AC1200 Smart Dual-band WiFi Router

Model: AC5

User Guide

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This guide provides detailed descriptions about how to use AC5 and set its functions, without attention to onscreen instructions or simple information review.

Preface

Thank you for choosing Tenda! Please read this user guide before you start with AC5.

Conventions

Pictures, IP addresses and other data herein are for references only. Specific requests are subject to actual situations.

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

Item	Presentation	Example
Menu	Bold	Click menu **Start**.
Button	Bold	Click **OK**.
Cascading menus	>	Click **System Settings** > **Time Settings**.
Parameter and value	Bold	Set **User Name** to **Tom**.

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 device.
	This format is used to highlight a procedure that will save time or resources.

Acronyms and Abbreviations

Acronym or Abbreviation	Full Spelling
ISP	Internet Service Provider
DNS	Domain Name System
SSID	Service Set Identifier
DHCP	Dynamic Host Configuration Protocol
VPN	Virtual Private Network
L2TP	Layer 2 Tunneling Protocol

Acronym or Abbreviation	Full Spelling
MPPE	Microsoft Point-to-Point Encryption
PPP	Point To Point Protocol
PPTP	Point to Point Tunneling Protocol
IPTV	Internet Protocol Television
DDNS	Dynamic Domain Name System
DMZ	Demilitarized Zone

Additional Information

For more information, please go to Tenda website http://www.tendacn.com.

Technical Support

For more help, contact us by any of the following means. We will be glad to assist you as soon as possible.

Hotline	Global: (86) 755-27657180	**Email**	support@tenda.com.cn
	United States: 1-800-570-5892		
	Canada: 1-888-998-8966		
	Hong Kong: 00852-81931998		
	Australia: 1300787922		
	New Zealand: 800787922		
Website	http://www.tendacn.com	**Skype**	tendasz

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1 Introduction

1.1 Overview

Tenda AC5 is a dual-band WiFi router dedicated to fiber users with small and medium apartments. Adopting brand new 11AC Wave2.0 technology, four 5dBi high-gain external antennas, AC5 offers simultaneous dual-band WiFi speed as high as 1167 Mbps. With Beamforming+ technology, AC5 features robust wall penetration capacity, creating faster and better network for users.

1.2 Features

- Support 802.11ac wave2 standard.
- Support 4 megabit auto-negotiation ports.
- With 4 omni external antennas.
- Support the WiFi Schedule function. Users can set the WiFi off in specified period.
- Support enabling/disabling the router by clicking WiFi on/off button on the rear panel of the router.
- Support 9 V, 1 A power input.
- With wireless transmission speed as high as 1167 Mbps.
- Support the Wireless Repeating, and Bandwidth Control functions.
- Support immigration of ISP username and password, helping users complete internet settings quickly.
- Support remote management using Tenda APP.

1.3 Appearance

1.3.1 Front Panel

LED Indicator	LED Indicator Name	Status	Description
SYS	System indicator	Solid on	● The router is starting. ● The system is faulty after startup.
		Blinking	The system is working properly.
WIFI	WiFi/WPS indicator	Solid on	At least the 2.4 GHz or 5 GHz WiFi network is enabled.
		Blinking	Data is transmitting wirelessly.
		Slow blinking	The router is performing WPS negotiation.
		Off	The wireless function is disabled.
1/2/3	LAN port indicator	Solid on	The LAN port is connected properly.
		Blinking	Data is transmitting over the LAN port.
		Off	The LAN port is unconnected or connected improperly.
WAN	WAN port indicator	Solid on	The WAN port is connected properly.
		Blinking	Data is transmitting over the WAN port.
		Off	The WAN port is unconnected or connected

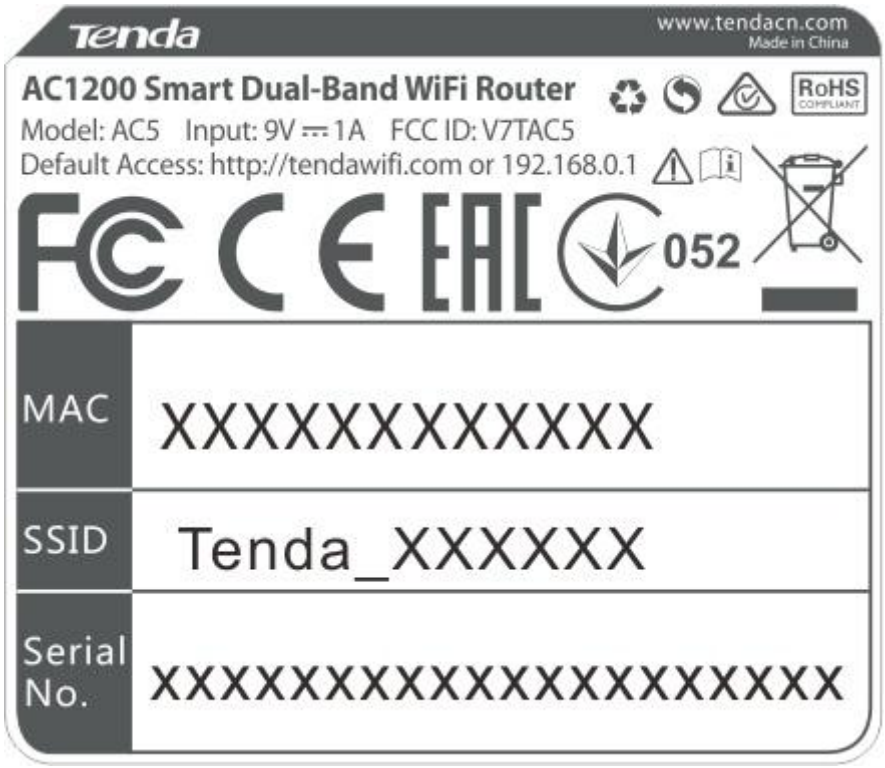
LED Indicator	LED Indicator Name	Status	Description
			improperly.
T		Reserved	

1.3.2 Rear Panel

Port/Button	Description
Power	Used to power on/off the router using the power adapter included with the package.
WPS/Reset	Used to start the WPS negotiation process of the router, or to restore the router to the factory settings. ● WPS: Press the button of the router. Then enable the WPS function of another device within 2 minutes to establish a WPS connection. ● Reset: Hold the button down for 8 seconds, and wait until all LED indicators blink once to restore the factory settings of the router.
WiFi on/off	You can enable/disable WiFi of the router by clicking this button.
WAN	Used to connect this router to the internet.
3	By default, it functions as a LAN port. But after the IPTV function of the router is enabled, it functions only as an IPTV port used to connect to a set-top box.
2/1	Used to connect to devices such as computers and switches.

1.3.3 Label at the Bottom

The label shows the SSID, and login IP address of the router. Read for reference if needed.



(1): Login IP address of the router. You can use this IP address to access the web UI of the router.

(2): Default WiFi name of the router.

- When you use the router for the first time, search and connect wireless devices (such as smart phones) to this SSID to log in to the web UI of the router for internet settings.
- After the router is connected to the internet, if this SSID is unchanged, wireless devices (such as smart phones) can search and connect to this SSID to access the internet.

(3): Serial number of the router. If the router is faulty, you need to provide this serial number when sending the router for repair.

2 Quick Setup for the Internet

2.1 Setting the New Router to Access the Internet

2.1.1 Example: Smart Phone

Step 1 Connect devices.

(1) Power on the new router AC5 using the power adapter included with the package.

(2) Plug the Ethernet cable that has connected to the internet into the WAN port of the router.

(3) Connect your smart phone to the SSID shown on the bottom label. By default, this wireless network has no WiFi password.

Step 2 Log in to the web UI of the router for internet setup.

(1) Start a web browser on the phone that has connected to the router's WiFi, and enter **tendawifi.com** or **192.168.0.1**.

(2) Tap on the **Search** symbol.

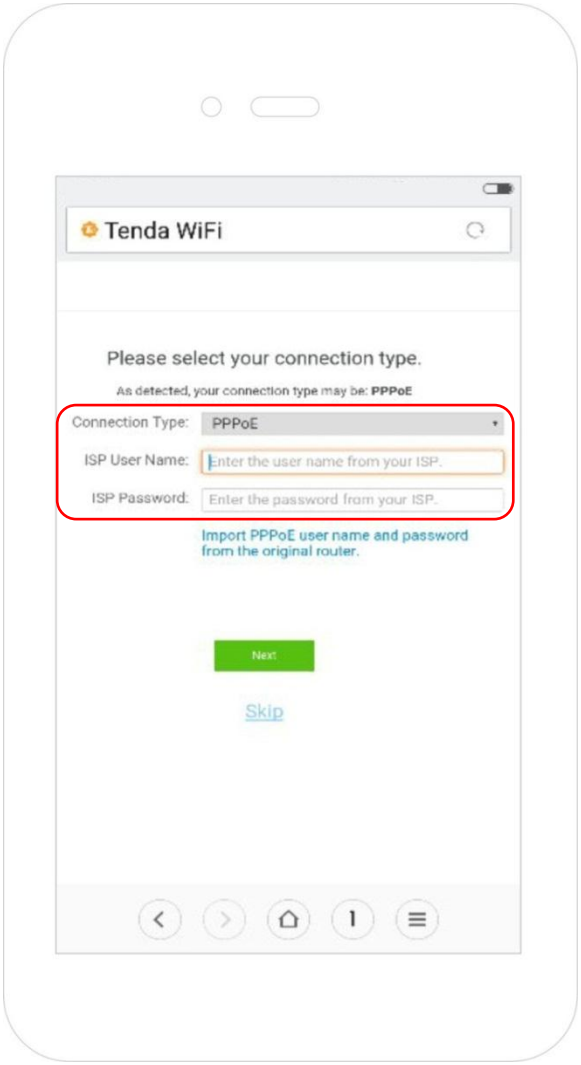
(3) Tap on **Start**.

(4) System detects your connection type automatically. Complete your setup according to the onscreen instructions. (Taking PPPoE as an example in the following procedures)

(5) **ISP User Name**: Enter the user name provided by your ISP.

(6) **ISP Password**: Enter the password provided by your ISP.

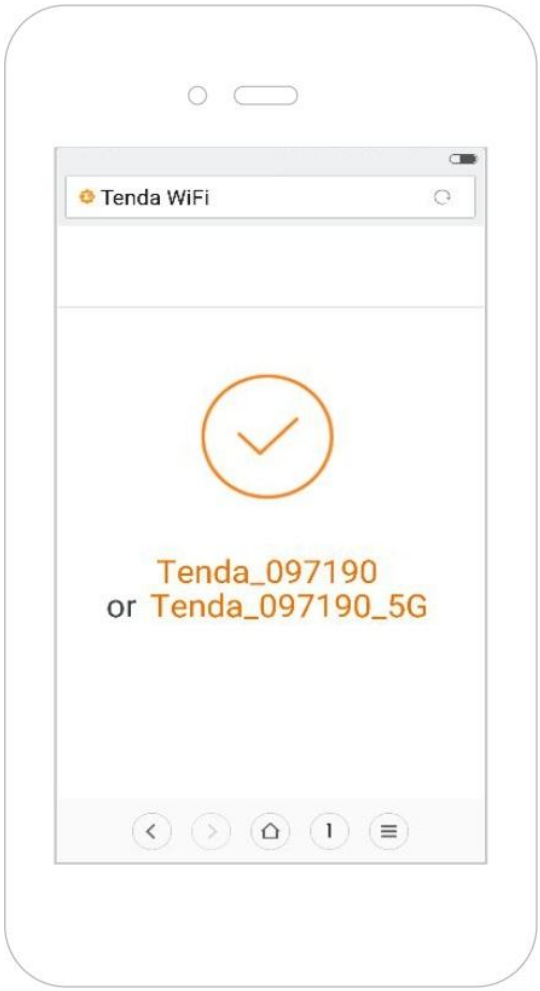
(7) Tap on **Next**.



(8) Set WiFi name, WiFi password, and login password.

(9) Tap on **Next**.

(10) Wait a moment until the router accesses the internet successfully. Wireless devices, such as phones, need to connect to the WiFi again to access the internet.



—End

NOTE

If the WiFi name and the WiFi password have been changed, connect your devices to the wireless network of the router again using the new WiFi name and WiFi password.

For more product and function details, refer to relevant contents in this user guide.

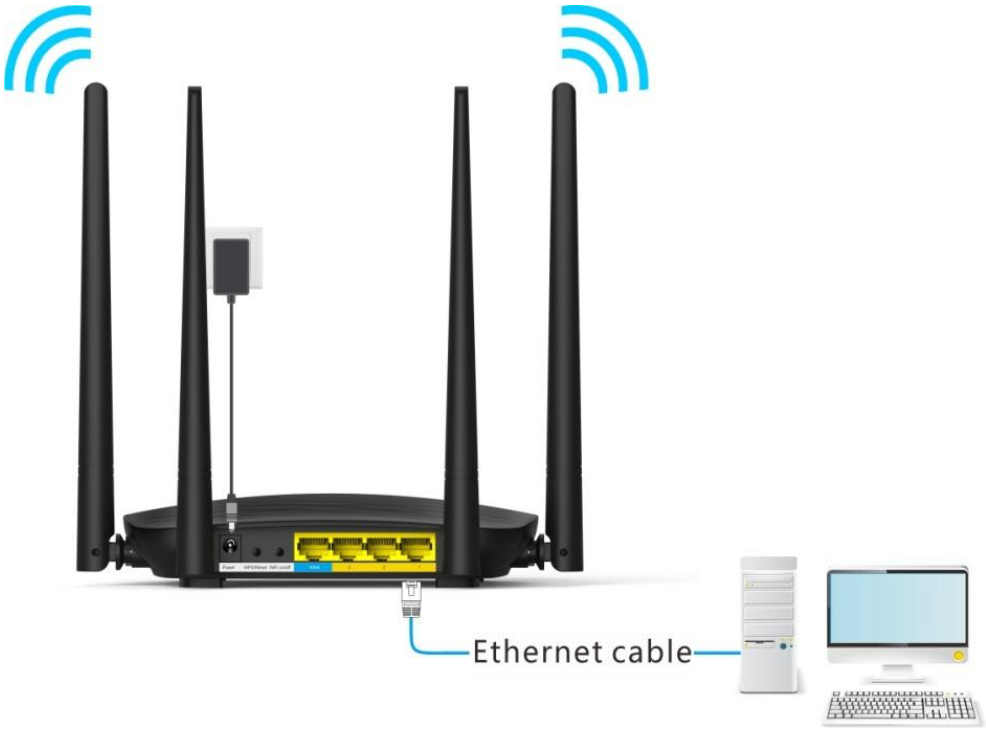
2.1.2 Example: Computer

Step 1 Connect devices.

(1) Power on the router using the power adapter included with the package.

(2) Plug the Ethernet cable that has connected to the internet into the WAN port of the router.

(3) Connect your computer to a LAN port (1/2/3) of the router using an Ethernet cable.



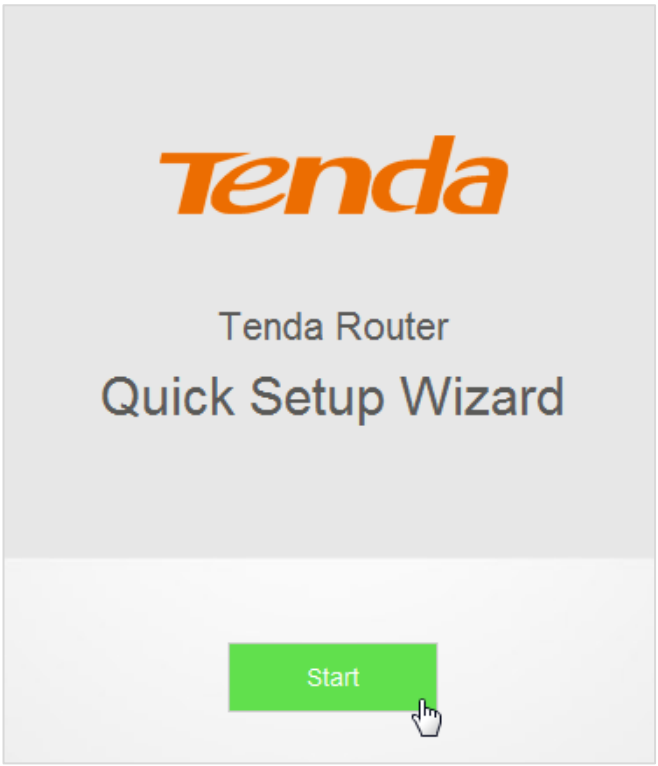
NOTE

If a desktop computer is used to connect to the router's WiFi network, you need to install a wireless adapter on it first.

Step 2 Log in to the web UI of the router for internet setup.

(1) Start a web browser on the computer that has connected to the router. Enter **tendawifi.com** or **192.168.0.1**, and press **Enter.**

(2) Click **Start**.

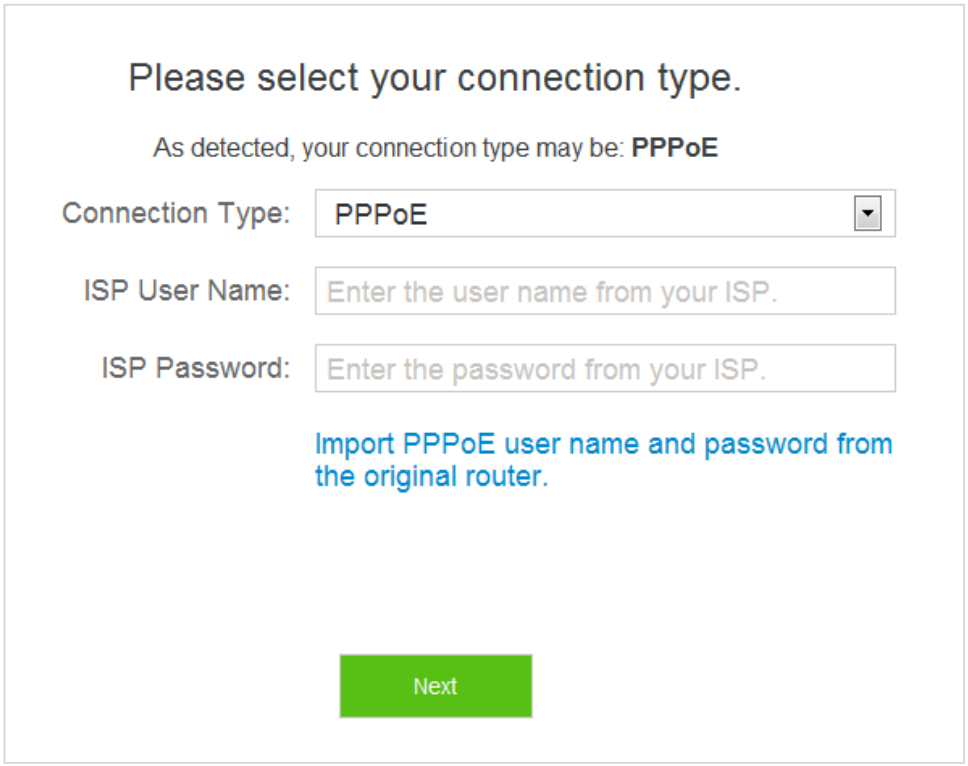


(3) System detects your connection type automatically. Complete your setup according to the onscreen instructions. (Taking PPPoE as an example in the following procedures)

(4) **ISP User Name:** Enter the user name provided by your ISP.

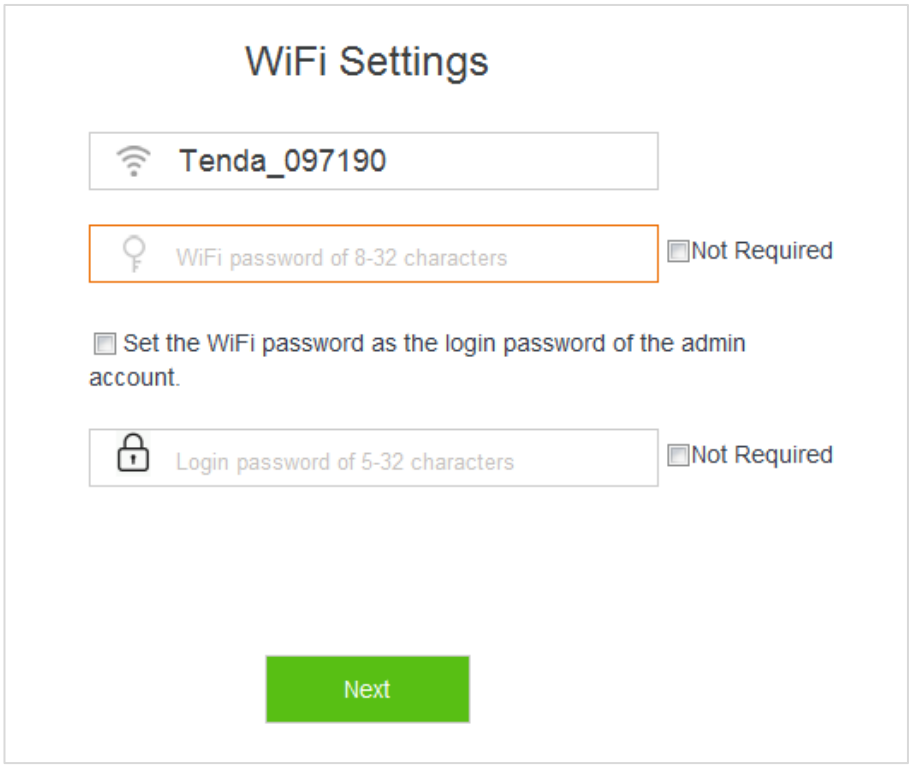
(5) **ISP Password:** Enter the password provided by your ISP.

(6) Click **Next**.

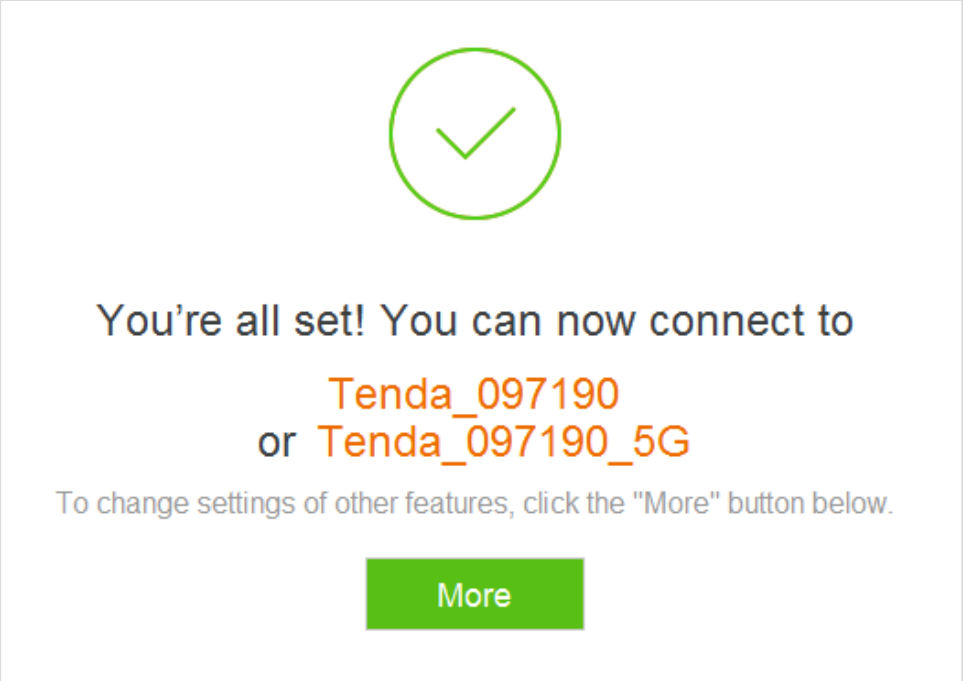


(7) Set WiFi name, WiFi password, and login password.

(8) Click **Next**.



(9) Connected. If you want to configure more functions of the router, click **More**.



—End

NOTE

If your desktop connects to the router's WiFi network, and the WiFi name and the WiFi password have been changed, connect the desktop to the WiFi network of the router again using the new WiFi name and WiFi password.

2.2 Renewing the Original Router by AC5

This setup method applies to users who renew their original routers using AC5 for the internet and their connection types are PPPoE. The method supports migration of ISP user name and password from the original router to AC5 quickly.

2.2.1 Example: Smart Phone

Step 1 Connect devices.

(1) Power on the original router and AC5.

(2) Connect the WAN port of the original router to a LAN port (1/2/3) of AC5 using an Ethernet cable. When the LAN and WAN indicators of the new router are solid on for 3 seconds after fast blinking, the ISP user name and password of the original router are migrated to the new router successfully.

(3) Remove the original router.

(4) After successful migration, plug the Ethernet cable that has connected to the internet into the WAN port of AC5.

(5) Connect wireless clients such as phones to the WiFi of AC5. By default, this WiFi has no password.

Step 2 Log in to the web UI of the router for internet setup.

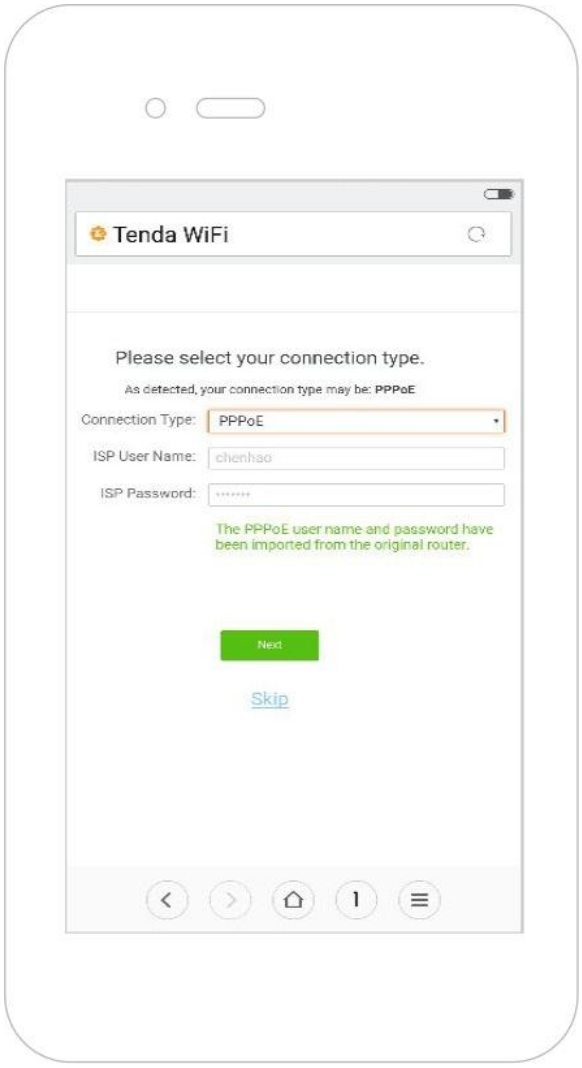
(1) Start a web browser on the phone that has connected to the router's WiFi. Enter **tendawifi.com** or **192.168.0.1**.

(2) Tap on the **Search** symbol.

(3) Tap on **Start**.

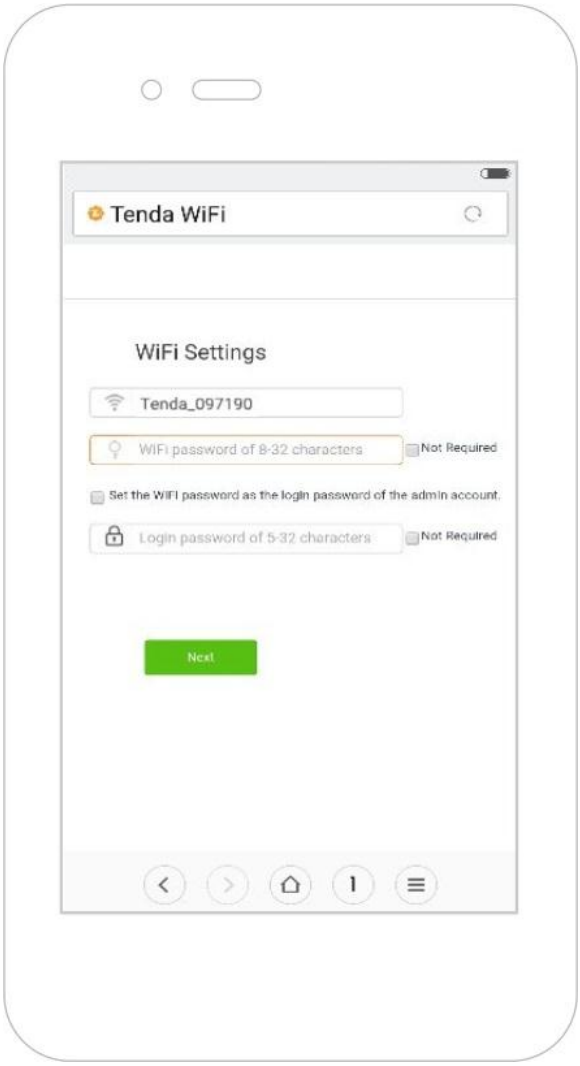
(4) The system enters the ISP user name and ISP password on this page automatically. Assume that the user name in this example is chenhao, and password is 1234567.

(5) Tap on **Next**.

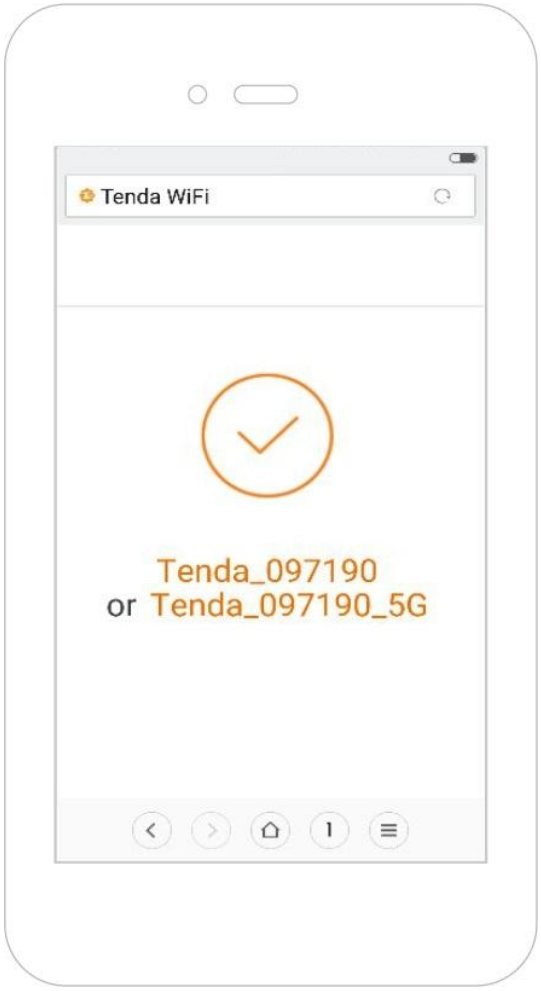


(6) Set WiFi name, WiFi password, and login password.

(7) Tap on **Next**.



(8) Wait a second until the router accesses the internet successfully. Wireless devices, such as phones, need to connect to the WiFi of the router again to access the internet.



—End

NOTE

If the WiFi name and the WiFi password have been changed, connect your devices to the WiFi network of the router again using the new WiFi name and WiFi password.

2.2.2 Example: Computer

Step 1 Connect devices.

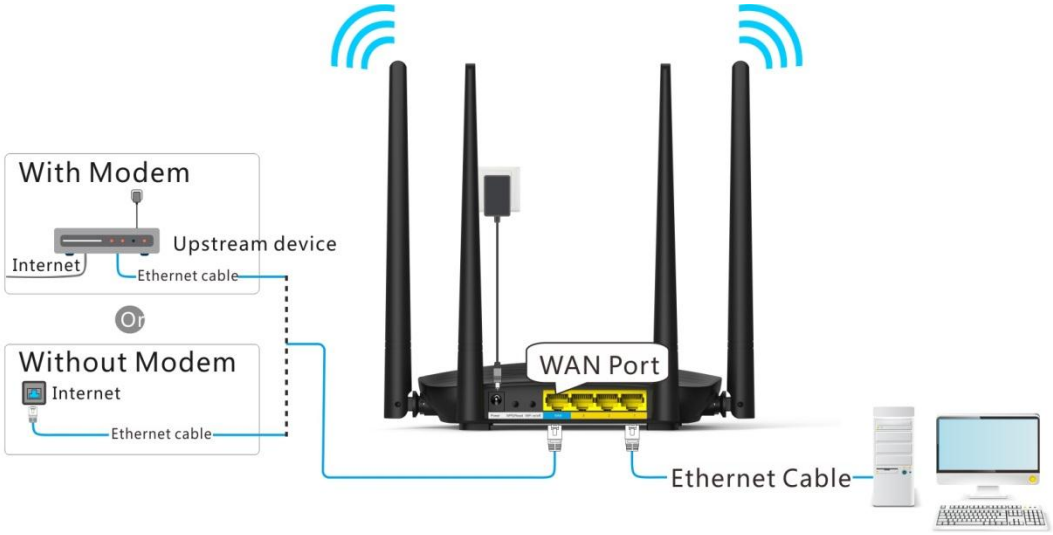
(1) Power on the original router and AC5.

(2) Connect the WAN port of the original router to a LAN port (1/2/3) of AC5 using an Ethernet cable. When the LAN and WAN indicators of the new router are solid on for 3 seconds after fast blinking, the ISP user name and password of the original router are migrated to the new router successfully.

(3) Remove the original router.

(4) After successful migration, plug the Ethernet cable that has connected to the internet into the WAN port of AC5.

(5) Connect your computer to a LAN port (1/2/3) of the router using an Ethernet cable.



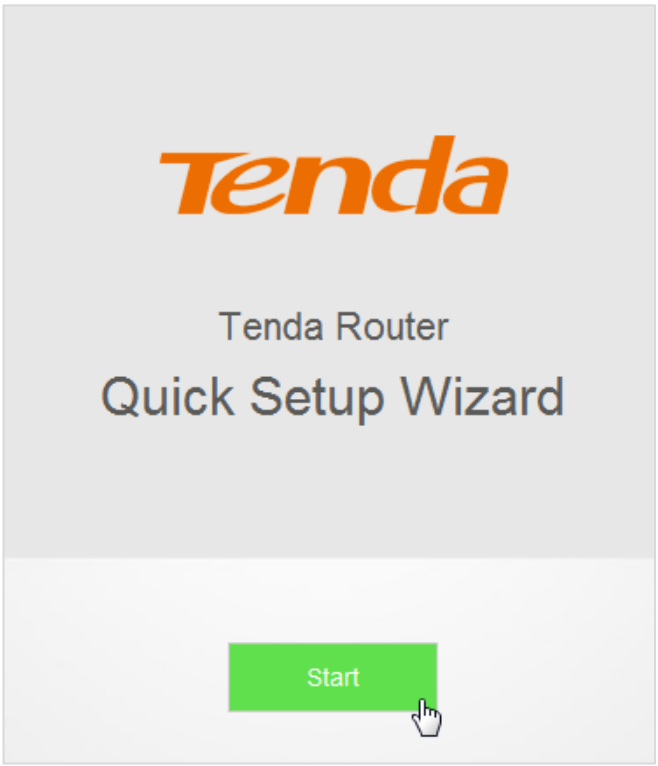
NOTE

If a desktop is used to connect to the router's WiFi network, you need to install a wireless adapter on it first.

Step 2 Log in to the web UI of the router for internet setup.

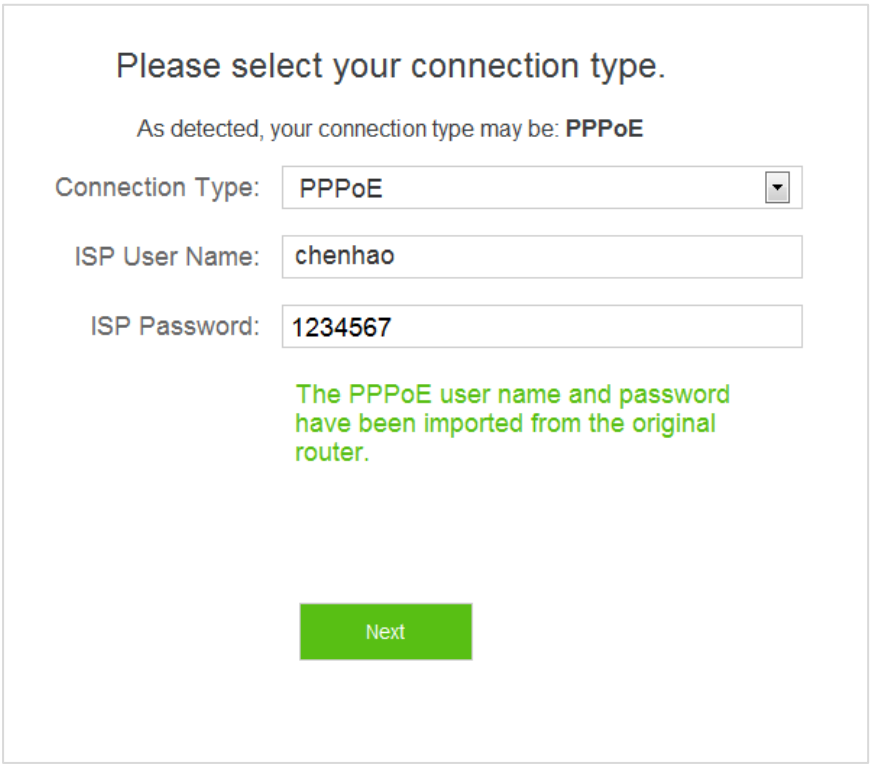
(1) Start a web browser on the computer that has connected to the router. Enter **tendawifi.com** or **192.168.0.1**, and press **Enter.**

(2) Click **Start**.



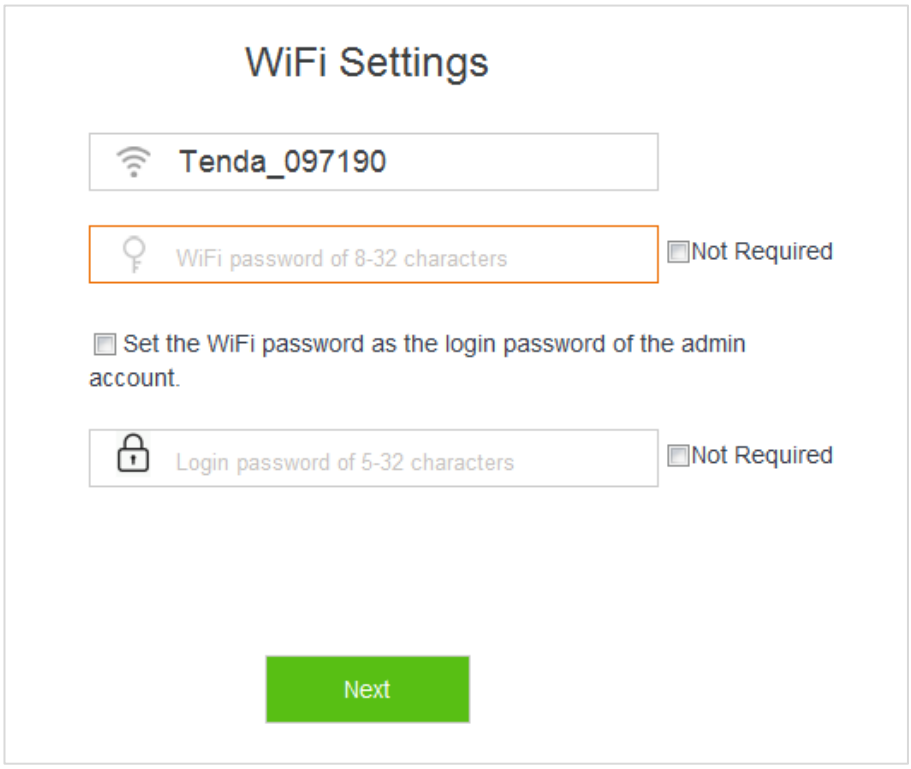
(3) The system enters the ISP user name and ISP password on this page automatically. Assume that the user name in this example is chenhao, and password is 1234567.

(4) Click **Next**.

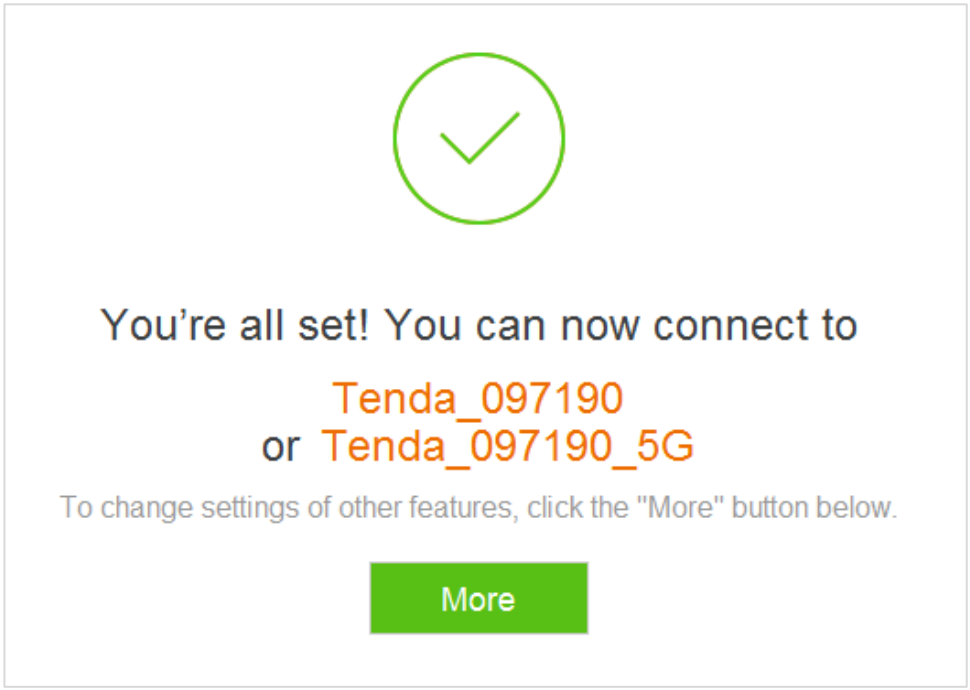


(5) Set WiFi name, WiFi password, and login password.

(6) Click **Next**.



(7) Connected. If you want to configure more functions of the router, click **More**.



—End

NOTE

If your desktop connects to the router' WiFi network, and the WiFi name and the WiFi password have been changed, connect the computer to the WiFi of the router again using the new WiFi name and WiFi password.

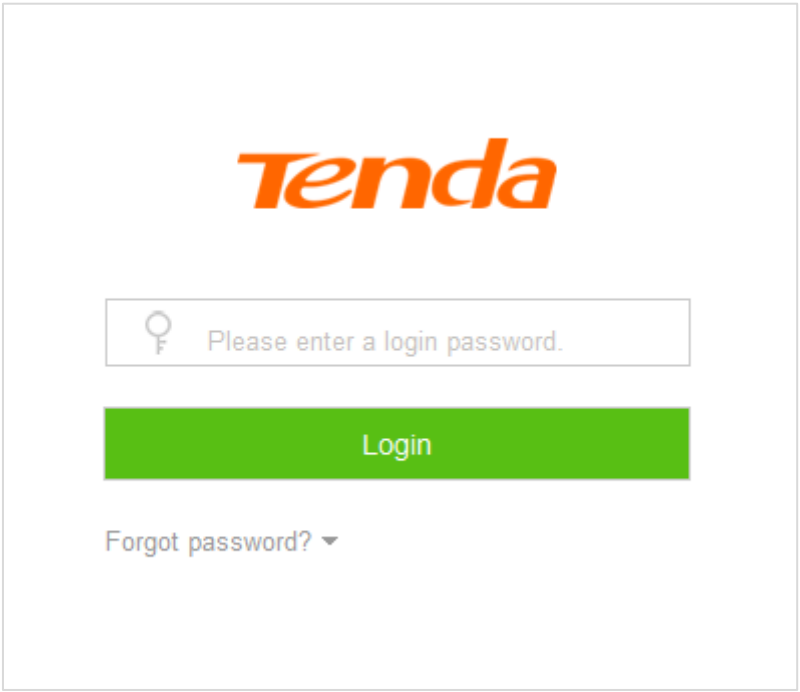
3 Web UI Description

3.1 Log in to the Web UI of the Router

If you use the router for the first time, refer to **Chapter 2 Quick Setup for the internet** for login method. To log in to the web UI of the router after quick setup, refer to the following sections.

1. Start a web browser on the device that has connected to the router. Enter **tendawifi.com** or **192.168.0.1**, and press **Enter**.

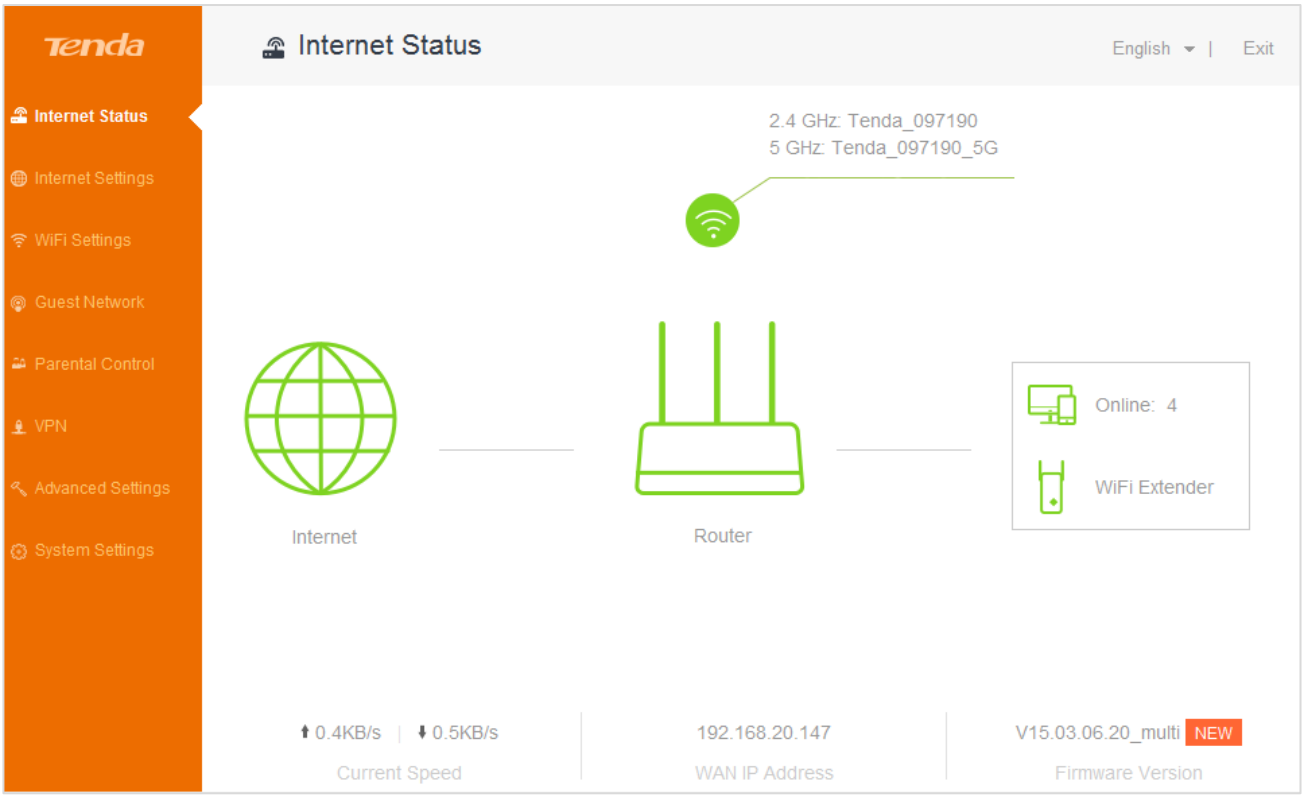
2. Enter your login password. Click **Login**.



—End

If the figure does not appear, set the local area connection of your computer to **Obtain an IP address automatically** and **Obtain DNS server address automatically.** Then try to log in again. For steps to set the local area connection of your computer, refer to **A1 Setting the IP Address of Your Computer** in appendixes**.**

Log in to the web UI of the router successfully.



3.2 Logging out of the Web UI of the Router

If you log in to the web UI of the router and perform no operation within 5 minutes, the router logs you out. In addition, clicking **Exit** on the upper right corner of the web UI can log out as well.

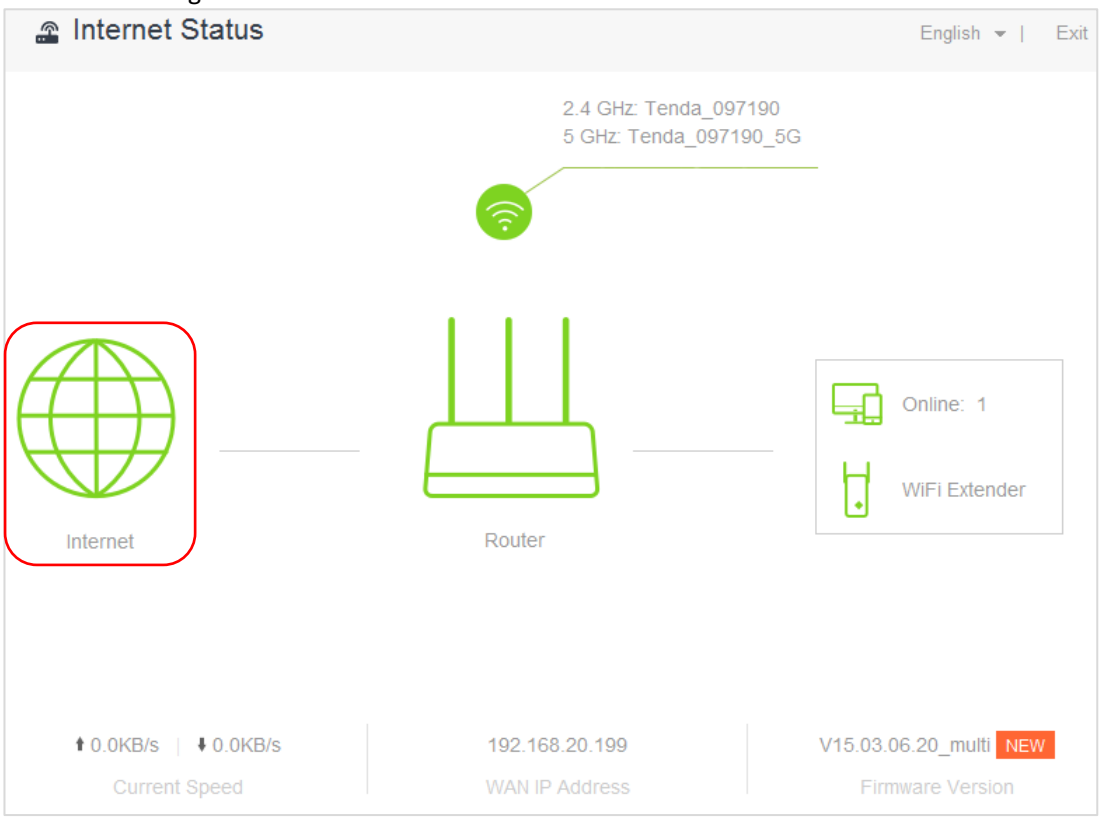
4 Internet Status

This module enables you to view the network status of the router, online devices, WiFi information and other status information.

4.1 Viewing Network Status

The **Internet Status** page shows the current network status of the router.

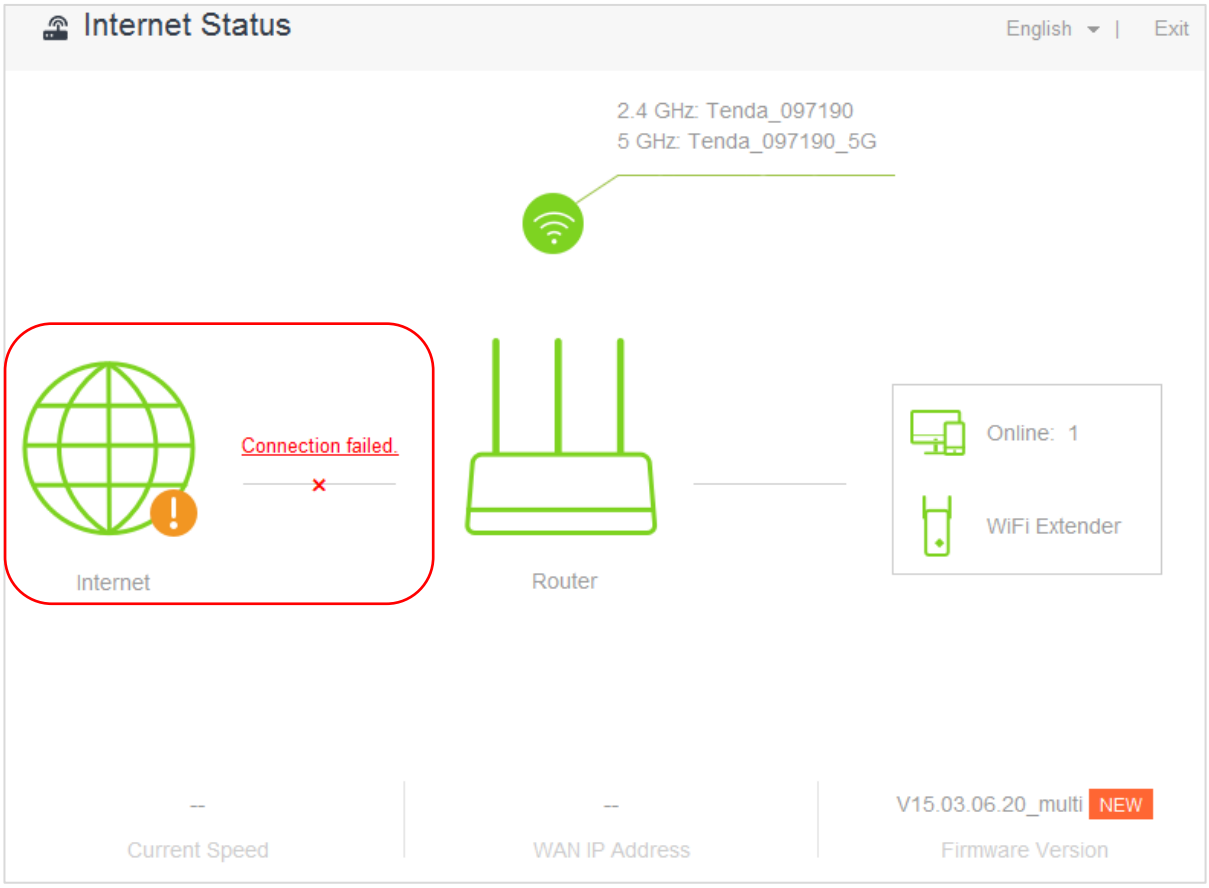
When the internet icon is displayed, the router is connected to the internet successfully and devices can access the internet through the router.



Parameter descriptions

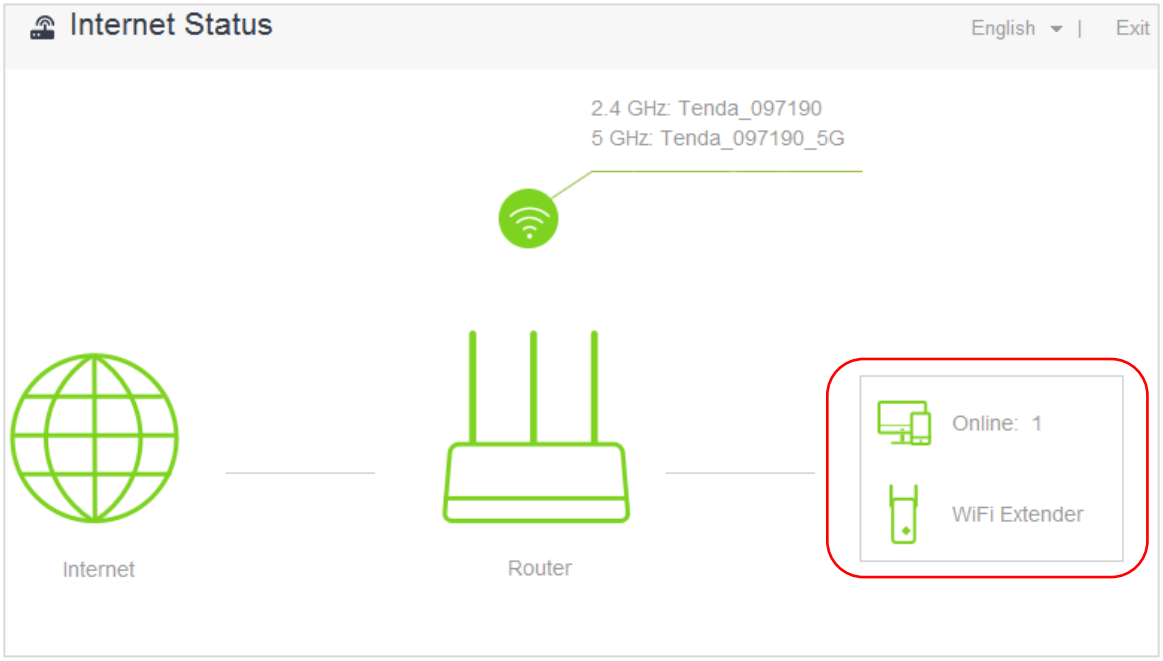
Parameter	Description
Current Speed	It specifies the download and upload speed of the router's WAN port.
WAN IP Address	It specifies the IP address of the router's WAN port.
Firmware Version	It specifies the current firmware version of the router. After performing firmware upgrade based on the procedures in **11.7 Firmware Upgrade**, you can check whether the upgrade succeeds here.

When **Connection failed** is displayed, click **Connection failed** for **Internet Settings** page. Follow the onscreen instructions to resolve the issue.

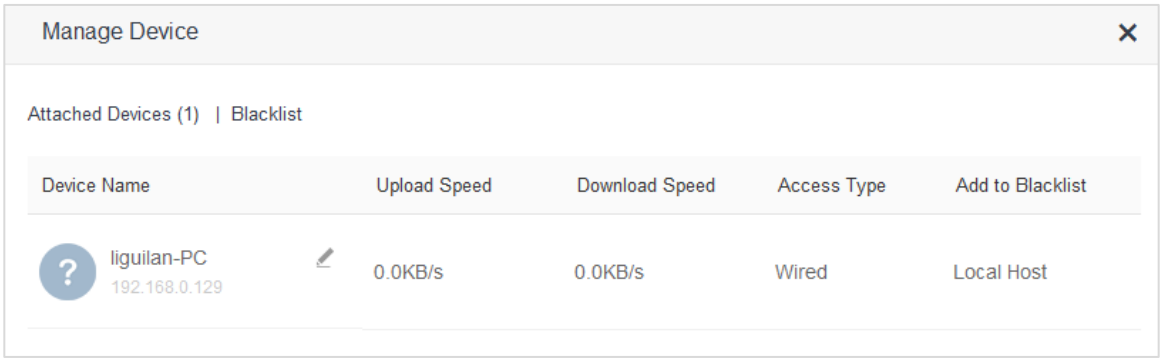


4.2 Viewing Online Devices

On the right part of the **Internet status** page, you can view the number of online devices and get to know about WiFi extender.

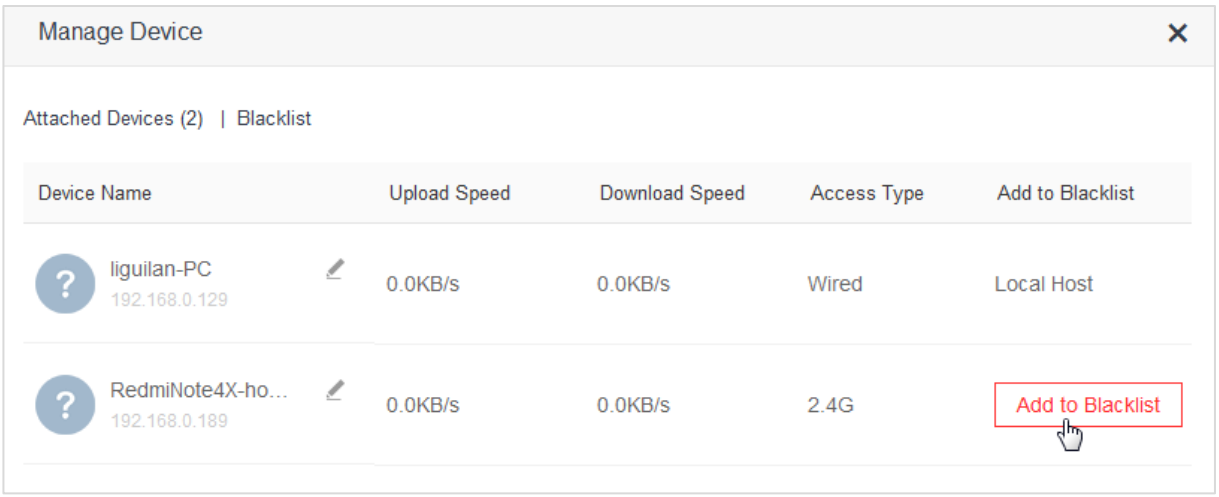


Clicking **Online** enables you to view detailed information about the connected devices. See the following figure.



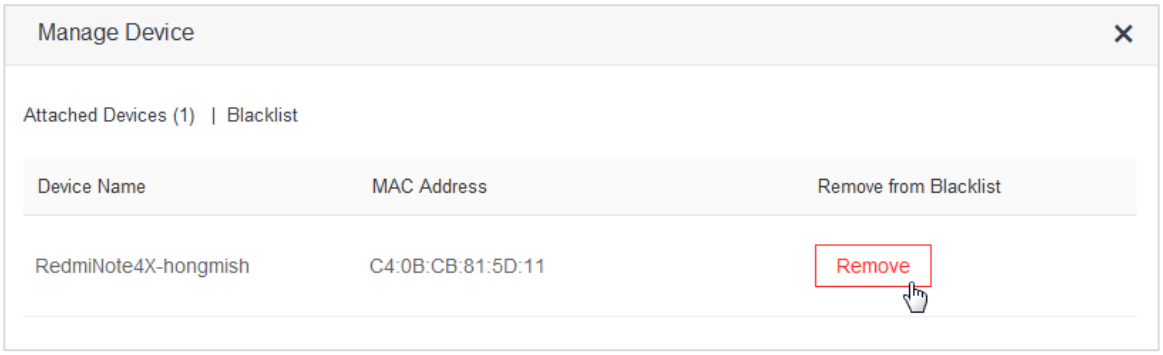
4.2.1 Adding to Blacklist

When detecting an unknown device in **Attached Devices**, you can click **Add to Blacklist** to add it to blacklist. Devices in blacklist cannot access the internet through the router.



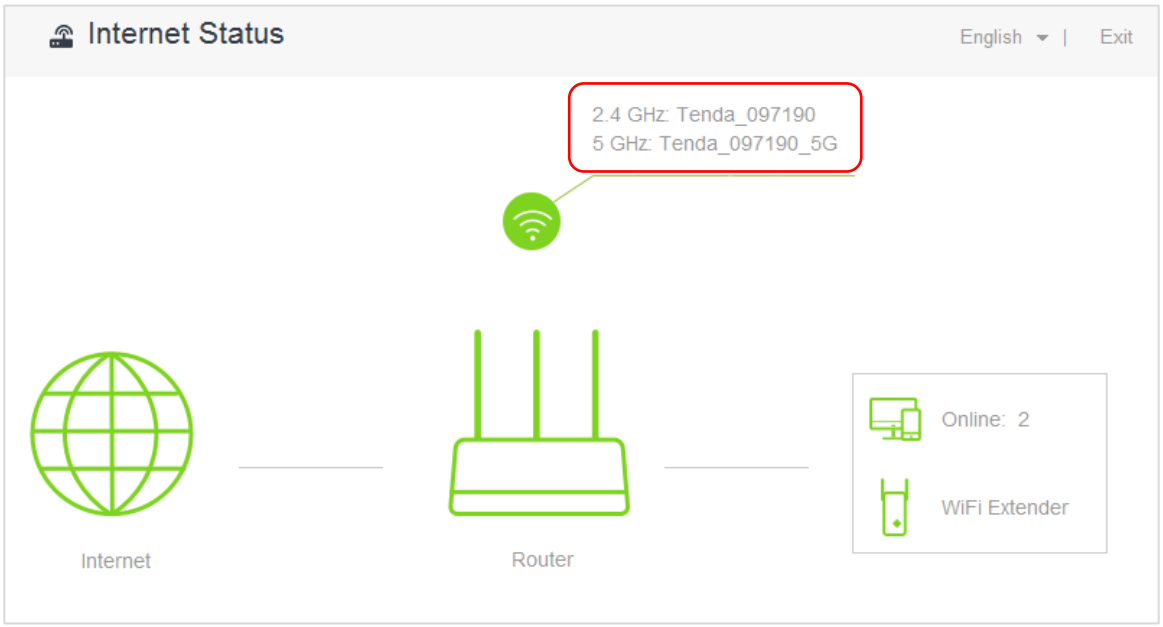
4.2.2 Removing from Blacklist

To remove a device from the blacklist, choose **Internet Status** > **Online** to open the **Manage Device** page. Locate the device you want to remove from the blacklist, and click **Remove**. Devices removed from the blacklist can access the internet through the router again.

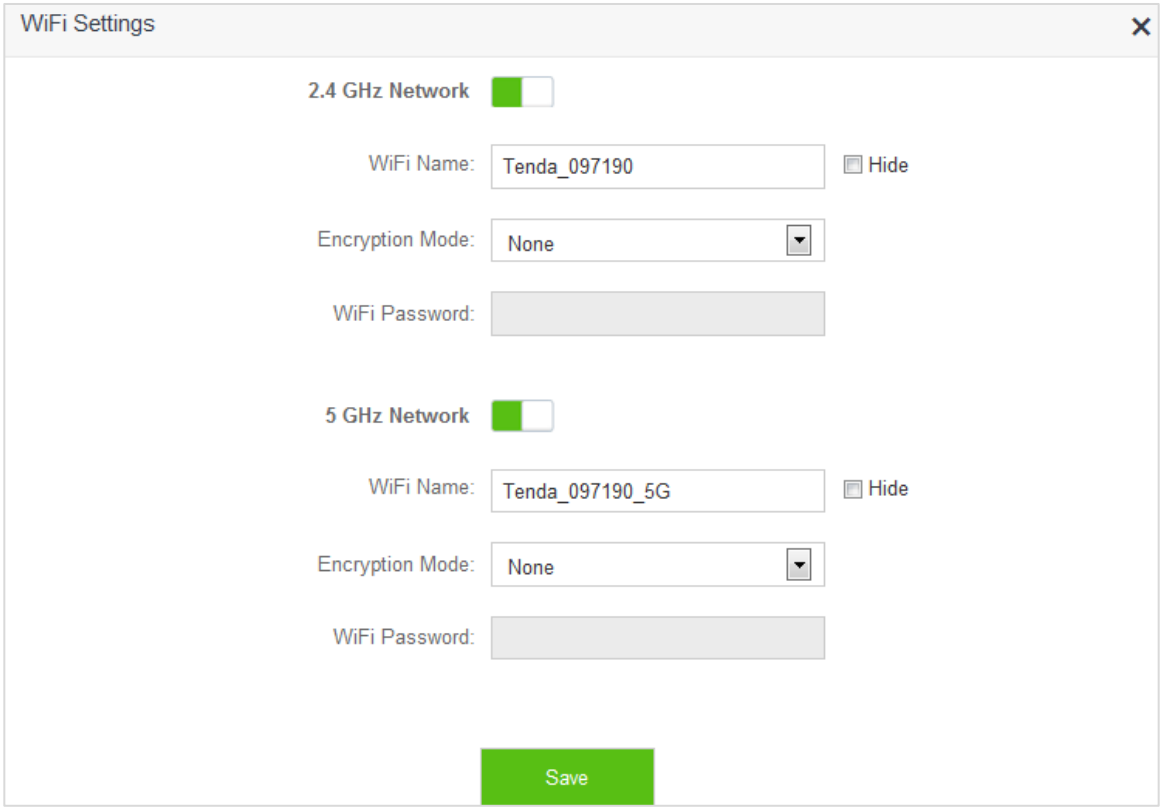


4.3 Viewing WiFi Information

The upper-right of the **Internet Status** page shows the WiFi names at the 2.4 GHz/5 GHz networks. After the router has connected to the internet, wireless devices, such as smart phones, can access the internet by connecting to the wireless networks.



To change the WiFi name or WiFi password at 2.4 GHz/5 GHz network, click **Internet Status** > to access the **WiFi Settings** page. See the figure below.



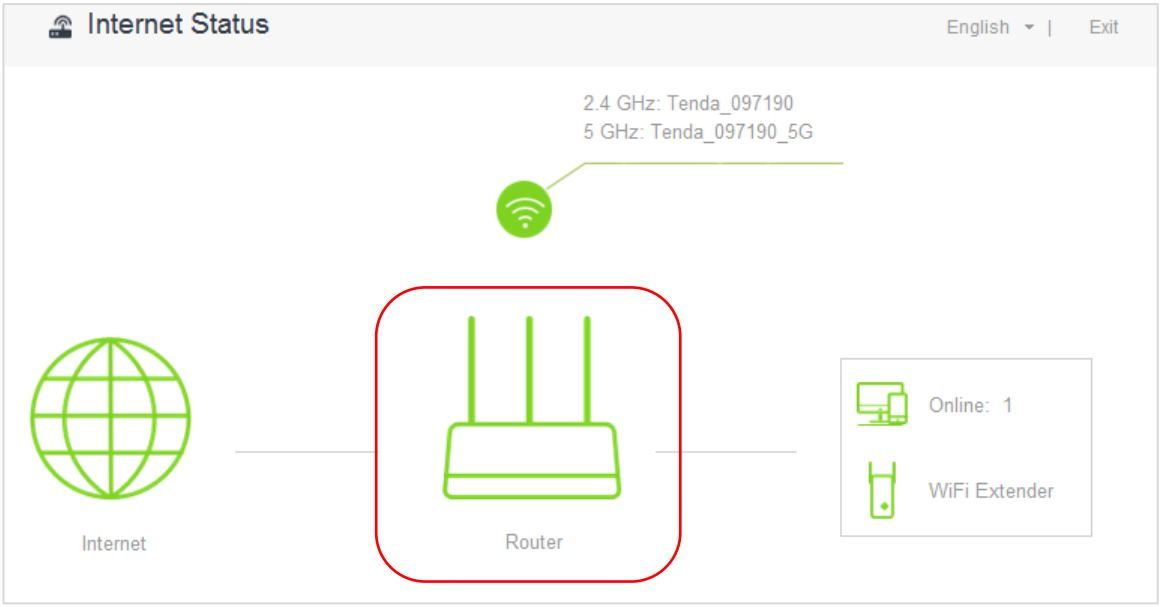
Set the parameters as required and click **Save**. For detailed instructions, refer to **WiFi Name & Password** in **Chapter 6 WiFi Settings**.

NOTE

Only devices compatible with 5 GHz signal can search and connect to the 5 GHz signal.For security of your wireless network, you are strongly recommend to select a encryption mode and set a WiFi password for your router.

4.4 Viewing Other Status Information

Clicking enables you to view the system status, including basic information, WAN status, LAN status and WiFi status of the router. For detailed parameter descriptions, refer to **11 System Settings**.



5 Internet Settings

5.1 Overview

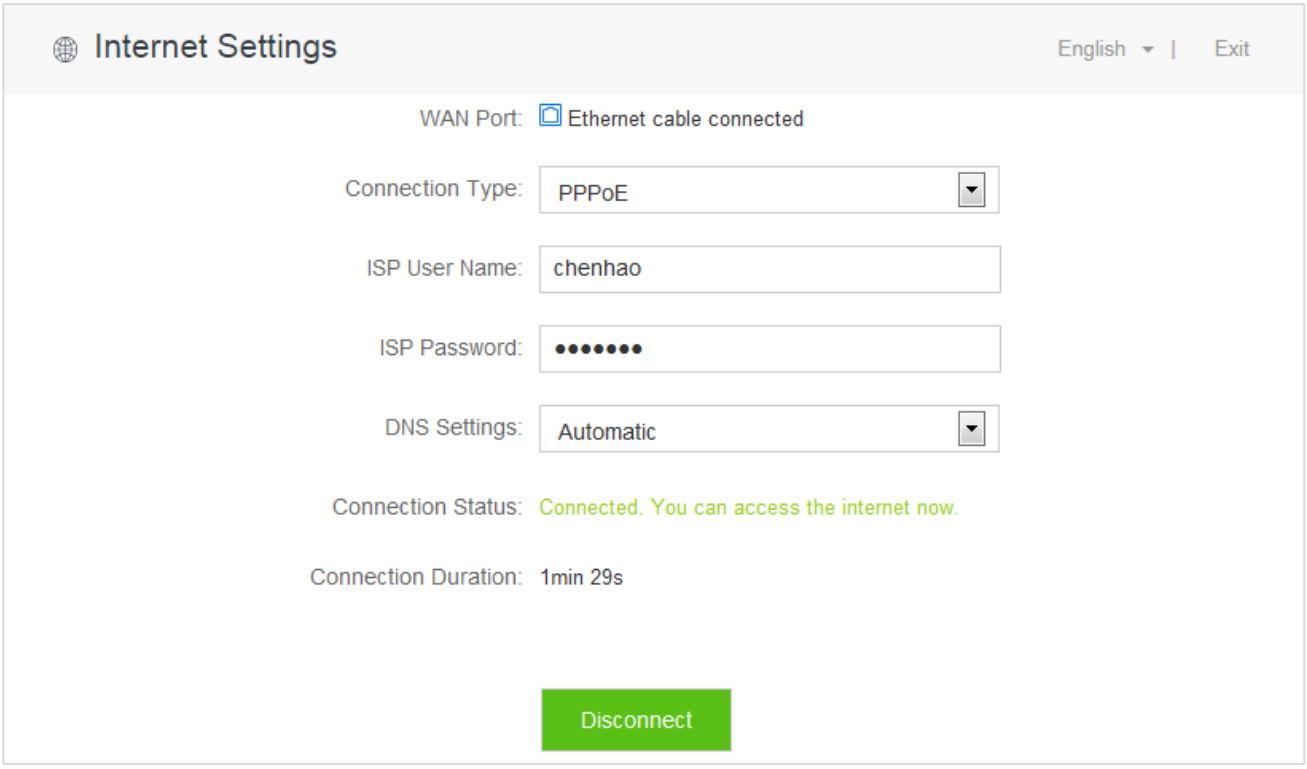
This module enables you to set internet parameters.Usually, when you use the router for the first time or after you reset the router, the router detects your internet connection type automatically. You are recommended to select the detected type and follow the **Quick Setup Wizard** instructions to configure internet settings.

If you need to change the internet parameters, you can configure them on the **Internet Settings** page.

The following table may help you understand your internet connection type. If you are still uncertain about your internet connection type, consult your ISP.

Internet Connection Type	Description
PPPoE	ISP provides a user name and a password.
Dynamic IP Address	ISP provides no user name, password, or any information about IP address.
Static IP Address	ISP provides IP address, subnet mask, default gateway, primary DNS server. And the secondary DNS server is optional.

To access the **Internet Settings** page, click **Internet Settings**. PPPoE is taken as an example here for better guidance. Assume that the ISP user name in this example is chenhao, and password is 1234567. The following page appears after you finish the configuration.



Parameters descriptions

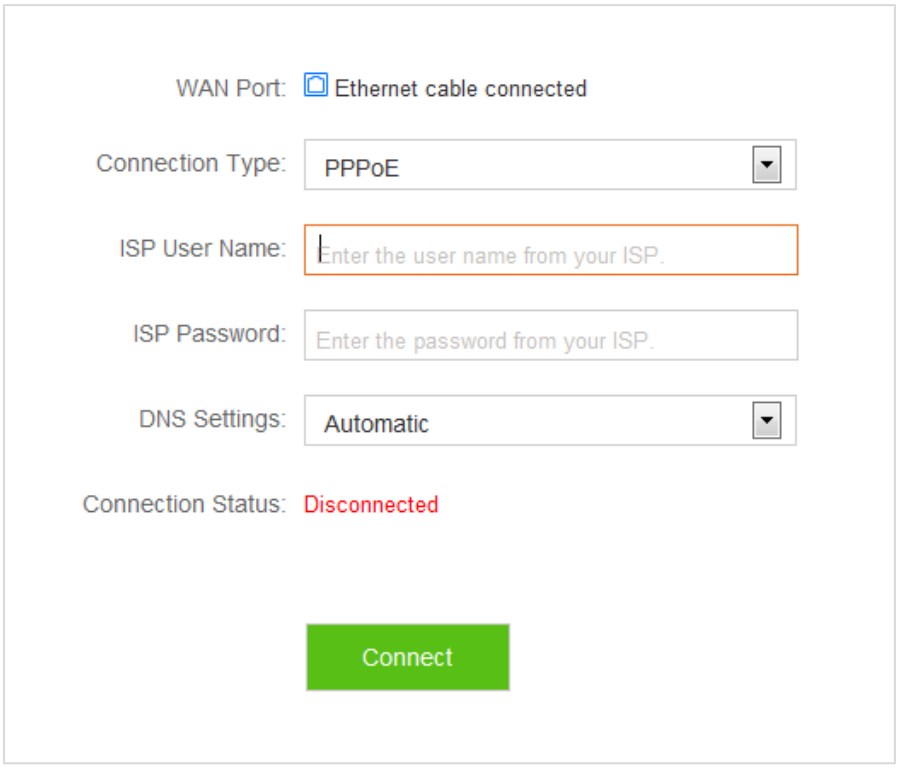
Parameter	Description
WAN Port	The current status of the WAN port, including **Ethernet cable connected** and **Ethernet cable disconnected**.
Connection Type	It specifies how the router is connected to internet. This router supports three connection types. They are **PPPoE**, **Dynamic IP Address**, and **Static IP Address**. Please select one according to your need.
ISP User Name	Enter the user name provided by your ISP.
ISP Password	Enter the password provided by your ISP.
DNS Settings	It specifies how the router obtains DNS information. This item is only needed when you choose to connect the internet by **PPPoE** or **Dynamic IP Address**. ● **Automatic**: The router obtains DNS information from superior device automatically. ● **Manual**: You need to enter correct DNS information manually.
IP Address	The information is needed only when you choose to connect the internet by **Static IP Address**. You need to enter the IP address and other information provided by your ISP.
Subnet Mask	
Default Gateway	
Primary DNS Server	
Secondary DNS Server	
Connection Status	It specifies whether the router is connected to the internet. If the **Connected. You can access the internet now.** message appears after a while, the router is connected to the internet successfully and you can access the internet through your router. When other messages appear, the router fails to connect the internet. Please perform according to onscreen instructions.
Connected Duration	It specifies how long the router is connected to the internet successfully this time.

5.2 Setting Up an Internet Connection with PPPoE

Procedures:

1. To access the configuration page, click **Internet Settings**.
2. **Connection Type**: Choose **PPPoE**.

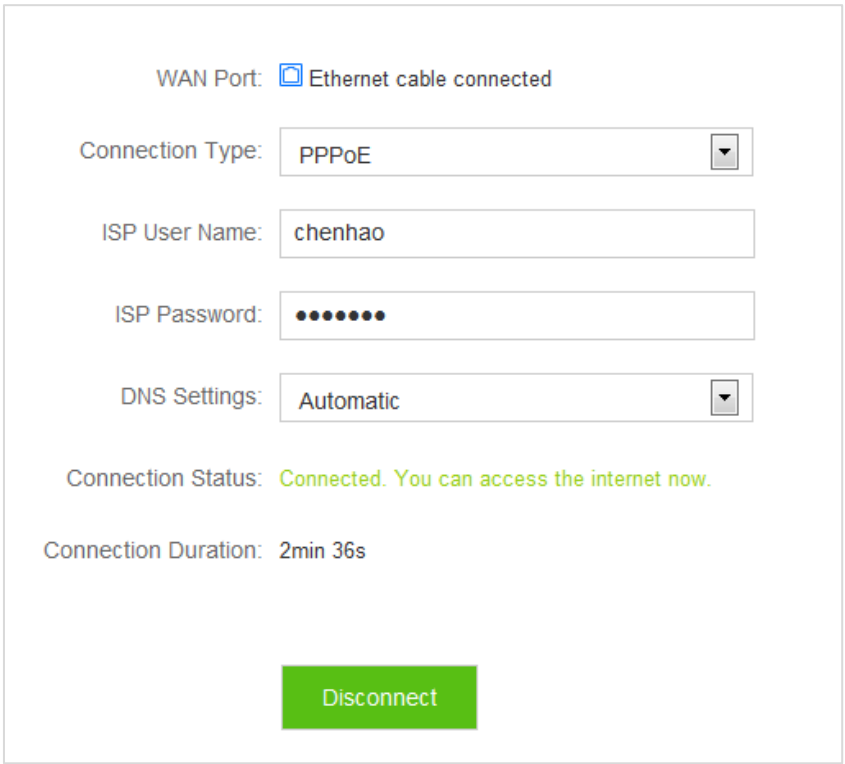
3. **ISP User Name**: Enter the user name provided by your ISP.
4. **ISP Password**: Enter the password provided by your ISP.
5. Click **Connect**.



—End

Verification

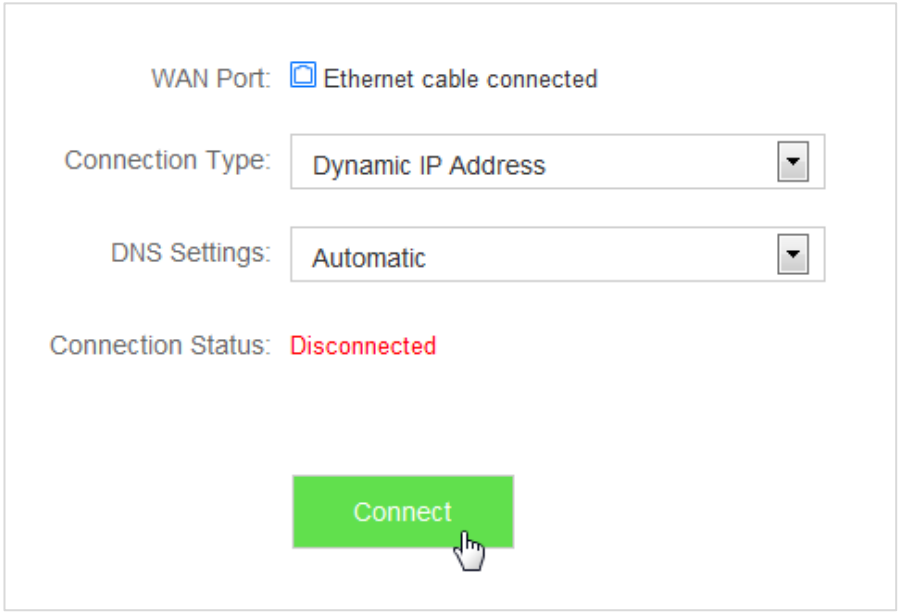
Assume that the ISP user name is chenhao, and password is 1234567. If the **Connected. You can access the internet now.** message appears after a while, you can access the internet through the router in a wired or wireless manner.



5.3 Setting Up an Internet Connection with a Dynamic IP Address

Procedures:

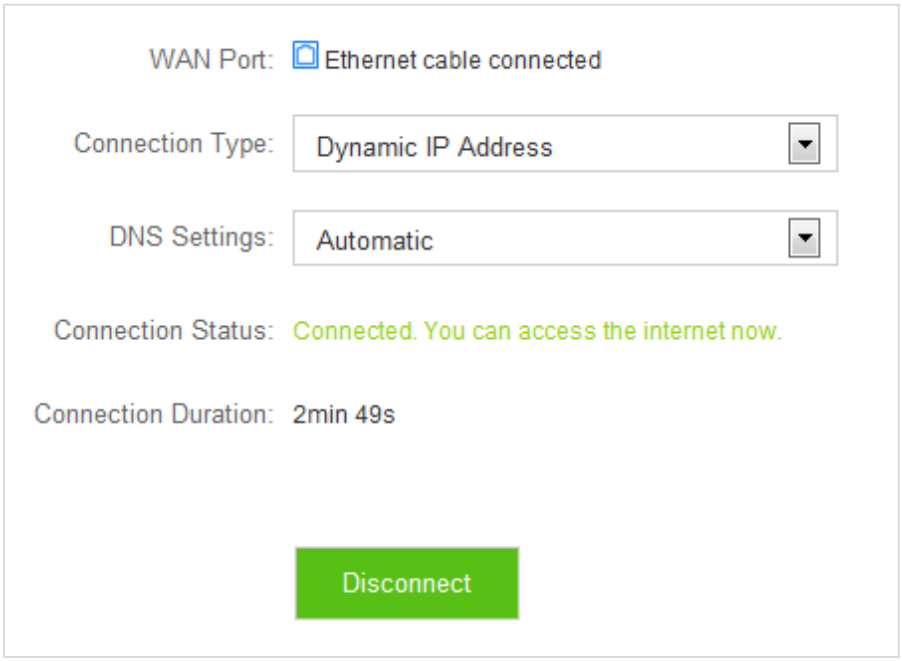
1. To access the configuration page, click **Internet Settings**.
2. **Connection Type**: Choose **Dynamic IP Address**.
3. Click **Connect**.



—End

Verification

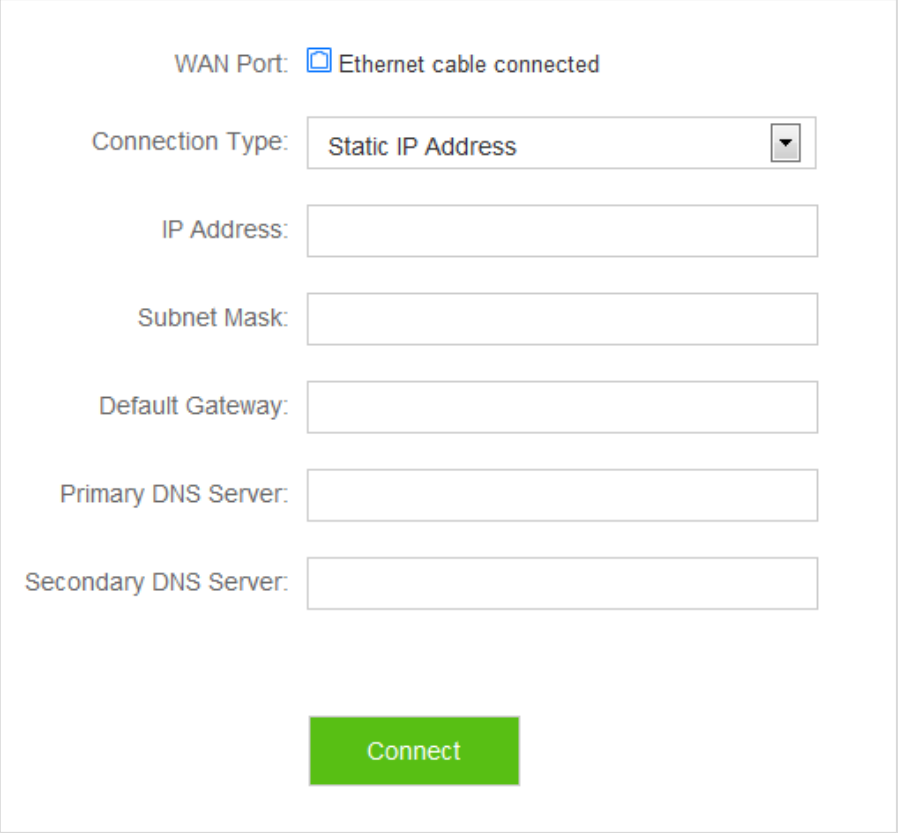
If the **Connected. You can access the internet now.** message appears after a while, you can access the internet through the router in a wired or wireless manner.



5.4 Setting Up an Internet Connection with a Static IP Address

Procedures:

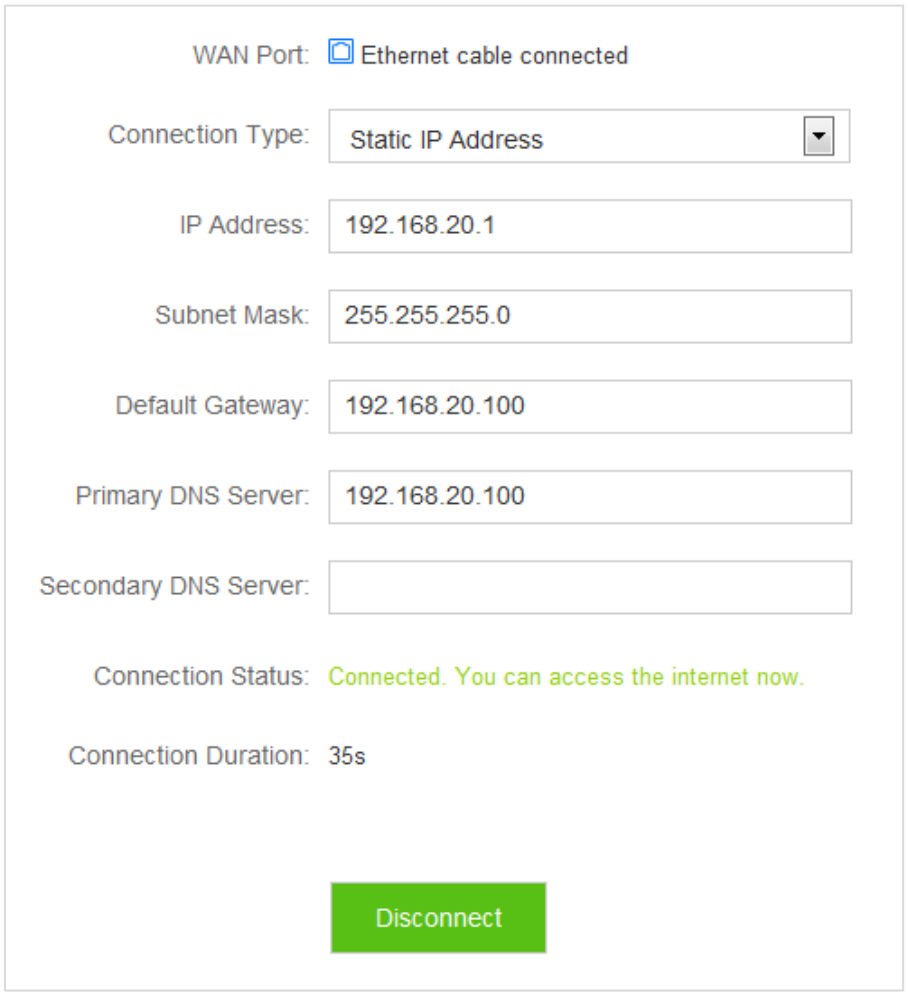
1. To access the configuration page, click **Internet Settings**.
2. **Connection Type**: Choose **Static IP Address**.
3. **IP Address**, **Subnet Mask**, **Default Gateway and Primary/Secondary DNS Server**: Enter the related information provided by your ISP. Assume that the IP address in this example is **192.168.20.1**, subnet mask **255.255.255.0**, default gateway and primary DNS server **192.168.20.100**.
4. Click **Connect**.



—End

Verification

If the **Connected. You can access the internet now.** message appears after a while, you can access the internet through the router in a wired or wireless manner.


WAN Port:
Ethernet cable connected
Connection Type:
Static IP Address
IP Address:
192.168.20.1
Subnet Mask:
255.255.255.0
Default Gateway:
192.168.20.100
Primary DNS Server:
192.168.20.100
Secondary DNS Server:
Connection Status:
Connected. You can access the internet now.
Connection Duration:
35s
Disconnect

6 WiFi Settings

This module includes the WiFi Name & Password, WiFi Schedule, Wireless Repeating, Channel & Bandwidth, WPS, Beamforming+, AP Mode, and Anti-interference functions.

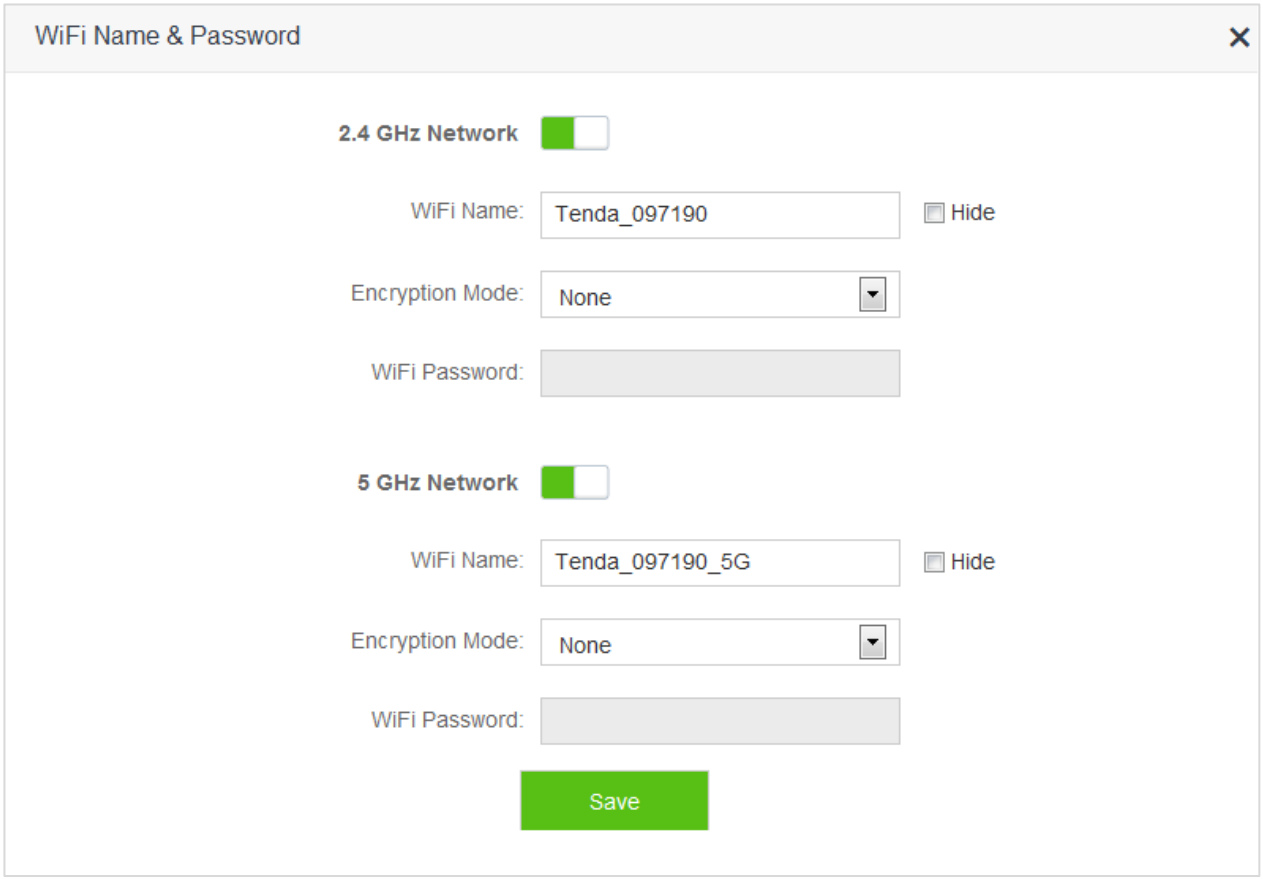
6.1 WiFi Name & Password

6.1.1 Overview

The router supports both 2.4 GHz and 5 GHz WiFi signals, featuring strong anti-interference performance.
The features of these two networks are listed as follows:

- 2.4 GHz signal has longer transmission distance than 5 GHz signal.
- 2.4 GHz signal has better wall penetration capacity than 5 GHz signal.
- 5 GHz signal has higher transmission speed than 2.4 GHz signal.
- 2.4 GHz network owns a more crowded environment and has more interference than 5 GHz network.

The WiFi Name & Password function enables you to configure the WiFi names, encryption modes, and passwords for both frequencies.
To access the configuration page, click **WiFi Settings** > **WiFi Name & Password**.



Parameter descriptions

Parameter	Description
2.4 GHz/5 GHz Network	It specifies whether to enable the 2.4 GHz/5 GHz network.
WiFi Name	It specifies the names of 2.4 GHz and 5 GHz network. You can change them if needed. After the router accesses the internet, wireless clients like smart phones can access the internet using these wireless names.
Encryption Mode	This router supports the following encryption modes: ● **None**: It indicates that wireless network is not encrypted and any clients can access the network. This option is not recommended as it leads to low network security. ● **WPA-PSK**: It indicates that WPA-PSK/AES is adopted to authenticate users. ● **WPA2-PSK**: It indicates that WPA2-PSK/AES is adopted to authenticate users. ● **WPA/WPA2-PSK (recommended)**: It indicates that both WPA-PSK/AES and WPA2-PSK/AES are adopted to authenticate users.
WiFi Password	It specifies the password required when a client accesses the wireless network of the router.
Hide	It specifies whether to prevent a WiFi name from being detected by wireless devices. If this function is enabled, the corresponding WiFi signal is not broadcast. Therefore, the name is not displayed on available wireless networks list of a wireless device. To connect a wireless device such as a smart phone to the WiFi network, you need to manually enter the WiFi name of the network on the device.

6.1.2 Modifying WiFi Name and Password

Assume that you modify the WiFi name and password of 2.4 GHz network to Tenda_2.4G and 123456789, WiFi name and password of 5 GHz network to Tenda_5G and 987654321.

Procedures:

Step 1 Click **WiFi Settings** > **WiFi Name & Password**.

Step 2 Modify 2.4 GHz WiFi network information.

(1) **WiFi Name**: Enter **Tenda_2.4G**.

(2) **Encryption Mode**: You can configure it manually based on your requirement. Assume that the mode in this example is **WPA/WPA2-PSK (recommended)**.

(3) **WiFi Password**: Enter **123456789**.

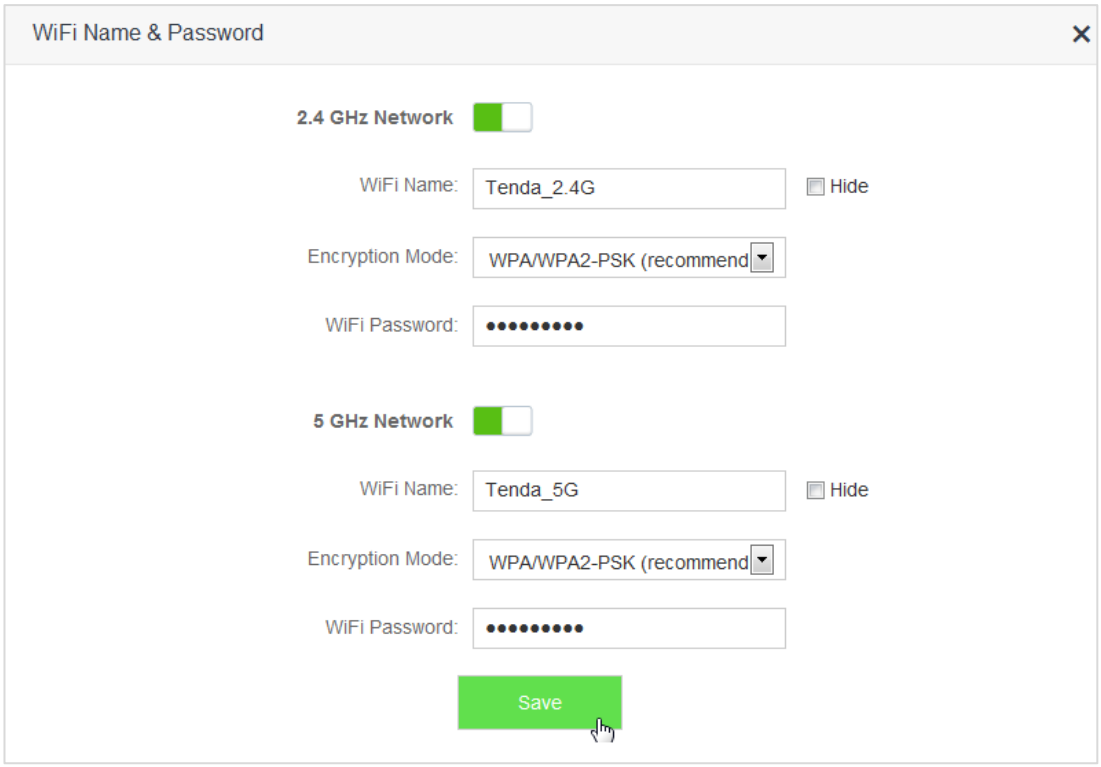
Step 3 Modify 5 GHz network WiFi information.

(1) **WiFi Name**: Enter **Tenda_5G**.

(2) **Encryption Mode**: You can configure it manually based on your requirement. Assume that the mode in this example is **WPA/WPA2-PSK (recommended)**.

(3) **WiFi Password**: Enter **987654321**.

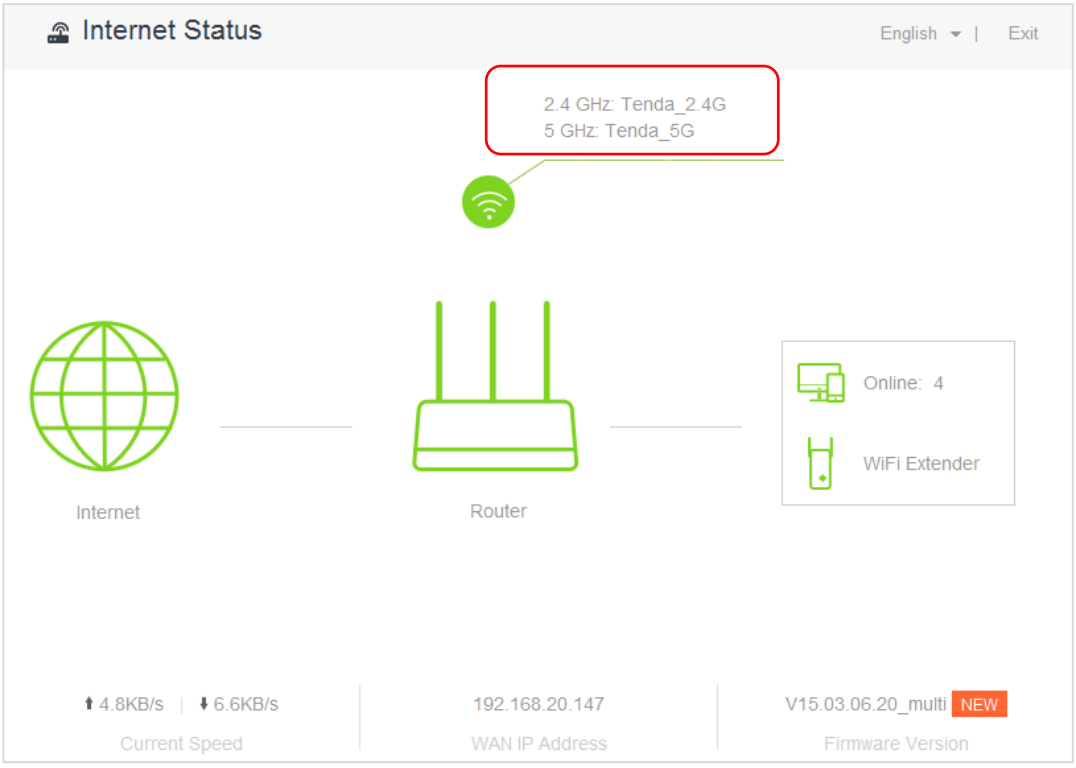
Step 4 Click **Save.**



—End

Verification

Wait a moment for the modification to complete successfully. You can find on the **Internet Status** page that the WiFi names and passwords have been changed.

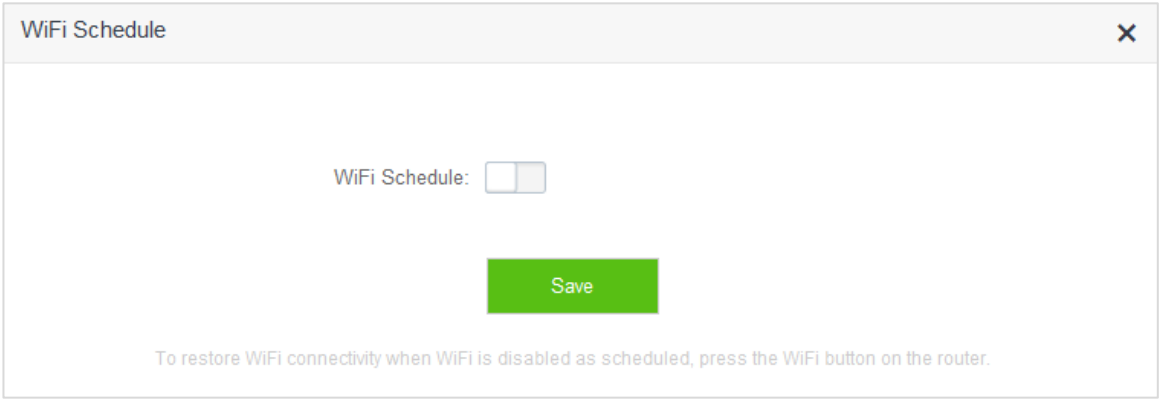


6.2 WiFi Schedule

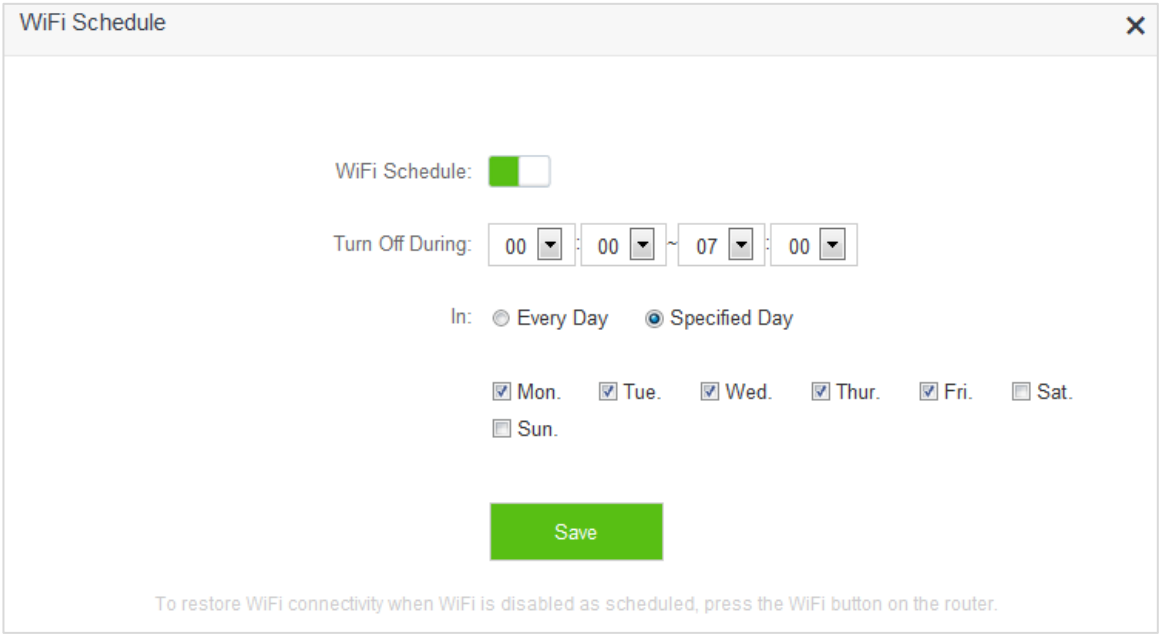
6.2.1 Overview

This router supports the WiFi schedule function, which allows you to disable the WiFi during a specified period. Then the network will recover after that period. By default, this function is disabled.

To access the configuration page, click **WiFi Settings** > **WiFi Schedule**.



The following figure appears when **WiFi Schedule** is enabled.



Parameter descriptions

Parameter	Description
WiFi Schedule	It specifies whether to enable the WiFi Schedule function**.**
Turn Off During	It specifies the period when the WiFi is off. The WiFi is inaccessible to clients during that period but accessible out of the period.
In	It specifies the schedule type. ● **Every Day**: The WiFi is off in **Turn Off During** every day. ● **Specified Day**: The WiFi is off in **Turn Off During** on the specified day.

6.2.2 Example

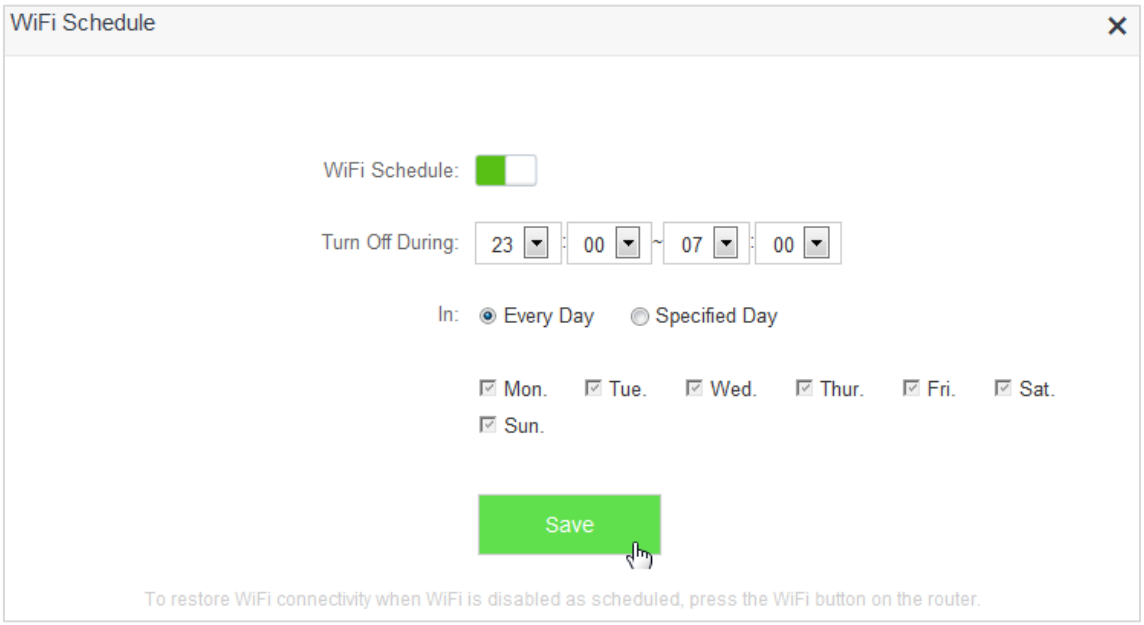
Application Scenario

Michael bought an AC5 for network coverage. For a healthier sleeping environment, he wants to disable the WiFi during 23:00 to 7:00 every day.

The WiFi Schedule function can address this requirement.

Procedures:

1. To access the configuration page, click **WiFi Settings** > **WiFi Schedule**.
2. **WiFi Schedule**: Switch to .
3. **Turn Off During**: Set the period according to your requirement, which is **23:00-07:00** in this example.
4. **In**: Select the schedule type according to your requirement, which is **Every Day** in this example.
5. Click **Save**.



—End

Verification

The WiFi of the router is disabled during 23:00- 07:00 every day.

6.3 Wireless Repeating

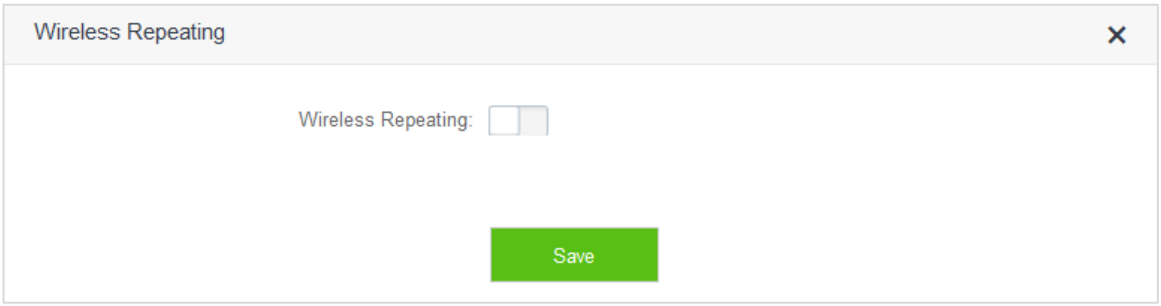
6.3.1 Overview

The Wireless Repeating function enables the router to function as a wireless repeater which extends WiFi coverage by connecting to network of an upstream router. You can use this router to extend wireless network coverage in the WISP or Client+AP mode.

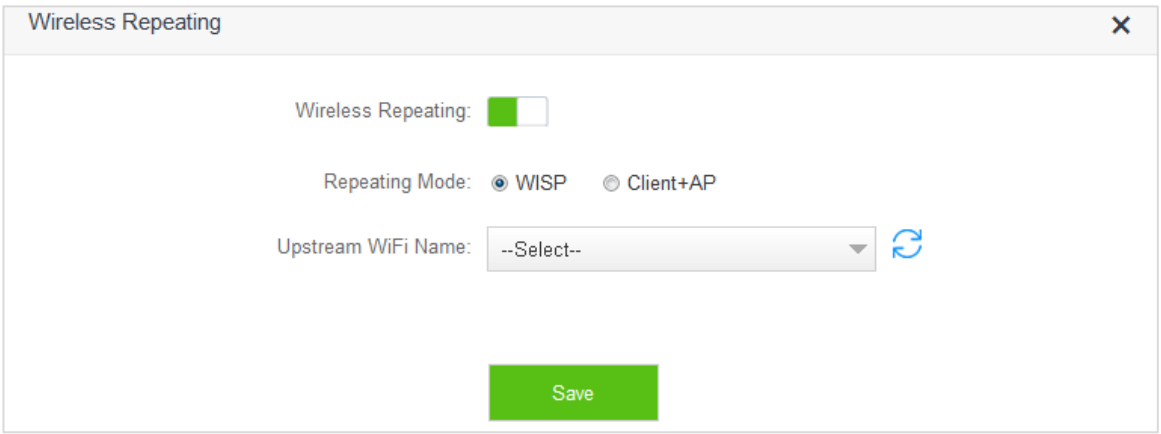
TIP

If you want to repeat the WiFi hotspot provided by your ISP, the WISP mode is recommended; otherwise, select WISP or Client+AP mode.

To access the configuration page, click **WiFi Settings** > **Wireless Repeating**. By default, the function is disabled.



Enable the function by switching the **Wireless Repeating** button to . The configuration page is shown as follows.



NOTE

If the Wireless Repeating function is enabled, the Sleeping Mode, IPTV, Guest Network, WPS, and WiFi Schedule functions become unavailable. For details, refer to messages on the web UI of the router.

Parameter descriptions

Parameter	Description
Wireless Repeating	It specifies whether to enable the Wireless Repeating function. represents the function is disabled, and is enabled.
Repeating Mode	It specifies the two modes for wireless repeating. ● **WISP**: In this mode, the router repeats wireless signal or wireless hotspot provided by ISP. ● **Client+AP**: In this mode, the router repeats wireless signal.
Upstream WiFi Name	It specifies the SSID of the network you want to repeat.

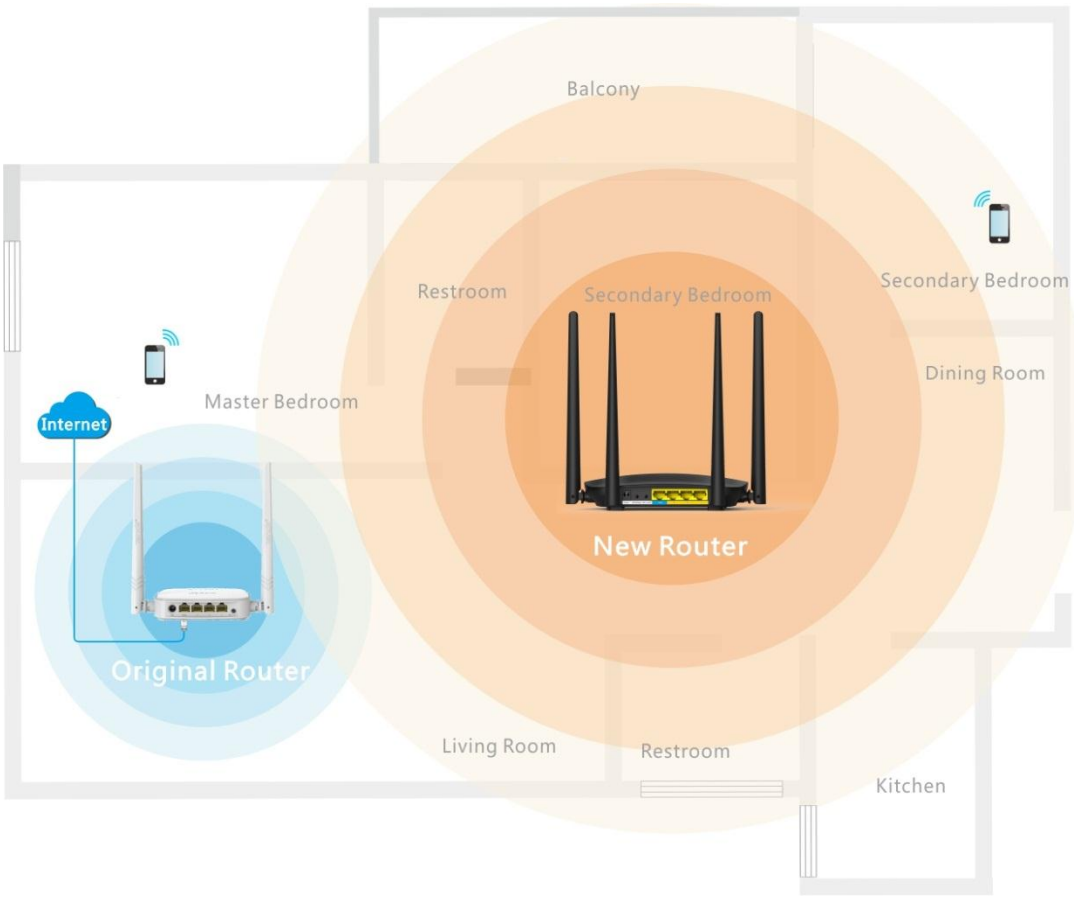
6.3.2 Example

Application Scenario

Michael subscribes to broadband service and purchases a wireless router for network coverage. The router is placed in the living room. WiFi signals are strong in the living room and master bedroom, but too poor in the other bedrooms and restrooms to access the internet. Now he wants to extend the wireless network coverage, ensuring clients to access the internet everywhere.

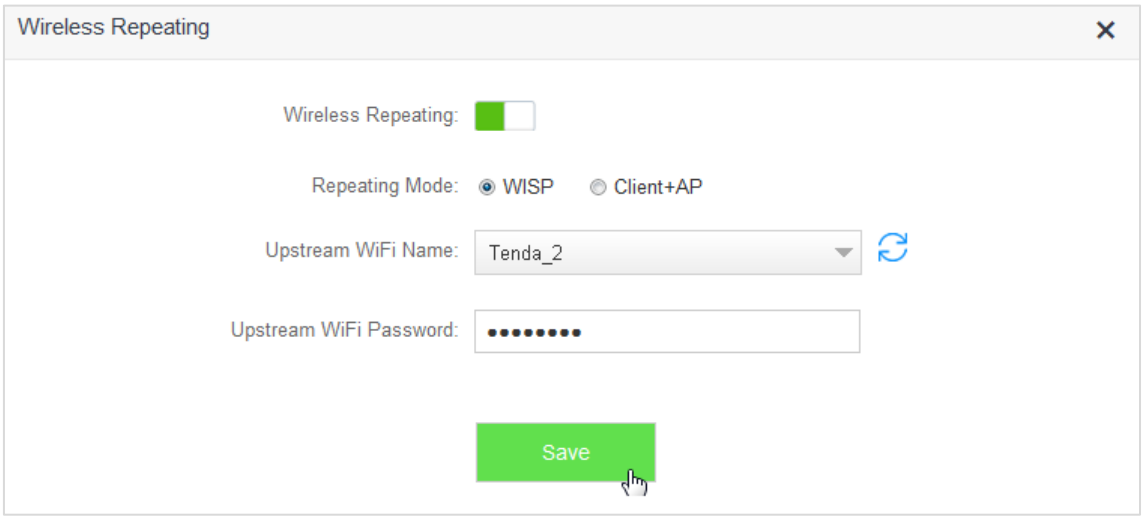
Solution

Michael can add an AC5 and configure the Wireless Repeating function of the router to extend WiFi network coverage of the original router, so clients can access the internet through the WiFi network of AC5. The following figure shows the application scenario.

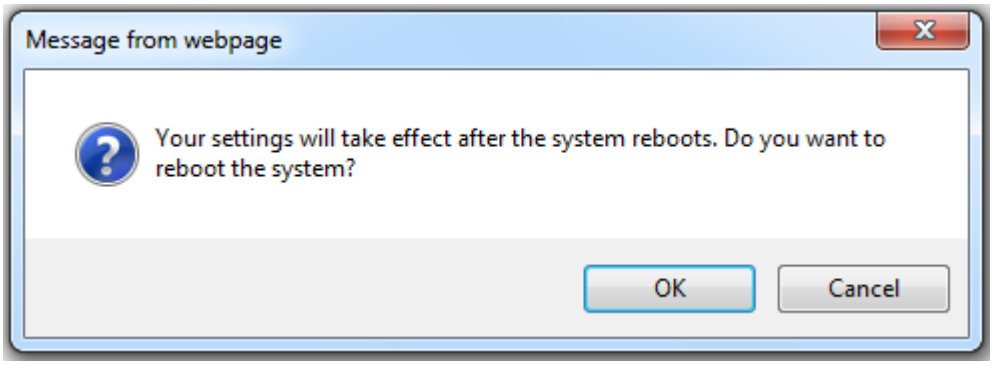


Procedures:

1. To access the configuration page, click **WiFi Settings** > **Wireless Repeating**.
2. **Wireless Repeating:** Switch the button to .
3. **Repeating Mode**: Select the **WISP** or **Client+AP** mode, which is **WISP** in this example .
4. **Upstream WiFi Name**: Select WiFi name of the original router from the drop-down list box, which is **Tenda_2** in this example.
5. **Upstream WiFi Password**: Enter WiFi password of the original router, which is **12345678** in this example. (If the password is not set on the original router, leave this text box blank.)
6. Click **Save**.



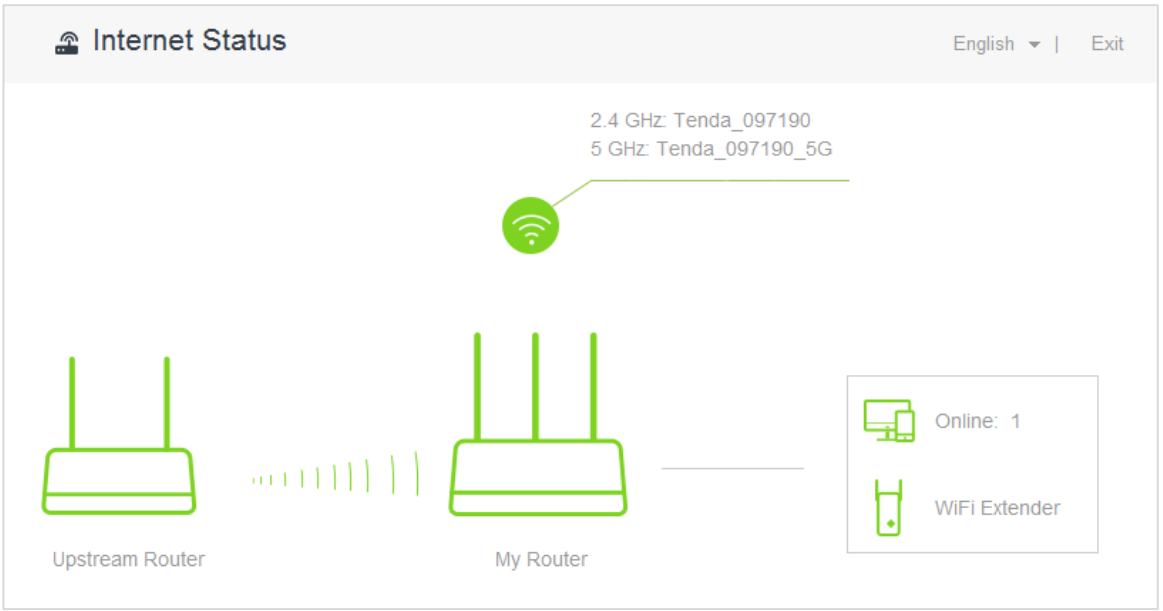
7. Click **OK**.

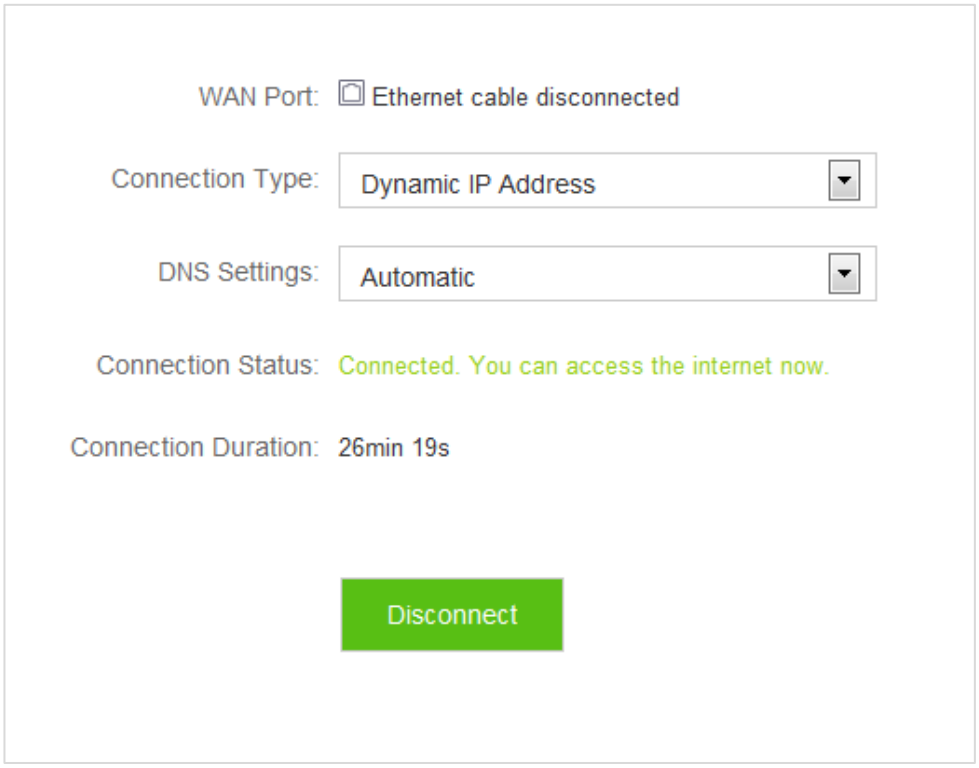


—End

Verification

After the first figure below appears on the **Internet Status** page and the second on the **Internet Settings**, you can access the internet through the WiFi network of AC5.





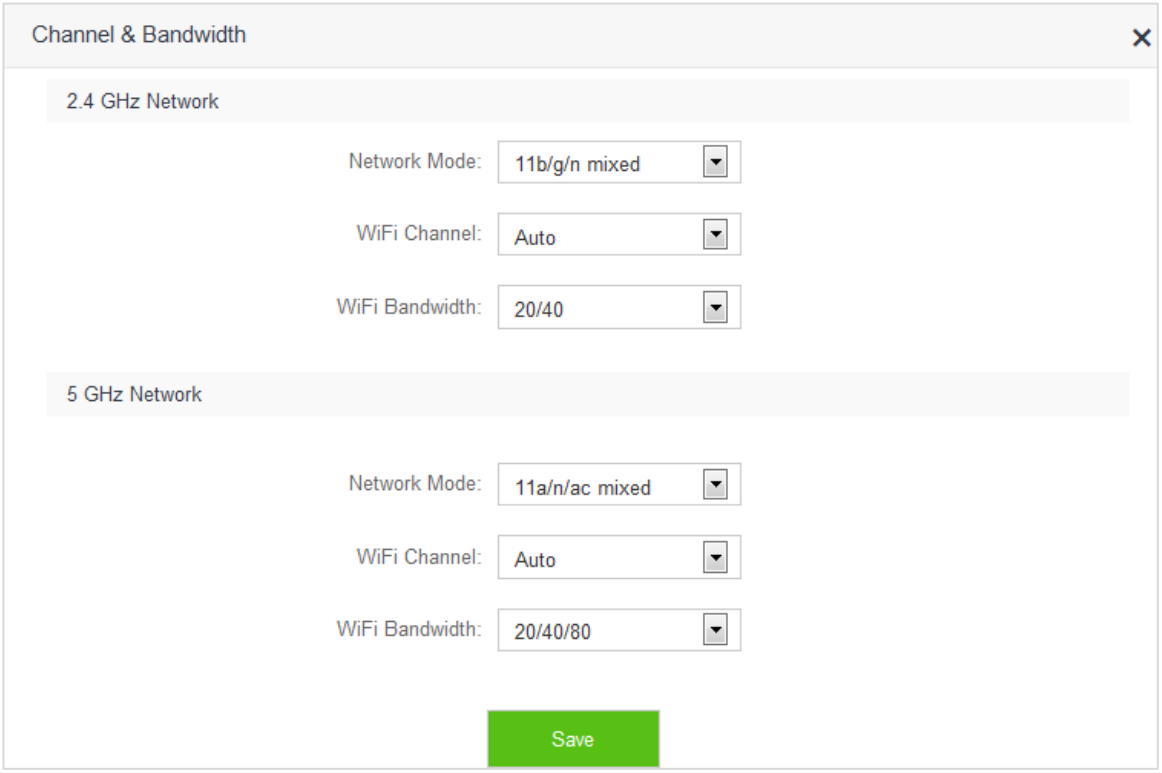
TIP

- If the original router sets connection type as **Dynamic IP Address**, the new router obtains the connection information from the original router automatically. If the connection type is **Static IP Address**, you need to configure the connection settings manually.
- In the **WISP** mode, if the LAN IP address of the new router is in the same network segment as that of the original router, an IP conflict occurs. In that case, the new router replaces its LAN IP address with another that belongs to another network segment. You can log in to the web UI of the new router directly by using **tendawifi.com**.
- In the **Client+AP** mode, the LAN IP address of AC5 changes and you can obtain the new address from the **DHCP Client List** of the original router.

6.4 Channel & Bandwidth

6.4.1 Overview

The Channel and Bandwidth function enables you to change network mode, WiFi channel, and WiFi bandwidth of either 2.4 GHz or 5GHz network. Please retain the default channel and bandwidth settings if you set without professional guidance. To access the configuration page, click **WiFi Settings** > **Channel & Bandwidth**.



Paremeter descriptions

Paremeter	Description
Network Mode	It specifies a protocol adopted for wireless transmission. You are recommended to keep the default setting. For 2.4 GHz networks, 11b/g, 11b/g/n, and 11n protocols are available. For 5 GHz networks, the 11ac and 11a/n/ac are available. ● **11b/g**: It indicates that clients compliant with 802.11b or 802.11g protocol can connect to the router. ● **11b/g/n**: It indicates that all clients working at 2.4 GHz and compliant with 802.11b, 802.11g, or 802.11n protocol can connect to the router. ● **11n**: It indicates that clients working at 2.4 GHz and compliant with 802.11n can connect to the router. ● **11ac**: It indicates that clients complaint with 802.11ac protocol can connect to the router. ● **11a/n/ac**: It indicates that clients working at 5 GHz and compliant with 802.11a, 802.11n or 802.11ac protocol can connect to the router.
WiFi Channel	It specifies the operating channel of a WiFi network. By default, the channel is chosen as **Auto**. It represents the router will view utilization rates of channels and selects one suitable. But you can change it as required. A channel different from nearby channels and with less interference are recommended for better wireless transmission efficiency. You can use a third-party tool to identify the channels different from nearby channels and with less interference.

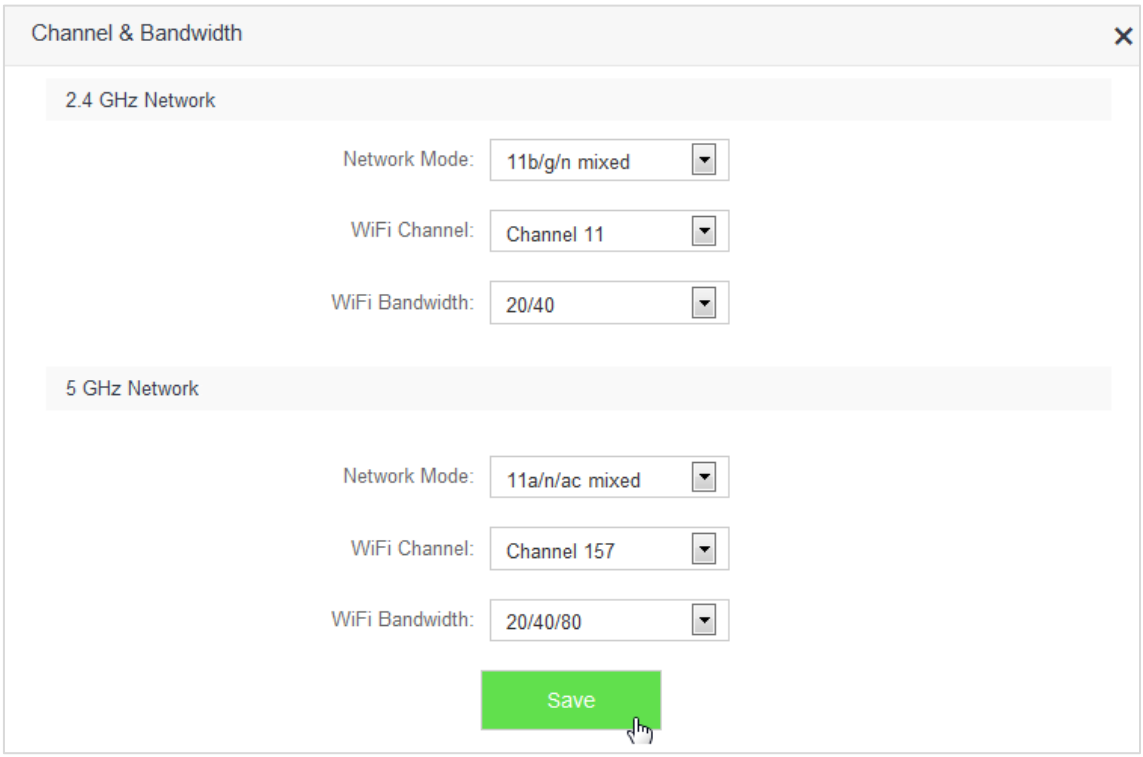
Paremeter	Description
WiFi Bandwidth	It specifies bandwidth of the operating channel of a WiFi network. Change the default settings only when necessary. ● **20**: It indicates that the channel bandwidth of a router is 20 MHz. ● **40**: It indicates that the channel bandwidth of a router is 40 MHz. ● **20/40**: It specifies that a router can switch its channel bandwidth between 20 MHz and 40 MHz based on the ambient environment. This option is available only to a router working at 2.4 GHz. ● **80**: It indicates that the channel bandwidth of a router is 80 MHz. This option is available only to a router working at 5 GHz. ● **20/40/80**: It specifies that a router can switch its channel bandwidth among 20 MHz, 40 MHz, and 80 MHz based on the ambient environment. This option is available only to a router working at 5 GHz.

6.4.2 Changing Channel

Assume that the channel at 2.4 GHz network is required to change to channel 11, and 5 GHz network to channel 157.

Procedures:

1. To access the configuration page, click **WiFi Settings** > **Channel & Bandwidth**.
2. **WiFi Channel**: In the **2.4 GHz Network** part, select **Channel 11** from the drop-down list box of **WiFi Channel**.
3. **WiFi Channel**: In the **5 GHz Network** part, select **Channel 157** from the drop-dwon list box of **WiFi Channel**. (If there is no special requirement about other parameters, retain the default settings.)
4. Click **Save**.

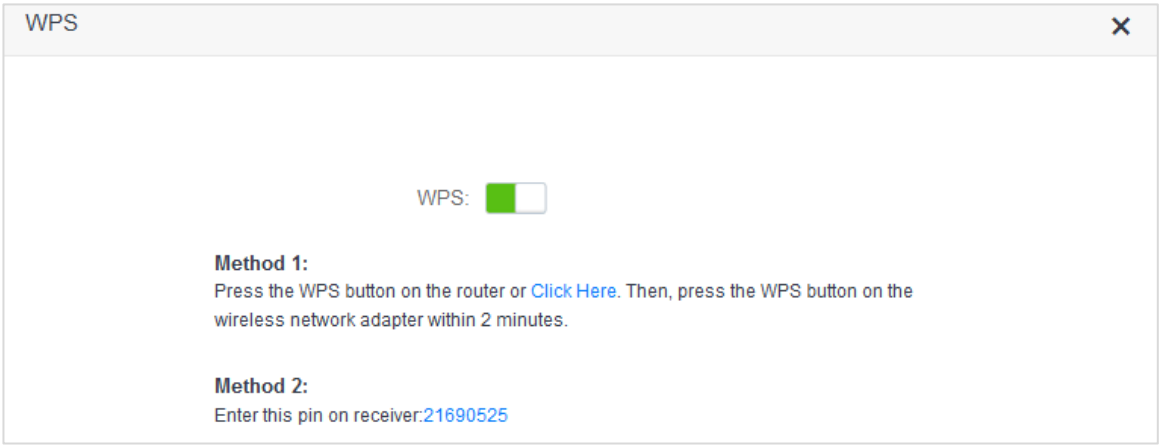


—End

6.5 WPS

6.5.1 Overview

The WPS function enables wireless devices, such as smart phones, to connect the WiFi of the router easily and quickly. To access the configuration page, click **WiFi Settings** > **WPS**, then follow the onscreen instructions to perform.



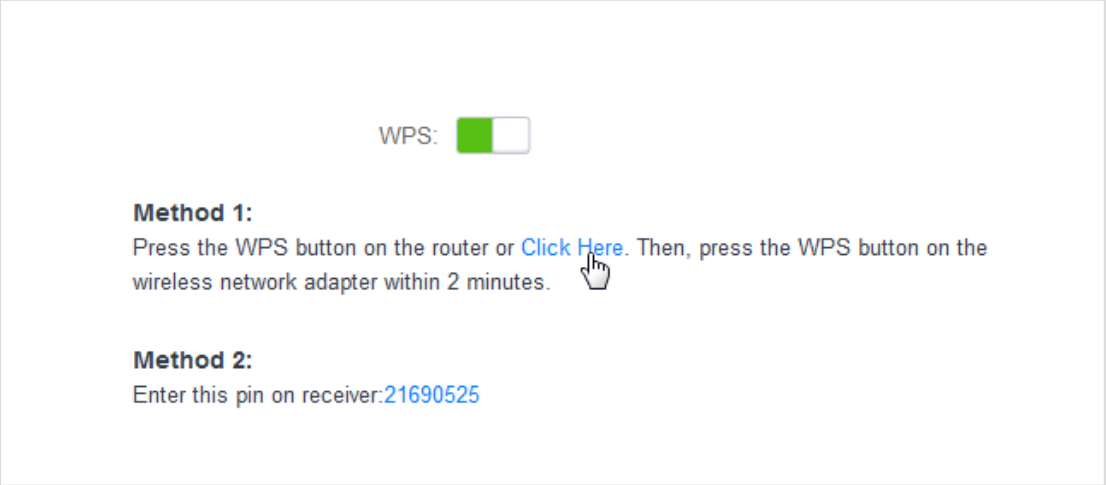
6.5.2 Connecting Devices to the WiFi

NOTE

- Smart phones can connect to the router in a WPS manner only if they support the WPS function.
- Desktops or laptops can connect to the router in a WPS manner only if they are installed with wireless adapters. For detailed information, please refer to the user guide of relevant wireless adapter.

Method 1: Setting on the Web UI of the Router

1. To access the configuration page, click **WiFi Settings** > **WPS**.
2. Click **Click Here**, then the router's WIFI LED indicator on the front panel is blinking slowly.



3. Set WPS on a smart phone or computer within two minutes after you click **Click Here**.

—End

Verification

The smart phone or computer is connected to the WiFi of the router successfully after a while.

Method 2: Setting via the WPS Button on the Router

1. Press the WPS button on the router.
2. Set WPS on a smart phone or computer within two minutes after you press the button.

—End

Verification

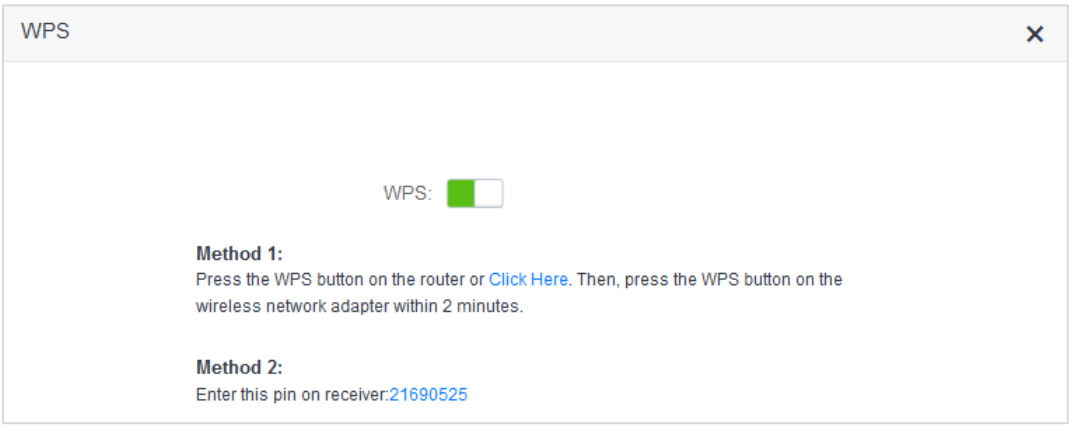
The smart phone or computer is connected to the WiFi successfully after a while.

Method 3: Setting via Pin Code of the Router

NOTE

If use this method on a computer, you are recommended to install it with a wireless adapter with PIN. For more information, refer to the user guide of corresponding wireless adapter.

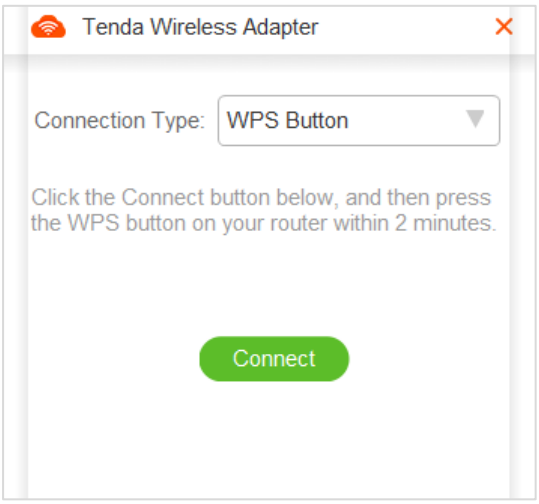
1. To access the configuration page, click **WiFi Settings** > **WPS**.
2. Record the WPS PIN code of the router, which is **21690525** in this example.



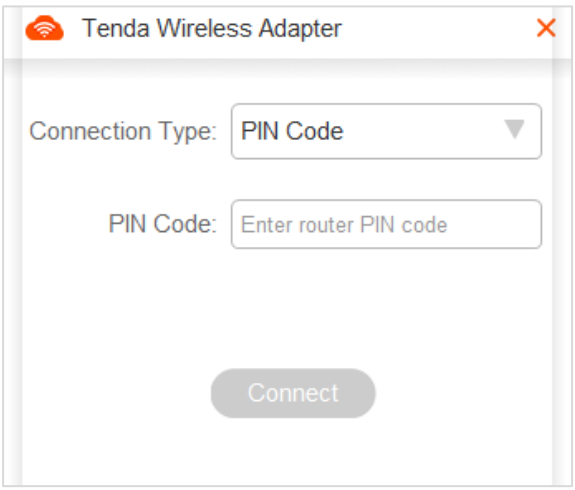
3. Enter the PIN code on the device for connection. (Taking a computer with a wireless adapter as an example)

(1) Open the wireless adapter app on your computer.

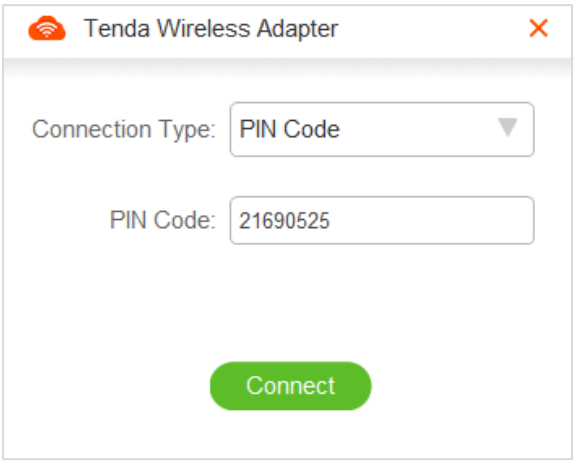
(2) Click the icon on the upper right part of the app. Then the figure below appears.



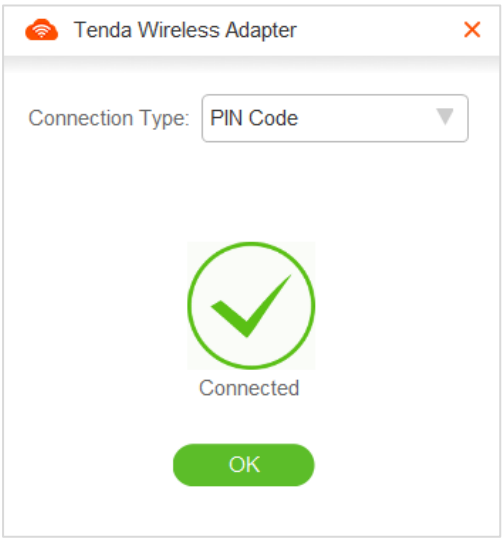
(3) On the item **Connection Type**, click the drop-down list button, and choose **PIN Code**.

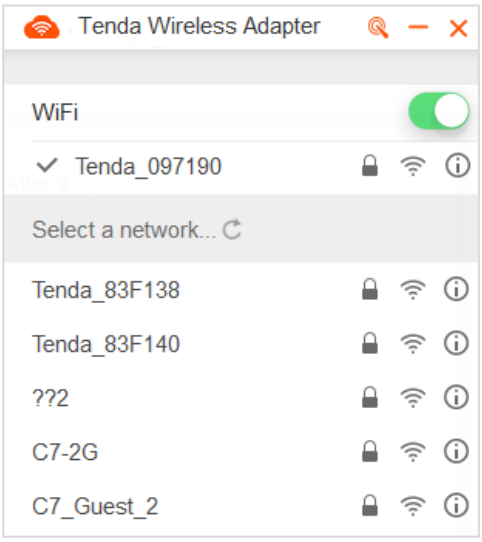


(4) Enter the Pin code, which is **21690525** in this example. Click **Connect**.



(5) Connected. Your computer can access the internet through the router.





—End

6.5.3 Example

Application Scenario

Michael purchases an AC5 for wireless network and he has set the WiFi password. But he hopes to access the internet through the router without entering password. Assume that the WiFi name of the router is Tenda_097190.

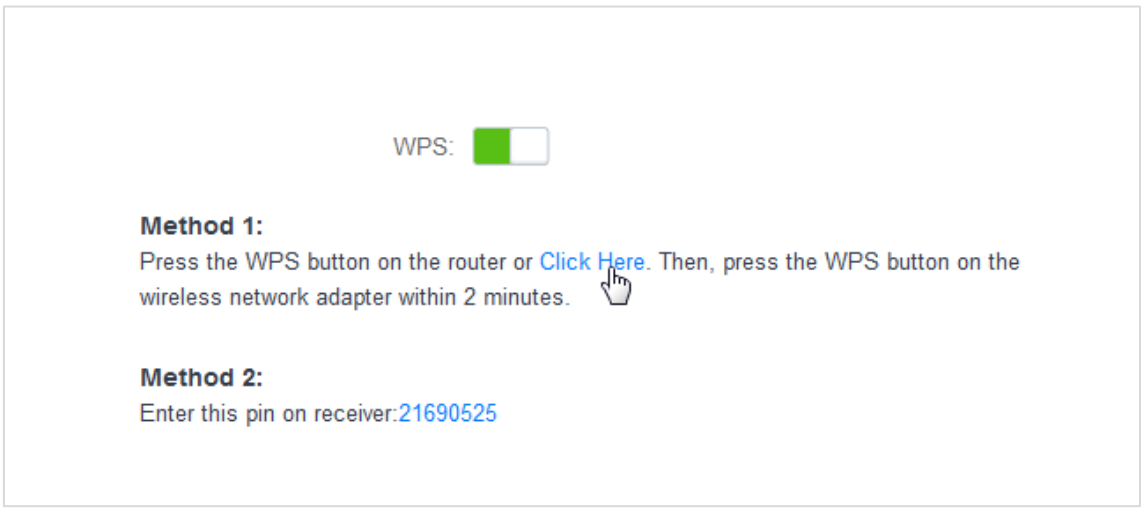
The WPS function can address this requirement.

Procedures:

1. Set the router.

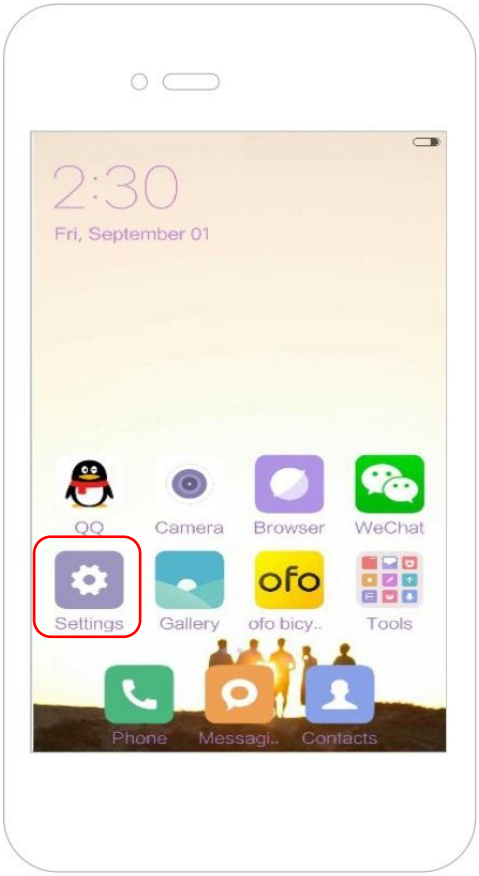
(1) To access the configuration page, click **WiFi Settings** > **WPS**.

(2) Click **Click Here**.

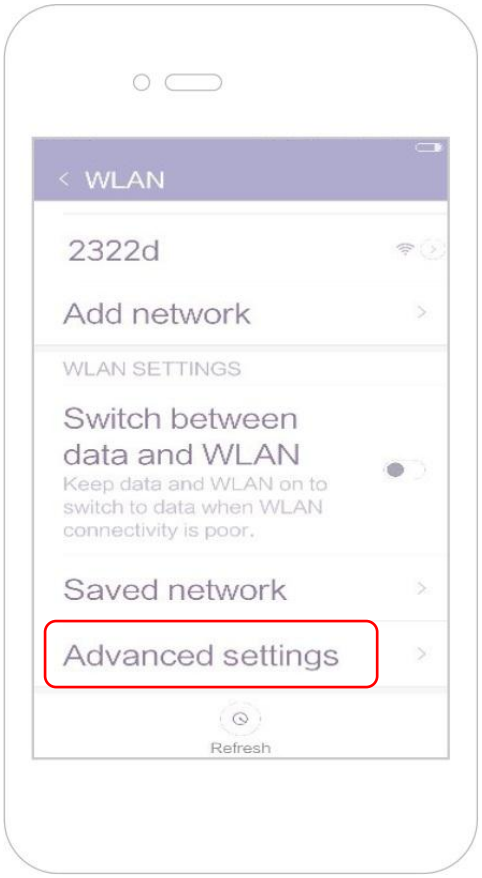


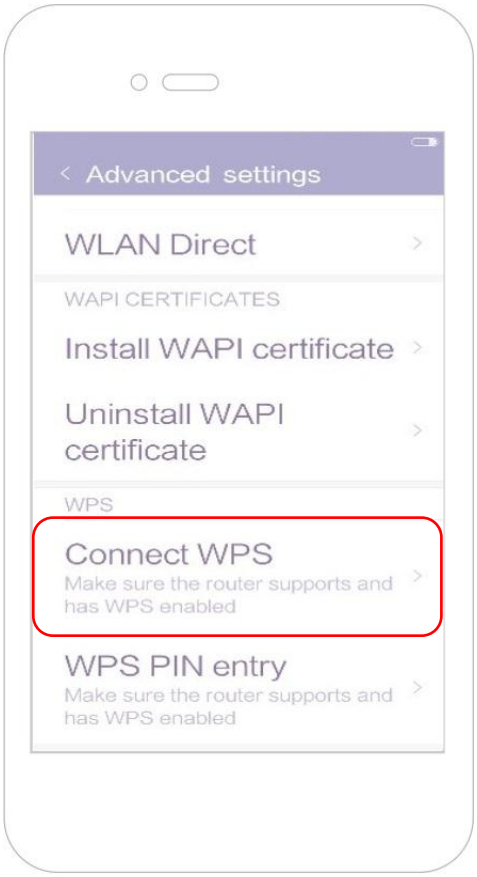
2. Set WPS on a smart phone, which is Redmi Note 4X in this example.

(1) Choose **Settings** on the homepage of the smart phone.



(2) Then click **WLAN** > **Advanced Settings** > **Connect WPS**.





(3) The smart phone is performing WPS negotiation with the router.

—End

Wait a moment for the connection to complete.

Verification

The smart phone connects to the WiFi of the router successfully.

6.6 Beamforming+

6.6.1 Overview

As a wireless signal optimization technology, the location-oriented Beamforming could transmit wireless signals to wireless devices precisely, offering users with better internet connection, such as faster download or playback of HD videos.

- Wireless routers broadcast signals to all directions if they do not support Beamforming+.
- Wireless routers supporting Beamforming+ could transmit wireless signals toward the location of each client, improving users' internet experiences.

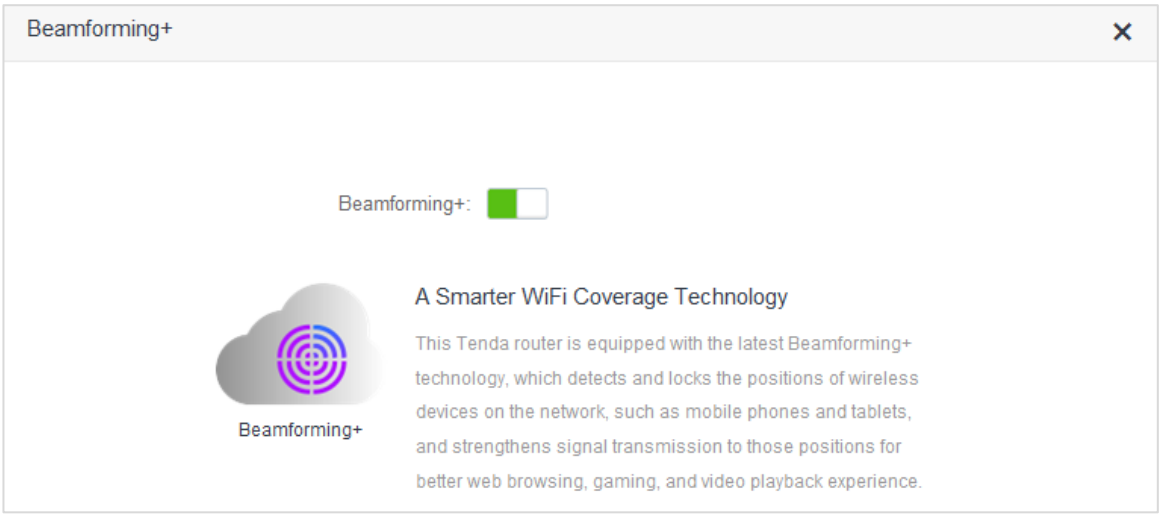
The following figure shows the wireless transmission when Beamforming+ is disabled.

The following figure shows the wireless transmission when Beamforming+ is enabled.

6.6.2 Setting Beamforming+

To access the configuration page, click **WiFi Settings** > **Beamforming+**.

By default, the Beamforming+ function is enabled. It is recommended to retain default settings.

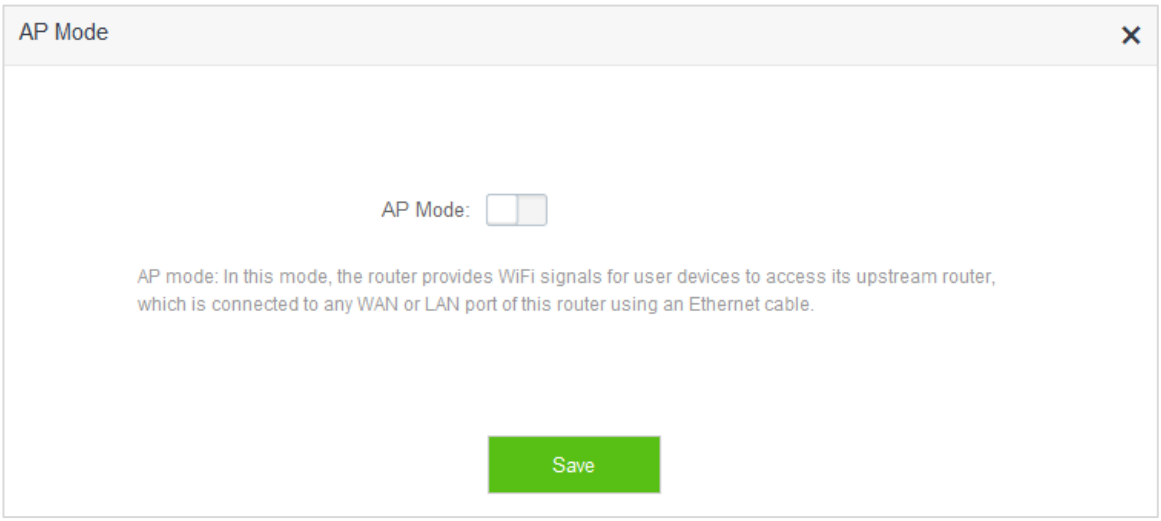


6.7 AP Mode

6.7.1 Overview

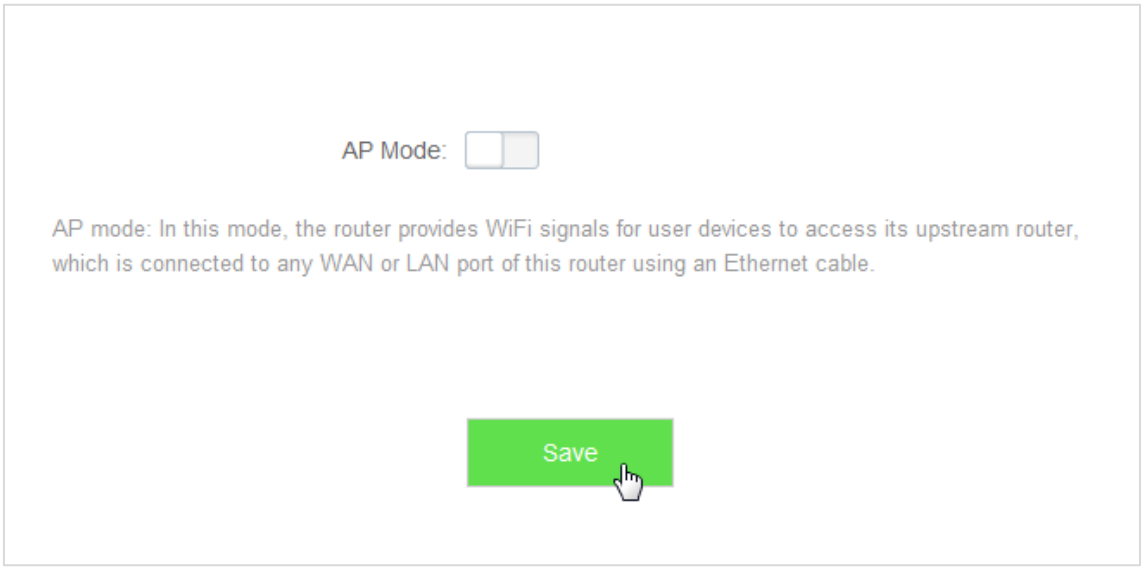
In the AP mode, the router functions as a wireless access point (AP), and WAN port of the router functions as a LAN port. Usually, in the AP mode, when the router connects to the upstream router using an Ethernet cable, the router extends the wireless network coverage of the upstream router, or transforms the wired signals to wireless ones.

To access the configuration page, click **WiFi Settings** > **AP Mode**. By default, this function is disabled.



6.7.2 Enabling AP Mode

1. To access the configuration page, click **WiFi Settings** > **AP Mode**.
2. **AP Mode**: Switch the button to .
3. Click **Save**.



—End

NOTE

- After the AP Mode is enabled, the Internet Settings, IPTV, Parental Control, Bandwidth Control, Virtual Server functions become unavailable.
- The LAN IP address of the router changes once the AP Mode is enabled. Please log in to the web UI of the router by **tendadwifi.com**, or you could log in to the web UI of the upstream router to view the new IP address of the router, and try logging in again.

6.7.3 Example

Application Scenario

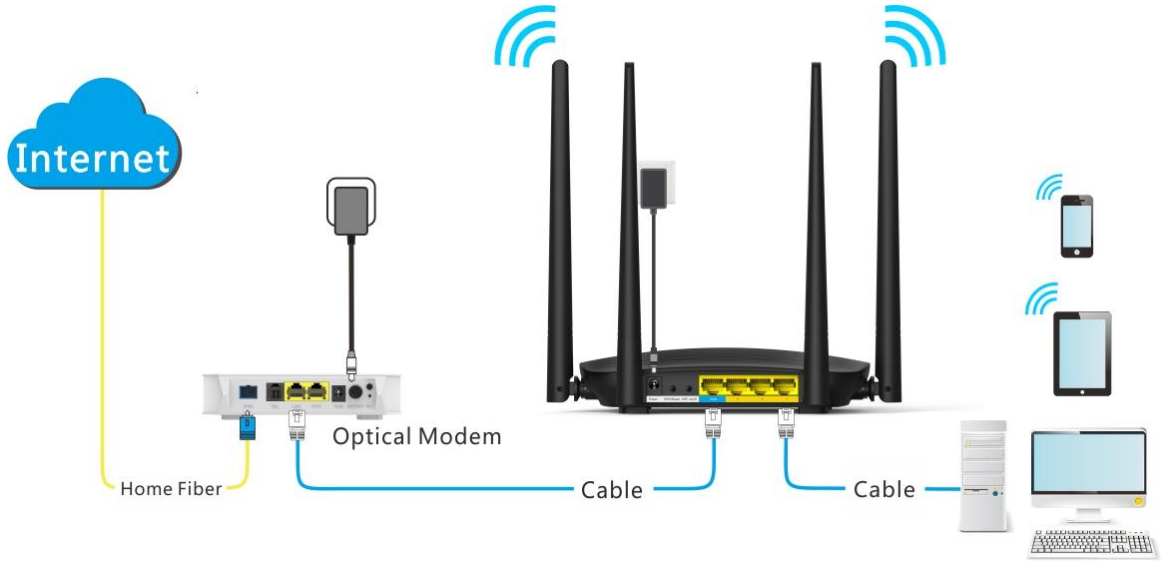
Michael could access the internet through his optical modem using Ethernet cable. But now he wants to access the internet by WiFi.

Solution

AC5 in the AP mode enabled could address this requirement. After configuration, wireless devices such as smart phones can access the internet through the WiFi of AC5.

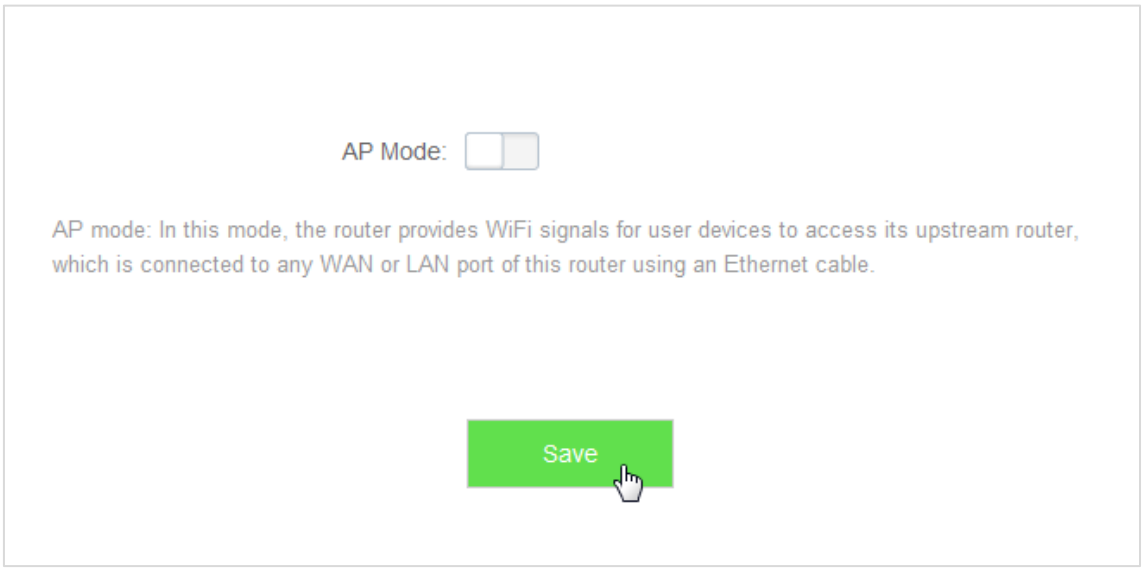
The following figure shows the application scenario.

Connect the optical modem to any port of the router using an Ethernet cable. Connect smart phones to the router's WiFi and the computer to the router using Ethernet cable.

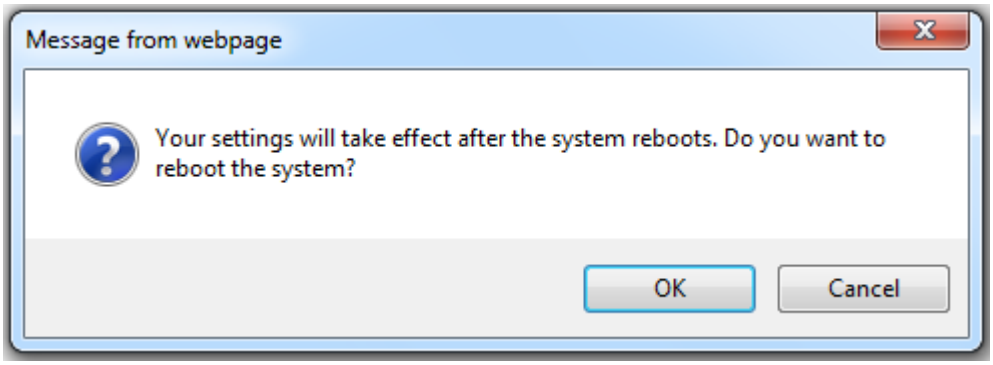


Procedures:

1. To access the configuration page, click **WiFi Settings** > **AP Mode**.
2. Switch the AP mode button to .
3. Click **Save**.



4. Click **Ok** in the following window that appears.



—End

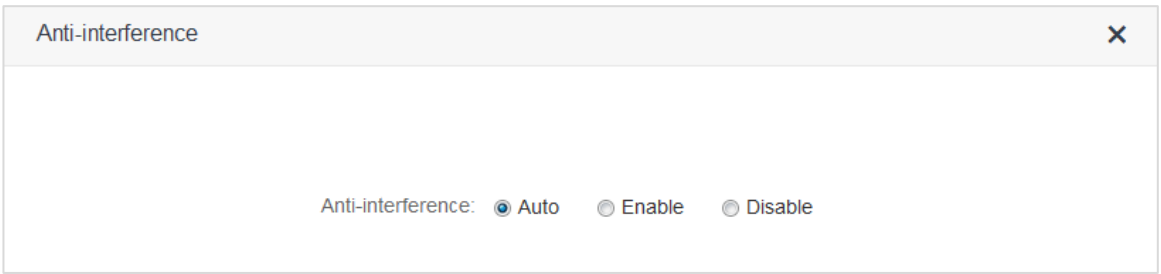
Verification

Computers connected to the router using cable, or wireless devices such as smart phones, connected to the router's WiFi could access the internet normally.

6.8 Anti-interference

This router supports the Anti-interference function. By default, this function is auto. When you have bad internet experience, please try to modify the Anti-interference settings.

To access the configuration page, click **WiFi Settings** > **Anti-interference**.



- When you choose **Auto**, the router will adjust receiving sensitivity automatically based on the current interference. Please keep **Auto** if you do not have special requirements.
- When you choose **Disable**, the router has wider WiFi coverage. But if the interference is strong in your environment, you are recommended to choose **Auto** or **Enable**.
- When you choose **Enable**, the router has better anti-inference ability but smaller WiFi coverage.

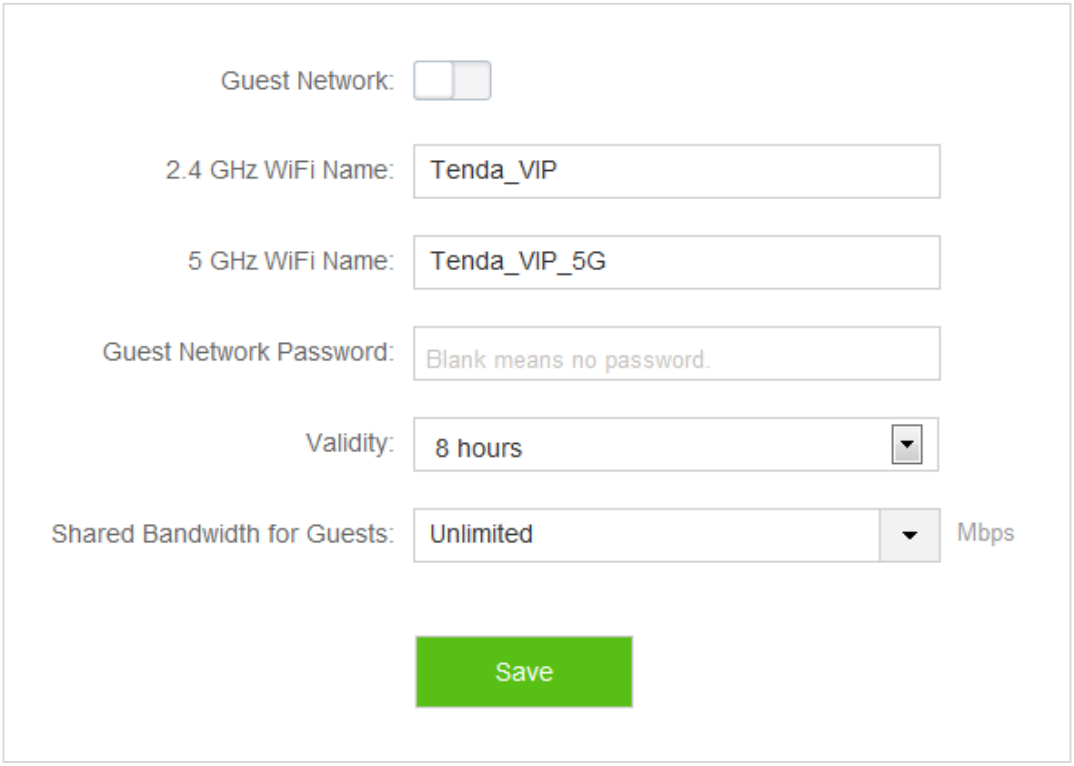
7 Guest Network

7.1 Overview

This module makes you enable/disable the Guest Network function and change Guest Network's WiFi name and password.

Devices connected to the guest network can access to the internet and communicate with each other, but cannot access the router's web UI or the master network. This function enables guests to access the internet and ensures security of the master network.

To access configuration page, click **Guest Network**. The Guest Network function is disabled by default.



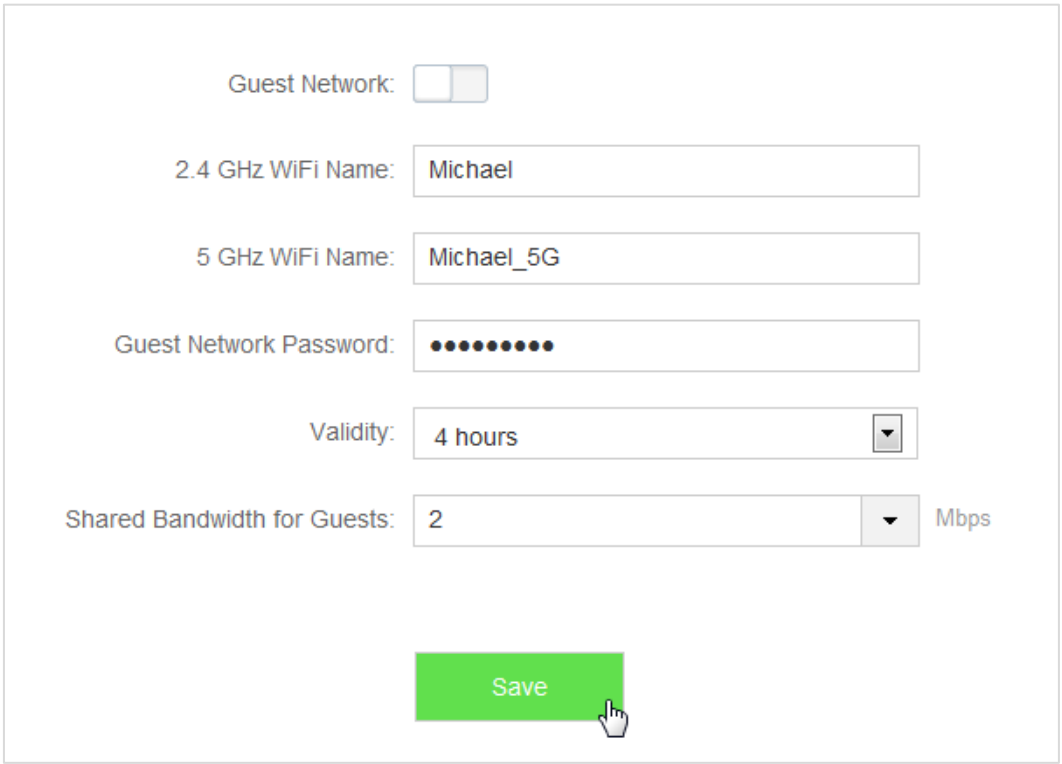
Parameter descriptions

Parameter	Description
Guest Network	It specifies whether to enable the Guest Network function.
2.4 GHz /5 GHz WiFi Name	It specifies the 2.4 GHz/5 GHz WiFi name of the guest network. By default, Tenda_VIP is for 2.4 GHz network and Tenda_VIP_5G for 5 GHz network. You can change WiFi names if required. To distinguish guest network from non-guest network, you are recommended not to set the same names for these two networks.
Guest Network Password	It specifies the passwords for the router's two guest networks. Please set according to your requirements.
Validity	It specifies the validity of guest network. It represents the Guest Network function will be disabled automatically in specified time so wireless devices will not search it.

Parameter	Description
	Please set according to your requirements.
Shared Bandwidth for Guests	It specifies downloading speed of guest network devices, with a unit Mbps. By default, the speed is not limited. You can set according to your requirements.

7.2 Setting Guest Network

1. To access the configuration page, click **Guest Network**.
2. **Guest Network**: Switch to .
3. **2.4GHz WiFi Name**: Change the WiFi name, which is **Michael** in this example.
4. **5GHz WiFi Name**: Change the WiFi name, which is **Michael_5G** in this example.
5. **Guest Network Password**: Set password, which is **987654321** in this example.
6. **Validity**: Select from the drop-down list box, which is **4 hours** in this example.
7. **Shared Bandwidth for Guests**: Click drop-down box, and select **2**.
8. Click **Save**.



—End

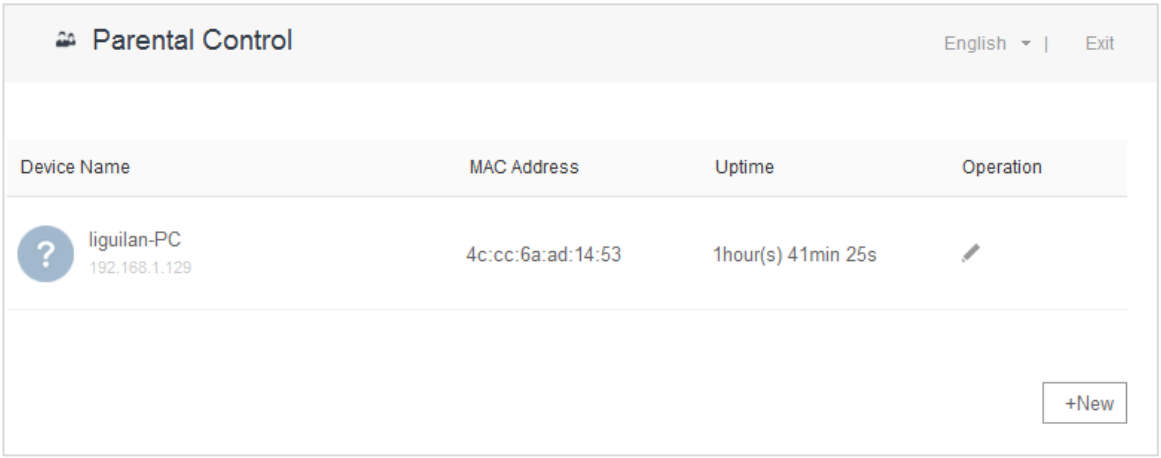
After configuration, wireless devices, such as smart phones, connected to **Michael** or **Michael_5G** share a downloading speed up to 2 Mbps, and can access the internet consecutively for4 hours.

8 Parental Control

8.1 Overview

This module enables you to set the internet accessibility of devices in LAN network, including specified time for surfing the internet, websites allowed or banned to visit.

To access configuration page, click **Parental Control**. The following page shows a device connected to the router currently.



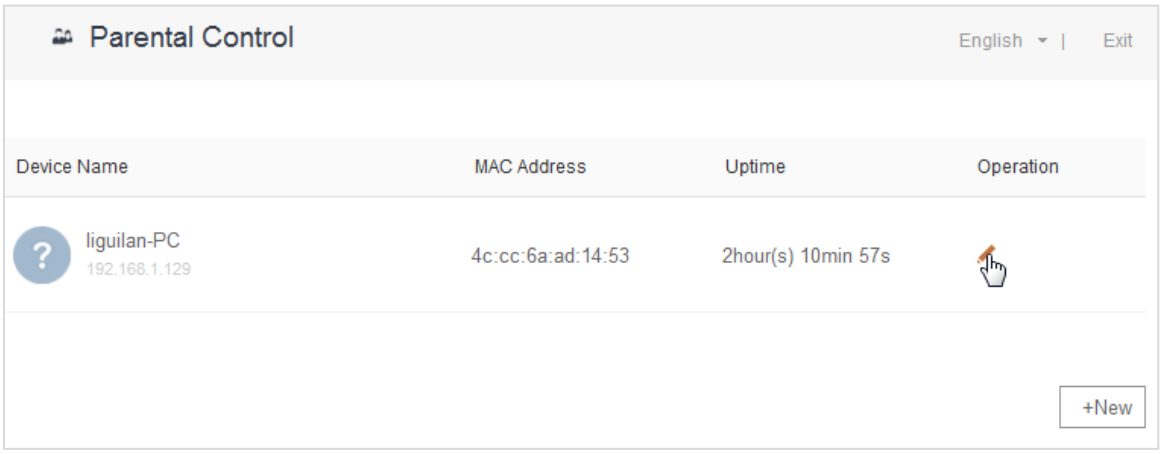
Parameter descriptions

Parameter	Description
Device Name	It specifies name of the device connected to the router.
MAC Address	It specifies MAC address of the device connected to the router.
Uptime	It specifies the time that has elapsed since the device was previously connected to the router.
Operation	Click to set limits for devices to access the internet through the router.
+New	Click **+New** to add devices and set limits for them.

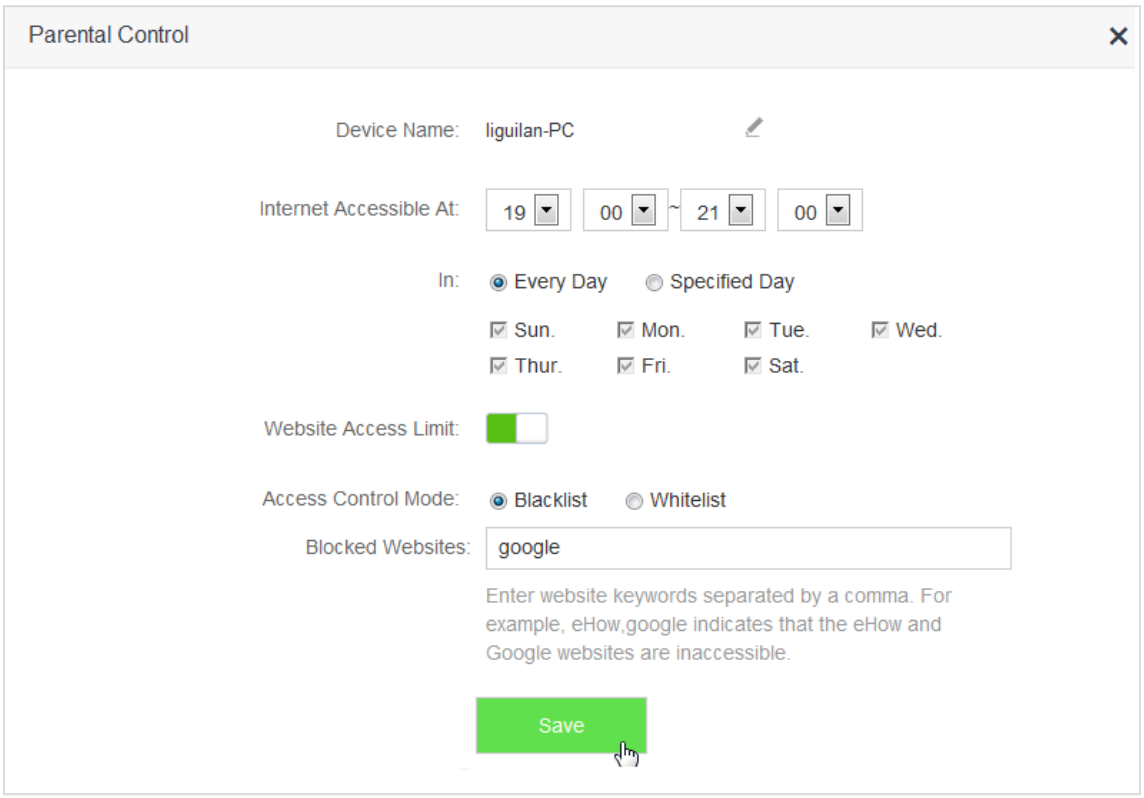
8.2 Setting a Parental Control Rule

8.2.1 Scenario 1: The Device Has Connected to the Router

1. Click **Parental Control**.
2. In device list, locate the device you want to apply the rule to, click .



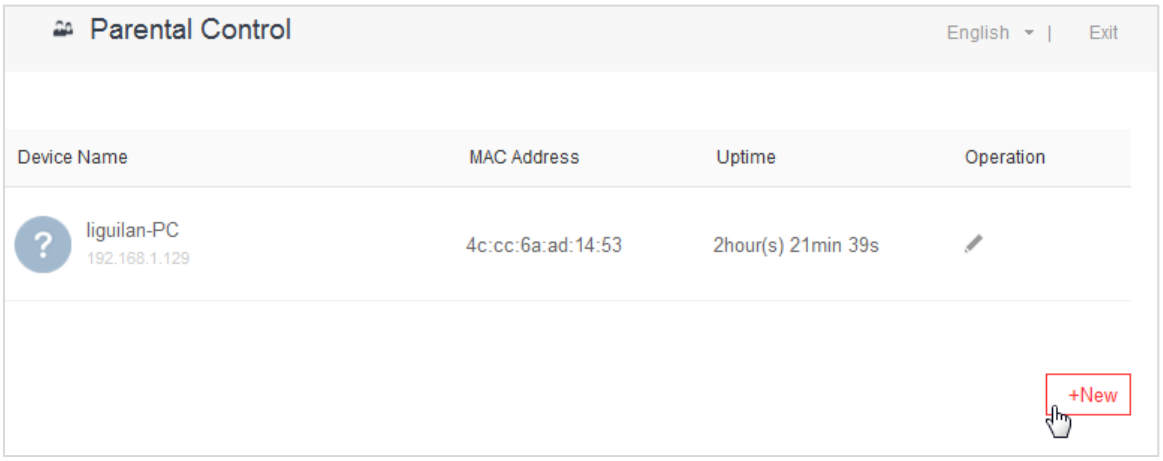
3. Set valid time for internet connection, and accessible or inaccessible websites.
4. Click **Save**.



—End

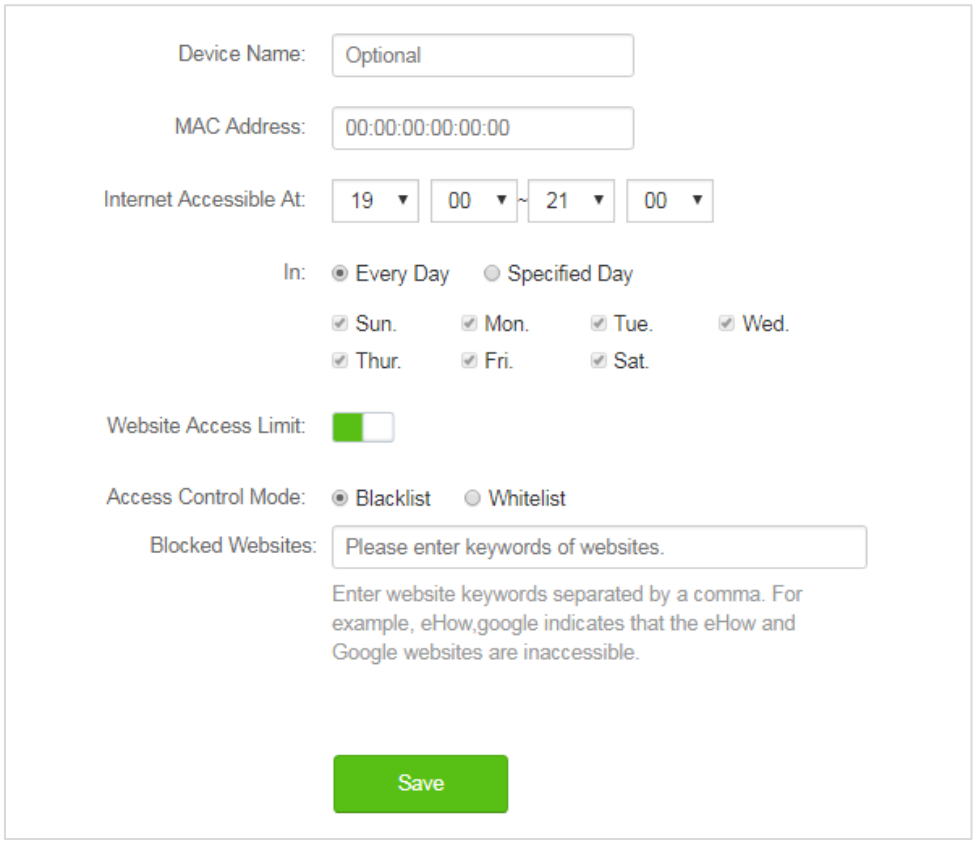
8.2.2 Scenario 2: The Device has not Connected to the Router

1. Click **Parental Control**.
2. Click **+New**.



3. Set device name, MAC address, time limit for internet access and limit for website access as required.

4. Click **Save**.



—End

Parameter descriptions

Parameter	Description
Device Name	It specifies name of the device you want to apply the rule to.
MAC Address	It specifies MAC Address of the device you want to apply the rule to.
Internet Accessible At	It specifies specific time for devices to access the internet through the router.
In	It specifies dates for devices to access the internet.
Website Access Limit	It specifies whether to enable the website access limit function. By default, this function is enabled.
Access Control Mode	It specifies modes for website access limit in parental control rules. ● **Blacklist**: Only this device is banned to visit the websites listed in the rules. ● **Whitelist**: This device is only allowed to visit the websites listed in the rules.
Blocked/Unblocked Websites	It specifies the websites that devices are banned/ allowed to visit in **Internet Accessible At**.

8.3 Example

Application Scenario

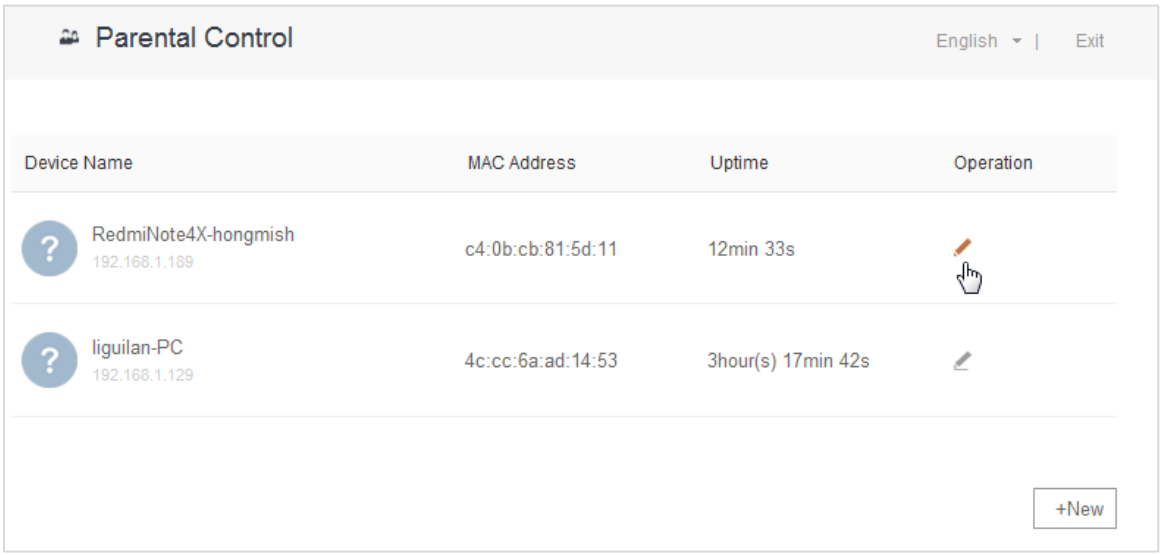
Michael bought an AC5 for network, but his children always visited websites on the phone connected to the router. For the good of his children's learning, he intends to allow his children to access Google during 8:00-22:00 from Monday to Friday.

Solution

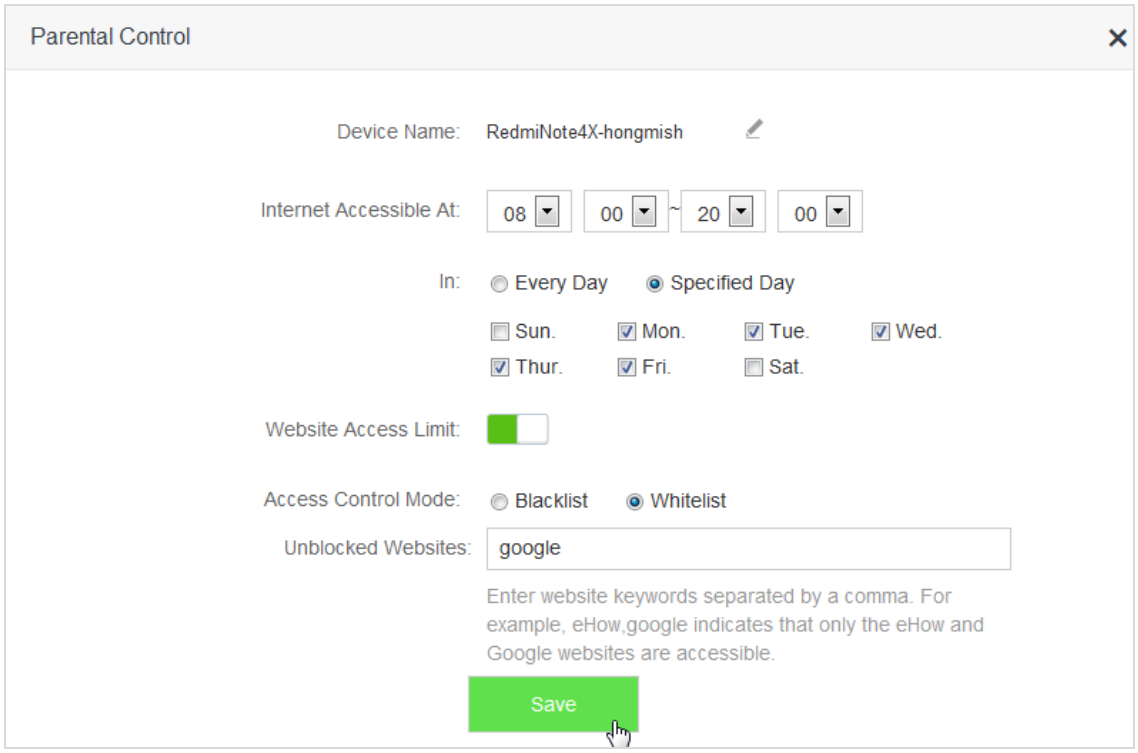
The Parental Control function of AC5 can address this requirement.

Procedures:

1. Click **Parental Control**.
2. In device list, locate the device you want to apply the rules to and click .



3. **Internet Accessible At**: Set time period for devices to access the internet, which is **08:00-20:00** in this example.
4. **In**: Select **Specified Day**, and choose **Monday-Friday** as well.
5. **Access Control Mode**: Choose **Whitelist**.
6. **Unblocked Websites**: Enter the website accessible to the device, which is **google** in this example.
7. Click **Save**.



—End

Verification

The device could access Google only during 8:00-20:00 from Monday to Friday.

9 VPN

The VPN module includes PPIP Server, Online PPTP Users, and PPTP/L2TP Client.

VPN (Virtual Private Network) is a dedicated network across the shared or public network (usually the internet). However, since this dedicated network does not have physical lines but only exists logically, it is called the virtual private network. VPN technology allows employees at a branch of an enterprise and employees at the headquarters to exchange resources conveniently without exposing these resources to other internet users.

9.1 PPTP Server

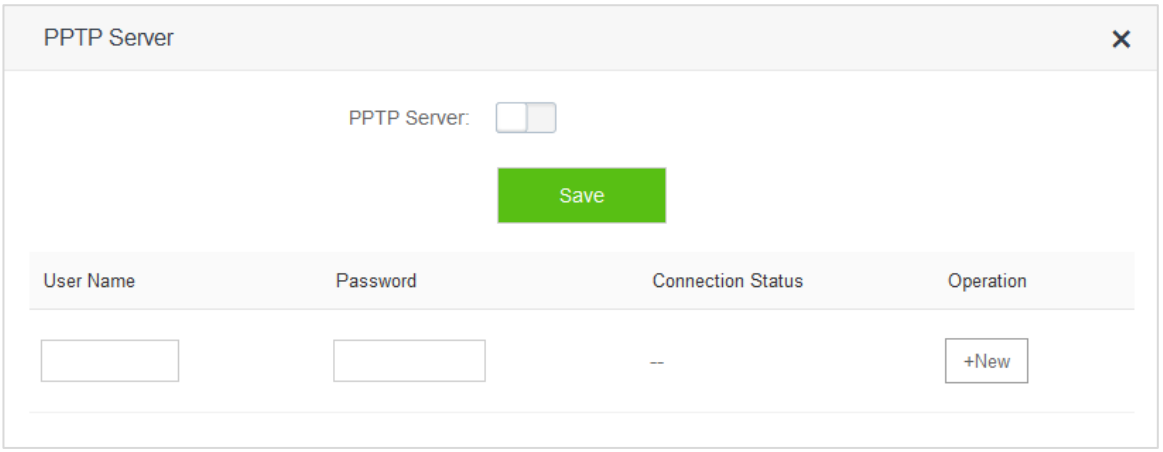
9.1.1 Overview

On the **PPIP Server** page, you can set the router as PPIP server.

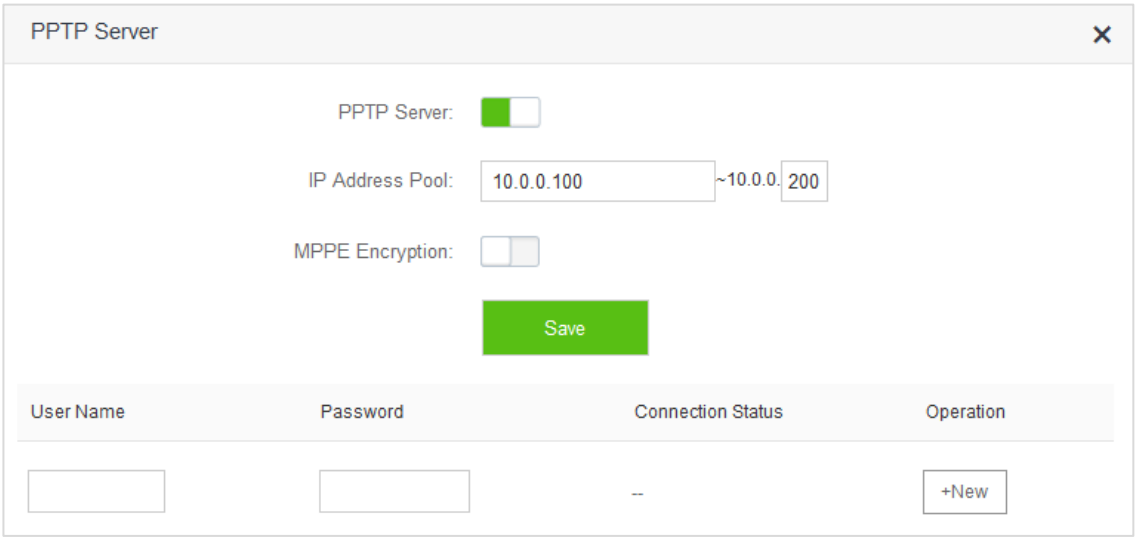
PPTP server allows the specified VPN users to dial in.

For example, enabling the PPTV server function of the headquarter's router allows staffs on business trip to access the headquarter's resources through VPN dialing up.

To access the configuration page, choose **VPN** > **PPTP Server**.



Enable **PPIP Server**. The figure below shows the dialog box that appears after the function is enabled.



Parameter descriptions

Parameter	Description
PPTP Server	It specifies whether to enable the PPTP server function. If the function is enabled, the router functions as a PPTP server.
IP Address Pool	It specifies the range of IP addresses that PPTP server can assign to devices.
MPPE Encryption	It specifies whether to enable MPPE encryption function.
User Name	Set user name and password that is allowed to dial in PPTP server. This name and password is used when device is connected to PPTP server.
Password	
Connection Status	It specifies the status of a VPN connection.
Operation	The following operations can be performed on the rules: ● +New : It is used to add PPTP users. ● : It is used to disable PPTP users. ● : It is used to enable PPTP users. ● : It is used to delete PPTP users.

9.1.2 Example

Application Scenario

Michael bought an AC5 for network. He needs to access the resources on his computer's FTP server at home.

Solution

The PPTP server function of AC5 can address this requirement.

Set PPTP Server function on the router. He can access to resources on the computer's FTP server by VPN dialing up on business trip. Assume that the IP address of the FTP server is 192.168.0.104:21, and the WAN IP address of the router is 113.88.112.220. After the PPTP server function of the router is enabled, the WAN IP address becomes the address of the PPTP server.

Procedures:

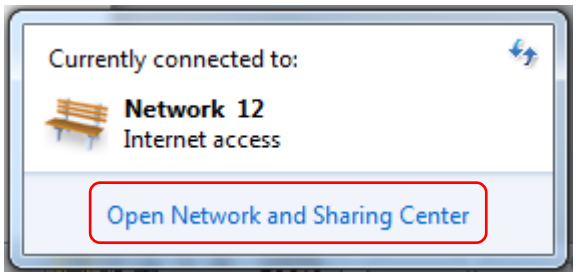
1. To access the configuration page, choose **VPN** > **PPTP Server**.
2. **PPTP Server**: set to .
3. **IP Address Pool**: Set the range of IP addresses that the PPTP server assigns to devices. You are recommended to keep default settings.
4. **MPPE Encryption**: Enable MPPE encryption, and set the number of MPPE encryption bits, which is **128** in this example.
5. **User Name**, **Password**: Set user names and passwords that devices use for VPN dialing up, both of which are **admin1** in this example.
6. Click **+New**.
7. Click **Save**.

—End

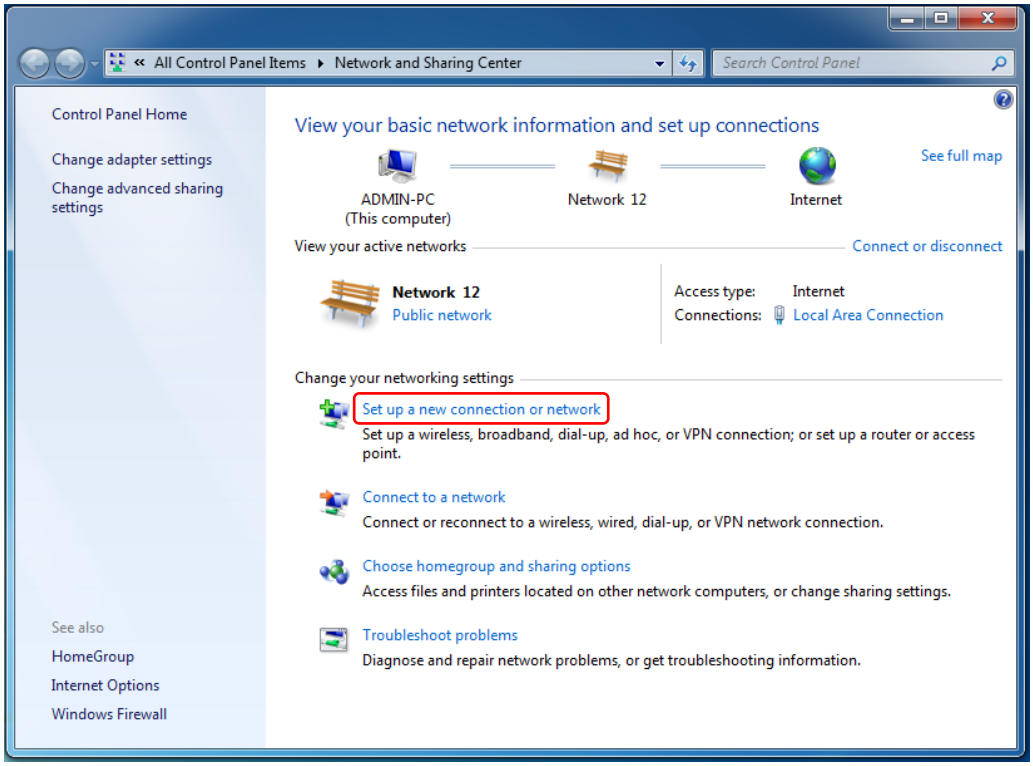
Verification (Example: Windows 7)

On business trip, Michael succeeds in accessing resources on his computer's FTP server at home. The following describes the steps:

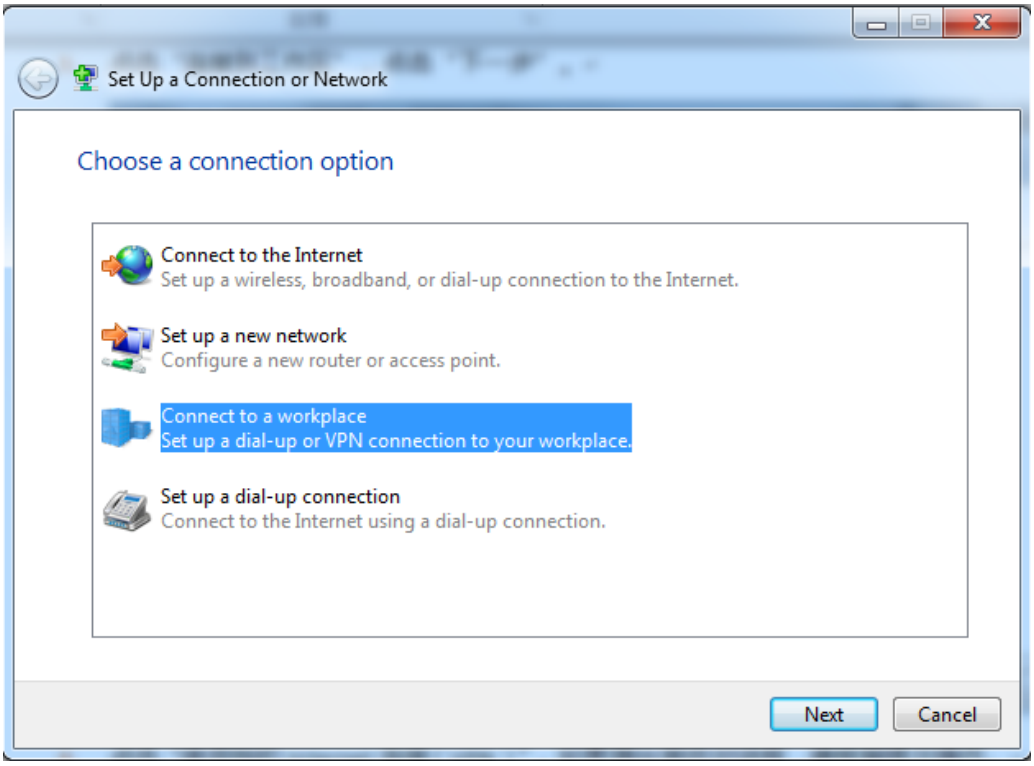
1. Click at the bottom-right corner of the desk, and click **Open Network and Sharing Center**.



2. Click **Set up a new connection or network**.

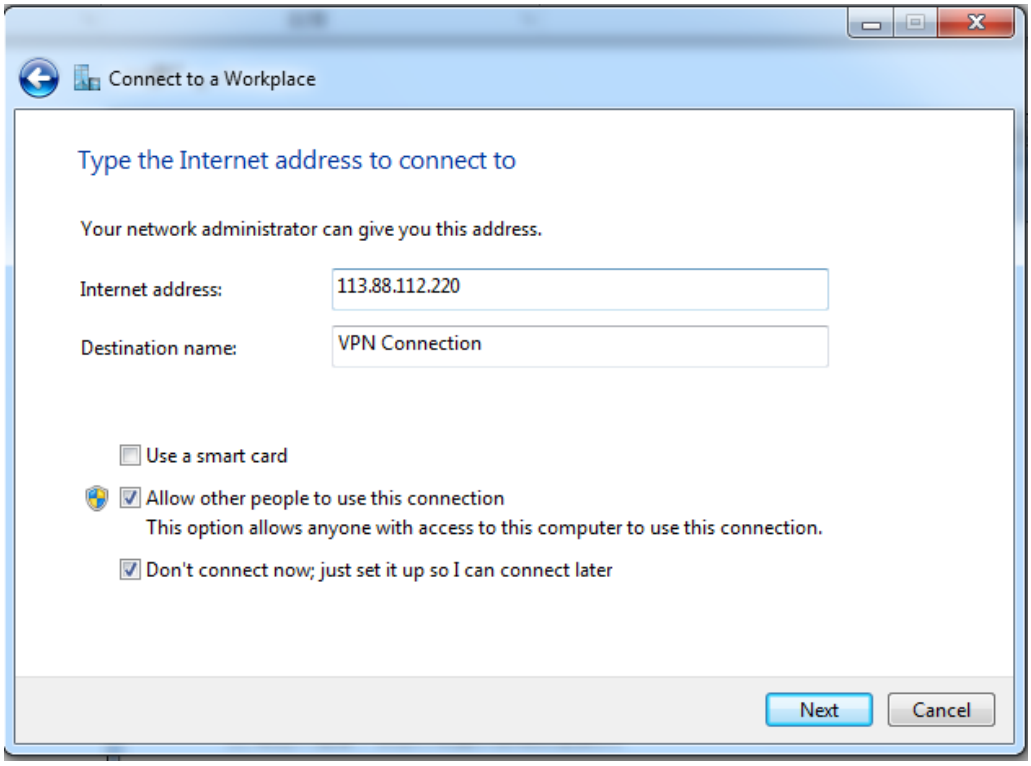


3. Click **Connect to a workplace** > **Next**.

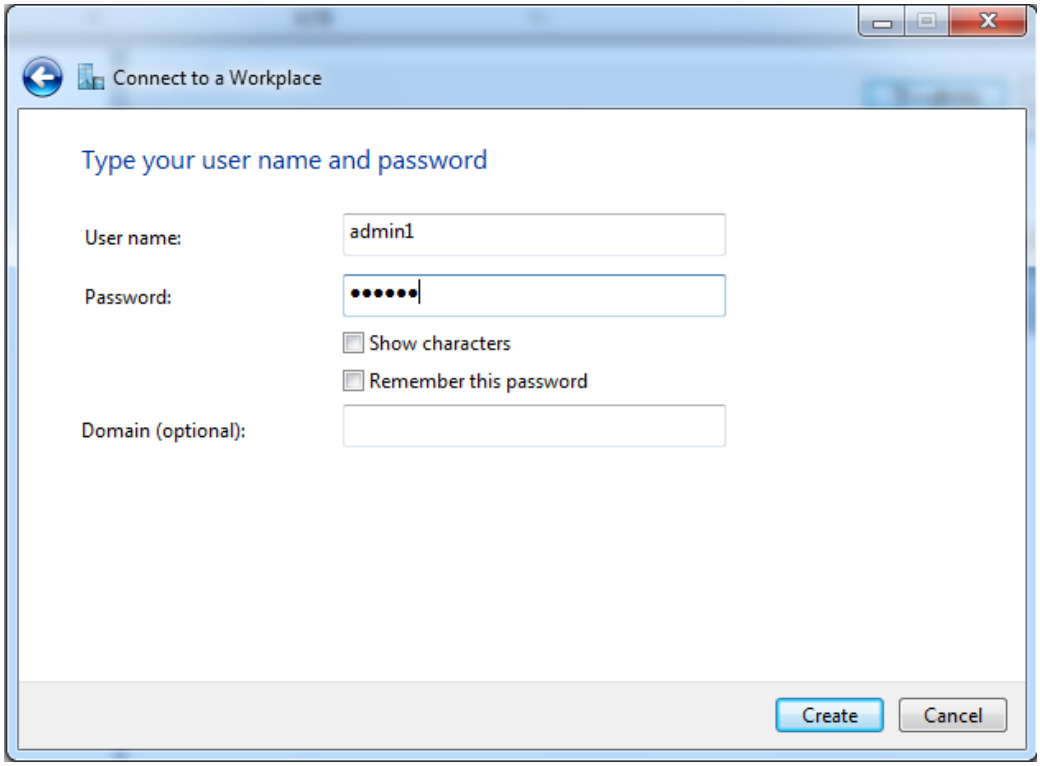


4. Click **Use my Internet connection (VPN)**. If a dialog box appears, you can follow the onscreen instruction to perform operations.

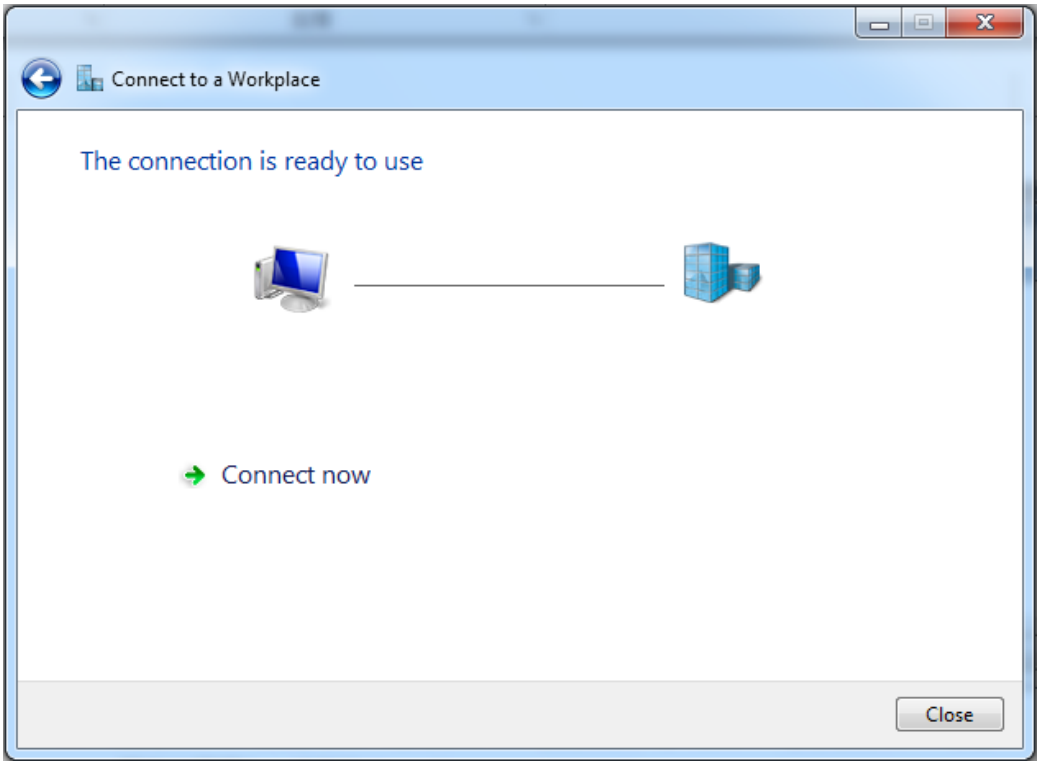
5. Enter the IP address of the PPTP server in the **Internet address** text box, which is **113.88.112.220** in this example. Then click **Next**.



6. Enter the user name and password for connecting to the PPTP server, which are **admin1** in this example. Click **Create.**

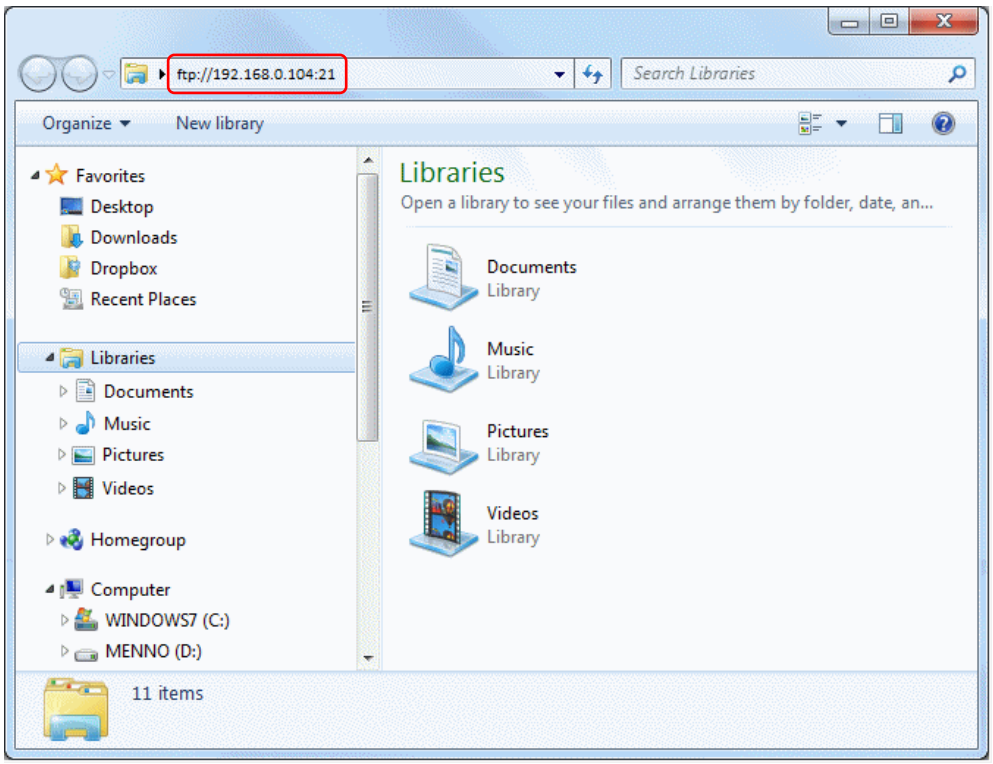


7. Click **Connect Now** after a while.

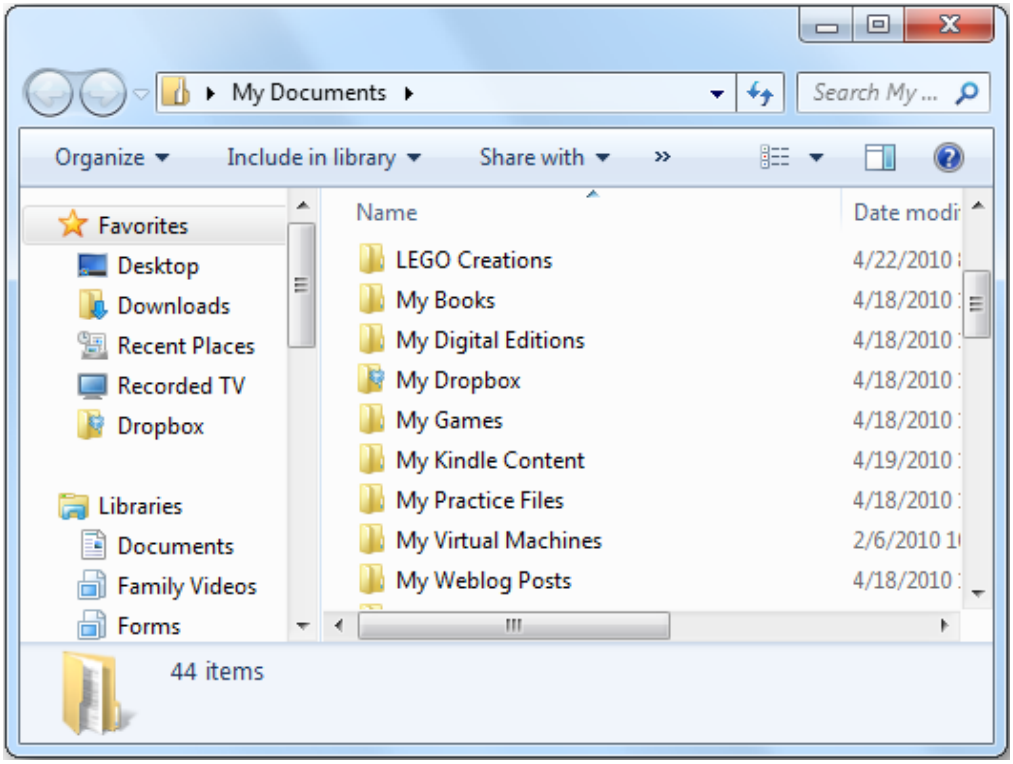


8. Access the resources on the FTP Server at home by the server here or **My Computer**.

Method: “ftp: //Server IP address: Service port number”, which is **ftp: //192.168.0.104:21** in this example.



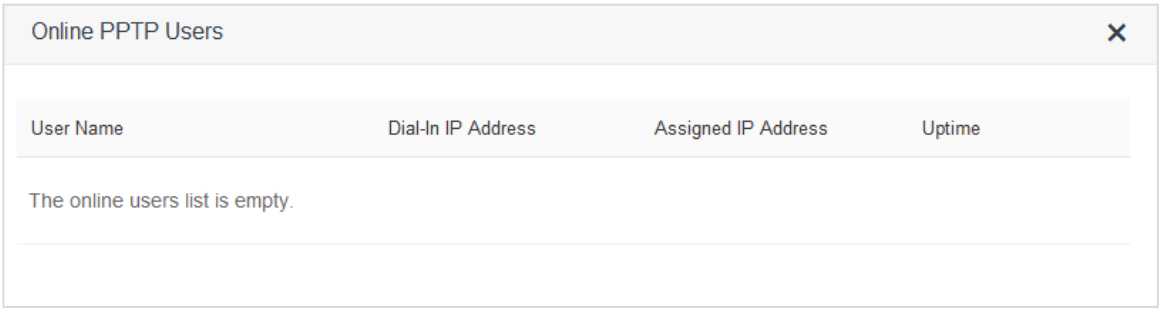
Access successfully. See the following figure.



9.2 Online PPTP Users

On the **Online PPTP Users** page, you can have detailed information about the VPN clients dialed in the PPTP server.

To access the configuration page, select **VPN** > **Online PPTP Users**.



Parameter descriptions

Parameter	Description
User Name	It specifies the name for a user to dial in the PPTP server.
Dial-In IP Address	It specifies device's IP address. If the client is a router, IP address of the WAN port which enables VPN function will be showed.
Assigned IP Address	It specifies the IP address that the PPTP server assigns to device.

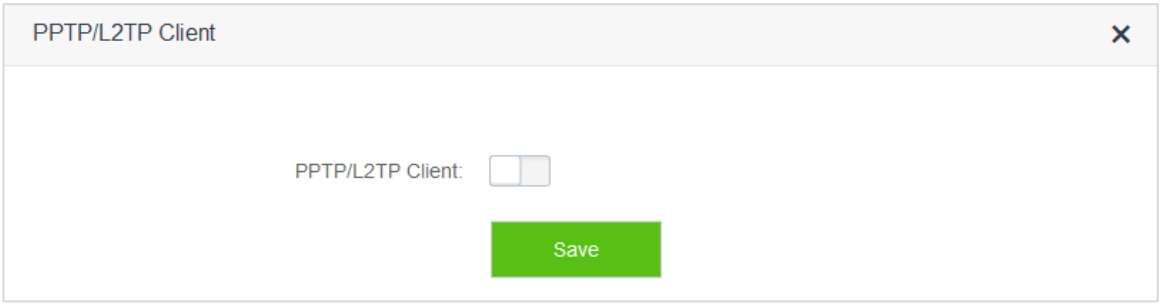
Parameter	Description
Uptime	It specifies the time that has elapsed since the PPTP device previously dialed in the server successfully.

9.3 PPTP/L2TP Client

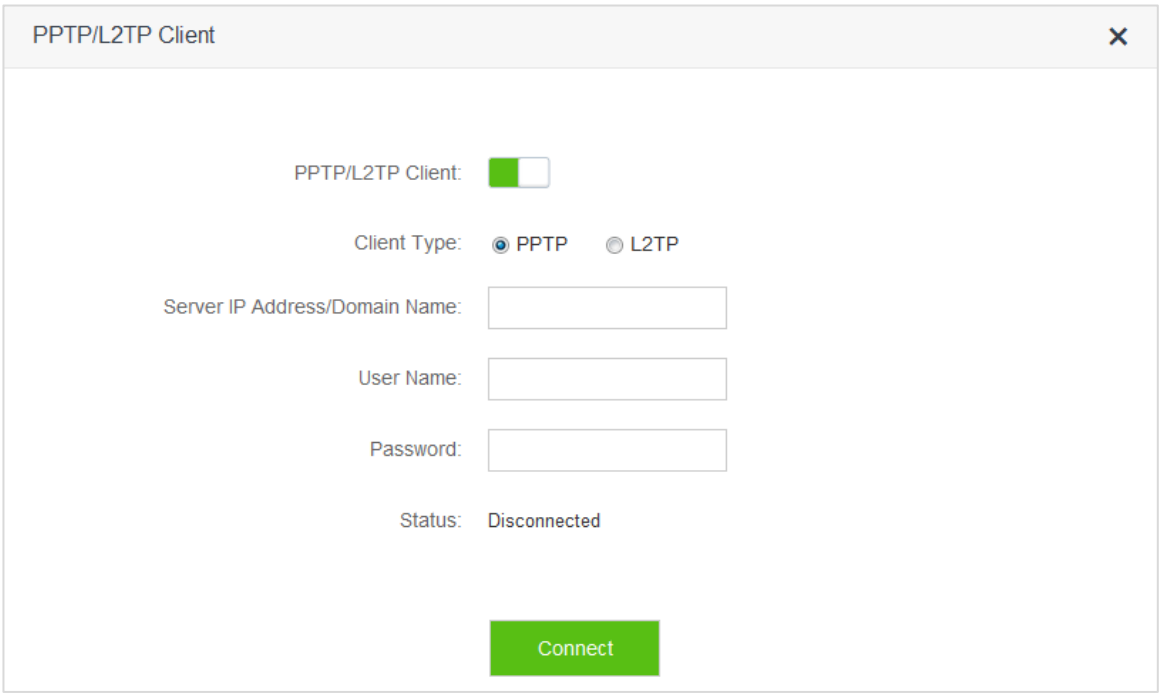
9.3.1 Overview

You are allowed to set router as a PPTP/L2TP client on the **PPTP/L2TP Client** page.

The router can connect to the PPTP/L2TP server after the PPTP/L2TP Client function is enabled. Example: If users subscribe to the VPN service provided by their ISP when having broadband, they can dial in their ISP's VPN network through the PPTP/L2TP Client function of the router. To access the configuration page, click **VPN** > **PPTP/L2TP Client**.



Enable **PPTP/L2TP Client**. See the following figure.



Parameter descriptions

Parameter	Description
PPTP/L2TP Client	It specifies whether to enable PPTP/L2TP client function. If the function is enabled, the router functions as a VPN client.
Client Type	It specifies whether the router is a PPTP client or an L2TP client.
Server IP Address /Domain Name	It specifies the IP address or domain name of the PPTP/L2TP server to which the router is to be connected.
User Name	It specifies the user name and password assigned by the PPTP/L2TP server to the PPTP/L2TP client.
Password	
Status	It specifies the current connection status of a VPN client.

9.3.2 Example

Application Scenario

Michael subscribed to VPN service (PPTP or L2TP) provided by ISP when he had broadband, which is PPTP service in this example. Assume that the VPN service information provided by his ISP is as follows:

- PPTP Server Address: 1.1.1.1
- User name/Password: 123

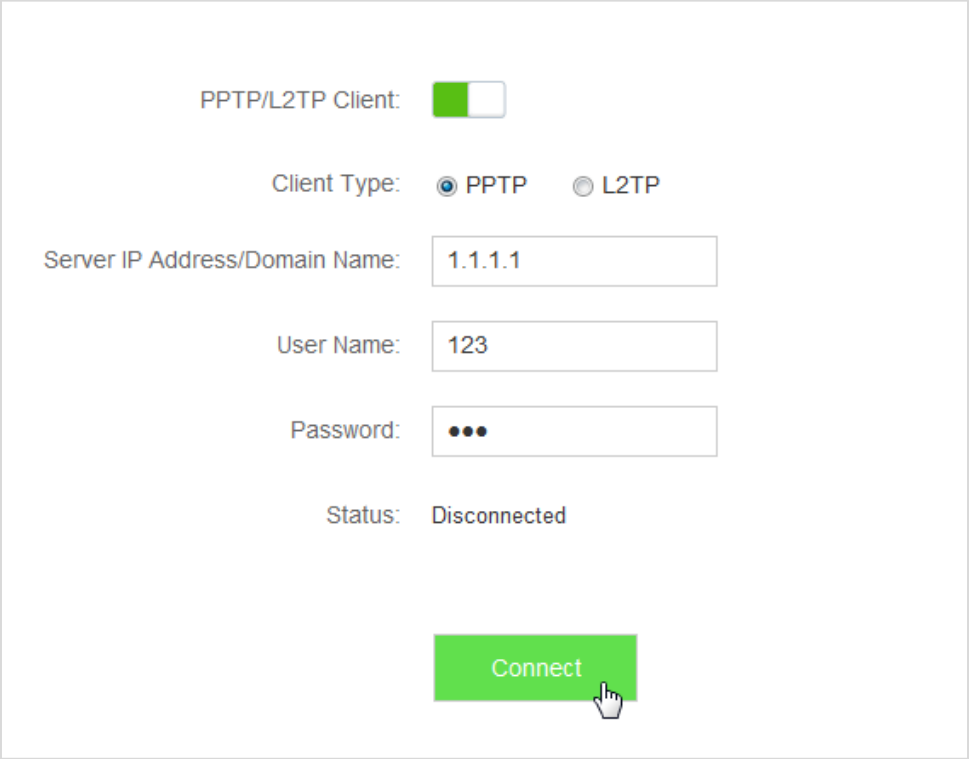
Michael bought an AC5 for network. He wants to access the VPN resources provided by his ISP.

Solution

The PPTP Client function could address this requirement. Set the PPTP Client function on the router. Clients in LAN network could access the VPN resources provided by the ISP.

Procedures:

1. To access the configuration page, click **VPN** > **PPTP/L2TP Client**.
2. **PPTP/L2TP Client**: Switch the button to .
3. **Client Type**: Select client type, which is **PPTP** in this example.
4. **Server IP/Domain Name**: Enter PPTP server IP address or domain name, which is **1.1.1.1** in this example.
5. **User Name**, **Password**: Set user name and password client uses for VPN dialing up, which are **123** in this example.
6. Click **Connect**.



—End

Verification

Clients in LAN network could access the VPN resources provided by the ISP.

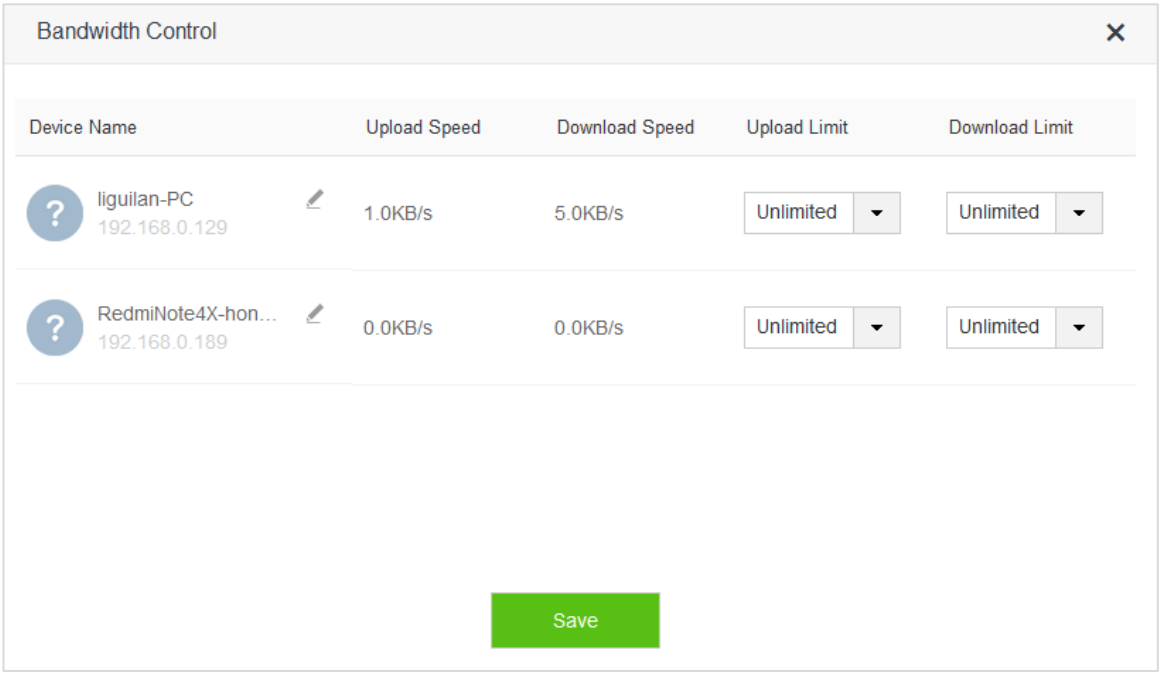
10 Advanced Settings

This module includes: Bandwidth Control, Tenda App, Sleeping Mode, LED Control, Filter MAC Address, Firewall, IPTV, Static Route, DDNS, Virtual Server, DMZ Host, and UPnP.

10.1 Bandwidth Control

10.1.1 Overview

On the **Bandwidth Control** page, you can view information about online devices, and set upload limit or download limit for clients if needed. To access the configuration page, click **Advanced Settings** > **Bandwidth Control**.



Parameter descriptions

Parameter	Description
Device Name	It presents information about a client that has connected to the router, including name, IP address. Name of a client can be changed if you click .
Upload/Download Speed	It specifies the current upload and download speeds of a device.
Upload/Download Limit	It specifies the maximum upload/download speed of a client. You can set the maximum upload/download speed for a device by clicking drop-down box, and selecting speed you prefer or entering speed manually.

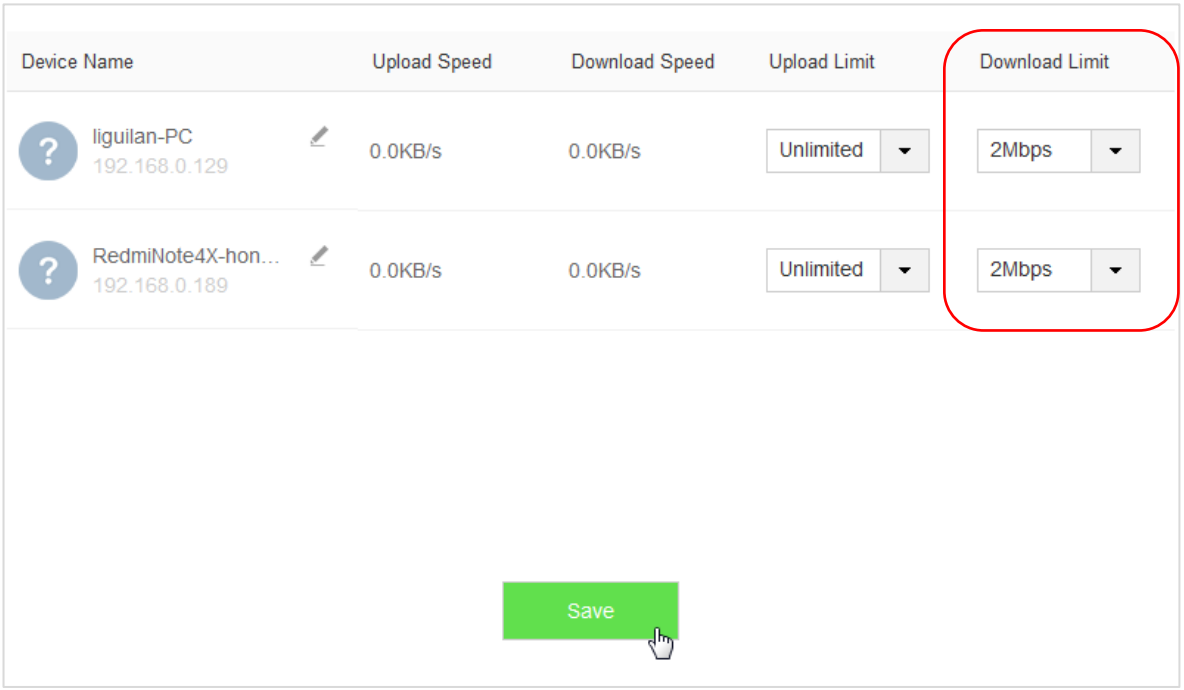
10.1.2 Example

Application Scenario

Michael bought an AC5 for network after having broadband. He needs to set download limit for every device to ensure all family members have good internet experience.

Procedures:

1. To access the configuration page, click **Advanced Settings** > **Bandwidth Control**.
2. Set **Download Limit** to a value for the devices in the list, which is **2 Mbps** in this example.
3. Click **Save**.



—End

Verification

The maximum download speed for each device in the list is 2Mbps, which allows each device to see HD videos and surf the internet properly.

10.2 Tenda App

This router supports app management, so you can manage it wherever and whenever you are. You can use **Tenda WiFi** app to:

- Manage router in LAN.
- Manage router remotely over the internet.

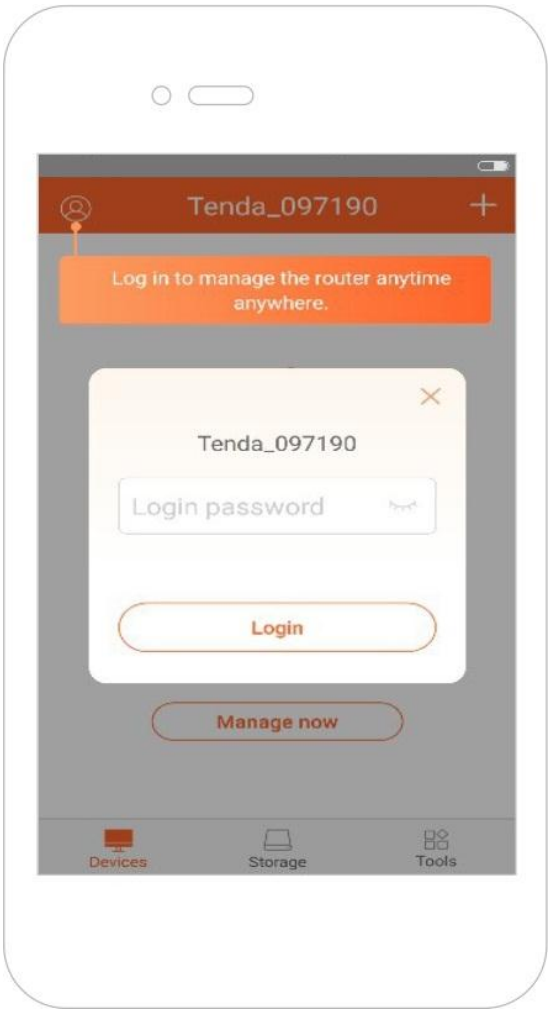
To access the configuration page, click **Advanced Settings** > **Tenda App**.

10.2.1 Example

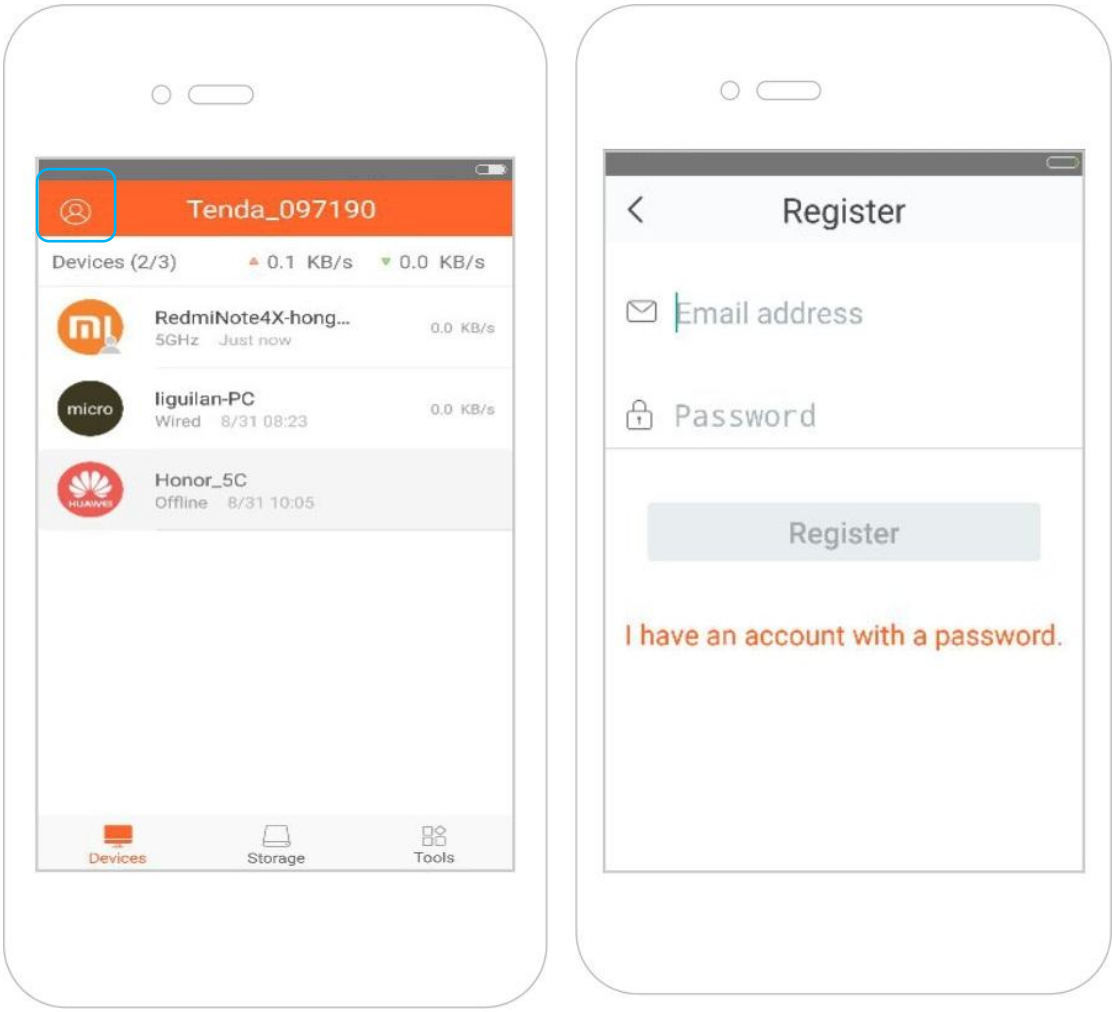
The following figure may help you understand the application scenario. (Example: Managing the router remotely)

Procedures:

1. Install **Tenda WiFi** app.
   (1) Download **Tenda WiFi** in app store of your phone.
2. Register a Tenda account.
   (1) Open **Tenda WiFi** and enter the login password of your router (if any) in the password box.
   (2) Click **Login**.


Tenda_097190
Log in to manage the router anytime anywhere.
Tenda_097190
Login password
Login
Manage now
Devices
Storage
Tools

(3) Choose for registration.



(4) **Email Address**: Enter the email address you want to set as account name. Assume that the email address in this example is 12345678901@163.com.

(5) **Password**: Set password for your Tenda account.

(6) Click **Register**.

(7) The activation email has sent to your email address. Please tap **click here to confirm** to activate in valid time.

To initiate the Account confirmation process for your
1 @163.com, Tenda Account, click here to confirm
If clicking the link above doesn't work, please copy and paste the URL below in a
new browser window instead.The link is valid in 24 hours.
http://182.254.218.214:8081/mail/regist/v1?encry=20e7d54fc04c1f3fa19b4ba08aa96fc8&lang=en&path=account

If you've received this mail in error, it's likely that another user entered
your email address by mistake while trying to register an account. If you
didn't initiate the request, you don't need to take any further action and
can safely disregard this email.

Sincerely,
The Tenda Cloud Team

(8) Your account is activated successfully.

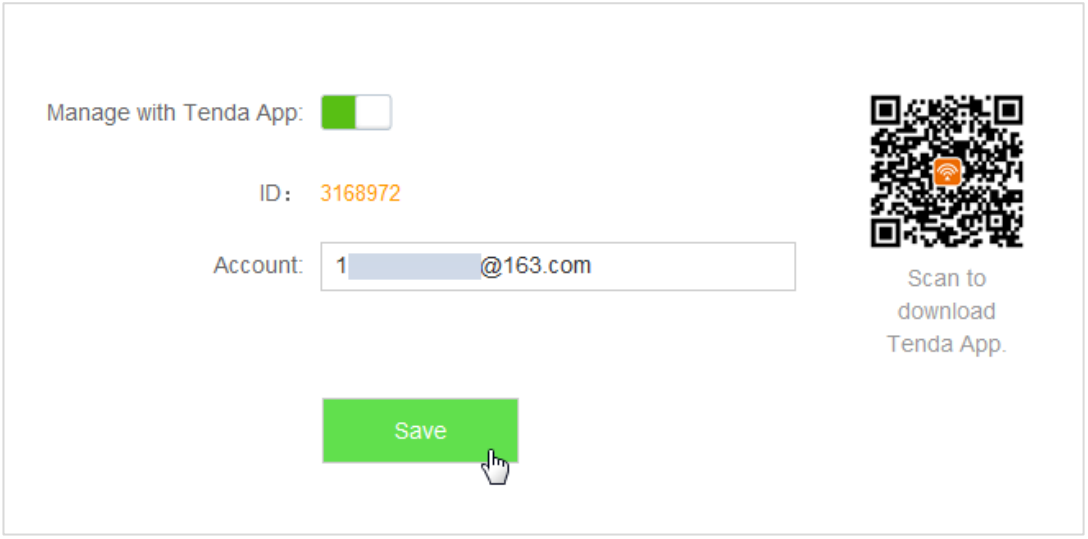
3. Log in to the web UI of the router, and enable the Tenda App function.

(1) Click **Advanced Settings** > **Tenda App**.

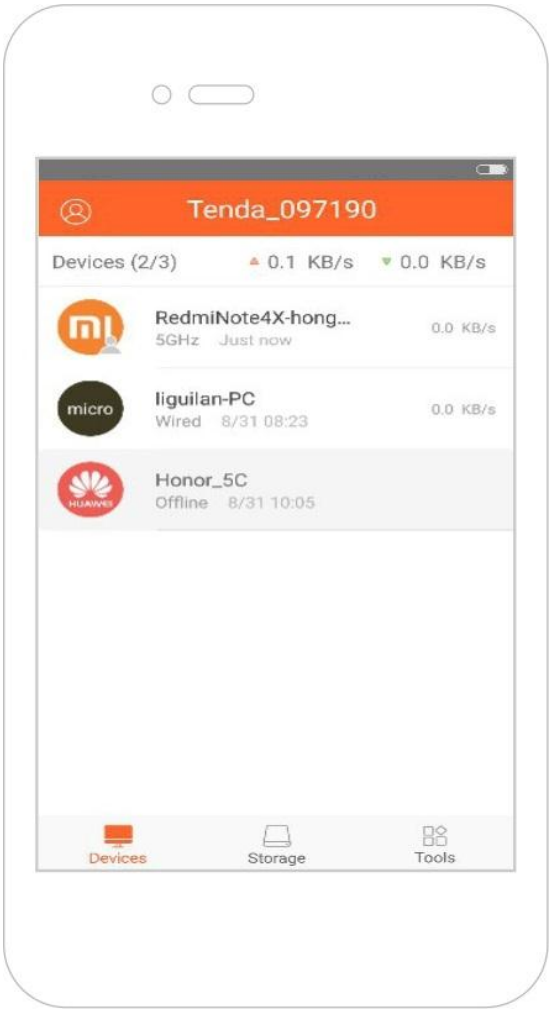
(2) **Manage with Tenda App**: Switch the button to .

(3) **Account**: Enter the account registered in your **Tenda WiFi** on phone, which is email address in this example.

(4) Click **Save**.



When you are not at home, you can have Tenda app to manage the router by connecting smart phone to WiFi or traffic.



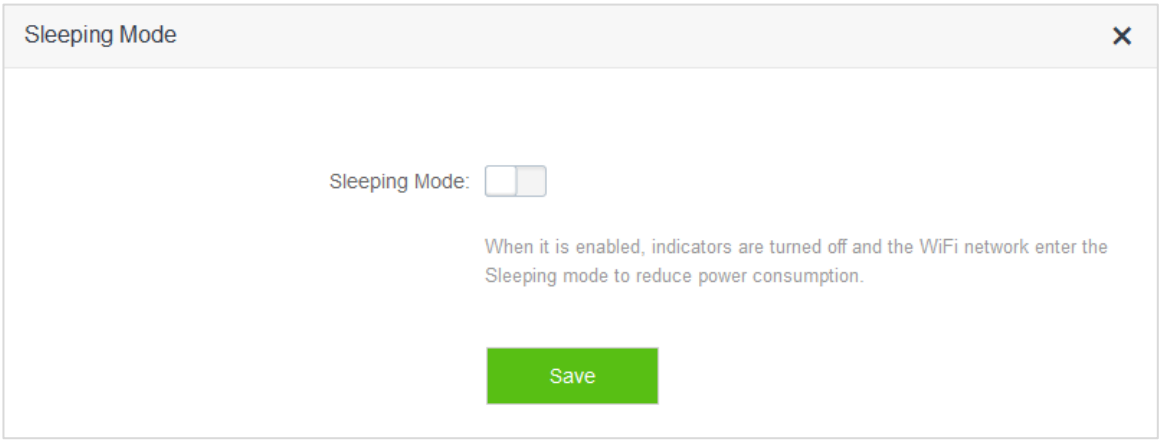
10.3 Sleeping Mode

This router supports the Sleeping Mode function. When the function takes effect, the LED indicators and WiFi will be turned off.

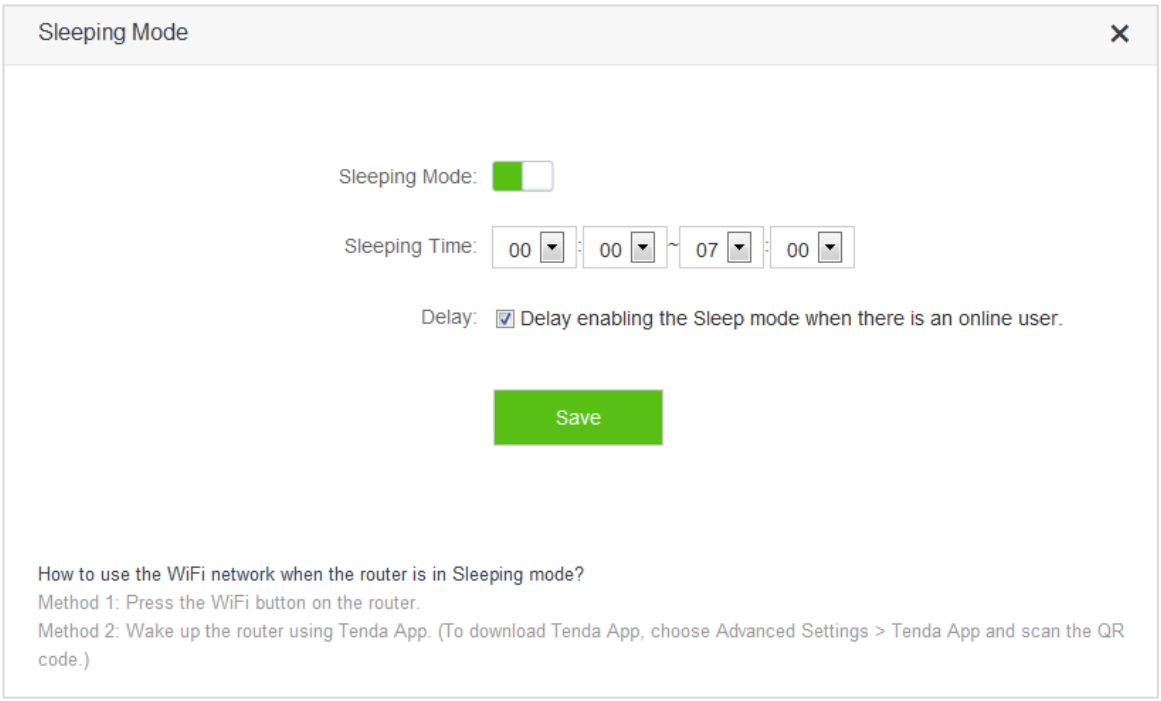
NOTE

The Sleeping Mode function works based on time settings. If the system time of the router is not synchronized with the internet time, the function cannot work properly.

To access the configuration page, click **Advanced Settings** > **Sleeping Mode**. By default, the function is disabled.



The figure below shows the page after this function is enabled.



Parameter descriptions

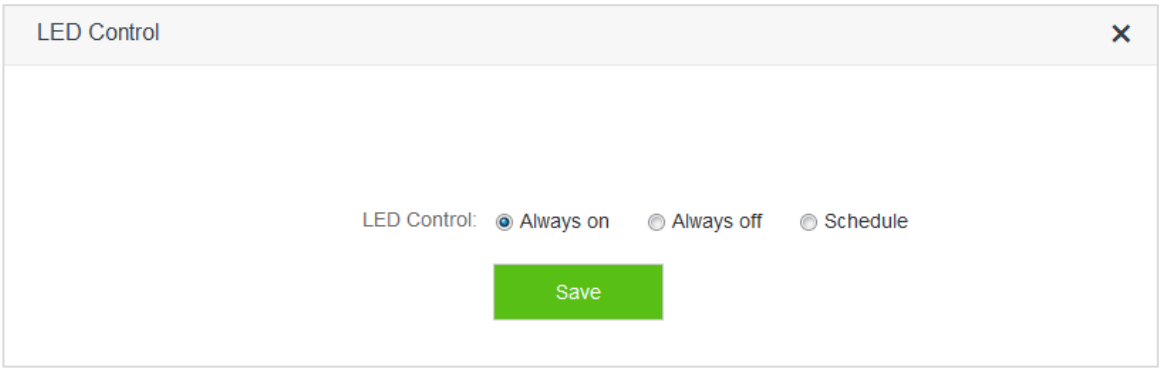
Parameter	Description
Sleeping Mode	It specifies whether to enable/disable the Sleeping Mode function. When the router is in Sleeping mode, you can enable the WiFi function by pressing

Parameter	Description
	the **WiFi on/off** button on the rear panel of the router or using Tenda app. For details about how to enable this WiFi function by Tenda app, refer to the Tenda app usage.
Sleeping Time	It specifies time when the Sleeping Mode function is effective.
Delay	• If **Delay enabling the Sleep mode when there is an online user** option is selected and client exchanges data with the router in a WAN speed of no more than 3KB/s within 30 minutes, the router enters Sleeping mode. If no client exchanges data with the router, and the traffic is less than 3 KB/s within 3 minutes, the router enters Sleeping mode. • If **Delay enabling the Sleep mode when there is an online user** option is not selected, the router enters Sleeping mode during Sleeping Time after Sleeping Mode is enabled.

10.4 LED Control

On the **LED Control** page, you can set the on/off status of the router's LED indicators.

To access the configuration page, click **Advanced Settings** > **LED Control**.



Parameter descriptions

Parameter	Descriptions
Always on	It indicates that all the LED indicators are on.
Always off	It indicates that all the indicators are off.
Schedule	It specifies that all the LED indicators are off in the period **Turn Off During** and become enabled when the periods expire.

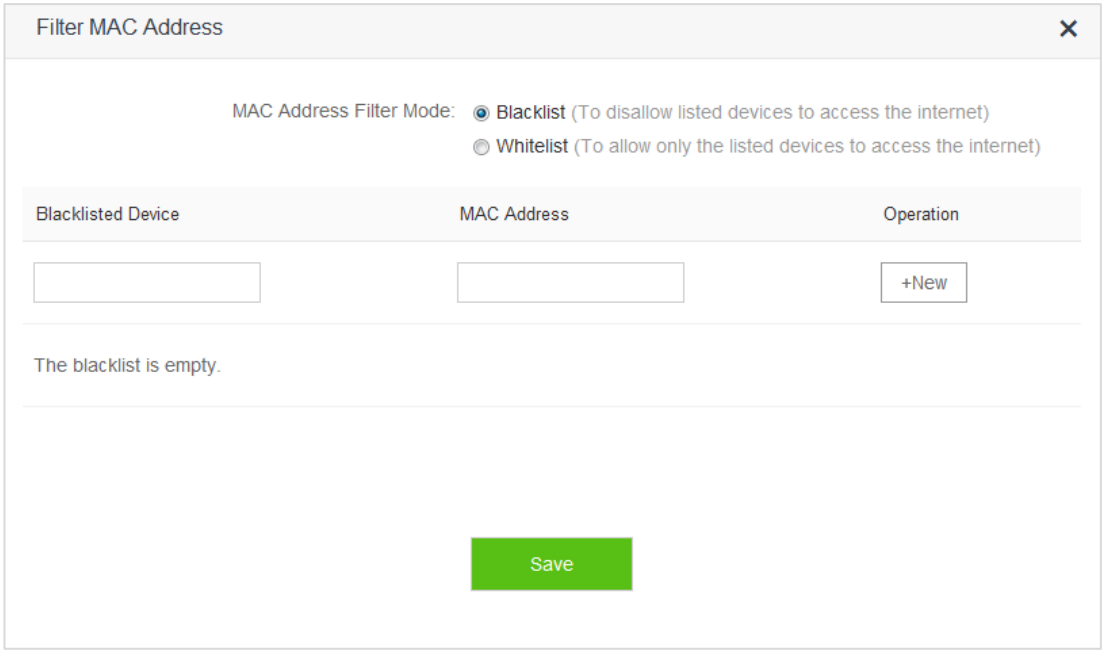
10.5 Filter MAC Address

10.5.1 Overview

Computers and smart phones have their own MAC addresses.

On the **Filter MAC Address** page, you can add filter rule and set limit for MAC address to access the internet, including **To disallow listed devices to access the internet** and **To allow only the listed devices to access the internet**.

To access the configuration page, click **Advanced Settings** > **Filter MAC Address**.



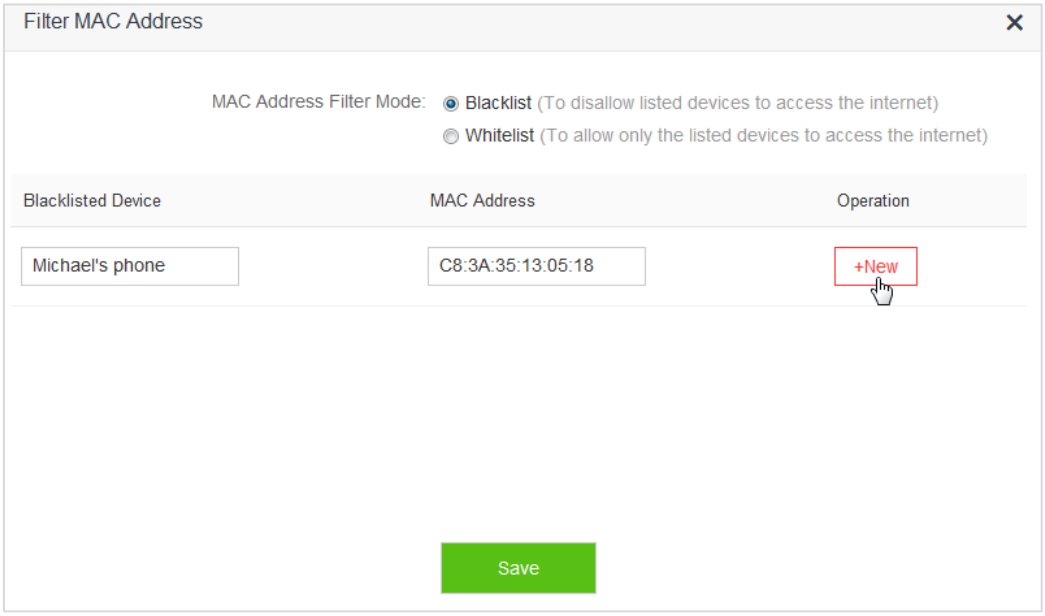
Parameter descriptions

Parameter	Description
MAC Address Filter Mode	It specifies whether the listed devices are allowed to access the internet through the router. ● **Whitelist**: It specifies that only the listed devices can access the internet through the router. ● **Blacklist**: It specifies that the listed devices cannot access the internet through the router.
Blacklisted/Whitelisted Device	It specifies that you can set devices you want to add in blacklist or whitelist.
MAC Address	It specifies that you can enter MAC addresses of devices you want to add in blacklist or whitelist.
Operation	It specifies that you can add clients in blacklist/whitelist by clicking **+New**.
Add all online devices to whitelist	This option is only available for **Whitelist**. It specifies that you can add all online devices to whitelist by clicking this link.

Parameter	Description
	NOTE This link only appears when you set the whitelist for the first time, or disappears after the configuration.

10.5.2 Adding a MAC Address Filter Rule

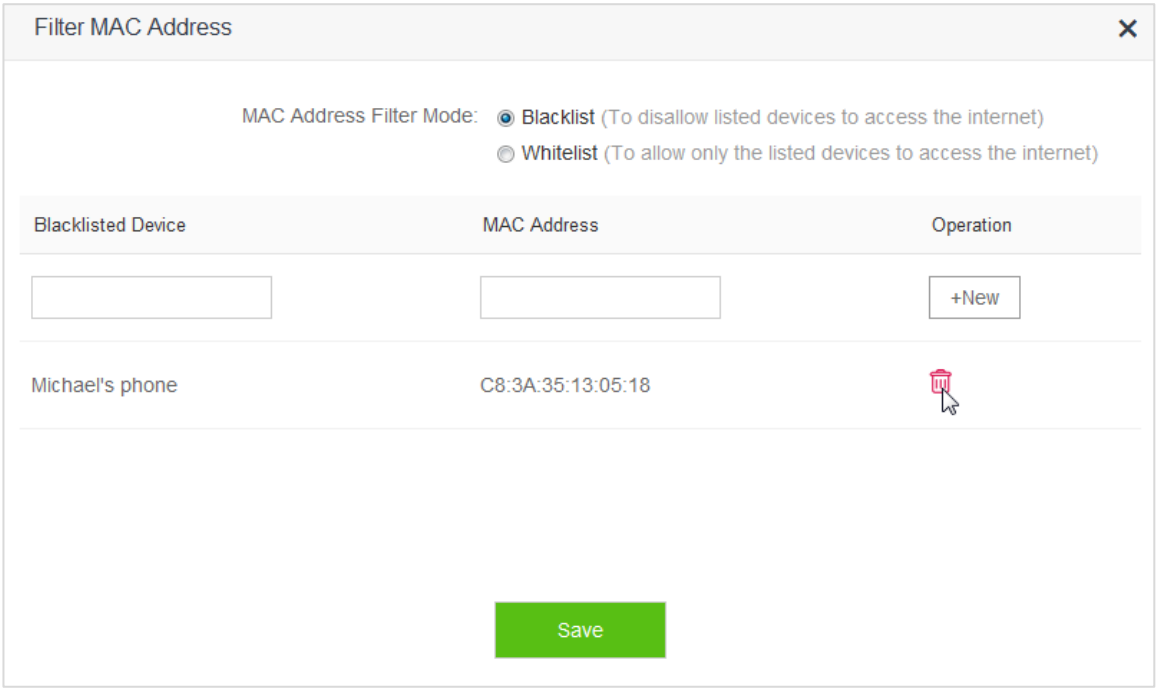
1. To access the configuration page, click **Advanced Settings** > **Filter MAC Address**.
2. **MAC Address Filter Mode**: Select MAC address filter mode, which is **Blacklist** in this example.
3. **Blacklist Device**: Set the device you disallow to access the internet, which is **Michael's Phone** in this example.
4. **Blacklist MAC Address**: Enter MAC address of the device you disallow to access the internet, which is **C8:3A:35:13:05:18** in this example.
5. Click **+New**.
6. Click **Save**.



—End

10.5.3 Deleting a MAC Address Filter Rule

1. To access the configuration page, click **Advanced Settings** > **Filter MAC Address**.
2. Select the rule you want to delete and click .
3. Click **Save** in the bottom.



—End

10.5.4 Example

Application Scenario

Michael bought an AC5 for network.He finds unknown devices in module **Attached Devices** of the router. But he hopes to allow only devices owned by family members to access the internet through the router.

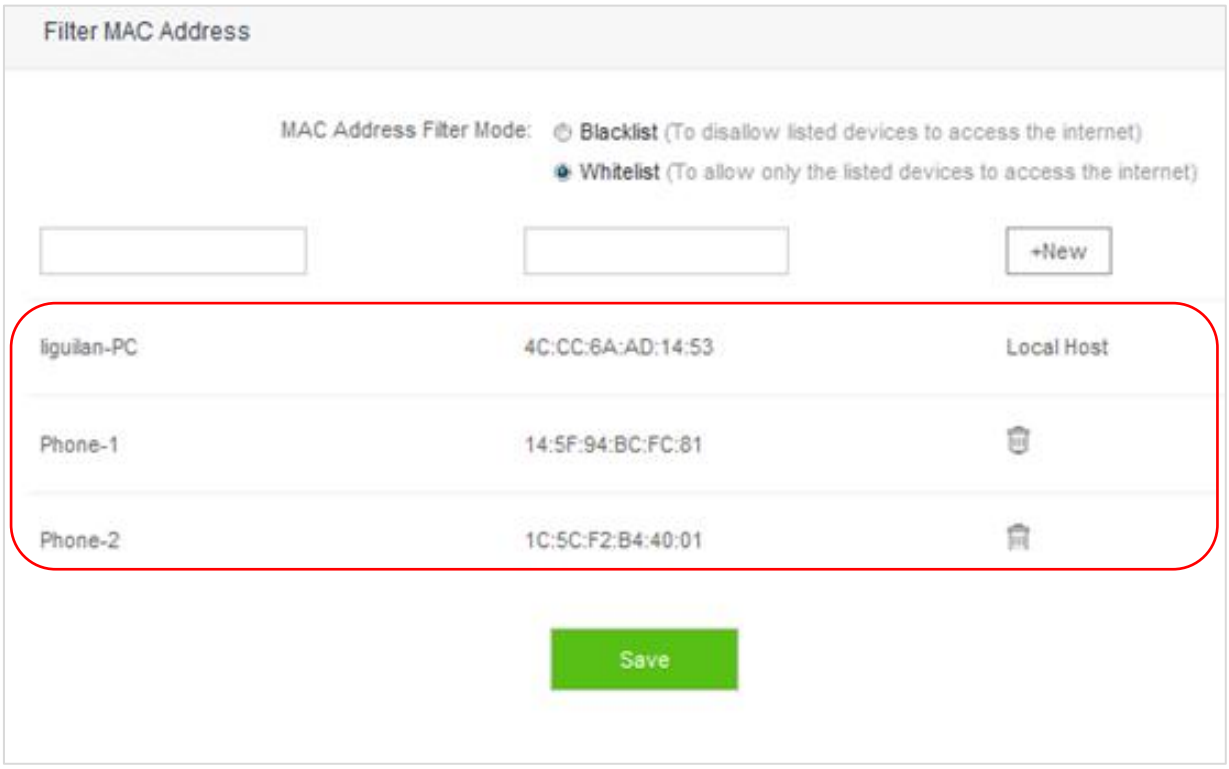
Solution

The Filter MAC Address function of the router can address this requirement. Assume that the clients owned by his family members have following MAC addresses:

- 4C:CC:6A:AD:14:53
- 14:5F:94:BC:FC:81
- 1C:5C:F2:B4:40:01

Procedures:

1. To access the configuration page, click **Advanced Settings** > **Filter MAC Address**.
2. **MAC Address Filter Mode**: Select **Whitelist**.
3. **Whitelisted Device**: Enter the name of the phone that is allowed to connect the router, which is **Phone-1** in this example.
4. **MAC Address**: Enter MAC address of client you allow to connect the router, which is **14:5F:94:BC:FC:81** in this example.
5. Click **+New**.
6. Refer to step 3-5 for adding MAC address 4C:CC:6A:AD:14:53.
7. Click **Save**.



—End

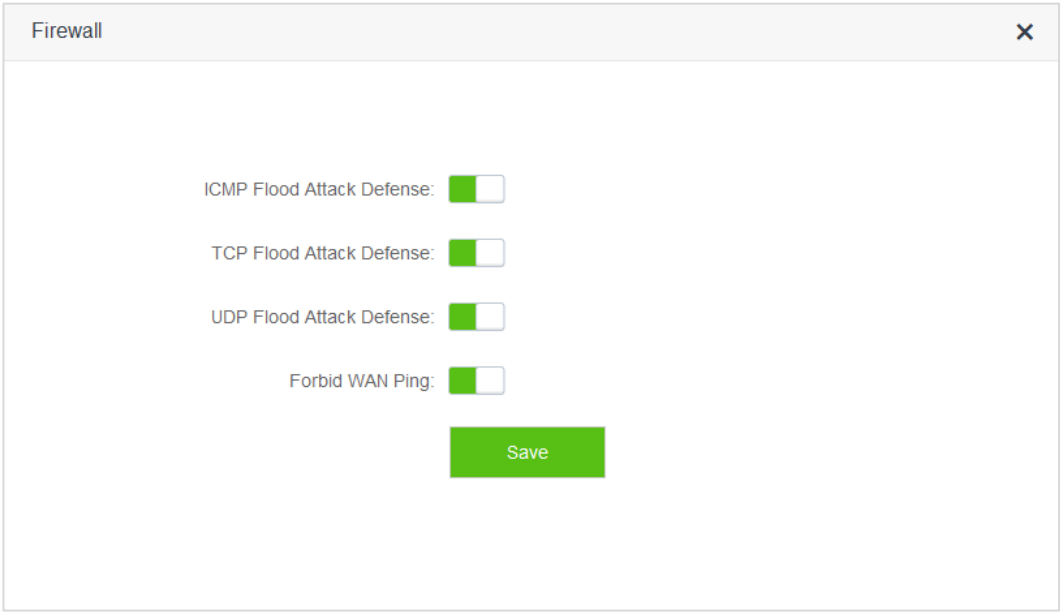
Verification

Only clients with MAC address 4C:CC:6A:AD:14:53 or 14:5F:94:BC:FC:81 or 1C:5C:F2:B4:40:01 can access the internet through the router, while others cannot.

10.6 Firewall

The Firewall function can protect the router against some common DoS attacks such as ICMP Flood Attack, TCP Flood Attack, and UCP Flood Attack. It forbids WAN Ping as well, helping secure your network.

To access the configuration page, click **Advanced Settings** > **Firewall**. By default, the Firewall function is enabled. It is recommended to retain the default settings.



Parameter descriptions

Parameter	Description
ICMP Flood Attack Defense	ICMP Flood Attack is an attack using ICMP packets. If an attacker sends many ICMP ECHO packets to destination host, which results in ICMP flood. Then destination host pays much time and resources on ICMP ECHO but nothing on normal requests or responses, which achieves attack against destination host.
TCP Flood Attack Defense	In TCP protocol, when one client sends connection request and initialization to server, protocol stack in server will leave Backlog Quene for information exchange in connecting process. Attackers make use of Backlog Quene and send TCP connection requests only with SYN to server mark many times by special program. Server will regard those requests as uncompleted and establish sessions for them in Backlog Queue. If those SYN requests are more than what server can hold, Backlog Queue will be full. Then server will not accept new request so that other legal connection will be refused.
UCP Flood Attack Defense	UCP Flood Attack works on the similar principle as ICMP Flood Attack. If an attacker sends many UDP packets to destination host. Then destination host pays much time and resources on UDP packets but nothing on normal packet requests or responses, which achieves attack against destination host.
Forbid WAN Ping	When host in the internet tries to ping WAN IP address of the router, the router will ignore that ping request automatically, protecting itself from external Ping

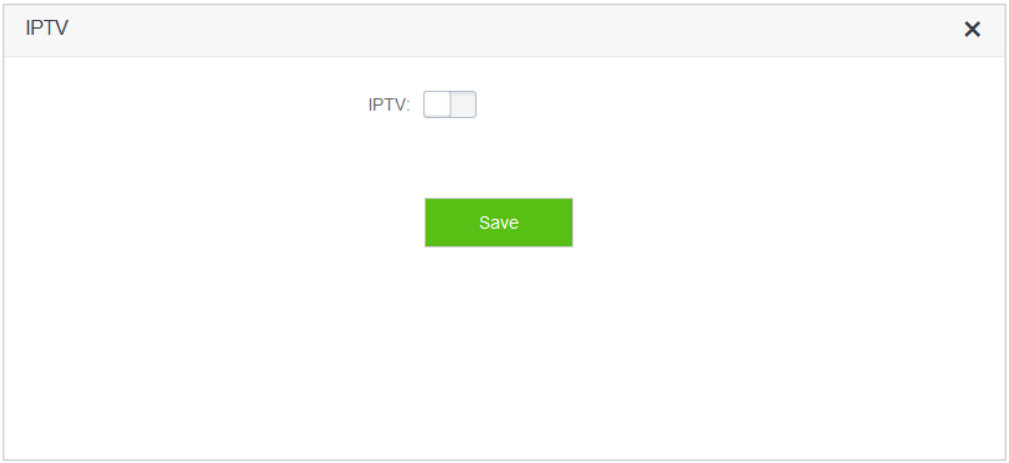
Parameter	Description
	attack rather than exposing itself.

10.7 IPTV

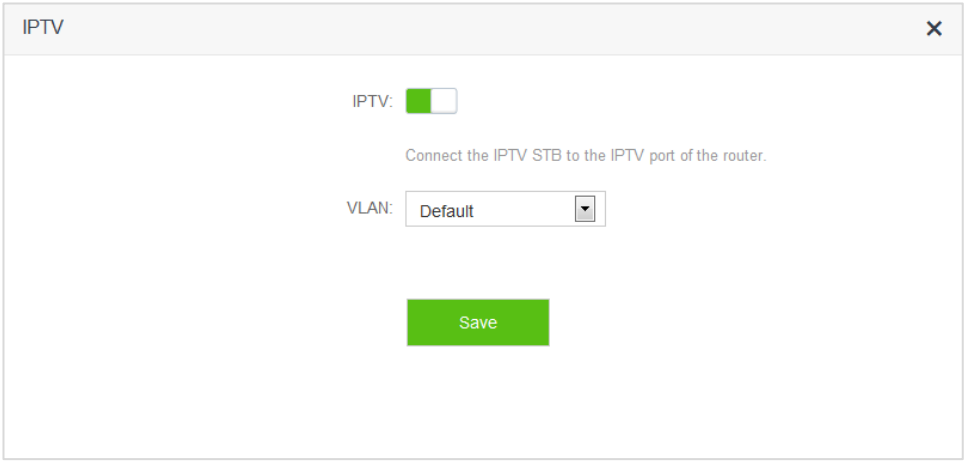
10.7.1 Overview

IPTV is the abbreviation of Internet Protocol Television. It is new technology integrating with internet, multimedia, telecommunication and many other technologies, providing interactive services including digital TV to family users by internet broadband lines. IPTV is a service provided by ISP. Users can have multiple IPTV programs by IP set-top-box and television at home.

To access the configuration page, click **Advanced Settings** > **IPTV**.



The following figure shows the configuration page after enabling IPTV.



Parameter descriptions

Parameter	Description
IPTV	It specifies whether to enable IPTV function of the router. When this function is enabled, the third LAN port of this router can be used only as IPTV port and connect

Parameter	Description
	IPTV set-top-box, not able to access other devices such as computer.
VLAN	It specifies the VLAN ID of your IPTV service. ● If you do not have information about VLAN provided by your ISP when starting IPTV service, please keep **Default**. ● If you have VLAN ID from your ISP when starting IPTV service, please choose **Custom VLAN** and enter VLAN value. ● If you have IPTV service in Shanghai, please choose **Shanghai VLAN** and click VLAN value.

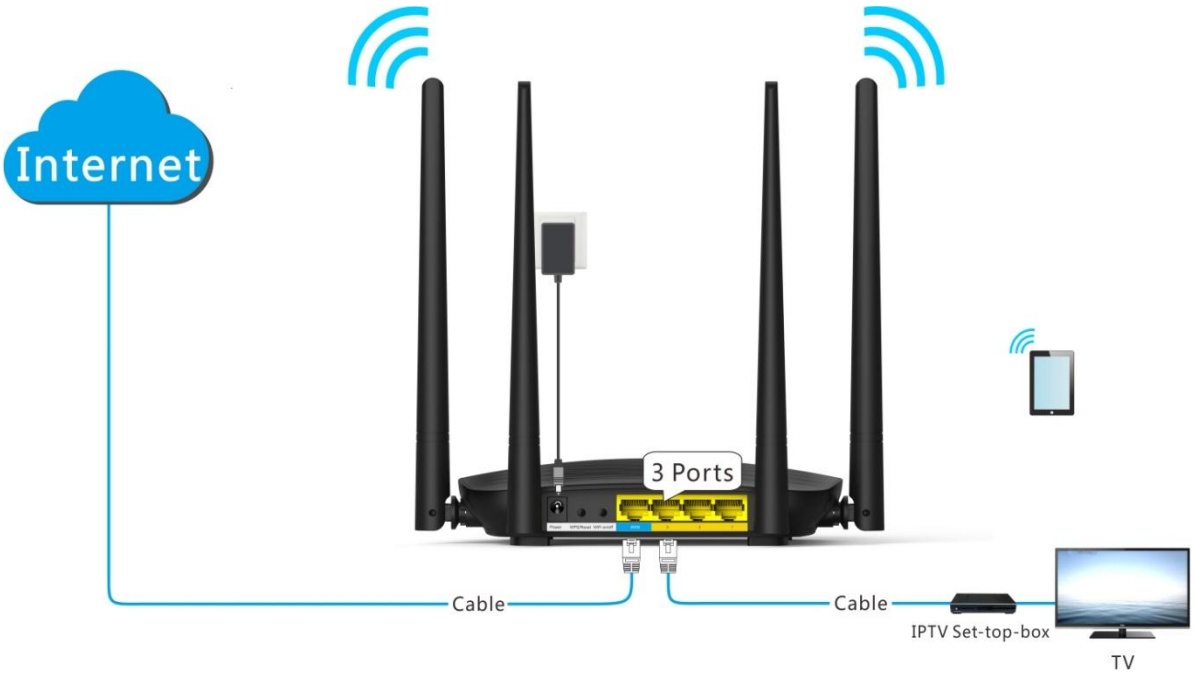
10.7.2 Example

Application Scenario

Michael subscribed to IPTV service when he had broadband. His ISP provided IPTV account and password but no information about VLAN. Michael bought an AC5 for network. He wants to have IPTV program now.

Solution

The IPTV function of the router can address this requirement. Network topology is shown as follows.



Procedures:

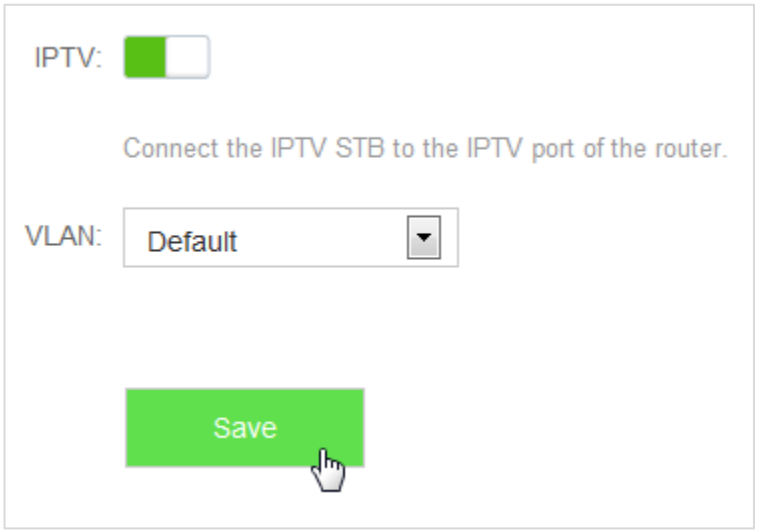
Step 1 Set the router.

(1) To access the configuration page, click **Advanced Settings** > **IPTV**.

(2) **IPTV**: Switch the button to .

(3) **VLAN**: Keep **Default**.

(4) Click **Save**.



Step 2 Set set-top-box.

(1) Dial up on his set-top-box using the account and password provided by his ISP.

—End

Verification

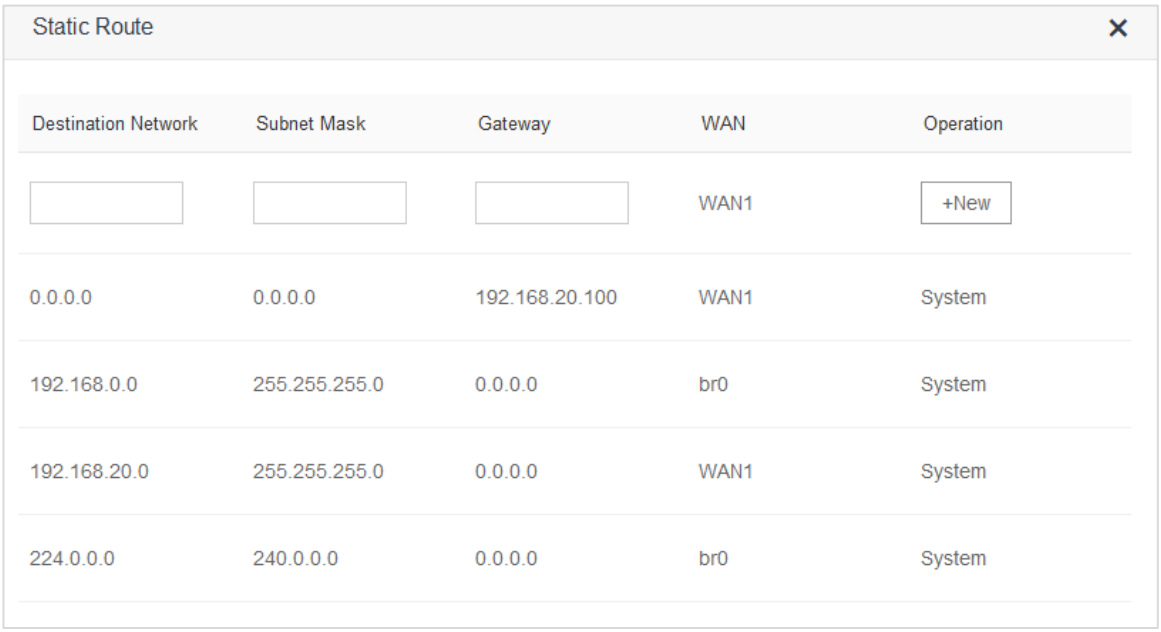
Michael can have IPTV programs on television.

10.8 Static Route

10.8.1 Overview

Routing is performed to select the best route for delivering data from a source address to a destination address. A static route is a manually configured route, which is simple, efficient, and reliable. Appropriate static routes help reduce route selection problems and data overload of route selection, increasing the packet forwarding speed.

To access the configuration page, click **Advanced Settings** > **Static Route**.



Parameter descriptions

Parameter	Description
Destination Network	It specifies the destination IP address of a packet.
Subnet Mask	It specifies the subnet mask of the destination IP address of a packet.
Gateway	It specifies the IP address of the next hop of packet transmitted from the router.
WAN	It specifies the WAN port of the router for transmitting packets.
Operation	It allows you to add/delete a static route rule.

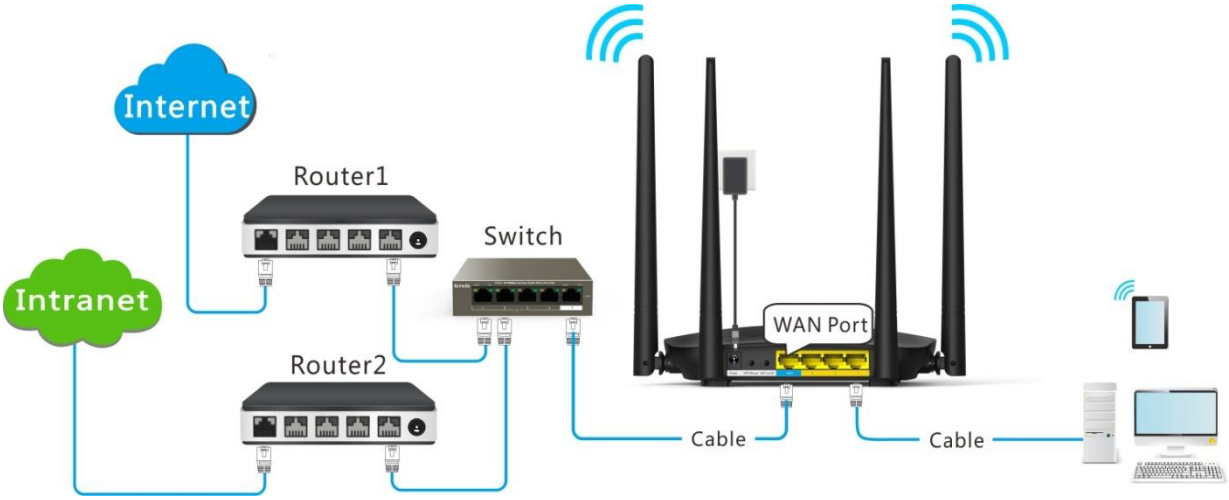
10.8.2 Example

Networking Requirement

Michael used wired router and switch for network in the past. Now he purchases an AC5 for wireless coverage and builds an office intranet on that network, requiring clients connected to AC5 able to access both the internet and office intranet.

Solution

The following figure shows a topology for reference:



Router 1 accesses the internet and Router 2 the intranet. AC5 gets IP address to access the internet from Router 1 automatically. Set static route on AC5, achieving LAN clients access both internet and intranet.

Assume that the devices have following MAC addresses:

- AC5 LAN IP Address: 192.168.0.1
- Router 1 LAN IP Address: 192.168.1.10
- Router 2 LAN IP Address: 192.168.1.20

Assume that the intranet has following information:

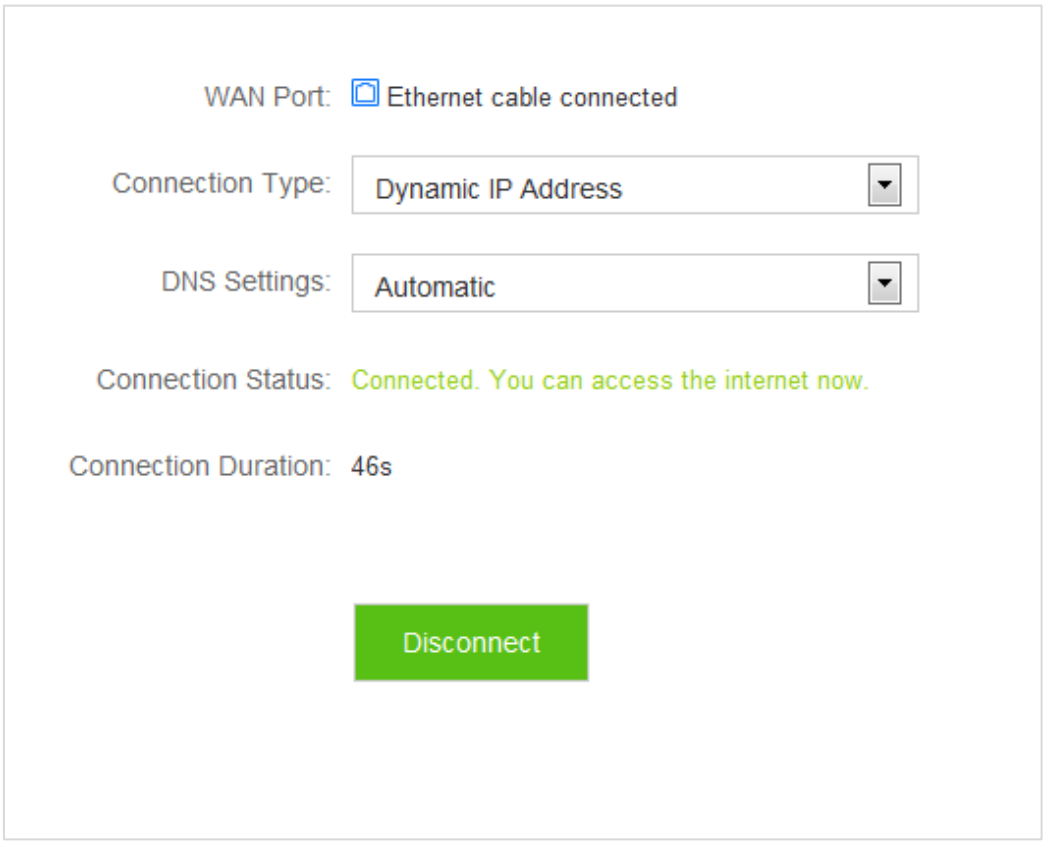
- Address: 172.16.105.10
- Subnet Mask: 255.255.255.0

Procedures:

Step 1 Set Router 1 to access the internet. For detailed steps, please refer to the installation guide of the router.

Step 2 Set Router 2 to access the intranet and disable the DHCP function of this router. For detailed steps, please refer to the installation guide of the router.

Step 3 Set AC5 to access the internet by dynamic IP address. For detailed steps, please refer to **5.3 Setting up to an Internet Connection with a Dynamic IP Address** in this guide.



Step 4 Set a static route rule on AC5.

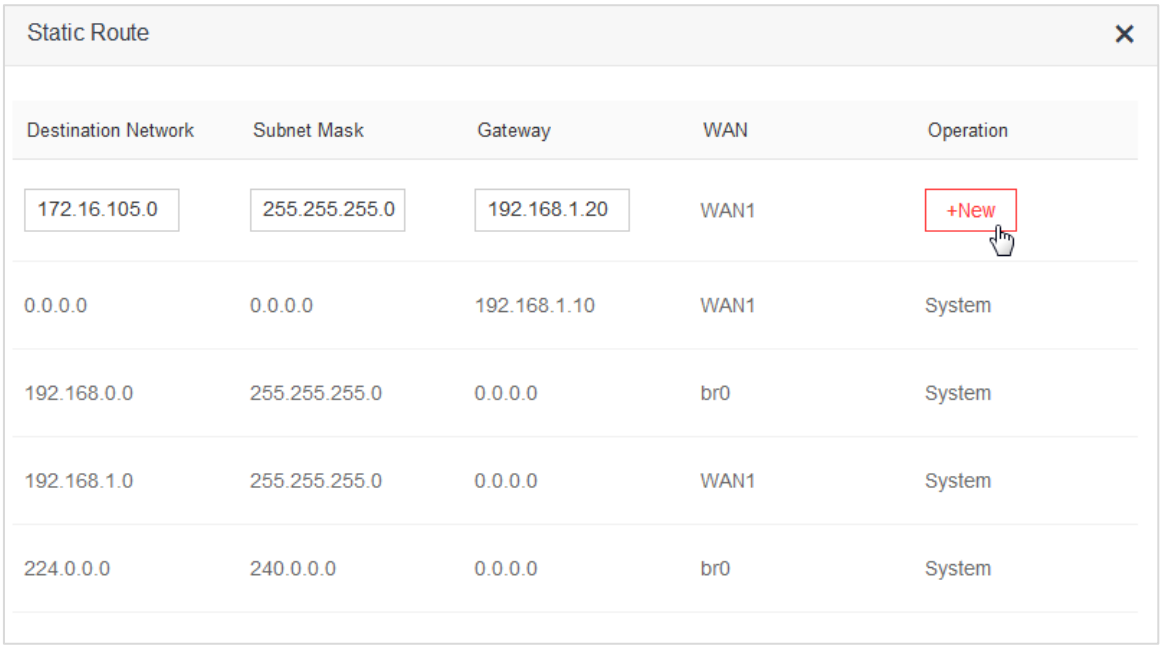
(1) To access the configuration page, click **Advanced Settings** > **Static Route**.

(2) **Destination Network**: Enter IP address of the destination network, which is **172.16.105.0** in this example.

(3) **Subnet mask**: Enter subnet mask of the destination IP address, which is **255.255.255.0** in this example.

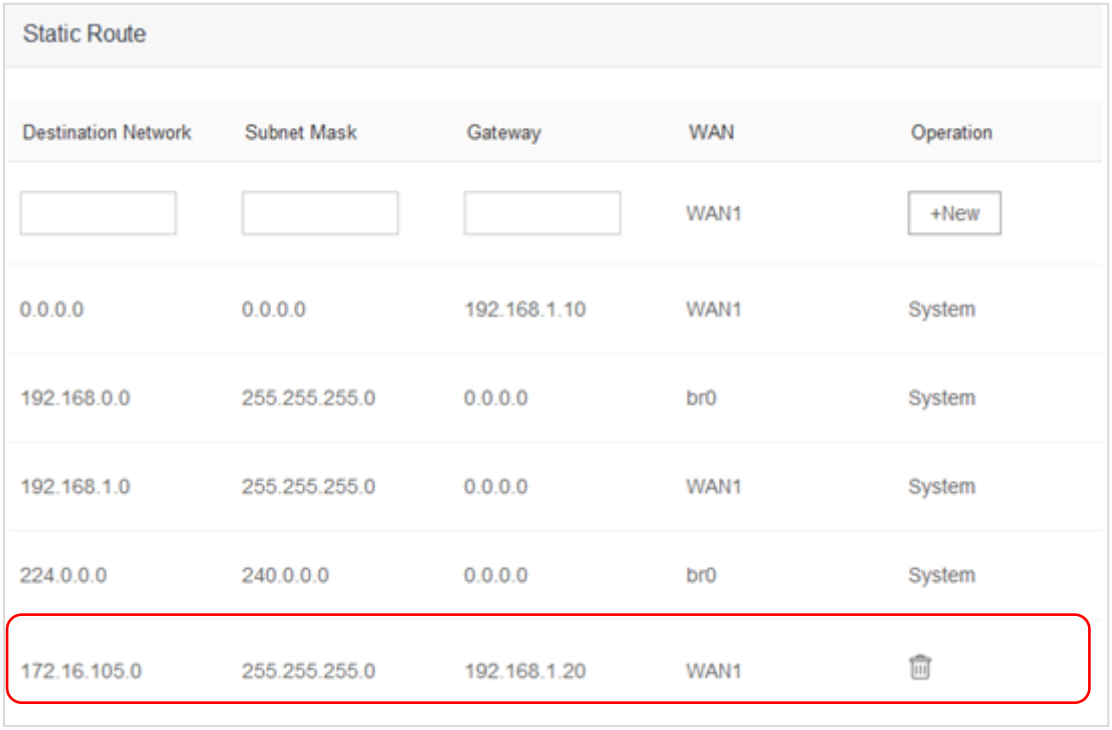
(4) **Gateway**: Set Gateway to the LAN IP address of Router 2, which is **192.168.1.20** in this example.

(5) Click **+New**.



—End

Configuration succeeds.



Verification

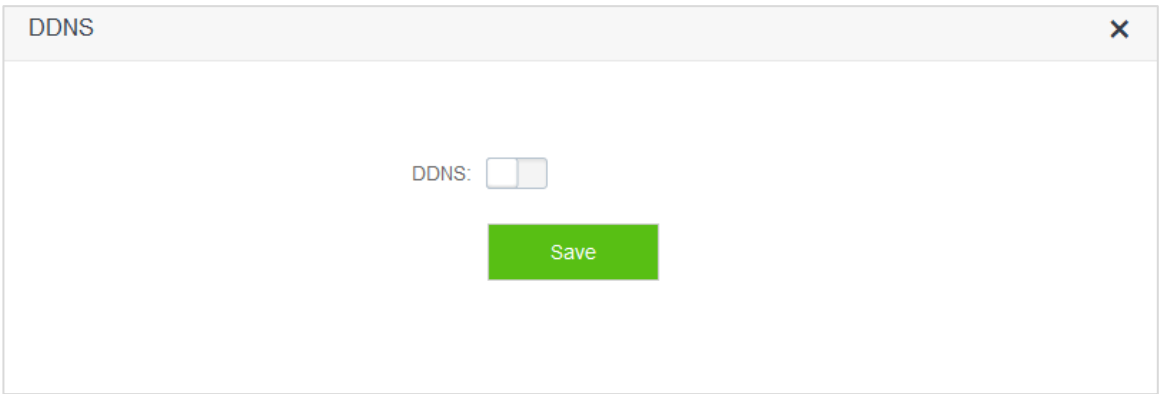
Clients connected to the router can access both the internet and the intranet.

10.9 DDNS

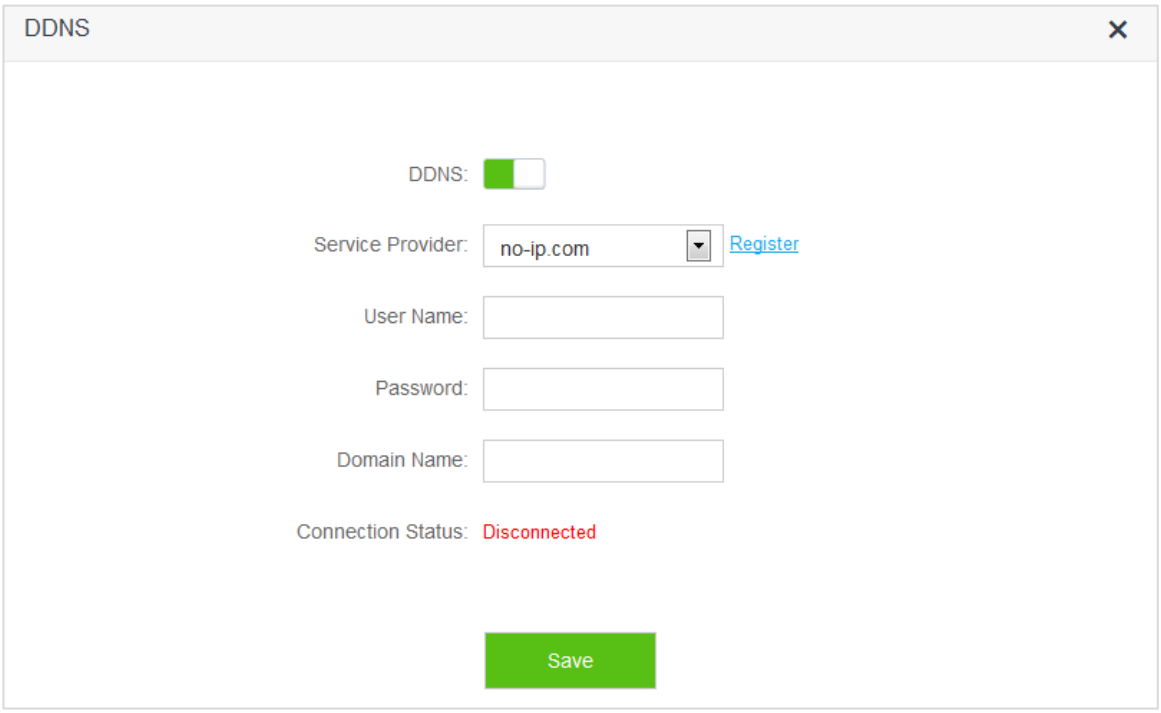
10.9.1 Overview

WAN IP address is needed when Virtual Server, DMZ Host, and Tenda App function are enabled. If the router's WAN IP address changes, these functions will not in normal service. The DDNS function allows you to map a dynamic WAN IP address (public IP address) of the router to a static domain name, helping internet users (WAN side) access router by static domain name.

If you dislike remembering complex IP address, you can also enable the DDNS function. To access the configuration page, click **Advanced Settings** > **DDNS**.



The following figure shows the configuration page after enabling DDNS.



Parameter descriptions

Parameter	Description
DDNS	It specifies whether to enable the DDNS function. By default, the DDNS function is disabled.
Service Provider	It specifies a DDNS service provider. The supported service providers include no-ip.com, 3322.org, dyndns.org, 88ip.cn, and oray.com.
User name	It specifies the user name registered on a DDNS service provider's website for logging into the DDNS service.
Password	It specifies the password registered on a DDNS service provider's website for logging into the DDNS service.
Domain Name	It specifies the DDNS domain name registered on a DDNS service provider's website. If this item does not appear after you select service provider, you do not need to enter domain name.
Connection Status	It specifies whether the DDNS service is configured successfully.

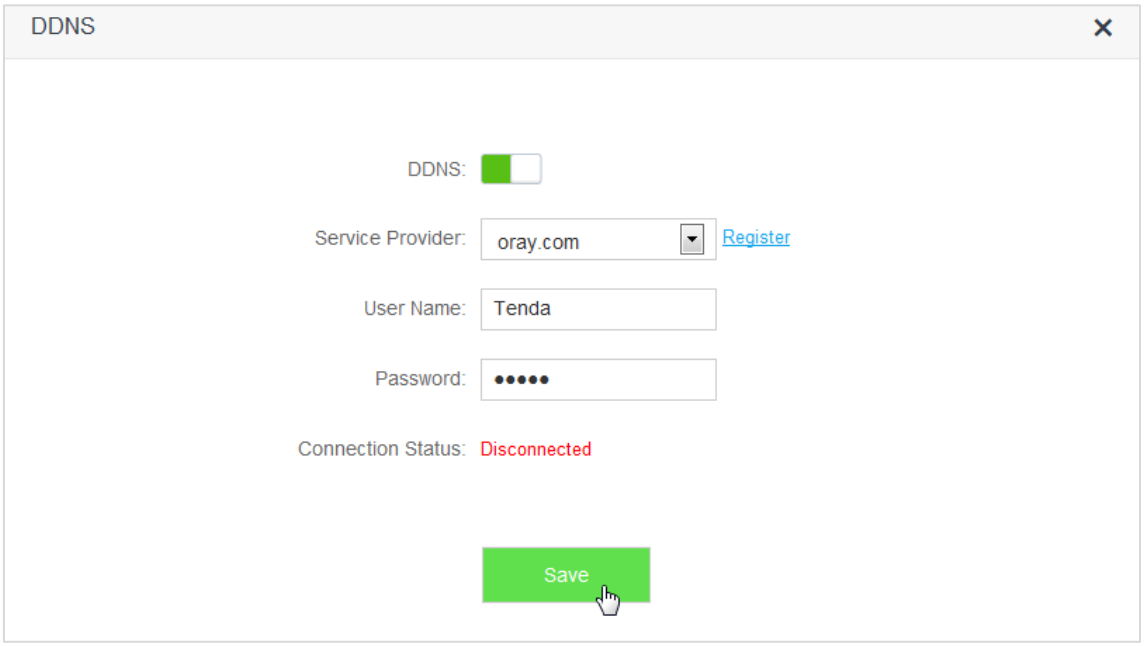
10.9.2 Adding a DDNS Rule

1. To access the configuration page, click **Advanced Settings** > **DDNS**.
2. **DDNS**: Switch the button to .
3. **Service Provider**: Choose your DDNS service provider.

TIP

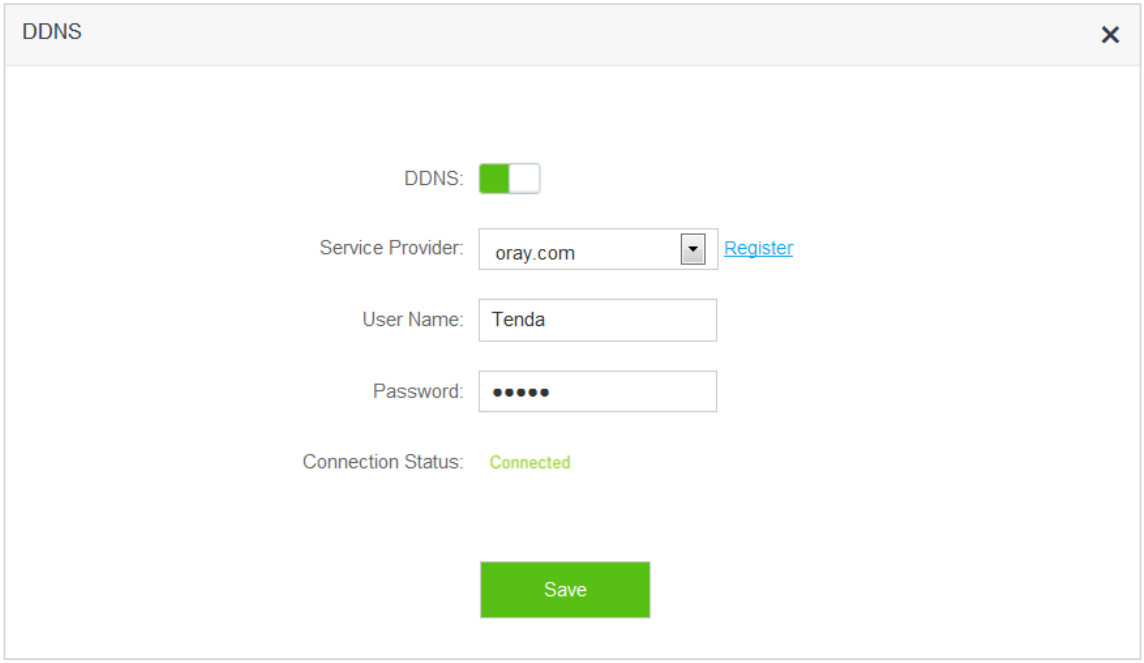
If you do not have a DDNS account, please select a service provider and click **Register** to have one on the website of the service provider. After registration, login to the web UI of the router again.

4. Set **User Name**, **Password**, and **Domain Name**.
5. Click **Save**.



—End

When the Connection Status displays Connected, the configuration succeeds.

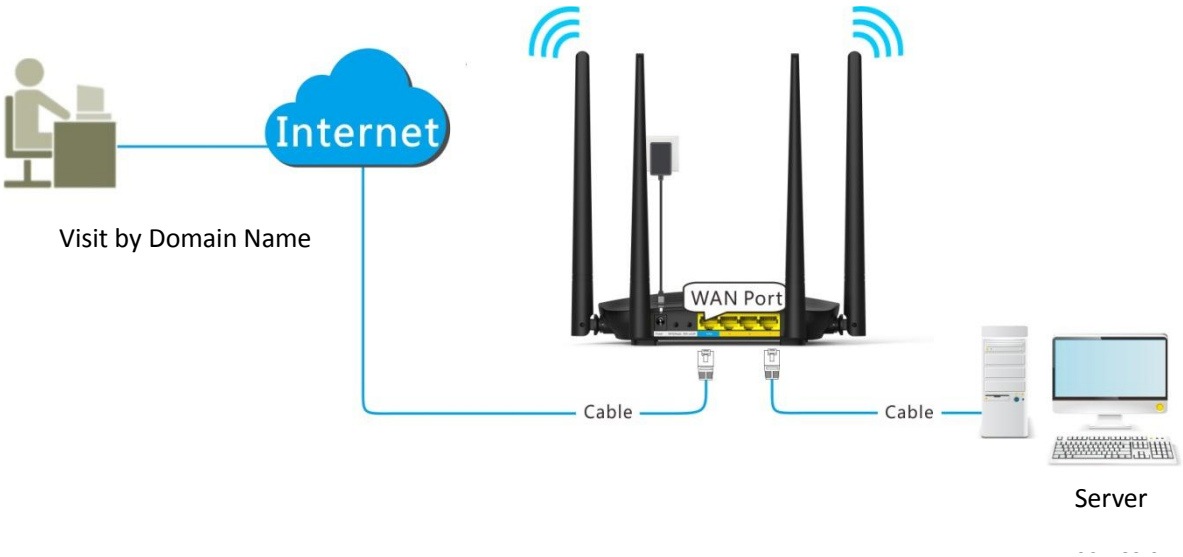


10.9.3 Example

Application Scenario

Michael bought an AC5 for network after having broadband. He wants to make a web server built on LAN accessible to the internet, and internet users can visit that server by static domain name.

The following figure shows the application scenario.



Solution

This requirement can be addressed by the Virtual Server function and DDNS function. Assume that the intranet web server has following information:

- Server IP Address: 192.168.0.110
- MAC Address of the Server's Host: C8:3A:35:13:05:18
- User Name/Password: admin/admin
- Server Port: 80

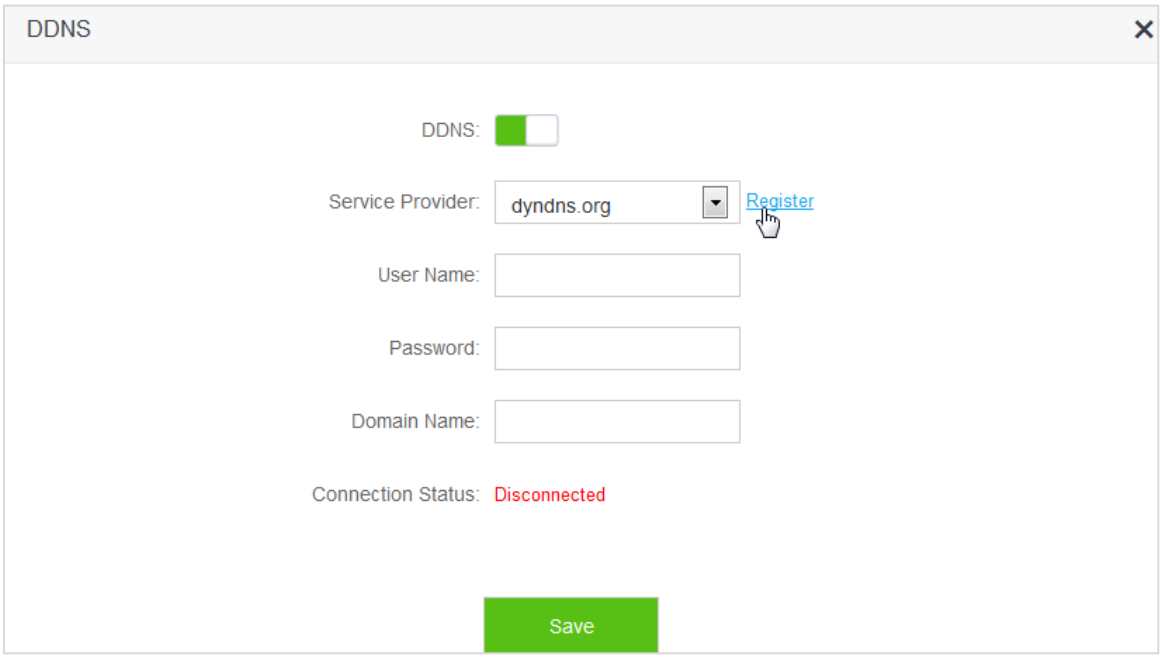
Procedures:

Step 1 Register a domain name.

(1) To access the configuration page, click **Advanced Settings** > **DDNS**.

(2) **DDNS**: Switch to .

(3) **Service Provider**: Select your DDNS service provider, which is **dyndns.org** in this example, and click **Register**.



(4) Register on the website of the selected DDNS service porvider. Assume the registered information are listed as follows:

- Service Provider: dyndns.org
- User Name: Tenda
- Password: 12345678
- Domain Name: tenda.dyndns.org

Step 2 Set DDNS.

(1) To access the configuration page, click **Advanced Settings** > **DDNS**.

(2) **DDNS**: Switch to .

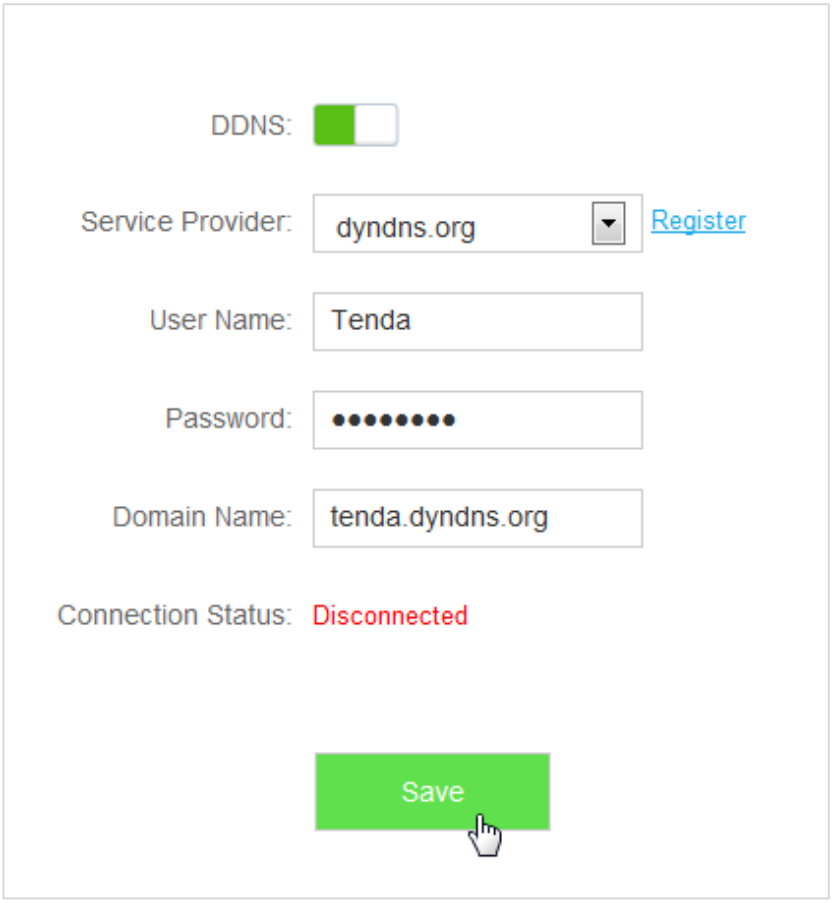
(3) **Service Provider**: Click drop-down-box and select **dyndns.org**.

(4) **User Name**: Enter user name registered on DDNS service provider's website, which is **Tenda** in this example.

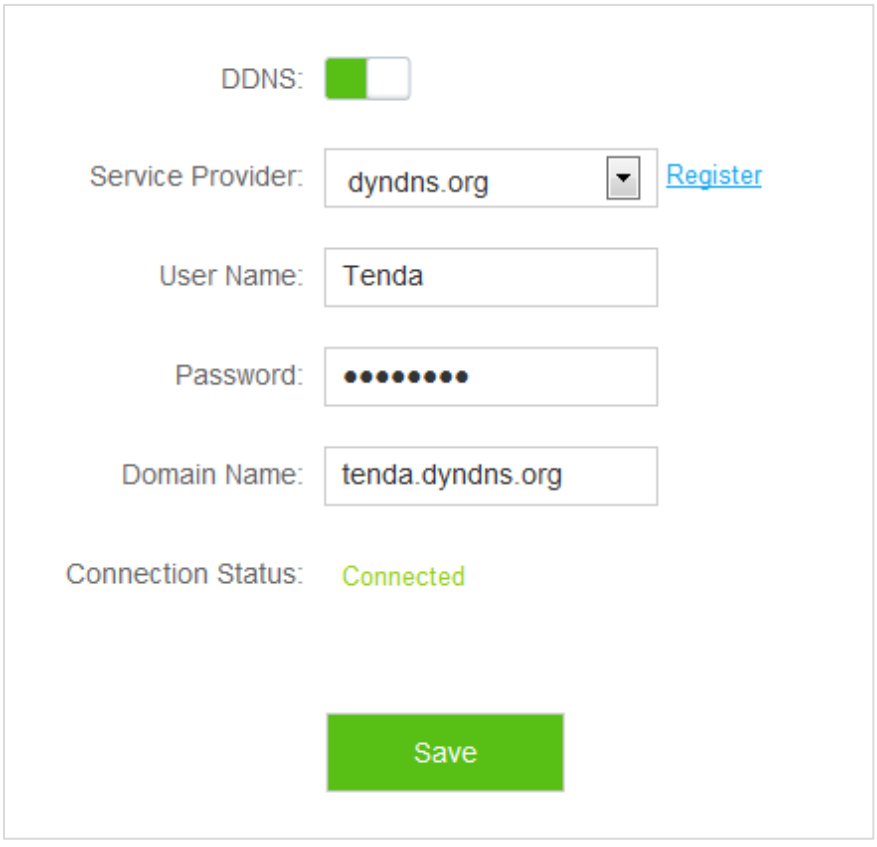
(5) **Password**: Enter password registered on DDNS service provider's website, which is **12345678** in this example.

(6) **Domain Name**: Enter domain name registered on DDNS service provider's website, which is **tenda.dyndns.org** in this example.

(7) Click **Save**.



Wait until the connection status changes to **Connected**.

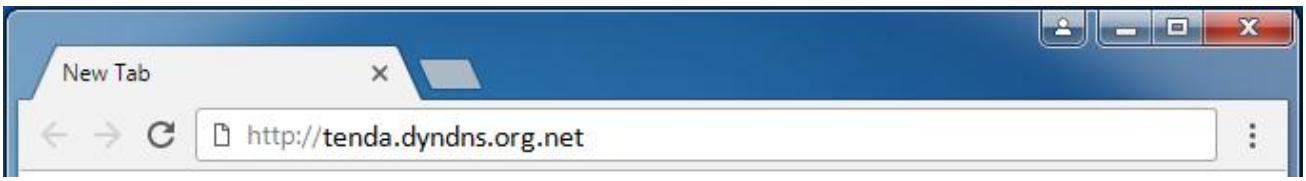


Step 3 Set Virtual Server function. For detailed steps, please refer to **10.10 Virtual Server** in this guide.

—End

Verification

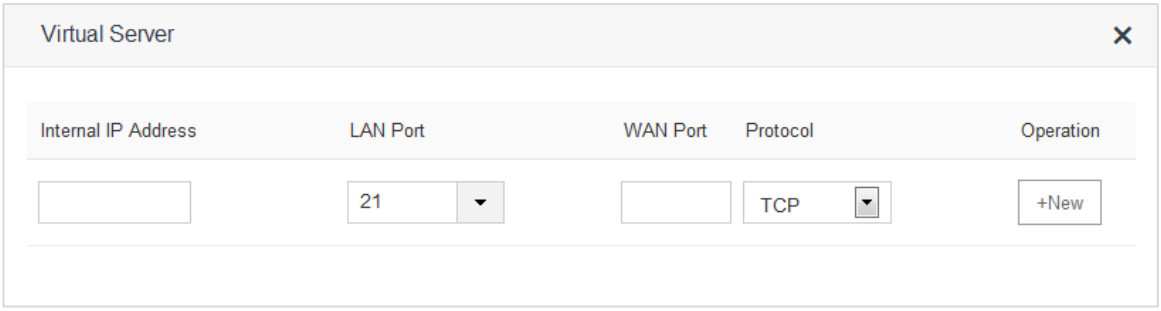
The visit path for internet users to access the intranet resources is: http://domain name: server port, which is http:// tenda.dyndns.org.net:80 in this example. Then perform according to on-screen instructions.



10.10 Virtual Server

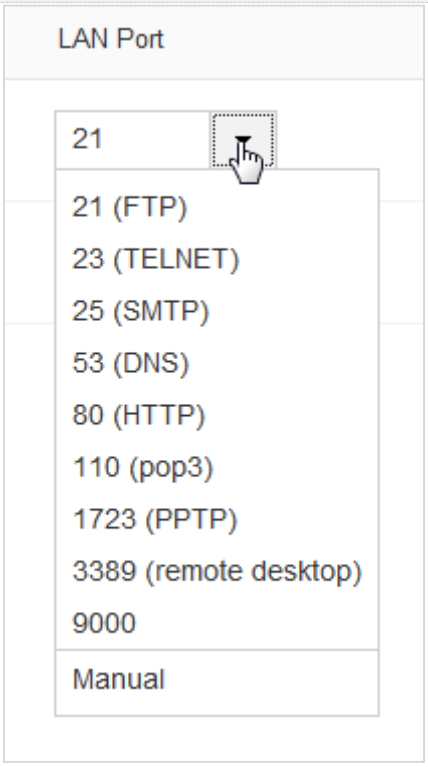
Usually, internet users cannot access LAN through router. But internet users can visit LAN resources through router by enabling virtual server. After the Virtual Server function is configured, if one host in LAN has Web or FTP server, internet users can access that server successfully.

To access the configuration page, click **Advanced Settings** > **Virtual Server**.



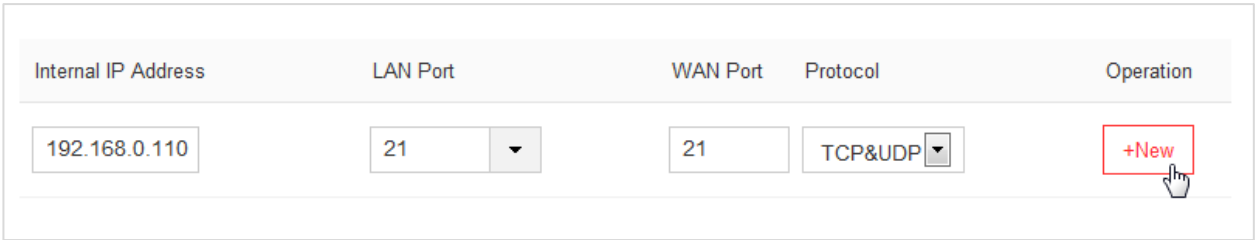
Parameter descriptions

Parameter	Description
Internal IP Address	It specifies the IP address of an internal server.
LAN Port	It specifies the service port number of a server that resides on the LAN of the router. Click drop-down list box, and select corresponding service port number; or enter service port number manually.

Parameter	Description
	
WAN Port	It specifies a router port accessible to internet users. WAN port will be populated automatically after you select LAN port.
Protocol	It specifies the protocol of a service. If you are uncertain about which service protocol is used, **TCP/UDP** is recommended.
Operation	It allows you to manually add or delete virtual server rules.

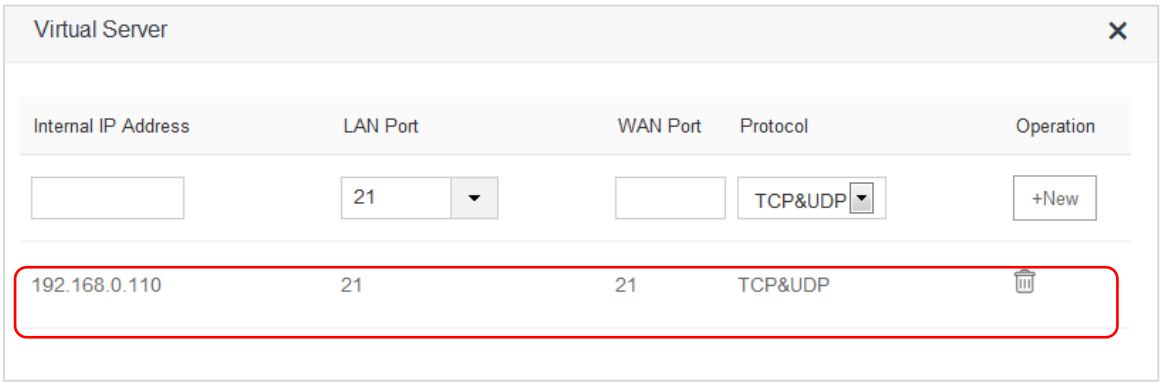
10.10.1 Adding a Virtual Server Rule

1. To access the configuration page, click **Advanced Settings** > **Virtual Server**.
2. **Internal IP Address**: Enter the IP Address of the internal sever, which is **192.168.0.110** in this example.
3. **LAN Port**: Click drop-down list box and select internal service port number or enter the number manually, which is **21** in this example.
4. **Protocol**: Click drop-down list box and select protocol of a service, which is **TCP&UDP** in this example.
5. Click **+New**.



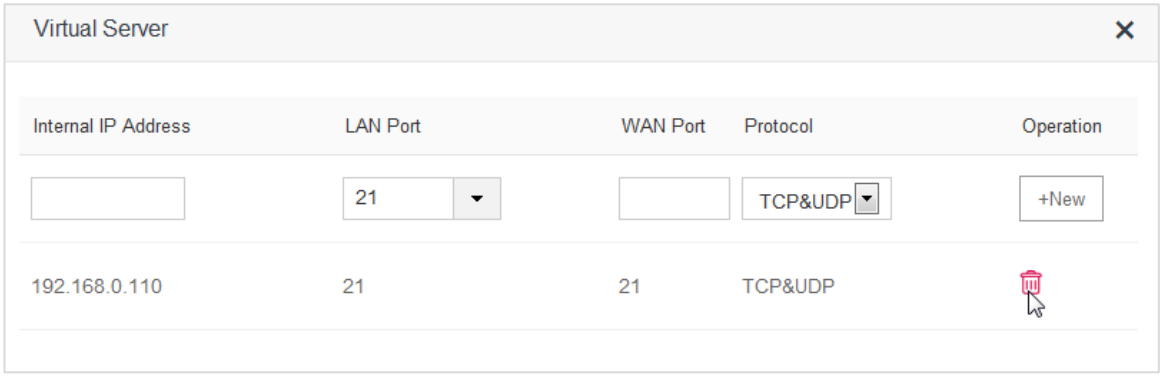
—End

The rule is added successfully. See the following figure.



10.10.2 Deleting a Virtual Server Rule

1. To access the configuration page, click **Advanced Settings** > **Virtual Server**.
2. Locate the rule you want to delete, and click .



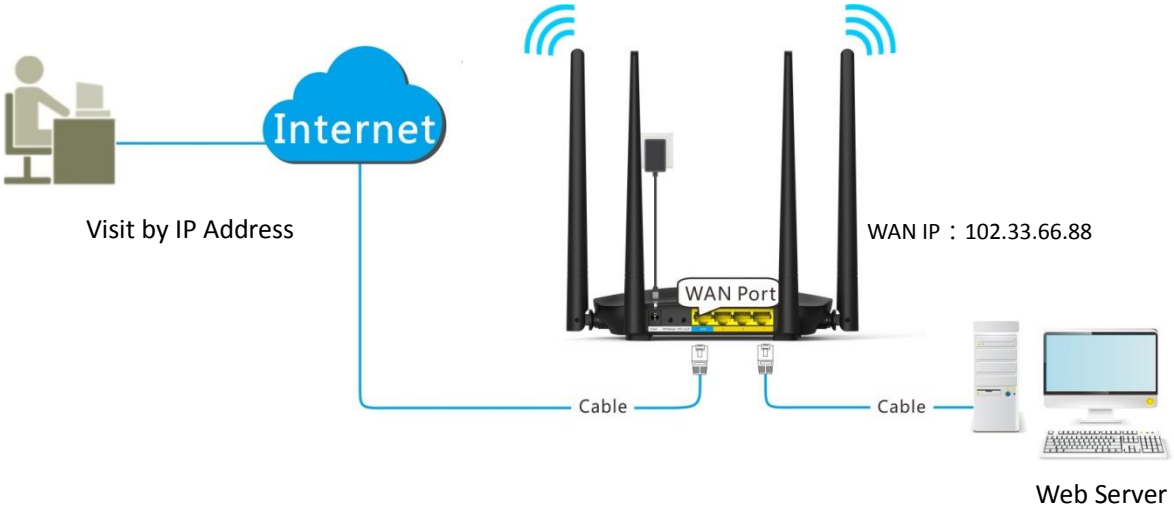
—End

10.10.3 Example

Application Scenario

Michael bought an AC5 for network after having broadband. He wants to make the web server built on LAN accessible to internet users.

The following figure shows the application scenario.



Solution

This requirement can be addressed by the Virtual Server function. Assume that the internal web server information is listed as follows:

- **Server IP Address**: 192.168.0.110
- **MAC Address of the Server Host**: C8:3A:35:13:05:18
- **User Name/Password**: admin/admin
- **Server Port**: 80

Procedures:

1. Configure the Virtual Server function.

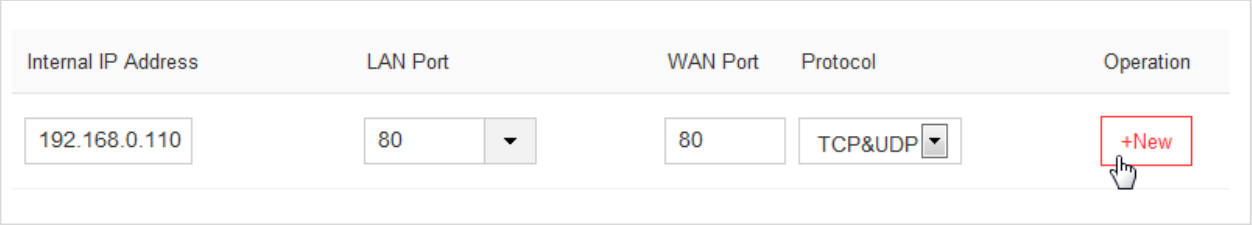
   (1) To access the configuration page, click **Advanced Settings** > **Virtual Server**.

   (2) **Internal IP Address**: Enter IP Address of the internal web server, which is **192.168.0.110** in this example.

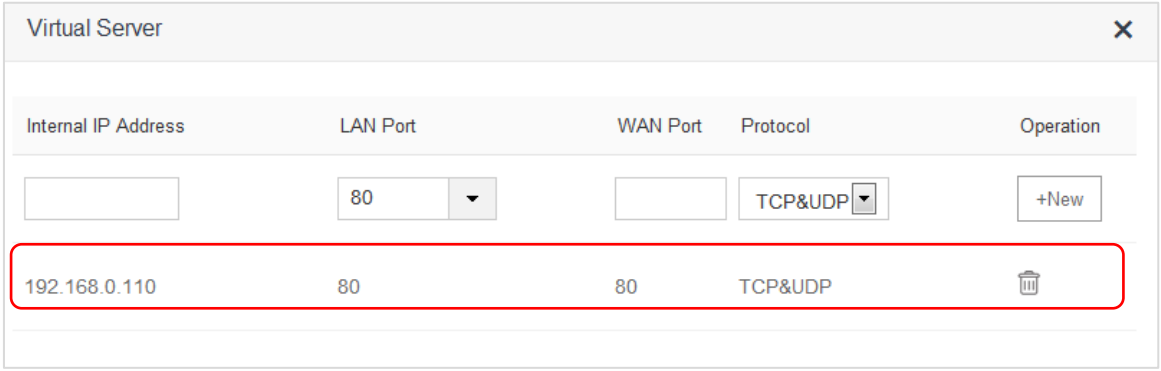
   (3) **LAN Port**: Click drop-down list box and select internal service port number, which is **80(HTTP)** in this example.

   (4) **Protocol**: Click drop-down list box and select protocol of a service, which is **TCP&UDP** in this example.

   (5) Click **+New**.



The rule is added successfully. See the following figure.



2. Assign static IP address to the host on which the server is built.

   (1) Click **System Settings** > **DHCP Reservation**.

   (2) **Device Name**: Set a name for the host, which is **Web Server** in this example.

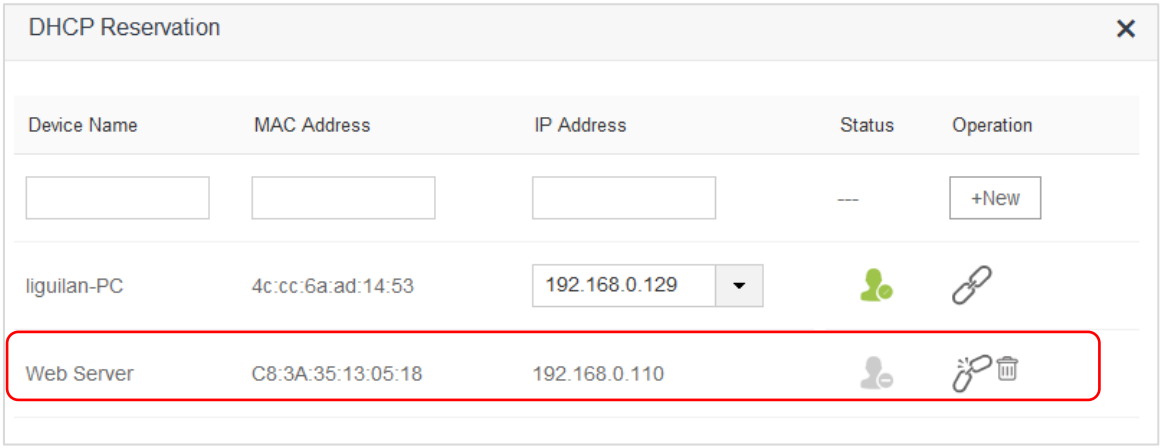
   (3) **MAC Address**: Enter the MAC address of the host, which is **C8:3A:35:13:05:18** in this example.

   (4) **IP Address**: Enter the static IP address assigned to the host, which is **192.168.0.110** in this example.

   (5) Click **+New**.

—End

DHCP reservation rule is added successfully. See the following figure:



Verification

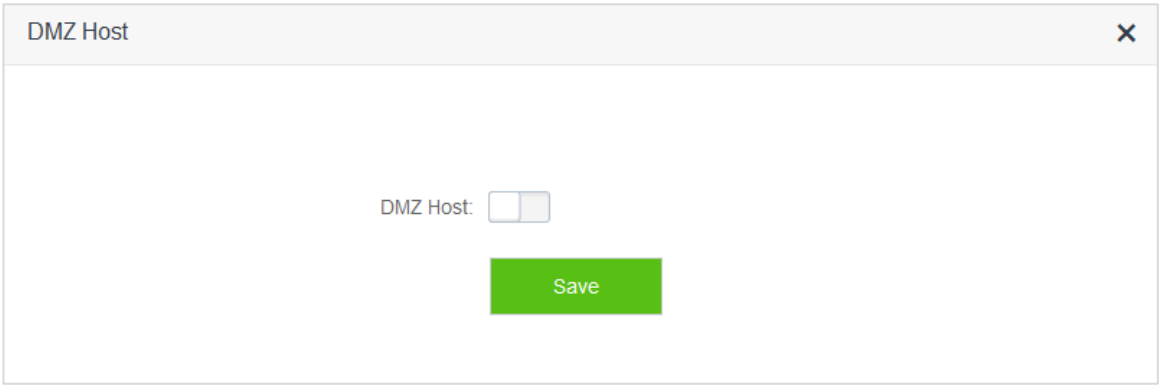
Internet users visit this web server in the form of “Protocol: //WAN IP address: external port”, which is **http://102.33.66.88:80** in this example. Then perform according to on-screen instructions.

If you want to visit that server by domain name, you can try the “Virtual Server + DDNS” method.

10.11 DMZ Host

If you can set a computer in LAN as DMZ host, that computer will become available to the internet completely, which achieves unlimited bidirectional communication. When you play games or have video meeting on some computer, you can set it as DMZ host for better user experience.

To access the configuration page, click **Advanced Settings** > **DMZ Host**. By default, the function is disabled.

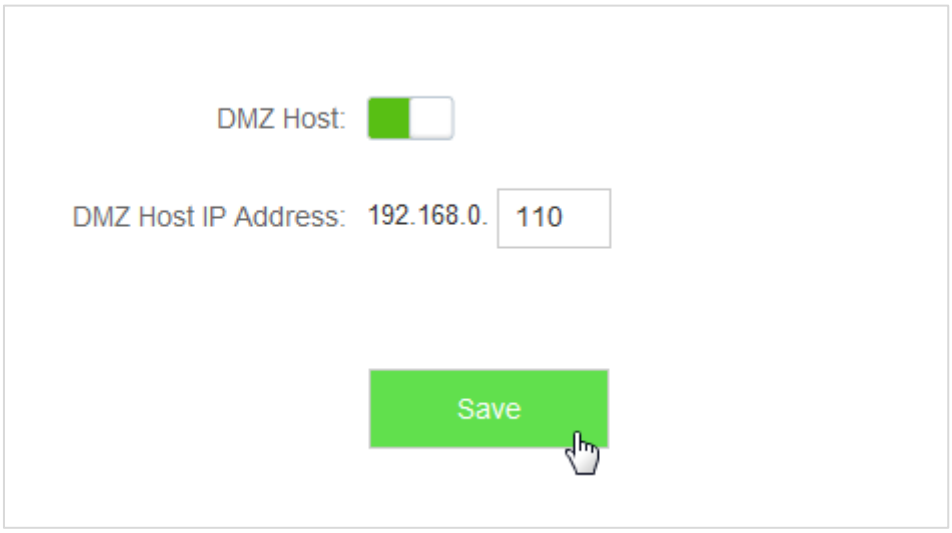


NOTE

- A DMZ host is not protected by firewall of the router because it is exposed to the internet completely. A hacker may leverage the DMZ host to attack your LAN. Therefore, enable the DMZ function only when necessary.
- Set a static IP address for a DMZ host, to prevent changes of dynamic IP addresses which lead to DMZ function failures.
- Security software, antivirus software, and the built-in OS firewall of the computer may cause DMZ function failures. Disable them when using the DMZ function.
- If the DMZ function is not required, it is recommended that you disable the function and enable your firewall, security, and antivirus software.

Example: Setting a computer to DMZ host

1. To access the configuration page, click **Advanced Settings** > **DMZ Host**.
2. **DMZ Host**: Switch to .
3. **DMZ Host IP Address**: Enter the last part of the IP address of the computer to be set to DMZ host, which is **110** in this example.
4. Click **Save**.

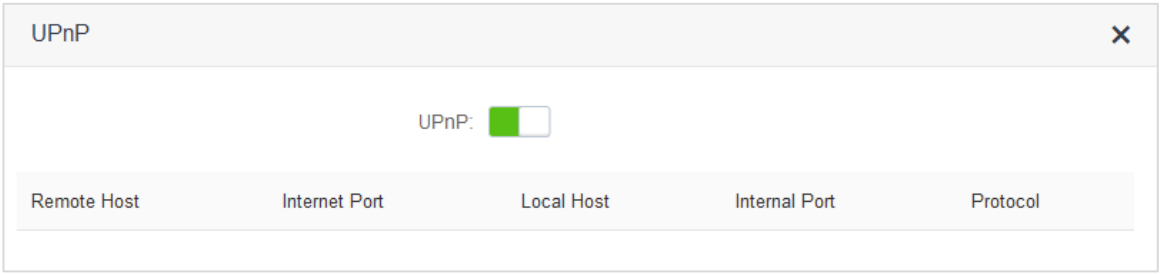


—End

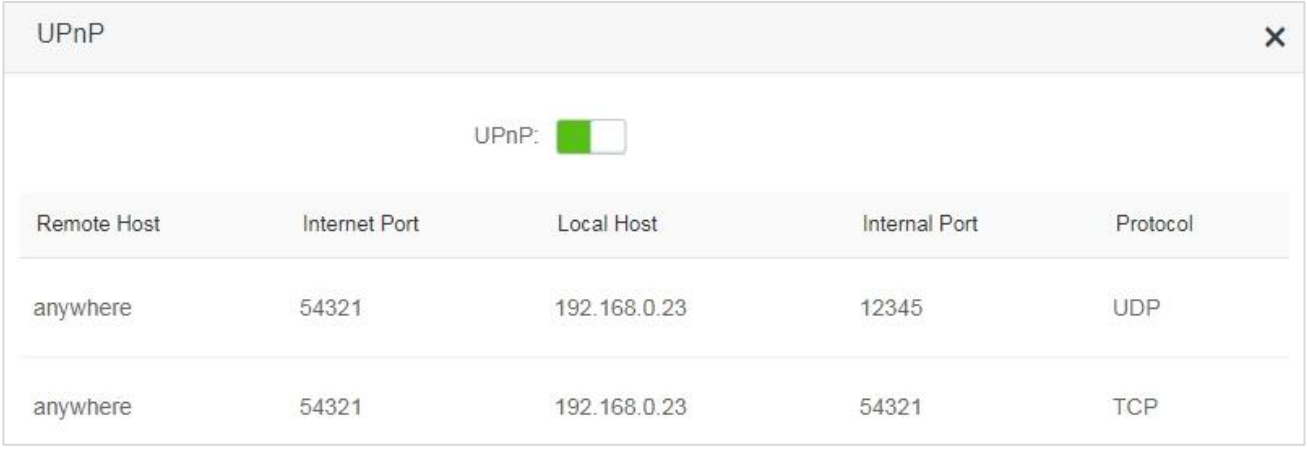
10.12 UPnP

Universal Plug and Play (UPnP) is a set of networking protocols. This function enables the router to open ports for LAN apps supporting UPnP, which improves user experience.

To access the configuration page, click **Advanced Settings** > **UPnP**. By default, the UPnP function is enabled.



After UPnP is enabled, port transfer information displays on the configuration page when UPnP application, such as Thunder, is running in the LAN network. Port transfer information is provided when apps make requests. See the following figure.



11 System Settings

This module includes LAN Settings, DHCP Reservation, WAN Settings, Time Settings, Login Password, Reboot and Reset, Firmware Upgrade, Backup/Restore, Remote Management, System Status, System Log, and Automatic Maintenance.

11.1 LAN Settings

11.1.1 Overview

This module enables you to do the followings:

- Modify the LAN IP address of the router.

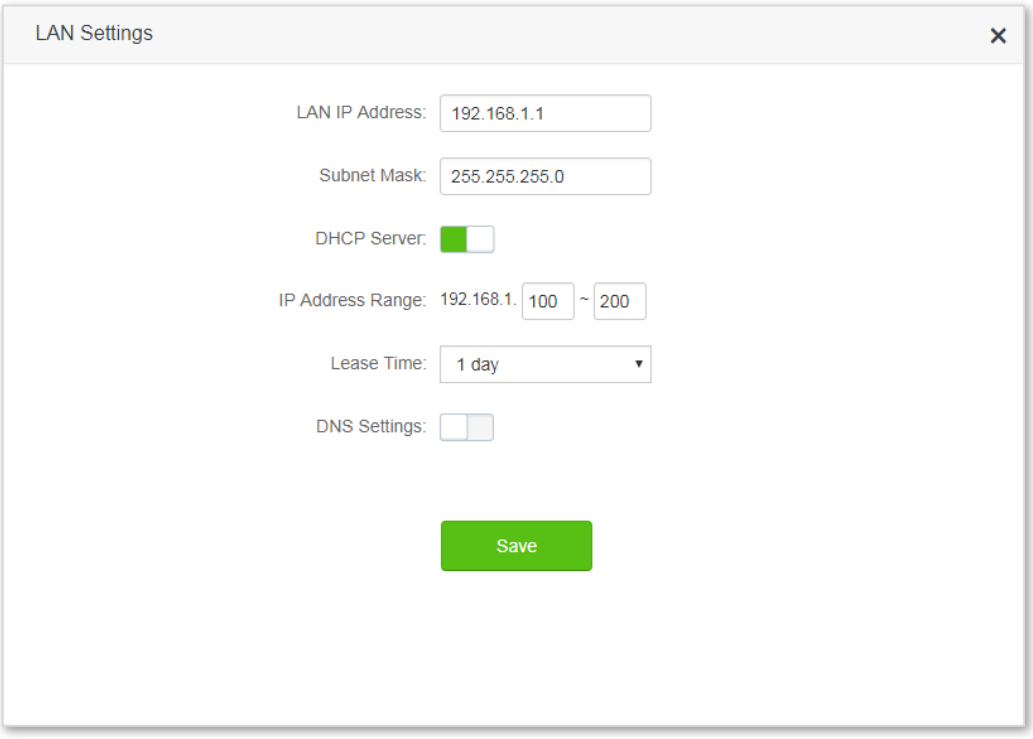
  The LAN IP address is the management IP address of the router, which is 192.168.0.1 by default and can be modified if necessary.

- Modify parameters of the DHCP server.

  If the DHCP Server is enabled, the DHCP server can automatically assign IP address, subnet mask, gateway and so on to the clients connected to the router. If this function is disabled, you have to manually configure the IP address of your client to access the internet. You are recommended to retain the DHCP server enabled.

- Configure the DNS settings assigned to the client.

To access the configuration page, choose **System Settings** > **LAN Settings**.

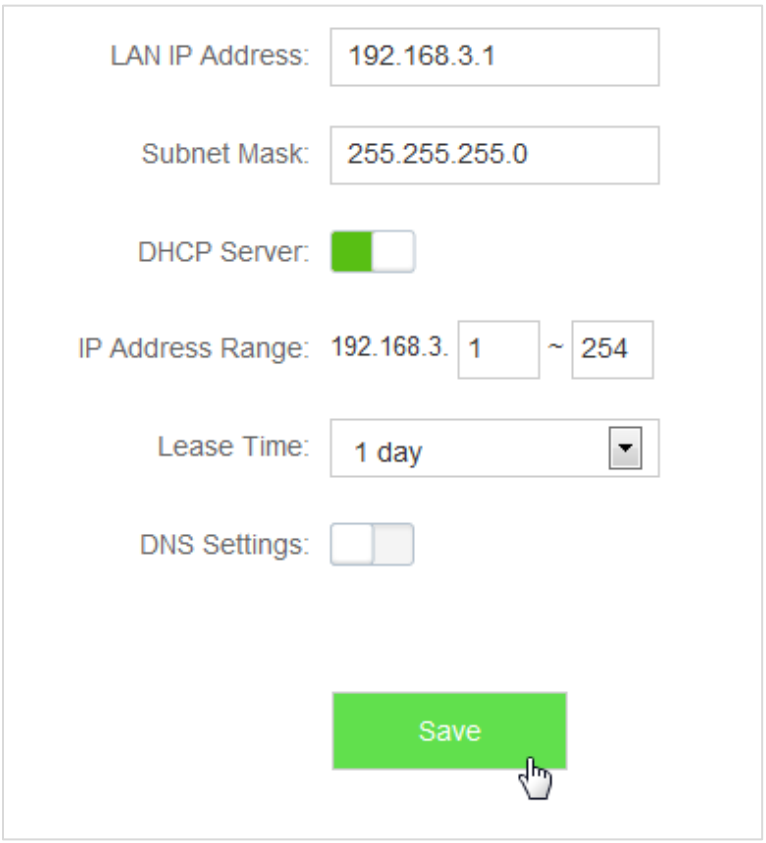


Parameter descriptions

Parameter		Description
LAN IP Address		It specifies the LAN IP address of the router, which is the IP address to log in to the web UI of the router. You can login to the web UI of the router through either IP address (default 192.168.0.1) or the domain name (tendawifi.com).
Subnet Mask		It specifies the subnet mask of the IP address of the router.
DHCP Server	**IP Address Range**	It specifies the IP addresses assigned by the DHCP server to clients which range from 192.168.0.100-192.168.0.200 by default.
	Lease Time	It specifies the validity period of an IP address assigned by the DHCP server to a client. When the lease time expires: ● If the client is still connected to the router, the client automatically extends the lease time and continues to use this IP address. ● If the client has been disconnected (shutdown, or the Ethernet cable between the client and the router has been removed) from the router, the router recycles the IP address. The router assigns this IP address to other clients requested for IP addresses. You are recommended to retain the default value**.**
DNS Settings	**Primary DNS Server**	It specifies the primary DNS server IP address assigned by the DHCP server to LAN clients. NOTE Generally, you are recommended to retain the default configuration. To enable clients to access the internet, set this parameter to a correct DNS server IP address or DNS proxy IP address.
	Secondary DNS Server	It specifies the secondary DNS server IP address assigned by the DHCP server to clients. This parameter is optional.

11.1.2 Modifying the LAN IP Address

1. To access the configuration page, choose **System Settings** > **LAN Settings**.
2. Modify the **LAN IP Address**, which is **192.168.3.1** in this example.



3. Click **Save**.

—End

Wait till the modification completes successfully, you will be redirected to the Login page.

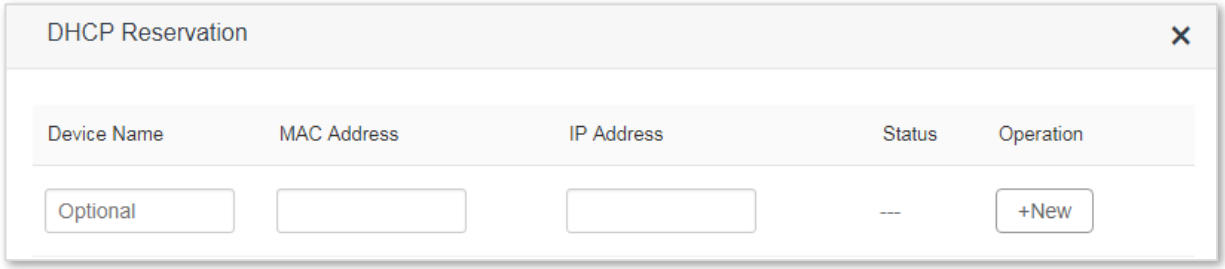
If you fail to log in to the web UI of the router, please log again by tendawifi.com. Or first ensure that the local area connection of your computer is set to Obtain an IP address automatically. Then release the current IP Address of the computer. Finally try to login again after your computer gets new IP Address.

For details about how to set local area connection of your computer, please refer to A1 Setting the IP Address of Your Computer in the appendixes.

11.2 DHCP Reservation

This function allows a client to obtain the same IP address all the time, and make the Virtual Server and DMZ Host functions take effect normally.

To access the configuration page, choose **System Settings** > **DHCP Reservation**.



Parameter descriptions

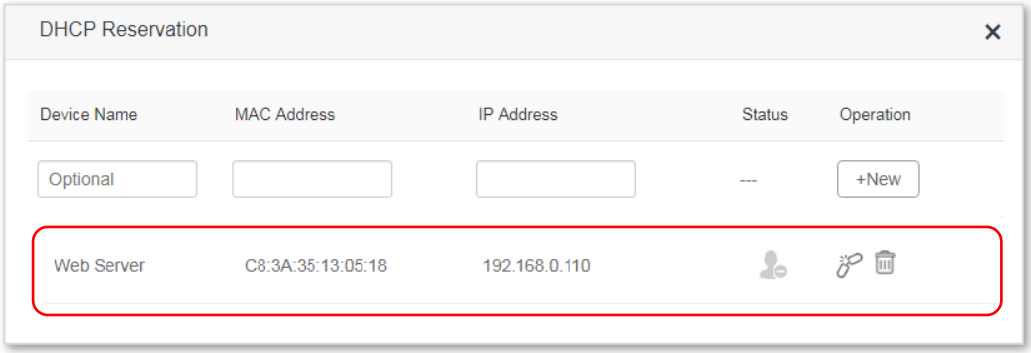
Parameter	Description
Device Name	It specifies the device name to be bound with a static IP address.
MAC Address	It specifies the MAC address of a client.
IP Address	It specifies the IP address to be bound with the device indicated by the corresponding MAC address.
Status	It indicates whether a device is online or offline.
Operation	It is used to edit a DHCP Reservation rule, including four operations. ● +New: Click it to add a DHCP Reservation rule. ● : Click it to bind a device with a static IP. ● : Click it to unbind a device with a static IP. ● : Click it to delete a DHCP Reservation rule.

11.2.1 Adding a DHCP Reservation Rule

1. To access the configuration page, choose **System Settings** > **DHCP Reservation**.
2. **Device Name**: Enter the device name used to assign static IP addresses, which is **Web Server** in this example.
3. **MAC Address**: Enter the MAC address of the client, which is **C8:3A:35:13:05:18** in this example.
4. **IP Address**: Enter the static IP address assigned to the client, which is **192.168.0.110** in this example.
5. Click **+New**.

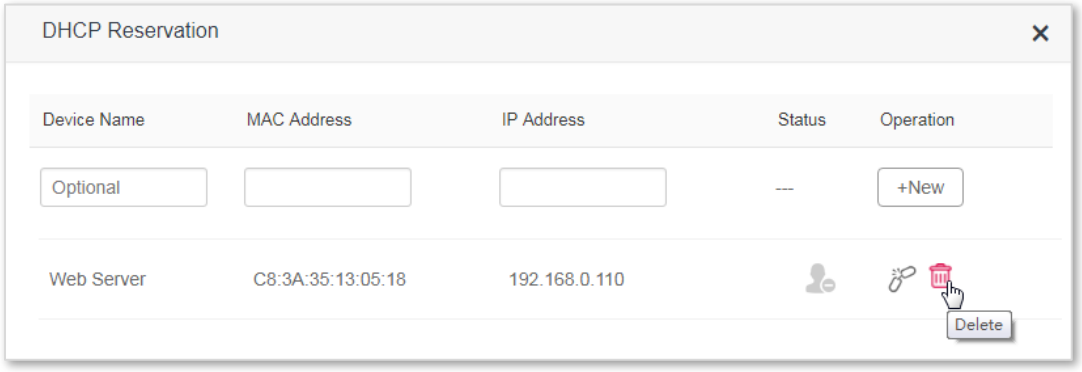
—End

The rule is added successfully. See the following figure:



11.2.2 Deleting a DHCP Reservation Rule

1. To access the configuration page, choose **System Settings** > **DHCP Reservation**.
2. Locate the rule to be deleted, and click .



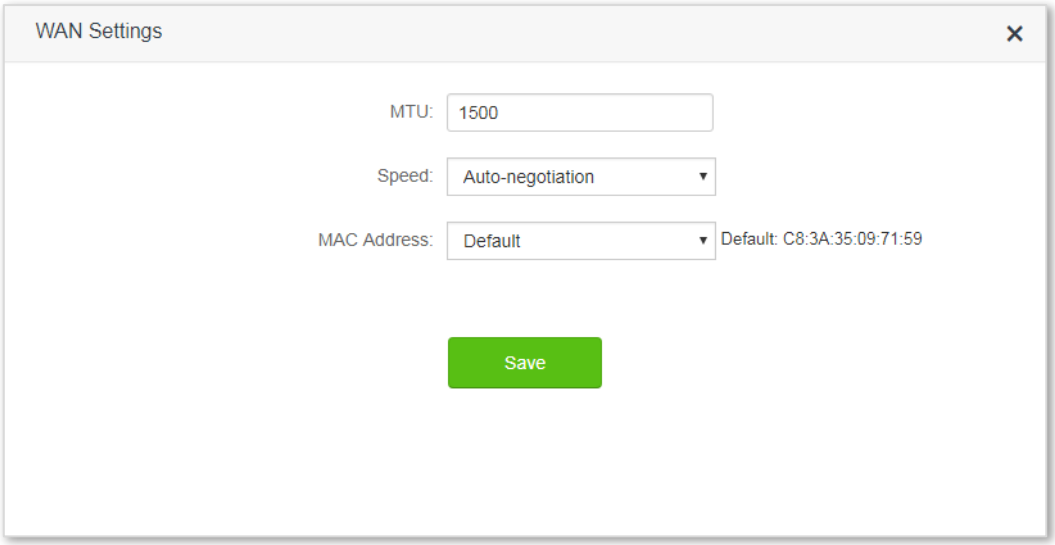
—End

11.3 WAN Settings

11.3.1 Overview

This module enables you to modify MTU, speed and MAC address of the WAN port. If you cannot access the internet after configuring the internet settings, change the WAN parameters of the router.

To access the configuration page, choose **System Settings** > **WAN Settings**.



Parameter descriptions

Parameter	Description
MTU	Maximum transmission unit (MTU). It specifies the size of the largest data packet that can be transmitted across the network devices. You are recommended to retain the default value.
Speed	It specifies the WAN speed negotiation mode of the router. If the LED indicator of the WAN port is off, or does not turn on until 5 seconds

Parameter	Description
	later under the circumstance that the quality Ethernet cable has been connected correctly. You can select **10 Mbps FDX** or **10 Mbps HDX** from the drop-down list box of **Speed**. Otherwise, you are recommended to retain the default configuration **Auto-negotiation**.
MAC Address	It is used to clone the MAC address accessible to the internet to the WAN port of the router. If the router cannot access the internet after you configure the internet settings, it is perhaps that the ISP has bound the connection information with a MAC address. In this case, you can try to clone the MAC address, and try to access the internet again. ● **Default**: It is used to restore the MAC address of the WAN port of the router to factory settings. ● **Clone local MAC address**: It is used to set the MAC address of the WAN port to the MAC address of the current device managing the router. ● **Set MAC address**: It is used to set the MAC address of the WAN port manually.

11.3.2 Modifying MTU Value

You are recommended to retain the default value of MTU, unless the following cases happen:

- Websites, for example secure websites (PayPal login page) are inaccessible.
- Email service fails, or FTP, POP and other servers are inaccessible.

In these cases, you can try to decrease the MTU value from the maximum value 1500 (recommended range: 1400-1500).

MTU	Description
1500	It is commonly used for non-PPPoE and non-VPN dial-up connections.
1492	It is used for PPPoE dial-up connections.
1472	It is the maximum value for the ping command. (A packet with a larger size is splitted.)
1468	It is used for DHCP connections.
1436	It is used for VPN or PPTP connections.

11.3.3 Changing the MAC Address of the WAN Port

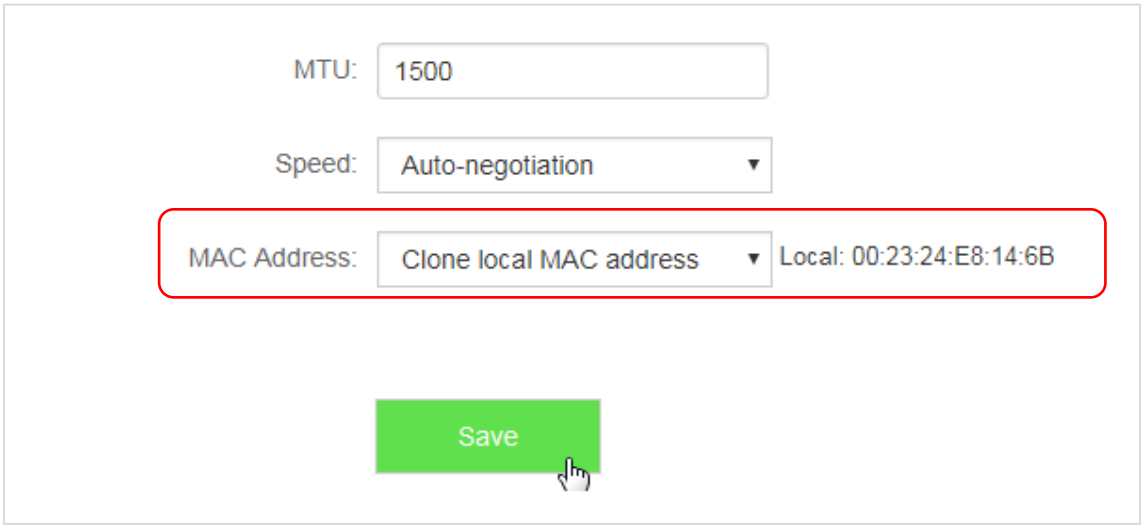
NOTE

Ensure that the MAC address to be cloned is correct! The MAC address of the computer that can access the internet properly or the MAC address of the WAN port of the router that can access the internet properly is the correct one.

1. To access the configuration page, choose **System Settings** > **WAN Settings**.

2. **MAC address**: Select **Clone local MAC address** or **Set MAC address** from the drop down list box. If you select **Set MAC address**, enter the MAC address that you want to clone. If you select **Clone local MAC address**, configure this function on the computer with correct MAC address.

3. Click **Save**.



—End

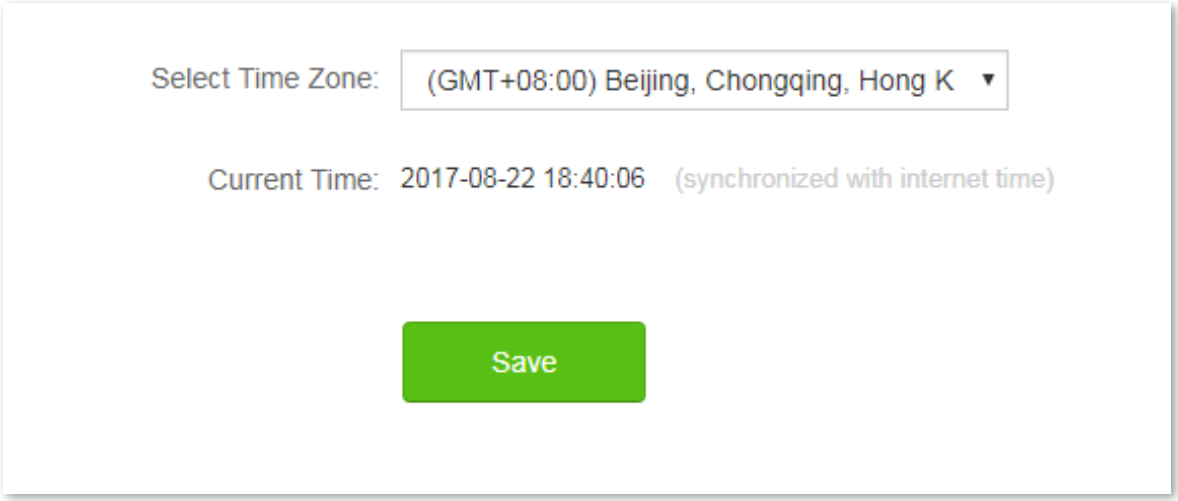
To verify if cloning MAC address is successful, choose System Settings > System Status, if the MAC address under the WAN Status is same as the MAC address you select to clone, MAC address cloning successes. If the internet is inaccessible after you clone the MAC address successfully, contact your ISP to resolve this issue.

11.4 Time Settings

This module enables you to set the system time of the router. Correct system time of the router can make time-based functions, such as the WiFi Schedule, Parental Control, LED Control, Sleeping Mode, and Automatic Maintenance functions take effect normally. Please keep the system time of your router correct.

To access the configuration page, choose **System Settings** > **Time Settings**.

The default time zone of the router is **(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi, Taipei**. After connected, the router automatically synchronizes its system time with the time zone you select.

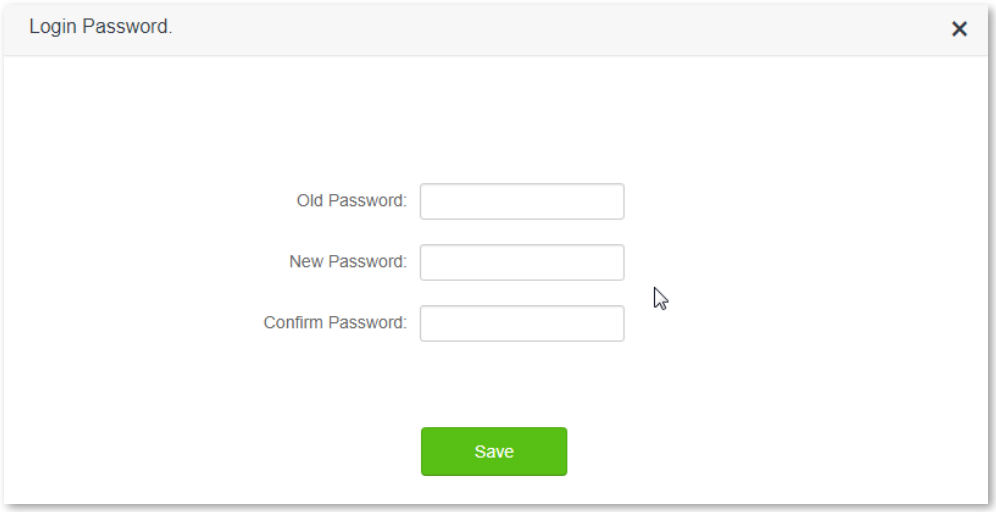


11.5 Login Password

11.5.1 Overview

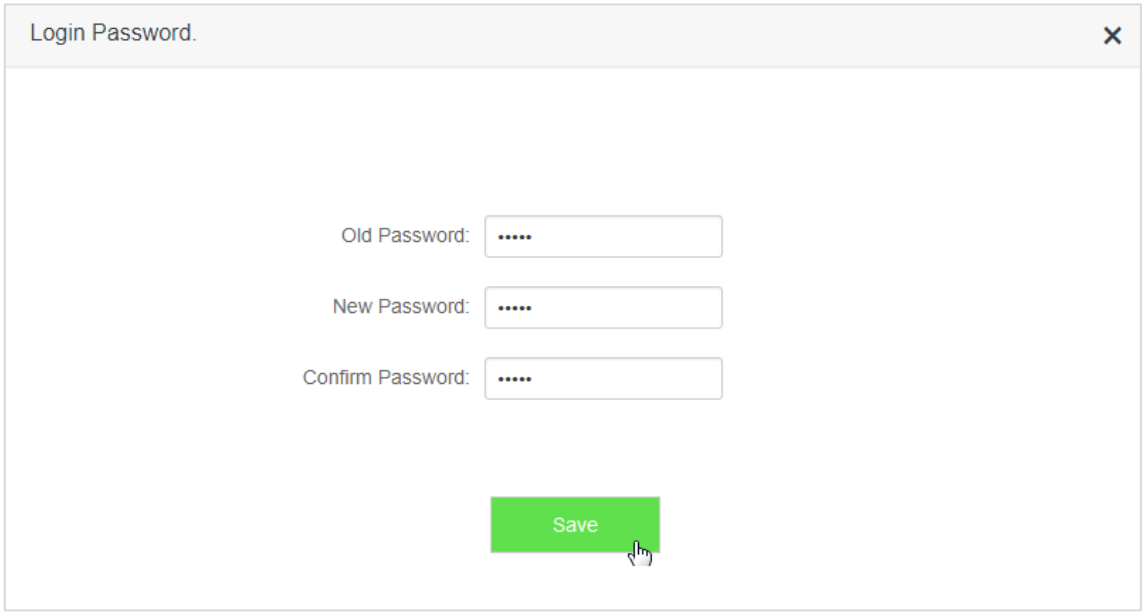
This module enables you to modify the login password of the router. The login password is used to log in to the web UI of the router. By default, the router has no login password. You are recommended to set a login password by following the **Quick Setup Wizard** when you use the router for the first time.

To access the configuration page, choose **System Settings** > **Login Password**.



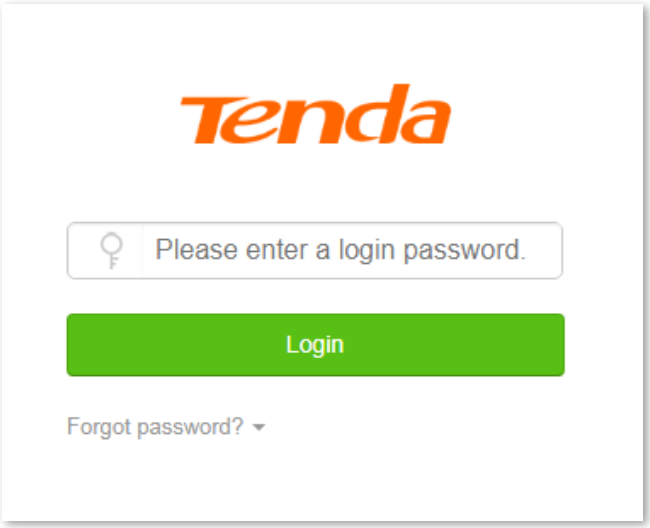
11.5.2 Changing the Login Password

1. To access the configuration page, choose **System Settings** > **Login Password**.
2. **Old Password**: Enter the current login password of the router.
3. **New Password**: Set a new login password.
4. **Confirm Password**: Enter the new login password again.
5. Click **Save**.



—End

You will be redirected to the login page. Enter the new login password, and click **Login** to login to the web UI of the router.

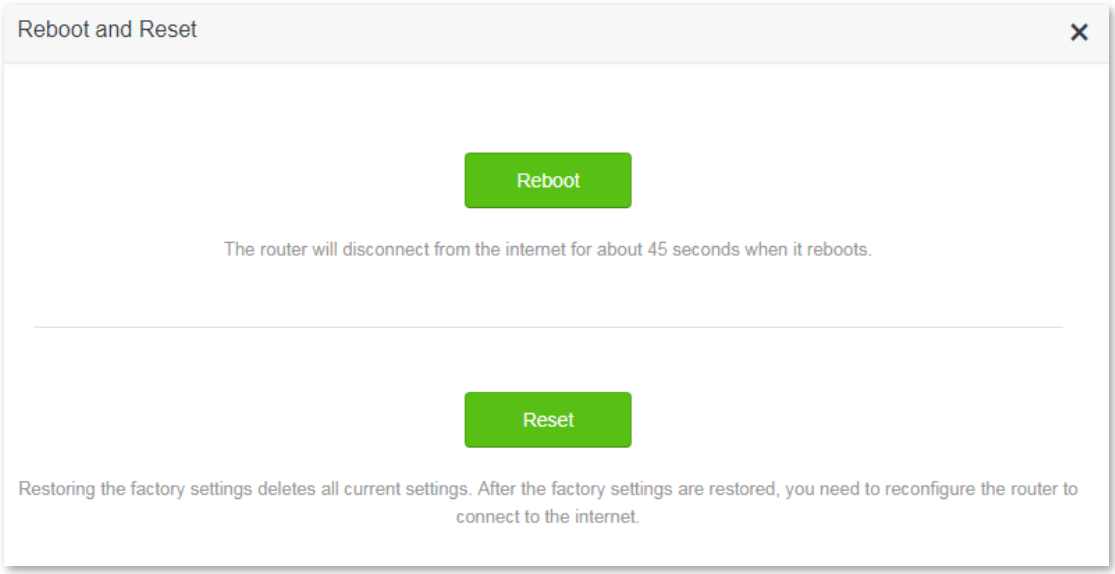


11.6 Reboot and Reset

11.6.1 Overview

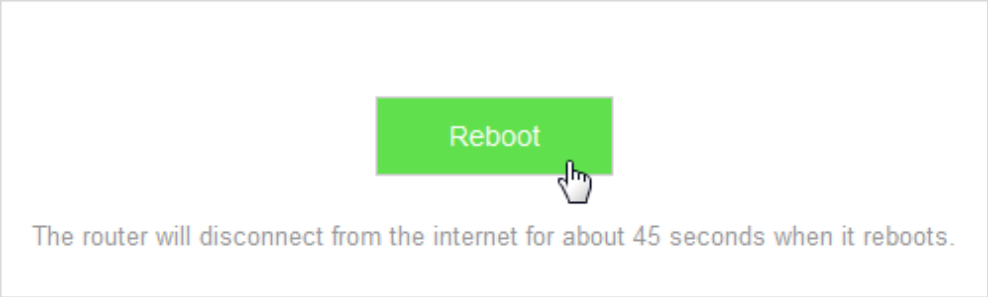
This module enables you to reboot the router or restore the router to factory settings.

- If a setting does not take effect or the router does not work properly, you can try rebooting the router to resolve the problem.
- If the internet is inaccessible for unknown reasons, or you forget the login password, you are recommended to restore the router to factory settings and reconfigure it. The router can be reset using the web UI or the WPS/Reset button on the back panel of the router. After resetting the router, refer to **Chapter 2** to configure your router for internet connection.
- To access the configuration page, choose **System Settings** > **Reboot and Reset**.



11.6.2 Rebooting the Router

1. To access the configuration page, choose **System Settings** > **Reboot and Reset**.
2. Click **Reboot** and wait for the router to reboot.



—End

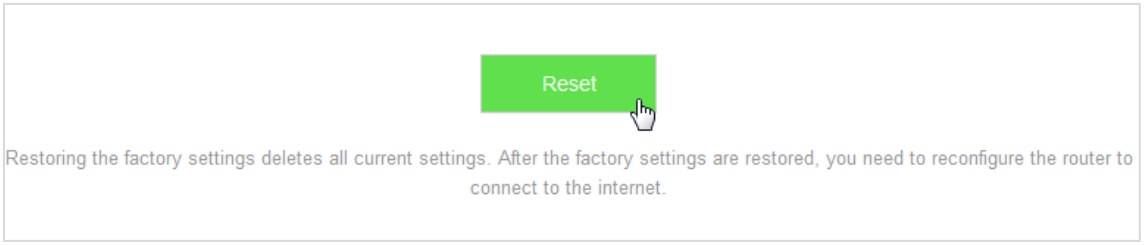
11.6.3 Resetting the Router

NOTE

- Resetting the router deletes your entire current configuration. You need to reconfigure the router to connect to the internet.
- Ensure that the power supply of the router is normal when resetting.

Resetting Using the Web UI

1. To access the configuration page, choose **System Settings** > **Reboot and Reset**.
2. Click **Reset** and wait for the router to restart.



—End

Resetting Using the WPS/Reset Button

Power on the router, and when the SYS indicator blinks, you can hold the **WPS/Reset** button down for 8 seconds and release it. Reset succeeds when all LED indicators blink.

11.7 Firmware Upgrade

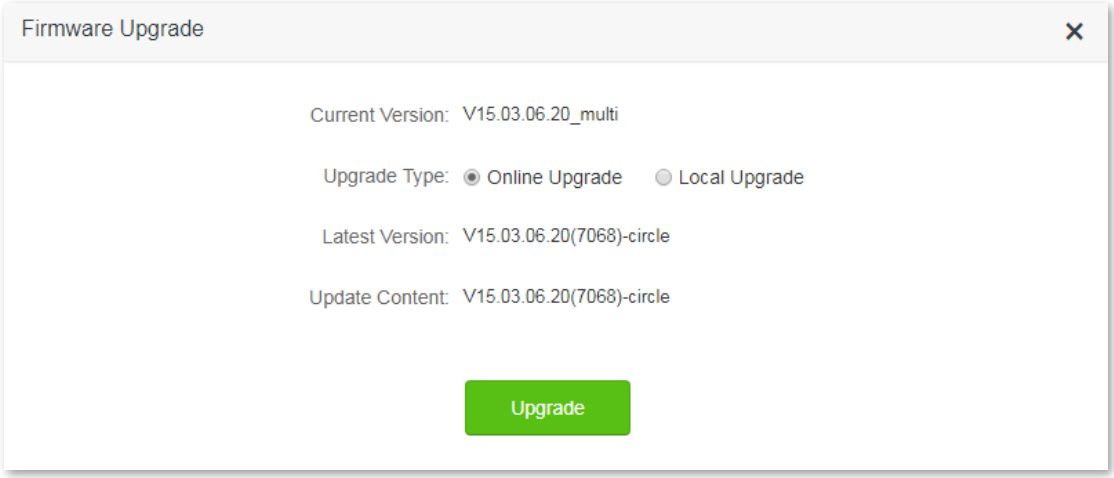
11.7.1 Overview

This module enables you to upgrade the firmware of the router.

Firmware upgrade offers the router with more stable performance and new features. The router supports **Online Upgrade** and **Local Upgrade**. If you select **Online Upgrade**, the router automatically detects if new

firmware is available and displays the information if any.

To access the configuration page, choose **System Settings** > **Firmware Upgrade**.

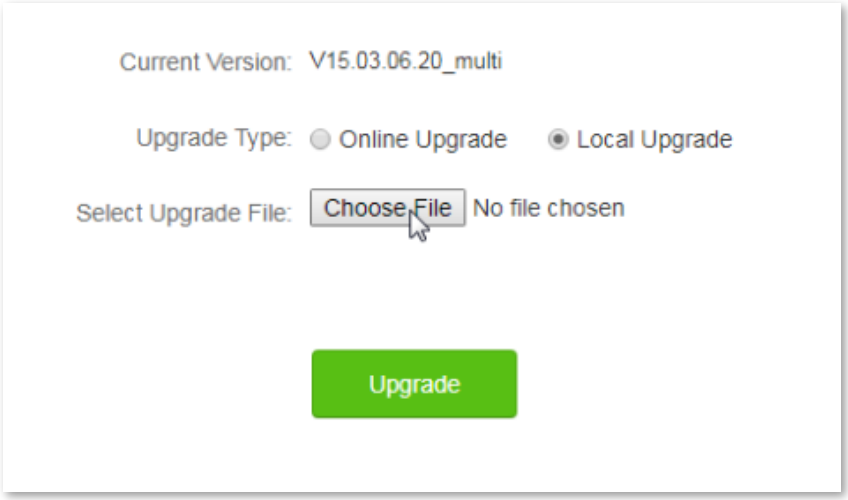


11.7.2 Steps for Local Upgrade

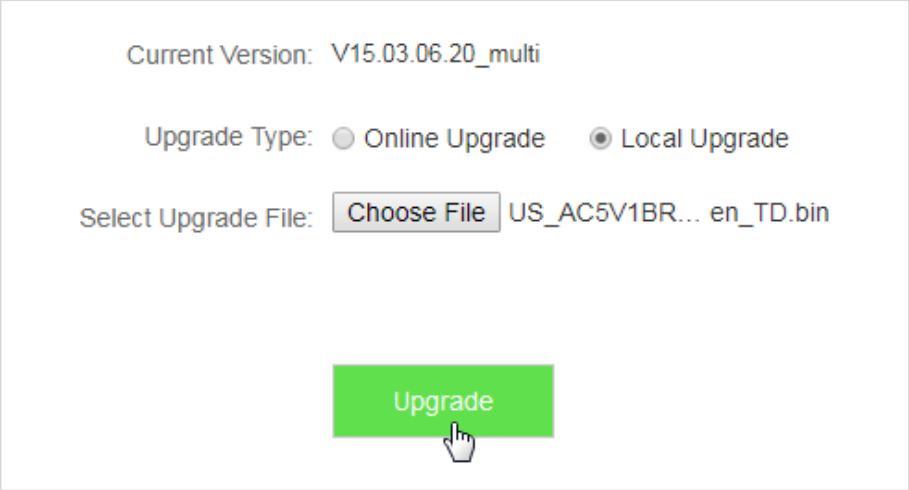
NOTE

- Before an upgrade, check whether the firmware is accurate. Erroneous firmware will damage the router.
- Do not power off the router during an upgrade. Otherwise, the router may be damaged.
- After the firmware is upgraded, you are recommended to restore the factory settings of the router and configure the router again, so as to ensure stability of the router and proper operation of new functions.

1. Go to the official website of Tenda http://www.tendacn.com, and download the latest firmware to your computer.
2. Log in to the web UI of the router, and choose **System Settings** > **Firmware Upgrade**.
3. **Upgrade Type**: Click **Local Upgrade**.
4. **Select Upgrade File**: Click **Choose File**, and select the downloaded firmware.



5. Click **Upgrade**.



—End

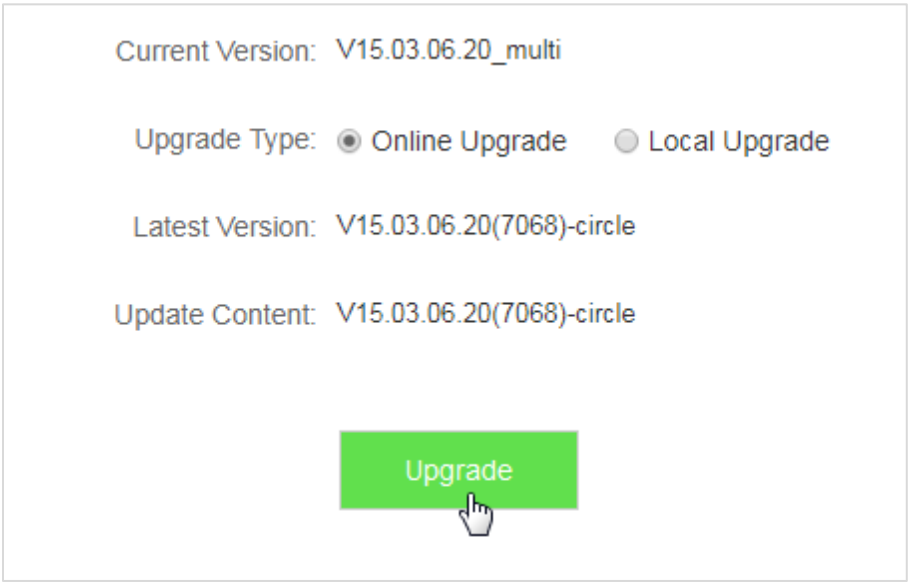
Wait a second for the upgrade to complete. You can go to the **Internet Status** page to see if the upgrade is successful.

1. Log in to the web UI of the router, restore the router to the factory settings, and reconfigure.
2. After login to the web UI, click **System Settings** > **Firmware Upgrade**.
3. Check whether the current firmware version of the router is the same as the one you used for upgrade just now.

11.7.3 Steps for Online Upgrade

After connecting to the internet, the router automatically detects the firmware version. You can choose **Online Upgrade** if new firmware is available.

1. To access the configuration page, choose **System Settings** > **Firmware Upgrade**.
2. Click **Upgrade**.



—End

Wait for the upgrade to complete. You will be redirected to the login page of the router after upgrade.

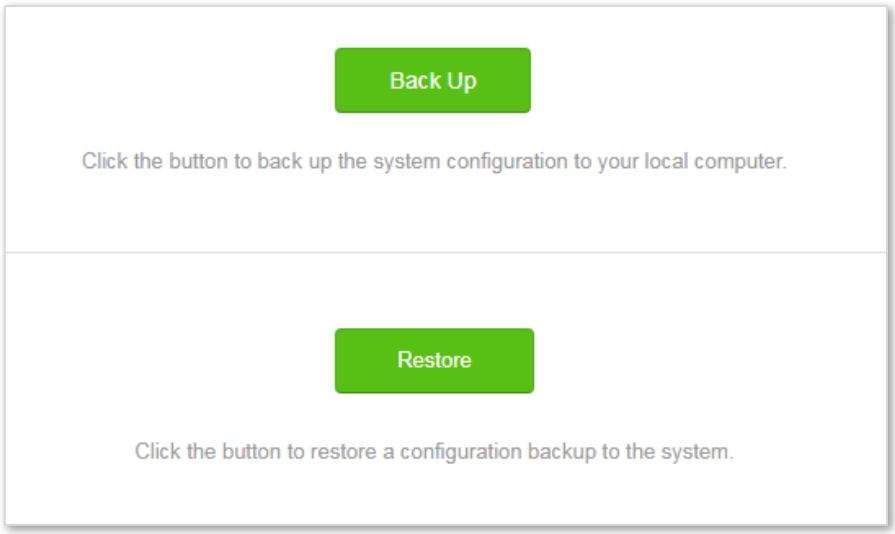
11.8 Backup/Restore

11.8.1 Overview

This module enables you to back up the current configuration of your router to the local computer, or restore your router to a previous configuration by importing the configuration file on the local computer.

You can back up the current configuration of the router to prevent cases of restoring factory settings caused by malfunction of the router. After you clicking **Back Up**, the system generates a configuration file. If the router is restored to factory settings, importing the configuration file can restore the router to the previous settings.

To access the configuration page, choose **System Settings** > **Backup/Restore**.



- **Back Up**: It is used to back up the current configuration of the router.
- **Restore**: It is used to restore the router to the previous settings by importing the backup configuration file.

11.8.2 Steps for Back Up

1. To access the configuration page, choose **System Settings** > **Backup/Restore**.
2. Click **Back Up**.
3. Follow the onscreen instructions to backup.

—End

A file with suffix .cfg is saved to your computer.

11.8.3 Steps for Restoring the Configuration

1. To access the configuration page, choose **System Settings** > **Backup/Restore**.
2. Click **Restore,** and select the configuration file to be restored.
3. Wait for the router to reboot.

—End

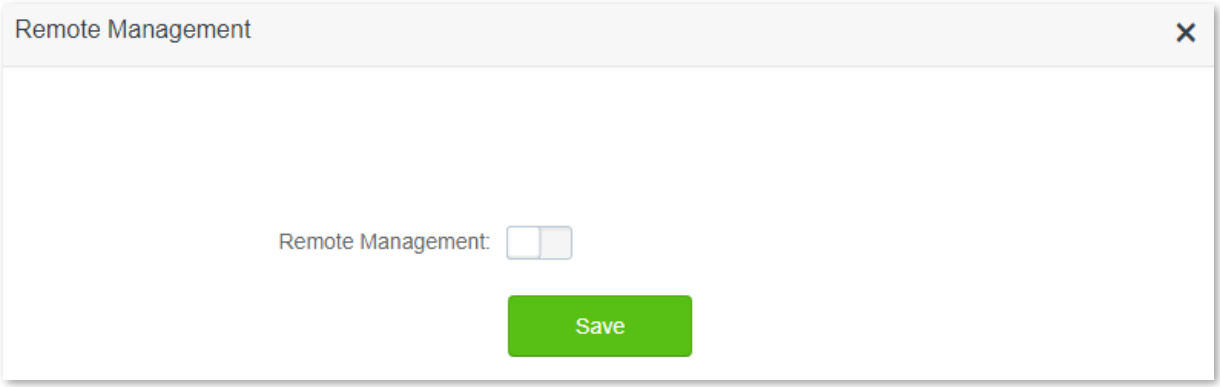
11.9 Remote Management

11.9.1 Overview

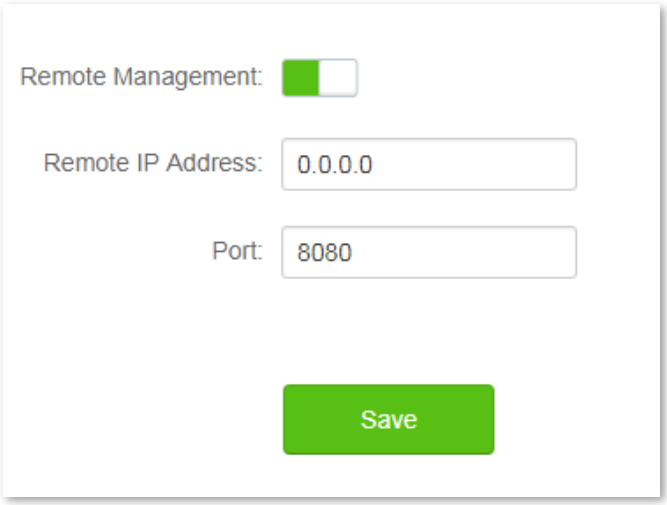
This module enables you to login to the web UI of the router over the internet.

Generally, only clients connected to the router can login to the web UI of the router. If necessary, you can login to the web UI of the router remotely over the internet.

To access the configuration page, choose **System Settings** > **Remote Management**.



Enable this function. See the following figure.

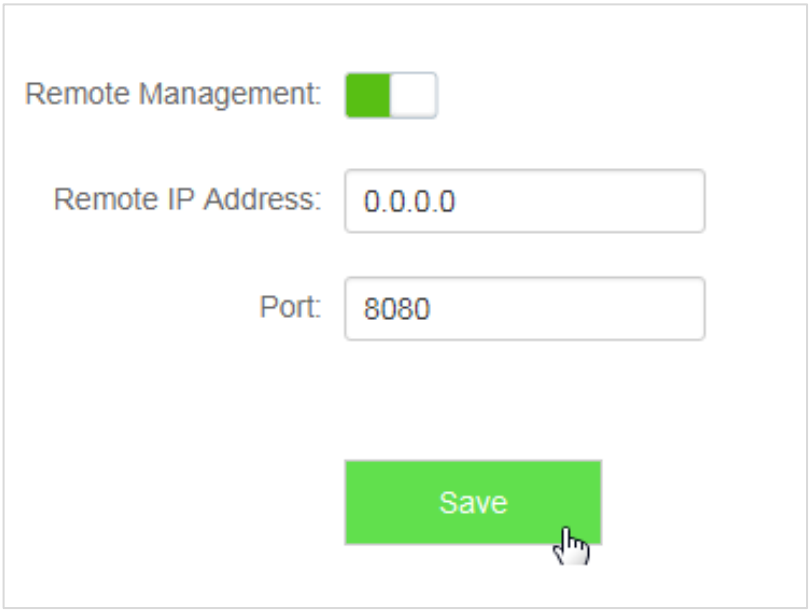


Parameters descriptions

Parameter	Description
Remote Management	It is used to enable/disable the function, which is disabled by default.
Remote IP Address	It specifies the IP addresses that can remotely access the router.
Port	It specifies the port number used when remotely managing devices. The default port is 8080, which can be modified if necessary. Since ports 1-1024 are used by well-known service, you are strongly recommended to set the value in the range of 1025-65535 to prevent port confliction.

11.9.2 Configuring Remote Management

1. To access the configuration page, choose **System Settings** > **Remote Management**.
2. **Remote Management**: Set to .
3. **Remote IP Address**: Set the IP addresses allowed to access the router remotely.
4. **Port**: Set the port number used for remote access. You are recommended to retain the default value if unnecessary.
5. Click **Save**.



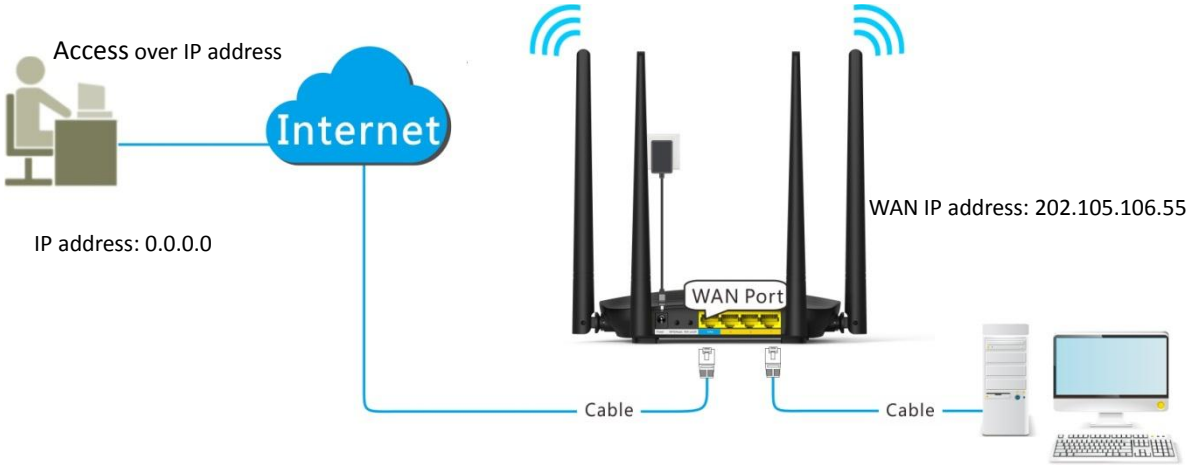
—End

11.9.3 Example

Michael bought an AC5 for network after having broadband. The WAN IP address of the router is 202.105.106.55.Michael needs to log into the web UI of the router on business trip.

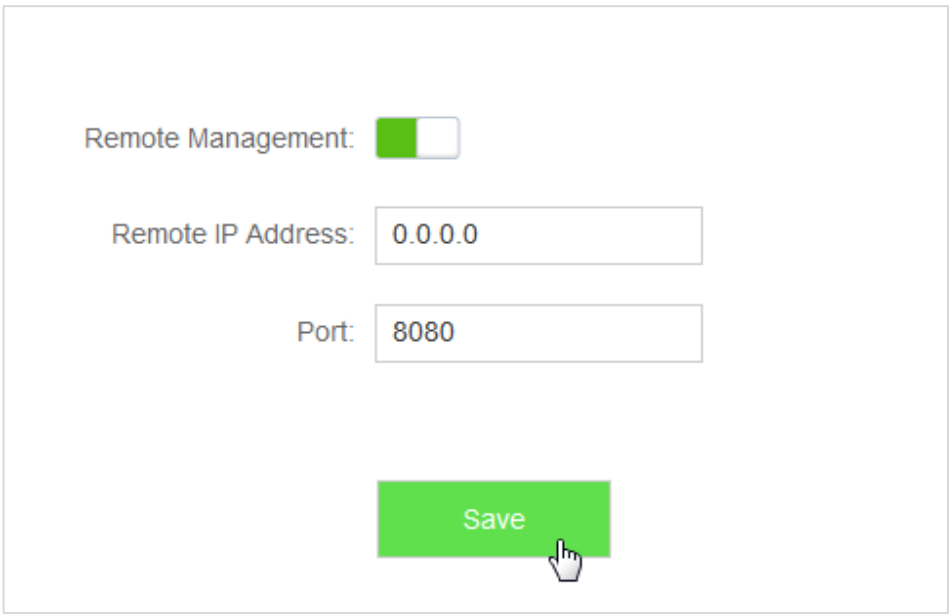
Solution

The remote management function can address this requirement. The following figure shows a topology for reference:



Procedures:

1. To access the configuration page, choose **System Settings** > **Remote Management**.
2. **Remote Management**: Set to .
3. **Remote IP Address**: Enter remote IP address, which is 0.0.0.0 in this example.
4. **Port**: Keep the default settings.
5. Click **Save**.



—End

Verification

You can log into the web UI of the router to manage it by accessing **http://202.105.106.55:8080** on the remote computer with the IP address **0.0.0.0**.

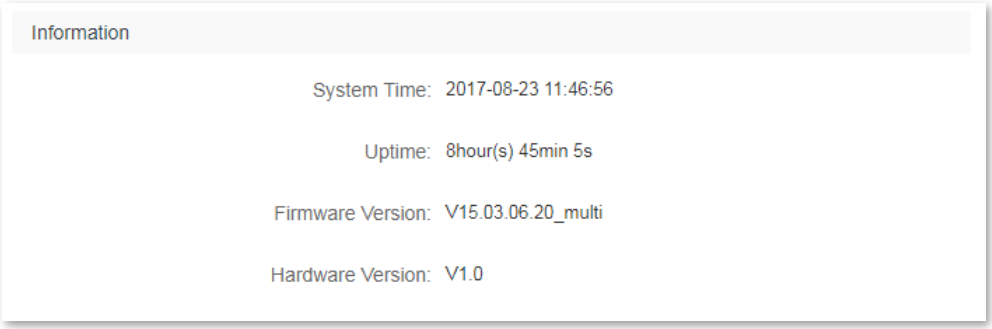
11.10 System Status

This module enables you to view the basic information of the router, including the **Information**, **WAN Status**, **LAN Status**, and **WiFi Status** sections.

To access the configuration page, choose **System Settings** > **System Status**.

11.10.1 Information

This module enables you to view system time, uptime, firmware version, and hardware version. See the following figure:

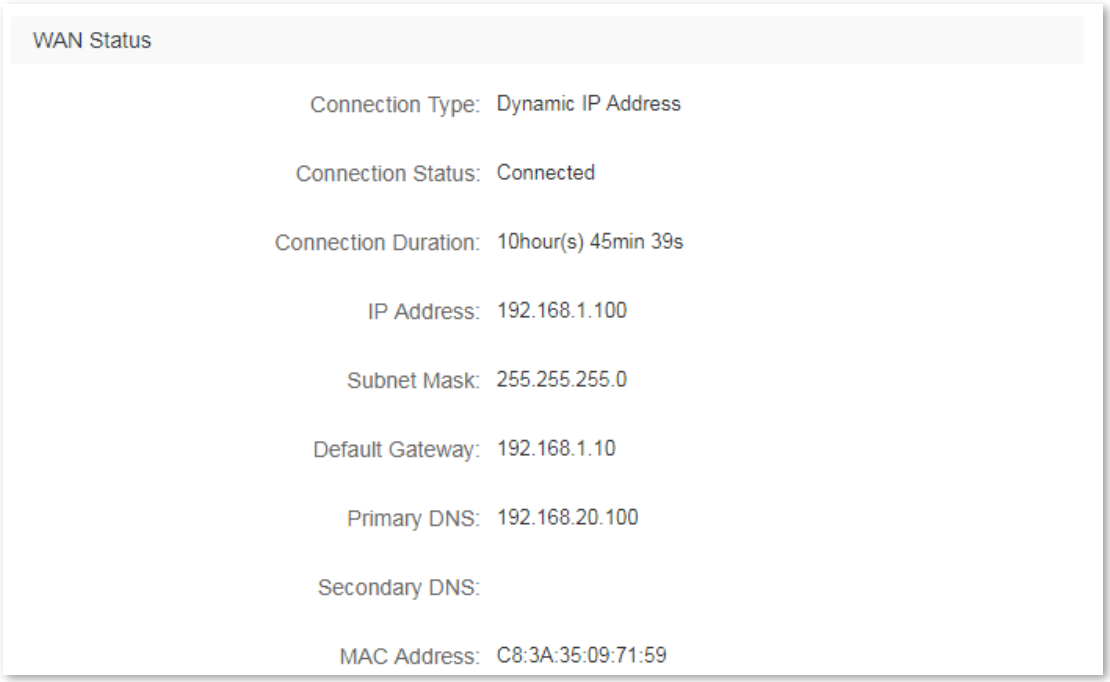


Parameters descriptions

Parameter	Description
System Time	It specifies the current system time of the router. Ensure that the router is connected to the internet properly.
Uptime	It specifies the time that has elapsed since the router was previously started.
Firmware Version	It specifies the current firmware version of the router. You can check whether the firmware upgrade configured in **Firmware Upgrade** succeeded here.
Hardware Version	It specifies the current hardware version of the router.

11.10.2 WAN Status

This module enables you to view the WAN status of the router. See the following figure:

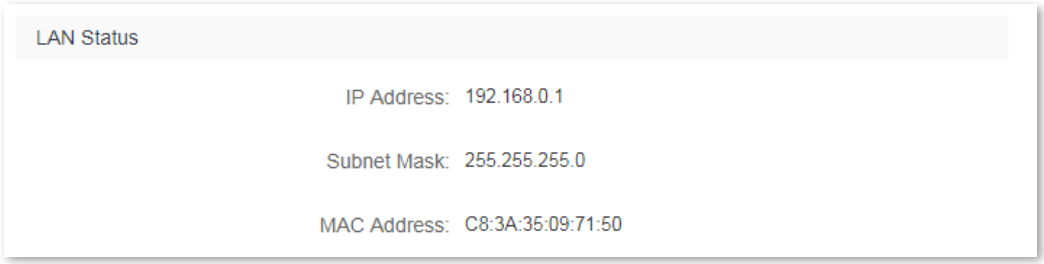


Parameters descriptions

Parameter	Description
Connection Type	It specifies the current connection type of the router.
Connection Status	It specifies the current connection status of the router.
Connection Duration	It specifies the time that has elapsed since the router was connected to the internet previously.
IP Address	It specifies the WAN IP address of the router. Functions, such as **Virtual Server** or **Remote Management** require the WAN IP address.
Subnet Mask	It specifies the subnet mask of the WAN IP address.
Default Gateway	It specifies the gateway assigned to the router.
Primary DNS	It specifies the primary DNS assigned to the router.
Secondary DNS	It specifies the secondary DNS assigned to the router.
MAC Address	It specifies the MAC address of the WAN port of the router. You can check whether the MAC clone configured in **WAN Settings** succeeded here.

11.10.3 LAN Status

This module enables you view the LAN IP address (also the login IP address) of the router.

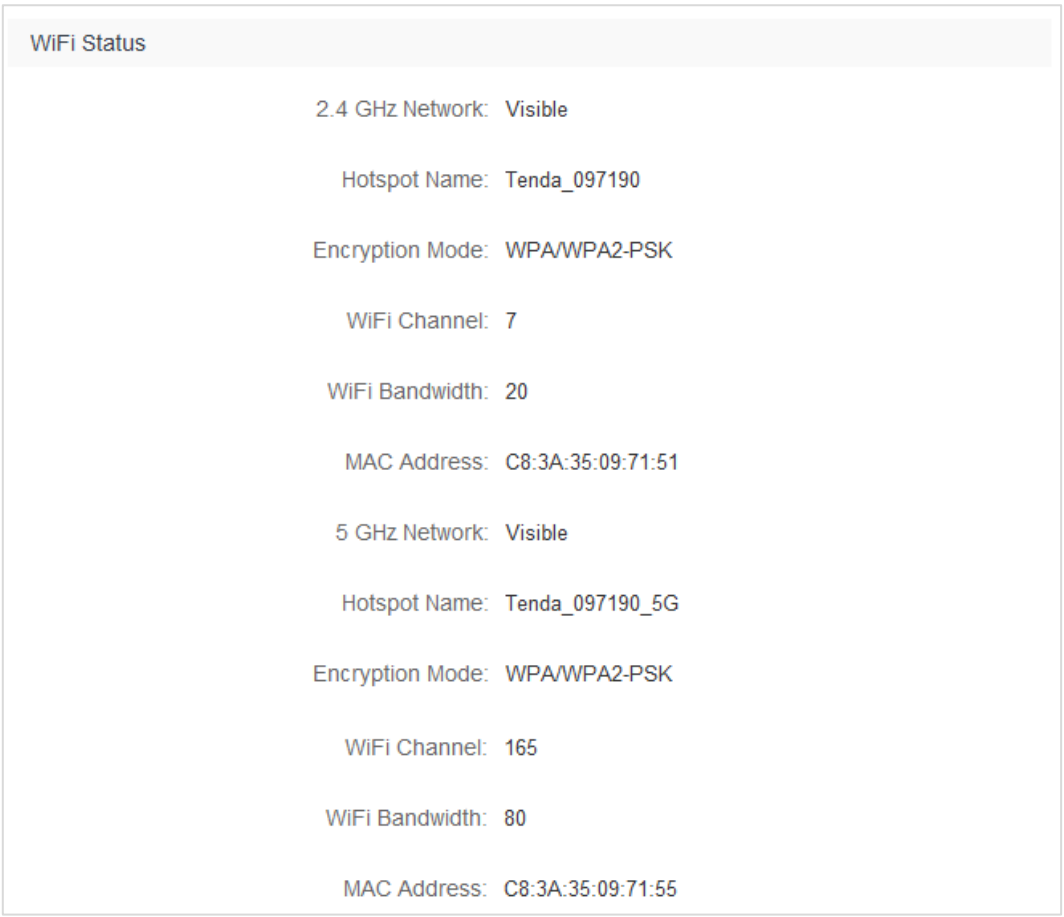


Parameters descriptions

Parameter	Description
IP Address	It specifies the LAN IP address of the router, which is the IP address to log into the web UI of the router. You can log in to the web UI of the router through either IP address (default **192.168.0.1**) or the domain name (**tendawifi.com**).
Subnet Mask	It specifies the subnet mask of the IP address of the router.
MAC Address	It specifies the MAC address of the LAN port of the router.

11.10.4 WiFi Status

This module allows you to view the WiFi status of the router. See the following figure:



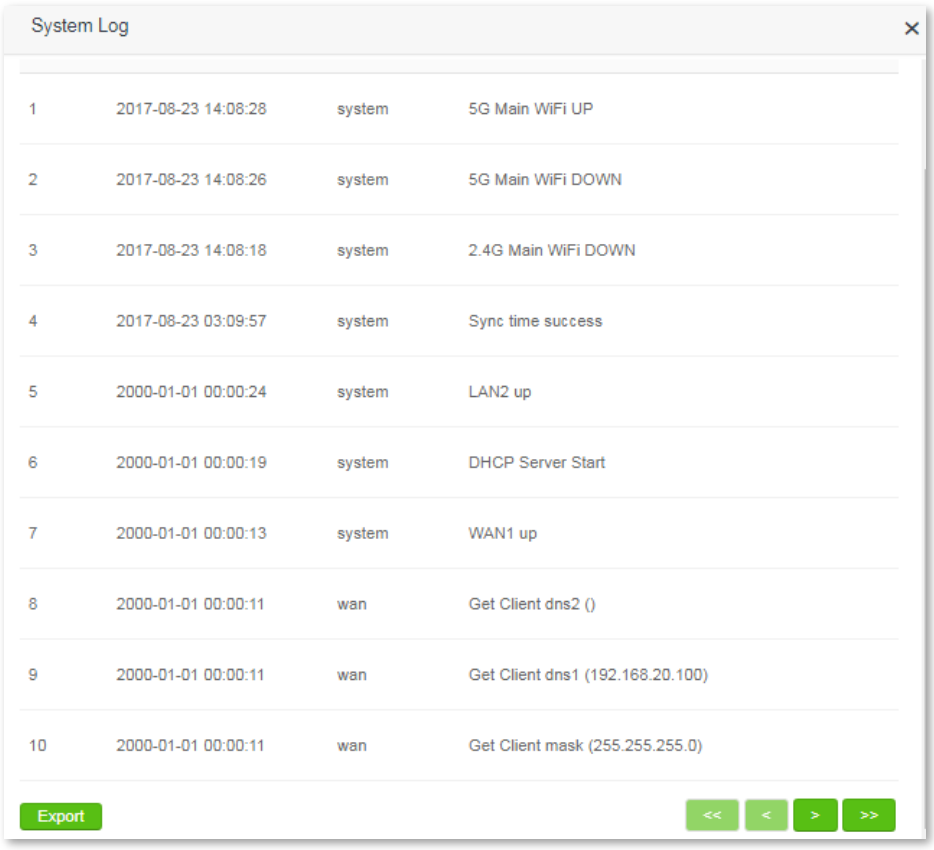
Parameters descriptions

Parameter	Description
2.4 GHz Network/ 5 GHz Network	It specifies the WiFi network status at 2.4 GHz /5 GHz network of the router. **Disable** indicates that the wireless network is disabled; **Visible** indicates that the wireless network is enabled for accessibility by connecting the corresponding Hotspot Name.
Hotspot Name	It specifies the current WiFi name of the router. After the 2.4 GHz /5 GHz wireless network is enabled, smart devices can scan and connect to it to access the internet.
Encryption Mode	It specifies the encryption mode of the wireless network of the router.
WiFi Channel	It specifies the current wireless data transmission channel of the router.
WiFi Bandwidth	It specifies the bandwidth, whose unit is MHz, of the operating channel of a WiFi network.
MAC Address	It specifies the MAC address of the WiFi network of the router.

11.11 System Log

This module enables you to view the system log information. The system log can be used for troubleshooting when the router is faulty.

To access the configuration page, choose **System Settings** > **System Log**.



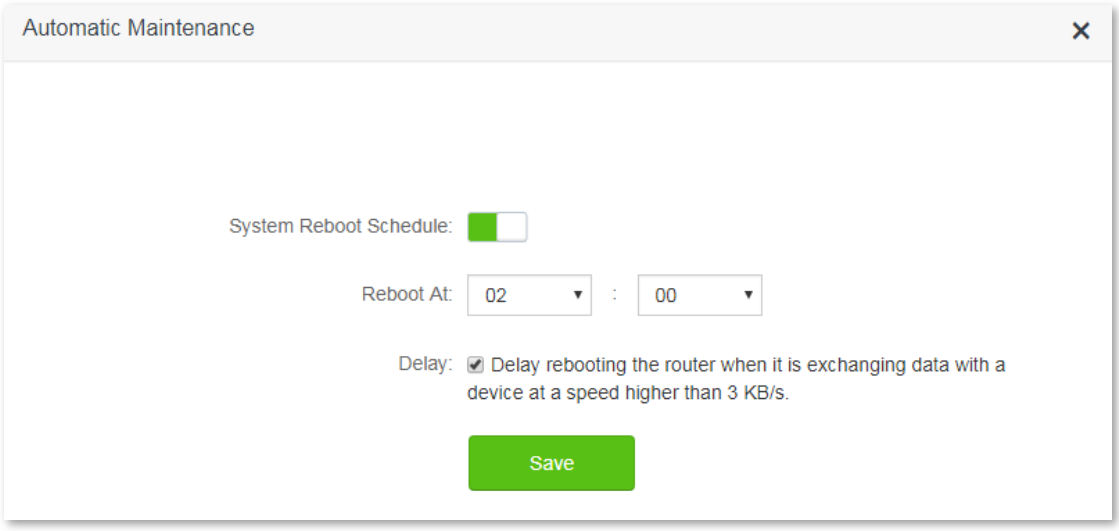
Clicking **Export** can export the system log to your local computer.

11.12 Automatic Maintenance

11.12.1 Overview

The Automatic Maintenance function is beneficial to the system stability and service life of the router.

To access the configuration page, choose **System Settings** > **Automatic Maintenance**. By default, the function is enabled.

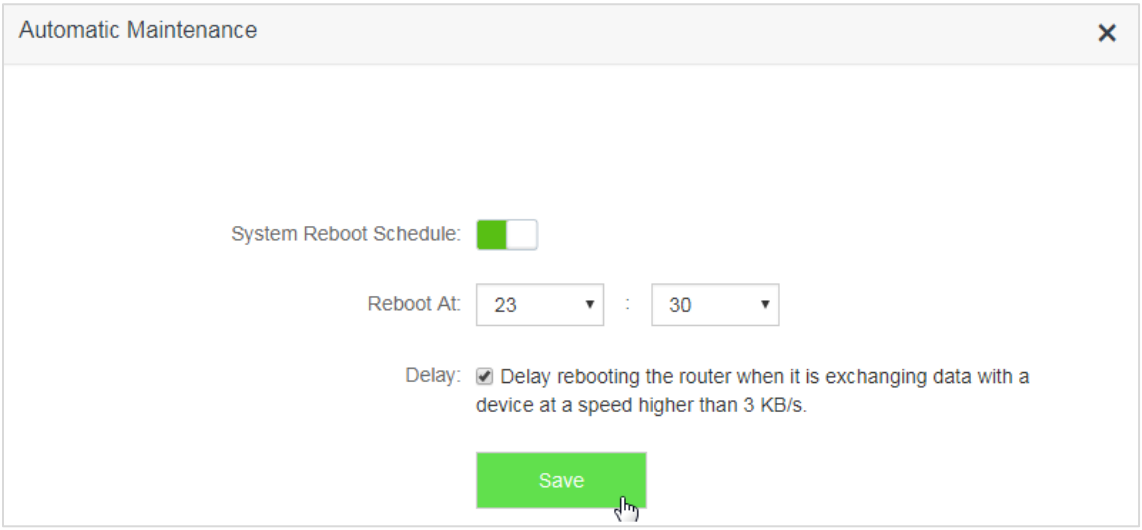


Parameters descriptions

Parameter	Description
System Reboot Schedule	It is used to enable or disable the system reboot schedule function.
Reboot At	It specifies the time for the router to reboot.
Delay	It specifies the premise for the router to delay a reboot. ● Checked: The router reboots automatically if there are clients connected to the router, and the traffic over the WAN port is less than 3 KB/s for 30 minutes; or there are no clients connected to the router, and the traffic over the WAN port is less than 3 KB/s for 3 minutes. ● Unchecked: The router reboots automatically when the time for the router to reboot is up.

11.12.2 Configuring System Reboot Schedule

1. To access the configuration page, choose **System Settings** > **Automatic Maintenance**.
2. **Reboot At**: Select the time to reboot from the drop-down list box, which is **23:30** in this example.
3. Click **Save**.



—End

After the configuration above, the router reboots automatically at 23:30 every day if there are clients connected to the router, and the traffic over the WAN port is less than 3 KB/s for 30 minutes; or there are no clients connected to the router, and the traffic over the WAN port is less than 3 KB/s for 3 minutes.

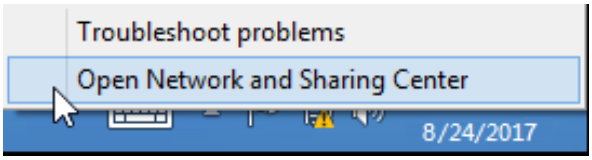
Appendixes

A.1 Setting the IP Address of Your Computer

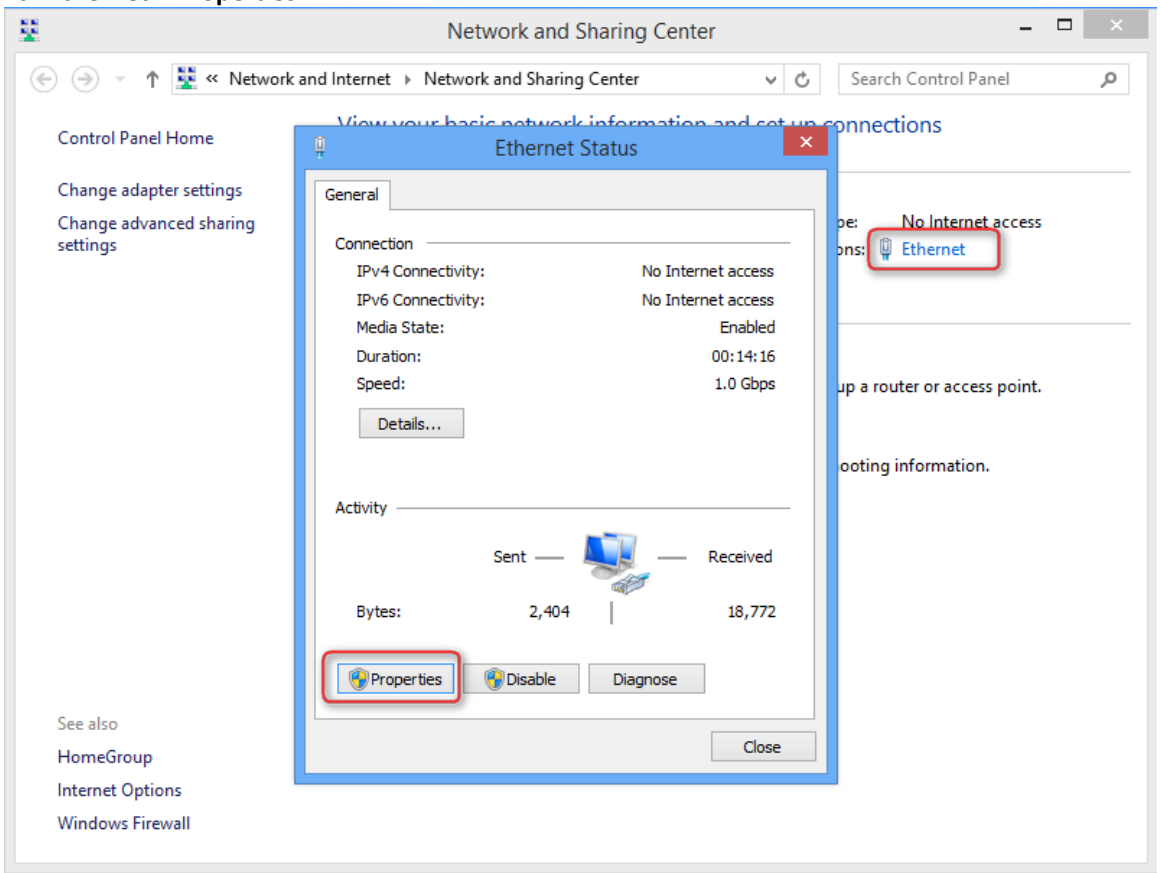
The following describes the configuration steps for Windows 8 and Windows 7. Choose a proper one according to your computer system. A computer installed with a wired network adapter is used as an example to describe the procedures. Steps for configuring a computer installed with a wireless adapter are similar.

A.1.1 Windows 8

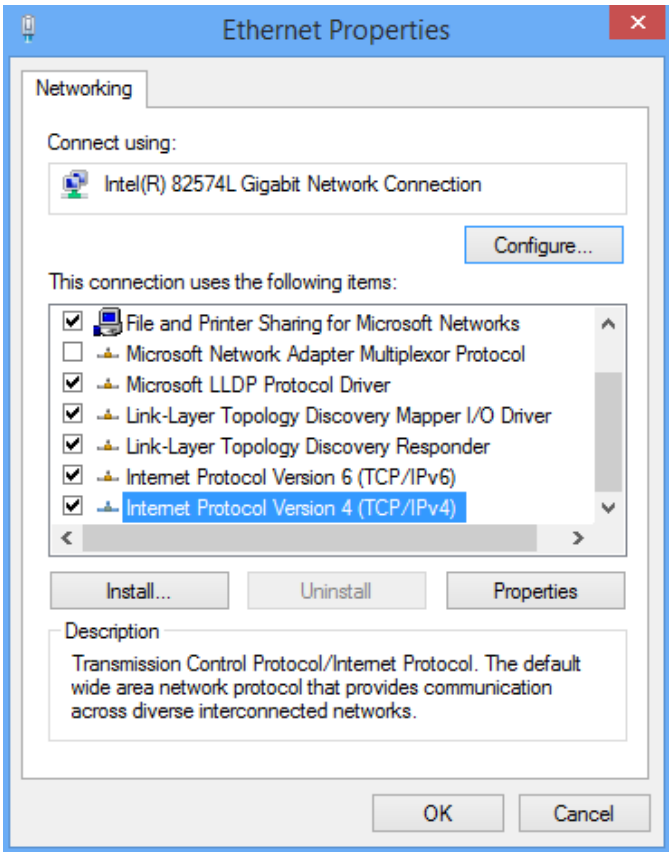
1. Click in the lower-right corner of the desktop and choose **Open Network and Sharing Center**.



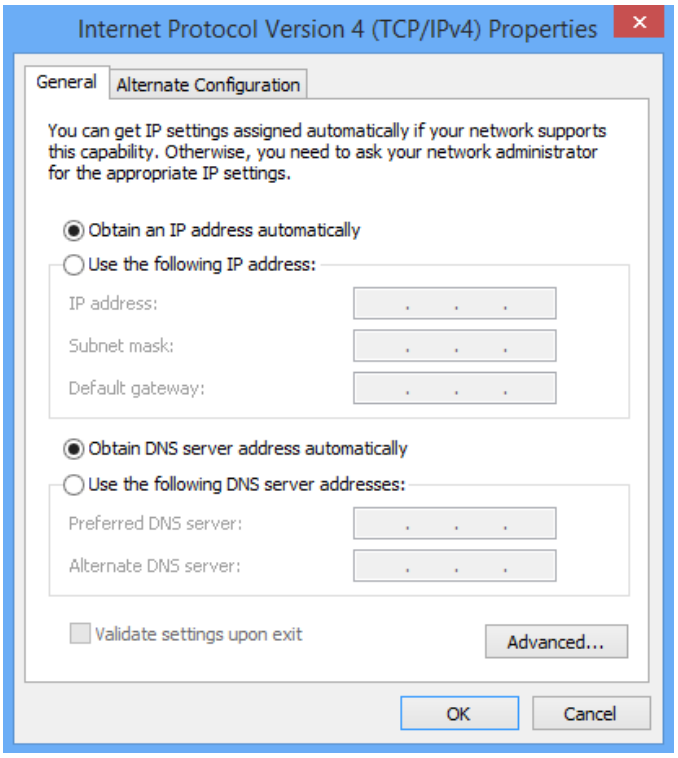
2. Click **Ethernet** > **Properties**.



3. Double-click **Internet Protocol Version 4 (TCP/IPv4)**.



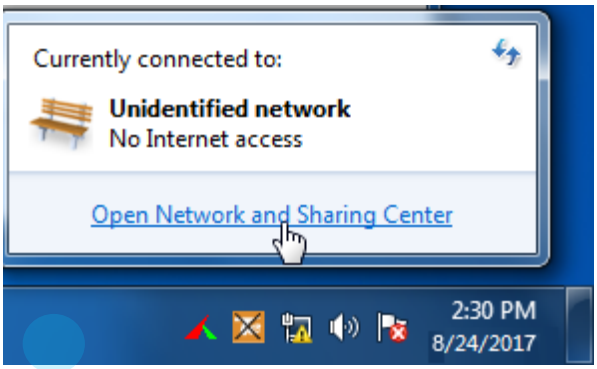
4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**, and click **OK**.



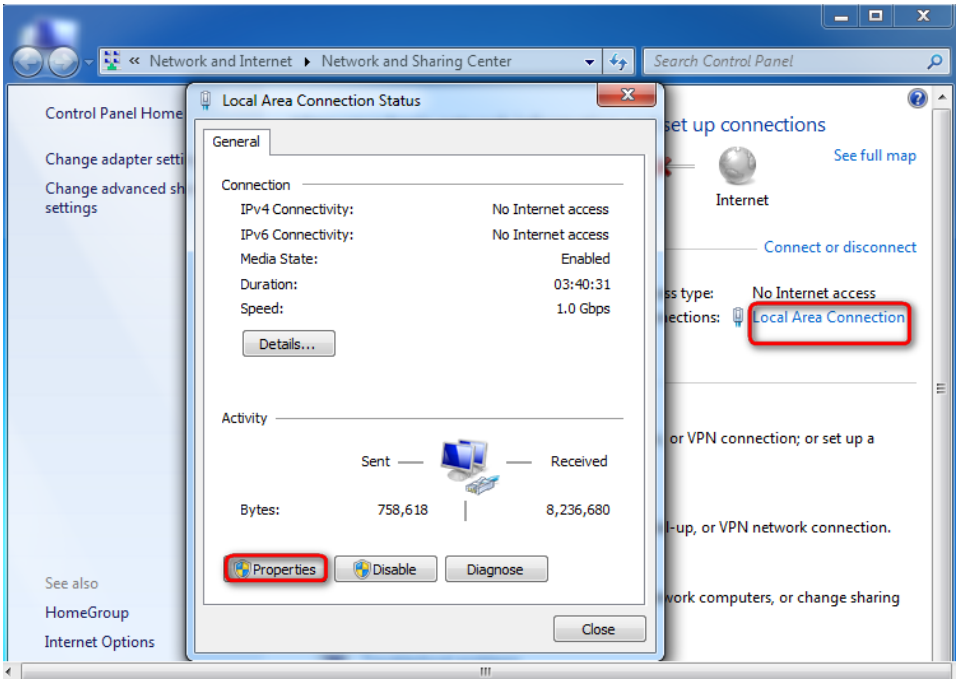
5. You are redirected to the **Ethernet Properties** box. Click **OK**.

A.1.2 Windows 7

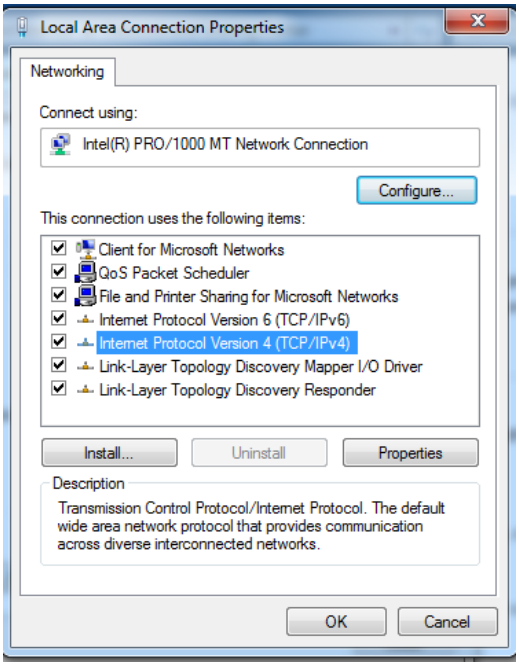
1. Click in the lower-right corner of the desktop and choose **Open Network and Sharing Center**.



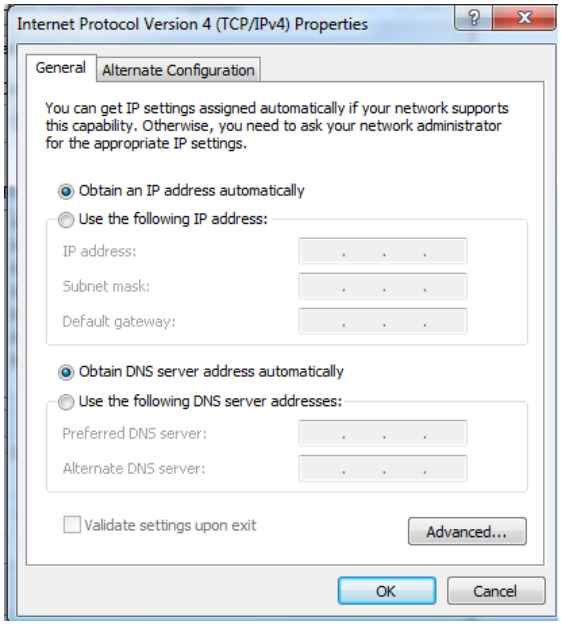
2. Click **Local Area Connection** > **Properties**.



3. Double-click **Internet Protocol Version 4 (TCP/IPv4)**.



4. Click **Obtain an IP address automatically** and **Obtain DNS server address automatically**, then click **OK**.



5. Click **OK** after the **Local Area Connection Properties** dialog box appears.

A.2 FAQ

Q1. I cannot access the web UI of the router after entering 192.168.0.1 or tendawifi.com. What should I do?

A1. Try the following solutions:

- Ensure that the Ethernet cables are properly connected.
- Ensure that you have connected to the wireless network of the router successfully.
- Verify that the IP address of your computer is 192.168.0.*X* (*X*: 2-254).
- Clear the cache of your web browser or replace the web browser, and try logging in again.
- Disable the firewall of your computer or replace the computer, and try logging in again.
- Ensure that the IP address 192.168.0.1 is not used by another device in the LAN.
- If the problem persists, restore the factory settings of the router, and try logging in again.

Q2. Which connection type should I choose?

A2. You can determine your internet connection type based on the following table or by consulting your internet service provider (ISP).

Internet Connection Means	Common Internet Connection Means	Description
Telephone line/Ethernet cable	PPPoE	You need to double-click and enter a user name and password to set up a dial-up connection.
Cable TV connection/Ethernet cable	Dynamic IP Address	You can access the internet after connecting to an upstream router or a cable TV.
Ethernet cable/Optical fiber	Static IP Address	You are assigned a static IP address, a subnet mask, a default gateway address, and DNS server addresses for accessing the internet.

Q3. I cannot access the internet after configuring internet settings. What should I do?

A3. Try the following solutions:

- Verify if your computer is properly connected to the router.
- For wireless connection, connect wireless devices, such as smart phones to the WiFi of the router again after configuration.
- Refer to **A1 Setting the IP Address of Your Computer** and set your computer to **Obtain an IP address automatically**.
- Use an Ethernet cable to connect your computer to the router, log in to the web UI of the router, change the WiFi name and password of the router, and reconnect to the WiFi network.
- Try to clone the MAC Address, log into the web UI of the router again. Ensure that the **Connection Status** in the web UI is **Connected** or **Authenticated**.

- Consult your ISP.

Q4. How to restore the router to factory settings if I cannot access the web UI of the router?

A4. Power on the router, and when the SYS indicator blinks, you can hold the **WPS/Reset** button down for 8 seconds and release. Reset succeeds when all indicators blink once. After the factory settings are restored, configure the router again. The default login IP address of the router is **192.168.0.1.**

Q5. If an IP address conflict message appears after the computer that has connected to the router starts, what should I do?

A5. Try the following solutions:

- Verify that there is no other DHCP server on your LAN or the other DHCP server is disabled.
- Verify that the IP address of the computer is not used by another device on your LAN. The default IP address of the router is 192.168.0.1.
- Verify that the static IP addresses assigned to computers on your LAN are not used by other devices.

Q6. If I forget the login password of the router. What should I do?

A6. Restore the router to factory settings, and try logging in again.

Method to restore the router to factory settings: Power on the router, and when the SYS indicator blinks, you can hold the **WPS/Reset** button down for 8 seconds. Reset succeeds when all indicators blink once.