

# **User Guide**

5G Outdoor Router

# **Contents**

Abou	ut This Guide	1
Chap	oter 1. Get to Know About Your Outdoor Router	3
1. 1.	Product Overview	
1. 2.	Appearance	4
	1. 2. 1.Top Panel	4
	1. 2. 2. The Back and Bottom Panel	6
Chap	oter 2. Connect the Hardware	7
2. 1.	Insert SIM Card if not Installed	8
2. 2.	Installed Lightning and ESD Protection	8
2. 3.	Mount the Outdoor Router	
2. 4.	Connect the Cable	10
2. 5.	Power On	11
2. 6.	Verify the Hardware Connection	13
Chap	oter 3. Log In to Your Router	14
Chap	oter 4. Set Up Internet Connection	16
4. 1.	Use Quick Setup Wizard	17
4. 2.	Manually Set Up Your Internet Connection	
4. 3.	Test Internet Connectivity	
4. 4.	Create a Connection Profile	20
4. 5.	Upgrade Your ISP Information	22
4. 6.	PIN Management	23
4.7.	Data Settings	24
4. 8.	USSD	25
Chap	oter 5. Customize Your Network Settings	26
5. 1.	Configure LAN Settings	27
	5. 1. 1. Change the LAN IP Address	27
	5. 1. 2.Use the Router as a DHCP Server	28
	5. 1. 3.Reserve LAN IP Addresses	
5. 2.	Configure IPv6 LAN Settings	
	5. 2. 1.Configure the RADVD Address Type	

	5. 2. 2. Configure the DHCPv6 Server Address Type	30
5. 3.	Set Up a Dynamic DNS Service Account	31
5. 4.	Create Static Routes	32
5. 5.	RIP Settings	34
Chap	oter 6. SMS	36
6. 1.	View Messages	37
6. 2.	Edit and Send a New Message	
6. 3.	View Sent Messages	38
6. 4.	View Drafts	38
6. 5.	SMS Settings	38
Chap	oter 7. NAT Forwarding	40
7. 1.	ALG	41
7. 2.	Set Up Public Services on The Local Network by Virtual Servers	41
7. 3.	Open Ports Dynamically by Port Triggering	43
7. 4.	Make Applications Free from Port Restriction by DMZ	45
7. 5.	Make Xbox Online Games Run Smoothly by UPnP	46
Chap	oter 8. Network Security	48
8. 1.	Firewall & DoS Protection	49
8. 2.	Service Filtering	50
8. 3.	IP & MAC Binding	51
8. 4.	IPv6 Firewall	52
Chap	oter 9. VPN Server&Client	55
9. 1.	Use OpenVPN to Access Your Home Network	56
9. 2.	Use PPTP VPN to Access Your Home Network	57
9. 3.	Use IPSec VPN to Access Your Home Network	61
9. 4.	VPN Connections	70
Chap	oter 10.Manage Your Router	71
10. 1.	Set System Time	72
10. 2.	Control the LED.	73
10.3.	Test Internet Connectivity	73
10. 4.	•	
10. 5.		
	Reboot the Router	
10.7.	Administration Management	78

	10. 7. 1.Change the Login Password	78
	10. 7. 2.Local Management	79
	10. 7. 3.Remote Management	80
	10. 7. 4.HTTP Referer Head Check	81
	10. 7. 5.ICMP Ping	81
	10. 7. 6.Session ID	
10. 8.	System Log	82
Chap	oter 11.TP-Link Cloud Service	. 85
11. 1.	Register a TP-Link ID	86
11. 2.	Change Your TP-Link ID Information	86
11. 3.	Manage the User TP-Link IDs	87
	11. 3. 1.Add TP-Link ID to Manage the Router	88
	11. 3. 2.Remove TP-Link ID(s) from Managing the Router	88
FAQ		. 90

# **About This Guide**

This guide is a complement 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.

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

### Conventions

In this guide the following conventions are used:

Convention	Description
Underlined	Underlined words or phrases are hyperlinks. 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, Advanced > Wireless > WDS means the WDS function page is under the Wireless menu that is located in the Advanced tab.
Note:	Ignoring this type of note might result in a malfunction or damage to the device.
Ø Tips:	Indicates important information that helps you make better use of your device.
symbols on the web page	<ul> <li>Click to edit the corresponding entry.</li> <li>Click to delete the corresponding entry.</li> <li>Click to enable or disable the corresponding entry.</li> <li>Click to view more information about items on the page.</li> </ul>

### More Info

The latest software, management app and utility can be found at Download Center at <a href="https://www.tp-link.com/support/download/">https://www.tp-link.com/support/download/</a>.

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 <a href="https://www.tp-link.com">https://www.tp-link.com</a>.

TP-Link Community is provided for you to discuss our products and share knowledge at <a href="https://community.tp-link.com">https://community.tp-link.com</a>.

Our Technical Support contact information can be found at the Contact Technical Support page at <a href="https://www.tp-link.com/support/">https://www.tp-link.com/support/</a>.

\*Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Actual wireless data throughput and wireless coverage are not guaranteed and will vary as a result of 1) environmental factors, including building materials, physical objects, and obstacles, 2) network conditions, including local interference, volume and density of traffic, product location, network complexity, and network overhead, and 3) client limitations, including rated performance, location, connection, quality, and client condition.

\*Use of Wi-Fi 6 (802.11ax), and features including OFDMA, MU-MIMO, 1024-QAM, and HT160 require clients to also support the corresponding features.

\*Saving clients' battery power requires clients to also support the 802.11ax Wi-Fi standard. Actual power reduction may vary as a result of network conditions, client limitations, and environmental factors.

\*Use of WPA3 requires clients to also support the corresponding feature.

\*This router may not support all the mandatory features as ratified in Draft 3.0 of IEEE 802.11ax specification.

\*Further software upgrades for feature availability may be required.

# Chapter 1

# **Get to Know About Your Outdoor Router**

This chapter introduces what the outdoor router can do and shows its appearance. It chapter contains the following sections:

- Product Overview
- Appearance

### 1. 1. Product Overview

TP-Link's Router is a combined wired network connection device with integrated WAN router, reducing hassle of configuration and saving space.

With Ethernet ports and antennas, the router provides wired access for multiple computers and mobile devices.

With various features and functions, the outdoor router is the perfect hub of your outdoor network.

Note: The appearance of the product is for illustration only, it may be different from your device, please refer to the actual product.

# 1.2. Appearance

### 1. 2. 1. Top Panel



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

### **Some Common LEDs Explanation**

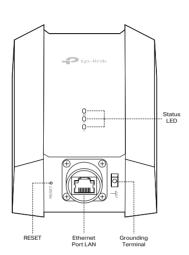
LED	Status	Indication
	Solid white	The signal strength is above 75%.
	Solid green	The signal strength is between 50% and 75%.
III (Signal Strength)	Solid orange	The signal strength is below 50%.
	Off	No mobile network signal.
	Solid white	The device is on a 5G network.
	Solid green	The device is on a 4G network.
ଦ୍ଧ (Network Type)	Solid orange	The device is on a 3G network.
	Off	The device is not registered on the network.
	On	The device is powered on and working properly.
Ů (Power)	Flashing	The device is initializing, RESET or upgrading.
	Off	The device is powered off.

#### Notes:

- 1. If the Signal Strength LED is off, please check your Internet connection first. Refer to <u>Connect the Hardware</u> for more information about how to make Internet connection correctly. If you have already made a right connection, please contact your ISP to make sure your Internet service is available now.
- 2. If the Internet LED is off, please check your Signal Strength LED first. If your Signal Strength LED is also off, please refer to <a href="Note 1">Note 1</a>. If your Signal Strength LED is ON, please check your Internet configuration. You may need to check this part of information with your ISP and make sure everything have been input correctly.
- 3. If the Network Type LED is off, please check your Internet LED first. If the Internet LED is also off, please check your internet connection. If you have already made a right connection, please contact your ISP to make sure your 5G/4G network service is available.

### 1. 2. 2. The Back and Bottom Panel





The following parts (view from top to bottom) are located on the bottom panel.

### **Some Common Buttons and Ports Explanation**

Item	Description
RESET	Press and hold this button for at least 5 seconds until all LEDs blink to reset the router to its factory default settings.
Ethernet Port LAN	For connecting the router to your PC or other Ethernet network devices.
Grounding Terminal	The Grounding Terminal serves the purpose of providing a grounding connection to ensure the safe operation and stability of the equipment.

# Chapter 2

# **Connect the Hardware**

### This chapter contains the following sections:

- Insert SIM Card if not Installed
- Installed Lightning and ESD Protection
- Mount the Outdoor Router
- Connect the Cable
- Power On
- Verify the Hardware Connection

### 2. 1. Insert SIM Card if not Installed

Unbox your 5G Outdoor Router. Insert the SIM card if not pre-installed by your service provider.

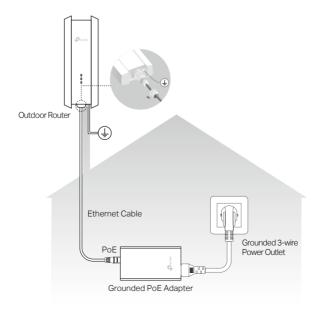
Remove the SIM slot cover and insert the SIM card securely into the slot on the right side of the 5G Outdoor Router, making sure that the two triangular indicators are pointing in the same direction. Use a screwdriver to carefully screw the screws to secure the SIM slot cover.



# 2. 2. Installed Lightning and ESD Protection

Before mounting the Outdoor Router, you should consider Lightning and ESD Protection to ensure safety.

Proper grounding is extremely important for outdoor devices. To reduce the damage of potential lightning and ESD attacks, connect the grounding terminal to grounding facilities using a proper grounding wire, which should meet the local installation requirements. You need to secure the grounding wire to the grounding terminal with the screw.



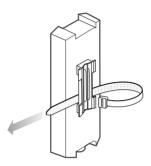
### 2. 3. Mount the Outdoor Router

The Outdoor Router can be pole-mounted or wall-mounted. Follow the steps below for the appropriate installation.

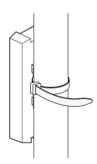
Note: The outdoor router can only be used in upright direction as shown in the image.

### Method 1: Pole Mounting

1. Lead the end of the pole mounting strap through the back of the Outdoor Router.

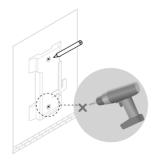


2. Position the Outdoor Router and wrap the pole mounting strap around the pole. Feed the end through the screw-block and tighten the strap until the Outdoor Router is secure.

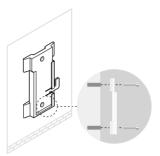


### · Method 2: Wall Mounting

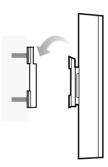
Place the mounting bracket (for Outdoor Router) in the right position. Mark two
positions for the screw holes. Drill two 6 mm holes for the screws at the marked
positions.



2. Insert the plastic wall anchors into the6 mm holes. Align the bracket (for Outdoor Router) to the plastic wall anchors and drive the self-tapping screws into the anchors through the bracket (for Outdoor Router).

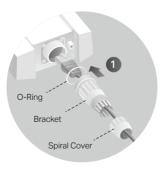


3. Align the mounting tabs on the back of the Outdoor Router with the slot of the mounting bracket (for Outdoor Router). Push and slide the Outdoor Router downward until it locks into place.



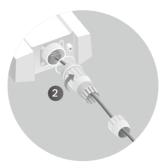
### 2. 4. Connect the Cable

1. Fit an Ethernet cable through the Spiral Cover, Bracket, and O-Ring, and connect the cable to the port.

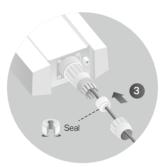


2. Fit the O-Ring to the head of the Bracket and screw the Bracket to the body of the device.

Note: Don't warp the O-Ring.



3. Fit the Ethernet cable through the Seal's slit with the thicker side towards the Bracket, and plug the seal to the Bracket.



Note: Choose the proper Seal according to the type and diameter of the Ethernet cable.

4. Screw the Spiral Cover to the Bracket.

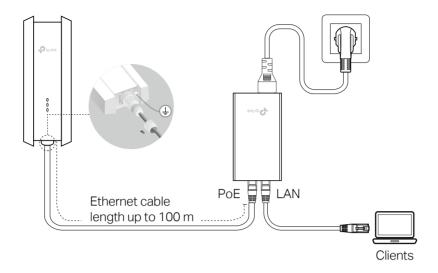


### 2.5. Power On

The Outdoor Router can be powered via the provided passive PoE adapter or a PSE device (such as a PoE switch) which complies with LPS or PS2 standard.

- Method 1: Via Passive PoE Adapter
- 1. Connecting the PoE Adapter

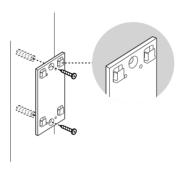
Connect the Outdoor Router to a Power over Ethernet (PoE) adapter as follows:



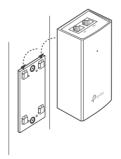
### 2. Mounting the PoE Adapter (Optional)

Note: To ensure the passive PoE adapter is attached most securely, it is recommended to install the adapter with the Ethernet port facing upward.

- 1) Remove the mounting bracket from the passive PoE Adapter.
- 2) Drill two holes on the wall and insert the plastic wall anchors into the holes. Secure the mounting bracket to the wall. Make sure the shoulders at the corners of the mounting bracket are on the outside and pointing upward.

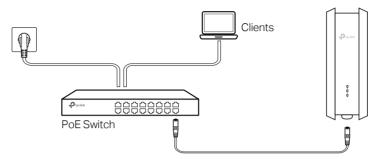


3) Attach the passive PoE adapter to the mounting bracket (for PoE Adapter) by sliding the adapter in the direction of the arrows until it locks into place.



### • Method 2: Via PoE Switch

Connect an Ethernet cable from the PoE switch to the Ethernet port. The PoE switch should comply with 802.3at.



Note: The outdoor router can be powered via a PSE device (such as a PoE switch) which complies with Power Source Class 2 (PS2) or Limited Power Source (LPS) and Electrical Energy Source Class 1 (ES1) of IEC 62368-1.

# 2. 6. Verify the Hardware Connection

Check the following LEDs' status. If the Network LED **②** is on, your Outdoor Router is connected to the internet successfully.

For better Internet connectivity, make sure the LEDs are lit in white or green.

Otherwise, try relocating the router to a spot that may receive a stronger mobile network signal.

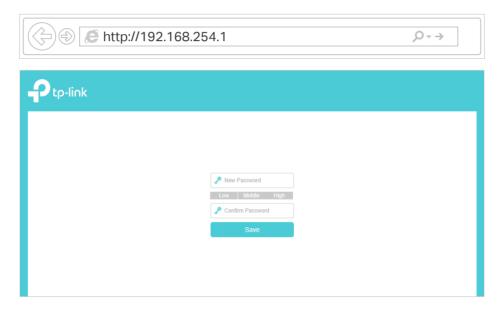
# Chapter 3

# **Log In to Your Router**

With a web-based utility, it is easy to configure and manage the router. The web-based utility can be used on any Windows, Mac OS or UNIX OS with a Web browser, such as Microsoft Internet Explorer, Mozilla Firefox or Apple Safari.

Follow the steps below to log in to your router.

- 1. Set up the TCP/IP Protocol in Obtain an IP address automatically mode on your computer.
- 2. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and create a login password for secure management purposes. Then click Save to log in.



### Note:

• If the login window does not appear, please refer to the FAQ Section.

# Chapter 4

# **Set Up Internet Connection**

This chapter introduces how to connect your router to the internet. The router is equipped with a web-based Quick Setup wizard. It has necessary ISP information built in, automates many of the steps and verifies that those steps have been successfully completed. Furthermore, you can also set up an IPv6 connection if your ISP provides IPv6 service.

It contains the following sections:

- Use Quick Setup Wizard
- Manually Set Up Your Internet Connection
- Test Internet Connectivity
- Create a Connection Profile
- Upgrade Your ISP Information
- PIN Management
- Data Settings
- USSD

# 4. 1. Use Quick Setup Wizard

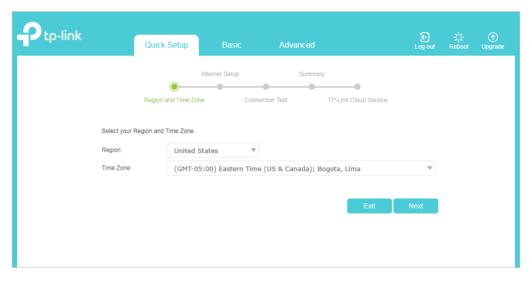
The Quick Setup Wizard will guide you to set up your router.

Follow the steps below to set up your router.

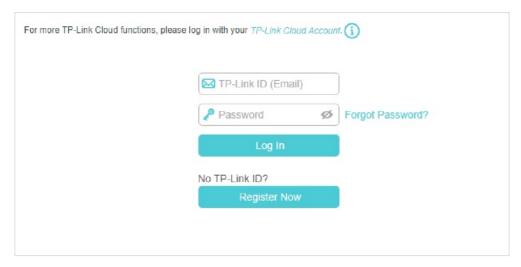
1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.



2. Follow the step-by-step instructions to complete Quick Setup configuration or go to Quick Setup for configuration to connect your router to the internet. Then follow the step-by-step instructions to connect your router to the internet.



3. To enjoy a more complete service from TP-Link (remote management, TP-Link DDNS, and more.), log in with your TP-Link ID or click Register Now to get one. Then follow the instructions to bind the cloud router to your TP-Link ID.



#### Note:

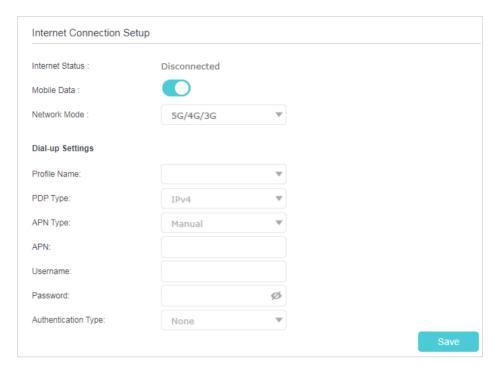
- To learn more about the TP-Link Cloud service, please refer to the TP-Link Cloud Service section.
- If you do not want to register a TP-Link ID now, you may click Skip to proceed.
- If you have changed the preset wireless network name (SSID) and wireless password during the Quick Setup process, all your wireless devices must use the new SSID and password to connect to the router.

## 4. 2. Manually Set Up Your Internet Connection

In this part, you can check your current internet connection settings. You can also modify the settings according to the service information provided by your ISP.

### Dial-up Internet access via Mobile WAN:

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > Internet page. You are recommended to keep the default value. If your ISP settings are not detected by the router, you can create an internet connection in Advanced > Network > Mobile WAN.
- 3. Configure Dial-up settings.



- Mobile Data It is enabled by default. You can disable it to prohibit Internet access.
- Network Mode The device supports three modes of network connection 5G/4G/3G, 4G/3G, 5G Only, 4G Only, and 3G. You can select network mode according to your mobile network standard and the current network condition.
- Profile Name The name of the profile you've selected.
- PDP Type Select the type of your PDP (Packet Data Protocol).
- APN Type Select the type of your APN (Access Point Name).
- APN Access Point Name, provided by your ISP. You need to set APN only after selecting the static APN type. You are recommended to keep the default value.
- Username/Password Enter the username and password provided by your ISP. These fields are case-sensitive. You are recommended to keep the default value.
- Authentication Type Some ISPs need a specific authentication type, please confirm it with your ISP or keep the default value.

NONE - No any authentication is needed.

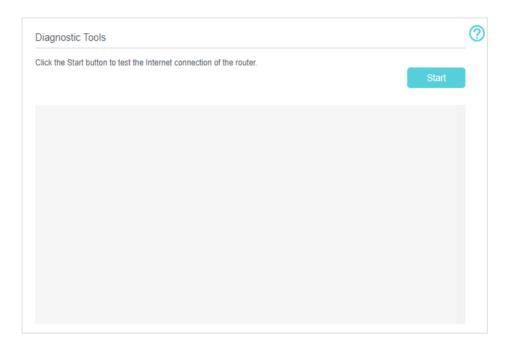
PAP - Password Authentication Protocol. This protocol allows the device to establish authentication with the peer using two handshakes. Select this option if the ISP requires this authentication type.

CHAP - Challenge Handshake Authentication Protocol. This protocol allows the device to establish authentication with the peer using three handshakes and checking the peer identity periodically. Select this option if the ISP requires this authentication type.

# 4. 3. Test Internet Connectivity

After manually set up the internet connection, you need to know the internet connectivity. The router provides a diagnostic tool to help you locate the malfunction.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Diagnostics page.

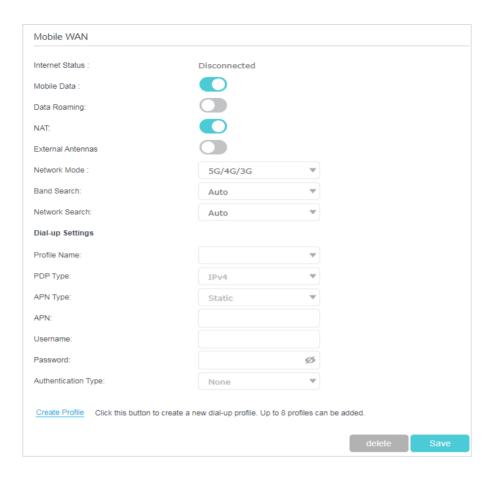


3. Click Start to test the internet connectivity and you will see the test result in the gray box.

### 4. 4. Create a Connection Profile

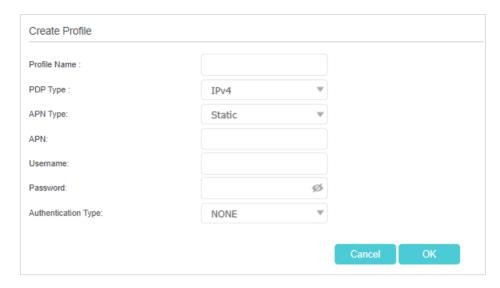
If your ISP settings are not detected by the router, you can create an internet connection profile by following the steps below:

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmod
- 2. Go to Advanced > Network > Mobile WAN page.



#### Tips:

- You can also upgrade the supported ISP information. Refer to <u>Upgrade Your ISP Information</u> to configure.
- You can view all internet connections or edit connections that are set up manually on this page.
- You can change the Network Mode to 5G/4G/3G, 4G/3G, 5G Only, 4G Only or 3G according to your needs.
- You can manually select 5G and 4G bands in Band Search setting.
- If the Auto network connection displays a wrong ISP profile, you can select a correct network manually:
  - 1. Change the Network Search mode to Manual.
  - 2. When prompted, select the correct ISP network and click Save.
- 3. Click Create Profile.
- 4. Specify the Profile Name, Username and Password. Select the PDP Type, APN Type and Authentication Type according to your ISP.

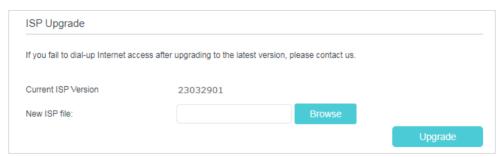


5. Click OK to make the settings effective and the new profile will be used to set up a new connection.

# 4. 5. Upgrade Your ISP Information

If your ISP information is not detected by the router, you can upgrade ISP information by following the steps below:

- 1. Download the latest ISP upgrade file from the Support page at <a href="https://www.tp-link.com">https://www.tp-link.com</a> to your computer.
- 2. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="https://tplinkmodem.net">https://tplinkmodem.net</a> or <a href="https://tplinkmodem.net">https://tplink
- 3. Go to Advanced > Network > ISP Upgrade.



- 4. Click Browse to locate and select the latest file.
- 5. Click Upgrade.

#### Note:

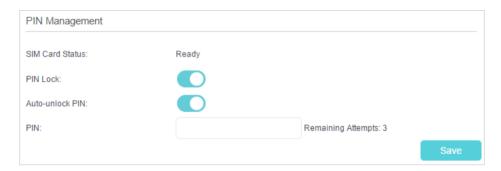
- 1. If you fail to dial-up Internet access after upgrading to the latest version, please contact the technical support.
- 2. If your ISP settings are still not detected after upgrading, refer to <u>Create a Connection Profile</u> to add a new internet connection profile.

## 4. 6. PIN Management

PIN (Personal Identification Number) is used to protect the SIM card from embezzlement. PIN Management allows you to easily change the PIN settings of your SIM card as needed.

Follow the steps below to change your PIN settings.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Network > PIN Management page.



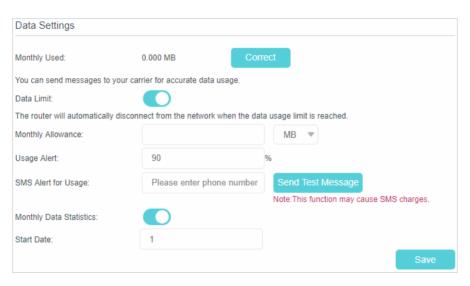
- SIM Card Status Displays the status of your SIM card.
- PIN Lock Toggle on to enable PIN Lock. Once it is enabled, every time you start the router with this SIM card inserted, you need to enter the PIN.
- Auto-unlock PIN When the PIN is required upon router restarting or inserting a SIM
  card, it will be validated automatically, saving you the trouble to enter the PIN each
  time you start the router or insert a SIM card. If validation failed, you need to enter the
  PIN on this page.
- PIN Enter the PIN to unlock the SIM card. It consists of 4-8 digits.
- PUK PIN Unlocked Key, also known as Personal Unlock Code (PUC), is used to reset
  a PIN that has been lost or forgotten. The PUK is a SIM-specific code assigned by the
  service provider. You need to enter the PUK after 3 incorrect login attempts of PIN.
  Contact your service provider if you do not know the PUK. It consists of 8 digits.
- New PIN Enter 4-8 digits to reset the PIN of your SIM card.
- Remaining Attempts Shows how many attempts are left for you to try entering the PIN or PUK. You have only 3 attempts for entering the PIN and 10 attempts for entering the PUK. If you accidentally fail in 3 attempts, the SIM card will be locked and you will be required to enter the PUK that is written on your SIM card.
- 3. Click Save to save the settings.

### 4. 7. Data Settings

Data Settings is used to monitor the data usage of your router in real-time. You can limit your data usage according to your monthly allowance or total allowance and you will receive a warning if your data usage reaches the specified level.

Follow the steps below to monitor your data usage.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Network > Data Settings page.



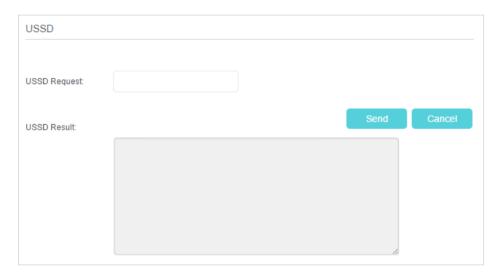
- 3. Enable Data Limit to set total/monthly data allowance and usage alert to prevent data overuse.
- 4. Enter the allowed amount of total/monthly data in the Total/Monthly Allowance field. When data usage exceeds the allowed level, the router will disconnect from the internet and notify you on the Basic > Network Map Page.
- 5. Enter a percentage in the Usage Alert field to prevent data overuse. When data usage reaches the alert level, a warning will be shown on the Basic > Network Map Page. If you want to receive the alert on your phone, enter your mobile phone number in the SMS Alert for Usage field.
- Enable Monthly Data Statistics to reset data statistics when the next billing cycle starts.
- 7. Enter the start date of the billing cycle in the Start Date field.
- 8. Click Save to save the settings.

### 4.8. USSD

USSD (Unstructured Supplementary Service Data) is used to communicate with the service provider's computer. You can query service data on this page.

Follow the steps below to get service data.

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplin
- 2. Go to Advanced > Network > USSD page.



3. Enter the USSD request and click Send. You will see the message returned from the carrier in the USSD Result box.

# Chapter 5

# **Customize Your Network Settings**

This chapter introduces how to change the default settings or adjust the basic configuration of the router using the web management page.

It contains the following sections:

- Configure LAN Settings
- Configure IPv6 LAN Settings
- Set Up a Dynamic DNS Service Account
- Create Static Routes
- RIP Settings

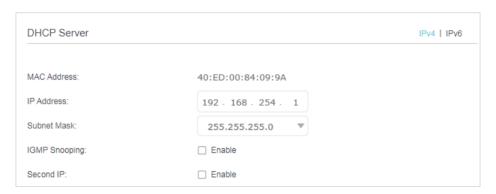
## 5. 1. Configure LAN Settings

### 5. 1. 1. Change the LAN IP Address

The router is preset with a default LAN IP 192.168.254.1, which you can use to log in to its web management page. The LAN IP address together with the Subnet Mask also defines the subnet that the connected devices are on. If the IP address conflicts with another device in your local network or your network requires a specific IP subnet, you can change it.

Follow the steps below to change your IP address.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > Network > LAN Settings page and select IPv4.



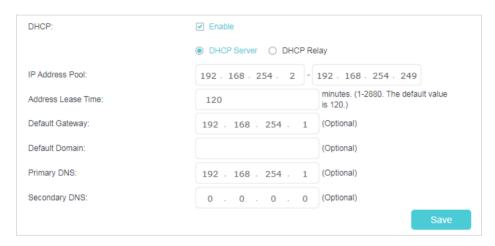
- 3. Enter a new IP Address appropriate to your needs.
- 4. Select the Subnet Mask from the drop-down list. The subnet mask together with the IP address identifies the local IP subnet.
- 5. Keep IGMP Snooping enabled by default. IGMP snooping is the process of listening to IGMP (Internet Group Management Protocol) network traffic. The function prevents hosts on a local network from receiving traffic for a multicast group they have not explicitly joined.
- **6.** You can configure the router's Second IP and Subnet Mask for LAN interface through which you can also access the web management page.
- 7. Keep the rest settings as the default settings.
- 8. Click Save to make the settings effective.

### 5. 1. 2. Use the Router as a DHCP Server

You can configure the router to act as a DHCP server to assign IP addresses to its clients. To use the DHCP server function of the router, you must configure all computers on the LAN to obtain an IP Address automatically.

Follow the steps below to configure DHCP server.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > Network > LAN Settings page and select IPv4.



- 3. Enable DHCP function and select DHCP Server.
- **4.** Specify the IP Address Pool, the start address and end address must be on the same subnet with LAN IP. The router will assign addresses within this specified range to its clients. It is from 192.168.254.2 to 192.168.254.249 by default.
- 5. Enter a time duration in the Address Lease Time field. The Address Lease Time is the amount of time in which a DHCP client can lease its current dynamic IP address assigned by the router. After the dynamic IP address expires, the user will be automatically assigned a new dynamic IP address.
- 6. Keep the rest settings as the default settings and click Save.

#### Note:

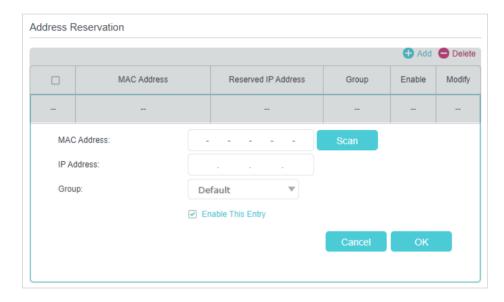
- 1. The router can be configured to work as a DHCP Relay. A DHCP relay is a computer that forwards DHCP data between computers that request IP addresses and the DHCP server that assigns the addresses. Each of the device's interfaces can be configured as a DHCP relay. If it is enabled, the DHCP requests from local PCs will be forwarded to the DHCP server that runs on WAN side.
- 2. You can also appoint IP addresses within a specified range to devices of the same type by using Condition Pool feature. For example, you can assign IP addresses within the range (192.168.254.50 to192.168.254.80) to Camera devices, thus facilitating the network management. Enable DHCP feature and configure the parameters according to your situation on the Advanced > Network > LAN Settings page.

### 5. 1. 3. Reserve LAN IP Addresses

You can view and add a reserved address for a client. When you specify an IP address for a device on the LAN, that device will always receive the same IP address each time when it accesses the DHCP server. If there are some devices in the LAN that require permanent IP addresses, please configure Address Reservation on the router for the purpose.

Follow the steps below to reserve an IP address for your devices.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > Network > LAN Settings page, and select IPv4.
- 3. Scroll down to the Address Reservation section, and click Add to add an address reservation entry for your device.



- 4. Enter the MAC Address of the device for which you want to reserve IP address.
- 5. Specify the IP address which will be reserved by the router.
- 6. Select the Enable This Entry check box and click OK to make the settings effective.

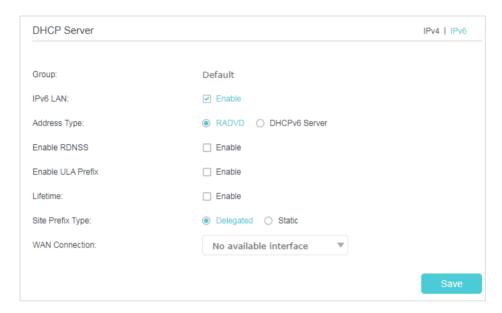
# 5. 2. Configure IPv6 LAN Settings

Based on the IPv6 protocol, the router provides two ways to assign IPv6 LAN addresses:

- Configure the RADVD (Router Advertisement Daemon) address type
- Configure the DHCPv6 Server address type

### 5. 2. 1. Configure the RADVD Address Type

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > Network > LAN Settings.
- 3. Select IPv6 to configure IPv6 LAN parameters.



1) Select RADVD as the address type to make the router assign IPv6 address prefixes to hosts.

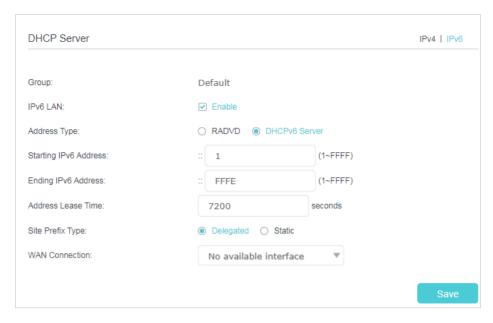
#### Note:

Do not select the Enable RDNSS and Enable ULA Prefix check boxes unless required by your ISP. Otherwise you may not be able to access the IPv6 network. For more information about RDNSS and ULA Prefix, contact our technical support.

- 2) Keep Site Prefix Type as the default setting Delegated. If your ISP has provided a specific IPv6 site prefix, select Static and enter the prefix.
- 3) Keep WAN Connection as the default settings.
- 4. Click Save to make the settings effective.

# 5. 2. 2. Configure the DHCPv6 Server Address Type

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > Network > LAN Settings.
- 3. Select IPv6 to configure IPv6 LAN parameters.



- Select DHCPv6 Server as the address type to make the router assign IPv6 addresses to hosts.
- 2) Specify the Starting/Ending IPv6 Address for the IPv6 suffixes. The router will generate IPv6 addresses within the specified range.
- 3) Keep Address Lease Time as the default setting.
- 4) Keep Site Prefix Type as the default value Delegated. If your ISP has provided a specific IPv6 site prefix, select Static and enter the prefix.
- 5) Keep WAN Connection as the default setting.
- Click Save to make the settings effective.

### 5. 3. Set Up a Dynamic DNS Service Account

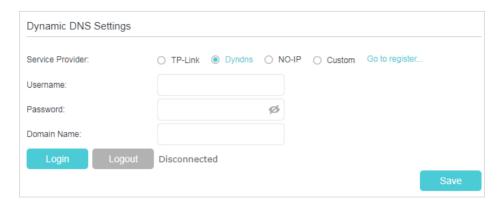
Most ISPs (Internet service providers) assign a dynamic IP address to the router and you can use this IP address to access your router remotely. However, the IP address can change any time and you don't know when it changes. In this case, you might need the DDNS (Dynamic Domain Name Server) feature on the router to allow you and your friends to access your router and local servers (FTP, HTTP, etc.) using domain name, in no need of checking and remembering the IP address.

Note: DDNS does not work if the ISP assigns a private WAN IP address (such as 192.168.254.x) to the router.

To set up DDNS, please follow the instructions below:

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > Network > Dynamic DNS.
- 3. Select the Service Provider (TP-Link/Dyndns/NO-IP/Custom).

**4.** Log in with your DDNS account, select a service provider. Enter the username, password and domain name of the account (such as lisa.ddns.net).



5. Click Log in and Save.

@ Tips: If you want to use a new DDNS account, please log out first, then log in with the new account.

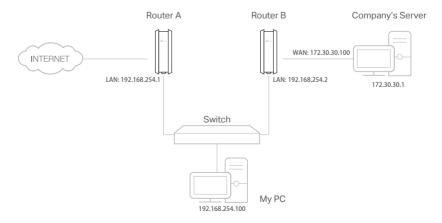
### 5. 4. Create Static Routes

A static route is a pre-determined path that network information must travel to reach a specific host or network. Data from one point to another will always follow the same path regardless of other considerations. Normal internet usage does not require this setting to be configured.

### I want to:

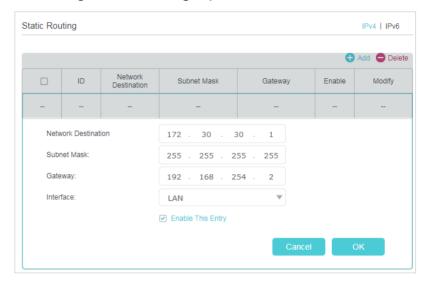
Visit multiple networks and multiple servers at the same time.

For example, in a small office, my PC can surf the internet through Router A, but I also want to visit my company's network. Now I have a switch and another Router B. I connect the devices as shown in the following image so that the physical connection between my PC and my company's server is established. To surf the internet and visit my company's network at the same time, I need to configure the static routing.



# How can I do that?

- 1. Make sure the routers use different LAN IP addresses on the same subnet. Disable Router B's DHCP function.
- 2. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net
- 3. Go to Advanced > Network > Static Routing.
- **4.** Click Add to add a new static routing entry. Finish the settings according to the following explanations:



- Network Destination: The destination IP address that you want to assign to a static route. This IP address cannot be on the same subnet with the WAN IP or LAN IP of the Router A. In the example, the IP address of the company network is the destination IP address, so here we enter 172.30.30.1.
- Subnet Mask: Determines the destination network with the destination IP address. If the destination is a single IP address, enter 255.255.255.255; otherwise, enter the subnet mask of the corresponding network IP. In the example, the destination network is a single IP, so here we enter 255.255.255.255.
- Gateway: The IP address of the gateway device to which the data packets will be sent. This IP address must be on the same subnet with the router's IP which sends out the data. In the example, the data packets will be sent to the LAN port of Router B and then to the Server, so the default gateway should be 192.168.254.2.
- Interface: Determined by the port (WAN/LAN) that sends out the data packets. In the example, the data is sent to the

gateway through the LAN port of Router A, so LAN should be selected.

- 5. Select the Enable This Entry check box to enable this entry.
- 6. Click OK to make the settings effective.

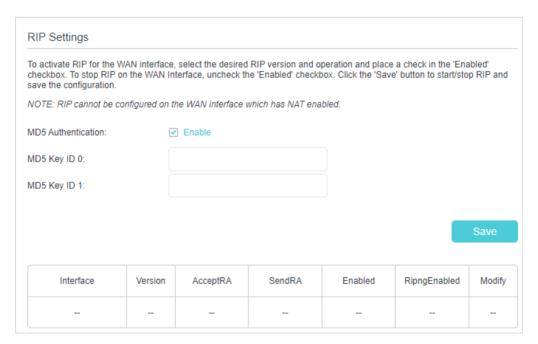
#### Done!

Open a web browser on your PC. Enter the company server's IP address to visit the company network.

## 5. 5. RIP Settings

To activate RIP for the WAN interface, select the desired RIP version and operation and place a check in the 'Enabled' checkbox. To stop RIP on the WAN Interface, uncheck the 'Enabled' checkbox. Click the 'Save' button to start/stop RIP and save the configuration.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Network > RIP Settings.
- 3. Configure RIP settings.



- MD5 Authentication Enable MD5 Authentication to enhance the rip RA packets security.
- MD5 Key ID 0 Setting the MD5 Key ID 0 value.
- MD5 Key ID 1 Setting the MD5 Key ID 1 value.
- Interface The WAN interface name of the RIP rule table's entry used in.
- Version The RIP version (RIPv1/RIPv2) of the RIP rule table's entry used.

- AcceptRA Enable it to make the RIP rule entry can accept the Router Advertisement.
- SendRA Enable it to make the RIP rule entry can send the Router Advertisement.
- Enabled Enable it to make the RIP rule entry active for IPv4.
- RipngEnabled Enable it to make the RIP rule entry active for IPv6, which is also known as Ripng.
- Modify Click here to modify the RIP rule entry.

# Chapter 6

# **SMS**

This chapter introduces how to use the SMS functions to view and write messages, keep drafts and specify the message center number. You can easily monitor your data usage by sending a message to your carrier.

This chapter includes the following sections:

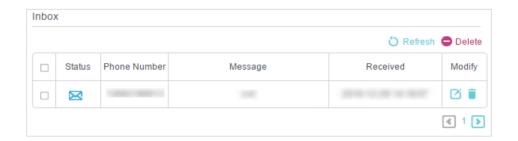
- View Messages
- Edit and Send a New Message
- View Sent Messages
- View Drafts
- SMS Settings

Chapter 6 SMS

# 6. 1. View Messages

1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.

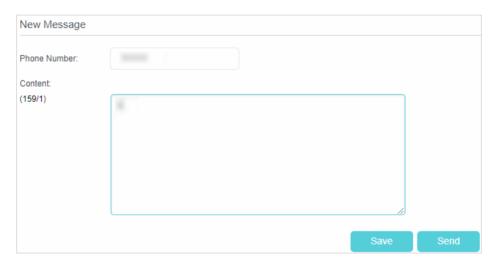
2. Go to Advanced > SMS > Inbox page.



3. Click the Mor or icon to unfold and read the content of the message.

# 6. 2. Edit and Send a New Message

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net
- 2. Go to Advanced > SMS > New Message page.



- 3. Enter the receiver's phone number in the Phone Number field.
- 4. Enter your message in the Content field.

@ Tips:

You can enter up to 160 letters or numbers, and any exceeding characters will be sent in the next message. You can send up to 5 messages each time.

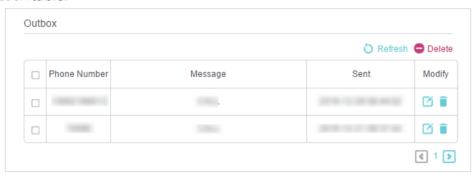
Chapter 6 SMS

5. Click Send to send the message or click Save to save the message to the Drafts.

# 6.3. View Sent Messages

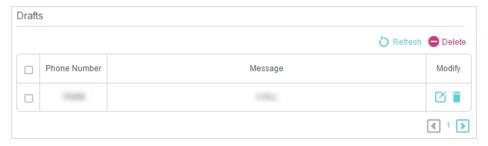
1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.

2. Go to Advanced > SMS > Outbox page. All the messages you sent are listed in the Outbox table.



## 6. 4. View Drafts

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net
- 2. Go to Advanced > SMS > Drafts page. All the unsent messages are listed in the Drafts table.



✓ Tips:You can click to edit and forward the message.

# 6. 5. SMS Settings

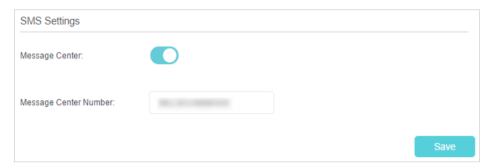
SMS Settings allows you to configure the Message Center. When the Message Center is enabled, you can change the Message Center Number via which messages will be

Chapter 6 SMS

sent. It is not recommended to change it for a wrong message center number will affect the SMS function of the router.

1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.

2. Go to Advanced > SMS > SMS Settings page and enable Message Center.



- 3. The Message Center Number is auto-populated. Change it according to your needs.
- 4. Click Save to apply your settings.

# Chapter 7

# **NAT 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 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 penetrate the isolation of NAT and allows devices 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 Port Forwarding, Port Triggering, UPNP and DMZ.

It contains the following sections:

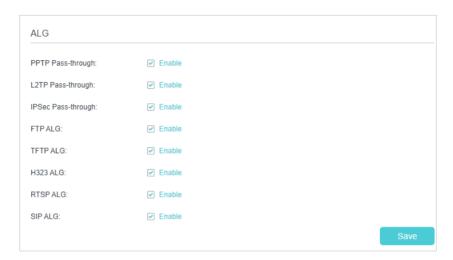
- ALG
- Set Up Public Services on The Local Network by Virtual Servers
- Open Ports Dynamically by Port Triggering
- Make Applications Free from Port Restriction by DMZ
- Make Xbox Online Games Run Smoothly by UPnP

### 7. 1. ALG

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. It is recommended to keep the default settings.

You may need to disable SIP ALG when you are using voice and video applications to create and accept a call through the router, since some voice and video communication applications do not work well with SIP ALG.

Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router. Go to Advanced > Security > ALG.



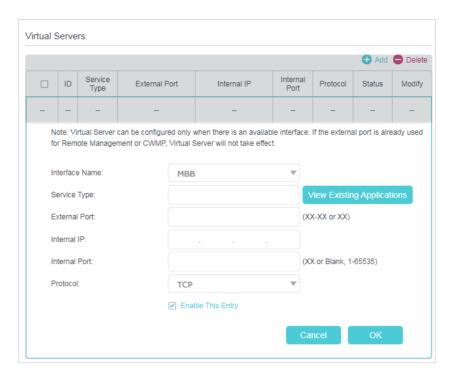
# 7. 2. Set Up Public Services on The Local Network by Virtual Servers

Virtual Servers are used to set up public services on the local network. A virtual server is defined as an external port, and all requests from the Internet to this external port will be redirected to a designated computer, which must be configured with a static or reserved IP address. 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 the Internet users.

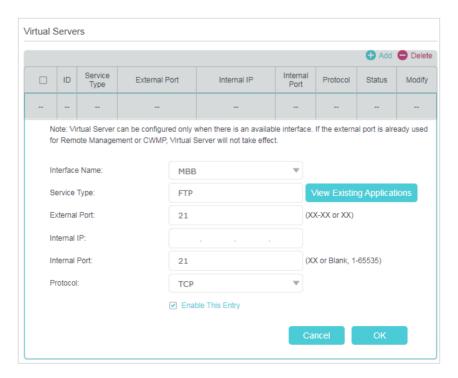
The table displays the relevant parameters of the virtual server.

To set up a Virtual Server rule:

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > NAT Forwarding > Virtual Servers and click Add.
- 3. Select an interface name from the drop-down list.



4. Click View Existing Applications to select a service from the list to automatically populate the appropriate port number in the External Port and Internal Port fields. If the service is not listed, enter the External Port number (e.g. 21) or a range of ports (e.g. 21-25). Leave the Internal Port blank if it is the same as the External Port or enter a specific port number (e.g. 21) if the External Port is a single port. The following picture takes application FTP as an example.



5. Enter the IP address of the computer running the service application in the Internal IP field.

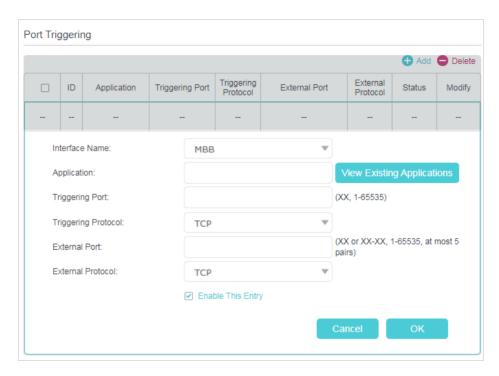
- 6. Select a protocol for the service application: TCP, UDP, or All from the Protocol drop-down list.
- 7. Select Enable This Entry.
- 8. Click OK.
- Tips:
- If you want to disable this entry, click the Bulb icon.
- It is recommended to keep the default settings of Internal Port and Protocol if you are not clear about which port or protocol to use.
- If the local host device is hosting more than one type of available services, you need to create a rule for each service. Please note that the External Port should NOT be overlapped.

# 7. 3. Open Ports Dynamically by Port Triggering

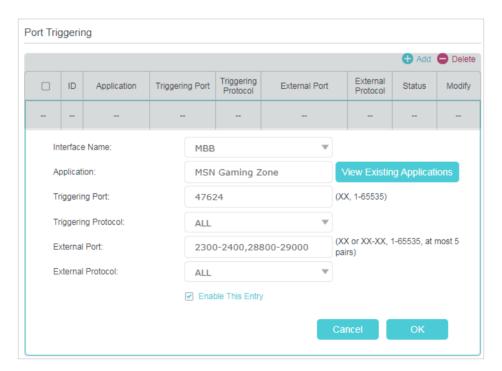
Port Triggering can specify a triggering port and its corresponding external ports. When a host on the local network initiates a connection to the triggering port, all the external ports will be opened for subsequent connections. The router can record the IP address of the host. When the data from the 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 including MSN Gaming Zone, Dialpad and Quick Time 4 players, etc.

Follow the steps below to configure the Port Triggering rules:

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > NAT Forwarding > Port Triggering and click Add.



3. Click View Existing Applications, and select the desired application. The Triggering Port, Triggering Protocol and External Port will be automatically filled in. The following picture takes application MSN Gaming Zone as an example.



4. Click OK.



#### @ Tips:

- · 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 Existing Applications list, please enter the parameters manually. You should verify the external ports the application uses first and enter them into External Port field according to the format the page displays.

# 7. 4. Make Applications Free from Port Restriction by 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 hosts and external hosts. The DMZ host becomes a virtual server with all ports opened. 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 192.168.254.100.
- 2. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplin
- 3. Go to Advanced > NAT Forwarding > DMZ and tick to enable DMZ.
- **4.** Enter the PC's IP address 192.168.254.100 manually in the DMZ Host IP Address field.



#### 5. Click SAVE.

#### Done!

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

# 7. 5. Make Xbox Online Games Run Smoothly by 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:

- UPnP is enabled by default in this router.
- Only the application supporting UPnP protocol can use this feature.
- 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).

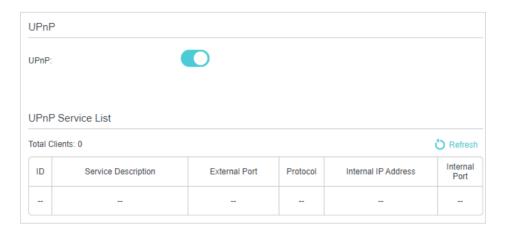
For example, when you connect your Xbox to the router which has connected to the internet to play online games, UPnP will send request to the router to open the corresponding ports allowing the following data penetrating the NAT to transmit. Therefore, you can play Xbox online games without a hitch.



If necessary, you can follow the steps to change the status of UPnP.

1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.

2. Go to Advanced > NAT Forwarding > UPnP and toggle on or off according to your needs.



# Chapter 8

# **Network Security**

This chapter guides you on how to protect your home network from unauthorized users by implementing network security functions. You can block or allow specific client devices to access your wireless network using MAC Filtering, or using Access Control for wired and wireless networks, or you can prevent ARP spoofing and ARP attacks by using IP & MAC Binding.

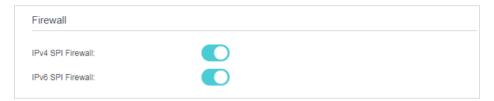
This chapter contains the following sections:

- Firewall & DoS Protection
- Service Filtering
- IP & MAC Binding
- IPv6 Firewall

### 8. 1. Firewall & DoS Protection

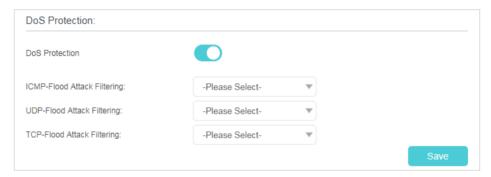
The SPI (Stateful Packet Inspection) Firewall and DoS (Denial of Service) Protection protect the router from cyber attacks.

The SPI Firewall can prevent cyber attacks and validate the traffic that is passing through the router based on the protocol. This function is enabled by default, and it is recommended to keep the default settings.

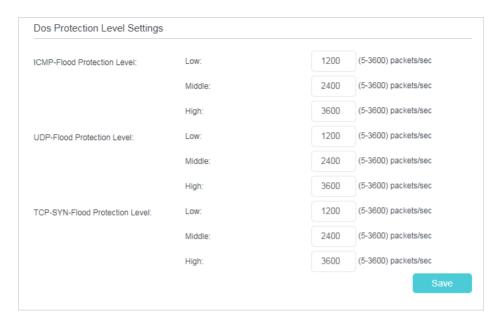


DoS Protection can protect your home network against DoS attacks from flooding your network with server requests. Follow the steps below to configure DoS Protection.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > Security > Firewall & DoS Protection.



- 3. Enable DoS Protection.
- 4. Set the protection level (Low, Middle or High) for ICMP-Flood Attack Filtering, UDP-Flood Attack Filtering and TCP-Flood Attack Filtering.
  - ICMP-Flood Attack Filtering Enable to prevent the ICMP (Internet Control Message Protocol) flood attack.
  - UDP-Flood Attack Filtering Enable to prevent the UDP (User Datagram Protocol) flood attack.
  - TCP-Flood Attack Filtering Enable to prevent the TCP (Transmission Control Protocol) flood attack.
- 5. Click Save.
  - Tips:
  - 1. The level of protection is based on the number of traffic packets. You can specify the level under DoS Protection Level Settings.



2. The protection will be triggered immediately when the number of packets exceeds the preset threshold value, and the vicious host will be displayed in the Blocked DoS Host List.



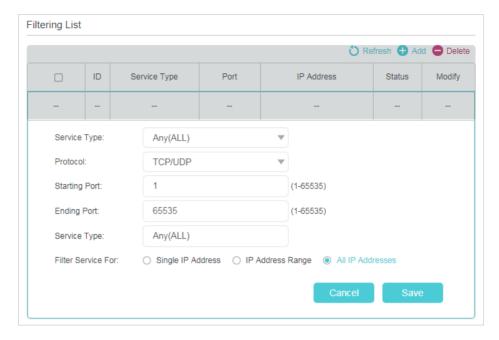
# 8. 2. Service Filtering

With Service Filtering, you can prevent certain users from accessing the specified service, and even block internet access completely.

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.n
- 2. Go to Advanced > Security > Service Filtering, and enable Service Filtering.



3. Click Add.



- 4. Select a Service Type from the drop-down list and the following four fields will be automatically filled in. Select Custom when your desired service type is not listed, and enter the information manually.
- 5. Specify the IP address(es) that this filtering rule will apply to.
- 6. Click Save to make the settings effective.

Note: If you want to disable an entry, click the  $\bigcirc$  icon.

## 8. 3. 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 Binding list, but an unrecognized MAC address.

I want to:

Prevent ARP spoofing and ARP attacks.

# How can I do that?

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.n
- Go to Advanced > Security > IP & MAC Binding, and enable IP & MAC Binding.



3. Bind your device(s) according to your needs.

#### To bind the connected device(s):

- 1) Select the device(s) to be bound in the ARP List.
- 2) Click Bind to add to the Binding List.

#### To bind the unconnected device:

1) Click Add in the Binding List section.



- 2) Enter the MAC address and IP address that you want to bind.
- 3) Select the Enable This Entry check box to enable the entry and click OK.

Done!

Enjoy the internet without worrying about ARP spoofing and ARP attacks.

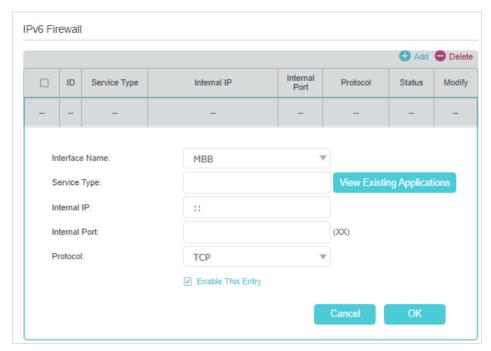
## 8. 4. IPv6 Firewall

IPv6 Firewall protects your IPv6 network by preveting access from the internet. However, when you are hosting a service, such as a file sharing server in your local network, you can choose to allow access to the server from the internet by adding entries on this page. This feature is available only when you've set up an IPv6 connection.

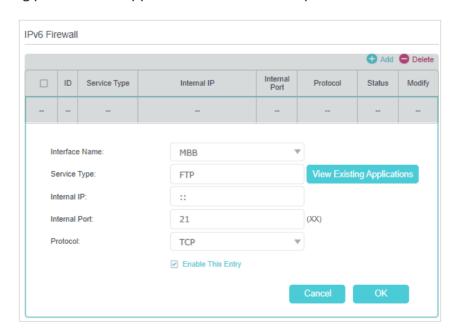
- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.n
- 2. Go to Advanced > Security > IPv6 Firewall.



#### 3. Click Add.



- **4.** Select an interface name from the drop-down list. Interface names are names of the internet connections you have set up.
- 5. Click View Existing Applications to select a service from the list to automatically populate the Port field with an propriate port number. It is recommended to keep the default Port if you are unsure about which one to use. If the service is not listed, manually enter the Service Type and the Port number (e.g., 21 or 21-25). The following picture takes application FTP as an example.



**6.** Select the local host device running the service. Enter its global IPv6 address in the Global IPv6 Address field.

- 7. Select a protocol for the service from the drop-down list.
- 8. Select Enable This Entry.
- 9. Click OK.
- @ Tips:
- If you want to disable this entry, click the Bulb icon.
- If the local host device hosts more than one type of available service, you need to create a rule for each service. Please note that ports should NOT be used by multiple services.

# Chapter 9

# **VPN Server&Client**

The router offers several ways to set up VPN connections:

**VPN Server** allows remote devices to access your home network in a secured way through the internet. The router supports three types of VPN Server:

**OpenVPN** is somewhat complex but with higher security and more stability, suitable for restricted environments such as campus network and company intranet.

**PPTP VPN** is easy to use with the built-in VPN software of computers and mobile devices, but it is vulnerable and may be blocked by some ISPs.

**IPSec VPN** is more secure but slower than PPTP VPN, and may have trouble getting around firewalls.

**VPN Client** allows devices in your home network to access remote VPN servers, without the need to install VPN software on each device.

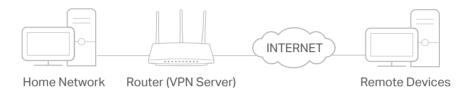
This chapter contains the following sections:

- Use OpenVPN to Access Your Home Network
- Use PPTP VPN to Access Your Home Network
- Use IPSec VPN to Access Your Home Network
- VPN Connections

# 9. 1. Use OpenVPN to Access Your Home Network

OpenVPN Server is used to create an OpenVPN connection for remote devices to access your home network.

To use the VPN feature, you need to enable OpenVPN Server on your router, and install and run VPN client software on remote devices. Please follow the steps below to set up an OpenVPN connection.



Step1. Set up OpenVPN Server on Your Router

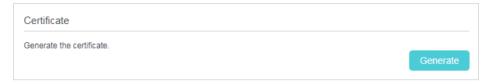
- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplin
- 2. Go to Advanced > VPN > OpenVPN, and tick the box of Enable VPN Server.



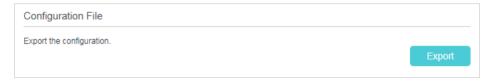
#### Note:

- Before you enable VPN Server, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for router's WAN port and synchronize your System Time with internet.
- The first time you configure the OpenVPN Server, you may need to generate a certificate before you enable the VPN Server
- 3. Select the Service Type (communication protocol) for OpenVPN Server: UDP, TCP.
- 4. Enter a VPN Service Port to which a VPN device connects, and the port number should be between 1024 and 65535.
- 5. In the VPN Subnet/Netmask fields, enter the range of IP addresses that can be leased to the device by the OpenVPN server.
- 6. Select your Client Access type. Select Home Network Only if you only want the remote device to access your home network; select Internet and Home Network if you also want the remote device to access internet through the VPN Server.

- 7. Click Save.
- 8. Click Generate to get a new certificate.



- Note: If you have already generated one, please skip this step, or click GENERATE to update the certificate.
- 9. Click Export to save the OpenVPN configuration file which will be used by the remote device to access your router.



### Step 2. Configure OpenVPN Connection on Your Remote Device

- 1. Visit <a href="http://openvpn.net/index.php/download/community-downloads.html">http://openvpn.net/index.php/download/community-downloads.html</a> to download the OpenVPN software, and install it on your device where you want to run the OpenVPN client utility.
- Note: You need to install the OpenVPN client utility on each device that you plan to apply the VPN function to access your router. Mobile devices should download a third-party app from Google Play or Apple App Store.
- 2. After the installation, copy the file exported from your router to the OpenVPN client utility's "config" folder (for example, C:\Program Files\OpenVPN\config on Windows). The path depends on where the OpenVPN client utility is installed.
- 3. Run the OpenVPN client utility and connect it to OpenVPN Server.

## 9. 2. Use PPTP VPN to Access Your Home Network

PPTP VPN Server is used to create a PPTP VPN connection for remote devices to access your home network.

To use the VPN feature, you need to set up PPTP VPN Server on your router, and configure the PPTP connection on remote devices. Please follow the steps below to set up a PPTP VPN connection.

### Step 1. Set up PPTP VPN Server on Your Router

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > VPN > PPTP VPN, and tick the box of Enable VPN Server.

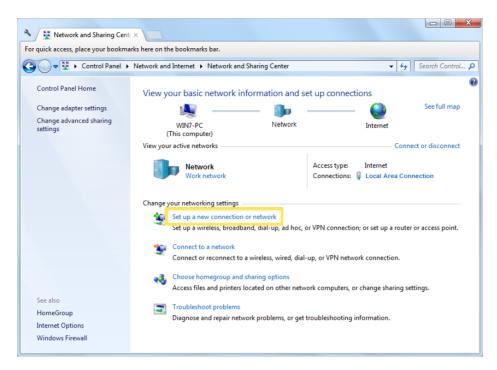


- Note: Before you enable VPN Server, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for router's WAN port and synchronize your System Time with internet.
- 3. In the Client IP Address field, enter the range of IP addresses (up to 10) that can be leased to the devices by the PPTP VPN server.
- 4. Enter the Username and Password to authenticate clients to the PPTP VPN server.
- 5. Click Save.
- 6. On the client devices, create a PPTP VPN connection. The official supported platforms include Windows, Mac OSX, Linux, iOS, and Android.
- 7. Launch the PPTP VPN program, add a new connection and enter the domain name of the registered DDNS service or the static IP address that is assigned to the WAN port, to connect the client device to the PPTP VPN server.

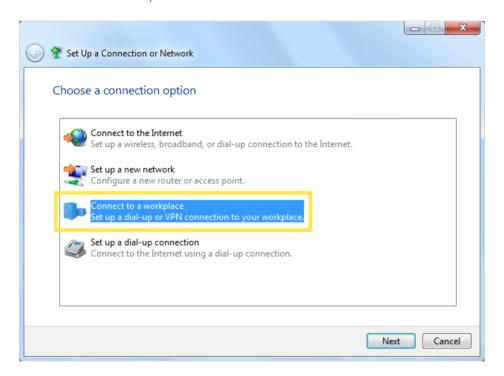
### Step 2. Configure PPTP VPN Connection on Your Remote Device

The remote device can use the Windows built-in PPTP software or a third-party PPTP software to connect to PPTP Server. Here we use the Windows built-in PPTP software as an example.

- 1. Go to Start > Control Panel > Network and Internet > Network and Sharing Center.
- 2. Select Set up a new connection or network.



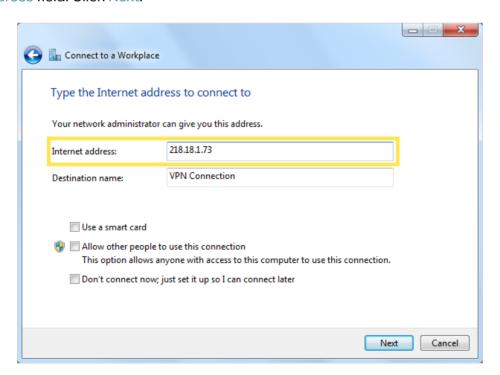
3. Select Connect to a workplace and click Next.



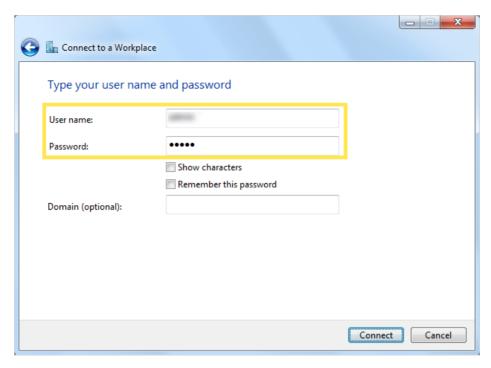
4. Select Use my Internet connection (VPN).



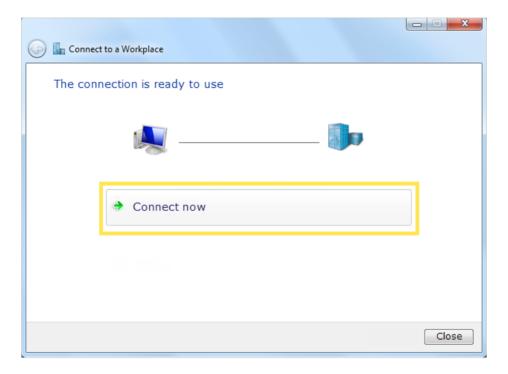
5. Enter the internet IP address of the router (for example: 218.18.1.73) in the Internet address field. Click Next.



6. Enter the User name and Password you have set for the PPTP VPN server on your router, and click Connect.



7. Click Connect Now when the VPN connection is ready to use.



## 9. 3. Use IPSec VPN to Access Your Home Network

IPSec VPN Server is used to create a IPSec VPN connection for remote devices to access your home network.

To use the VPN feature, you need to set up IPSec VPN Server on your router, and configure theIPSec connection on remote devices. Please follow the steps below to set up the IPSec VPN connection.

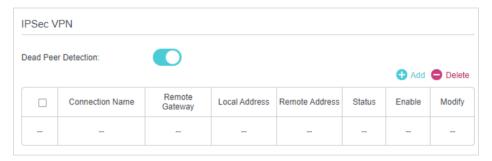


### Step 1. Set up IPSec VPN Server on Your Router

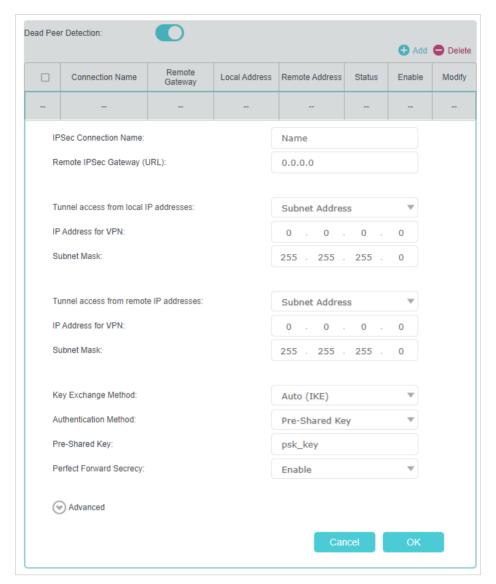
- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > VPN > IPSec VPN, and enable Dead Peer Detection.

#### Note:

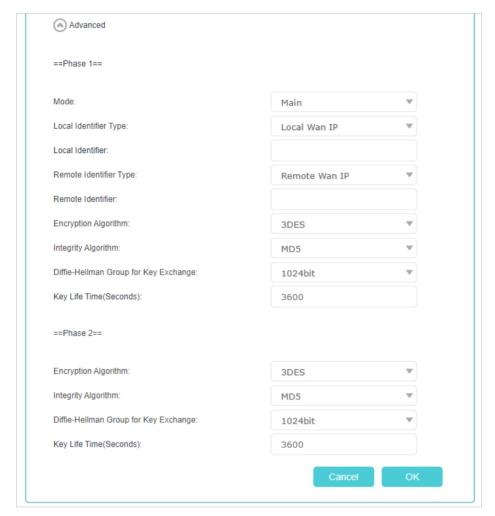
- Firmware update may be required to support IPSec VPN Server.
- Before you enable Dead Peer Detection, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for router's WAN port and synchronize your System Time with internet.



- 3. Click Add.
- 4. Configure the IPSec VPN server parameters.



5. Configure the advanced settings according to the following explanation. We recommend that you keep the default settings. If you want to change these settings, make sure that both VPN server endpoints use the same Encryption Algorithm, Integrity Algorithm, Diffie-Hellman Group and Key Lifetime in both phase1 and phase2.



#### 6. Click OK.

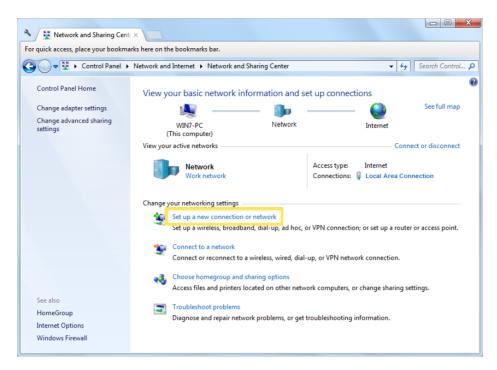
#### Note:

• For the comprehensive guide, please refer to the User Guide on the product's support page.

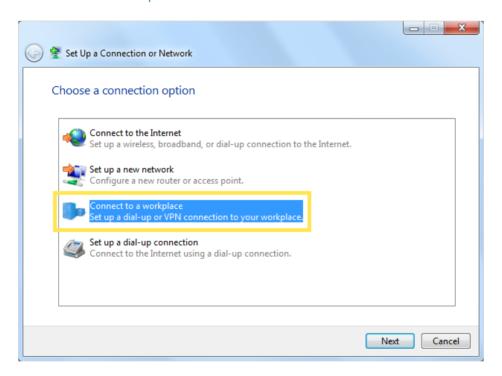
### Step 2. Configure IPSec VPN Connection on Your Remote Device

The remote device can use the Windows or Mac OS built-in IPSec software or a third-party IPSec software to connect to IPSec Server. Here we use the Windows built-in IPSec software as an example.

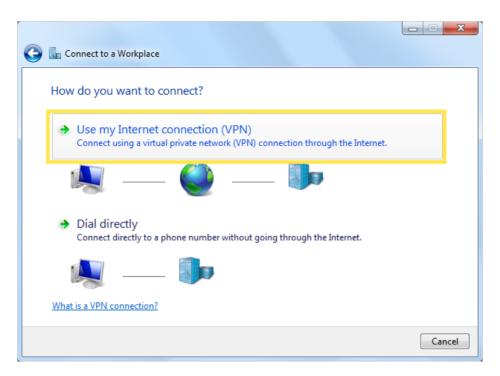
- 1. Go to Start > Control Panel > Network and Internet > Network and Sharing Center.
- 2. Select Set up a new connection or network.



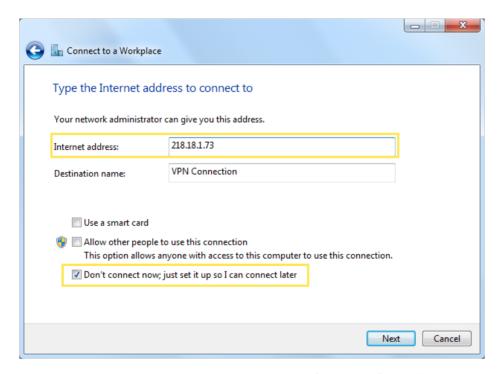
3. Select Connect to a workplace and click Next.



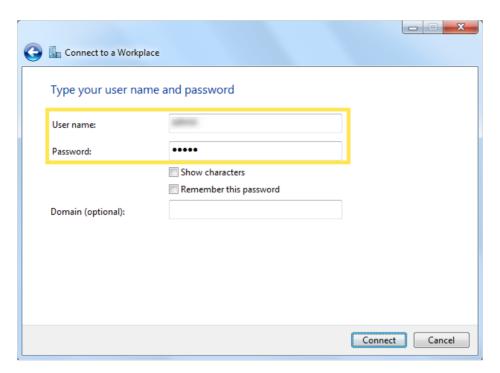
4. Select Use my Internet connection (VPN).



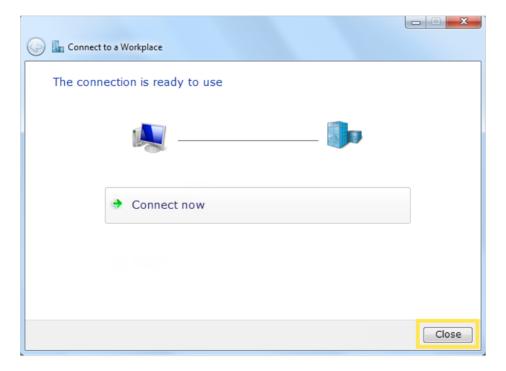
5. Enter the internet IP address of the router (for example: 218.18.1.73) in the Internet address field, and select the checkbox Don't connect now; just set it up so I can connect later. Click Next.



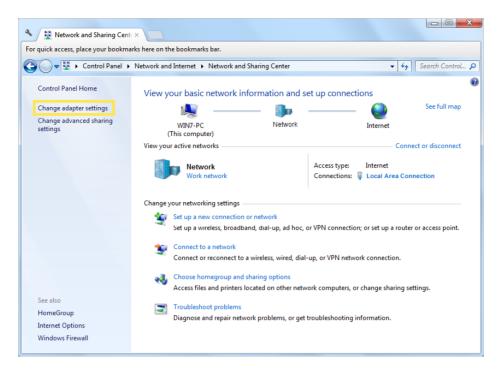
6. Enter the User name and Password you have set for the IPSec VPN server on your remote device, and click Connect.



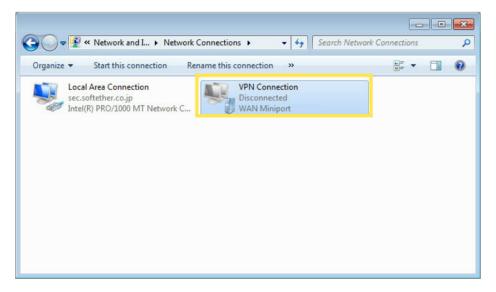
7. Click Close when the VPN connection is ready to use.



8. Go to Network and Sharing Center and click Change adapter settings.



9. Find the VPN connection you created, then double-click it.

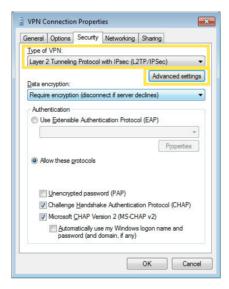


10. Enter the User name and Password you have set for the IPSec VPN server on your remote device, and click Properties.

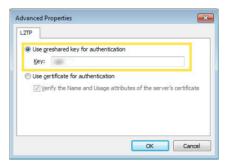
Chapter 9 VPN Server&Client



11. Switch to the Security tab, select Layer 2 Tunneling Protocol with IPsec (L2TP/IPSec) and click Advanced settings.



12. Select Use preshared key for authentication and enter the IPSec Pre-Shared Key you have set for the IPSec VPN server on your router. Then click OK.



Done! Click Connect to start VPN connection.

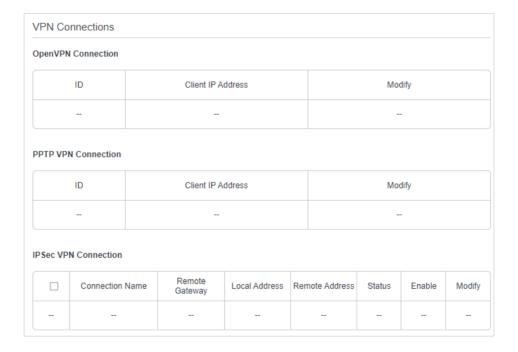
Chapter 9 VPN Server&Client



# 9. 4. VPN Connections

VPN Connections page displays the clients that are currently connected to the OpenVPN servers, PPTP VPN servers and IPSec VPN hosted on the router.

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or the password you set for the router.
- 2. Go to Advanced > VPN > VPN connections.



# Chapter 10

# **Manage Your Router**

This chapter introduces how to change the system settings and administrate your router's network.

This chapter contains the following sections:

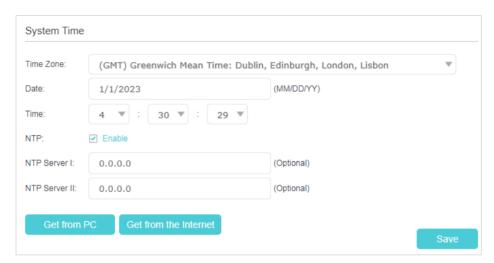
- Set System Time
- Control the LED
- Test Internet Connectivity
- <u>Update the Firmware</u>
- Back Up and Restore Configuration Settings
- Reboot the Router
- Administration Management
- System Log

# 10. 1. Set System Time

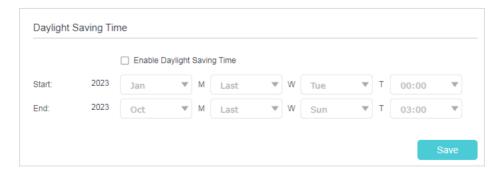
System time is the time displayed while the router is running. The system time you configure here will be used for other time-based functions like Parental Controls and Wireless Schedule. You can manually set how to get the system time.

Follow the steps below to set your system time.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Time Settings page.



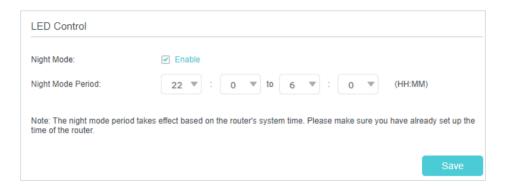
- 3. Configure the system time using the following methods: Get from PC: Click this button if you want to use the current time of your PC. Get from the Internet: Click this button if you want to get time from the internet. Make sure your router can access the internet before you select this way to get system time.
- 4. Click Save.
- 5. After setting the system time, you can set Daylight Saving Time according to your needs. Enable Daylight Saving Time, and set the start and end time and then click Save to make the settings effective.



# 10. 2. Control the LED

The LED of the router indicates its activities and status. You can enable the Night Mode feature to specify a time period during which the LED is off.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System > LED Control.
- 3. Enable Night Mode.
- 4. Specify the LED off time, and the LED will be off during this period every day.
- 5. Click Save.

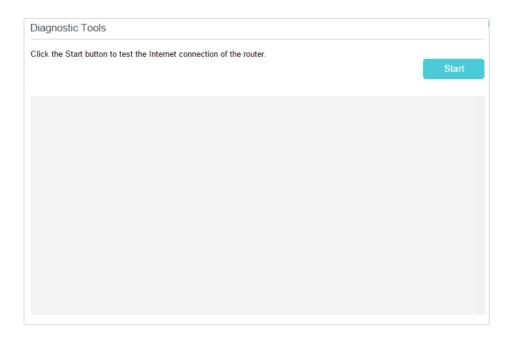


# 10. 3. Test Internet Connectivity

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

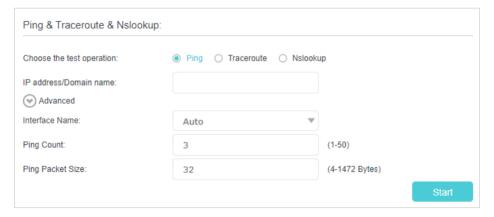
- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Diagnostics page.
- > To test the internet connection of the router:

Locate the Diagnostic Tools section, and click the Start to test the internet connectivity and you will find the test results in the gray box.



#### To run ping and traceroute tools:

1) Locate the Diagnostic Tools section.



- 2) Select Ping or Traceroute or Nslookup as the diagnostic tool to test the connectivity.
- Ping is used to test the connectivity between the router and the tested host, and measure the round-trip time.
- Traceroute is used to display the route (path) your router has passed to reach the tested host, and measure transit delays of packets across an internet Protocol network.
- Nslookup is used to queries the Domain Name System (DNS) to obtain the mapping between a domain name and IP address, or other DNS records.
- 3) Enter the Target IP Address/Domain Name of the tested host. You can change the default test options if necessary.

4) Click Start to begin the diagnostics, and you will find the test results in the gray box.

# 10. 4. Update the Firmware

TP-Link is dedicated to improving product features, giving you a better network experience.

We will inform you through the web management page if there's any update firmware available for your router. The latest firmware can also be downloaded from the Support page of our website <a href="https://www.tp-link.com">www.tp-link.com</a> for free.

#### Note

- 1. Make sure that you have a stable connection between the router and your computer. It is NOT recommended to upgrade the firmware wirelessly.
- 2. Back up your router configuration before upgrading the firmware.
- 3. DO NOT turn off the router during the firmware upgrade.

#### > Follow the steps below to upgrade the firmware online:

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Firmware Upgrade.
- 3. Click Check for Upgrades.



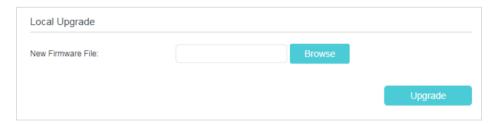
4. If a new firmware is displayed, click Upgrade and click Yes when prompted, then the router will automatically download the latest firmware file and upgrade.

#### > Follow the steps below to manually update the firmware:

- 1. Download the latest firmware file for the router from our website www.tp-link.com.
- 2. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.n
- 3. Go to Advanced > System Tools > Firmware Upgrade.
- 4. Focus on the Device Information section. Make sure the downloaded firmware file matches with the Hardware Version.



5. Focus on the Local Upgrade section. Click Browse to locate the downloaded new firmware file, and click Upgrade.



6. Wait a few minutes for the upgrading and rebooting.

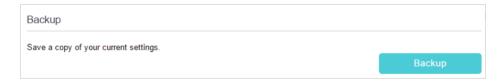
# 10. 5. Back Up and Restore Configuration Settings

The configuration settings are stored as a configuration file in the router. You can back up the configuration file to your computer for future use and restore the router to a previous settings from the backup file when needed. Moreover, if needed you can erase the current settings and reset the router to its default factory settings.

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.n
- 2. Go to Advanced > System Tools > Backup & Restore.

#### To back up configuration settings:

Click Backup to save a copy of the current settings to your local computer. A conf.bin file will be stored to your computer.



#### To restore configuration settings:

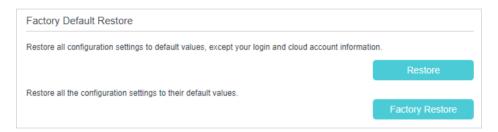
1) Click Browse to locate the previous backup configuration file, and click Restore.



2) Wait a few seconds for the restoring and rebooting.

### To reset the router to factory default settings:

 Locate the Factory Default Restore section, and click Factory Restore to reset the router.



2) Wait a few minutes for the resetting and rebooting.

#### Note:

- 1. During the resetting process, do not turn off the router.
- 2. We strongly recommend you back up the current configuration settings before resetting the router.

# 10.6. Reboot the Router

The Reboot feature cleans the cache to enhance the running performance of the router. You can reboot the router manually or set it to reboot regularly.

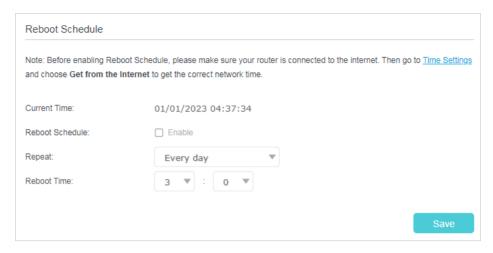
- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Reboot Schedule, and you can restart your router.

#### > To reboot the router manually:

Click Reboot, and wait a few minutes for the router to rebooting.



- To schedule the router to reboot at a specific time:
  - 1) Enable Reboot Schedule.
  - 2) Specify the Time when the router reboots.



3) Click Save to make the settings effective.

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

- Change the LAN IP Address (system will reboot automatically).
- Change the Operation Mode (system will reboot automatically).
- 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).

#### Note:

The Auto Reboot feature takes effect based on the router's system time. Please make sure you have already set up the time of the router.

# 10. 7. Administration Management

# 10.7.1. Change the Login Password

A login password is required to log in to the router's web management page. You are asked to set a login password at first login. You can change it with the account management feature.

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.n
- Go to Advanced > System Tools > Administration, and locate the Account Management section.



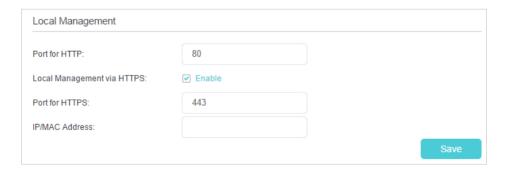
- 3. Enter the old password and a new password twice (both case-sensitive).
- 4. Click Save to make the settings effective.

### 10.7.2. Local Management

You can control the local devices' authority to manage the router via Local Management feature. By default all local connected devices are allowed to manage the router. You can also specify one device to manage the router and enable local management over a more secure way, HTTPS.

Follow the steps below to allow only the specific device to manage the router via the local management over HTTPS.

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplinkmodem.net
- 2. Go to Advanced > System Tools > Administration, and locate the Local Management section.
- 3. Enable Local Management over HTTPS and keep the Port for HTTP and Port for HTTPS as the default settings. Enter the IP address or MAC address of the local device to manage the router.



4. Click Save.

Now, you can manage the router over both HTTP (<a href="http://tplinkmodem.net">http://tplinkmodem.net</a>) and HTTPS (<a href="https://tplinkmodem.net">https://tplinkmodem.net</a>).

#### Note:

If you want all local devices can manage the router, just leave the IP/MAC Address field blank.

### 10.7.3. Remote Management

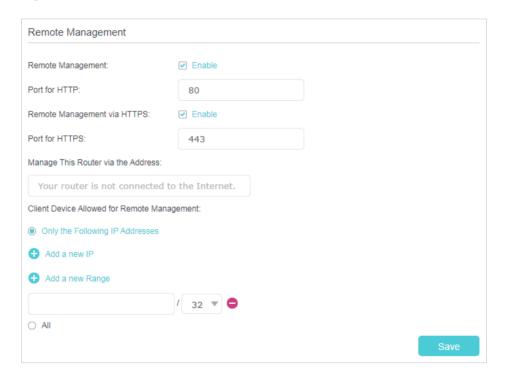
By default, the remote devices are not allowed to manage the router from the internet. You can enable remote management over HTTP and/or HTTPS if needed. HTTPS is a more secure way to access the router.

#### Note:

If your ISP assigns a private WAN IP address (such as 192.168.x.x or 10.x.x.x), you cannot use the remote management feature because private addresses are not routed on the internet.

Follow the steps below to allow remote devices to manage the router over HTTPS.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Administration, and locate the Remote Management section.



- 3. Enable Remote Management and Remote Management via HTTPS to allow for HTTPS connection. Keep the Port as the default setting.
- 4. Set the client device allowed for remote management. Select All to allow all remote devices to manage the router. If you just want to allow a specific device to manage the router, select Only the Following IP/MAC Address and enter the IP/MAC address of the remote device.
- 5. Click Save.

All devices or the specific device on the internet can log in to your router using the address displayed on the Manage This Router via the Address field to manage the router.



1. If you were warned about the certificate when visiting the web management page remotely, click Trust (or a similar option) to continue. To avoid this warning, you can download and install the certificate on the router's web management page at Advanced > System Tools > Administration.



2. The router's WAN IP is usually a dynamic IP. Please refer to <u>Set Up a Dynamic DNS Service Account</u> if you want to log in to the router through a domain name.

#### 10. 7. 4. HTTP Referer Head Check

HTTP referer header check function can protect your networks against CSRF attacks. This function is enabled by default. You can disable this function if needed.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Administration, and locate the HTTP Referer Head Check section.
- 3. Clear the Enable check box and click Save if you want to disable this function.



## 10. 7. 5. ICMP Ping

ICMP (Internet Control Message Protocol) Ping is used to diagnose the network by sending ICMP echo request packets to the target remote or local host and waiting for an ICMP response.

You can control the router's replies to ICMP Ping requests.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Administration, and locate the ICMP Ping section.



- 3. Specify the ICMP Ping reply options.
  - Remote: Select it if you want the computers on a public network to ping the router's WAN IP address.
  - Local: Enabled by default, if enabled, the computers on a private network can ping the router's LAN IP address.
- 4. Click Save to make the settings effective.

#### 10. 7. 6. Session ID

When Session ID function is enabled, it will be saved into Flash every time the PPP connection is updated. This can prevent some problems of PPPoE/L2TP/PPTP connection being rejected to reconnect to servers when the device is powered off or the network disconnect accidentally.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Administration, and locate the Session ID section.

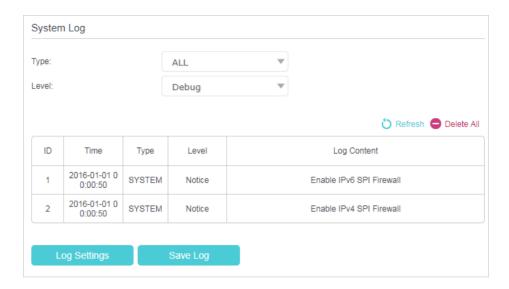


3. Enable the Update Session ID and Click Save to make the settings effective.

# 10.8. System Log

System Log can help you know what happened to your router, facilitating you to locate the malfunctions. For example when your router does not work properly, you may need to save the system log and send it to the technical support for troubleshooting.

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > System Log page.



#### To view the system logs:

You can view specific system logs by selecting the log type and level.

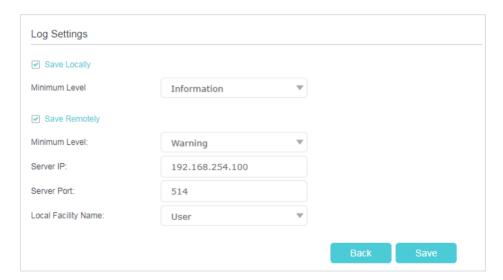
Click Refresh to refresh the log list.

#### > To save the system logs:

You can save the system logs to your local computer or a remote server.

Click Save Log to save the logs in a txt file to your computer.

Click Log Settings to set the storage path of logs.



- Save Locally: Select this option to cache the system log to the router's local memory, select the minimum level of system log to be saved from the drop-down list. The logs will be shown in the table in descending order on the System Log page.
- Save Remotely: Select this option to send the system log to a remote server, select the minimum level of system log to be saved from the drop-down list and enter the

information of the remote server. If the remote server has a log viewer client or a sniffer tool implemented, you can view and analyze the system log remotely in real-time.

# Chapter 11

# **TP-Link Cloud Service**

TP-Link Cloud service provides a better way to manage your cloud devices. Log in to your router with a TP-Link ID, and you can easily monitor and manage your home network when you are out and about via the Aginet app. To ensure that your router stays new and gets better over time, the TP-Link Cloud will notify you when an important firmware upgrade is available. Surely you can also manage multiple TP-Link Cloud devices with a single TP-Link ID.

This chapter introduces how to register a new TP-Link ID, bind or unbind TP-Link IDs to manage your router, and the Aginet app with which you can manage your home network no matter where you may find yourself.

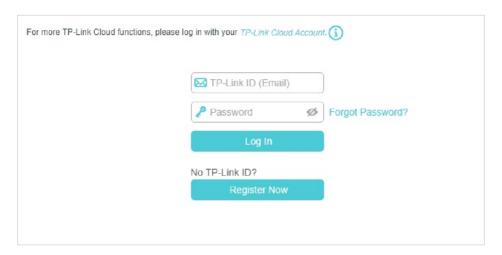
It contains the following sections:

- Register a TP-Link ID
- Change Your TP-Link ID Information
- Manage the User TP-Link IDs

# 11. 1. Register a TP-Link ID

If you have skipped the registration during the Quick Setup process, you can:

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with the password you set for the router.
- 2. Go to Basic > TP-Link Cloud.
- 3. Click Sign Up and follow the instructions to register a TP-Link ID.



4. After activating your TP-Link ID, come back to the TP-Link Cloud page to log in. The TP-Link ID used to log in to the router for the first time will be automatically bound as an Admin.

#### Note:

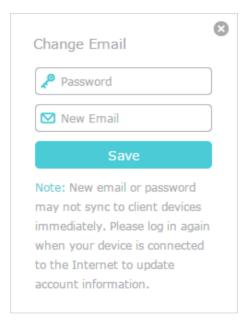
- To learn more about the Admin and User TP-Link ID, refer to Manage the User TP-Link IDs.
- If you want to unbind the admin TP-Link ID from your router, please go to Basic > TP-Link Cloud, an click Unbind in the Device Information section.

# 11. 2. Change Your TP-Link ID Information

Follow the steps below to change your email address and password of your TP-Link ID as needed.

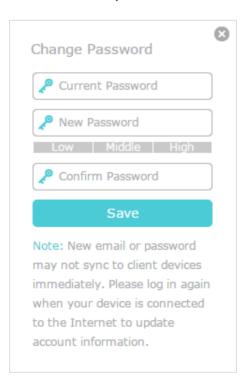
- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID.
- 2. Go to Basic > TP-Link Cloud, and focus on the Account Information section.
- To change your email address:
- 1. Click Mehind the Email.
- 2. Enter the password of your TP-Link ID, then a new email address. And click Save.

Chapter 11 TP-Link Cloud Service



#### To change your password:

- 1. Click deliberation behind the Password.
- 2. Enter the current password, then a new password twice. And click Save.



# 11. 3. Manage the User TP-Link IDs

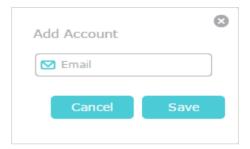
The TP-Link ID used to log in to the router for the first time will be automatically bound as the Admin account. An admin account can add or remove other TP-Link IDs to or

from the same router as Users. All accounts can monitor and manage the router locally or remotely, but user accounts cannot:

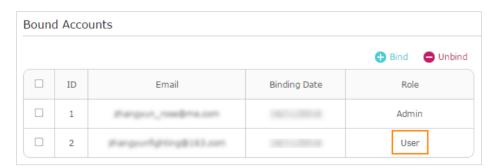
- Reset the router to its factory default settings either on the web management page or in the Aginet app.
- Add/remove other TP-Link IDs to/from the router.

### 11. 3. 1. Add TP-Link ID to Manage the Router

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplin
- 2. Go to Basic > TP-Link Cloud, and focus on the Bound Accounts section.
- 3. Click Bind , enter another TP-Link ID as needed and click Save.



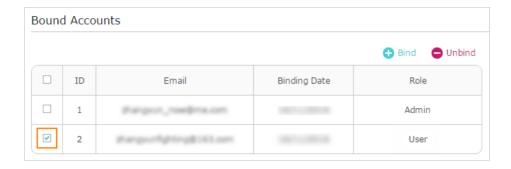
4. The new TP-Link ID will be displayed in the Bound Accounts table as a User.



## 11. 3. 2. Remove TP-Link ID(s) from Managing the Router

- 1. Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tplin
- 2. Go to Basic > TP-Link Cloud, and focus on the Bound Accounts section.
- 3. Tick the checkbox(es) of the TP-Link ID(s) you want to remove and click Unbind.

Chapter 11 TP-Link Cloud Service



# **FAQ**

### Q1. What should I do if I forget my web management password?

- If you are using a TP-Link ID to log in, click Forgot Password on the login page and then follow the instructions to reset it.
- Alternatively, press and hold the Reset button of the router until the Power LED blinks to restore factory default settings, and then Visit <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://192.168.254.1">http://tplinkmodem.net</a> or
   http://192.168.254.1

#### Note:

 You'll need to reconfigure the router to surf the internet once the router is reset, and please mark down your new password for future use.

# Q2. What should I do if I can't log in to the router's web management page?

This can happen for a variety of reasons. Please try the methods below to log in again.

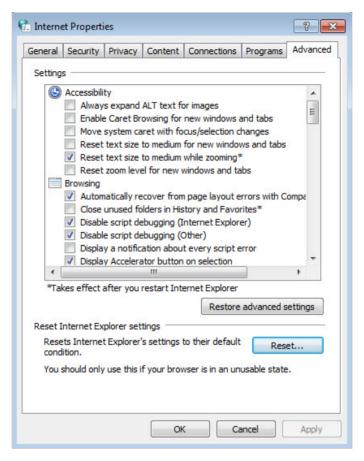
- Make sure your computer is connected to the router correctly and the corresponding LED indicator(s) light up.
- Make sure the IP address of your computer is configured as Obtain an IP address automatically and Obtain DNS server address automatically.
- Make sure <a href="http://tplinkmodem.net">http://tplinkmodem.net</a> or <a href="http://tp
- Check your computer's settings:
  - 1) Go to Start > Control Panel > Network and Sharing Center.
  - 2) Click Internet Options on the bottom left.
  - 3) Click Connections and select Never dial a connection.



4) Click LAN settings and deselect the following three options and click OK.



5) Go to Advanced > Restore advanced settings, click OK to save the settings.



- Use another web browser or computer to log in again.
- Reset the router to factory default settings and try again. If login still fails, please contact the technical support.

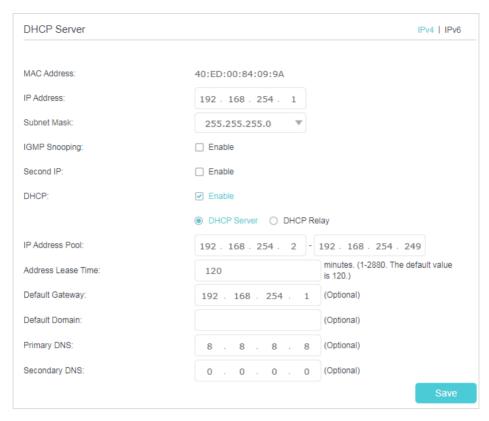
Note: You'll need to reconfigure the router to surf the internet once the router is reset.

# Q3. What should I do if I can't access the internet even though the EWAN configuration is finished?

- 1. Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Status to check internet status:

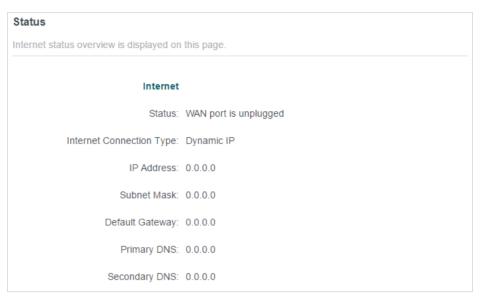
#### If IP Address is a valid one, please try the methods below and try again:

- Your computer might not recognize any DNS server addresses. Please manually configure the DNS server.
  - 1) Go to Advanced > Network > LAN Settings > DHCP Server.
  - 2) Enter 8.8.8.8 as Primary DNS, click SAVE.
  - Tips: 8.8.8.8 is a safe and public DNS server operated by Google.



- Restart the modem and the router.
  - 1) Power off your modem and router, and leave them off for 1 minute.
  - 2) Power on your modem first, and wait about 2 minutes until it gets a solid cable or Internet light.
  - 3) Power on the router.
  - 4) Wait another 1 or 2 minutes and check the internet access.
- Reset the router to factory default settings and reconfigure the router.
- Upgrade the firmware of the router.
- Check the TCP/IP settings on the particular device if all other devices can get internet from the router.

As the picture below shows, if the IP Address is 0.0.0.0, please try the methods below and try again:



- Make sure the physical connection between the router and the modem is proper.
- Modify the LAN IP address of the router.

#### Note:

Most TP-Link routers use 192.168.254.1/192.168.0.1/192.168.1.1 as their default LAN IP address, which may conflict with the IP range of your existing ADSL modem/router. If so, the router is not able to communicate with your modem and you can't access the internet. To resolve this problem, we need to change the LAN IP address of the router to avoid such conflict, for example, 192.168.2.1.

- 1) Visit <a href="http://tplinkmodem.net">http://192.168.254.1</a>, and log in with your TP-Link ID or the password you set for the router.
- 2) Go to Advanced > Network > LAN Settings.
- 3) Modify the LANIP address as the follow picture shows. Here we take 192.168.2.1 as an example.
- 4) Click Save.



- · Restart the modem and the router.
  - 1) Power off your modem and router, and leave them off for 1 minute.
  - 2) Power on your modem first, and wait about 2 minutes until it get a solid cable or Internet light.
  - 3) Power on the router.

- 4) Wait another 1 or 2 minutes and check the internet access.
- Please upgrade the firmware of the router.

If you've tried every method above but still cannot access the internet, please contact the technical support.

# Q4. What should I do if I can't find my wireless network or I cannot connect the wireless network?

#### If you fail to find any wireless network, please follow the steps below:

- Make sure the wireless function of your device is enabled if you're using a laptop with built-in wireless adapter. You can refer to the relevant document or contact the laptop manufacturer.
- Make sure the wireless adapter driver is installed successfully and the wireless adapter is enabled.
  - On Windows 7/8/10
  - 1) If you see the message No connections are available, it is usually because the wireless function is disabled or blocked somehow.
  - 2) Click Troubleshoot and windows might be able to fix the problem by itself.
  - On Windows XP
  - If you see the message Windows cannot configure this wireless connection, this is usually because windows configuration utility is disabled or you are running another wireless configuration tool to connect the wireless.
  - 2) Exit the wireless configuration tool (the TP-Link Utility, for example).
  - 3) Select and right click on My Computer on desktop, select Manage to open Computer Management window.
  - 4) Expand Services and Applications > Services, find and locate Wireless Zero Configuration in the Services list on the right side.
  - 5) Right click Wireless Zero Configuration, and then select Properties.
  - 6) Change Startup type to Automatic, click on Start button and make sure the Service status is Started. And then click OK.

#### If you can find other wireless network except your own, please follow the steps below:

- Check the WLAN LED indicator on your wireless router/modem.
- Make sure your computer/device is still in the range of your router/modem. Move it closer if it is currently too far away.

#### If you can find your wireless network but fail to connect, please follow the steps below:

- Authenticating problem/password mismatch:
  - 1) Sometimes you will be asked to type in a PIN number when you connect to the wireless network for the first time. This PIN number is different from the

Wireless Password/Network Security Key, usually you can only find it on the label of your router.



- If you cannot find the PIN or PIN failed, you may choose Connecting using a security key instead, and then type in the Wireless Password/Network Security Key.
- 3) If it continues to show note of Network Security Key Mismatch, it is suggested to confirm the wireless password of your wireless router.

Note: Wireless Password/Network Security Key is case sensitive.

- Windows unable to connect to XXXX / Can not join this network / Taking longer than usual to connect to this network:
  - Check the wireless signal strength of your network. If it is weak (1~3 bars), please move the router closer and try again.
  - Change the wireless Channel of the router to reduce interference from other networks.
  - Re-install or update the driver for your wireless adapter of the computer.

# Q5. What should I do if I can't access the internet even though the Mobile WAN (SIM card) configuration is finished?

- Verify that your SIM card is a 5G/4G or WCDMA card.
- Verify that your SIM card is in your internet service provider's service area.
- Verify that your SIM card has sufficient credit.
- Check the LAN connection: Open a web browser and enter http://tplinkmodem.net or http://192.168.254.1 in the address bar. If the login page does not appear, refer to Q1 and then try again.
- Launch a web browser, log in to the web management page, and check the following:
  - Go to Advanced > Network > Mobile WAN to verify the parameters provided by your ISP are correctly entered. If the parameters are incorrect, click Create

- Profile and enter the correct parameters, then select the new profile from the Profile Name list.
- 2) Go to Advanced > Network > PIN Management to verify if PIN is required. If it is, enter the correct PIN provided by your ISP, and click Save.
- 3) Go to Advanced > Network > Data Settings to verify if the Total/Monthly Used exceeds the Total/Monthly Allowance. If it does, click Correct and set Total/Monthly Used to 0 (zero), or disable Data Limit.
- 4) Go to Advanced > Network > Mobile WAN to verify that Mobile Data is enabled. If it is not, enable it to access the internet.
- 5) Confirm with your ISP if you are in a roaming service area. If you are, go to Advanced > Network > Mobile WAN to enable Data Roaming.
- 6) Confirm the selection of Antenna Type.

If it is determined that an external antenna is connected, enable External Antennas. If you are sure that no external antenna is connected, disable External Antennas.

## **FCC** compliance information statement



Product Name: 5G Outdoor Router Model Number: 5G Outdoor Router

Component Name	Model		
I.T.E. Power	T120200-2B1		

#### Responsible party:

**TP-Link USA Corporation** 

Address: 10 Mauchly, Irvine, CA 92618 Website: http://www.tp-link.com/us/

Tel: +1 626 333 0234 Fax: +1 909 527 6804

E-mail: sales.usa@tp-link.com

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 23 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

We, **TP-Link USA Corporation**, has determined that the equipment shown as above has been shown to comply with the applicable technical standards, FCC part 15. There is no unauthorized change is made in the equipment and the equipment is properly maintained and operated.

Issue Date: 2023.09.20

# FCC compliance information statement

Product Name: I.T.E. Power Supply Model Number: T120200-2B1

Responsible party:

**TP-Link USA Corporation** 

Address: 10 Mauchly, Irvine, CA 92618 Website: http://www.tp-link.com/us/

Tel: +1 626 333 0234 Fax: +1 909 527 6804

E-mail: sales.usa@tp-link.com

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.

We, **TP-Link USA Corporation**, has determined that the equipment shown as above has been shown to comply with the applicable technical standards, FCC part 15. There is no unauthorized change is made in the equipment and the equipment is properly maintained and operated.

Issue Date: 2023.09.20

## **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.

## **OPERATING FREQUENCY(the maximum transmitted power)**

2400MHz~2483.5MHz/ 20dBm

5150MHz~5250MHz (Indoor use only) / 23dBm

5250MHz~5350MHz (Indoor use only) / 23dBm

5470MHz~5725MHz / 30dBm

WCDMA Band 1.8 / Power Class 3

LTE Band 1,3,7,8,20,28,40 / Power Class 3

LTE Band 38.42.43 / Power Class 2 & Power Class 3

5G N1.3.7.8.20.28.40 / Power Class 3

5G N38,41,77,78 / Power Class 2 & Power Class 3

\*The actual frequency bands supported by your product may differ from the bands above.

Frequency band: 5150 - 5350 MHz:

Indoor use: Inside buildings only. Installations and use inside road vehicles and train carriages are not permitted. Limited outdoor use: If used outdoors, equipment shall not be attached to a fixed installation or to the external body of road vehicles, a fixed infrastructure or a fixed outdoor antenna. Use by unmanned aircraft systems (UAS) is limited to within the 5170 - 5350 MHz band.

# **EU Declaration of Conformity**

TP-Link hereby declares that the device is in compliance with the essential requirements and other relevant provisions of directives 2014/53/EU, 2009/125/EC, 2011/65/EU and (EU) 2015/863.

The original EU Declaration of Conformity may be found at https://www.tp-link.com/en/support/ce/

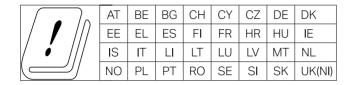
# **RF Exposure Information**

This device meets the EU requirements (2014/53/EU 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 used at 20 cm from your body.

#### **National restrictions**

Attention: This device may only be used indoors in all EU member states and EFTA countries, and Northern Ireland.



#### **UKCA Mark**



## **UK Declaration of Conformity**

TP-Link hereby declares that the device is in compliance with the essential requirements and other relevant provisions of the Radio Equipment Regulations 2017.

The original UK Declaration of Conformity may be found at https://www.tp-link.com/support/ukca/

### **National restrictions**

Attention: This device may only be used indoors in Great Britain.



# **Canadian Compliance Statement**

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:

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

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique

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, meme si le brouillage est susceptible d'en compromettre le fonctionnement

#### Caution:

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;

DFS (Dynamic Frequency Selection) products that operate in the bands 5250-5350 MHz, 5470-5600MHz, and 5650-5725MHz.

#### **Avertissement:**

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;

Les produits utilisant la technique d'atténuation DFS (sélection dynamique des fréquences) sur les bandes 5250-5350 MHz, 5470-5600MHz et 5650-5725MHz.

## 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 20cm 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 20 cm de distance entre la source de rayonnement et votre corps.

# **Industry Canada Statement**

CAN ICES-3 (B)/NMB-3(B)

#### **NCC Notice & BSMI Notice:**

#### 注意!

取得審驗證明之低功率射頻器材,非經核准,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。

低功率射頻器材之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。

前述合法通信,指依電信管理法規定作業之無線電通信。

低功率射頻器材須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

應避免影響附近雷達系統之操作。

高增益指向性天線只得應用於固定式點對點系統。

### 安全諮詢及注意事項

- 安全諮詢及注意事項
- 請使用原裝電源供應器或只能按照本產品注明的電源類型使用本產品。
- 清潔本產品之前請先拔掉電源線。請勿使用液體、噴霧清潔劑或濕布進行清潔。
- 注意防潮、請勿將水或其他液體潑灑到本產品上。
- 插槽與開口供通風使用,以確保本產品的操作可靠並防止過熱,請勿堵塞或 覆蓋開口。
- 請勿將本產品置放於靠近熱源的地方。除非有正常的通風,否則不可放在密閉位置中。
- 不要私自拆開機殼或自行維修,如產品有故障請與原廠或代理商聯繫。

## 限用物質含有情況標示聲明書

設備名稱: 5G Outdoor Router Equipment name				型號(型式):5G Outdoor Router Type designation (Type)			
	限用物質及其化學符號 Restricted substances and its chemical symbols						
單元 Unit	鉛 Lead (Pb)	汞 Mercury (Hg)	鎘 Cadmium (Cd)	六價鉻 Hexavalent chromium (Cr+6)	多溴聯苯 Polybrominated biphenyls (PBB)	多溴二苯醚 Polybrominated diphenyl ethers (PBDE)	
PCB	0	0	0	0	0	0	
外殼	0	0	0	0	0	$\circ$	
電源供應器	_		0	0			
天線			0	0	0		

備考1. \*超出0.1 wt % \* 及 \*超出0.01 wt % \* 係指限用物質之百分比含量超出百分比含量基準值

Note 1: "Exceeding 0.1 wt %" and "exceeding 0.01 wt %" indicate that the percentage content of the restricted substance exceeds the reference percentage value of presence condition.

備考2. ヾ○′ 係指該項限用物質之百分比含量未超出百分比含量基準值。

Note 2: "○" indicates that the percentage content of the restricted substance does not exceed the percentage of reference value of presence.

備考3. \*- \* 係指該項限用物質為排除項目。

Note 3: The "-" indicates that the restricted substance corresponds to the exemption.



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



## Safety Information

- Keep the device away from fire or hot environments. DO NOT immerse in water or any other liquid.
- Do not attempt to disassemble, repair, or modify the device. If you need service, please contact us.
- Do not use the device where wireless devices are not allowed.
- Do not use damaged charger or USB cable to charge the device.
- Do not use any other chargers than those recommended.
- Adapter should be used indoors where the ambient temperature is lower than or equal to 40°C.
- Adapter shall be installed near the equipment and shall be easily accessible.
- The outdoor router can be used either indoors or outdoors.
- Before mounting your router outdoors, waterproof it to ensure device safety and performance.
- The waterproof cover must be secured before use!
- The product can only be installed by instructed person or skilled person!
- The plug on the power supply cord is used as the disconnect device, the socket-outlet shall be easily accessible.
- 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.
- Operating Temperature: -40°C-55°C (-40°F-131°F). Operating Humidity: 10%-90%RH, Non-condensing.
- Storage Temperature: -40°C-70°C (-40°F-158°F). Storage Humidity: 5%-90%RH, Non-condensing.
- This product uses radios and other components that emit electromagnetic fields. Electromagnetic fields and magnets may interfere with pacemakers and other implanted medical devices. Always keep the product and its power adapter more than 15 cm (6 inches) away from any pacemakers or other implanted medical devices. If you suspect your product is interfering with your

pacemaker or any other implanted medical device, turn off your product and consult your physician for information specific to your medical device.

Please read and follow the above safety information when operating the device. We cannot guarantee that no accidents or damage will occur due to improper use of the device. Please use this product with care and operate at your own risk.

# Explanations of the symbols on the product label

Symbol	Explanation
	DC voltage
$\sim$	AC voltage
	Class II equipment
<b></b>	Polarity of output terminals
VI	Energy efficiency Marking
	Indoor use only
$\triangle$	Caution
0	Operator's manual
	RECYCLING  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.  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.