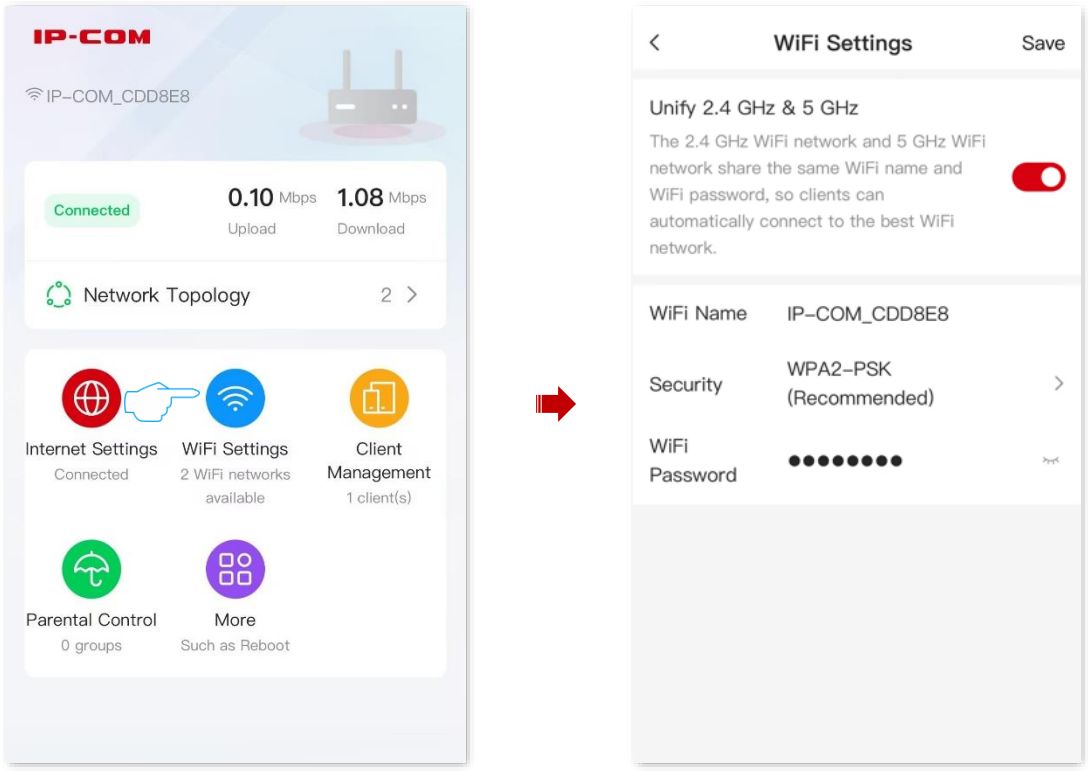
5 Wi-Fi Settings

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

This chapter includes the following sections:

5.1 Change Wi-Fi Name and Wi-Fi Password

1. Log in to the web UI of the router. Navigate to **WiFi Settings**.
2. Enable or disable the **Unify 2.4 GHz & 5 GHz** as required. The following figure shows an example of enabling the **Unify 2.4 GHz & 5 GHz**.
   - Enable **Unify 2.4 GHz & 5 GHz**: The Wi-Fi name and password of the 2.4 GHz and 5 GHz network on the router are the same, and only one Wi-Fi name is displayed. When you connect to your router's wireless network, you will automatically connect to the best quality Wi-Fi.
   - Disable **Unify 2.4 GHz & 5 GHz**: The 2.4 GHz and 5 GHz networks on the router are displayed separately. You can access the internet through either wireless network. If you have wireless devices that only support 2.4GHz networks, you need to connect to the router's Wi-Fi network, such as security cameras, you are recommended to disable the **Unify 2.4 GHz & 5 GHz**.
3. Set **WiFi Name**, **Security**, and **WiFi Password** as required.
4. Tap **Save** in the upper-right corner.



---End

After the settings are completed, your Wi-Fi-enabled devices (such as smartphone) need to connect to the new wireless network to access the internet.

5.2 Set Up a Guest Wi-Fi

The router's guest Wi-Fi is isolated from other networks. The clients connected to the guest Wi-Fi can access the internet, but cannot access the router's web UI or other networks.

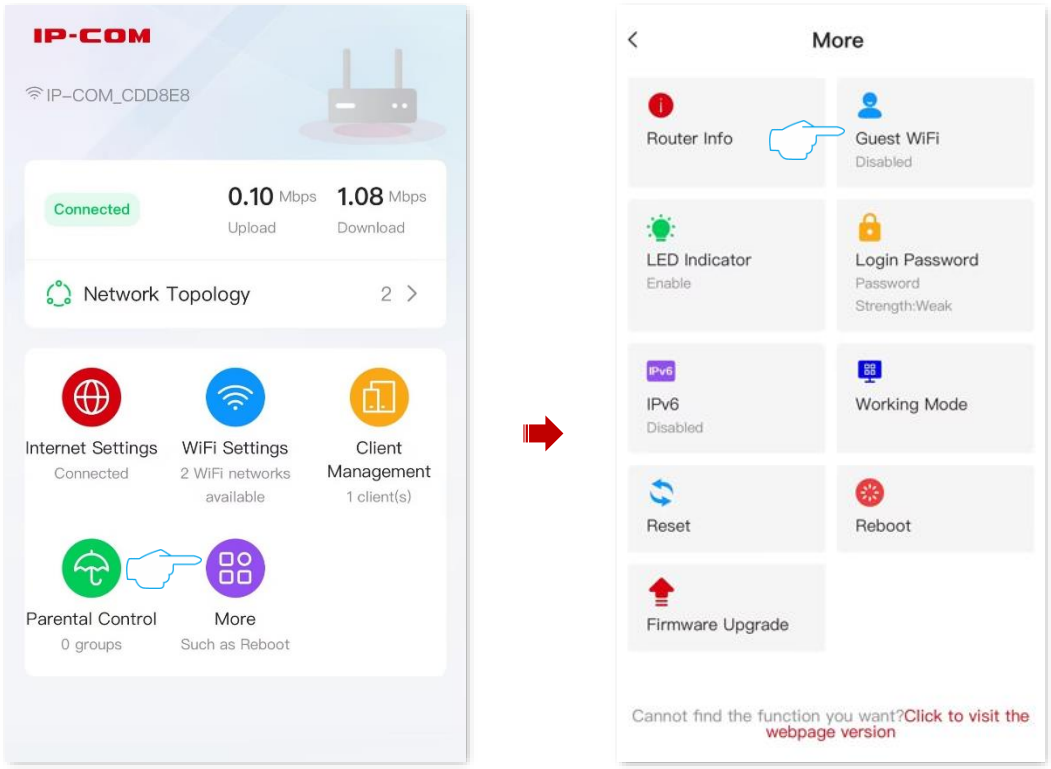
When you need to open a wireless network for guests, you can enable guest Wi-Fi to meet the internet requirements of guests. It protects the security of the main network to prevent personal information disclosure.

This function is disabled by default. Assume that:

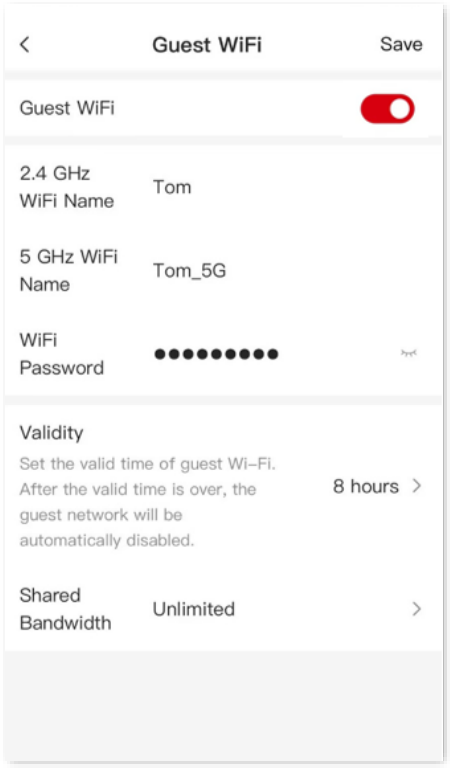
- Wi-Fi names for 2.4 GHz and 5 GHz networks: **Tom** and **Tom_5G**.
- Wi-Fi password for 2.4 GHz and 5 GHz networks: **IP-COM+245**.

Configuration procedure:

1. Log in to the web UI of the router.
2. Navigate to **More** > **Guest WiFi**.



3. Toggle on the **Guest WiFi**.
4. Set **2.4 GHz WiFi Name**, which is **Tom** in this example.
5. Set **5 GHz WiFi Name**, which is **Tom_5G** in this example.
6. Set **WiFi Password**, which is **IP-COM+245** in this example.
7. Tap **Save** in the upper-right corner.



---End

After the settings are completed, the guest's smartphone and other Wi-Fi-enabled devices can connect to the guest Wi-Fi for internet access you set, and the validity period is 8 hours.

Parameter description

Parameter	Description
Guest WiFi	Used to enable or disable the guest network function.
2.4 GHz WiFi Name	Specify the Wi-Fi name of the router's guest network. Tip You can change the Wi-Fi names (SSIDs) as required. To distinguish the guest network from the main network, you are recommended to set different Wi-Fi network names.
5 GHz WiFi Name	
WiFi Password	Specifies the password for the router's guest network. Tip A Wi-Fi password that contains multiple characters, such as digits, uppercase and lowercase letters, can improve Wi-Fi security.

Parameter	Description
Validity	Specifies the validity period of the guest networks. The guest network function will be disabled automatically (The Wi-Fi enabled devices cannot scan the router's guest Wi-Fi.) out of the validity period. If the guest's visit is 8 hours, it can be set to 8 hours.
Shared Bandwidth	Allows you to specify the maximum upload and download speed for all clients connected to the guest networks. By default, the bandwidth is **Unlimited**. You can modify it as required.

6 Network Status

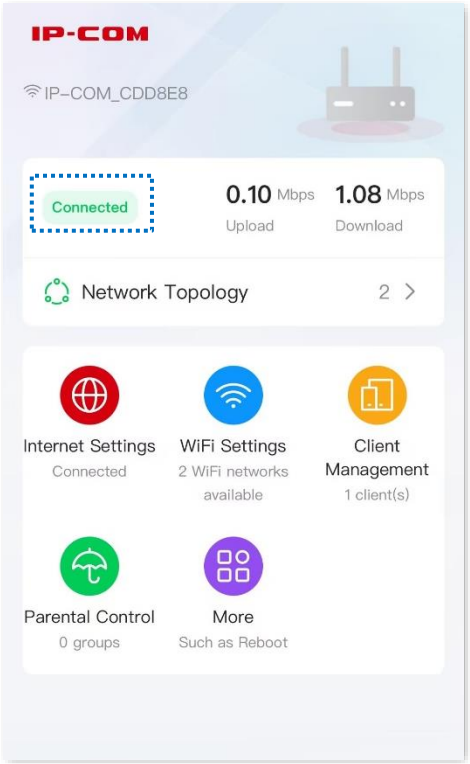
Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

This chapter includes the following sections:

6.1 View Network Status

6.1.1 Router Connected to Internet

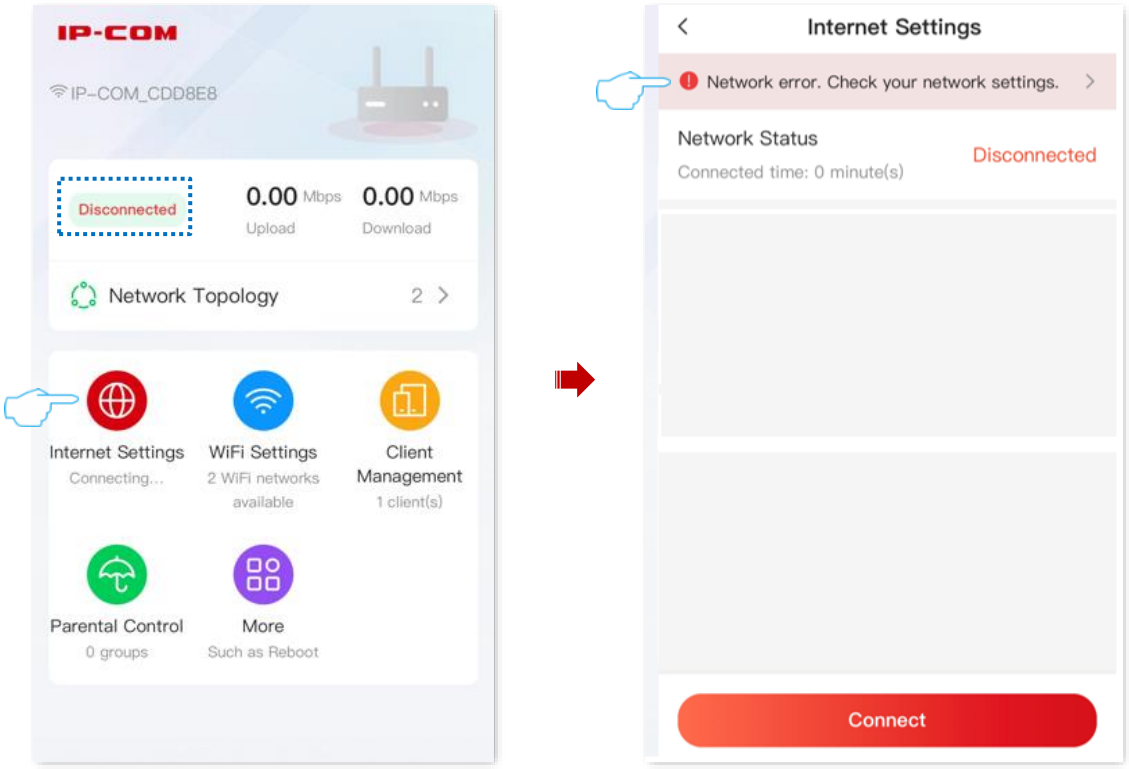
Log in to the web UI of the router, when the web UI shows **Connected**, as shown in the following figure, the router is successfully connected. You can connect to the router for internet access.



6.1.2 Router Disconnected from the Internet

Step 1: Enter the network error page

Log in to the web UI of the router, when the web UI shows **Disconnected**, as shown in the following figure, it indicates that the router disconnected from the internet. Refer to the following text to enter the **Network Error** page.



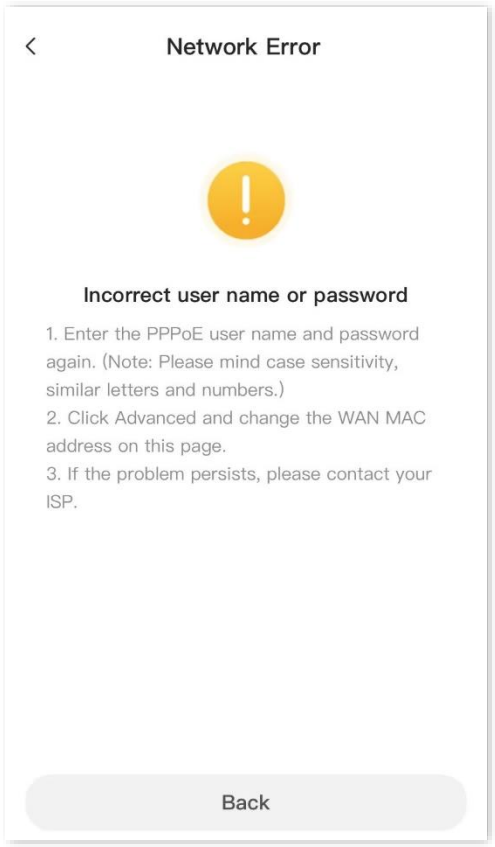
Step 2: Troubleshooting

I. No Ethernet Cable is Connected to the WAN Port

If No Ethernet cable is connected to the WAN port is displayed in the **Network Error**, try to solve the problem according to the on-screen prompts. If the problem persists, contact IP-COM technical support for help.

II. Incorrect PPPoE Username or Password

If Incorrect user name or password is displayed in the **Network Error**, try to solve the problem according to the on-screen prompts.



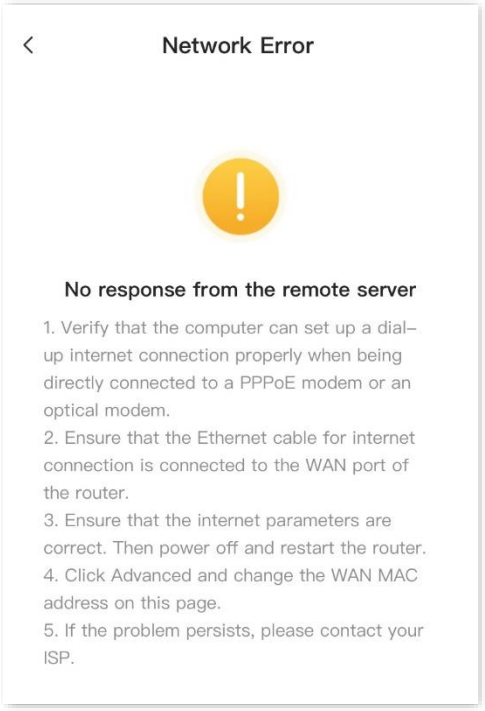
Note

Note the following when entering the PPPoE username and password:

- Case sensitive, such as "Z" and "z".
- Distinguish between similar letters and numbers, such as the letter "I" and the number "1".
- Enter the complete PPPoE username.
- If the PPPoE username and password are entered correctly, but the problem persists, you are recommended to tap **Advanced** to change the WAN MAC address and try again. For details, see Modify WAN MAC Address. If the problem persists, contact your ISP for help.

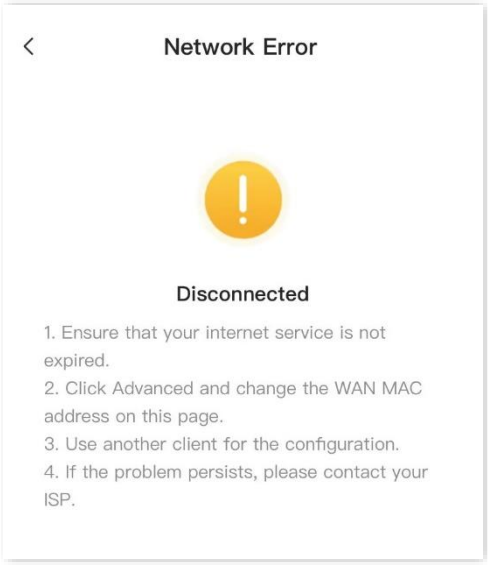
III. No Response from the Remote Server

If the No response from the remote server is displayed in **Network Error**, as shown in the following figure. Try to solve the problem according to the on-screen prompts.



IV. Disconnectd

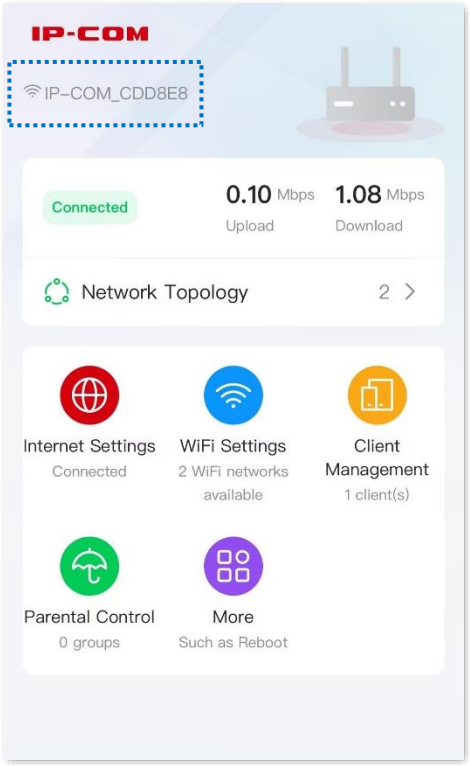
If the Disconnected is displayed in **Network Error**, as shown in the following figure. Try to solve the problem according to the on-screen prompts.



6.2 View Wi-Fi Name

After logging in to the web UI of the router, the 2.4 GHz Wi-Fi name of the main network is displayed in the upper-left corner of the web UI.

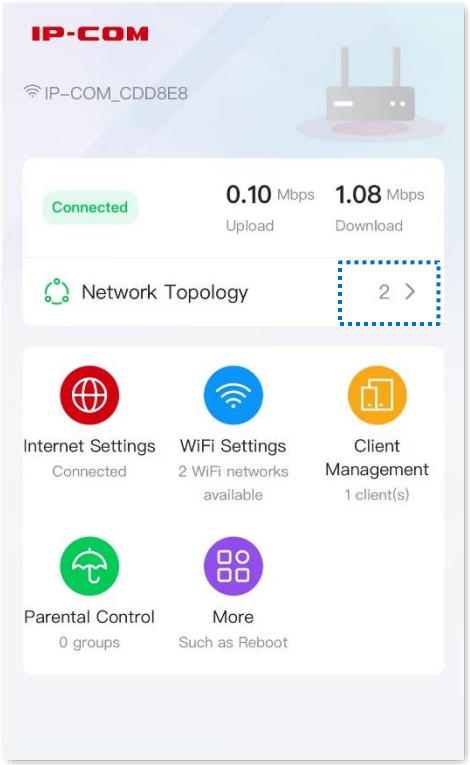
If you want to view or set up more wireless information, refer to Wi-Fi settings.



6.3 View the Networking Information

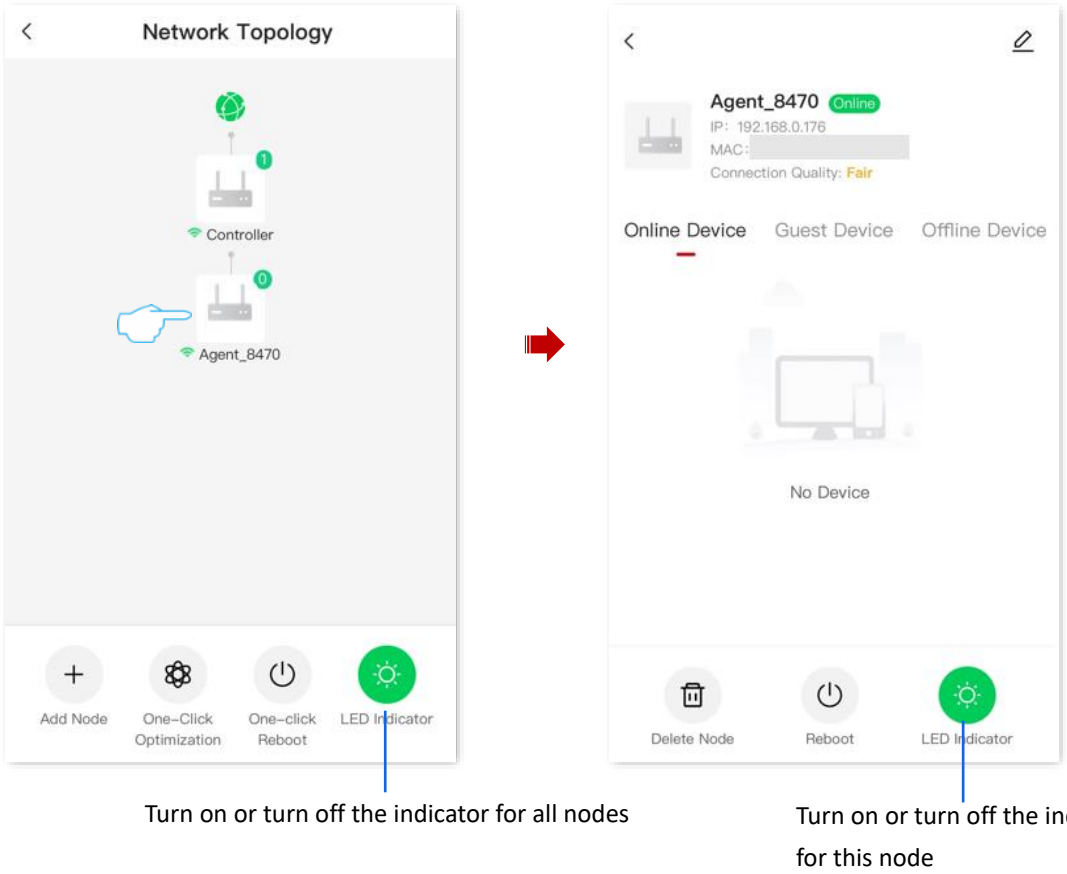
6.3.1 View the Number of Mesh Nodes

After logging in to the web UI of the router, you can view the total number of Mesh nodes on the **Network Topology** page. The following figure is for reference only.



6.3.2 View Network Status, Node and Client Details

After logging in to the web UI of the router, navigate to the **Network Topology**, and tap any node icon to view the networking conditions and node details, including the IP address, MAC address, and the number of clients connected to a node. The following figure is for reference only.



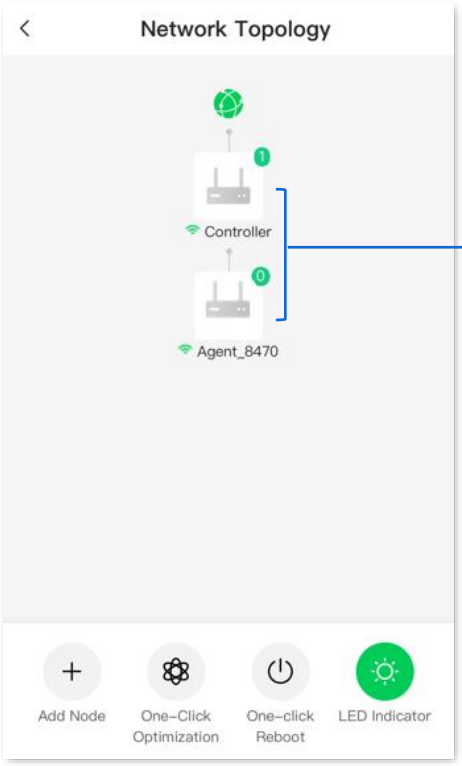
Parameter description

Parameter	Description
Controller	Specifies the default name of the primary node. You can customize it on the node information page.
Agent_*XXXX*	Specifies the default name of the secondary node. You can customize it on the node information page.
Add Node	Used to scan networking, view the methods of MESH button networking or wired networking, or view recommended solutions for networking anomalies. If you want to network, refer to the MESH networking for detailed steps.
One-Click Optimization	Used to optimize wireless networks with one tap. Tip When your clients are stuck for internet access or cannot receive Wi-Fi signals, you can optimize the wireless network with one tap.

Parameter	Description
One-click Reboot	Used to optimize wireless networks with one tap. Tip Rebooting the node will disconnect all connections. Perform this operation when the network is relatively idle.
Node Name	Displays the Mesh node name, IP address, MAC address, and uptime. - Controller: Specifies the default name of the primary node. You can customize it as required. - Agent_*XXXX*: Specifies the default name of the secondary node. You can customize it as required.
	Used to modify the node name.
IP	Specifies the IP address of the corresponding node.
MAC	Specifies the MAC address of the corresponding node.
Connection Quality	Specifies the network quality of the secondary nodes. Tip If the secondary node is wired networking, the connection quality is **Excellent**.
Online Device	Specifies the information about the online client, including device name and access method.
Guest Device	Specifies the information about the client currently connected to the guest network of the node, including device name and access method.
Offline Device	Specifies the offline clients. You can customize the clients name as required.
Reboot	Used to reboot the node. Once rebooted, all connections will be disconnected. Do this when the network is relatively idle.
Delete Node	Used to remove the secondary node. Removing a node will reduce network coverage, and the node will reset to factory settings.

6.4 View the Number of the Clients

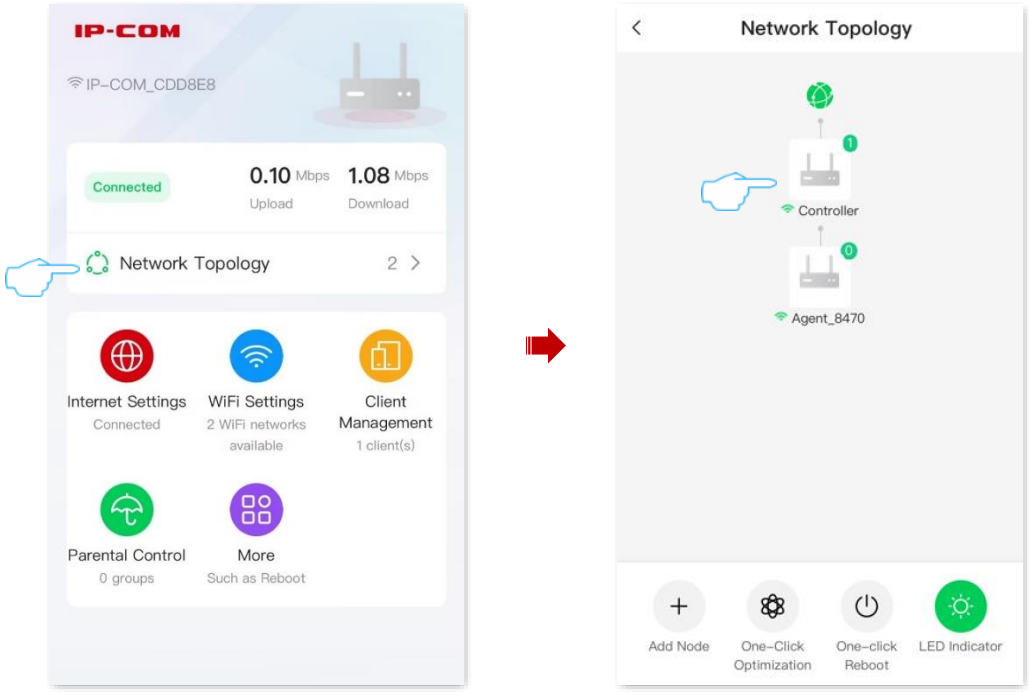
After logging in to the web UI of the router, tap **Network Topology** to view the number of clients connected to a node.



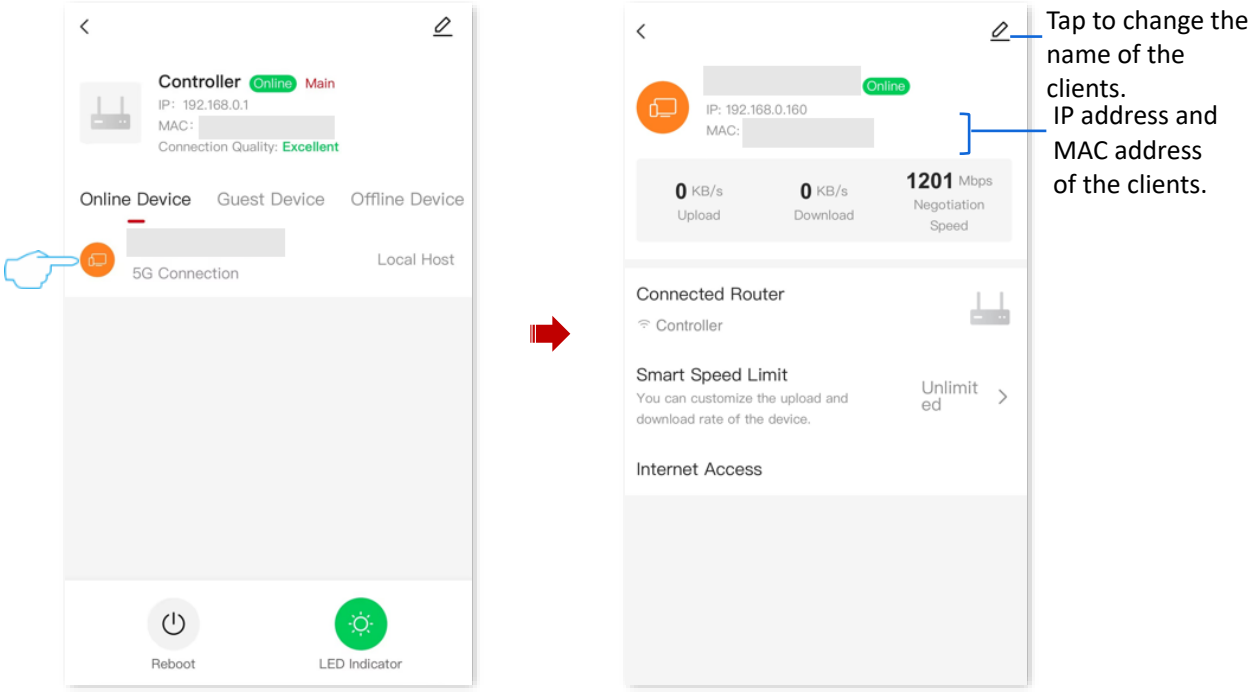
The number in the upper-right corner of the node icon indicates the number of clients connected to the node.

6.5 View Client Details

1. After logging in to the web UI of the router, tap **Network Topology**, and tap the node to which the client is connected. The following figure is for reference only.



2. Tap the client to view the details according to the actual situation. The following figure is for reference only.



---End

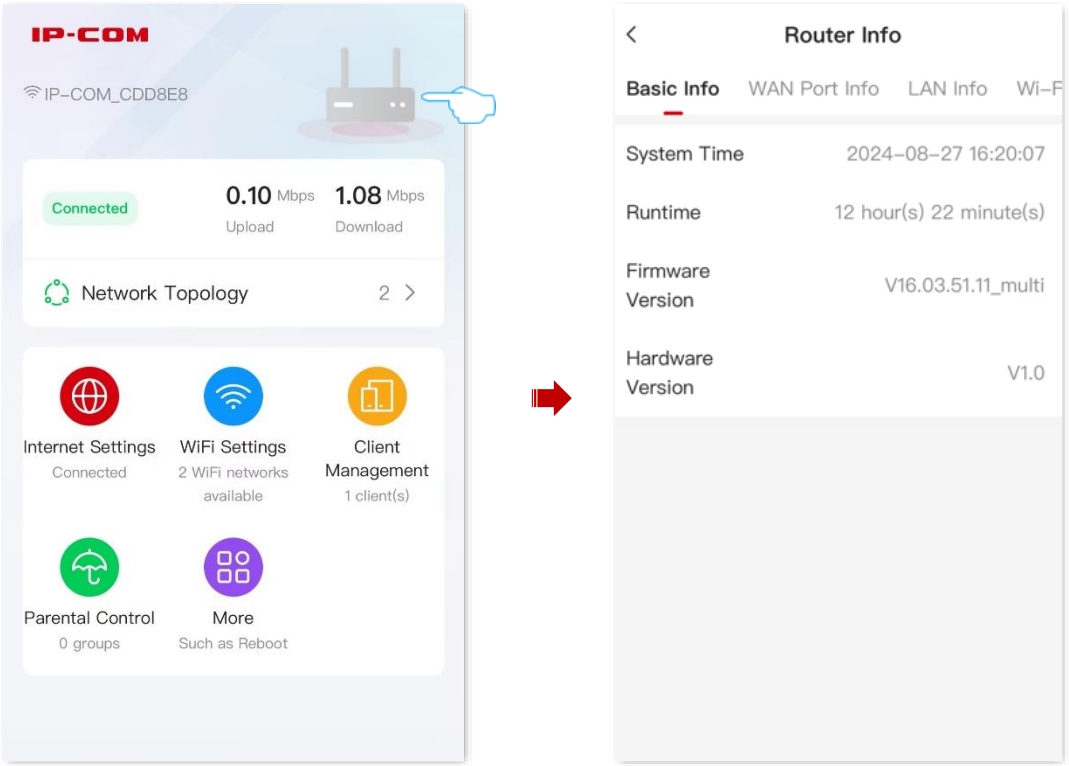
Parameter description

Parameter	Description
Upload	Specify the current upload or download speed of the clients.
Download	
Negotiation Speed	Specifies the maximum speed negotiated by the client with this node.
Connected Router	Specifies the node to which the clients are connected.
Smart Speed Limit	Used to limit the maximum upload or download speed of the clients.
Internet Access	After this function is enabled, the clients are allowed to access the internet through this network. After this function is disabled, the client will be added to the blacklist. To remove it from the blacklist, refer to Remove a client from the blacklist. Tip **Local Host** devices do not support joining the blacklist.

6.6 View Router Information

After logging in to the web UI of the router, tap the product icon in the upper-right corner, or navigate to **More** > **Router Info**. You can view the system information about the router. The details are as follows:

- Basic information: Displays the system time, running time, firmware version, and hardware version of the router.
- WAN port status: Displays the IPv4 internet connection type, connection status, and IP address of the current WAN port on the router.
- LAN port status: Displays the IPv4 address, subnet mask, and MAC address of the router's LAN port.
- Wireless status: Displays basic information about the 2.4 GHz and 5 GHz wireless networks, including wireless network status, Wi-Fi name, and security.
- IPv6 status: Displays the IPv6 internet connection type, IP address, and DNS information of the current WAN port on the router.



7 Client Management

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

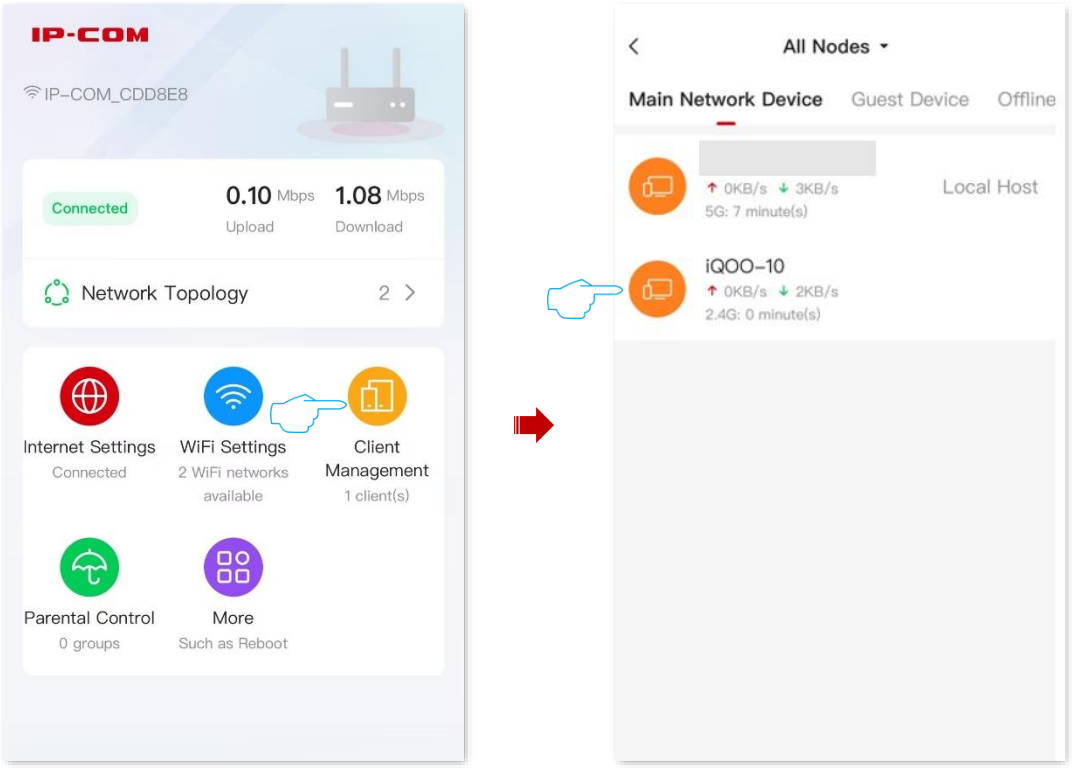
This chapter describes how to manage your clients, including:

7.1 Add a Client to the Blacklist

The blacklisted devices cannot access the internet through the router.

To blacklist a client:

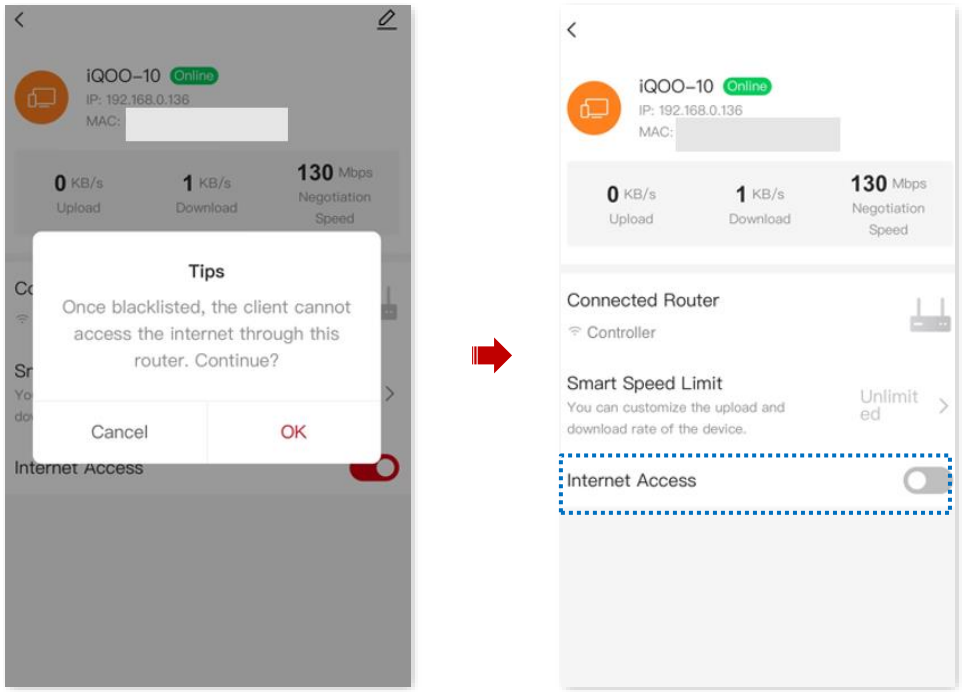
1. Log in to the web UI of the router, and navigate to **Client Management**.
2. Locate the device that not allowed to access the internet. The following figure is for reference only.



Parameter description

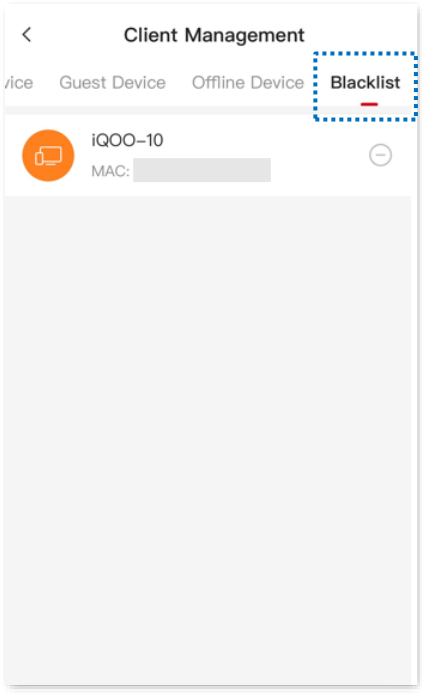
Parameter	Description
All Nodes	Used to filter the clients connected to each node. When a router is networked with other routers through Mesh networking, you can tap the primary node name or other node name to display only the devices under the corresponding node.
Main Network Device	Specifies the clients connected to the main network.
Guest Device	Specifies the clients connected to guest Wi-Fi.
Offline Device	Specifies the offline clients.
Blacklist	Specifies the clients cannot access the internet through the router.

3. Toggle off the **Internet Access**, confirm the prompt message, and tap **OK**.



---End

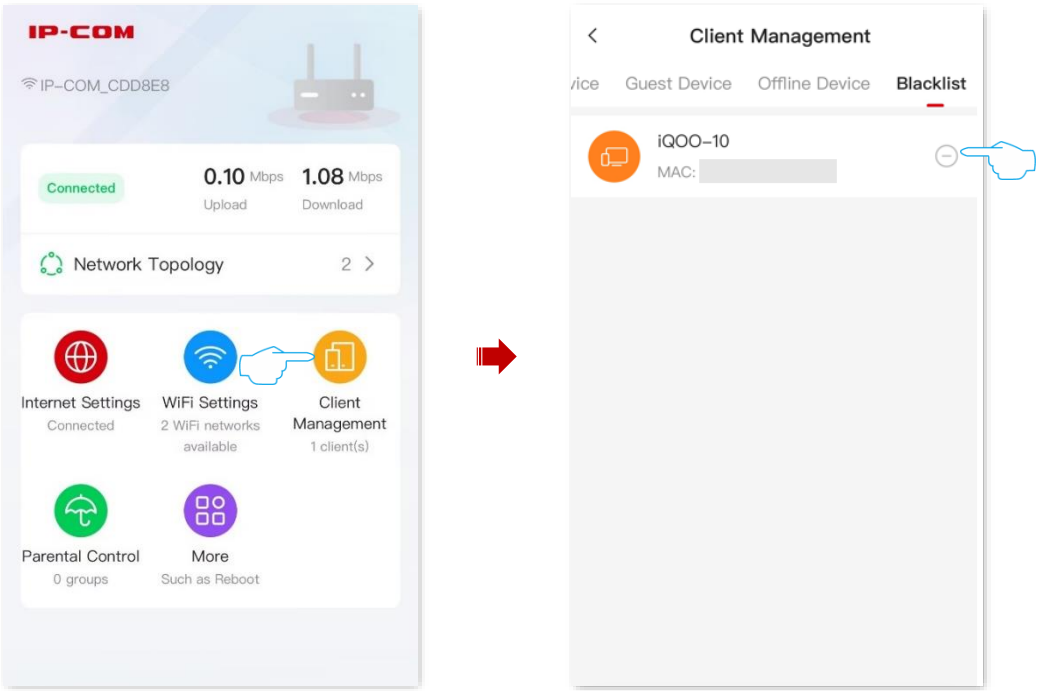
The client is removed from the device list and displayed on the blacklist now.



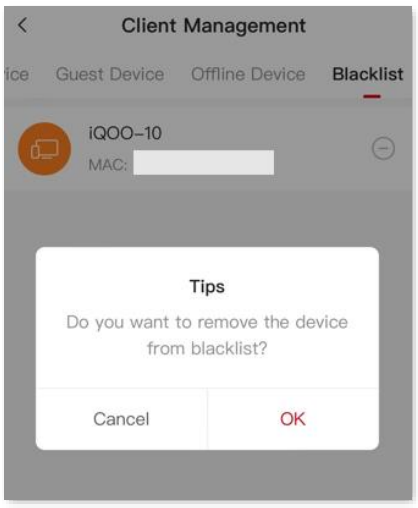
7.2 Remove a Client from the Blacklist

If the device is removed from the blacklist, it can be reconnected to the router.

1. Log in to the web UI of the router, navigate to **Client Management**, and tap **Blacklist**.
2. Locate the client you want to remove from the blacklist, and tap ⊖. The following figure is for reference only.



3. Confirm the prompt message, and tap **OK**.



---End

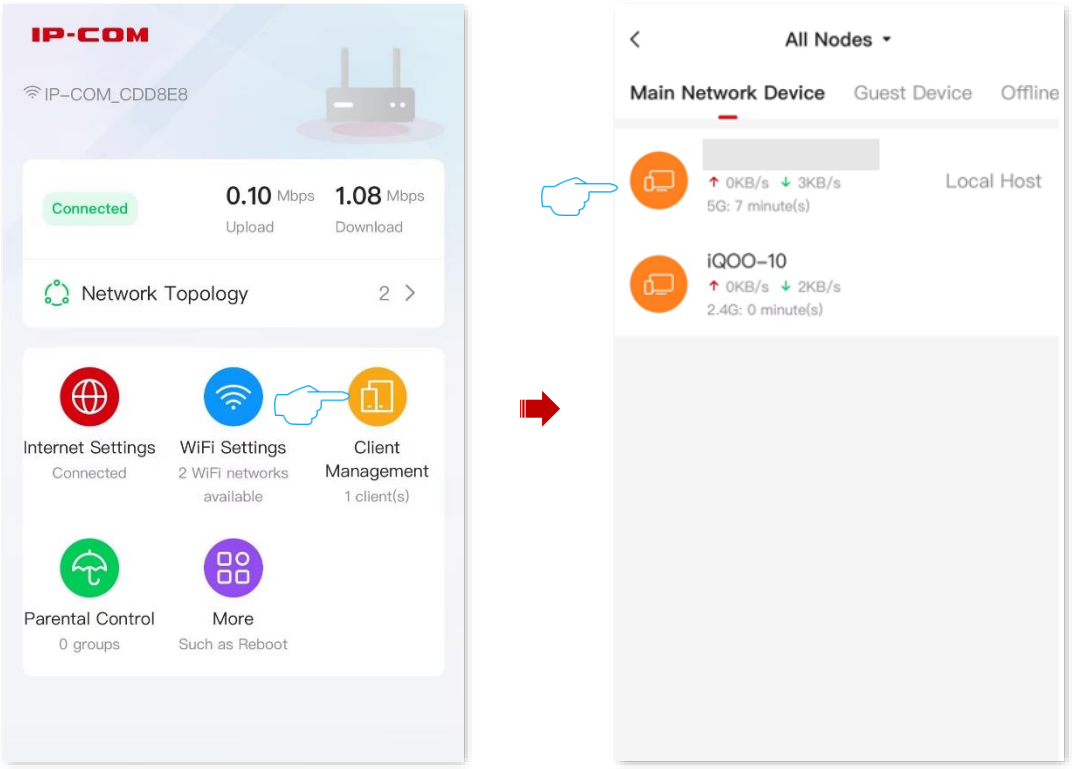
7.3 Internet Access Speed Control

You can control the bandwidth of the devices connected to the router, so that the limited bandwidth is properly allocated.

Scenario: You want all the devices connected to the router to watch 1080P HD video and enjoy a good internet experience.

Solution: You can configure the Smart Speed Limit function to reach the goal.

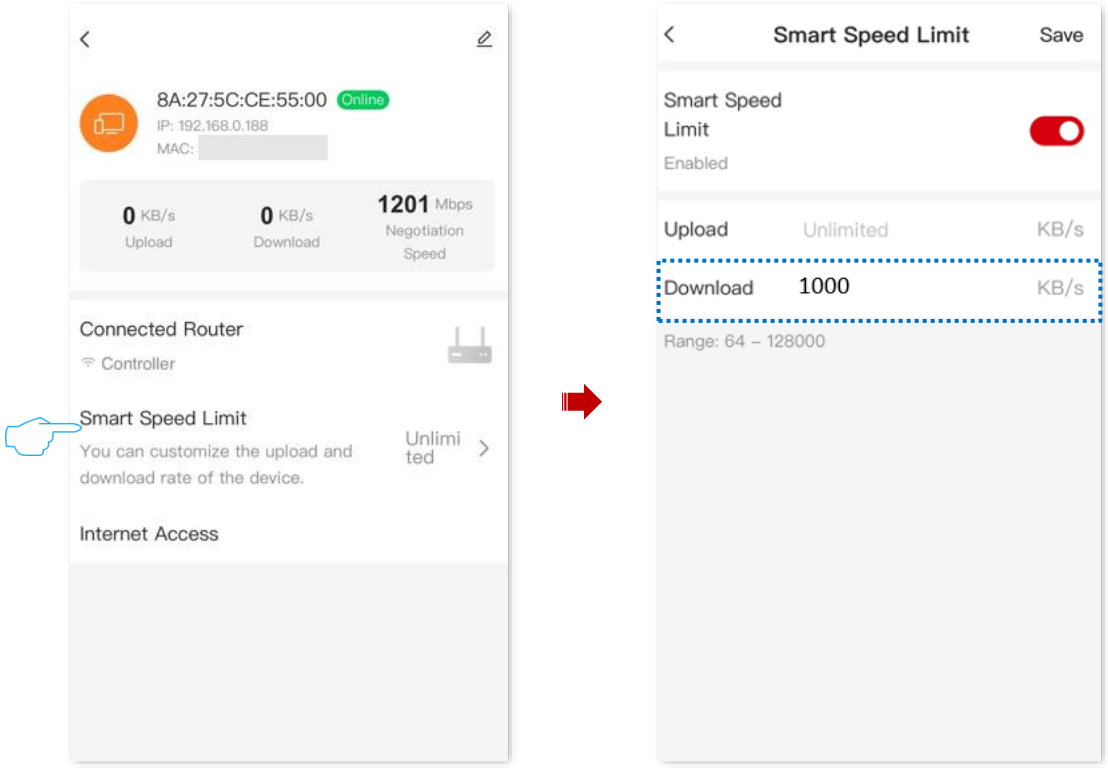
1. Log in to the web UI of the router, and navigate to **Client Management**.
2. Locate and tap the device according to the device name. The following figure is for reference only.



3. Tap **Smart Speed Limit**, toggle on the **Smart Speed Limit**, set **Download** to **1000 KB/s** in this example, and tap **Save** in the upper-right corner.

Tip

To ensure that the video definition of the client is 1080P, it is recommended that the internet speed limit of the mobile client is 512KB/s, and the internet speed limit of the computer client is 1000KB/s.


8A:27:5C:CE:55:00
Online
IP: 192.168.0.188
MAC:
0 KB/s
Upload
0 KB/s
Download
1201 Mbps
Negotiation Speed
Connected Router
Controller
Smart Speed Limit
You can customize the upload and download rate of the device.
Unlimited
Internet Access
Smart Speed Limit
Save
Smart Speed Limit
Enabled
Upload
Unlimited
KB/s
Download
1000
KB/s
Range: 64 – 128000

---End

7.4 Internet Access Rule Control

With parental control function, you can configure various parental control rules to control access to certain websites or block certain clients from accessing the internet.

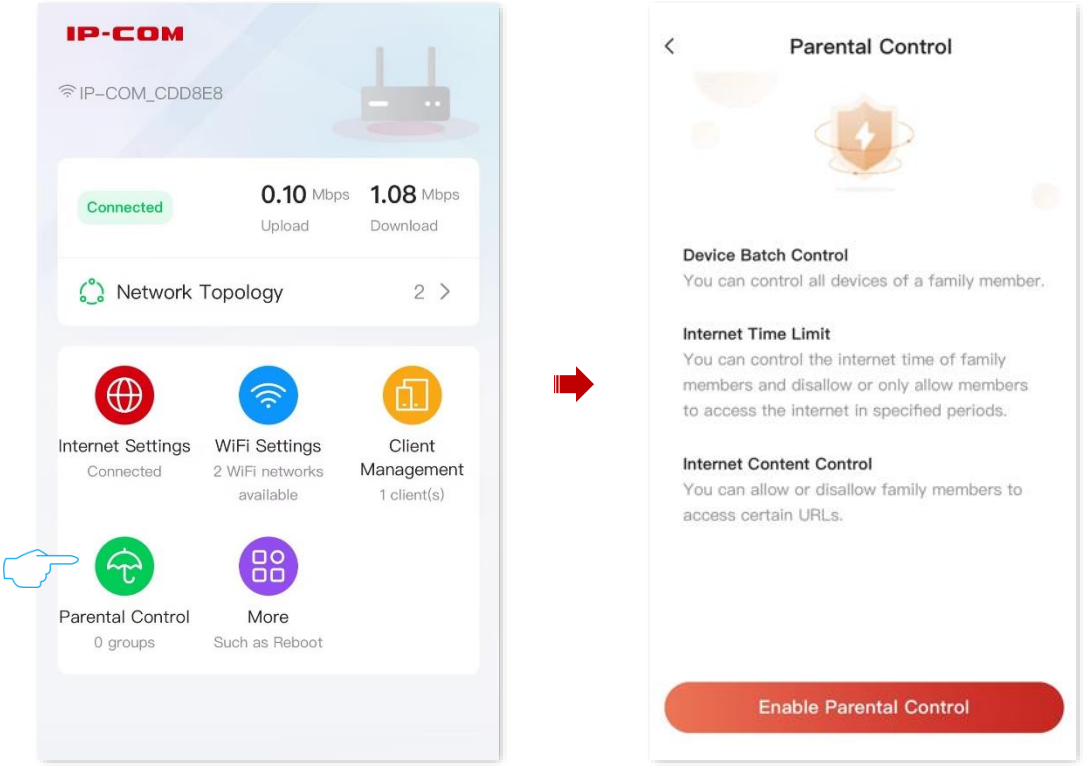
Scenario: You want to configure your kid's internet access through the router. Your kid cannot access such websites as Facebook, Twitter and Instagram from 8:00 to 22:00 on Sunday.

Goal: Devices cannot access to websites include kid's phones and computers.

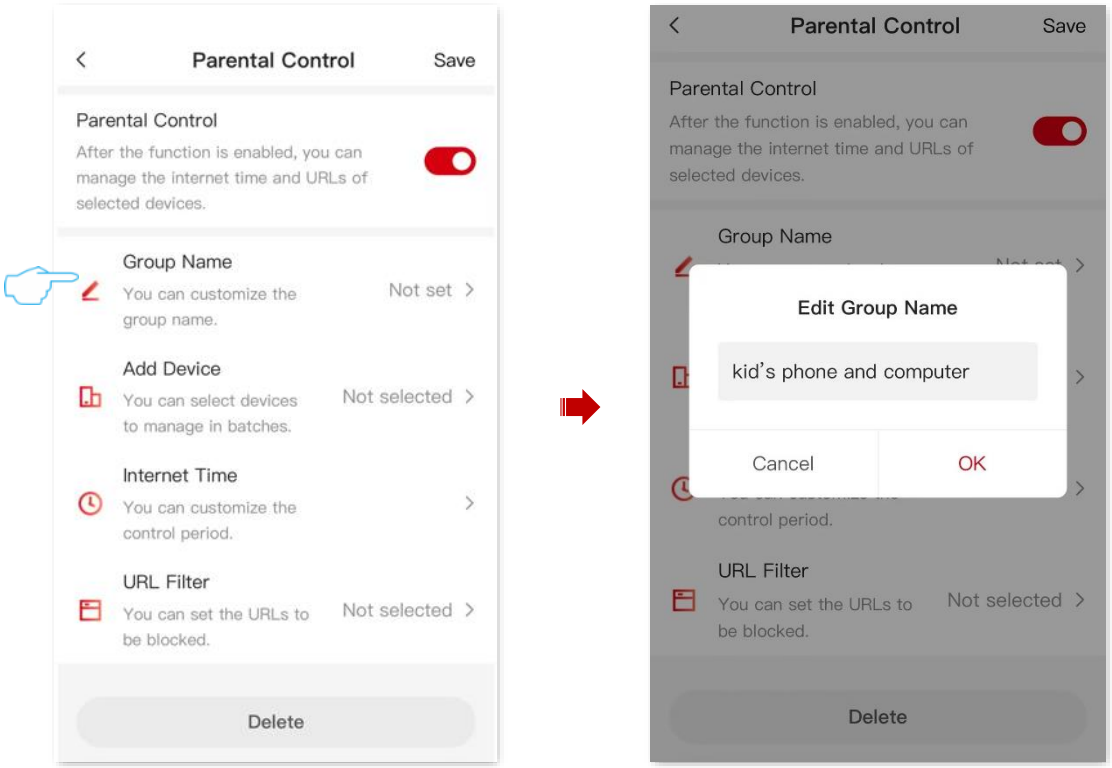
Solution: You can configure a parental control rule to reach the goal.

To add such a rule:

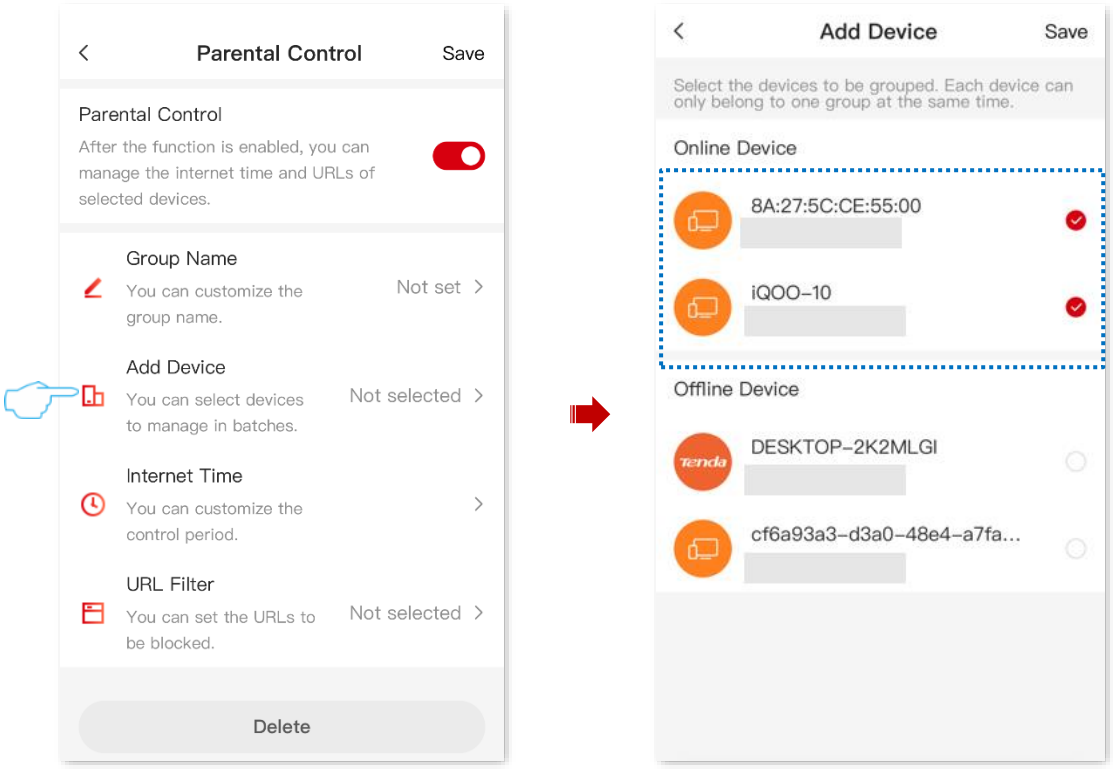
1. Log in to the web UI of the router, and navigate to **Parental Control**.
2. Tap **Enable Parental Control** or ＋ in the upper-right corner.



3. Set **Group Name**, which is **Kid's phone and computer** in this example.



4. Tap **Add Device**, select the client to be added to the group, which is **kid's phone and computer** in this example, and tap **Save** in the upper-right corner.

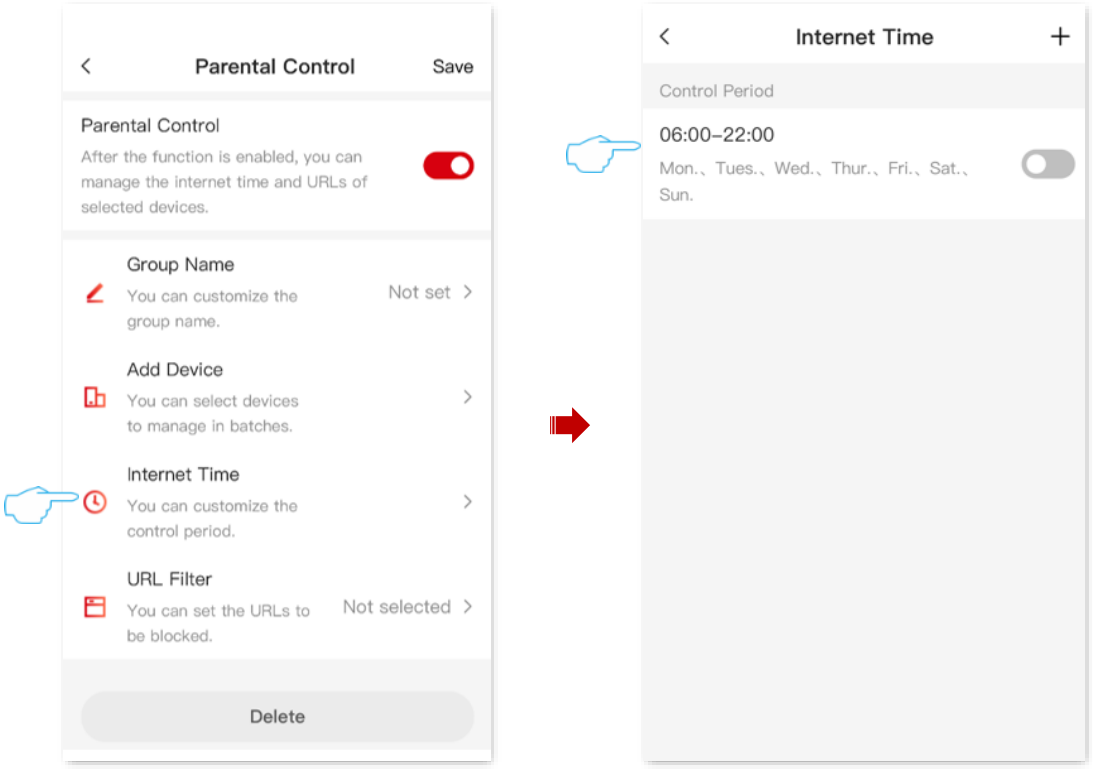


5. Set the time when the client can access the internet.

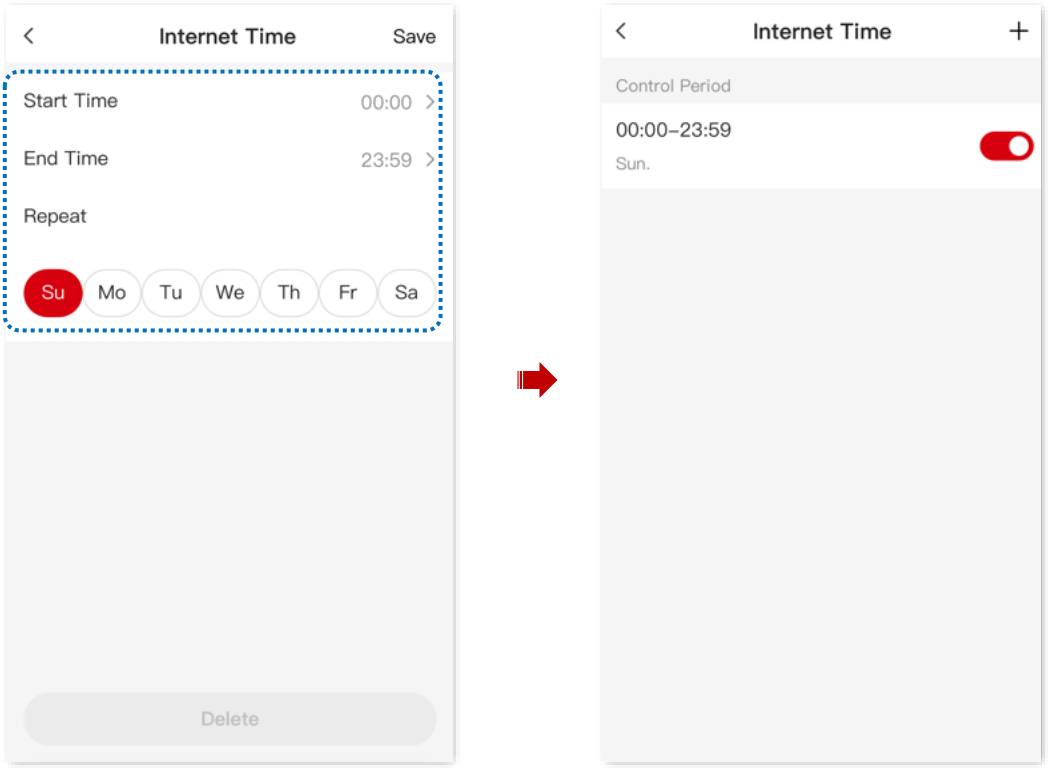
   1) Tap **Internet Time**, and set control period of the client.

Tip

The system creates a time rule by default. If the requirements are different, manually change it. You can tap + in the upper-right corner to add multiple online periods as required.

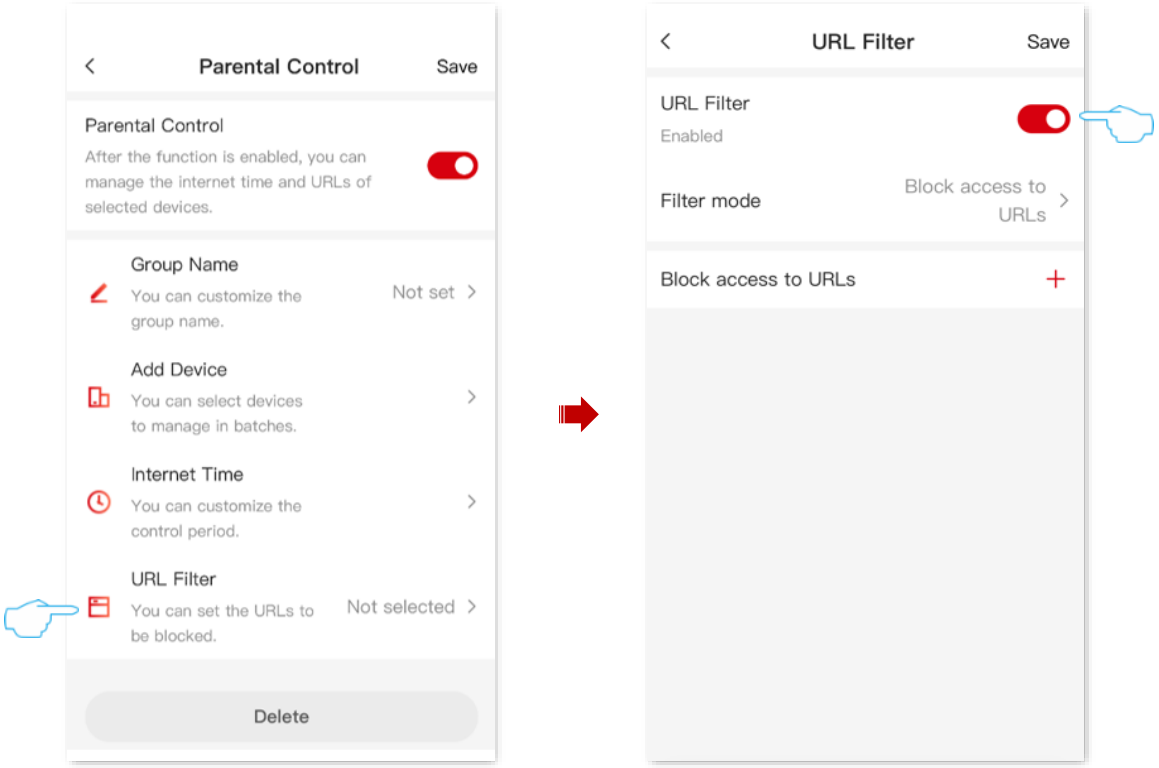


2) Set the **Start Time**, **End Time** and the date to access the internet, which are **00:00-23:59** and **Sunday** in this example, and tap **Save** in the upper-right corner.



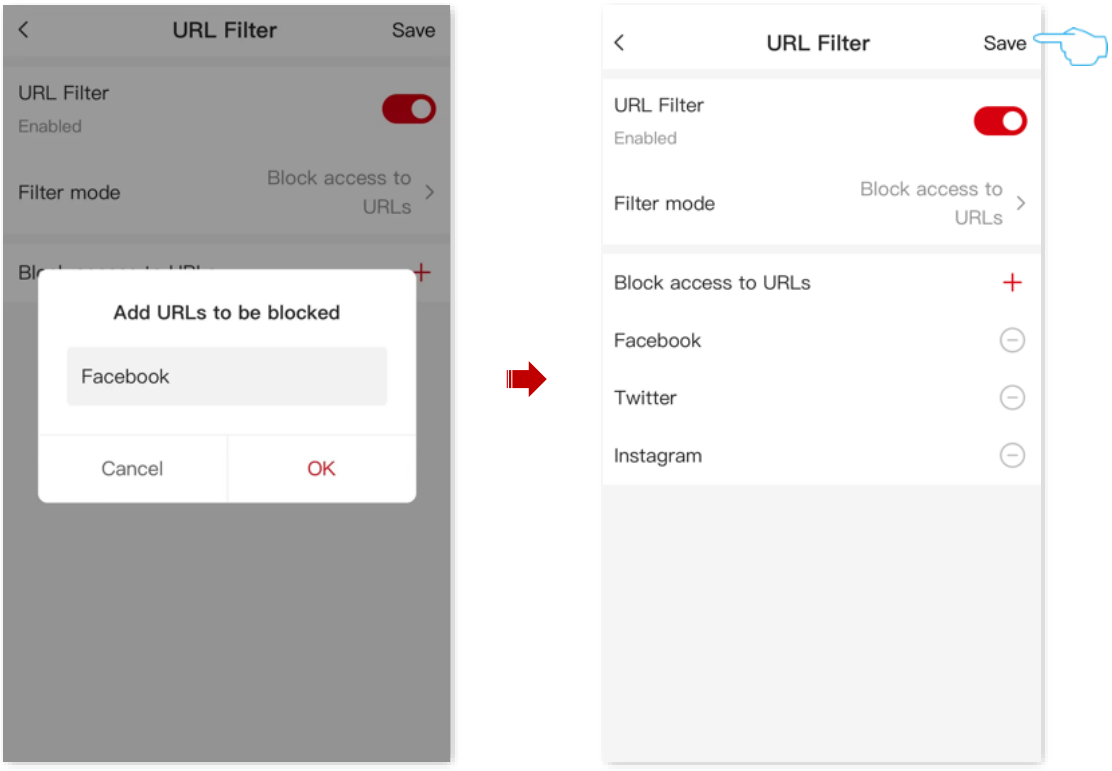
6. Set the URL that the client is forbidden to access.

1) Back to **Parental Control** page, and tap **URL Filter**.
2) Toggle on the **URL Filter**, and select **Filter mode** to **Block access to URLs**.
3) Tap **+** to add URLs.

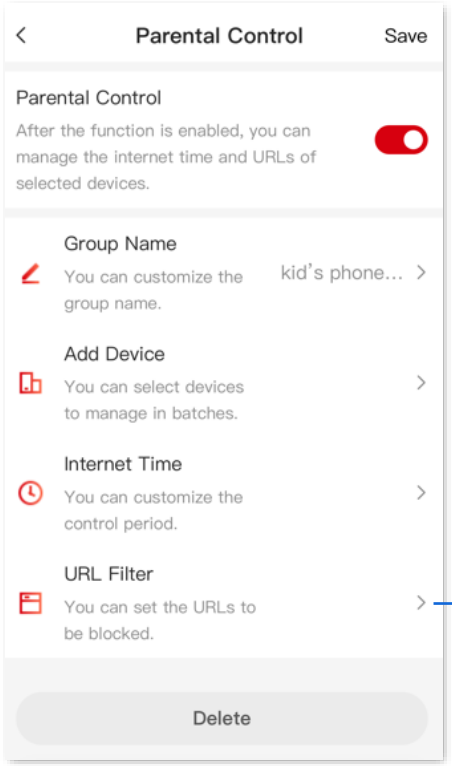


4) Enter Facebook for URL.

5) Repeat substeps **3)** to **4)** to add **Twitter** and **Instagram**, and tap **Save** in the upper-right corner.



7. Back to **Parental Control** page, and tap **Save** in the upper-right corner.



The URL filter supports keywords, does not support Chinese characters. If you want to be precise blocked the URL, enter the full URL, such as www.google.com.

---End

After the settings are completed, your kid's phone and computer can access any websites except for Facebook, Twitter and Instagram from 8:00 to 22:00 on Sunday.

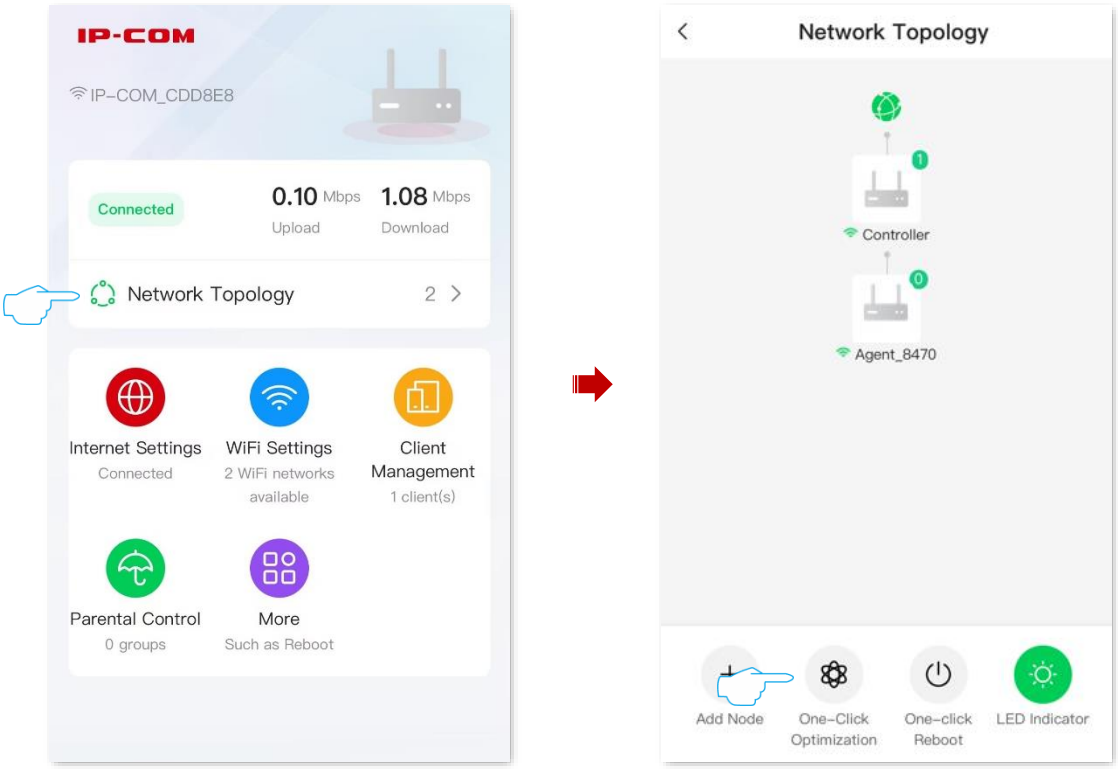
8 Optimize Network Performance

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

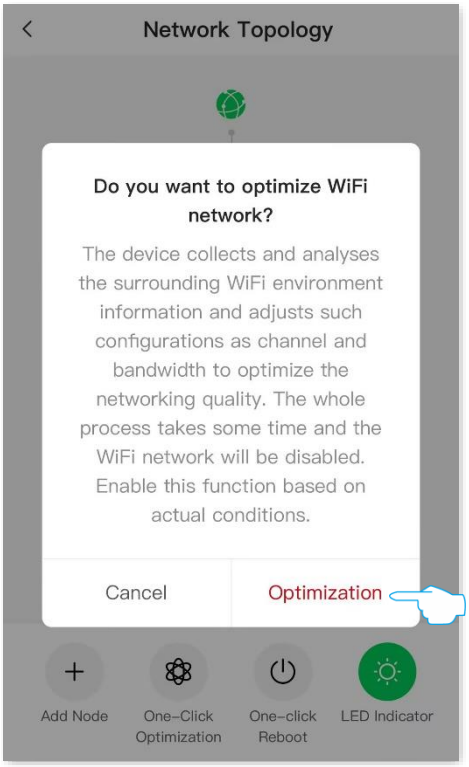
If you get stuck when you access the internet, you can try to optimize the wireless network with one tap to solve the problem.

Configuration procedure:

1. Log in to the web UI of the router, and navigate to **Network Topology**.
2. Tap (**One-Click Optimization**).



3. Confirm the prompt message, and tap **Optimization**.



---End

9 Turn On or Turn Off the Indicator of Router

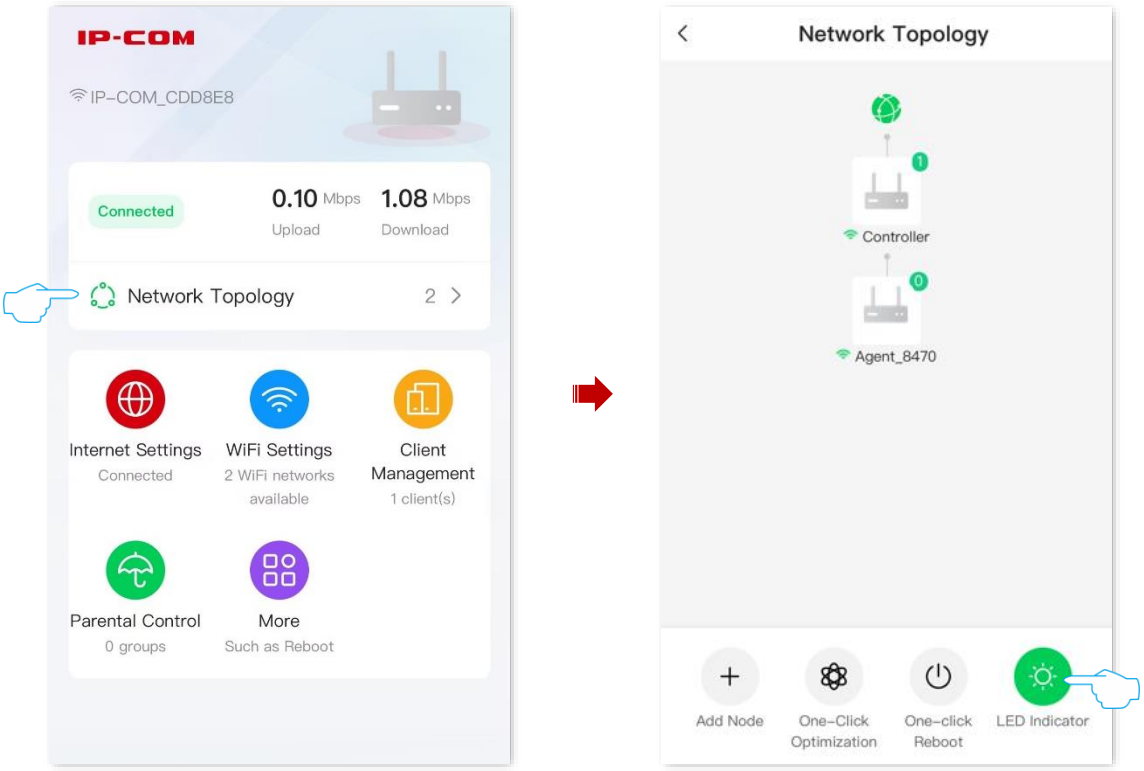
Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

This chapter describes how to manage your clients, including:

9.1 Turn On or Turn Off the Indicators of All Nodes

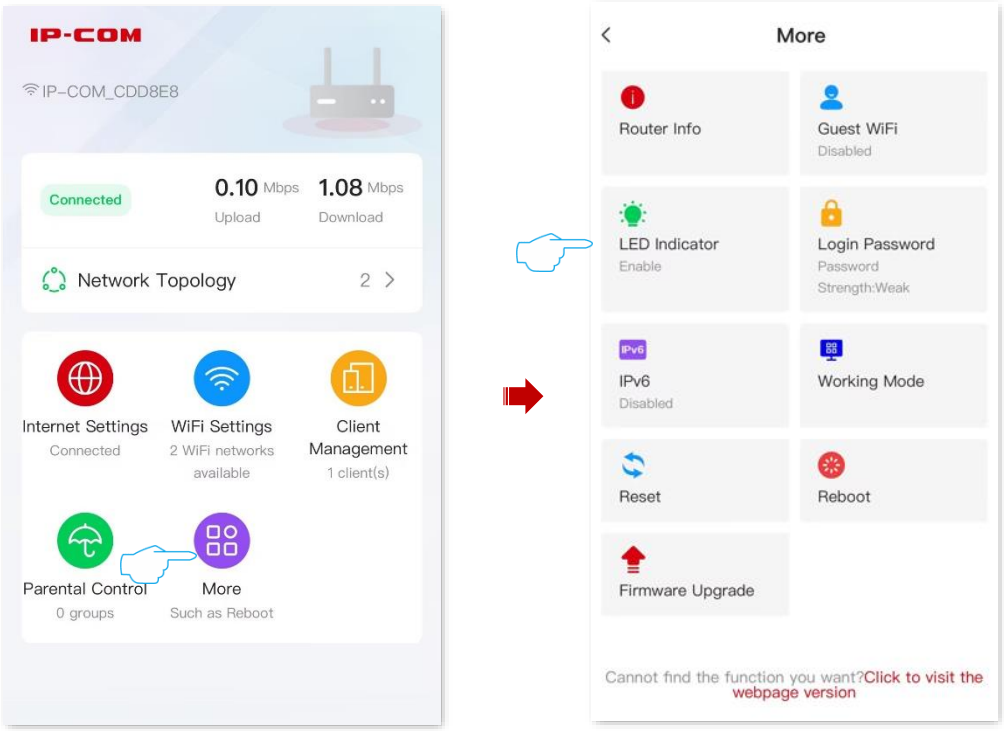
9.1.1 Method 1

After logging to the web UI of the router, tap **Network Topology**, and tap (**LED Indicator**). The following figure is for reference only.

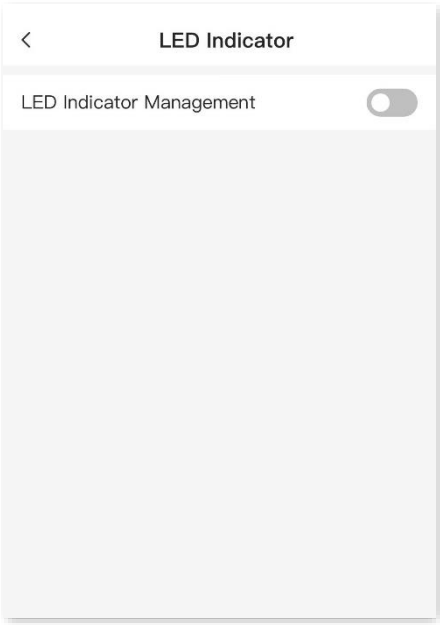


9.1.2 Method 2

1. Log in to the web UI of the router, and navigate to **More** > **LED Indicator**.



2. Turn on or turn off the **LED Indicator Management** as required. The following figure is for reference only.



---End

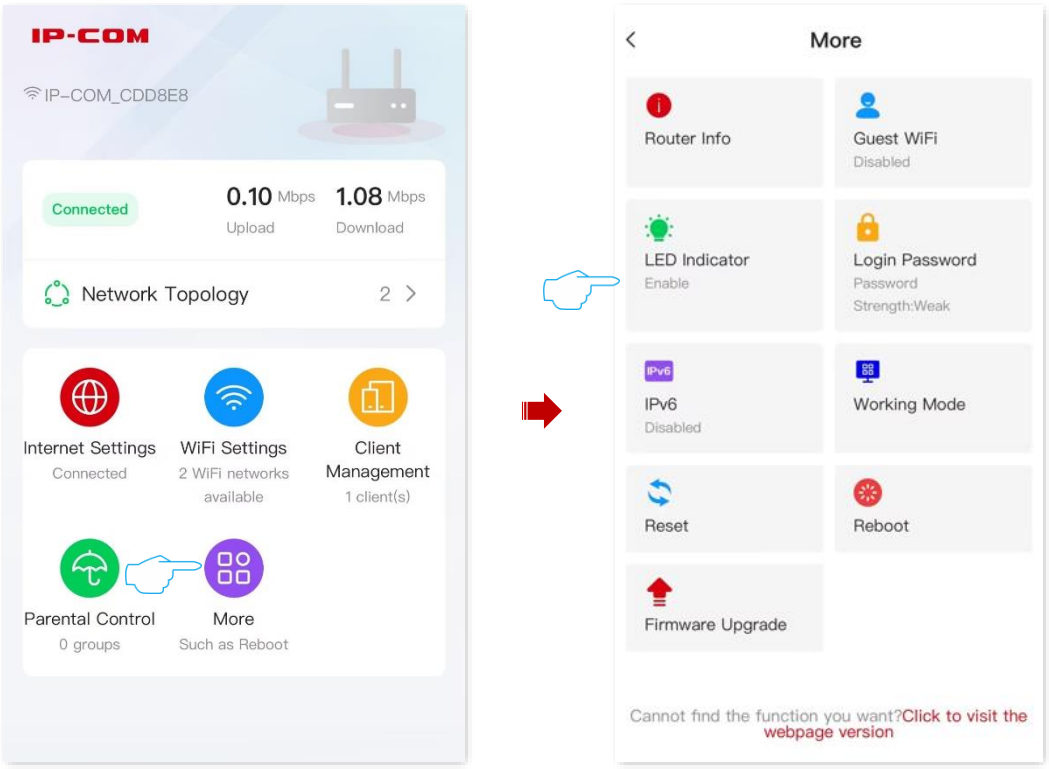
9.2 Schedule Turn Off the Indicators of All Nodes

You can turn off the indicators of all nodes as required to save power.

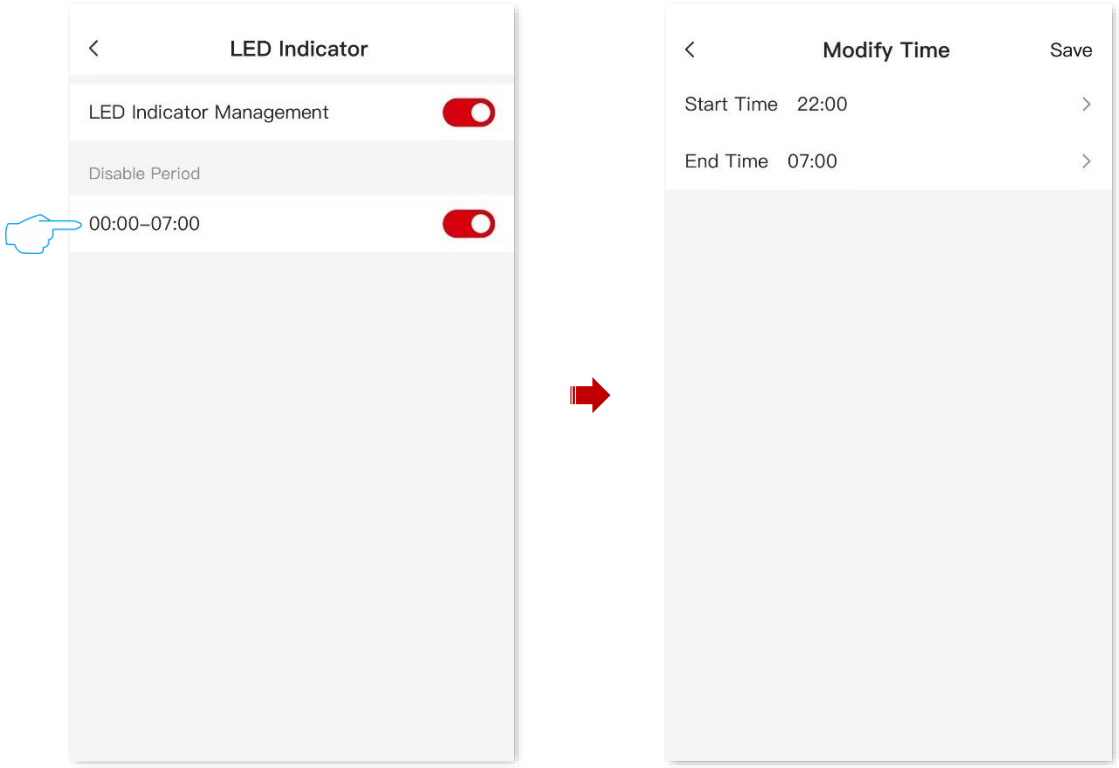
Assume that you want to turn off the router's indicator from 22:00 to 7:00, and other periods are normal. For details, see the following steps.

Configuration procedure:

1. Log in to the web UI of the router.
2. Navigate to **More** > **LED Indicator**.



3. Toggle on the **LED Indicator Management** and **Disable Period**.
4. Set the period for the router's LED indicator to be off, and tap **Save** in the upper-right corner. The following figure is for reference only.

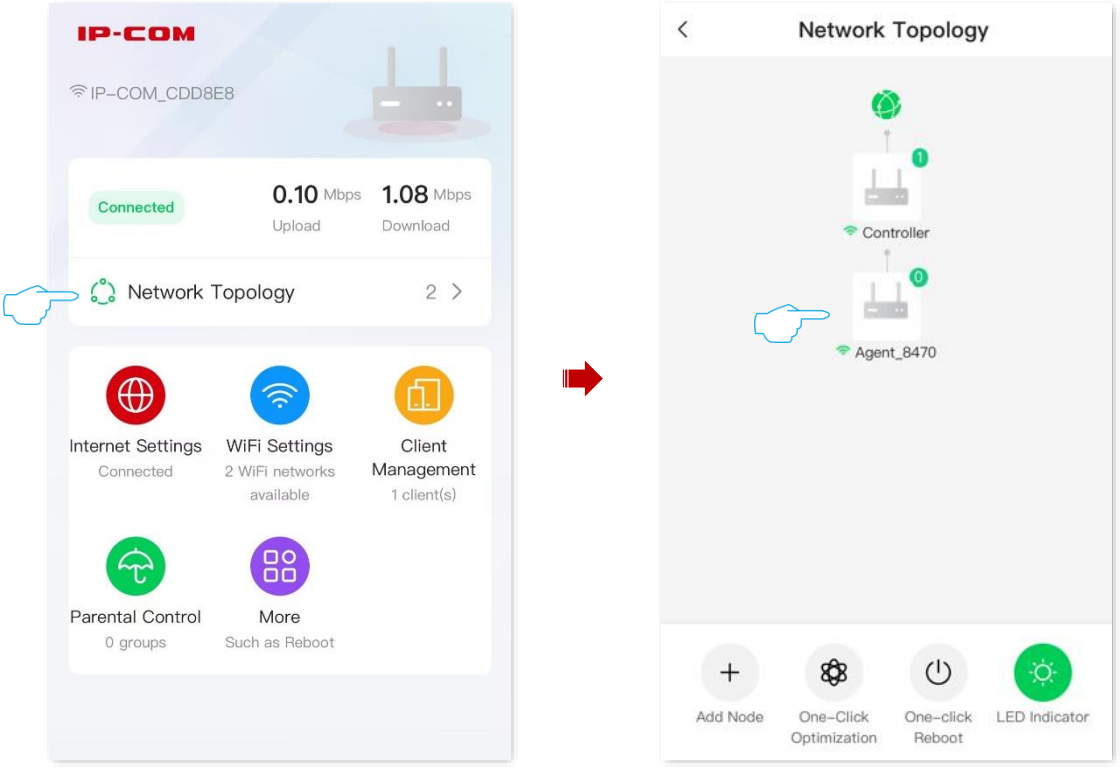


---End

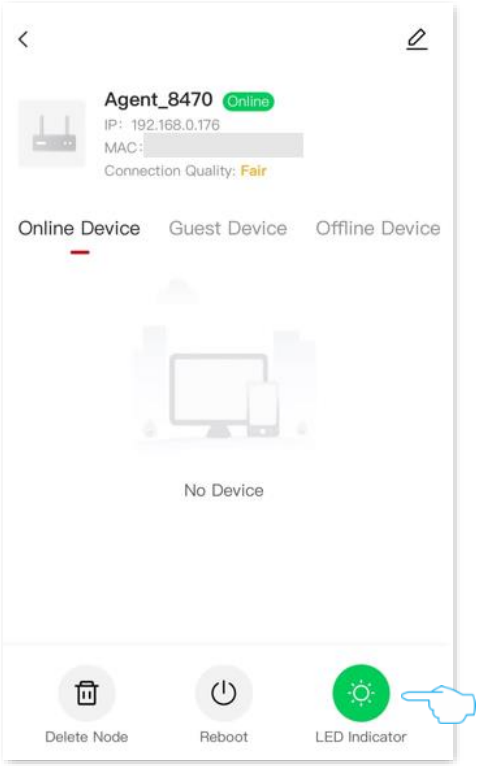
After the settings are completed, the indicator of all nodes goes off during the **Disable Period**. Outside this period, each indicator works normally.

9.3 Turn On or Turn Off the Indicators of Single Node

1. Log in to the web UI of the router.
2. Tap **Network Topology**, and tap the node whose indicator you want to turn on or turn off. The following figure is for reference only.



3. Turn on or turn off the indicator of the node as required.



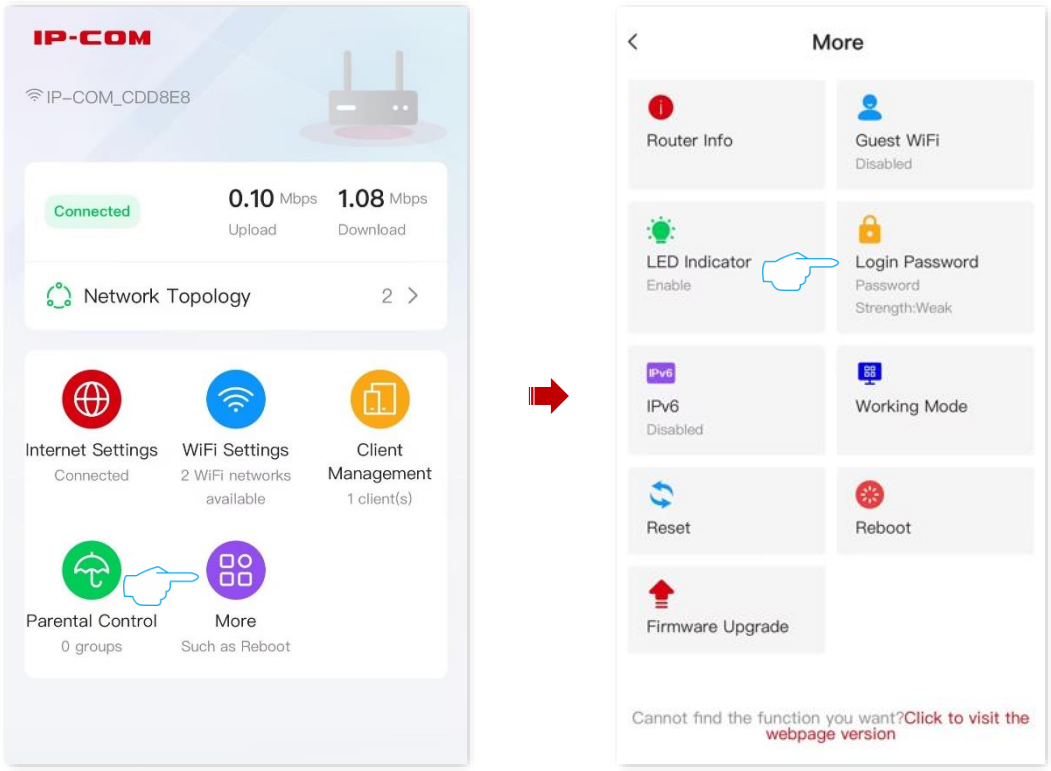
---End

10 Change the Router's Login Password

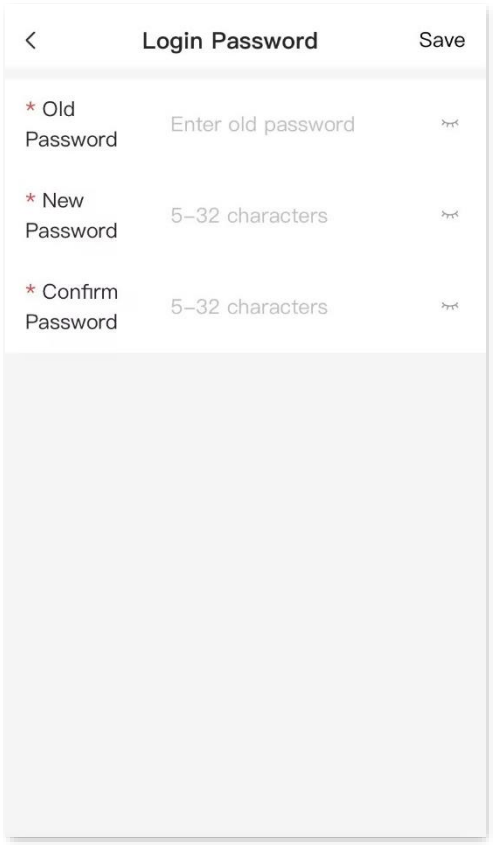
Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

For the network security, it is recommended that you change the login password of the router's management page regularly.

1. Log in to the web UI of the router, and navigate to **More** > **Login Password**.



2. Enter the current login password in **Old Password** box.
3. Set login password in **New Password** box.
4. Re-enter the login password you set in **Confirm Password** box.
5. Tap **Save** in the upper-right corner.



---End

The browser will direct to the login page, enter the password you set, and then tap **Login** to log in to the web UI of the router again.

11 System Maintenance

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

This chapter includes the following sections:

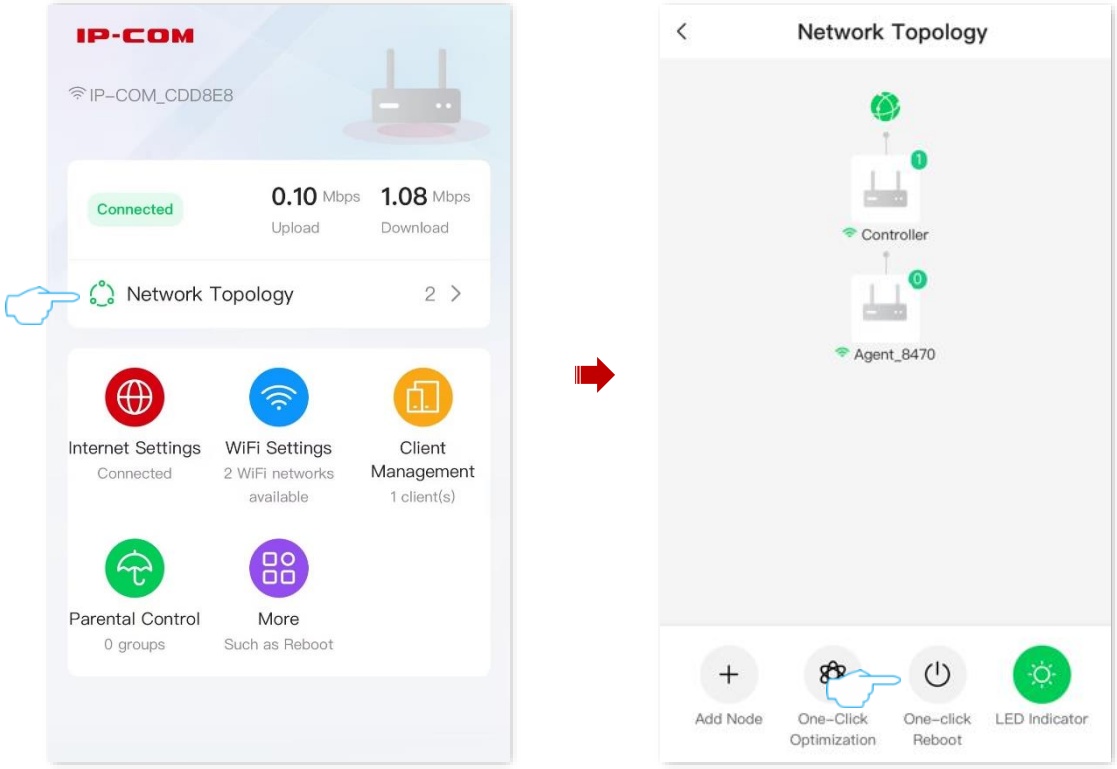
11.1 Reboot Device

If a parameter you set does not take effect or a node cannot be used, you can manually reboot the node to resolve the problem. The reboot will disconnect all connections. Perform this operation when the network is relatively idle.

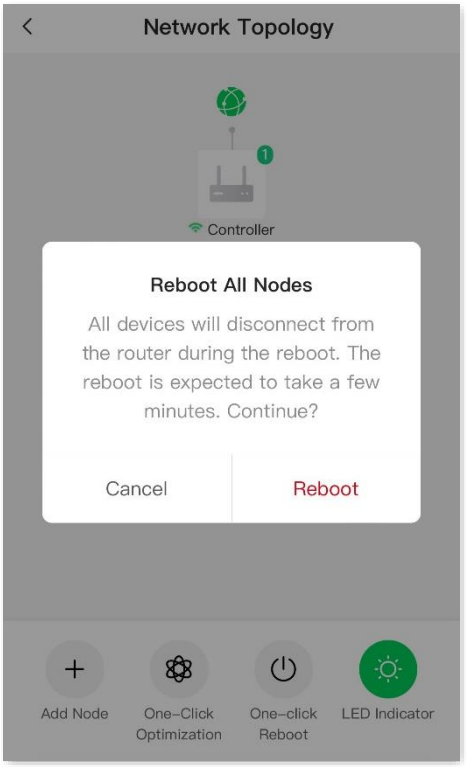
11.1.1 Reboot All Nodes

Method 1

1. Log in to the web UI of the router.
2. Tap **Network Topology**, and tap **One-click Reboot**. The following figure is for reference only.



3. Confirm the prompt message, and tap **Reboot**. The following figure is for reference only.

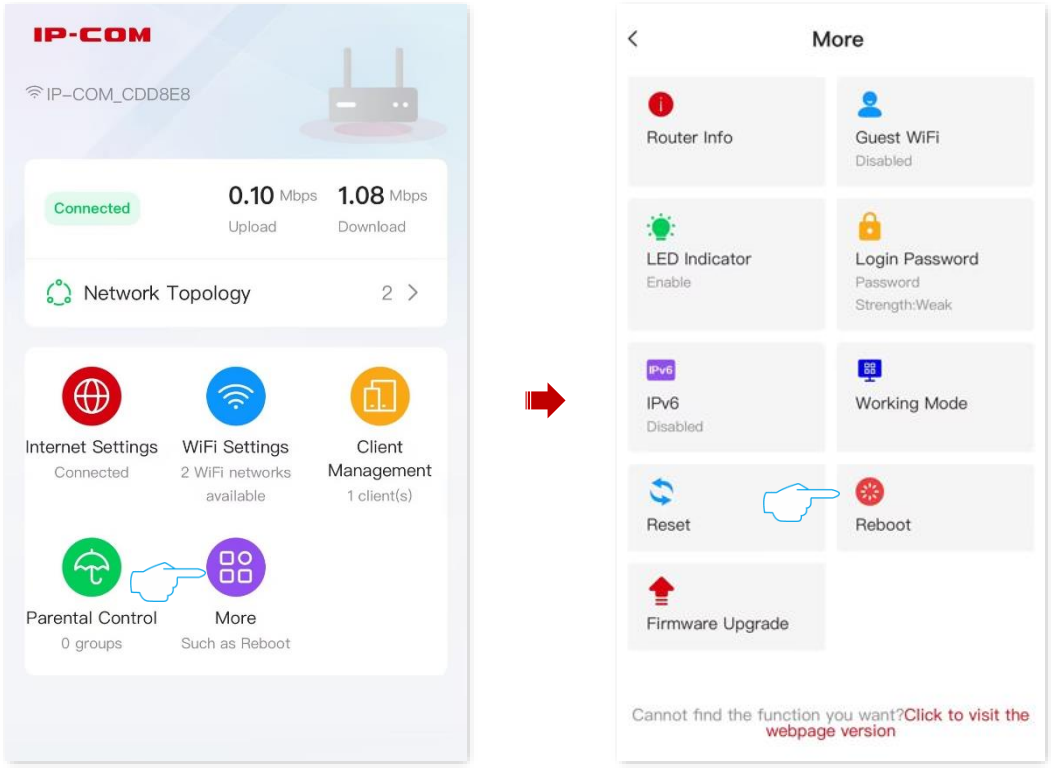


---End

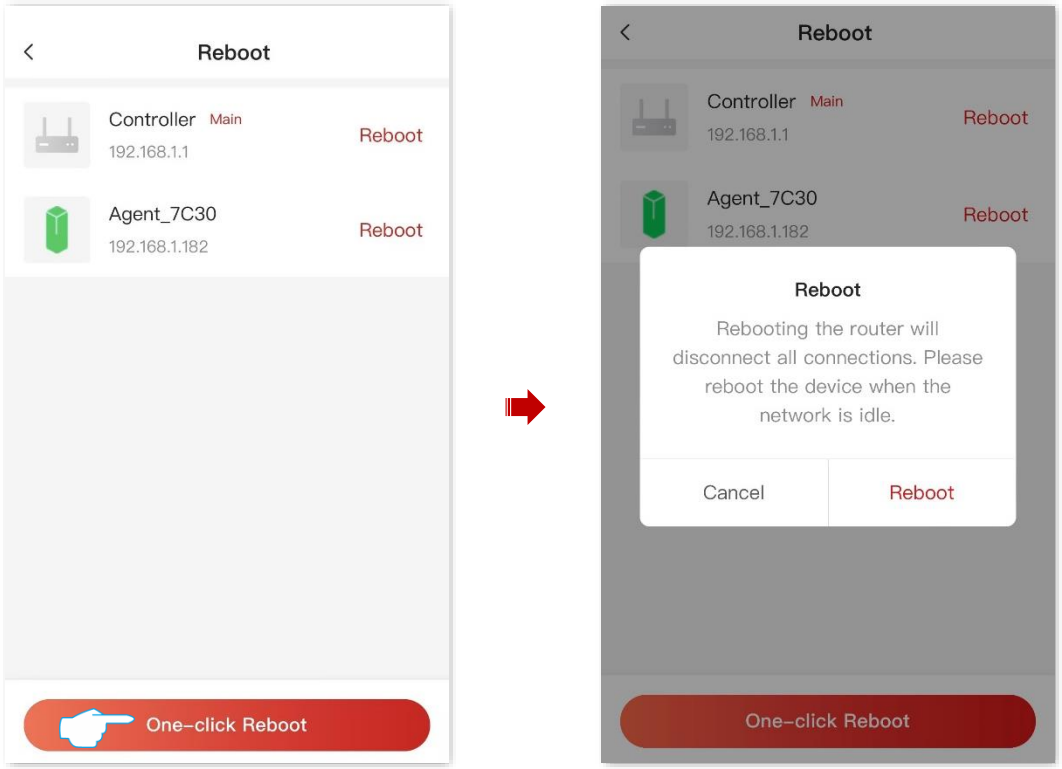
Wait until the ongoing process finishes.

Method 2

1. Log in to the web UI of the router, and navigate to **More** > **Reboot**.



2. Tap **One-click Reboot**. Confirm the prompt message, and tap **Reboot**. The following figure is for reference only.



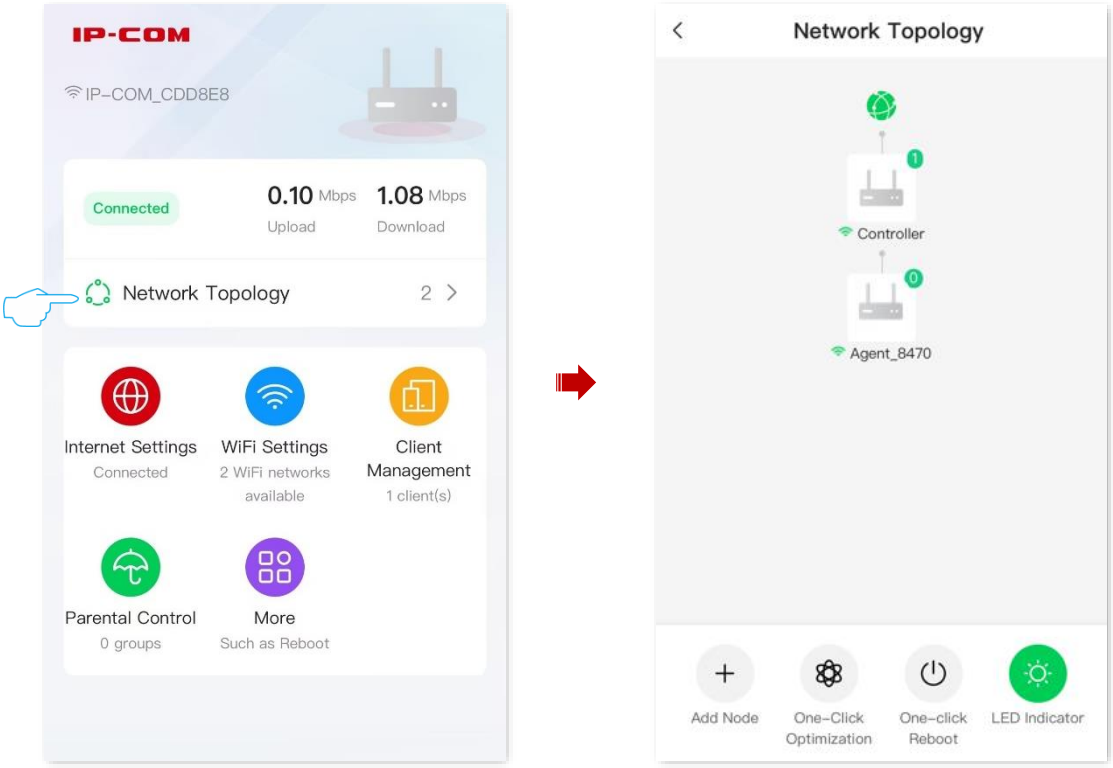
---End

Wait until the ongoing process finishes.

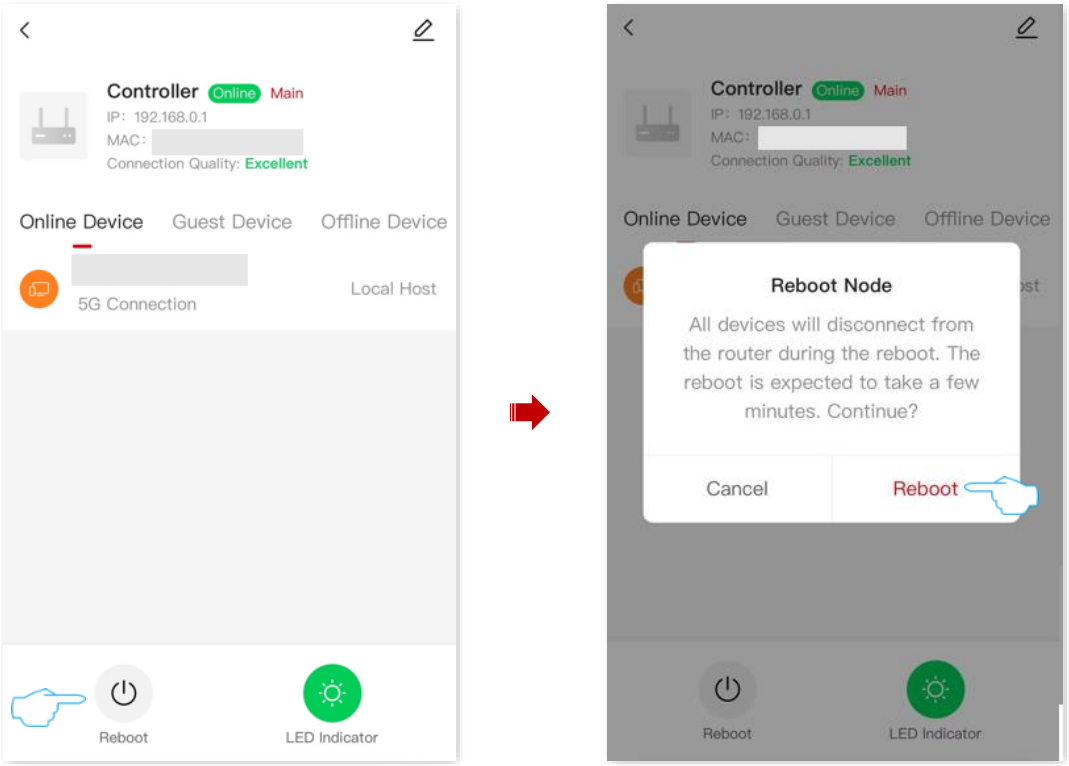
11.1.2 Reboot Single Node

Method 1

1. Log in to the web UI of the router.
2. Tap **Network Topology**, locate and tap the node you want to reboot.



3. Tap (**Reboot**). Confirm the prompt message, and tap **Reboot**.

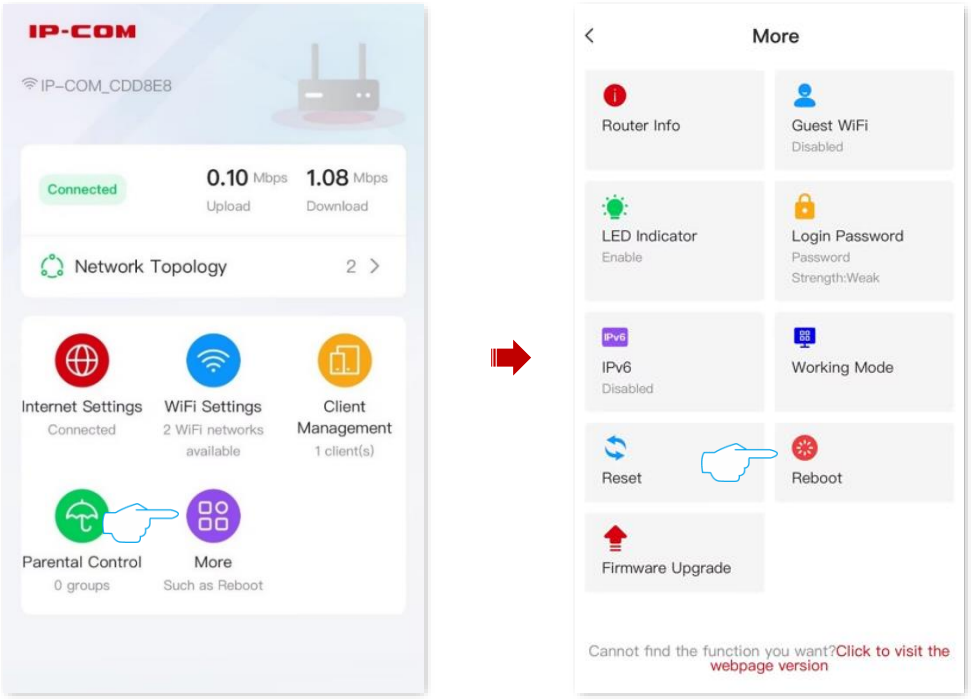


---End

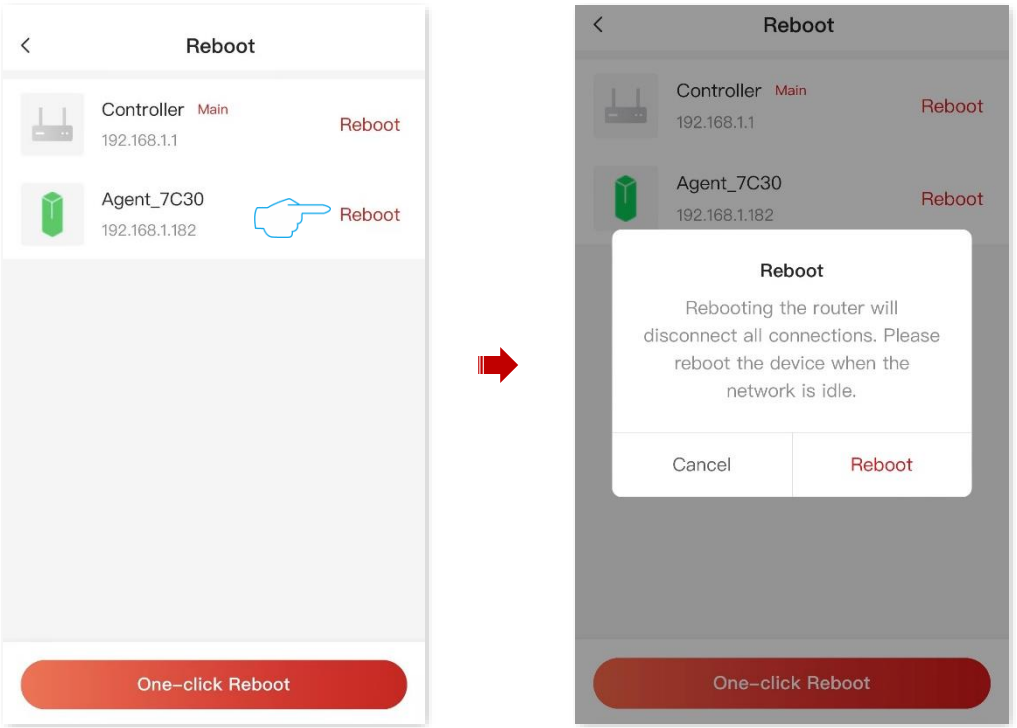
Wait until the ongoing process finishes.

Method 2

1. Log in to the web UI of the router, and navigate to **More** > **Reboot**.



2. Locate a node that you want to reboot and tap **Reboot**. Confirm the prompt message, and tap **Reboot**. The page will be prompted to reboot, please wait with the patient. The following figure is for reference only.



---End

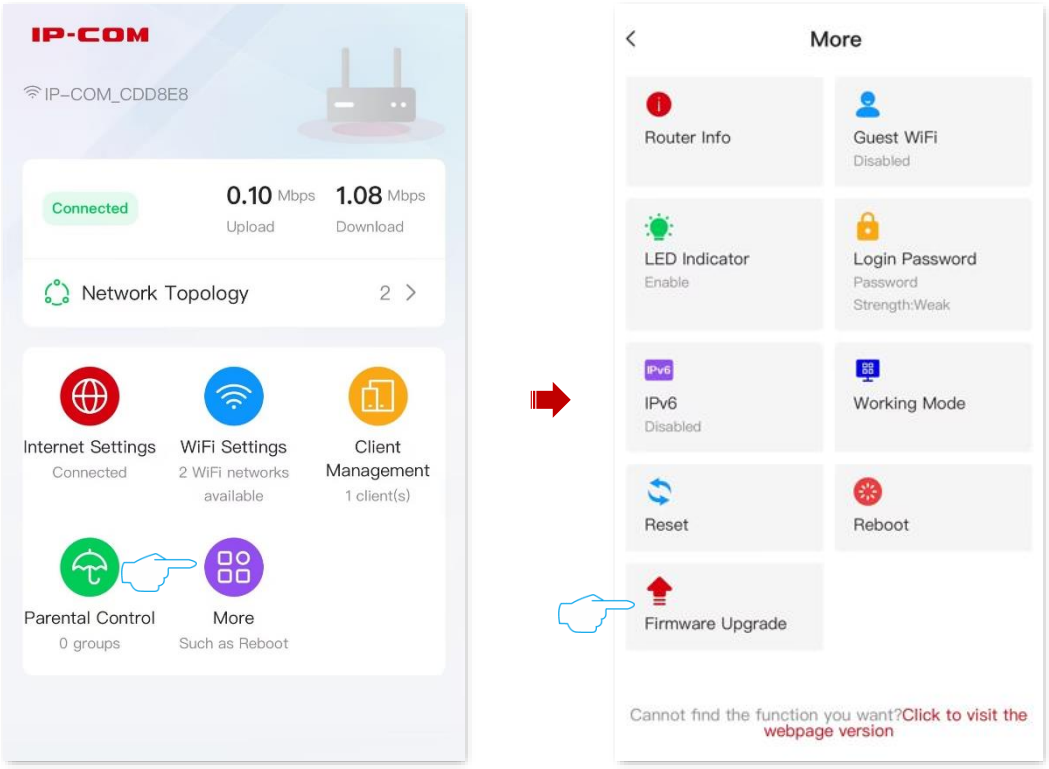
11.2 Firmware Upgrade

With this function, you can upgrade the firmware of the router to obtain the latest functions and more stable performance. The router supports online upgrade and local upgrade.

Note

- Do not disconnect the device from power or internet during this process. Otherwise, the upgrade may fail or the router may be damaged.
- After completing the upgrade for better stability and added features of the higher version firmware, please restore the router to its factory settings and reconfigure all internet parameters.

Log in to the web UI of the router, and navigate to **More** > **Firmware Upgrade**.



After detecting the new firmware version, the router will display a pop-up window.

The system will download the upgrade firmware from the cloud and upgrade automatically. Please wait with patience.

After the upgrade is completed, access the Router Info page again and check whether the upgrade is successful.

11.3 Reset

When the network cannot locate the problem or you want to log in to the web UI of the router but forgot the login password, you can restore the router to factory settings and reconfigure.

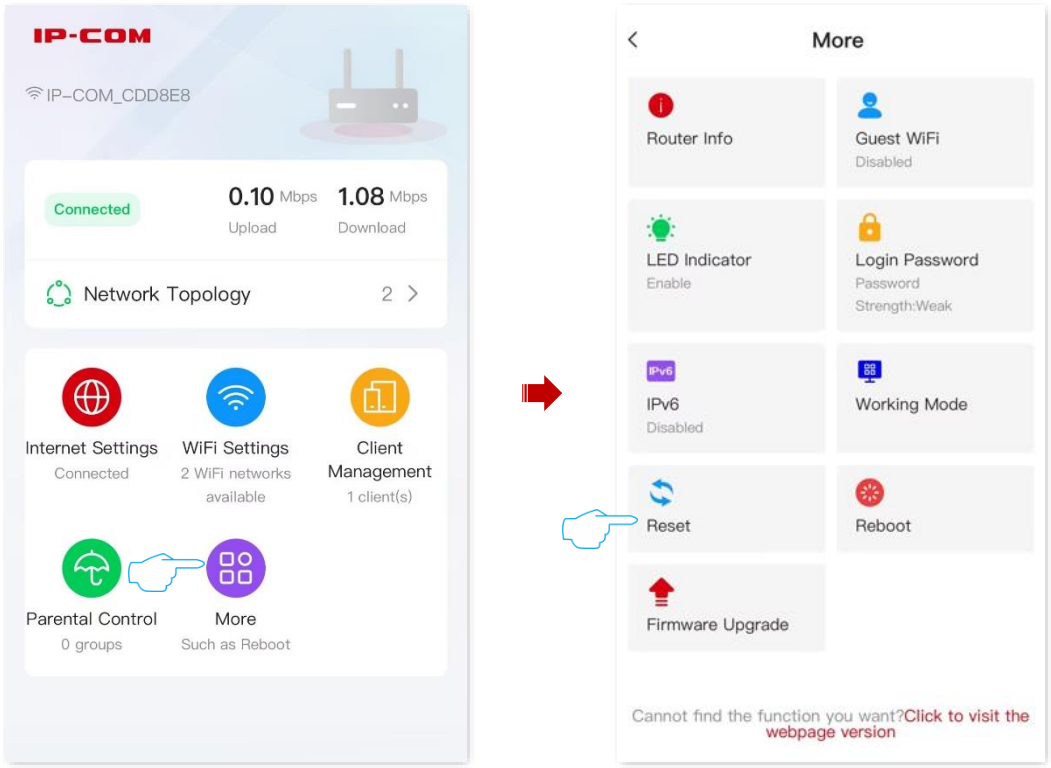
Note

- Resetting clears all configurations and restores the router to factory settings. You need to reconfigure the router. You are recommended to back up the configuration before restoring the factory settings.
- During the process of restoring factory settings, ensure that the router is powered properly to avoid damage to the router.
- After the router is restored to factory settings, the default login IP address of the router is **192.168.0.1**.

Reset All Nodes

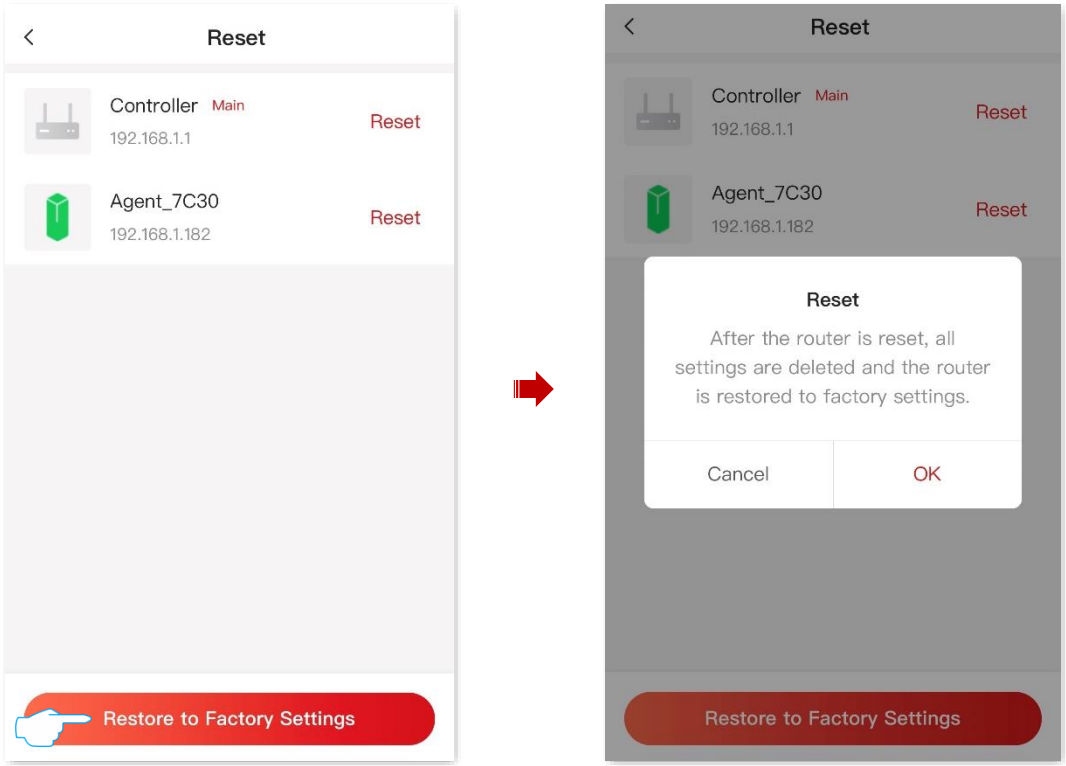
You can restore the entire network to factory settings by restoring all nodes to factory settings.

1. Log in to the web UI of the router.
2. Navigate to **More** > **Reset**.



3. Tap **Restore to Factory Settings** on the bottom page.

4. Confirm the prompt message, and tap **OK**.



---End

Wait until the ongoing process finishes.

Reset a Node

Note

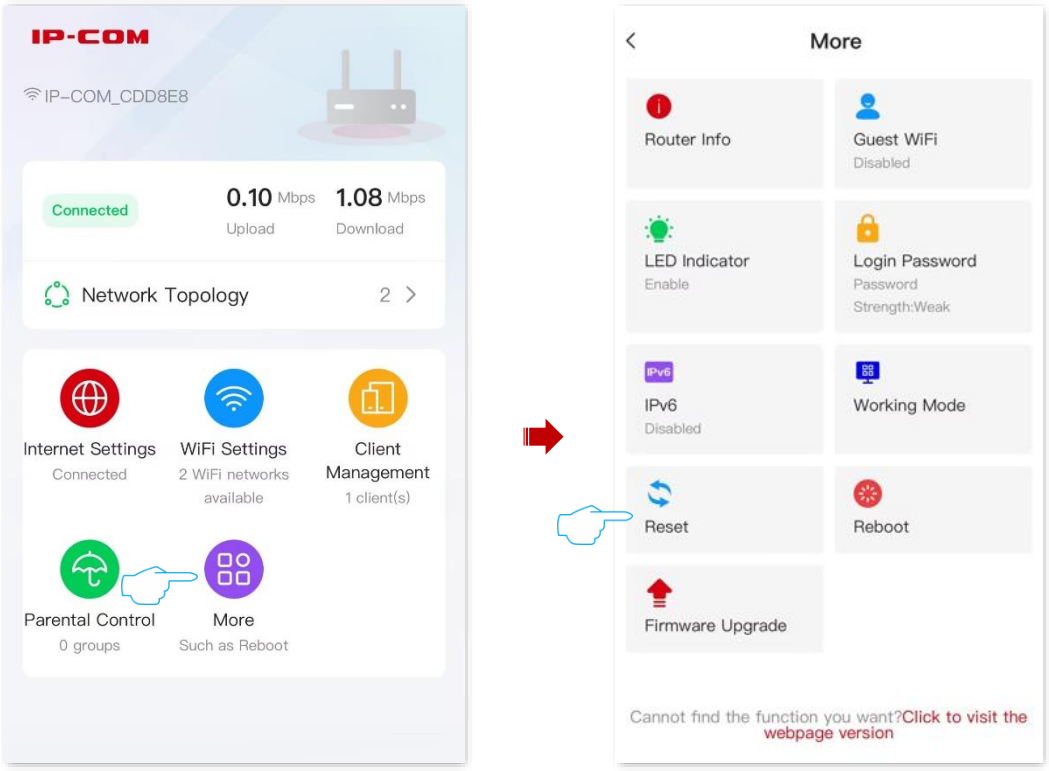
Resetting clears all configurations and restores the router to factory settings. Please operate with caution. You are recommended to back up the configurations first.

I. **Method 1** (Only for secondary node)

By removing the secondary node, the node can be restored to the factory settings and will no longer automatically join the network. For details, see Remove the secondary node from the network.

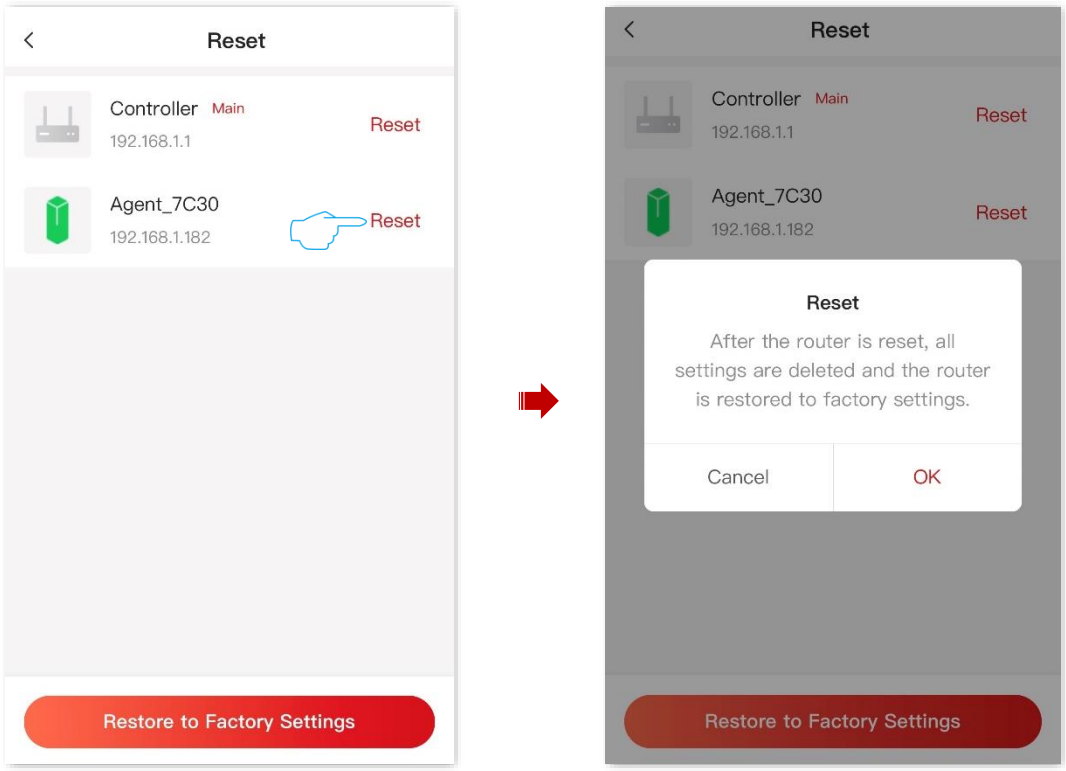
II. **Method 2**

1. Log in to the web UI of the router.
2. Navigate to **More** > **Reset**.



3. Locate the node that you want to restore to factory settings and tap the corresponding **Reset**. The following figure is for reference only.

4. Confirm the prompt message, and tap **OK**.



---End

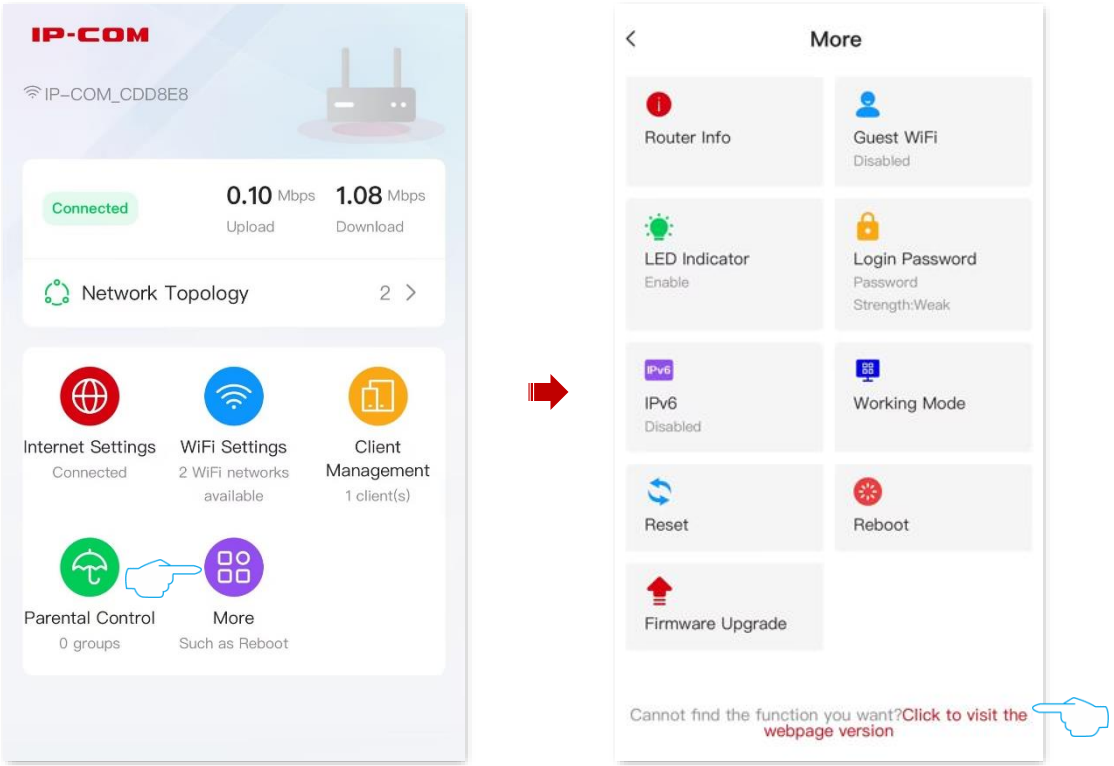
12 More Functions

Features available in the router may vary by model and software version. Router availability may also vary by region or ISP. All images, steps, and descriptions in this guide are only examples and may not reflect your actual router experience.

Log in to the web UI of the router, navigate to **More**, and tap **Click to visit the webpage version** to configure more functions.

Tip

For detailed configuration of more functions, refer to the router's **Desktop Website User Guide** you purchased.



Appendixes

A.1 FAQ

Q1: I cannot log in to the web UI by visiting ipcwifi.com. What should I do?

A1: Try the following solutions:

- For Wi-Fi-enabled devices, such as a smartphone:
  - Ensure that it is connected to the Wi-Fi network of the router.
  - Ensure that the cellular network (mobile data) of the client is disabled.
  - Use another smartphone or tablet to log in to the web UI.
- For wired device, such as a computer:
  - Ensure that the Ethernet cable between your computer and the router is connected properly.
  - Ensure that your computer is set to **Obtain an IP address automatically** and **Obtain DNS server address automatically**.
  - Enter **http://ipcwifi.com** or **http://192.168.0.1** in your address bar (not the search bar).
  - Clear cache of your browser, or use another browser.
- Use another computer to log in to the web UI.

If the problem persists, reset the router by referring to Q3 and try again.

Q2: I cannot access the internet after the configuration. What should I do?

A2: Try the following solutions:

- Ensure that the WAN port of the router is connected to a modem or Ethernet jack properly.

- Log in to the web UI of the router and navigate to the Internet settings page. Follow the instructions on the page to solve the problem.

If the problem persists, try the following solutions:

- For Wi-Fi-enabled devices:
  - Ensure that your devices are connected to the Wi-Fi network of the router.
  - Visit **ipcwifi.com** to log in to the web UI and change your Wi-Fi name and Wi-Fi password on the **WiFi Settings** page. Then try again.
- For wired devices:
  - Ensure that your wired devices are connected to a LAN port properly.
  - Ensure that wired devices are set to **Obtain an IP address automatically** and **Obtain DNS server address automatically**.

Q3: How to restore my device to factory settings?

A3: Hold down the reset button (Marked as RST or RESET) of your device for about 8 seconds, and the router is reset successfully. For more details, see Reset**.**

Q4: Why cannot I find the Wi-Fi signal of the router?

A4: Connect your computer to LAN port (such as 1, 2 or IPTV/3) of the router, and log in to the web UI. Navigate to WiFi Settings and ensure that:

- The wireless function is enabled.
- The Hide function is not ticked.
- Your Wi-Fi name does not contain any Chinese characters.

Q5: I cannot find the 5 GHz Wi-Fi network of the router on my Wi-Fi-enabled device. What should I do?

A5: Try the following solutions:

- Only devices supporting 5 GHz network can find and connect to the 5 GHz Wi-Fi network.
- Log in to the web UI of the router, and check whether you have enabled **Unify 2.4 GHz & 5 GHz**. After it is enabled, the 5 GHz Wi-Fi name is the same as the 2.4 GHz Wi-Fi name.
- If the **Unify 2.4 GHz & 5 GHz** function is disabled on the router but the smartphone can search for another 5 GHz Wi-Fi network, reset the router by referring to Q3 and try again.

Q6: The router's Wi-Fi signal is poor. What should I do?

A6: Try the following solutions:

- Place the router in a high position with few obstacles.
- Keep your router away from electronics with strong interference, such as microwave ovens, induction cookers, and refrigerators.
- Keep your router away from metal barriers, such as weak current boxes, and metal frames.

Q7: If the network speed is slow after I connect my device to the router. What should I do?

A7: Try the following solutions:

- For Wi-Fi-enabled devices, such as a smartphone:
  - Try to get close to your router to test the network speed when the wireless signal strength is full. If the network speed is fast when the signal is strong, it indicates that the signal coverage is weak, resulting in a slow network speed, and the wireless network can be extended by adding new secondary nodes or wireless adapters.
- For wired device, such as a computer:
  - Ensure that the Ethernet cable is connected properly.
  - Ensure that the Bandwidth control are not configured on the router. If yes, delete related configurations and check whether the network speed is restored.
  - Loading too many applications in the background will lead to insufficient computer system resources. Please load software properly or delete unnecessary programs and files to free up resources to improve network speed.

Q8: If the device is disconnected from the router. What should I do?

A8: Try the following solutions:

- If the Wi-Fi-enabled device goes offline, the wired device can access the internet normally:
  - Refer to Q6 to place the router in an appropriate position.
  - Check whether the wireless adapter driver of the Wi-Fi-enabled device is faulty. Replace the wireless adapter driver with another device or update the wireless adapter driver.
  - If the problem persists, reset the router by referring to Q3 and try again.
- If the wired device goes offline, the Wi-Fi-enabled device can access the internet normally:

- If the Ethernet cable between the computer and the router is too long or poor quality, it will cause the cable drop. Please replace the short Ethernet cable.
- Try to replace the LAN port (such as 1, 2, or 3/IPTV) connection or use another computer connection.

- If both wired and Wi-Fi-enabled devices go offline:
  - Log in to the web UI of the router and ensure that the router is properly connected to the internet. If not, refer to Router disconnected from the internet to solve.
  - Refer to Q6 to place the router in an appropriate position.
  - Ensure that the WAN port is connected properly, and replace a short Ethernet cable to connect to the WAN port.
  - When not connected to the router, directly connect the Ethernet cable to the computer to check whether the internet is disconnected. If the internet is disconnected from the internet, contact your ISP for help.
  - If the problem persists, reset the router by referring to Q3 and try again.

Q9: The networking fails. What should I do?

A9: Try the following solutions:

- Ensure that the new router is reset. If not, restore the router to factory settings first.
- Ensure that the existing router (primary node) is connected to the internet, and then refer to MESH networking and try again.

A.2 Acronyms and Abbreviations

Acronym or Abbreviation	Full Spelling
AES	Advanced Encryption Standard
AP	Access point
DDNS	Dynamic Domain Name System
DHCP	Dynamic Host Configuration Protocol
DHCPv6	Dynamic Host Configuration Protocol for IPv6
DMZ	Demilitarized zone
DSL	Digital subscriber line
DST	Daylight Saving Time
FTP	File Transfer Protocol
ICMP	Internet Control Message Protocol
IP	Internet Protocol
IPTV	Internet Protocol television
IPv4	Internet Protocol version 4
IPv6	Internet Protocol version 6
ISP	Internet service provider
L2TP	Layer 2 Tunneling Protocol

Acronym or Abbreviation	Full Spelling
LAN	Local area network
LED	Light-emitting diode
MAC	Medium access control
MPPE	Microsoft Point-to-Point Encryption
MTU	Maximum Transmission Unit
PPPoE	Point-to-Point Protocol over Ethernet
PPTP	Point to Point Tunneling Protocol
RA	Router Advertisement
SN	Serial Number
SSID	Service Set Identifier
STB	Set-top box
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
UI	User interface
UPnP	Universal Plug and Play
URL	Uniform Resource Locator
USB	Universal Serial Bus

Acronym or Abbreviation	Full Spelling
VLAN	Virtual local area network
VPN	Virtual private network
WAN	Wide area network
WLAN	Wireless local area network
WPA	Wi-Fi Protected Access
WPA-PSK	WPA Pre-shared Key
WPA3-SAE	WPA3-Simultaneous Authentication of Equals
WPS	Wi-Fi Protected Setup
WAN	Wide area network
WLAN	Wireless local area network