



# User Guide

3G/4G Wireless N Router  
TL-MR3420

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# About This Guide

This guide is a complementation of Quick Installation Guide. The Quick Installation Guide instructs you on quick Internet setup, and this guide provides details of each function and shows you the way to configure these functions appropriate to your needs.

When using this guide, please notice that features of the router may vary slightly depending on the model and software version you have, and on your location, language, and Internet service provider. All screenshots, images, parameters and descriptions documented in this guide are used for demonstration only.

## 1.1.1. Conventions

In this guide the following conventions are used:

Convention	Description
<u>Underline</u>	Hyperlinks are underlined. You can click to redirect to a website or a specific section.
Teal	Contents to be emphasized and texts on the web page are in teal, including the menus, items, buttons, etc.
>	The menu structures to show the path to load the corresponding page. For example, <b>Advanced</b> > <b>Wireless</b> > <b>MAC Filtering</b> means the MAC Filtering function page is under the Wireless menu that is located in the Advanced tab.
 <b>Note:</b>	Ignoring this type of note might result in a malfunction or damage to the device.
 <b>Tips:</b>	Indicates important information that helps you make better use of your device.

## 1.1.2. More Info

The latest software, management app and utility can be found at [Download Center](http://www.tp-link.com/support) at [www.tp-link.com/support](http://www.tp-link.com/support).

The Quick Installation Guide can be found where you find this guide or inside the package of the router.

Specifications can be found on the product page at <http://www.tp-link.com>.

A Technical Support Forum is provided for you to discuss our products at <http://forum.tp-link.com>.

Our Technical Support contact information can be found at the Contact Technical Support page at [www.tp-link.com/support](http://www.tp-link.com/support).

## Chapter 1

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# Get to Know About Your Router

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This chapter introduces what the router can do and shows its appearance.

This chapter contains the following sections:

- [Product Overview](#)
- [Panel Layout](#)

## 1.1. Product Overview

The TP-LINK router is designed to fully meet the need of Small Office/Home Office (SOHO) networks and the users demanding higher networking performance. The powerful antennas ensure continuous Wi-Fi signal to all your devices while boosting widespread coverage throughout your home, and the built-in Ethernet ports supply high-speed connection to your wired devices.

Moreover, it is simple and convenient to set up and use the TP-LINK router due to its intuitive web interface.


## 1.2. Panel Layout

### 1.2.1. Top View









The router's LEDs (view from left to right) are located on the top. You can check the router's working status by following the LED Explanation table.

#### LED Explanation

Name	Status	Indication
 (Power)	On	Power is on.
	Off	Power is off.

## LED Explanation

Name	Status	Indication
 (System)	On	The Router is initializing.
	Flashing	The Router is working normally.
	Off	The Router has a system error.
 (Wi-Fi)	Flashing	The wireless function is enabled.
	Off	The wireless function is disabled.
 (LAN 1~4)	On	A device is connected to the corresponding port but no data are being transferred.
	Flashing	Data being transferred via the corresponding port.
	Off	No device is connected to the corresponding port.
 (Internet)	Blue	The Internet port is connected and Internet is available.
	Off	The Internet port is not connected.
	Red	The Internet port is connected, but Internet is unavailable.
 (USB)	On	The USB port is connected but no data are being transferred.
	Flashing	Data are being transferred via this port.
	Off	The USB port is not connected to any device.
 (WPS)	On	A device is connected to the router wirelessly successfully using WPS.
	Quick Flashing	A device fails to connect to the router using WPS.
	Slow Flashing	A device is connecting to the router using WPS. This process lasts 2 minutes.
	Off	

1. 2. 2.    The Back Panel



The following parts (view from left to right) are located on the rear panel.

Item	Description
Power Socket	For connecting the power adapter. Please use the power adapter provided with this router.
Power On/Off Button	Press to turn on/off the router with router powered on.
Internet Port	For connecting to the DSL/Cable modem, or Ethernet.
Ethernet Ports (4,3,2,1)	For connecting the router to your PC or other Ethernet network devices.
Wi-Fi Button	Press to turn on/off the Wi-Fi of the router.
WPS/RESET Button	To use the WPS function, press this button, and immediately press the WPS button on your client device. To reset the router to its factory default settings, press this button for about 5 seconds.

1. 2. 3.    The Side Panel



Item	Description
USB Port	For plugging in a 3G/4G USB modem.



## Chapter 2

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# Connect the Hardware

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This chapter contains the following sections:

- [Position Your Router](#)
- [Connect Your Router](#)

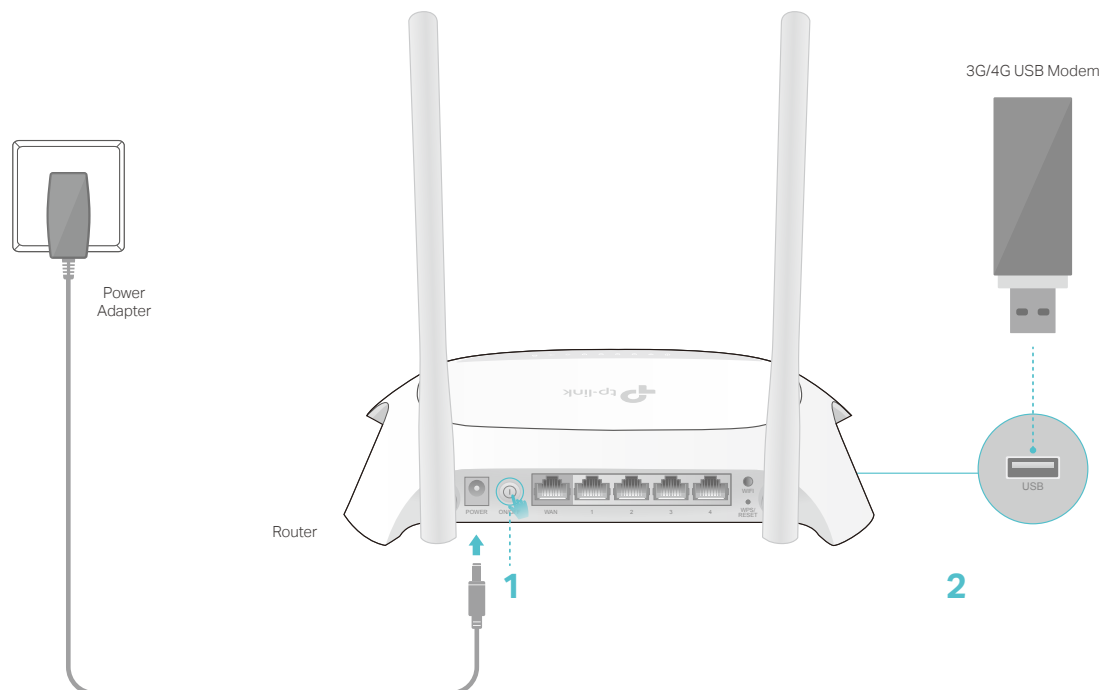
## 2.1. Position Your Router

- The product should not be located where it will be exposed to moisture or excessive heat.
- Place the router in a location where it can be connected to multiple devices as well as to a power source.
- Make sure the cables and power cord are safely placed out of the way so they do not create a tripping hazard.
- The router can be placed on a shelf or desktop.
- Keep the router away from devices with strong electromagnetic interference, such as Bluetooth devices, cordless phones and microwaves.

## 2.2. Connect Your Router

1. Follow Method 1 to share the Internet through a 3G/4G USB modem or Method 2 to share the Internet through a DSL/Cable/Satellite modem or an Ethernet cable connection.



- **Method 1: Plug and Play via 3G/4G USB Modem**



- 1) Press to turn on the router.
- 2) Plug in a 3G/4G USB modem with a SIM/UIM card.
- 3) Wait 1-2 minutes and then confirm that the following LEDs are on and solid.



**Note:**

- If the Internet LED (  ) is off or is red, please refer to [Configure Your 3G/4G Connection](#) shown below.
- If the Wi-Fi LED (  ) is off, press the Wi-Fi button on the rear panel for 3 seconds and then check the LED again.
- You can find the latest modem compatibility list in our website: <http://www.tp-link.com/en/comp-list.html>.

- **Configure Your 3G/4G Connection**

- 1) Connect your device to the router's LAN (1 - 4) port via an Ethernet cable or use the default SSID and password printed on the label at the bottom of the router to join the wireless network.
- 2) Launch a web browser and enter <http://www.tp-link.net> in the address bar. Use admin for both username and password, and then click [Login](#).

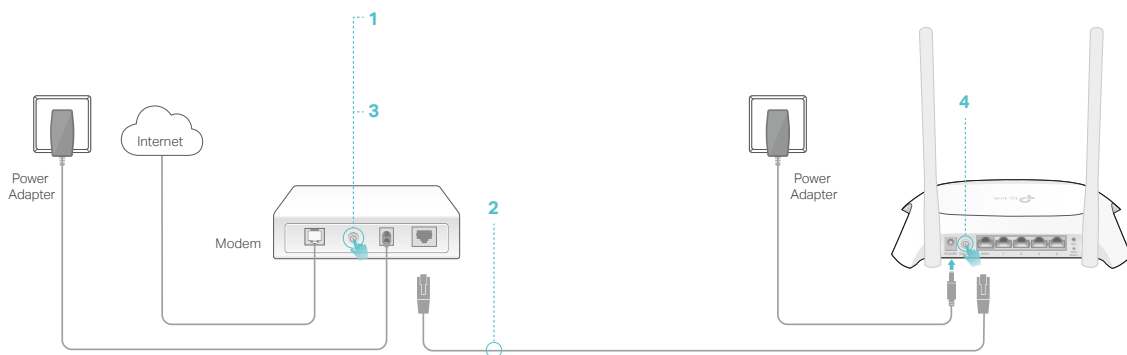
**Note:** If the login window does not appear, please refer to FAQ > Q1.

- 3) Select your [Time zone](#) and click [Next](#).
- 4) Select [3G/4G Only](#) and click [Next](#).
- 5) Select your [Region](#) and [Mobile ISP](#), and then click [Next](#).

**Note:** If your ISP is not listed, select the Set Dial number, APN, Username and Password manually option and enter the 3G/4G parameters provided by your ISP (internet service provider).

- 6) Follow the step-by-step instructions of the Quick Setup to complete the configuration.

- **Method 2: Connect to DSL/Cable/Satellite Modem**



- 1) Power off the modem and remove the backup battery if it has one.
- 2) Connect the modem to the router's WAN port via an Ethernet cable.
- 3) Turn on the modem and then wait about 2 minutes for it to completely restart.
- 4) Press to turn on the router.
- 5) Confirm that the following LEDs are on and solid to verify the hardware connection is correct.



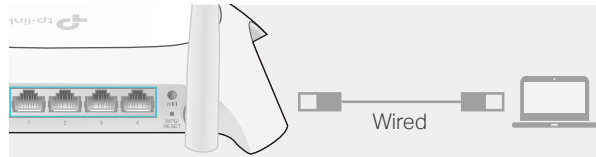
**Note:**

- If the Wi-Fi LED (  ) is off, press the Wi-Fi button on the rear panel for 3 seconds and then check the LED again.

## 2. Connect your computer to the router.

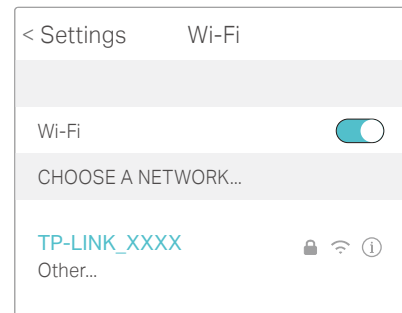
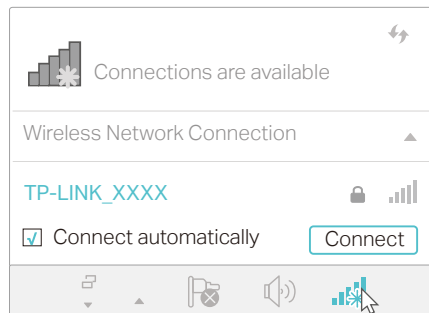
### • Method 1: Wired

Turn off the Wi-Fi on your computer and connect the devices as shown below.



### • Method 2: Wirelessly

- Find the SSID (Network Name) and Wireless Password printed on the label at the bottom of the router.
- Click the network icon of your computer or go to the Wi-Fi settings of your smart device, and then select the SSID to join the network.



### • Method 3: Use the WPS button

Wireless devices that support WPS, including Android phones, tablets, most USB network cards, can be connected to your router through this method.

**Note:**

- WPS is not supported by IOS devices.
- The WPS function cannot be configured if the wireless function of the router is disabled. Also, the WPS function will be disabled if your wireless encryption is WEP. Please make sure the wireless function is enabled and is configured with the appropriate encryption before configuring the WPS.

- Tap the WPS icon on the device's screen. Here we take the Android phone for instance.
- Within two minutes, press the WPS button on your router.



## Chapter 3

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# Set Up Internet Connection via Quick Setup Wizard

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This chapter introduces how to connect your router to the internet. The router is equipped with a web-based Quick Setup wizard. It has many ISP information built in, automates many of the steps and verifies that those steps have been successfully completed.

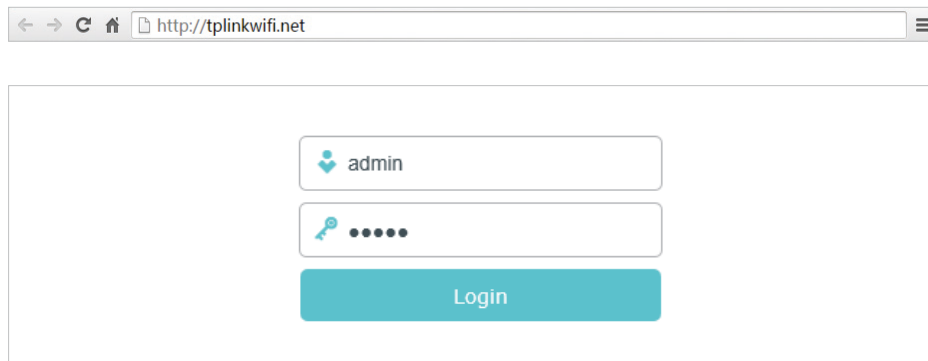
It contains the following sections:

- [Quick Setup](#)
- [Configure the Router](#)

## 3.1. Quick Setup

The Quick Setup Wizard will guide you through the process to set up your router to access the Internet.

1. Set up the TCP/IP Protocol in [Obtain an IP address automatically](#) mode on your computer.
2. Visit <http://tplinkwifi.net>, and log in with the username and password you've set for the router. The default one is [admin](#) for both username and password.



3. Click [Quick Setup](#) on the top of the page, and follow the step-by-step instructions to set up your router to access the Internet.

**Note:**

If the login window does not appear, please refer to the [FAQ](#) section.

## 3.2. Configure the Router

The Quick Setup Wizard will guide you through the process to set up your router.

Follow the steps below to check or modify your Internet connection settings.

1. Go to [Quick Setup](#), select your time zone and click [Next](#) to continue.
2. Select the [Operation Mode](#) as needed and click [Next](#).

A screenshot of the 'Internet Access' configuration screen in a router's web interface. The title 'Internet Access' is at the top left. Below it, a message states: 'The router provides four Internet access mode for you to choose:'. There are four radio button options: '3G/4G Only - Only use 3G/4G as the access to the Internet.', '3G/4G Preferred - Use 3G/4G as the primary access, WAN as a backup.', 'WAN Preferred - Use WAN as the primary access, 3G/4G as a backup.', and 'WAN Only - Only use WAN as the access to the Internet.' The 'WAN Only' option is selected with a blue dot. At the bottom center is a teal 'Save' button.

**Note:**

- If you are using 3G/4G Preferred or WAN Preferred, the router would connect, disconnect or switch the current access automatically. The Connect/Disconnect button (on 3G/4G, PPPoE, PPTP, L2TP) and some related parameters could not be set manually.
- Only when the WAN connection is Dynamic IP, Static IP or PPPoE can the router support the switch between 3G/4G mode and WAN mode.

3. Configure the 3G/4G Settings or WAN Connection Type according to the page(s) shown below.

- **3G/4G Settings**

Enter the parameters of your mobile data provider and click [Next](#).

Operation Mode

Region and Time zone

3G/4G Settings

Wireless Settings

Test Your Connection

Region: USA

Mobile ISP: AT&T

Authentication Type: Auto (The default is Auto, do not change unless necessary)

☐ Set Dial Number, APN, Username and Password manually

Dial Number: \*99#

APN: broadband

Username: WAP@CINGULAR.COM

Password: CINGULAR1

Back Next

- **WAN Connection Type**

1) Select [WAN Connection Type](#) and click [Next](#).

Operation Mode

Region and Time zone

3G/4G Settings

WAN Connection Type

Wireless Settings

Test Your Connection

Auto Detect

☐ Dynamic IP

☒ Static IP

☐ PPPoE

☐ L2TP

☐ PPTP

Note: If you are not sure which WAN Connection Type you have, use **Auto Detect** or contact your Internet Service Provider (ISP) for assistance.

Back Next

**Note:**

- If you use cable TV or fiber cable, choose [Dynamic IP](#).
- If you are provided with more information such as IP address, Subnet Mask and Default Gateway, choose [Static IP](#).
- If you use DSL line and you are only provided with an account name and a password by your ISP, choose [PPPoE](#).
- If you are not sure of your [WAN Connection Type](#), click [Auto Detect](#) and click [Next](#).



- 2) In this case, we take dynamic IP for instance. Please select to clone the mac address or not and click [Next](#). For other connection types, please enter the parameters provided by your ISP, and then click [Next](#).

The screenshot shows the 'WAN Connection Type' step of the Quick Setup Wizard. The progress bar at the top indicates the current step is 'WAN Connection Type', with previous steps being 'Region and Time zone', '3G/4G Settings', 'Wireless Settings', 'Summary', and 'Test Your Connection'. The main heading is 'WAN Connection Type - Dynamic IP'. Below this, there is explanatory text: 'If your ISP only delivers internet access to a specific MAC address, you may need to Clone that MAC Address to provide access to other devices. If you are not sure, select **Do NOT clone MAC Address**.' There are two radio button options: 'Do NOT clone MAC Address' (which is selected) and 'Clone MAC Address'. A note at the bottom states: 'Note: If you select **Clone MAC Address**, please make sure the MAC Address of this computer is registered with your ISP BEFORE clicking **Next**.' At the bottom right are 'Back' and 'Next' buttons.

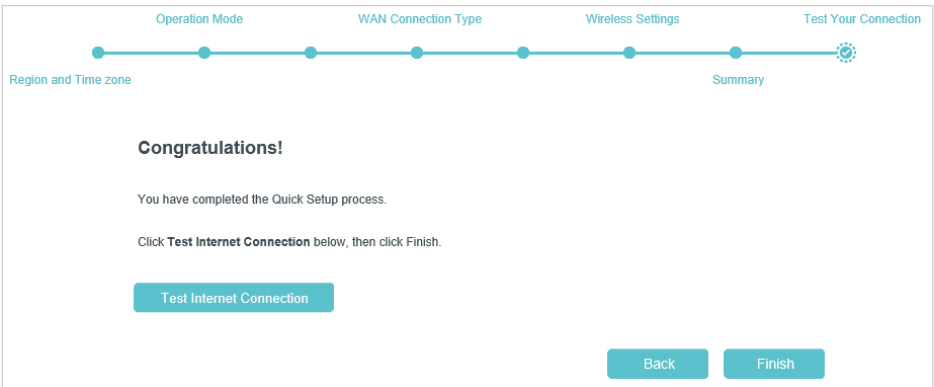
4. Either customize your [Network Names \(SSIDs\)](#) and [Passwords](#) or keep the default ones, and then click [Next](#).

The screenshot shows the 'Wireless Settings' step of the Quick Setup Wizard. The progress bar at the top indicates the current step is 'Wireless Settings'. The main heading is 'Wireless Settings'. Below this, there is a 'Wireless 2.4GHz:' toggle switch which is turned on. Below the toggle are two input fields: 'Network Name(SSID):' with the value 'TP-LINK\_1234' and 'Password:' with the value '123456789'. At the bottom right are 'Back' and 'Next' buttons.

5. Check the parameters you have configured and click [Save](#).

The screenshot shows the 'Summary' step of the Quick Setup Wizard. The progress bar at the top indicates the current step is 'Summary'. The main heading is 'Summary'. Below this, there is a list of configuration parameters and their values: 'Operation Mode: WAN Preferred', 'Time zone: (GMT) Greenwich Mean Time, Dublin, London', 'Mobile ISP: China Telecom', 'WAN Connection Type: Dynamic IP', 'Wireless 2.4GHz: On', 'Network Name(SSID): TPLINK\_1234', and 'Password: 123456798'. At the bottom right are 'Back' and 'Save' buttons.

6. Click [Finish](#) to complete the configuration. Now your computers and Wi-Fi devices can connect to the Internet!



## Chapter 4

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# Configure the Router

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This chapter presents how to configure the various features of the router working as a Standard Wireless Router.

This chapter contains the following sections:

- [Status](#)
- [Network](#)
- [Wireless](#)
- [DHCP](#)
- [Forwarding](#)
- [Security](#)
- [Parental Control](#)
- [Access Control](#)
- [Advanced Routing](#)
- [Bandwidth Control](#)
- [IP & MAC Binding](#)
- [Dynamic DNS](#)
- [System Tools](#)

## 4.1. Status

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Status](#). You can view the current status information of the router in Standard Router Mode.

**Status**

Firmware Version:

Hardware Version:

LAN

MAC Address:

16-02-90-2A-C4-15

IP Address:

192.168.0.1

Subnet Mask:

255.255.255.0

Wireless

Wireless Radio:

Enable

Name (SSID):

TP-LINK\_1234

Mode:

11bgn mixed

Channel Width:

Automatic

Channel:

Auto (Current channel 9)

MAC Address:

16-02-90-2A-C4-15

WDS Status:

Disable

WAN

MAC Address:

16-02-90-2A-C4-16

IP Address:

0.0.0.0

Dynamic IP

Subnet Mask:

0.0.0.0

Default Gateway:

0.0.0.0

WAN port is unplugged!

DNS Server:

0.0.0.0 , 0.0.0.0

Traffic Statistics

	Received	Sent
Bytes:	0	0
Packets:	0	0

System Up Time:

0 days 18:02:47

Refresh

- **Firmware Version** - The version information of the router's firmware.
- **Hardware Version** - The version information of the router's hardware.

- [LAN](#) - This field displays the current settings of the LAN, and you can configure them on the [Advanced > Network > LAN](#) page.
  - [MAC address](#) - The physical address of the router.
  - [IP address](#) - The LAN IP address of the router.
  - [Subnet Mask](#) - The subnet mask associated with the LAN IP address.
- [Wireless 2.4GHz/5GHz](#) - This field displays the basic information or status of the 2.4GHz/5GHz wireless network, and you can configure them on the [Advanced > Wireless 2.4GHz/5GHz > Wireless Settings](#) page.
  - [Wireless Radio](#) - Indicates whether the wireless feature is enabled or not.
  - [Name \(SSID\)](#) - The SSID of the 2.4GHz/5GHz wireless network.
  - [Mode](#) - The current wireless working mode in use.
  - [Channel Width](#) - The current wireless channel width in use.
  - [Channel](#) - The current wireless channel in use.
  - [MAC Address](#) - The physical address of the router.
- [WAN](#) - This field displays the current settings of the WAN, and you can configure them on the [Network > WAN](#) page.
  - [MAC Address](#) - The physical address of the WAN port.
  - [IP Address](#) - The current WAN (Internet) IP Address. This field will be blank or 0.0.0.0 if the IP Address is assigned dynamically and there is no Internet connection.
  - [Subnet Mask](#) - The subnet mask associated with the WAN IP Address.
  - [Default Gateway](#) - The Gateway currently used is shown here. When you use Dynamic IP as the Internet connection type, click [Renew](#) or [Release](#) here to obtain new IP parameters dynamically from the ISP or release them.
  - [DNS Server](#) - The IP addresses of DNS (Domain Name System) server.
- [Traffic Statistics](#) - The router's traffic statistics.
  - [Received \(Bytes\)](#) - Traffic in bytes received from the WAN port.
  - [Received \(Packets\)](#) - Traffic in packets received from the WAN port.
  - [Sent \(Bytes\)](#) - Traffic in bytes sent out from the WAN port.
  - [Sent \(Packets\)](#) - Traffic in packets sent out from the WAN port.
- [System Up Time](#) - The length of the time since the router was last powered on or reset.

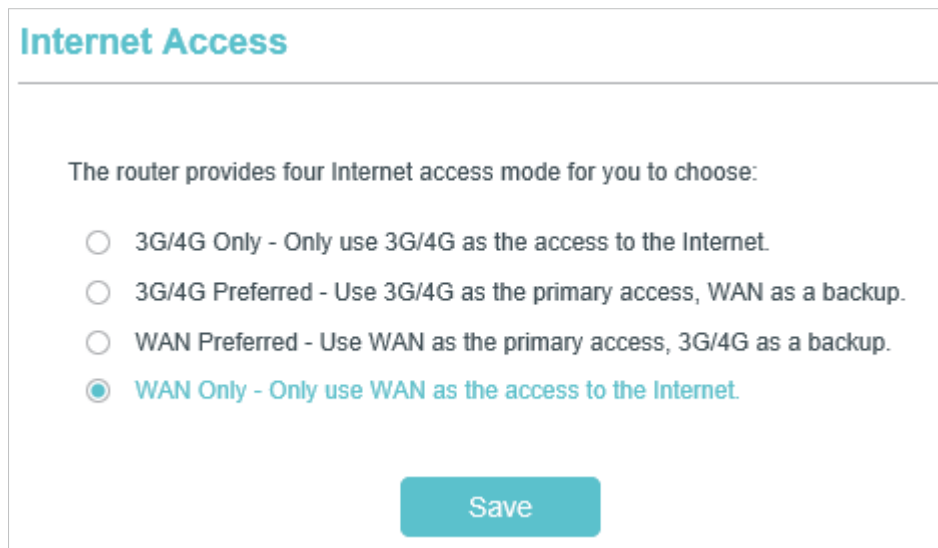
Click [Refresh](#) to get the latest status and settings of the router.

## 4.2. Network

### 4.2.1. Internet Access

The router is designed to work with either WAN port or 3G/4G USB modem, and supports “automatically take over back up with 3G/4G access” as Ethernet WAN failover.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Network](#) > [Internet Access](#).



**Internet Access**

The router provides four Internet access mode for you to choose:

- ☐ 3G/4G Only - Only use 3G/4G as the access to the Internet.
- ☐ 3G/4G Preferred - Use 3G/4G as the primary access, WAN as a backup.
- ☐ WAN Preferred - Use WAN as the primary access, 3G/4G as a backup.
- ☒ WAN Only - Only use WAN as the access to the Internet.

Save

- 3G/4G Only - In this mode, the router will try 3G/4G access only. WAN access is disabled.
- 3G/4G Preferred - In this mode, the router will try 3G/4G access first;
  - When 3G/4G access fails and WAN access is valid, or when no 3G/4G USB modem is inserted, the router would switch to WAN access;
  - When the router succeeds to connect to the 3G/4G network, the router would stop the WAN connection and switch back to 3G/4G access immediately.
- WAN Preferred - In this mode, the router will try WAN access first;
  - When the WAN access fails, and 3G/4G access is valid, the router would switch to 3G/4G access;
  - When the router succeeds to connect to the WAN network, the router would disable the 3G/4G connection and switch back to WAN access immediately.
- WAN Only - In this mode, the router will try WAN access only. 3G/4G access is disabled.

**Note:**

- If you are using the 3G/4G Preferred or WAN Preferred, the router would connect, disconnect or switch the current access automatically. The Connect/Disconnect button (on 3G/4G, PPPoE, PPTP, L2TP) and some related parameters could not be set manually.

- Only when the WAN connection is Dynamic IP, Static IP or PPPoE can the router support the switch between 3G/4G mode and WAN mode.

### 4.2.2. 3G/4G

To use the 3G/4G function, you should first insert a 3G/4G USB modem into the 3G/4G USB port of the router. There is already much 3G/4G USB modem information embedded in the router. The USB modem parameters will be set automatically if the SIM/UIM card is supported by the router.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Network](#) > [3G/4G](#).

The screenshot shows the '3G/4G' configuration page. At the top, the status '3G/4G USB Modem: Unplugged' is displayed in red. Below this, there are two dropdown menus: 'Location' set to 'USA' and 'Mobile ISP' set to 'AT&T'. The 'Connection Mode' section has three radio buttons: 'Connect on Demand', 'Connect Automatically' (which is selected), and 'Connect Manually'. Below the radio buttons is a 'Max Idle Time' field set to '15' minutes, with a note '(0 means remain active at all times)'. The 'Authentication Type' section has three radio buttons: 'Auto' (selected), 'PAP', and 'CHAP'. A red notice states: 'Notice: The default is Auto, do not change unless necessary.' At the bottom, there are three buttons: 'Connect', 'Disconnect', and 'Disconnected' (which is highlighted in red). Below these are three more buttons: 'Advanced', 'Save', and 'Modem Settings'.

- **Location** - Please select the location where you're enjoying the 3G/4G card.
- **Mobile ISP** - Please select the ISP (Internet Service Provider) providing the 3G/4G service. The router will automatically fill in the default Dial Number and APN of that ISP.
- **Connection Mode** - Please select the connection mode to access the Internet with the 3G/4G modem.



- **Connect on Demand** - You can configure the router to disconnect your Internet connection after a specified idle period of the Internet connectivity. If your Internet connection has been terminated due to inactivity, **Connect on Demand** enables the router to automatically re-establish your connection as soon as you attempt to access the Internet. If you want your Internet connection to remain active at all times, enter 0 in the **Max Idle Time** field.
- **Connect Automatically** - The router will get connected to the Internet automatically when disconnected.
- **Connect Manually** - You can configure the router to connect or disconnect manually. After a specified idle period, the router will disconnect your Internet connection. You can only manually get connected to the Internet when **Connect Manually** is selected. If you want your Internet connection to remain active at all times, enter 0 in the **Max Idle Time** field.
- **Authentication Type** - Some ISPs require authentication to access the Internet. Please select **Auto** or consult your ISP.
  - **Auto** - The router will have dynamic negotiation with the dialing server and the authentication type doesn't need to be specified.
  - **PAP** - Password Authentication Protocol. Select **PAS** if required by your ISP.
  - **CHAP** - Challenge Handshake Authentication Protocol. Select **CHAP** if required by your ISP.

Click **Advanced** to set advanced options.

### 3G/4G Advanced Settings

Location: China

Mobile ISP: China Telecom

☐ Set the Dial Number, APN, Username and Password manually

Dial Number: #777

APN:

Username: ctnet@mycdma.ci (Optional)

Password: ..... (Optional)

MTU Size (in bytes): 1480 (The default is 1480, do not change unless necessary)

☐ Use The Following DNS Servers

Primary DNS: 0.0.0.0

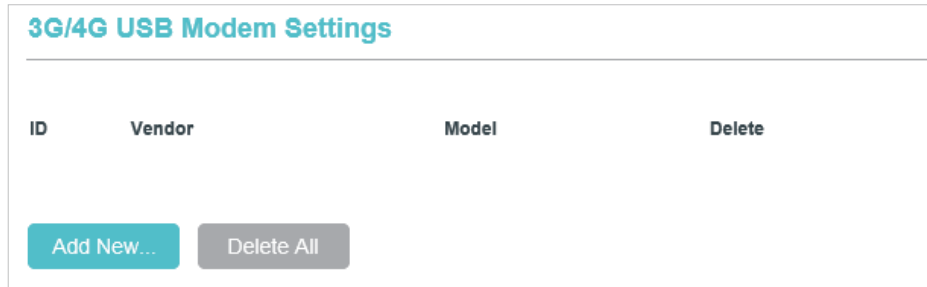
Secondary DNS: 0.0.0.0 (Optional)

Save Back

- **Set the Dial Number and APN manually** - Select this check box to fill in the dial number and APN (Access Point Name) if your ISP is not listed or the default values are not the latest.
- **Dial Number** - Enter the dial number provided by your ISP.
- **APN** - Enter the APN provided by your ISP.
- **Username/Password** - Enter the username and password provided by your ISP.
- **MTU Size** - The default value is 1480. Keep the default one unless required to change by your ISP.
- **Use The Following DNS Servers** - Select this check box if your ISP specifies a DNS server IP address for you.
- **Primary DNS** - Enter the DNS IP address provided by your ISP.
- **Secondary DNS - (Optional)** Enter another DNS IP address provided by your ISP.

If your 3G/4G USB modem is not supported by the router, please follow the steps below to have further configuration.

1. Download a most recent 3G/4G USB modem configuration file from our website <http://www.tp-link.com>.
2. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
3. Go to **Advanced > Network > 3G/4G**, and click **Modem Settings**.
4. Click **Add New...**

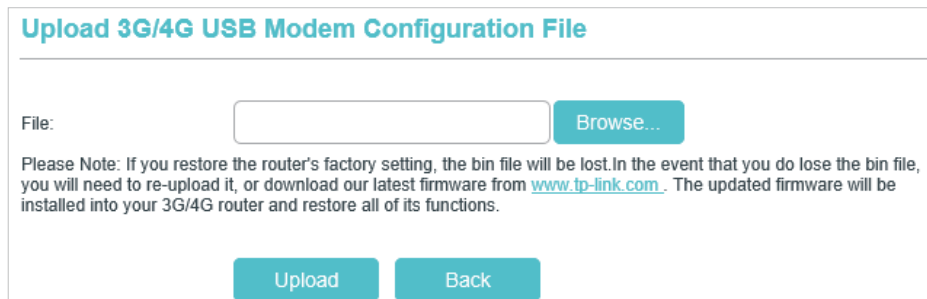


**3G/4G USB Modem Settings**

ID	Vendor	Model	Delete
----	--------	-------	--------

**Add New...** **Delete All**

5. Click **Browser...** to locate the file you have downloaded and click **Upload**.



**Upload 3G/4G USB Modem Configuration File**

File:  **Browse...**

Please Note: If you restore the router's factory setting, the bin file will be lost. In the event that you do lose the bin file, you will need to re-upload it, or download our latest firmware from [www.tp-link.com](http://www.tp-link.com). The updated firmware will be installed into your 3G/4G router and restore all of its functions.

**Upload** **Back**

### 4.2.3. WAN

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Network > WAN**.
3. Configure the IP parameters of the WAN and click **Save**.

#### Dynamic IP

If your ISP provides the DHCP service, please select **Dynamic IP**, and the router will automatically get IP parameters from your ISP.

Click **Renew** to renew the IP parameters from your ISP. Click **Release** to release the IP parameters.

## WAN

WAN Connection Type: Dynamic IP Detect

IP Address: 0.0.0.0

Subnet Mask: 0.0.0.0

Default Gateway: 0.0.0.0

Renew Release **WAN port is unplugged!**

MTU Size (in bytes): 1500 (The default is 1500, do not change unless necessary.)

☐ Use These DNS Servers

Primary DNS: 0.0.0.0

Secondary DNS: 0.0.0.0 (Optional)

Host Name: TL-MR3420

☐ Get IP with Unicast DHCP (It is usually not required.)

Save

- **MTU Size** - The normal MTU (Maximum Transmission Unit) value for most Ethernet networks is 1500 Bytes. It is not recommended that you change the default MTU size unless required by your ISP.
- **Use These DNS Servers** - If your ISP provides you one or two DNS addresses, select **Use These DNS Servers** and enter the primary and secondary addresses. Otherwise, the DNS servers will be assigned dynamically from your ISP.
- **Host Name** - This option specifies the name of the router.
- **Get IP with Unicast DHCP** - A few ISPs' DHCP servers do not support the broadcast applications. If you cannot get the IP address normally, you can choose this option (It is rarely required).

## Static IP

If your ISP provides a static or fixed IP address, subnet mask, default gateway and DNS setting, please select [Static IP](#).

**WAN**

WAN Connection Type:

Static IP ▼

Detect

IP Address:

0.0.0.0

Subnet Mask:

0.0.0.0

Default Gateway:

0.0.0.0

MTU Size (in bytes):

1500

(The default is 1500, do not change unless necessary.)

Primary DNS:

0.0.0.0

Secondary DNS:

0.0.0.0

(Optional)

Save

- [IP Address](#) - Enter the IP address in dotted-decimal notation provided by your ISP.
- [Subnet Mask](#) - Enter the subnet mask in dotted-decimal notation provided by your ISP. Normally 255.255.255.0 is used as the subnet mask.
- [Default Gateway](#) - Enter the gateway IP address in dotted-decimal notation provided by your ISP.
- [MTU Size](#) - The normal MTU (Maximum Transmission Unit) value for most Ethernet networks is 1500 Bytes. It is not recommended that you change the default MTU size unless required by your ISP.
- [Primary/Secondary DNS](#) - (Optional) Enter one or two DNS addresses in dotted-decimal notation provided by your ISP.

## PPPoE/Russia PPPoE

If your ISP provides a PPPoE connection, select [PPPoE/Russia PPPoE](#).

**WAN**

WAN Connection Type: PPPoE/Russia PPP Detect

PPPoE Connection:

User Name:

Password:

Confirm Password:

Secondary Connection: ☒ Disabled ☐ Dynamic IP ☐ Static IP (For Dual Access/Russia PPPoE)

☐ Connect on Demand  
Max Idle Time:  minutes (0 means remain active at all times.)

☒ Connect Automatically

Wan Connection Mode: ☐ Time-based Connecting  
Period of Time: from  :  (HH:MM) to  :  (HH:MM)

☐ Connect Manually  
Max Idle Time:  minutes (0 means remain active at all times.)

Connect Disconnect Disconnected!

Save Advanced

- **User Name/Password** - Enter the username and password provided by your ISP. These fields are case-sensitive.
- **Confirm Password** - Enter the password provided by your ISP again to ensure the password you entered is correct.
- **Secondary Connection** - It's available only for PPPoE connection. If your ISP provides an extra connection type, select **Dynamic IP** or **Static IP** to activate the secondary connection.
- **WAN Connection Mode**
  - **Connect on Demand** - In this mode, the Internet connection can be terminated automatically after a specified inactivity period (Max Idle Time) and be re-established when you attempt to access the Internet again. If you want to keep your Internet connection active all the time, please enter 0 in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet access disconnects.
  - **Connect Automatically** - The connection can be re-established automatically when it is down.

- **Time-based Connecting** - The connection will only be established in the period from the start time to the end time (both are in HH:MM format).
- **Connect Manually** - You can click **Connect/Disconnect** to connect/disconnect immediately. This mode also supports the **Max Idle Time** function as **Connect on Demand** mode. The Internet connection can be disconnected automatically after a specified inactivity period (Max Idle Time) and not be able to re-establish when you attempt to access the Internet again.

■ Note:

- Only when you have configured the system time on the **System Tools > Time Settings** page, will the time-based connecting function take effect.
- Sometimes the connection cannot be terminated although you have specified the **Max Idle Time** because some applications are visiting the Internet continually in the background.

If you want to do some advanced configurations, please click **Advanced**.

**PPPoE Advanced Settings**

MTU Size (in bytes):

(The default is 1480, do not change unless necessary.)

Service Name:

AC Name:

☐ Use IP Address Specified by ISP

ISP Specified IP Address:

Detect Online Interval:

Seconds (0 ~ 120 seconds, the default is 0, 0 means not detecting.)

☐ Use The Following DNS Servers

Primary DNS:

Secondary DNS: (Optional)

Save

Back

- **MTU Size** - The default MTU size is 1480 bytes. It is not recommended that you change the default MTU size unless required by your ISP.
- **Service Name/AC Name** - The service name and AC (Access Concentrator) name should not be configured unless you are sure it is necessary for your ISP. In most cases, leaving these fields blank will work.

- **ISP Specified IP Address** - If your ISP does not automatically assign IP addresses to the router, please select **Use IP address specified by ISP** and enter the IP address provided by your ISP in dotted-decimal notation.
- **Detect Online Interval** - The router will detect Access Concentrator online at every interval. The default value is 0. You can input the value between 0 and 120. The value 0 means no detect.
- **Primary DNS/Secondary DNS** - If your ISP does not automatically assign DNS addresses to the router, please select **Use the following DNS servers** and enter the IP address in dotted-decimal notation of your ISP's primary DNS server. If a secondary DNS server address is available, enter it as well.





## L2TP/Russia L2TP

If your ISP provides L2TP connection, please select [L2TP/Russia L2TP](#).

**WAN**

WAN Connection Type: L2TP/Russia L2TP ▼

User Name:

Password:

Confirm Password:

Connect Disconnect Disconnected!

☒ Dynamic IP ☐ Static IP

Server IP Address/Name:

IP Address: 0.0.0.0

Subnet Mask: 0.0.0.0

Gateway: 0.0.0.0

DNS: 0.0.0.0 , 0.0.0.0

Internet IP Address: 0.0.0.0

Internet DNS: 0.0.0.0 , 0.0.0.0

MTU Size (in bytes): 1460 (The default is 1460, do not change unless necessary.)

Max Idle Time: 15 minutes (0 means remain active at all times.)

Connection Mode: ☐ Connect on Demand ☒ Connect Automatically ☐ Connect Manually

Save

- [User Name/Password](#) - Enter the username and password provided by your ISP. These fields are case-sensitive.
- [Confirm Password](#) - Enter the Password provided by your ISP again to ensure the password you entered is correct.
- [Connect/Disconnect](#) - Click this button to connect or disconnect immediately.

- **Dynamic IP/ Static IP** - Select either as required by your ISP. If **Static IP** is selected, please enter the IP address, subnet mask, gateway and DNS also provided by your ISP.
- **Internet IP Address/ Internet DNS** - The Internet IP address and DNS server address assigned by L2TP server.
- **Connection Mode**
  - **Connect on Demand** - In this mode, the Internet connection can be terminated automatically after a specified inactivity period (Max Idle Time) and be re-established when you attempt to access the Internet again. If you want to keep your Internet connection active all the time, please enter 0 in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet access disconnects.
  - **Connect Automatically** - The connection can be re-established automatically when it is down.
  - **Connect Manually** - You can click **Connect/Disconnect** to connect/disconnect immediately. This mode also supports the **Max Idle Time** function as **Connect on Demand** mode. The Internet connection can be disconnected automatically after a specified inactivity period (Max Idle Time) and not be able to re-establish when you attempt to access the Internet again.

■ **Note:**

Sometimes the connection cannot be terminated although you have specified the **Max Idle Time** because some applications are visiting the Internet continually in the background.

## PPTP/Russia PPTP

If your ISP provides PPTP connection, please select [PPTP/Russia PPTP](#).

**WAN**

WAN Connection Type: PPTP/Russia PPTP ▼

User Name:

Password:

Confirm Password:

Connect Disconnect Disconnected!

☒ Dynamic IP ☐ Static IP

Server IP Address/Name:

IP Address: 0.0.0.0

Subnet Mask: 0.0.0.0

Gateway: 0.0.0.0

DNS: 0.0.0.0 , 0.0.0.0

Internet IP Address: 0.0.0.0

Internet DNS: 0.0.0.0 , 0.0.0.0

MTU Size (in bytes): 1420 (The default is 1420, do not change unless necessary.)

Max Idle Time: 15 minutes (0 means remain active at all times.)

Connection Mode: ☐ Connect on Demand ☒ Connect Automatically ☐ Connect Manually

Save

- [User Name/Password](#) - Enter the username and password provided by your ISP. These fields are case-sensitive.
- [Confirm Password](#) - Enter the Password provided by your ISP again to ensure the password you entered is correct.

- **Connect/Disconnect** - Click this button to connect or disconnect immediately.
- **Dynamic IP/ Static IP** - Select either as required by your ISP. If **Static IP** is selected, please enter the IP address, subnet mask, gateway and DNS also provided by your ISP.
- **Internet IP Address/ Internet DNS** - The Internet IP address and DNS server address assigned by PPTP server.
- **Connection Mode**
  - **Connect on Demand** - In this mode, the Internet connection can be terminated automatically after a specified inactivity period (Max Idle Time) and be re-established when you attempt to access the Internet again. If you want to keep your Internet connection active all the time, please enter 0 in the **Max Idle Time** field. Otherwise, enter the number of minutes you want to have elapsed before your Internet access disconnects.
  - **Connect Automatically** - The connection can be re-established automatically when it is down.
  - **Connect Manually** - You can click **Connect/Disconnect** to connect/disconnect immediately. This mode also supports the **Max Idle Time** function as **Connect on Demand** mode. The Internet connection can be disconnected automatically after a specified inactivity period (Max Idle Time) and not be able to re-establish when you attempt to access the Internet again.

**Note:**

Sometimes the connection cannot be terminated although you have specified the **Max Idle Time** because some applications are visiting the Internet continually in the background.

#### 4.2.4. MAC Clone

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Network > MAC Clone**.
3. Configure the WAN MAC address and click **Save**.

**MAC Clone**

WAN MAC Address:  [Restore Factory MAC](#)

Your PC's MAC Address:  [Clone MAC Address](#)

[Save](#)

- **WAN MAC Address** - This field displays the current MAC address of the WAN port. If your ISP requires you to register the MAC address, please enter the correct MAC

address in this field. Click [Restore Factory MAC](#) to restore the MAC address of WAN port to the factory default value.

- **Your PC's MAC Address** - This field displays the MAC address of the PC that is managing the router. If the MAC address is required, you can click [Clone MAC Address](#) and this MAC address will be filled in the [WAN MAC Address](#) field.

■ **Note:**

- You can only use the MAC Address Clone function for PCs on the LAN.
- If you have changed the WAN MAC address when the WAN connection is PPPoE, it will not take effect until the connection is re-established.

### 4.2.5. LAN

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Network](#) > [LAN](#).
3. Configure the IP parameters of the LAN and click [Save](#).

**LAN**

MAC Address: 16-02-90-2A-C4-15

IP Address: 192.168.0.1

Subnet Mask: 255.255.255.0

IGMP Proxy: Enable

Note:IGMP(Internet Group Management Protocol) works for IPTV multicast stream.The device supports both IGMP proxy with enabled/disabled option and IGMP snooping.

Save

- **MAC Address** - The physical address of the LAN ports. The value can not be changed.
- **IP Address** - Enter the IP address in dotted-decimal notation of your router (factory default - 192.168.0.1).
- **Subnet Mask** - An address code that determines the size of the network. Normally 255.255.255.0 is used as the subnet mask.
- **IGMP Proxy** - The Internet Group Management Protocol (IGMP) feature allow you to watch TV on IPTV-supported devices in the LAN .

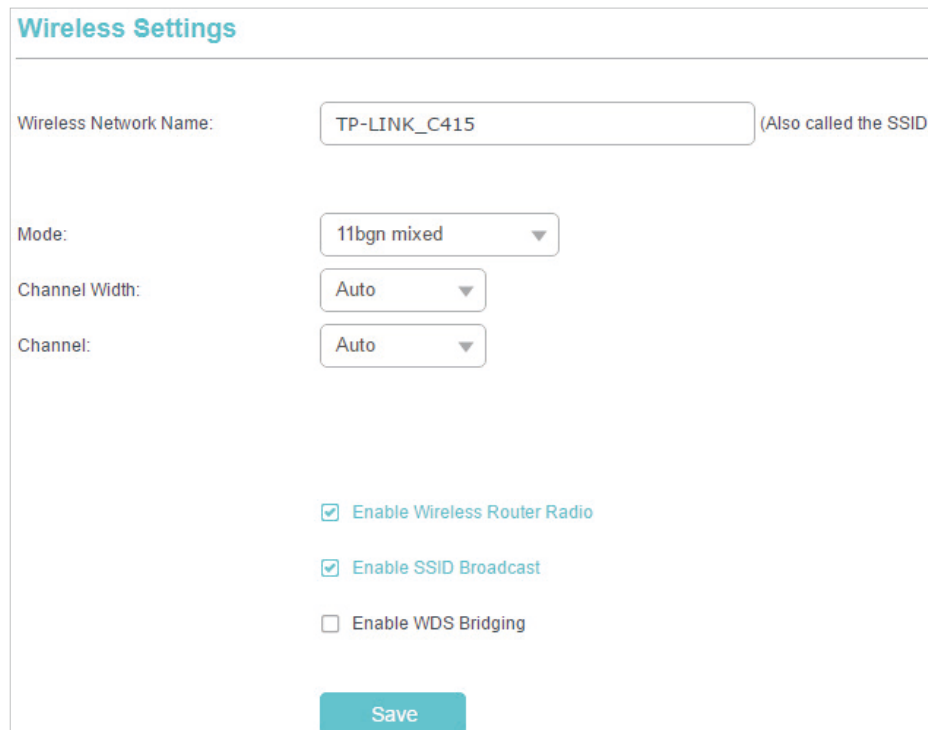
■ **Note:**

- If you have changed the IP address, you must use the new IP address to login.
- If the new IP address you set is not in the same subnet as the old one, the IP address pool in the DHCP Server will be configured automatically, but the Virtual Server and DMZ Host will not take effect until they are re-configured.

## 4.3. Wireless

### 4.3.1. Wireless Settings

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Wireless 2.4GHz](#) > [Wireless Settings](#).
3. Configure the basic settings for the wireless network and click [Save](#).



The screenshot shows the 'Wireless Settings' page. At the top, the title 'Wireless Settings' is in blue. Below it, there are four main settings: 'Wireless Network Name' with a text box containing 'TP-LINK\_C415' and a note '(Also called the SSID)'; 'Mode' with a dropdown menu set to '11bgn mixed'; 'Channel Width' with a dropdown menu set to 'Auto'; and 'Channel' with a dropdown menu set to 'Auto'. Below these are three checkboxes: 'Enable Wireless Router Radio' (checked), 'Enable SSID Broadcast' (checked), and 'Enable WDS Bridging' (unchecked). At the bottom is a blue 'Save' button.

- **Wireless Network Name** - Enter a string of up to 32 characters. The default SSID is TP-LINK\_XXXX (XXXX indicates the last unique four numbers of each Router's MAC address). It is strongly recommended that you change your network name (SSID). This value is case-sensitive. For example, TEST is NOT the same as test.
- **Mode** - Select the desired mode. It is strongly recommended that you keep the default setting [11b/g/n mixed](#), so that all 802.11b/g/n wireless devices can connect to the router.
- **Channel Width** - Select any channel width from the drop-down list. The default setting is [Auto](#), which can automatically adjust the channel width for your clients.
- **Channel** - This field determines which operating frequency will be used. The default channel is set to [Auto](#). It is not necessary to change the wireless channel unless you notice interference problems with another nearby access point.

- **Enable Wireless Router Radio** - The wireless radio of the router can be enabled or disabled to allow or deny wireless access. If enabled, the wireless clients will be able to access the router.
- **Enable SSID Broadcast** - If enabled, the router will broadcast the wireless network name (SSID).
- **Enable WDS Bridging** - Check this box to enable WDS. With this function, the router can bridge two or more WLANs. If this checkbox is selected, you will have to set the following parameters as shown in the figure below. Make sure the following settings are correct.

☒ **Enable WDS Bridging**

SSID (to be bridged):

BSSID (to be bridged):  Example:00-1D-0F-11-22-33

WDS Mode:

Key type:

WEP Index:

Auth type:

Password:

- **SSID (to be bridged)** - The SSID of the AP your router is going to connect to as a client. You can also use the Survey function to select the SSID to join.
- **BSSID Address (to be bridged)** - The BSSID address of the AP your router is going to connect to as a client. You can also use the Survey function to select the BSSID address to join.
- **Survey** - Click this button, you can search the APs that run in all channels.
- **WDS Mode**-This field determines which WDS Mode will be used. It is not necessary to change the WDS Mode unless you notice network communication problems with root AP. If you select Auto, then Router will choose the appropriate WDS Mode automatically.
- **Key type** - This option should be chosen according to the AP's security configuration.
- **WEP Index** - This option should be chosen if the key type is WEP. It indicates the index of the WEP key.



- **Auth Type** - This option should be chosen if the key type is WEP. It indicates the authorization type of the Root AP.
- **Password** - If the AP your router is going to connect needs password, you need to fill the password in this blank.

### 4.3.2. WPS

WPS (Wi-Fi Protected Setup) can help you to quickly and securely connect to a network. This section will guide you to add a new wireless device to your router's network quickly via WPS.

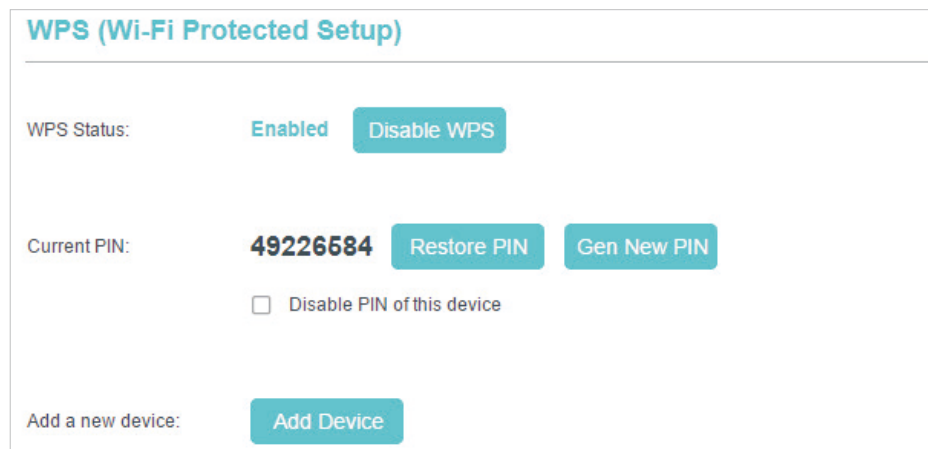
**Note:**

The WPS function cannot be configured if the wireless function of the router is disabled. Please make sure the wireless function is enabled before configuration.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Wireless 2.4GHz > WPS**.
3. Follow one of the following three methods to connect your client device to the router's Wi-Fi network.

#### Method ONE: Press the WPS Button on Your Client Device

1. Keep the WPS Status as **Enabled** and click **Add Device**.



**WPS (Wi-Fi Protected Setup)**

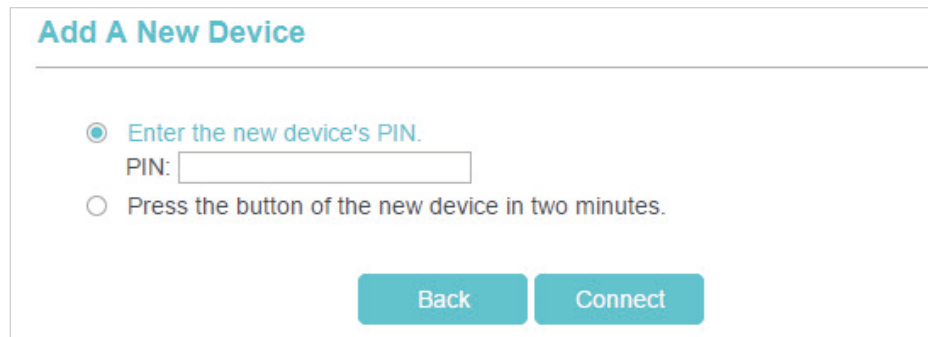
WPS Status: **Enabled** Disable WPS

Current PIN: **49226584** Restore PIN Gen New PIN

☐ Disable PIN of this device

Add a new device: Add Device

2. Select **Press the button of the new device in two minutes** and click **Connect**.



**Add A New Device**

☒ Enter the new device's PIN.  
PIN:

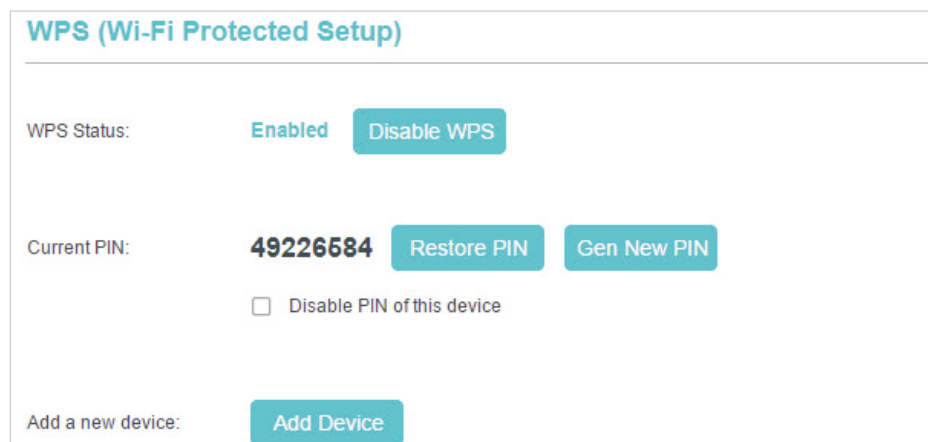
☐ Press the button of the new device in two minutes.

[Back](#) [Connect](#)

3. Within two minutes, press the WPS button on your client device.
4. A success message will appear on the WPS page if the client device has been successfully added to the router's network.

### Method TWO: Enter the Client's PIN

1. Keep the WPS Status as [Enabled](#) and click [Add Device](#).



**WPS (Wi-Fi Protected Setup)**

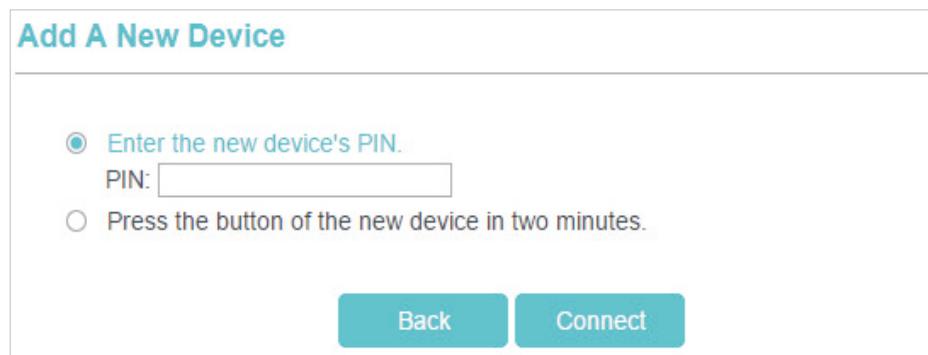
WPS Status: [Enabled](#) [Disable WPS](#)

Current PIN: **49226584** [Restore PIN](#) [Gen New PIN](#)

☐ Disable PIN of this device

Add a new device: [Add Device](#)

2. Select [Enter the new device's PIN](#), enter your client device's current PIN in the [PIN](#) field and click [Connect](#).



**Add A New Device**

☒ Enter the new device's PIN.  
PIN:

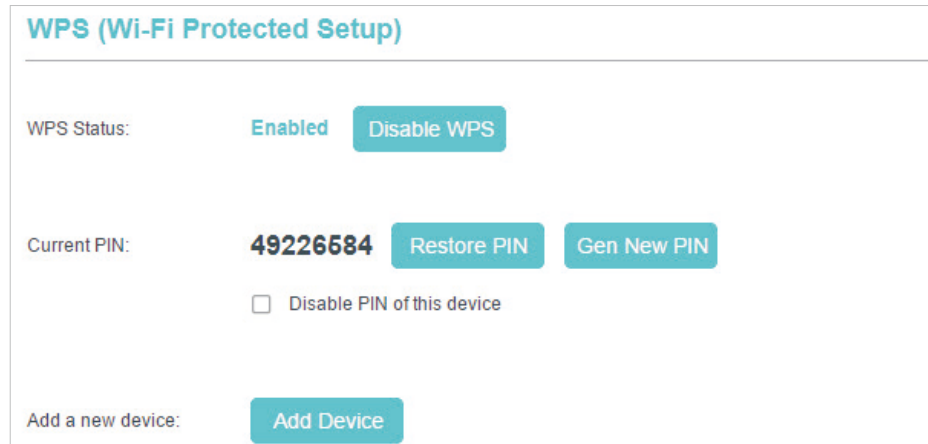
☐ Press the button of the new device in two minutes.

[Back](#) [Connect](#)

3. A success message will appear on the WPS page if the client device has been successfully added to the router's network.

## Method Three: Enter the Router's PIN

1. Keep the WPS Status as **Enabled** and get the **Current PIN** of the router.



**WPS (Wi-Fi Protected Setup)**

WPS Status: **Enabled** [Disable WPS](#)

Current PIN: **49226584** [Restore PIN](#) [Gen New PIN](#)

☐ [Disable PIN of this device](#)

Add a new device: [Add Device](#)

2. Enter the router's current PIN on your client device to join the router's Wi-Fi network.

### 4.3.3. Wireless Security

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Wireless 2.4GHz](#) > [Wireless Security](#).
3. Configure the security settings of your wireless network and click [Save](#).

### Wireless Security

☐ **Disable Security**

☒ **WPA/WPA2 - Personal(Recommended)**

Version: 
Encryption: 
Wireless Password: 

(You can enter ASCII characters between 8 and 63 or Hexadecimal characters between 8 and 64.)

Group Key Update Period:  Seconds  
(Keep it default if you are not sure, minimum is 30, 0 means no update)

☐ **WPA/WPA2 - Enterprise**

Version: 
Encryption: 
Radius Server IP: 
Radius Port:  (1-65535, 0 stands for default port 1812)
Radius Password: 
Group Key Update Period:  (in second, minimum is 30, 0 means no update)

☐ **WEP**

Type: 
WEP Key Format: 

Key Selected	WEP Key	Key Type
Key 1: <input checked="" type="radio"/>	<input type="text"/>	<input type="text" value="Disabled"/>
Key 2: <input type="radio"/>	<input type="text"/>	<input type="text" value="Disabled"/>
Key 3: <input type="radio"/>	<input type="text"/>	<input type="text" value="Disabled"/>
Key 4: <input type="radio"/>	<input type="text"/>	<input type="text" value="Disabled"/>

- **Disable Security** - The wireless security function can be enabled or disabled. If disabled, wireless clients can connect to the router without a password. It's strongly recommended to choose one of the following modes to enable security.
- **WPA-PSK/WPA2-Personal** - It's the WPA/WPA2 authentication type based on pre-shared passphrase.
  - **Version** - Select **Automatic**, **WPA-PSK** or **WPA2-PSK**.
  - **Encryption** - Select **Automatic**, **TKIP** or **AES**.

- **Wireless Password** - Enter ASCII or Hexadecimal characters. For Hexadecimal, the length should be between 8 and 64 characters; for ASCII, the length should be between 8 and 63 characters.
- **Group Key Update Period** - Specify the group key update interval in seconds. The value can be 0 or at least 30. Enter 0 to disable the update.
- **WPA /WPA2-Enterprise** - It's based on Radius Server.
  - **Version** - Select **Automatic**, **WPA** or **WPA2**.
  - **Encryption** - Select **Automatic**, **TKIP** or **AES**.
  - **Radius Server IP** - Enter the IP address of the Radius server.
  - **Radius Port** - Enter the port that Radius server used.
  - **Radius Password** - Enter the password for the Radius server.
  - **Group Key Update Period** - Specify the group key update interval in seconds. The value should be 30 or above. Enter 0 to disable the update.
- **WEP** - It is based on the IEEE 802.11 standard.
  - **Type** - The default setting is **Automatic**, which can select Shared Key or Open System authentication type automatically based on the wireless client's capability and request.
  - **WEP Key Format** - Hexadecimal and ASCII formats are provided here. Hexadecimal format stands for any combination of hexadecimal digits (0-9, a-f, A-F) in the specified length. ASCII format stands for any combination of keyboard characters in the specified length.
  - **WEP Key (Password)** - Select which of the four keys will be used and enter the matching WEP key. Make sure these values are identical on all wireless clients in your network.
  - **Key Type** - Select the WEP key length (64-bit, 128-bit or 152-bit) for encryption. **Disabled** means this WEP key entry is invalid.
  - **64-bit** - Enter 10 hexadecimal digits (any combination of 0-9, a-f and A-F. Null key is not permitted) or 5 ASCII characters.
  - **128-bit** - Enter 26 hexadecimal digits (any combination of 0-9, a-f and A-F. Null key is not permitted) or 13 ASCII characters.
  - **152-bit** - Enter 32 hexadecimal digits (any combination of 0-9, a-f and A-F. Null key is not permitted) or 16 ASCII characters.

#### 4.3.4. Wireless MAC Filtering

Wireless MAC Filtering is used to deny or allow specific wireless client devices to access your network by their MAC addresses.

**I want to:** Deny or allow specific wireless client devices to access my

How can I do that?

network by their MAC addresses.

For example, you want the wireless client A with the MAC address 00-0A-EB-B0-00-0B and the wireless client B with the MAC address 00-0A-EB-00-07-5F to access the router, but other wireless clients cannot access the router

- 1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
- 2. Go to [Advanced](#) > [Wireless 2.4GHz](#) > [Wireless MAC Filtering](#).
- 3. Click [Enable](#) to enable the Wireless MAC Filtering function.
- 4. Select [Allow the stations specified by any enabled entries in the list to access](#) as the filtering rule.
- 5. Delete all or disable all entries if there are any entries already.
- 6. Click [Add New](#) and fill in the blanks.

Add or Modify Wireless MAC Address Filtering entry

MAC Address:

Description:

Status:

Enabled

Save

Back

- 1) Enter the MAC address 00-0A-EB-B0-00-0B/00-0A-EB-00-07-5F in the MAC Address field.
  - 2) Enter wireless client A/B in the Description field.
  - 3) Leave the status as [Enabled](#).
  - 4) Click [Save](#) and click [Back](#).
7. The configured filtering rules should be listed as the picture shows below.

Filtering Rules				
<div><div><input type="radio"/> Deny the stations specified by any enabled entries in the list to access.</div><div><input checked="" type="radio"/> Allow the stations specified by any enabled entries in the list to access.</div></div>				
ID	MAC Address	Status	Description	Modify
1	00-AA-BB-CC-DD-FF	Enabled	Client-A	<a href="#">Modify</a> <a href="#">Delete</a>

Done!

Now only client A and client B can access your network.

### 4.3.5. Wireless Advanced

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Wireless 2.4GHz](#) > [Wireless Advanced](#).
3. Configure the advanced settings of your wireless network and click [Save](#).

**Note:**

If you are not familiar with the setting items on this page, it's strongly recommended to keep the provided default values; otherwise it may result in lower wireless network performance.

**Wireless Advanced**

Transmit Power: High

Beacon Interval: 100 (40-1000)

RTS Threshold: 2346 (256-2346)

Fragmentation Threshold: 2346 (256-2346)

DTIM Interval: 1 (1-255)

☒ Enable WMM

☒ Enable Short GI

☐ Enable AP Isolation

[Save](#)

- **Transmit Power** - Select [High](#), [Middle](#) or [Low](#) which you would like to specify for the router. [High](#) is the default setting and recommended.
- **Beacon Interval** - Enter a value between 40-1000 milliseconds for Beacon Interval here. Beacon Interval value determines the time interval of the beacons. The beacons are the packets sent by the Router to synchronize a wireless network. The default value is 100.
- **RTS Threshold** - Here you can specify the RTS (Request to Send) Threshold. If the packet is larger than the specified RTS Threshold size, the Router will send RTS frames to a particular receiving station and negotiate the sending of a data frame. The default value is 2346.
- **Fragmentation Threshold** - This value is the maximum size determining whether packets will be fragmented. Setting a low value for the Fragmentation Threshold may result in poor network performance because of excessive packets. 2346 is the default setting and is recommended.
- **DTIM Interval** - This value determines the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window

for listening to broadcast and multicast messages. When the Router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. You can specify the value between 1-255 Beacon Intervals. The default value is 1, which indicates the DTIM Interval is the same as Beacon Interval.

- **Enable WMM** - WMM function can guarantee the packets with high-priority messages being transmitted preferentially. It is strongly recommended to enable this function.
- **Enable Short GI** - It is recommended to enable this function, for it will increase the data capacity by reducing the guard interval time.
- **Enable AP Isolation** - This function isolates all connected wireless stations so that wireless stations cannot access each other through WLAN. This function will be disabled if WDS/Bridge is enabled.

#### 4.3.6. Wireless Statistics

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Wireless 2.4GHz > Wireless Statistics** to check the data packets sent and received by each client device connected to the router.

Wireless Statistics					
Current Connected Wireless Stations numbers:			1	Refresh	
ID	MAC Address	Current Status	Received Packets	Sent Packets	Configure
1	CC-08-8D-19-0A-35	WPA2-PSK	228	23	Allow
<div>Previous</div> <div>Next</div>					

- **MAC Address** - The MAC address of the connected wireless client.
- **Current Status** - The running status of the connected wireless client.
- **Received Packets** - Packets received by the wireless client.
- **Sent Packets** - Packets sent by the wireless client.
- **Configure** - The button is used for loading the item to the Wireless MAC Filtering list.
  - **Allow** - If the Wireless MAC Filtering function is enabled, click this button to allow the client to access your network.
  - **Deny** - If the Wireless MAC Filtering function is enabled, click this button to deny the client to access your network.



## 4. 4. DHCP

By default, the DHCP (Dynamic Host Configuration Protocol) Server is enabled and the router acts as a DHCP server; it dynamically assigns TCP/IP parameters to client devices from the IP Address Pool. You can change the settings of DHCP Server if necessary, and you can reserve LAN IP addresses for specified client devices.

### 4. 4. 1. DHCP Settings

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [DHCP](#) > [DHCP Settings](#).
3. Specify DHCP server settings and click [Save](#).

**DHCP Settings**

DHCP Server: ☒ Enable ☐ Disable

Start IP Address:

End IP Address:

Address Lease Time:  minutes (1~2880 minutes, the default value is 120)

Default Gateway:

Default Domain:  (Optional)

Primary DNS:  (Optional)

Secondary DNS:  (Optional)

[Save](#)

- **DHCP Server** - Enable or disable the DHCP server. If disabled, you must have another DHCP server within your network or else you must configure the computer manually.
- **Start IP Address** - Specify an IP address for the DHCP Server to start with when assigning IP addresses. 192.168.0.100 is the default start address.
- **End IP Address** - Specify an IP address for the DHCP Server to end with when assigning IP addresses. 192.168.0.199 is the default end address.
- **Address Lease Time** - The Address Lease Time is the amount of time a network user will be allowed to connect to the router with the current dynamic IP Address. When time is up, the current dynamic IP will be automatically renewed. The range of the time is 1 ~ 2880 minutes. The default value is 120.

- **Default Gateway (Optional)** - It is suggested to input the IP address of the LAN port of the router. The default value is 192.168.0.1.
- **Default Domain (Optional)** - Input the domain name of your network.
- **Primary DNS (Optional)** - Input the DNS IP address provided by your ISP.
- **Secondary DNS (Optional)** - Input the IP address of another DNS server if your ISP provides two DNS servers.

**Note:**

To use the DHCP server function of the router, you must configure all computers on the LAN as [Obtain an IP Address automatically](#).

#### 4. 4. 2. DHCP Client List

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > DHCP > DHCP Client List** to view the information of the clients connected to the router.

DHCP Client List				
ID	Client Name	MAC Address	Assigned IP	Lease Time
1		FC-AA-14-59-E9-CA	192.168.0.100	01:44:57
<a href="#">Refresh</a>				

- **Client Name** - The name of the DHCP client.
- **MAC Address** - The MAC address of the DHCP client.
- **Assigned IP** - The IP address that the router has allocated to the DHCP client.
- **Lease Time** - The time of the DHCP client leased. After the dynamic IP address has expired, the dynamic IP address will be automatically renewed.

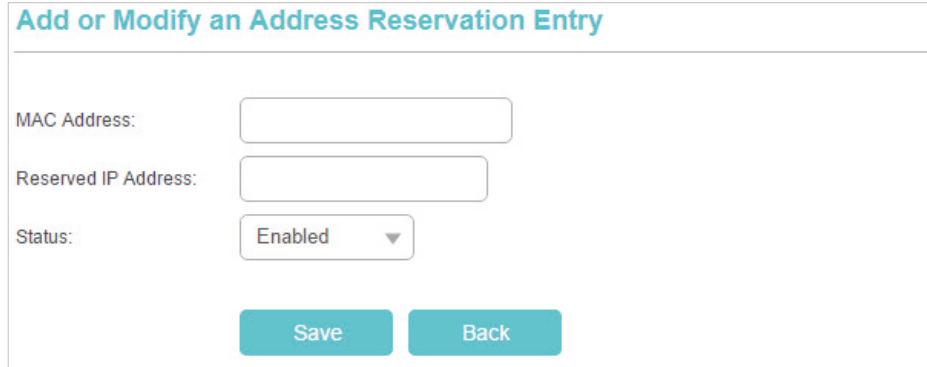
You cannot change any value on this page. To update this page and show the current connected devices, click [Refresh](#).

#### 4. 4. 3. Address Reservation

You can reserve an IP address for a specific client. When you have specified a reserved IP address for a PC on the LAN, this PC will always receive the same IP address each time it accesses the DHCP server.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > DHCP > Address Reservation**.

3. Click [Add New](#) and fill in the blanks.



**Add or Modify an Address Reservation Entry**

MAC Address:

Reserved IP Address:

Status: Enabled ▼

[Save](#) [Back](#)

- 1) Enter the MAC address (in XX-XX-XX-XX-XX-XX format) of the client for which you want to reserve an IP address.
- 2) Enter the IP address (in dotted-decimal notation) which you want to reserve for the client.
- 3) Leave the status as [Enabled](#).
- 4) Click [Save](#).

## 4.5. Forwarding

The router's NAT (Network Address Translation) feature makes devices on the LAN use the same public IP address to communicate with devices on the Internet, which protects the local network by hiding IP addresses of the local devices. However, it also brings about the problem that an external host cannot initiatively communicate with a specified device on the local network.

With the forwarding feature, the router can traverse the isolation of NAT and allows external hosts on the Internet to initiatively communicate with devices on the local network, thus realizing some special functions.

The TP-LINK router supports four forwarding rules. If two or more rules are set, the priority of implementation from high to low is Virtual Servers, Port Triggering, UPNP and DMZ.

### 4.5.1. Virtual Servers

When you build up a server on the local network and want to share it on the Internet, Virtual Servers can realize the service and provide it to Internet users. At the same time Virtual Servers can keep the local network safe as other services are still invisible from the Internet.

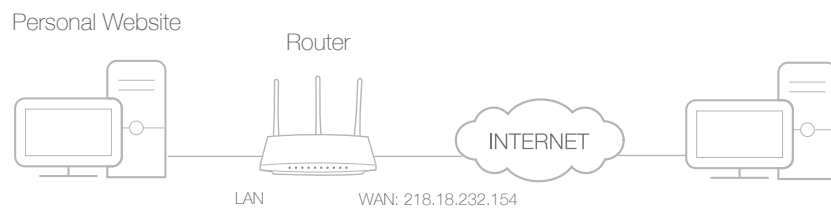
Virtual Servers can be used for setting up public services on your local network, such as HTTP, FTP, DNS, POP3/SMTP and Telnet. Different services use different service ports.

Port 80 is used in HTTP service, port 21 in FTP service, port 25 in SMTP service and port 110 in POP3 service. Please verify the service port number before the configuration.

### I want to:

Share my personal website I've built on local network with my friends through the Internet.

For example, the personal website has been built in my home PC (192.168.0.100). I hope that my friends on the Internet can visit my website in some way. My PC is connected to the router with the WAN IP address 218.18.232.154.



1. Set your PC to a static IP address, for example 192.168.0.100.
2. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
3. Go to **Advanced > Forwarding > Virtual Servers**.
4. Click **Add New**. Select **HTTP** from the **Common Service Port** list. The **Service Port**, **Internal Port** and **Protocol** will be automatically filled in. Enter the PC's IP address 192.168.0.100 in the **IP Address** field.

### Add or Modify a Virtual Server Entry

Service Port:

80

(XX-XX or XX)

Internal Port:

80

(XX, Enter a specific port number or leave it blank)

IP Address:

192.168.0.100

Protocol:

All

Status:

Enabled

Common Service Port:

HTTP

Save

Back

5. Leave the status as **Enabled** and click **Save**.

#### Note:

- It is recommended to keep the default settings of **Internal Port** and **Protocol** if you are not clear about which port and protocol to use.

- If the service you want to use is not in the [Common Service Port](#) list, you can enter the corresponding parameters manually. You should verify the port number that the service needs.
- You can add multiple virtual server rules if you want to provide several services in a router. Please note that the [Service Port](#) should not be overlapped.

## Done!

Users in the Internet can enter [http:// WAN IP](#) (in this example: [http://218.18.232.154](#)) to visit your personal website.

### Note:

If you have changed the default [Service Port](#), you should use [http:// WAN IP:Service Port](#) to visit the website.

## 4.5.2. Port Triggering

Port triggering can specify a triggering port and its corresponding external ports. When a host on the local network initiates a connection to the triggering port, all the external ports will be opened for subsequent connections. The router can record the IP address of the host. When the data from the Internet return to the external ports, the router can forward them to the corresponding host. Port triggering is mainly applied to online games, VoIPs, video players and common applications include MSN Gaming Zone, Dialpad and Quick Time 4 players, etc.

Follow the steps below to configure the port triggering rules:

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Forwarding](#) > [Port Triggering](#).
3. Click [Add New](#). Select the desired application from the [Common Applications](#) list. The trigger port and incoming ports will be automatically filled in. The following picture takes application [MSN Gaming Zone](#) as an example.

### Add or Modify a Port Triggering Entry

Trigger Port:	<input type="text" value="47624"/>
Trigger Protocol:	<input type="text" value="All"/>
Incoming Ports:	<input type="text" value="2300-2400,28800-29000"/>
Incoming Protocol:	<input type="text" value="All"/>
Status:	<input type="text" value="Enabled"/>
Common Applications:	<input type="text" value="MSN Gaming Zone"/>

4. Leave the status as **Enabled** and click **Save**.

**Note:**

- You can add multiple port triggering rules according to your network need.
- The triggering ports can not be overlapped.
- If the application you need is not listed in the **Common Applications** list, please enter the parameters manually. You should verify the incoming ports the application uses first and enter them in **Incoming Ports** field. You can input at most 5 groups of ports (or port sections). Every group of ports must be set apart with ",". For example, 2000-2038, 2050-2051, 2085, 3010-3030.

### 4.5.3. DMZ

When a PC is set to be a DMZ (Demilitarized Zone) host on the local network, it is totally exposed to the Internet, which can realize the unlimited bidirectional communication between internal and external hosts. The DMZ host becomes a virtual server with all ports open. When you are not clear about which ports to open in some special applications, such as IP camera and database software, you can set the PC to be a DMZ host.

**Note:**

When DMZ is enabled, the DMZ host is totally exposed to the Internet, which may bring some potential safety hazards. If DMZ is not in use, please disable it in time.

**I want to:**

Make the home PC join the Internet online game without port restriction.

**For example,** due to some port restriction, when playing the online games, you can log in normally but cannot join a team with other players. To solve this problem, set your PC as a DMZ host with all ports open.

**How can I do that?**

1. Assign a static IP address to your PC, for example 192.168.0.100.
2. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
3. Go to **Advanced > Forwarding > DMZ**.
4. Select **Enable** and enter the IP address 192.168.0.100 in the **DMZ Host IP Address** field.

DMZ

**Note:** Make sure the nat is **enable** if you want the DMZ configuration take effect.

Current DMZ Status: ☒ **Enable** ☐ Disable

DMZ Host IP Address:

**Save**

5. Click [Save](#).

## Done!

You've set your PC to a DMZ host and now you can make a team to game with other players.

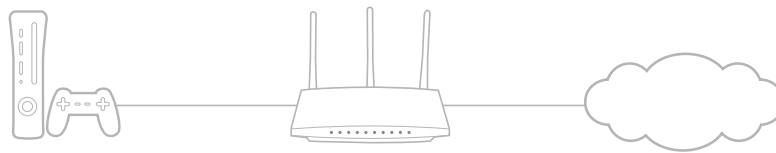
### 4.5.4. UPnP

The UPnP (Universal Plug and Play) protocol allows applications or host devices to automatically find the front-end NAT device and send request to it to open the corresponding ports. With UPnP enabled, the applications or host devices on the local network and the Internet can freely communicate with each other, thus realizing the seamless connection of the network. You may need to enable the UPnP if you want to use applications for multiplayer gaming, peer-to-peer connections, real-time communication (such as VoIP or telephone conference) or remote assistance, etc.

#### Tips:

- Only the application supporting UPnP protocol can use this feature.
- The UPnP feature needs the support of operating system (e.g. Windows Vista/ Windows 7/ Windows 8, etc. Some of operating system need to install the UPnP components).

[For example](#), when you connect your Xbox to the router which is connected to the Internet to play online games, UPnP will send request to the router to open the corresponding ports allowing the following data penetrating the NAT to transmit. Therefore, you can play Xbox online games without a hitch.



UPnP is enabled by default. If necessary, you can follow the steps to change the status of UPnP.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Forwarding](#) > [UPnP](#).
3. Click [Disable](#) or [Enable](#) as needed.

### UPnP

**Note:** Make sure the nat is **enable** if you want the UPnP configuration take effect

Current UPnP Status: **Enabled** Disable

Current UPnP Settings List

ID	App Description	External Port	Protocol	Internal Port	IP Address	Status
----	-----------------	---------------	----------	---------------	------------	--------

Refresh

## 4. 6. Security

This function allows you to protect your home network from cyber attacks and unauthorized users by implementing these network security functions.

### 4. 6. 1. Basic Security

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Security](#) > [Basic Security](#), and you can enable or disable the security functions.



### Basic Security

---

#### Firewall

---

SPI Firewall: ☒ Enable ☐ Disable

---

#### VPN

---

PPTP Passthrough: ☒ Enable ☐ Disable

L2TP Passthrough: ☒ Enable ☐ Disable

IPSec Passthrough: ☒ Enable ☐ Disable

---

#### ALG

---

FTP ALG: ☒ Enable ☐ Disable

TFTP ALG: ☒ Enable ☐ Disable

H323 ALG: ☒ Enable ☐ Disable

RTSP ALG: ☒ Enable ☐ Disable

SIP ALG: ☒ Enable ☐ Disable

Save

- **Firewall** - A firewall protects your network from Internet attacks.
  - **SPI Firewall** - SPI (Stateful Packet Inspection, also known as dynamic packet filtering) helps to prevent cyber attacks by tracking more state per session. It validates that the traffic passing through the session conforms to the protocol. SPI Firewall is enabled by default.
- **VPN** - VPN Passthrough must be enabled if you want to allow VPN tunnels using IPSec, PPTP or L2TP protocols to pass through the router's firewall.
  - **PPTP Passthrough** - Point-to-Point Tunneling Protocol (PPTP) allows the Point-to-Point Protocol (PPP) to be tunneled through an IP network. If you want to allow PPTP tunnels to pass through the router, you can keep the default (Enabled).
  - **L2TP Passthrough** - Layer 2 Tunneling Protocol (L2TP) is the method used to enable Point-to-Point sessions via the Internet on the Layer 2 level. If you want to allow L2TP tunnels to pass through the router, you can keep the default (Enabled).
  - **IPSec Passthrough** - Internet Protocol Security (IPSec) is a suite of protocols for ensuring private, secure communications over Internet Protocol (IP) networks, through the use of cryptographic security services. If you want to allow IPSec tunnels to pass through the router, you can keep the default (Enabled).

- **ALG** - It is recommended to enable Application Layer Gateway (ALG) because ALG allows customized Network Address Translation (NAT) traversal filters to be plugged into the gateway to support address and port translation for certain application layer "control/data" protocols such as FTP, TFTP, H323 etc.
    - **FTP ALG** - To allow FTP clients and servers to transfer data across NAT, keep the default **Enable**.
    - **TFTP ALG** - To allow TFTP clients and servers to transfer data across NAT, keep the default **Enable**.
    - **H323 ALG** - To allow Microsoft NetMeeting clients to communicate across NAT, keep the default **Enable**.
    - **RTSP ALG** - To allow some media player clients to communicate with some streaming media servers across NAT, click **Enable**.
    - **SIP ALG** - To allow some multimedia clients to communicate across NAT, click **Enable**.
3. Click **Save**.

#### 4. 6. 2. Advanced Security

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Security > Advanced Security**, and you can protect the router from being attacked by ICMP-Flood, UDP Flood and TCP-SYN Flood.

### Advanced Security

Packets Statistics Interval (5 ~ 60):

10

Seconds

DoS Protection:

☒ Disable
☐ Enable

☐ Enable ICMP-FLOOD Attack Filtering

ICMP-FLOOD Packets Threshold (5 ~ 3600):

50

Packets/Secs

☐ Enable UDP-FLOOD Filtering

UDP-FLOOD Packets Threshold (5 ~ 3600):

500

Packets/Secs

☐ Enable TCP-SYN-FLOOD Attack Filtering

TCP-SYN-FLOOD Packets Threshold (5 ~ 3600):

50

Packets/Secs

☐ Ignore Ping Packet from WAN Port to Router

☐ Forbid Ping Packet from LAN Port to Router

Save

Blocked DoS Host List

- **Packets Statistics Interval (5~60)** - The default value is 10. Select a value between 5 and 60 seconds from the drop-down list. The **Packets Statistics Interval** value indicates the time section of the packets statistics. The result of the statistics is used for analysis by SYN Flood, UDP Flood and ICMP-Flood.
  - **DoS Protection** - Denial of Service protection. Select Enable or Disable to enable or disable the DoS protection function. Only when it is enabled, will the flood filters be enabled.
- Note:**  
Dos Protection will take effect only when the Statistics in [System Tool > Statistics](#) is enabled.
- **Enable ICMP-FLOOD Attack Filtering** - Check the box to enable or disable this function.
  - **ICMP-FLOOD Packets Threshold (5~3600)** - The default value is 50. Enter a value between 5 ~ 3600. When the number of the current ICMP-FLOOD packets is beyond the set value, the router will startup the blocking function immediately.
  - **Enable UDP-FLOOD Filtering** - Check the box to enable or disable this function.

- **UDP-FLOOD Packets Threshold (5~3600)** - The default value is 500. Enter a value between 5 ~ 3600. When the number of the current UPD-FLOOD packets is beyond the set value, the router will startup the blocking function immediately.
- **Enable TCP-SYN-FLOOD Attack Filtering** -Check the box to enable or disable this function.
- **TCP-SYN-FLOOD Packets Threshold (5~3600)** - The default value is 50. Enter a value between 5 ~ 3600. When the number of the current TCP-SYN-FLOOD packets is beyond the set value, the router will startup the blocking function immediately.
- **Ignore Ping Packet From WAN Port** - The default setting is disabled. If enabled, the ping packet from the Internet cannot access the router.
- **Forbid Ping Packet From LAN Port** - The default setting is disabled. If enabled, the ping packet from LAN cannot access the router. This function can be used to defend against some viruses.

3. Click **Save**.

4. Click **Blocked DoS Host List** to display the DoS host table by blocking.

### 4. 6. 3. Local Management

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Security > Local Management**, and you can block computers in LAN from accessing the router.

### Local Management

Management Rules

☒ All the PCs on the LAN are allowed to access the Router's Web-Based Utility

☐ Only the PCs listed can browse the built-in web pages to perform Administrator tasks

MAC 1:

MAC 2:

MAC 3:

MAC 4:

Your PC's MAC Address:

For example, if you want to allow PCs with specific MAC addresses to access the router's web management page locally from inside the network, please follow the instructions below:

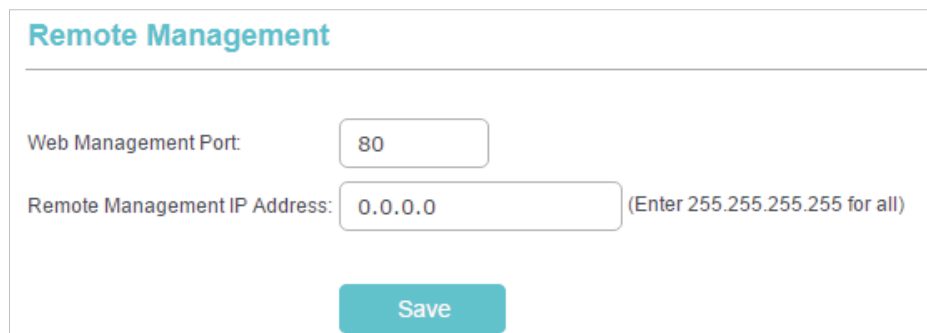
- 1) Select [Only the PCs listed can browse the built-in web pages to perform Administrator tasks](#).
- 2) Enter the MAC address of each PC separately. The format of the MAC address is XX-XX-XX-XX-XX-XX (X is any hexadecimal digit). Only the PCs with the listed MAC addresses can use the password to browse the built-in web pages to perform administrator tasks.
- 3) Click [Add](#), and your PC's MAC address will also be listed.
- 4) Click [Save](#).

**Note:**

If your PC is blocked but you want to access the router again, press and hold the [Reset](#) button to reset the router to the factory defaults.

#### 4.6.4. Remote Management

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Security](#) > [Remote Management](#), and you can manage your router from a remote device via the Internet.



**Remote Management**

Web Management Port:

Remote Management IP Address:  (Enter 255.255.255.255 for all)

[Save](#)

- [Web Management Port](#) - Web browser access normally uses the standard HTTP service port 80. This router's default remote management web port number is 80. For higher security, you can change the remote management web port to a custom port by entering a number between 1 and 65534 but do not use the number of any common service port.
- [Remote Management IP Address](#) - This is the address you will use when accessing your router via a remote device. This function is disabled when the IP address is set to the default value of 0.0.0.0. To enable this function, change 0.0.0.0 to a valid IP address. If it is set to 255.255.255.255, then all the remote devices can access the router from the Internet.

**Note:**

- To access the router, enter your router's WAN IP address in your browser's address bar, followed by a colon and the custom port number. For example, if your router's WAN address is 202.96.12.8, and the port number used is 8080, please enter <http://202.96.12.8:8080> in your browser. Later, you may be asked for the router's password. After successfully entering the username and password, you will be able to access the router's web management page.
- Be sure to change the router's default password for security purposes.

## 4.7. Parental Control

Parental Controls allows you to block inappropriate and malicious websites, and control access to specific websites at specific time for your children's devices.

For example, you want the children's PC with the MAC address 00-11-22-33-44-AA can access [www.tp-link.com](http://www.tp-link.com) on Saturday only while the parent PC with the MAC address 00-11-22-33-44-BB is without any restriction.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Access Control](#) > [Schedule](#).
3. Click [Add New](#) to create a new schedule entry with [Schedule Description](#) as `Schedule_1`, [Day](#) as `Sat` and [Time](#) as `all day-24 hours`. And click [Save](#).

### Advance Schedule Settings

**Note:** The Schedule is based on the time of the Router.

Schedule Description:

Day: ☐ Everyday ☒ Select Days

☐ Mon ☐ Tue ☐ Wed ☐ Thu ☐ Fri ☒ Sat ☐ Sun

Time: ☒ all day-24 hours

Start Time:  (HHMM)

Stop Time:  (HHMM)

[Save](#) [Back](#)

4. Go to [Advanced](#) > [Parental Control](#).
5. Select [Enable](#) and enter the MAC address 00-11-22-33-44-BB in the [MAC Address of Parental PC](#) field.
6. Click [Add New](#), and enter appropriate parameters in corresponding fields.

### Add or Modify Parental Control Entry

The Schedule is based on the time of the Router. The time can be set in "System Tools -> [Time settings](#)".

MAC Address of Children's PC:

00-11-22-33-44-AA

All MAC Address In Current LAN:

--Please Select--

Website Description:

Allow TP-LINK

Allowed Website Name:

www.tp-link.com

Effective Time:

Schedule\_1

The time schedule can be set in "Access Control -> [Schedule](#)"

Status:

Enabled

Save

Back

- Enter 00-11-22-33-44-AA in the [MAC Address of Children's PC](#) field.
- Enter Allow TP-LINK in the [Website Description](#) field.
- Enter www.tp-link.com in the [Allowed Website Name](#) field.
- Select Schedule\_1 you created just now from the [Effective Time](#) drop-down list.
- In the [Status](#) field, select [Enabled](#).

7. Click [Save](#).

Then you can go back to the [Parental Control](#) Settings page to check the following list.

ID	MAC address	Website Description	Schedule	Status	Modify
1	00-11-22-33-44-AA	Allow TP-LINK	Schedule_1	<input checked="" type="checkbox"/>	<a href="#">Edit</a> <a href="#">Delete</a>

Add New...

Enable All

Disable All

Delete All

## 4. 8. Access Control

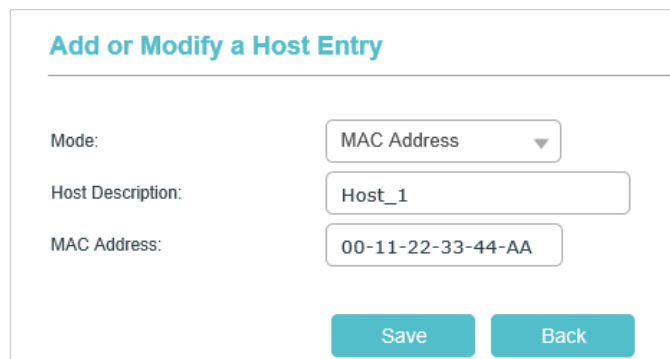
Access Control is used to deny or allow specific client devices to access your network with access time and content restrictions.

**I want to:** Deny or allow specific client devices to access my network with access item and content restrictions.

**For example,** If you want to restrict the Internet activities of host with MAC address 00-11-22-33-44-AA on the LAN to access www.tp-link.com only, please follow the steps below:

**How can I do that?**

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Access Control](#) > [Host](#) and configure the host settings:
  - 1 ) Click [Add New](#).
  - 2 ) Select [MAC Address](#) as the mode type. Create a unique description (e.g. [host\\_1](#)) for the host in the [Host Description](#) field and enter 00-11-22-33-44-AA in the [MAC Address](#) field.



**Add or Modify a Host Entry**

Mode: MAC Address ▼

Host Description: Host\_1

MAC Address: 00-11-22-33-44-AA

Save Back

- 3 ) Click [Save](#).
3. Go to [Advanced](#) > [Access Control](#) > [Target](#) and configure the target settings:
  - 1 ) Click [Add New](#).
  - 2 ) Select [Domain Name](#) as the mode type. Create a unique description (e.g. [target\\_1](#)) for the target in the [Target Description](#) field and enter the domain name, either the full name or the keywords (for example TP-LINK) in the [Domain Name](#) field.

**Note:**

Any domain name with keywords in it (e.g. www.tp-link.com) will be blocked or allowed.



### Add or Modify an Access Target Entry

Mode: Domain Name

Target Description: target\_1

Domain Name: www.tp-link.com  
tp-link

Save Back

- 3) Click [Save](#).
4. Go to [Advanced](#) > [Access Control](#) > [Schedule](#) and configure the schedule settings:
  - 1) Click [Add New](#).
  - 2) Create a unique description (e.g. [schedule\\_1](#)) for the schedule in the [Schedule Description](#) field and set the day(s) and time period.

### Advance Schedule Settings

**Note:** The Schedule is based on the time of the Router.

Schedule Description: Schedule\_1

Day: ☒ [Everyday](#) ☐ [Select Days](#)

☒ Mon ☒ Tue ☒ Wed ☒ Thu ☒ Fri ☒ Sat ☒ Sun

Time: ☒ [all day-24 hours](#)

Start Time:  (HHMM)

Stop Time:  (HHMM)

Save Back

- 3) Click [Save](#).
5. Go to [Advanced](#) > [Access Control](#) > [Rule](#) and add a new access control rule.
  - 1) Click [Add New](#).
  - 2) Give a name for the rule in the [Rule Name](#) field. Select [host\\_1](#) from the host drop-down list; select [target\\_1](#)

from the target drop-down list; select [schedule\\_1](#) from the schedule drop-down list.

**Add Internet Access Control Entry**

Rule Name:

Host:  [Click Here To Add New Host List](#)

Target:  [Click Here To Add New Target List](#)

Schedule:  [Click Here To Add New Schedule](#)

Status:

3) Leave the status as [Enabled](#) and click [Save](#).

6. Select [Enable Internet Access Control](#) to enable Access Control function.
7. Select [Allow the packets specified by any enabled access control policy to pass through the Router](#) as the default filter policy and click [Save](#).

**Default Filter Policy**

☐ [Allow the packets specified by any enabled access control policy to pass through the Router](#)

☒ [Deny the packets specified by any enabled access control policy to pass through the Router](#)

**Done!**

Now only the specific host(s) can visit the target(s) within the scheduled time period.

## 4. 9.    Advanced Routing

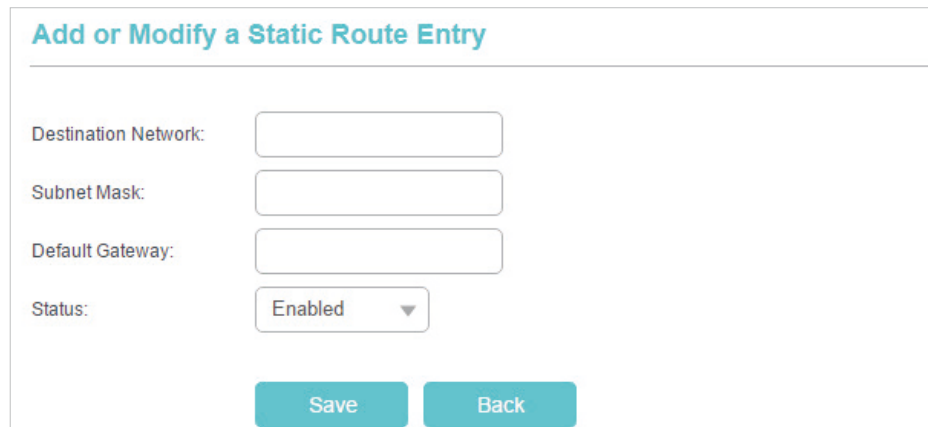
Static Routing is a form of routing that is configured manually by a network administrator or a user by adding entries into a routing table. The manually-configured routing information guides the router in forwarding data packets to a specific destination.

### 4. 9. 1.   Static Routing List

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Advanced Routing](#) > [Static Routing](#).

➤ **To add static routing entries:**

1. Click [Add New](#), and enter the following information.



**Add or Modify a Static Route Entry**

Destination Network:

Subnet Mask:

Default Gateway:

Status: Enabled ▼

Save Back

- **Destination Network** - The Destination Network is the address of the network or host that you want to assign to a static route.
- **Subnet Mask** - The Subnet Mask determines which portion of an IP Address is the network portion, and which portion is the host portion.
- **Default Gateway** - This is the IP Address of the default gateway device that allows the contact between the router and the network or host.

2. Select **Enabled** or **Disabled** for this entry on the **Status** drop-down list.

3. Click **Save**.

You can also do the following operations to modify the current settings.

- Click **Delete** to delete the entry.
- Click **Enable All** to enable all the entries.
- Click **Disable All** to disable all the entries.
- Click **Delete All** to delete all the entries.
- Click **Previous** to view the information on the previous screen and **Next** to view the information on the next screen.

#### 4. 9. 2. System Routing Table

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Advanced Routing > System Routing Table**, and you can view all the valid route entries in use.

System Routing Table				
ID	Destination Network	Subnet Mask	Gateway	Interface
1	192.168.0.0	255.255.255.0	0.0.0.0	LAN & WLAN
2	239.0.0.0	255.0.0.0	0.0.0.0	LAN & WLAN

Refresh

- **Destination Network** - The Destination Network is the address of the network or host to which the static route is assigned.
- **Subnet Mask** - The Subnet Mask determines which portion of an IP address is the network portion, and which portion is the host portion.
- **Gateway** - This is the IP address of the gateway device that allows for contact between the Router and the network or host.
- **Interface** - This interface tells you whether the Destination IP Address is on the LAN & WLAN (internal wired and wireless networks), or the WAN(Internet).

Click [Refresh](#) to refresh the data displayed.

## 4. 10. Bandwidth Control

### 4. 10. 1. Control Settings

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [Bandwidth Control](#) > [Control Settings](#).

Bandwidth Control Settings	
Enable Bandwidth Control: <input type="checkbox"/>	
Line Type:	<input checked="" type="radio"/> ADSL <input type="radio"/> Other
Egress Bandwidth:	<input type="text" value="512"/> Kbps
Ingress Bandwidth:	<input type="text" value="2048"/> Kbps
Save	

The values you configure for the Egress Bandwidth and Ingress Bandwidth should be less than 100,000Kbps. For optimal control of the bandwidth, please select the right Line Type and consult your ISP for the total egress and ingress bandwidth.

- **Enable Bandwidth Control** - Check this box so that the Bandwidth Control settings can take effect.
- **Line Type** - Select the right type for you network connection. If you are not sure, please consult your ISP.
- **Egress Bandwidth** - The upload speed through the WAN port.
- **Ingress Bandwidth** - The download speed through the WAN port.

#### 4. 10. 2. Rules List

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Bandwidth Control > Rules List**, and you can view and configure the Bandwidth Control rules.

### Bandwidth Control Rule List

ID	Description	Egress Bandwidth(Kbps)		Ingress Bandwidth(Kbps)		Enable	Modify
		Min	Max	Min	Max		
The current list is empty.							

Add New...
Delete All

Previous
Next
Current No. 1
Page

- **Description** - This is the information about the rules such as address range.
- **Egress Bandwidth** - This field displays the max and min upload bandwidth through the WAN port. The default is 0.
- **Ingress Bandwidth** - This field displays the max and min download bandwidth through the WAN port. The default is 0.
- **Enable** - This field displays the status of the rule.
- **Modify** - Click **Modify/Delete** to edit/delete the rule.

➤ **To add a Bandwidth control rule:**

1. Click **Add New**.
2. Enter the information like the figure shown below.

3. Click [Save](#).

## 4. 11. IP & MAC Binding

IP & MAC Binding, namely, ARP (Address Resolution Protocol) Binding, is used to bind a network device's IP address to its MAC address. This will prevent ARP spoofing and other ARP attacks by denying network access to a device with a matching IP address in the ARP list, but with an unrecognized MAC address.

### 4. 11. 1. Binding Settings

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [IP & MAC Binding](#) > [Binding Settings](#).
3. Select [Enable](#) for ARP Binding.

4. Click [Save](#).

#### ➤ To add IP & MAC Binding entries:

1. Click [Add New](#).
2. Select the [Bind](#) checkbox. And enter the MAC address and IP address.

### IP & MAC Binding Settings

Bind: ☒

MAC Address:

IP Address:

3. Click [Save](#).

➤ **To modify or delete an existing entry:**

1. Find the desired entry in the table.
2. Click [Modify](#) or [Delete](#) in the Modify column.

➤ **To find an existing entry:**

1. Click [Find](#).
2. Enter the MAC address or IP address in the corresponding field.
3. Click [Find](#) on this page as shown below.

### Find IP & MAC Binding Entry

MAC Address:

IP Address:

ID	MAC Address	IP Address	Bind	Link
Now the current list is empty.				

#### 4. 11. 2. ARP List

To manage a device, you can observe the device on the LAN by checking its MAC address and IP address on the ARP list, and you can also configure the items. This page displays the ARP List which shows all the existing IP & MAC Binding entries.

ARP List				
ID	MAC Address	IP Address	Status	Configure
1	FC-AA-14-59-E9-CA	192.168.0.100	Unbound	<a href="#">Load</a> <a href="#">Delete</a>

Bind All
Load All
Refresh

- **MAC Address** - The MAC address of the listed computer on the LAN.
- **IP Address** - The assigned IP address of the listed computer on the LAN.
- **Status** - Indicates whether or not the MAC and IP addresses are bound.
- **Configure** - Load or delete an item.
  - **Load** - Load the item to the IP & MAC Binding list.
  - **Delete** - Delete the item.
- Click **Bind All** to bind all the current items.
- Click **Load All** to load all items to the IP & MAC Binding list.
- Click **Refresh** to refresh all items.

**Note:**

An item can not be loaded to the IP & MAC Binding list if the IP address of the item has been loaded before. Error warning will prompt as well. Likewise, **Load All** only loads the items without interference to the IP & MAC Binding list.

## 4. 12. Dynamic DNS

The router offers the DDNS (Dynamic Domain Name System) feature, which allows the hosting of a website, FTP server, or e-mail server with a fixed domain name (named by yourself) and a dynamic IP address. Thus your friends can connect to your server by entering your domain name no matter what your IP address is. Before using this feature, you need to sign up for DDNS service providers such as [www.comexe.cn](http://www.comexe.cn), [www.dyn.org](http://www.dyn.org), or [www.noip.com](http://www.noip.com). The Dynamic DNS client service provider will give you a password or key.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > Dynamic DNS**.

### Comexe DDNS

If the dynamic DNS Service Provider you select is [www.comexe.cn](http://www.comexe.cn), the following page will appear.



## DDNS

Service Provider: Comexe ( www.comexe.cn ) ▼ [Go to register...](#)

Domain Name:

Domain Name:

Domain Name:

Domain Name:

Domain Name:

User Name:

Password:

☐ Enable DDNS

Connection Status: DDNS not launching!

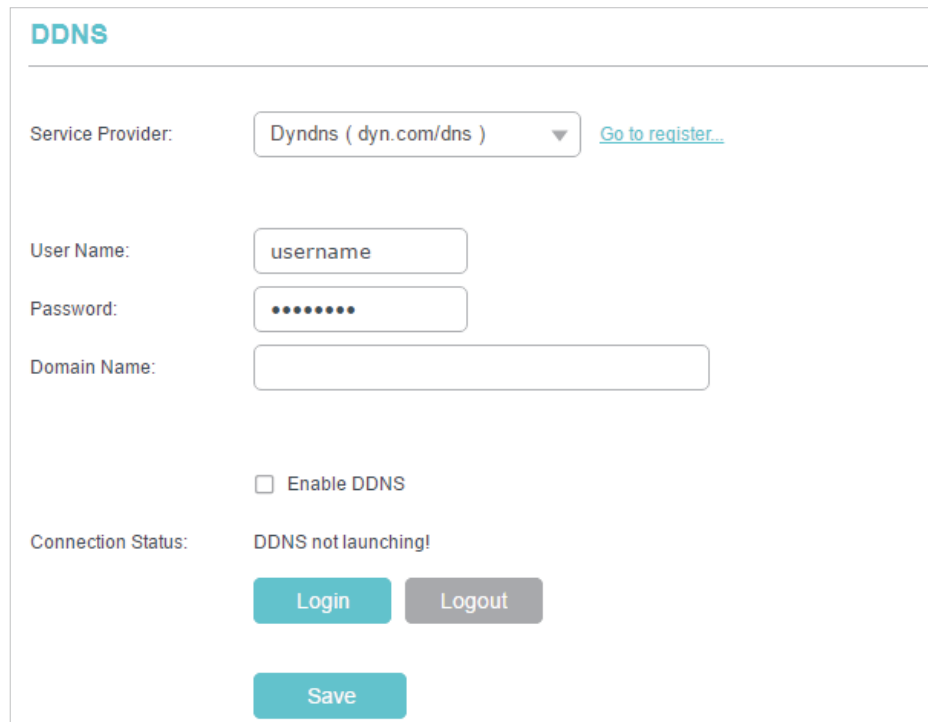
[Login](#) [Logout](#)

➤ **To set up for DDNS, follow these instructions:**

1. Enter the [Domain Name](#) received from your dynamic DNS service provider.
  2. Enter the [User Name](#) for your DDNS account.
  3. Enter the [Password](#) for your DDNS account.
  4. Click [Login](#).
  5. Click [Save](#).
- [Connection Status](#) - The status of the DDNS service connection is displayed here.
  - [Logout](#) - Click [Logout](#) to log out of the DDNS service.

## Dyndns DDNS

If the dynamic DNS Service Provider you select is [www.dyn.com](http://www.dyn.com), the following page will appear.



**DDNS**

Service Provider: Dyndns ( dyn.com/dns ) [Go to register...](#)

User Name: username

Password: .....

Domain Name:

☐ Enable DDNS

Connection Status: DDNS not launching!

Login Logout

Save

➤ **To set up for DDNS, follow these instructions:**

1. Enter the [User Name](#) for your DDNS account.
  2. Enter the [Password](#) for your DDNS account.
  3. Enter the [Domain Name](#) you received from dynamic DNS service provider here.
  4. Click [Login](#).
  5. Click [Save](#).
- [Connection Status](#) - The status of the DDNS service connection is displayed here.
  - [Logout](#) - Click [Logout](#) to log out of the DDNS service.

## No-ip DDNS

If the dynamic DNS Service Provider you select is [www.noip.com](http://www.noip.com), the following page will appear.

**DDNS**

Service Provider: No-IP ( www.noip.com ) [Go to register...](#)

User Name: username

Password: .....

Domain Name:

☐ Enable DDNS

Connection Status: DDNS not launching!

Login Logout

➤ **To set up for DDNS, follow these instructions:**

1. Enter the [User Name](#) for your DDNS account.
  2. Enter the [Password](#) for your DDNS account.
  3. Enter the [Domain Name](#) you received from dynamic DNS service provider.
  4. Click [Login](#).
  5. Click [Save](#).
- [Connection Status](#) - The status of the DDNS service connection is displayed here.
  - [Logout](#) - Click [Logout](#) to log out of the DDNS service.

## 4. 13. IPv6 Support

This function allows you to enable IPv6 function and set up the parameters of the router's Wide Area Network (WAN) and Local Area Network (LAN).

### 4. 13. 1. IPv6 Status

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [IPv6 Support](#) > [IPv6 Status](#), and you can view the current IPv6 status information of the router.

IPv6 Status	
WAN	
Connection Type:	DHCPv6
IPv6 Address:	
IPv6 Default Gateway:	
Primary IPv6 DNS:	
Secondary IPv6 DNS:	
LAN	
IPv6 Address Assign Type:	RADVD
IPv6 Address:	
Link-local Address:	fe80::1402:90ff:fe2a:c415/64

- **WAN**
  - **Connection Type** - The IPv6 connection way for WAN
  - **IPv6 Address** - The WAN IPv6 address
  - **IPv6 Default Gateway** - The router's default gateway
  - **Primary IPv6 DNS** - The primary IPv6 DNS address
  - **Secondary IPv6 DNS** - The secondary IPv6 DNS address
- **LAN**
  - **IPv6 Address Assign Type** - The way how the router assign IPv6 address for PC in LAN, RADVD(Router Advertisement Daemon) and DHCPv6(Dynamic Host Configuration Protocol for IPv6) Server.
  - **IPv6 Address** - The LAN global IPv6 address of the Router
  - **Link-local Address** - The LAN Link-local Address of the Router

### 4.13.2. IPv6 Setup

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **IPv6 Support > IPv6 Setup**.

### IPv6 Setup

---

#### WAN Setup

---

☒ Enable IPv6:

WAN Connection Type: DHCPv6 ▼

IPv6 Address:

IPv6 Address Prefix:

Default Gateway:

Renew Release Disconnected!

☒ Get IPv6 DNS Server Automatically

Primary IPv6 DNS:

Secondary IPv6 DNS:

☐ Use the following IPv6 DNS Servers

---

#### LAN Setup

---

Address Autoconfiguration Type: ☒ RADVD ☐ DHCPv6 Server

Site Prefix Configuration Type: ☒ Delegated ☐ Static

Lan IPv6 Address:

Save

3. Select the **WAN Connection Type** according to your ISP network topology:
- **SLAAC** - Connections which use RADVD IPv6 address assignment.
  - **DHCPv6** - Connections which use dynamic IPv6 address assignment.
  - **Static IPv6** - Connections which use static IPv6 address assignment.
  - **PPPoEv6** - Connections which use PPPoEV6 that requires a username and password.
  - **Tunnel 6to4** - Connections which use 6to4 address assignment.

## SLAAC

### IPv6 Setup

---

#### WAN Setup

---

☒ Enable IPv6:

WAN Connection Type:
 

SLAAC ▼

IPv6 Address:

IPv6 Address Prefix:

Default Gateway:

Connect

Disconnect

Disconnected!

☒ Get IPv6 DNS Server Automatically

Primary IPv6 DNS:

Secondary IPv6 DNS:

☐ Use the following IPv6 DNS Servers

- **IPv6 Address** - The IPv6 address assigned by your ISP dynamically.
- **IPv6 Address Prefix** - Display the IPv6 prefix length in dotted-decimal notation provided by your ISP.
- **Default Gateway** - Display the default gateway in colon-hexadecimal notation provided by your ISP.
- **Connect** - Click **Connect** to connect immediately.
- **Disconnect** - Click **Disconnect** to disconnect immediately.
- **Get IPv6 DNS Server Automatically** - If your ISP does not give you any DNS IPv6 address, keep the default selection **Get IPv6 DNS Server Automatically**, and the DNS servers will be assigned from ISP dynamically.
  - **Primary IPv6 DNS** - Enter the DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
  - **Secondary IPv6 DNS** - Enter another DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
- **Use the following IPv6 DNS Servers** - If your ISP gives you one or two DNS IPv6 addresses, select **Use the following IPv6 DNS Servers** and enter the **Primary IPv6 DNS** and **Secondary IPv6 DNS** in the corresponding fields.

 **Note:**

If you get "Address not found error" when you access a web site, it is likely that your DNS servers are set up improperly. You should contact your ISP to get DNS server addresses.

## DHCPv6

### IPv6 Setup

---

#### WAN Setup

---

☒ **Enable IPv6:**

WAN Connection Type: DHCPv6 ▼

IPv6 Address:

IPv6 Address Prefix:

Default Gateway:

Renew Release Disconnected!

☒ **Get IPv6 DNS Server Automatically**

Primary IPv6 DNS:

Secondary IPv6 DNS:

☐ **Use the following IPv6 DNS Servers**

- **IPv6 Address** - The IPv6 address assigned by your ISP dynamically.
- **Default Gateway** - Display the default gateway in colon-hexadecimal notation provided by your ISP.
- **Renew** - Click **Renew** to renew the IPv6 parameters from your ISP.
- **Release** - Click **Release** to release the IPv6 parameters from your ISP.
- **Get IPv6 DNS Server Automatically** - If your ISP does not give you any DNS IPv6 address, keep the default selection **Get IPv6 DNS Server Automatically**, and the DNS servers will be assigned from ISP dynamically.
  - **Primary IPv6 DNS** - Enter the DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
  - **Secondary IPv6 DNS** - Enter another DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
- **Use the following IPv6 DNS Servers** - If your ISP gives you one or two DNS IPv6 addresses, select **Use the following IPv6 DNS Servers** and enter the **Primary IPv6 DNS** and **Secondary IPv6 DNS** in the corresponding fields.

**Note:**

If you get "Address not found error" when you access a web site, it is likely that your DNS servers are set up improperly. You should contact your ISP to get DNS server addresses.

## Static IPv6

### IPv6 Setup

---

#### WAN Setup

---

☒ **Enable IPv6:**

WAN Connection Type: Static IPv6 ▼

IPv6 Address:

Default Gateway:  (Optional)

MTU Size (in bytes): 1500 (The default is 1500, do not change unless necessary.)

Primary DNS:  (Optional)

Secondary DNS:  (Optional)

- **IPv6 Address** - Enter the IPv6 address in colon-hexadecimal notation provided by your ISP.
- **Default Gateway** - Enter the default gateway in colon-hexadecimal notation provided by your ISP.
- **MTU Size (in bytes)** - The normal MTU (Maximum Transmission Unit) value for most Ethernet networks is 1500 Bytes. For some ISPs, you may need to modify the MTU. But this is rarely required, and should not be done unless you are sure it is necessary for your ISP connection.
- **Primary DNS** - Enter the DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
- **Secondary DNS** - Enter another DNS IPv6 address in colon-hexadecimal notation provided by your ISP.



## PPPoEv6

### IPv6 Setup

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#### WAN Setup

---

☒ **Enable IPv6:**

WAN Connection Type: PPPoEv6 ▼

PPPoE Session: ☐ Share with PPPoEv4 ☒ **Create a new Session**

Username:

Password:

Confirm Password:

Address Mode: DHCPv6 ▼

IPv6 Address:

IPv6 Address Prefix:

Default Gateway:

MTU: 1492 Bytes, 1492 as default, do not change unless necessary.

☒ **Get IPv6 DNS Server Automatically**

Primary IPv6 DNS:

Secondary IPv6 DNS:

☐ Use the following IPv6 DNS Servers

Connection Mode: ☒ **Always On** ☐ Connect Manual

Connect Disconnect **Disconnected!**

- **PPPoE Session** - The PPP session type for IPv6 connection. There are two types:
  - **Share with PPPoEv4** - The PPPoEv6 and PPPoEv4 use the same PPP session.
  - **Create a new Session** - The PPPoEv6 and PPPoEv4 use different PPP sessions. It is default to select this option.
- **Username/Password** - Enter the username and password provided by your ISP. These fields are case-sensitive.
- **Address Mode** - The way to get the IPv6 address and prefix.
  - **SLAAC** - Get the IPv6 address and prefix by router advertisement.
  - **DHCPv6** - Get the IPv6 address and prefix by DHCPv6.

- [IPv6 Address](#) - The IPv6 address assigned by your ISP dynamically.
- [Default Gateway](#) - Display the default gateway in colon-hexadecimal notation provided by your ISP.
- [MTU \(in bytes\)](#) - The normal MTU (Maximum Transmission Unit) value is 1492 Bytes. For some ISPs, you may need to modify the MTU. But this is rarely required, and should not be done unless you are sure it is necessary for your ISP connection.
- [Get IPv6 DNS Server Automatically](#) - If your ISP does not give you any DNS IPv6 address, keep the default selection [Get IPv6 DNS Server Automatically](#), and the DNS servers will be assigned from ISP dynamically.
  - [Primary IPv6 DNS](#) - Enter the DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
  - [Secondary IPv6 DNS](#) - Enter another DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
- [Use the following IPv6 DNS Servers](#) - If your ISP gives you one or two DNS IPv6 addresses, select [Use the following IPv6 DNS Servers](#) and enter the [Primary IPv6 DNS](#) and [Secondary IPv6 DNS](#) in the corresponding fields.
- [Connection Mode](#) - The way to connect the ISP.
  - [Always On](#) - Connect automatically.
  - [Connect Manual](#) - Connect by the user manually.
- [Connect](#) - Click [Connect](#) to connect immediately.
- [Disconnect](#) - Click [Disconnect](#) to disconnect immediately.

## Tunnel 6to4

### IPv6 Setup

---

#### WAN Setup

---

☒ Enable IPv6:

WAN Connection Type: Tunnel 6to4 ▼

Address: 0.0.0.0

Subnet Mask: 0.0.0.0

Default Gateway: 0.0.0.0

Tunnel Address:

MTU Size (in bytes): 1480 (The default is 1480, do not change unless necessary.)

☐ Use the following IPv6 DNS Servers

Primary IPv6 DNS: 2001:4860:4860::8888 (Optional)

Secondary IPv6 DNS: 2001:4860:4860::8844 (Optional)

- **Address/Subnet Mask/Default Gateway** - The IPv4 address/ subnet mask/ default gateway assigned, in dotted-decimal notation.
  - **Tunnel Address** - The 6to4 tunnel address created by the device to access the IPv6 network.
  - **MTU Size** - The normal MTU (Maximum Transmission Unit) value for most Ethernet networks is 1480 Bytes. For some ISPs, you may need to modify the MTU. But this is rarely required, and should not be done unless you are sure it is necessary for your ISP connection.
  - **Use the following IPv6 DNS Servers** - If your ISP gives you one or two DNS IPv6 addresses, select **Use the following IPv6 DNS Servers** and enter the **Primary IPv6 DNS** and **Secondary IPv6 DNS** into the correct fields. Otherwise, the DNS servers will be assigned from ISP dynamically.
    - **Primary IPv6 DNS** - Enter the DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
    - **Secondary IPv6 DNS** - Enter another DNS IPv6 address in colon-hexadecimal notation provided by your ISP.
4. Select the **Address Autoconfiguration Type** which determines the way how the router assigns IPv6 address for PCs on the LAN:

### LAN Setup

Address Autoconfiguration Type: ☒ RADVD ☐ DHCPv6 Server

Site Prefix Configuration Type: ☒ Delegated ☐ Static

Lan IPv6 Address:

[Save](#)

- **Address Autoconfiguration Type** - [RADVD](#) (Router Advertisement Daemon) and [DHCPv6](#) (Dynamic Host Configuration Protocol for IPv6) [Server](#).
  - **Site Prefix Configuration Type** - The type of IPv6 address prefix.
    - [Delegated](#) - Get the IPv6 address prefix from the ISP automatically, and the device will delegate it to the LAN.
    - [Static](#) - Configure the [Site Prefix](#) and [Site Prefix Length](#) manually. Please contact your ISP to get more information before you configure them.
  - [LAN IPv6 Address](#) - Display the LAN IPv6 address created by the device.
5. Click [Save](#).

## 4. 14. System Tools

### 4. 14. 1. Time Settings

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [System Tools](#) > [Time Settings](#) and configure the system time as needed.

### Time Settings

Time Zone: (GMT) Greenwich Mean Time, Dublin, London ▼

Date: 1 1 2016 (MM/DD/YY)

Time: 0 9 27 (HH/MM/SS)

NTP Server 1: 0.0.0.0 (Optional)

NTP Server 2: 0.0.0.0 (Optional)

Get GMT

☐ Enable Daylight Saving

Start: 2016 Mar ▼ Last ▼ Sun ▼ 1am ▼

End: 2016 Oct ▼ Last ▼ Sun ▼ 1am ▼

Daylight Saving Status:

Note: Click "GET GMT" to update time settings through the pre-defined servers or enter customized server(IP or Domain) in the frames above.

Save

➤ **To set time manually:**

1. Select your local time zone.
2. Enter the [Date](#) in Month/Day/Year format.
3. Enter the [Time](#) in Hour/Minute/Second format.
4. Click [Save](#).

➤ **To set time automatically:**

1. Select your local time zone.
2. Enter the address or domain of the [NTP Server I](#) or [NTP Server II](#).
3. Click [Get GMT](#) to get time from the Internet if you have connected to the Internet.
4. Click [Save](#).

➤ **To set Daylight Saving Time:**

1. Select [Enable Daylight Saving](#).
2. Select the start time from the drop-down list in the [Start](#) field.
3. Select the end time from the drop-down list in the [End](#) field.
4. Click [Save](#).

**Note:**

This setting will be used for some time-based functions such as firewall. You must specify your time zone once you login to the router successfully; otherwise, time-based functions will not take effect.

## 4.14.2. Diagnostic

Diagnostic is used to test the connectivity between the router and the host or other network devices.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > System Tools > Diagnostic**.

### Diagnostic Tools

---

#### Diagnostic Parameters

Diagnostic Tool:

☒ Ping ☐ Traceroute

IP Address/ Domain Name:

Ping Count:

(1-50)

Ping Packet Size:

(4-1472 Bytes)

Ping Timeout:

(100-2000 Milliseconds)

Traceroute Max TTL:

(1-30)

#### Diagnostic Results

This device is ready.

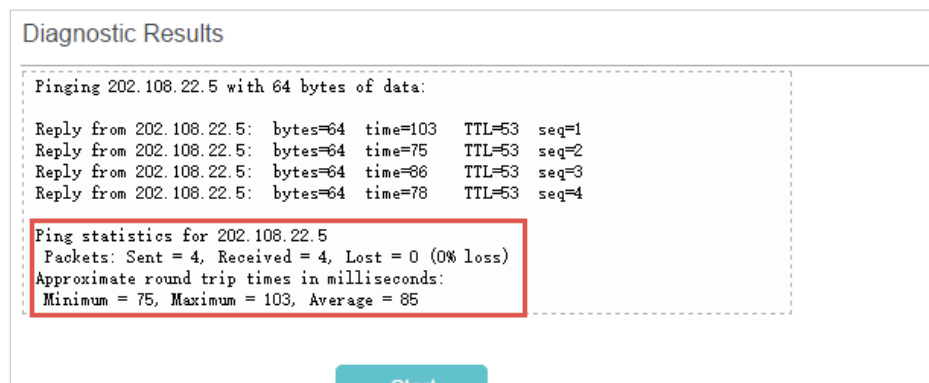
Start

- **Diagnostic Tool** - Select one diagnostic tool.
  - **Ping** - This diagnostic tool troubleshoots connectivity, reachability, and name resolution to a given host or gateway.
  - **Tracerouter** - This diagnostic tool tests the performance of a connection.

**Note:**

You can use ping/traceroute to test both numeric IP address or domain name. If pinging/tracerouting the IP address is successful, but pinging/tracerouting the domain name is not, you might have a name resolution problem. In this case, ensure that the domain name you are specifying can be resolved by using Domain Name System (DNS) queries.

- **IP Address/Domain Name** - Enter the destination IP address (such as 192.168.0.1) or Domain name (such as www.tp-link.com).
  - **Pings Count** - The number of Ping packets for a Ping connection.
  - **Ping Packet Size** - The size of Ping packet.
  - **Ping Timeout** - Set the waiting time for the reply of each Ping packet. If there is no reply in the specified time, the connection is overtime.
  - **Traceroute Max TTL** - The max number of hops for a Traceroute connection.
3. Click **Start** to check the connectivity of the Internet.
  4. The **Diagnostic Results** page displays the diagnosis result. If the result is similar to the following figure, the connectivity of the Internet is fine.



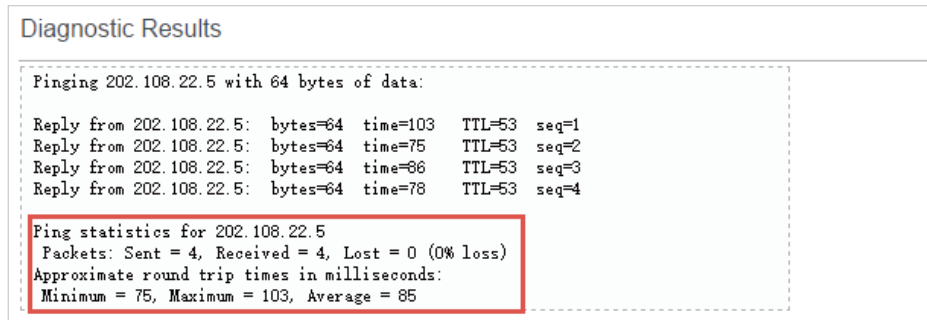
**Note:**

Only one user can use this tool at one time. Options "Number of Pings", "Ping Size" and "Ping Timeout" are used for the Ping function. Option "Tracert Hops" is used for the Tracert function.

### 4. 14. 3. Firmware Upgrade

TP-LINK is dedicated to improving and enriching the product features, giving users a better network experience. We will release the latest firmware at the TP-LINK official website [www.tp-link.com](http://www.tp-link.com). You can download the latest firmware file from the [Support](#) page and upgrade the firmware to the latest version.

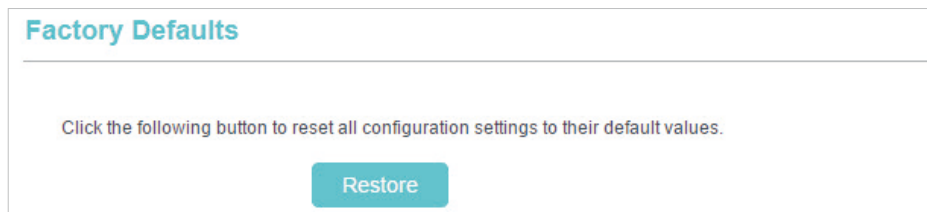
1. Download the latest firmware file for the router from our website [www.tp-link.com](http://www.tp-link.com).
2. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
3. Go to **Advanced > System Tools > Firmware Upgrade**.
4. Click **Browse** to locate the downloaded firmware file, and click **Upgrade**.



5. Wait a few minutes for the upgrade and reboot to complete.

#### 4. 14. 4. Factory Defaults

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > System Tools > Factory Defaults**. Click **Restore** to reset all settings to the default values.

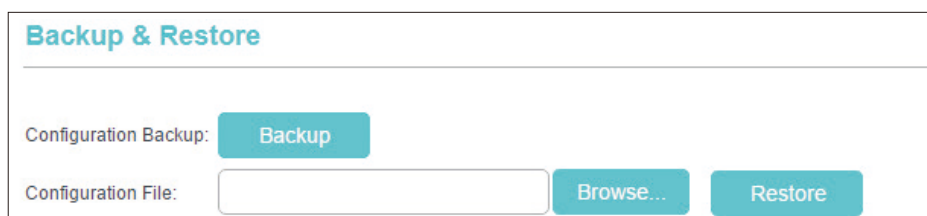


- The default **Username**: admin
- The default **Password**: admin
- The default **IP Address**: 192.168.0.1
- The default **Subnet Mask**: 255.255.255.0

#### 4. 14. 5. Backup & Restore

The configuration settings are stored as a configuration file in the router. You can backup the configuration file in your computer for future use and restore the router to the previous settings from the backup file when needed.

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced > System Tools > Backup & Restore**.





➤ **To backup configuration settings:**

Click [Backup](#) to save a copy of the current settings in your local computer. A ".bin" file of the current settings will be stored in your computer.

➤ **To restore configuration settings:**

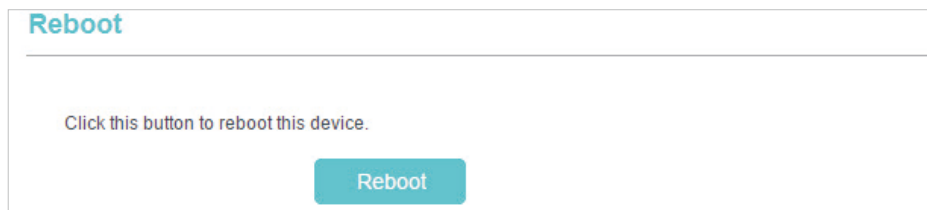
1. Click [Choose File](#) to locate the backup configuration file stored in your computer, and click [Restore](#).
2. Wait a few minutes for the restoring and rebooting.

■ **Note:**

During the restoring process, do not power off or reset the router.

#### 4. 14. 6. Reboot

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [System Tools](#) > [Reboot](#), and you can restart your router.



Some settings of the router will take effect only after rebooting, including:

- Change the LAN IP Address (system will reboot automatically).
- Change the DHCP Settings.
- Change the Working Mode.
- Change the Web Management Port.
- Upgrade the firmware of the router (system will reboot automatically).
- Restore the router to its factory defaults (system will reboot automatically).
- Update the configuration with the file (system will reboot automatically).

#### 4. 14. 7. Password

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [System Tools](#) > [Password](#), and you can change the factory default username and password of the router.

### Password

User Name and Password can contain between 1 - 15 characters and may not include spaces.

Old User Name:

Old Password:

New User Name:

New Password:

Confirm New Password:

It is strongly recommended that you change the default username and password of the router, for all users that try to access the router's web-based utility or Quick Setup will be prompted for the router's username and password.

**Note:**

The new username and password must not exceed 15 characters and not include any spacing.

3. Click [Save](#).

## 4. 14. 8. System Log

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to [Advanced](#) > [System Tools](#) > [System Log](#), and you can view the logs of the router.

### System Log

Auto Mail Feature: Disabled

Mail Settings

Log Type: ALL

Log Level: ALL

Log is Empty.

Time = 2016-10-09 3:31:18 1989s

H-Ver = : S-Ver =

L = 192.168.0.1 : M = 255.255.255.0

3G/4G : 3G/4G = 0.0.0.0 : M = 0.0.0.0 : G = 0.0.0.0

Refresh

Save Log

Mail Log

Clear Log

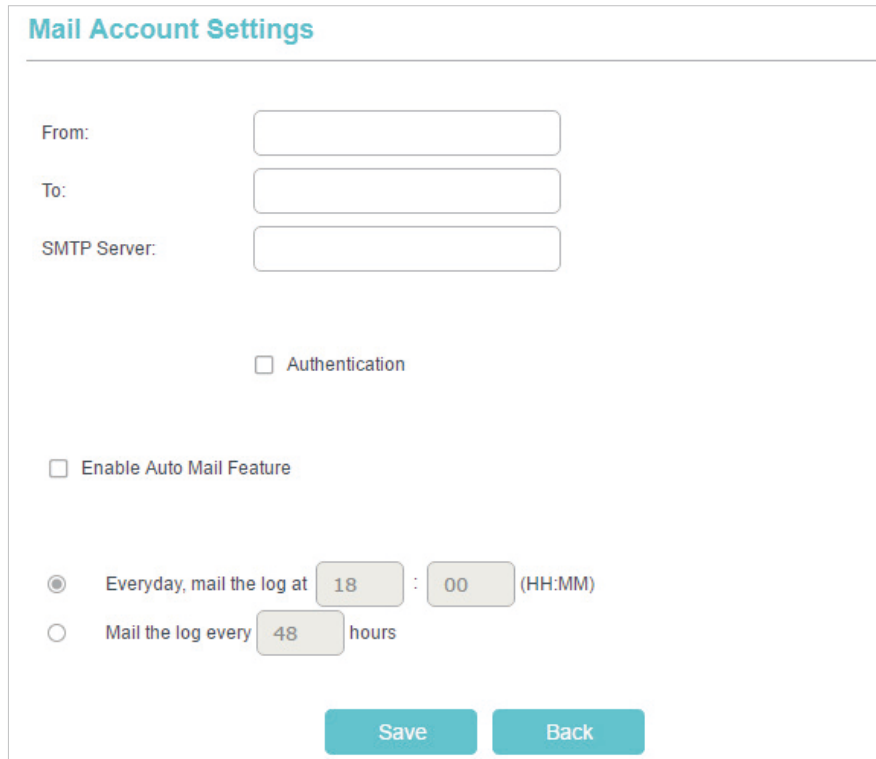
Previous

Next

Current No. 1

Page

- **Auto Mail Feature** - Indicates whether the auto mail feature is enabled or not.
- **Mail Settings** - Set the receiving and sending mailbox address, server address, validation information as well as the timetable for Auto Mail Feature.



**Mail Account Settings**

From:

To:

SMTP Server:

☐ Authentication

☐ Enable Auto Mail Feature

☒ Everyday, mail the log at  :  (HH:MM)

☐ Mail the log every  hours

- **From** - Your mail box address. The router will connect it to send logs.
- **To** - Recipient's mail address. The destination mailbox which will receive logs.
- **SMTP Server** - Your smtp server. It corresponds with the mailbox filled in the **From** field. You can log on the relevant website for help if you are not clear with the address.
- **Authentication** - Most SMTP Server requires Authentication. It is required by most mailboxes that need username and password to log in.

**Note:**

Only when you select Authentication, do you have to fill in the following fields.

- **User Name** - Your mail account name filled in the From field. The part behind @ is included.
- **Password** - Your mail account password.
- **Confirm The Password** - Enter the password again to confirm.
- **Enable Auto Mail Feature** - Select it to mail logs automatically. You could mail the current logs either at a specified time everyday or by intervals, but only one could be the current effective rule. Enter the desired time or intervals in the corresponding field.

Click **Save** to apply your settings.

Click **Back** to return to the previous page.

- **Log Type** - By selecting the log type, only logs of this type will be shown.
- **Log Level** - By selecting the log level, only logs of this level will be shown.

- **Refresh** - Refresh the page to show the latest log list.
- **Save Log** - Click to save all the logs in a txt file.
- **Mail Log** - Click to send an email of current logs manually according to the address and validation information set in Mail Settings.
- **Clear Log** - All the logs will be deleted from the router permanently, not just from the page.

Click **Next** to go to the next page, or click **Previous** to return to the previous page.

#### 4. 14. 9. Statistics

1. Visit <http://tplinkwifi.net>, and log in with the username and password you set for the router.
2. Go to **Advanced** > **System Tools** > **Statistics**, and you can view the statistics of the router, including total traffic and the value of the last Packet Statistic Interval in seconds.

### Statistics

Current Statistics Status: **Disabled** Enable

Packets Statistics Interval(5~60):  Seconds Refresh

☐ Auto-refresh

Sorted Rules: Sorted by Current Bytes Reset All Delete All

IP Address/ MAC Address	Total		Current				Modify
	Packets	Bytes	Packets	Bytes	ICMP Tx	UDP Tx	
The current list is empty.							

entries per page. Current No.  Page

Previous Next

- **Current Statistics Status** - Enable or Disable. The default value is disabled. To enable, click the Enable button. If disabled, the function of DoS protection in Security settings will disabled.
- **Packets Statistics Interval (5-60)** - The default value is 10. Select a value between 5 and 60 in the drop-down list. The Packets Statistic Interval indicates the time section of the packets statistic.
- **Sorted Rules** – Choose how displayed statistics are sorted.
- Select **Auto-refresh** to refresh automatically. Click **Refresh** to refresh immediately.
- Click **Reset All** to reset the values of all the entries to zero.

- Click [Delete All](#) to delete all entries in the table.

## Statistics Table

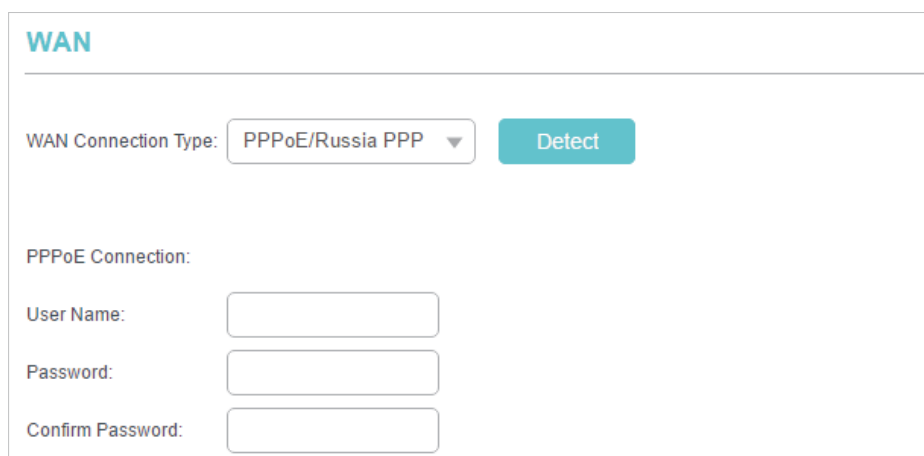
IP/MAC Address		The IP and MAC address are displayed with related statistics.
Total	Packets	The total number of packets received and transmitted by the router.
	Bytes	The total number of bytes received and transmitted by the router.
Current	Packets	The total number of packets received and transmitted in the last Packets Statistic interval seconds.
	Bytes	The total number of bytes received and transmitted in the last Packets Statistic interval seconds.
	ICMP Tx	The number of the ICMP packets transmitted to WAN per second at the specified Packets Statistics interval. It is shown like "current transmitting rate / Max transmitting rate".
	UDP Tx	The number of UDP packets transmitted to the WAN per second at the specified Packets Statistics interval. It is shown like "current transmitting rate / Max transmitting rate".
	TCP SYN Tx	The number of TCP SYN packets transmitted to the WAN per second at the specified Packets Statistics interval. It is shown like "current transmitting rate / Max transmitting rate".
Modify	Reset	Reset the value of the entry to zero.
	Delete	Delete the existing entry in the table.



# FAQ

## Q1. How do I configure the router to access Internet by ADSL users?

1. Configure the ADSL Modem configured in RFC1483 bridge model.
2. Connect the Ethernet cable from your ADSL Modem to the Internet port on the router.  
The telephone cord plugs into the Line port of the ADSL Modem.
3. Login to the router, click the "Network" menu on the left of your browser, and click "WAN" submenu. On the WAN page, select "PPPoE/Russia PPPoE" for WAN Connection Type. Type user name in the "User Name" field and password in the "Password" field, type password in the "Confirm Password" field again, finish by clicking "Connect".



The screenshot shows the WAN configuration interface. At the top, the title "WAN" is displayed in blue. Below it, the "WAN Connection Type" is set to "PPPoE/Russia PPP" with a dropdown arrow. To the right of this is a blue "Detect" button. Underneath, the "PPPoE Connection:" section contains three input fields: "User Name:", "Password:", and "Confirm Password:", each with a corresponding text box.

4. If your ADSL lease is in "pay-according-time" mode, select "Connect on Demand" or "Connect Manually" for Internet connection mode. Type an appropriate number for "Max Idle Time" to avoid wasting paid time. Otherwise, you can select "Auto-connecting" for Internet connection mode.

### Note:

1. Sometimes the connection cannot be disconnected although you specify a time to Max Idle Time, since some applications is visiting the Internet continually in the background.
2. If you are a Cable user, please configure the router following the above steps.

## Q2. How do I configure the router to access Internet by Ethernet users?

1. Login to the router, click the "Network" menu on the left of your browser, and click "WAN" submenu. On the WAN page, select "Dynamic IP" for "WAN Connection Type", finish by clicking "Save".
2. Some ISPs require that you register the MAC Address of your adapter, which is connected to your cable/DSL Modem during installation. If your ISP requires MAC register, login to the router and click the "Network" menu link on the left of your browser, and then click "MAC Clone" submenu link. On the "MAC Clone" page, if your PC's MAC address is proper MAC address, click the "Clone MAC Address" button



and your PC's MAC address will fill in the "WAN MAC Address" field. Or else, type the MAC Address into the "WAN MAC Address" field. The format for the MAC Address is XX-XX-XX-XX-XX-XX. Then click the "Save" button. It will take effect after rebooting.

### MAC Clone

WAN MAC Address:

16-02-90-2A-C4-16

Restore Factory MAC

Your PC's MAC Address:

FC-AA-14-59-E9-CA

Clone MAC Address

Save

### Q3. I want to use Netmeeting, what do I need to do?

1. If you start Netmeeting as a host, you don't need to do anything with the router.
2. If you start as a response, you need to configure Virtual Server or DMZ Host and make sure the H323 ALG is enabled.
3. How to configure Virtual Server: Log in to the router, click the [Forwarding](#) menu on the left of your browser, and click [Virtual Servers](#) submenu. On the [Virtual Servers](#) page, click [Add New...](#) Then on the [Add or Modify a Virtual Server Entry](#) page, enter "1720" in the Service Port field, and your IP address in the IP Address field, taking 192.168.0.169 for an example, remember to [Enable](#) and [Save](#).

### Virtual Servers

ID	Service Port	Internal Port	IP Address	Protocol	Status	Modify
1	1720	1720	192.168.0.169	All	Enabled	<a href="#">Modify</a> <a href="#">Delete</a>

Add New...

Enable All

Disable All

Delete All

Previous

Next

### Add or Modify a Virtual Server Entry

Service Port:  (XX-XX or XX)

Internal Port:  (XX, Enter a specific port number or leave it blank)

IP Address:

Protocol:

Status:

Common Service Port:

**Note:** Your opposite side should call your WAN IP, which is displayed on the Status page.

- How to enable DMZ Host: Log in to the router, click the [Forwarding](#) menu on the left of your browser, and click [DMZ0](#) submenu. On the [DMZ](#) page, click Enable radio button and type your IP address into the [DMZ Host IP Address](#) field, using 192.168.0.169 as an example, remember to click [Save](#).

### DMZ

**Note:** Make sure the nat is **enable** if you want the DMZ configuration take effect.

Current DMZ Status: ☒ [Enable](#) ☐ [Disable](#)

DMZ Host IP Address:

- How to enable H323 ALG: Log in to the router, click the "[Security](#)" menu on the left of your browser, and click "[Basic Security](#)" submenu. On the "[Basic Security](#)" page, check the [Enable](#) radio button next to [H323 ALG](#). Remember to click [Save](#).

**Basic Security**

Firewall

SPI Firewall: ☒ Enable ☐ Disable

VPN

PPTP Passthrough: ☒ Enable ☐ Disable

L2TP Passthrough: ☒ Enable ☐ Disable

IPSec Passthrough: ☒ Enable ☐ Disable

ALG

FTP ALG: ☒ Enable ☐ Disable

TFTP ALG: ☒ Enable ☐ Disable

H323 ALG: ☒ Enable ☐ Disable

RTSP ALG: ☒ Enable ☐ Disable

SIP ALG: ☒ Enable ☐ Disable

Save

#### Q4. I want to build a WEB Server on the LAN, what should I do?

1. Because the WEB Server port 80 will interfere with the WEB management port 80 on the router, you must change the WEB management port number to avoid interference.
2. To change the WEB management port number: Log in to the router, click the [Security](#) menu on the left of your browser, and click [Remote Management](#) submenu. On the [Remote Management](#) page, type a port number except 80, such as 88, into the [Web Management Port](#) field. Click [Save](#) and reboot the router.

**Remote Management**

Web Management Port:

Remote Management IP Address:  (Enter 255.255.255.255 for all)

Save

■ Note: If the above configuration takes effect, you can visit and configure the router by typing <http://192.168.0.1:88> (the router's LAN IP address: Web Management Port) in the address field of the Web browser. If the LAN IP of the modem connected with your router is 192.168.0.x, the default LAN IP of the router will automatically switch from 192.168.0.1 to 192.168.1.1 to avoid IP conflict; in this case, please try <http://192.168.1.1:88>.

3. Log in to the router, click the [Forwarding](#) menu on the left of your browser, and click the [Virtual Servers](#) submenu. On the [Virtual Servers](#) page, click [Add New...](#), then on the [Add or Modify a Virtual Server](#) page, enter "80" in [Service Port](#) field, and your IP address next to the [IP Address](#)", taking 192.168.0.188 for an example, remember to [Enable](#) and [Save](#) the settings.

### Virtual Servers

ID	Service Port	Internal Port	IP Address	Protocol	Status	Modify
1	1720	1720	192.168.0.169	All	Enabled	<a href="#">Modify</a> <a href="#">Delete</a>

[Add New...](#)[Enable All](#)[Disable All](#)[Delete All](#)

[Previous](#)[Next](#)

### Add or Modify a Virtual Server Entry

Service Port:

(XX-XX or XX)

Internal Port:

(XX, Enter a specific port number or leave it blank)

IP Address:

Protocol:

▼

Status:

▼

Common Service Port:

▼


[Save](#)[Back](#)

**Q5. If the wireless stations cannot connect to the router, what should I do?**

1. Make sure the [Wireless router Radio](#) is enabled.
2. Make sure that the wireless stations' SSID accord with the router's SSID.

3. Make sure the wireless stations have right KEY for encryption when the router is encrypted.
4. If the wireless connection is ready, but you can't access the router, check the IP Address of your wireless stations.

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## FCC STATEMENT



This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/ TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

### **FCC RF Radiation Exposure Statement**

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

"To comply with FCC RF exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 31 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter."

The device is restricted in indoor environment only.

## CE Mark Warning



This is a class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

## RF Exposure Information

This device meets the EU requirements (1999/5/EC Article 3.1a) on the limitation of exposure of the general public to electromagnetic fields by way of health protection.

The device complies with RF specifications when the device is used at 20 cm from your body.

Restricted to indoor use.

## Canadian Compliance Statement

This device complies with Industry Canada license-exempt RSSs. Operation is subject to the following two conditions:

1. This device may not cause interference, and
2. This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1. l'appareil ne doit pas produire de brouillage;
2. l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## Caution:

1. The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;
2. For devices with detachable antenna(s), the maximum antenna gain permitted for devices in the band 5725-5850 MHz shall be such that the equipment still complies with the e.i.r.p. limits specified for point-to-point and non-point-to-point operation as appropriate.

## Avertissement:

1. Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;
2. Le gain maximal d'antenne permis pour les dispositifs avec antenne(s) amovible(s) utilisant la bande 5725-5850 MHz doit se conformer à la limitation P.I.R.E spécifiée pour l'exploitation point à point et non point à point.



## Radiation Exposure Statement:

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 30cm between the radiator & your body.

## Déclaration d'exposition aux radiations:


Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 30 cm de distance entre la source de rayonnement et votre corps.





Продукт сертифіковано згідно с правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.



## Safety Information

- When product has power button, the power button is one of the way to shut off the product; when there is no power button, the only way to completely shut off power is to disconnect the product or the power adapter from the power source.
- Don't disassemble the product, or make repairs yourself. You run the risk of electric shock and voiding the limited warranty. If you need service, please contact us.
- Avoid water and wet locations.
- Adapter shall be installed near the equipment and shall be easily accessible.
- The plug considered as disconnect device of adapter.
-  Use only power supplies which are provided by manufacturer and in the original packing of this product. If you have any questions, please don't hesitate to contact us.

## Explanations of the symbols on the product label

Symbol	Explanation
	DC voltage
	<p>RECYCLING</p> <p>This product bears the selective sorting symbol for Waste electrical and electronic equipment (WEEE). This means that this product must be handled pursuant to European directive 2012/19/ EU in order to be recycled or dismantled to minimize its impact on the environment.</p> <p>User has the choice to give his product to a competent recycling organization or to the retailer when he buys a new electrical or electronic equipment.</p>