User Guide

AX1800 Dual-Band Wi-Fi 6 VDSL/ADSL Modem Router
Archer VX1800v

Contents

About This Guide

This guide is a complement to Quick Installation Guide. The Quick Installation Guide provides instructions for quick internet setup, while this guide contains details of each function and demonstrates how to configure them in typical scenarios.

Features available in the modem router may vary by model and software version. Modem 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 modem router experience.

Conventions

In this guide, the following conventions are used:

Convention	Description
Underline	Hyperlinks are in teal and underlined. You can click to redirect to a website or a specific section.
Teal	Key information appears in teal, including management page text such as menus, items, buttons and so on.
>	The menu structures to show the path to load the corresponding page. For example, Advanced > Wireless > MAC Filtering means the MAC Filtering 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.
Tips:	Indicates important information that helps you make better use of your device.
Symbols on the web page	• click to edit the corresponding entry. • click to delete the corresponding entry. • click to enable or disable the corresponding entry. • click to view more information about items on the page.

Speed/Coverage Disclaimer

Maximum wireless signal rates are the physical rates derived from IEEE Standard 802.11 specifications. Range, coverage, and maximum quantity of connected devices are based on test results under normal usage conditions. Actual wireless data throughput, wireless coverage, and quantity of connected devices 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 MU-MIMO requires clients to also support MU-MIMO.

More Info

- The latest firmware and management app are available from the Download Center at https://www.tp-link.com/support/download/.
- The Quick Installation Guide (QIG) can be found where you find this guide or inside the product packaging.
- Specifications can be found on the product page at https://www.tp-link.com.
- TP-Link Community is provided for you to share knowledge and discuss our products at https://community.tp-link.com.
- Our Technical Support contact information can be found at the Contact Technical Support page at https://www.tp-link.com/support.

Chapter 1

Get to Know Your Modem Router

This chapter introduces the modem router by detailing its main features and appearance.

It contains the following sections:

1. 1. Product Overview

TP-Link's modem router is a combined wired/wireless network connection device with wireless router and DSL modem capabilities.

With DSL and LAN/WAN ports, the modem router is compatible with DSL connections and fiber/cable access.

Ethernet ports and adjustable antennas enable the modem router to provide wired and wireless access for multiple computers and mobile devices.

With an array of additional features, the modem router is the perfect hub for your home or business network.

1. 2. Physical Appearance

1. 2. 1. Top Panel

The modem router's LEDs are located on the top panel. You can check the modem router's working status by following the LED Explanation table.

Name	Status	Indication
Power	On	System initialization is complete.
	Slow Flashing	The system is initializing or the firmware is being upgraded. Do not disconnect or power off the modem router.
	Quick Flashing	WPS connection is in progress (about 2 minutes).
	Off	Power is off. Please ensure that the power adapter is connected correctly.
DSL	On	DSL synchronization is complete.
	Flashing	DSL synchronization is in progress.
	Off	DSL synchronization failed. Please refer to Note 1 for troubleshooting.
Internet	Solid Green	Internet service is available.
	Off	Internet connection is incorrect, DSL synchronization failed, or the modem router is operating in Bridge mode. Please refer to Note 2 for troubleshooting. DSL/EWAN port is connected but internet service is unavailable.
Wireless	On	The wireless 2.4GHz/5GHz band is working properly.
	Off	The wireless 2.4GHz/5GHz band is disabled.
LAN	On	At least one LAN port is connected to a powered-on device.
	Off	No LAN port is connected to a powered-on device.
Phone	On	The phone is off-hook.
	Flashing	The phone is ringing.
	Off	The phone is on-hook.

Note:

1. If the DSL LED is off, please check your internet connection. Refer to Connect Your Modem Router for more information about how to connect to the internet correctly. If you have already made a successful connection, please contact your ISP to make sure your internet service is available now.
2. If the Internet LED is off, please check your DSL LED first. If your DSL LED is also off, please refer to Note 1. If your DSL LED is ON, reconnect your modem router correctly by referring to related guide.

1. 2. 2. Back Panel

The modem router's back panel shows the ports, buttons and antennas. Refer to the following for detailed instructions.

Item	Description
POWER	For connecting the modem router to power socket via the provided power adapter.
ON/OFF	The switch for the power. Press it to power on or off the modem router.
USB	For connecting to a USB storage device.
PHONE	For connecting your analog phone to the modem router. Connect your analog phones to the RJ11 ports on the back panel.
LAN1, LAN2, LAN3, LAN/WAN	For connecting the modem router to your PC or other Ethernet network devices. In wireless router mode, the LAN/WAN port is used for connecting to a Cable/FTTH/VDSL/ADSL device.
Wi-Fi/WPS	Press to turn both 2.4GHz and 5GHz Wi-Fi on or off. Press to start a WPS synchronization.
RESET	Press and hold down for 10 seconds to reset the modem router to factory default settings.
DSL	For connecting the modem router to the internet. Connect the port to the splitter or directly connect the port to the phone jack via a phone cable. For details, please refer to Connect Your Modem Router.
Antennas	Used for wireless operation and data transmit. Upright them for the best Wi-Fi performance.

Chapter 2

Connect the Hardware

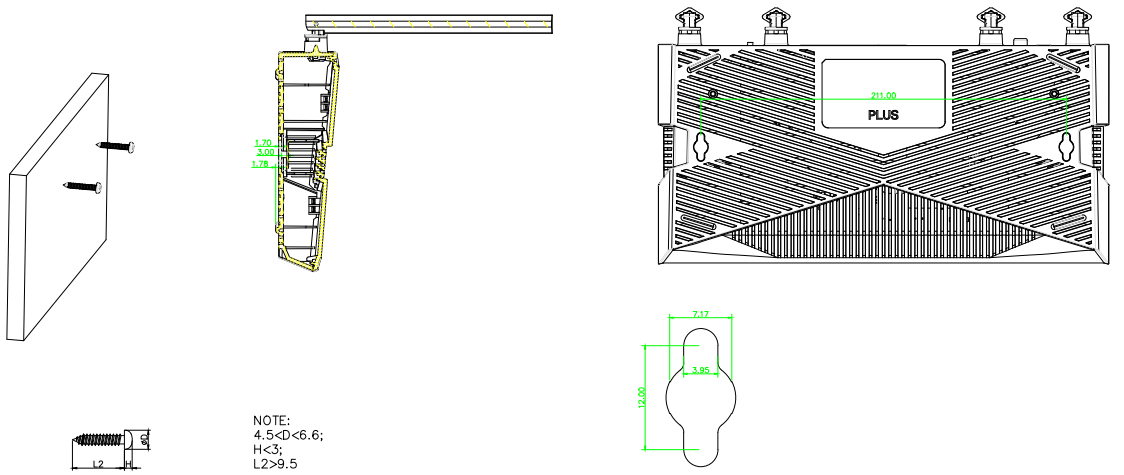
This chapter contains the following sections:

2. 1. Position Your Modem Router

With the modem router, you can access your network from anywhere within the wireless network coverage. However, the wireless signal strength and coverage varies depending on the actual environment where your modem router is in. Many obstacles may limit the range of the wireless signal, for example, concrete structures, thick walls.

For your security and best Wi-Fi performance, please:

- Do Not locate the modem router in the place where it will be exposed to moisture or excessive heat.
- Keep away from the strong electromagnetic radiation and the device of electromagnetic sensitive.
- Place the modem router in a location where it can be connected to the various devices as well as to a power source.
- Make sure the cables and power cord are safely placed out of the way so they do not create a tripping hazard.
- Keep the outside two antennas be outward at about 30 degrees (recommended).
- Generally, the router is placed on a horizontal surface, such as on a shelf or desktop. The device also can be mounted on the wall as shown in the following figure.



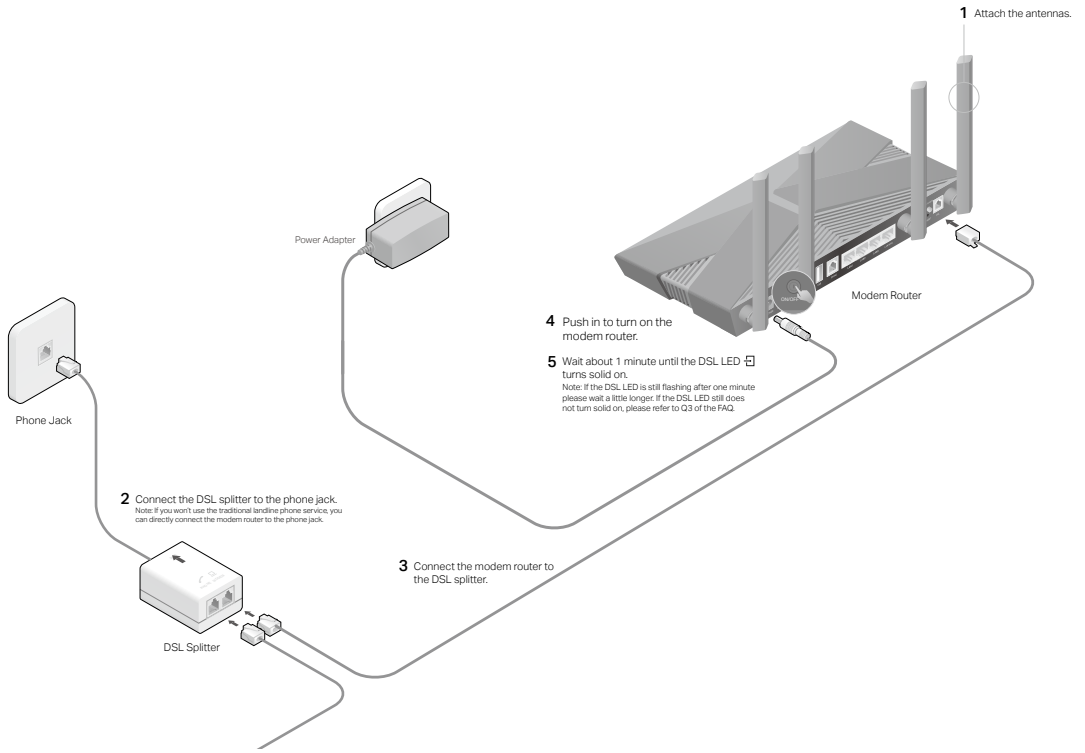
Tips:

The diameter of the screw head, 4.5mm<D<6.6mm, and the distance of two screws is 211mm. The screw that project from the wall need around 5mm based, and the length of the screw need to be at least 20mm to withstand the weight of the product.

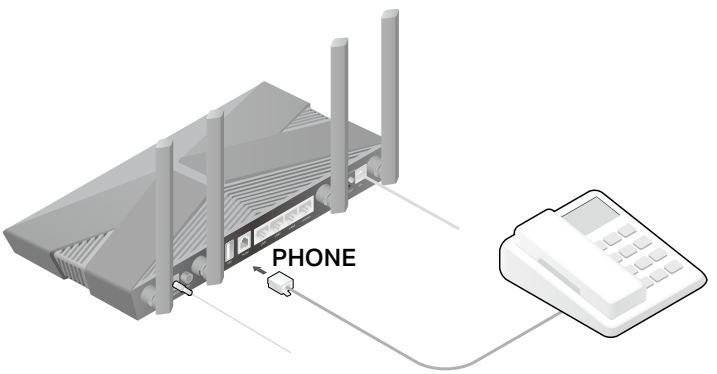
2. 2. Connect Your Modem Router

Follow the steps below to connect your modem router.

1. Connect the DSL line and power adapter. The electrical outlet shall be installed near the device and shall be easily accessible.



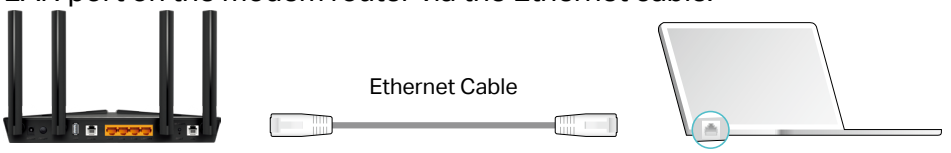
2. Connect your analog phone to the PHONE port on the modem router's back panel.



3. Connect your computer to the modem router.

Method 1: Wired

Turn off the Wi-Fi on your computer and connect your computer's Ethernet port to the LAN port on the modem router via the Ethernet cable.

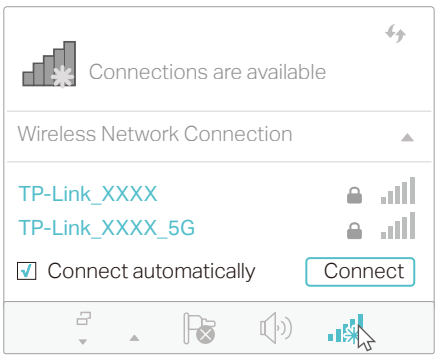


Method 2: Wirelessly

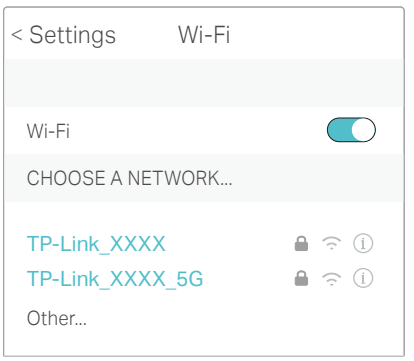
1) Find the SSID (Network Name) and Wireless Password printed on the label at the bottom of the router.

2) Click the network icon of your computer or go to Wi-Fi Settings of your smart device, and then select the SSID to join the network.

Computer



Smart Device



Method 3: Use the WPS button

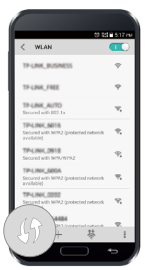
Wireless devices that support WPS, including Android phones, tablets, most USB network cards, can be connected to your router through this method. (WPS is not supported by iOS devices.)

Note:

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

1) Tap the WPS icon on the device's screen. Here we take an Android phone for instance.

2) Within two minutes, press the WPS button on your modem router.



Chapter 3

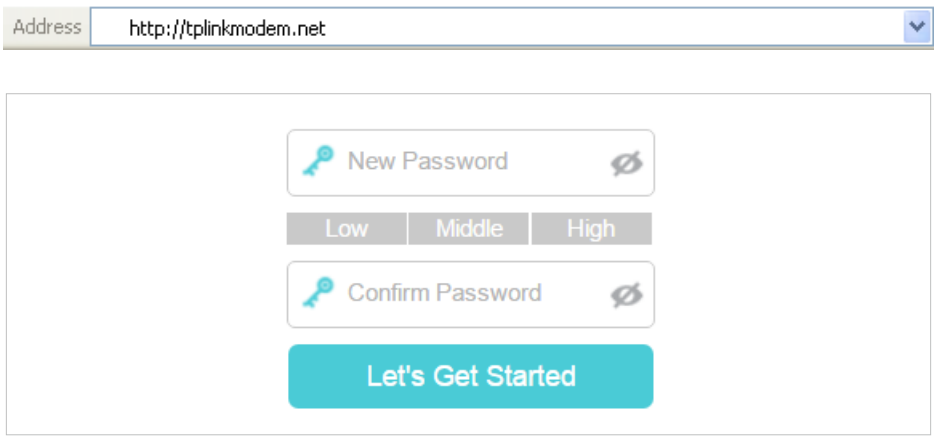
Log In to Your Modem Router

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 modem router.

1. Set up the TCP/IP Protocol in Obtain an IP address automatically mode on your computer.
2. Launch a web browser and go to http://tplinkmodem.net or http://192.168.1.1. Create a login password for secure management and then click Let's Get Started to log in.

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



Chapter 4

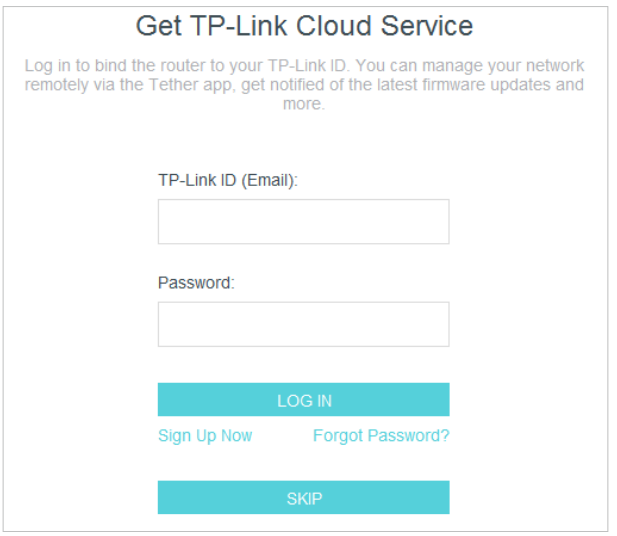
Set Up Internet Connections

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

This chapter includes the following sections:

4. 1. Use Quick Setup Wizard

1. Visit http://tplinkmodem.net, and log in with the password you set for the modem router.
2. Click Quick Setup on the top of the page. 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 Sign Up 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. Quick Setup Via TP-Link Tether App

The Tether app runs on iOS and Android devices, such as smartphones and tablets.

1. Launch the Apple App Store or Google Play store and search "TP-Link Tether" or simply scan the QR code to download and install the app.

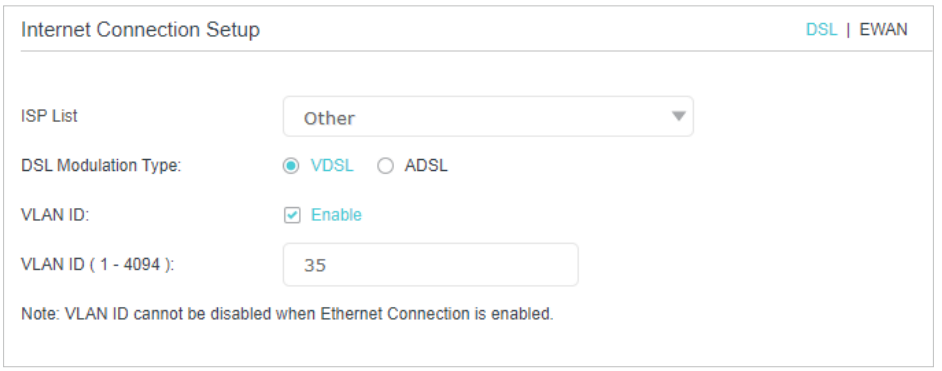
2. Open the Tether app and log in with your TP-Link ID. If you don't have an account, create one first.

3. Tap the + button and select Router > DSL Modem Router. Follow the steps to complete the setup and connect to the internet.
4. Connect your devices to the newly configured wireless networks of the router and enjoy the internet!

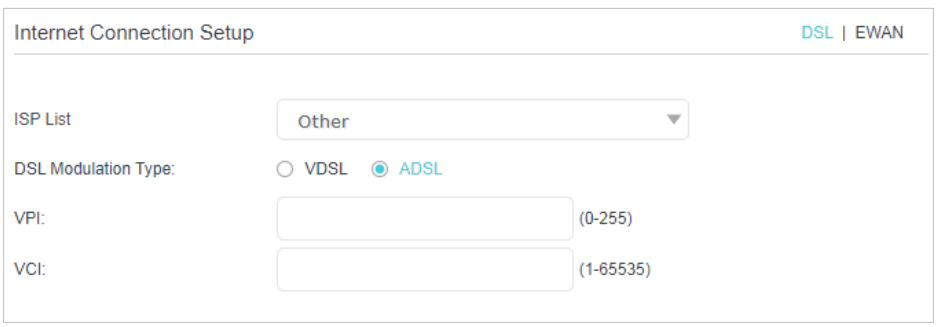
4. 3. Manually Set Up an Internet Connection

4. 3. 1. Set Up an Internet Connection in DSL Modem Router Mode

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the modem router.
2. Go to Basic > Internet page, and select DSL.
3. Select your ISP, and related information will be automatically filled in. For some ISPs, you may need to manually specify some information provided. If you can't find your ISP in the ISP List, select Other and then enter the information provided by your ISP.
4. Select your DSL Modulation Type used for your DSL connection.
   - If you select VDSL, enable VLAN ID(optional) and enter the value provided by your ISP.



   - If you select ADSL, enter the VPI and VCI assigned by your ISP.

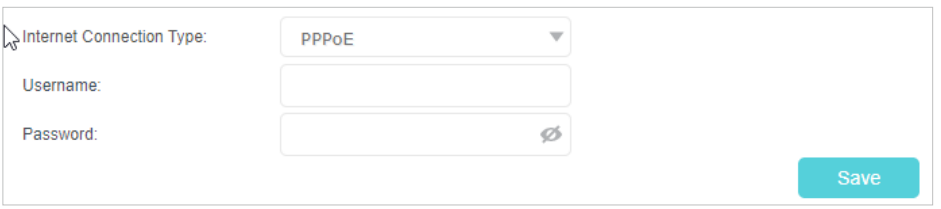


5. Select your internet connection type from the drop-down list. Then follow the instructions on the page to continue the configuration. Parameters on the figures are just used for demonstration.

   1) If you choose Dynamic IP, you don't need to enter any other information.

   2) If you choose Static IP or IPoA, enter the information provided by your ISP in the corresponding fields.

   3) If you choose PPPoE or PPPoA, enter the Username and Password provided by your ISP.



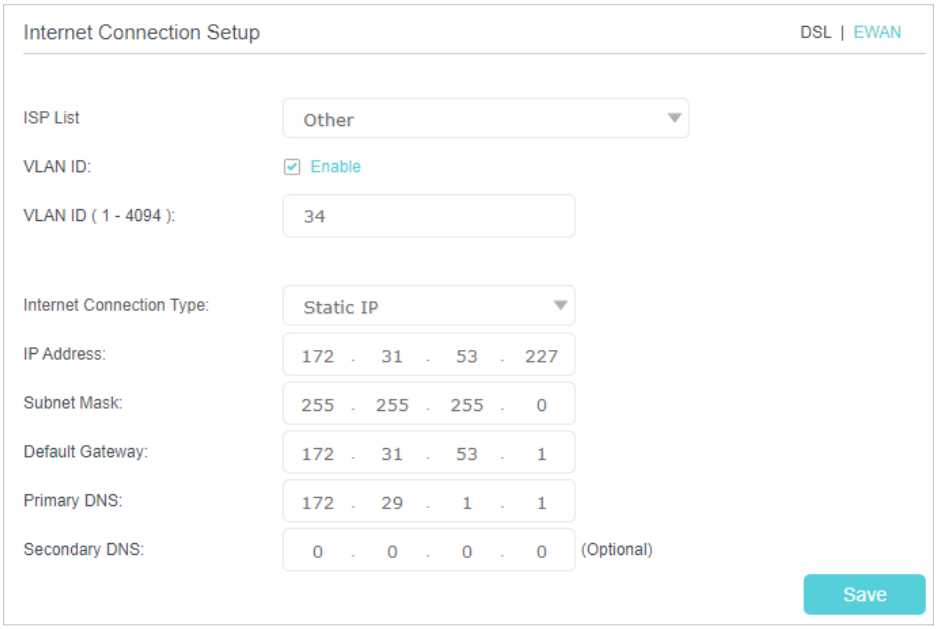
6. Click Save to make the settings effective.

Note:

You can view and edit all the internet connection settings in Advanced > Network > DSLWAN.

4. 3. 2. Set Up an Internet Connection in Wireless Router Mode

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the modem router.
2. Go to Basic > Internet page, and select EWAN.

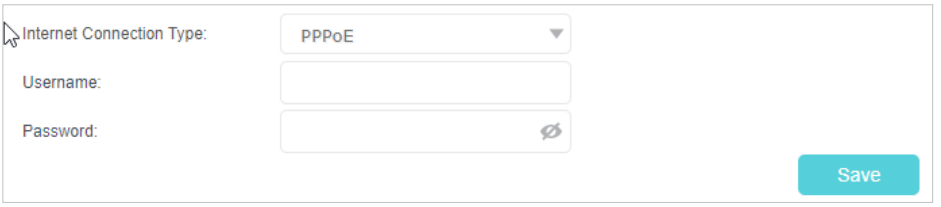


3. Select your ISP, and related information will be automatically filled in. For some ISPs, you may need to manually specify some information provided. If you can't find your ISP in the ISP List, select Other and then enter the information provided by your ISP
4. Enable VLAN ID(optional) and enter the value provided by your ISP.
5. Select your internet connection type from the drop-down list. Then follow the instructions on the page to continue the configuration. Parameters on the figures are just used for demonstration.

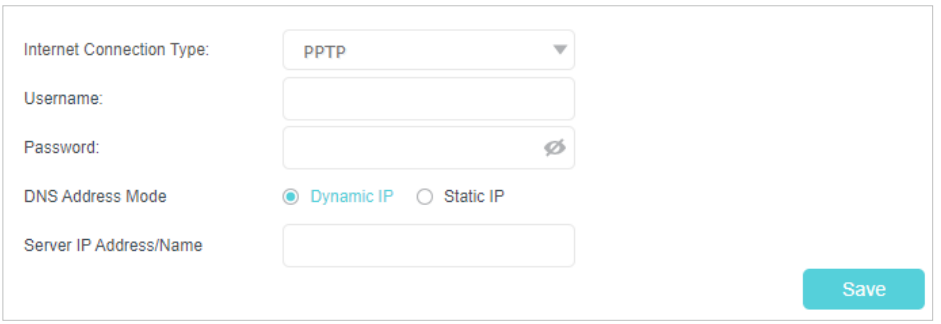
   1) If you choose Dynamic IP, you don't need to enter any other information.

   2) If you choose Static IP, enter the information provided by your ISP in the corresponding fields.

   3) If you choose PPPoE , enter the username and password provided by your ISP.



4) If you choose PPTP/L2TP , enter the username and password provided by your ISP. Select the DNS Address Mode and enter the Server IP Address/Name.



6. Click Save to make the settings effective.

Note:

You can view and edit all the internet connection settings in Advanced > Network > EWAN.

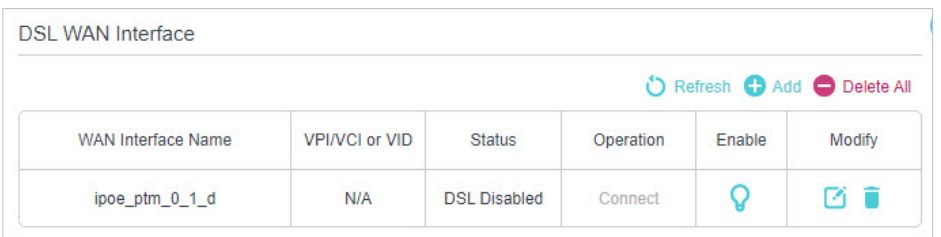
4. 4. Set Up an IPv6 Connection

If your ISP has provided a DSL line that supports IPv6 connection as well as some detailed IPv6 parameters, you can manually set up an IPv6 connection.

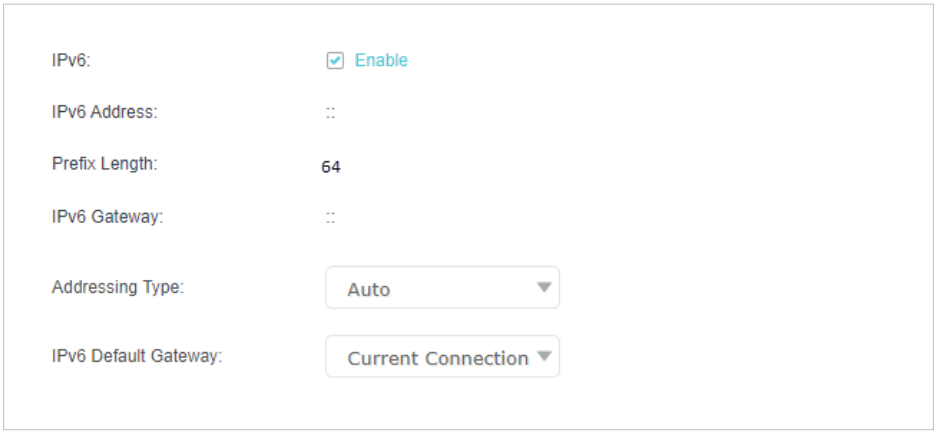
If your ISP provides an IPv4-only connection or IPv6 tunnel service, permit IPv6 connection by referring to Set Up the IPv6 Tunnel.

Follow the steps below to set up an IPv6 connection:

1. Make sure you have set up an IPv4 connection either manually or by using the Quick Setup wizard before setting up an IPv6 connection.
2. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the modem router.
3. Go to Advanced > Network > DSLWAN page.



4. Select your WAN Interface Name (Status should be DSL Connected) and click the (Edit) icon.
5. Scroll down the page, enable IPv6, and configure the IPv6 parameters.



Note: If your ISP has provided the IPv6 address, click Advanced to reveal more settings. Check to use IPv6 specified by ISP and enter the parameters provided by your ISP.

6. Click OK to make the settings effective. Now IPv6 service is available for your network.

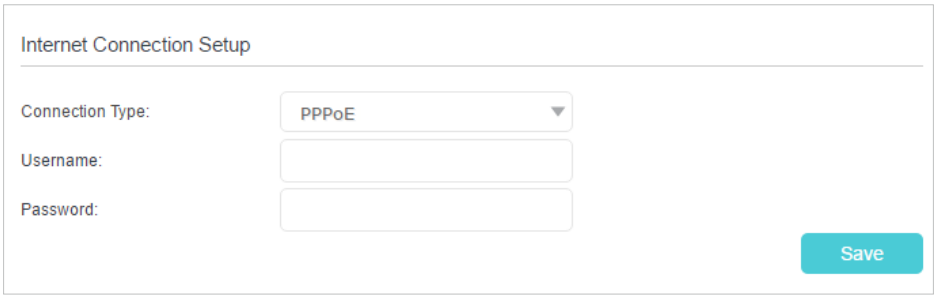
4. 5. More Operation Modes

The modem router supports two more operation modes: Wireless Router mode and 3G/4G Router mode. You can change the mode according to your needs.

4. 5. 1. Wireless Router Mode

If you already have a modem or your internet comes via an Ethernet jack on the wall, you can use the modem router as a regular wireless router to share the internet.

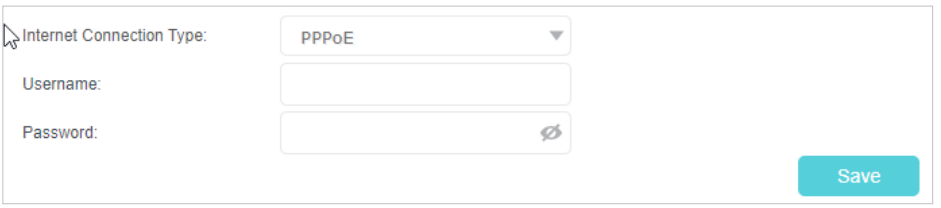
1. Find the WAN port (labeled as LAN/WAN) on the modem router, and connect it to your existing modem or the Ethernet jack on the wall. Then connect the power adapter and turn on the modem router. If you connect an existing modem, reboot it to get the modem router connected to the internet.
2. Go to Basic > Internet, select the Internet Connection Type, and enter the information provided by your ISP.



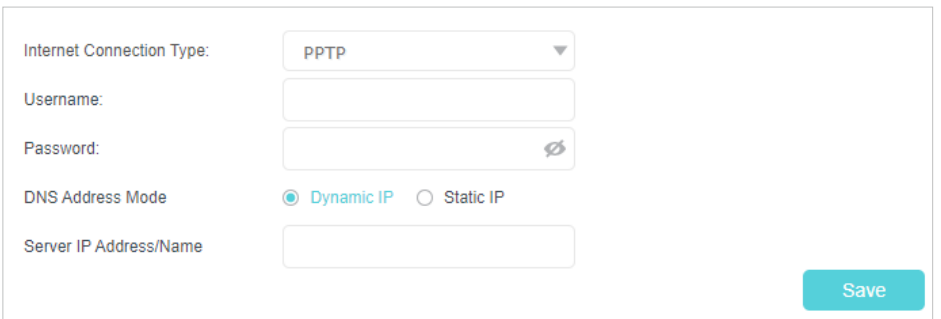
1) If you choose Dynamic IP, you don't need to enter any other information.

2) If you choose Static IP, enter the information provided by your ISP in the corresponding fields.

3) If you choose PPPoE , enter the Username and Password provided by your ISP.



4) If you choose PPTP/L2TP , enter the Username and Password provided by your ISP. Select the DNS Address Mode and enter the Server IP Address/Name.



3. Click Save to make the settings effective.

4. 5. 2. 3G/4G Router Mode

The modem router can be used as a 3G/4G wireless router if you have a 3G/4G USB modem. You can use your 3G/4G network an a backup solution for the Internet access

Use this way if you have set up an internet connection successfully and want to use the 3G/4G network as a backup network. Your modem router will be directly connected to the 3G/4G network when the original network service fails. For detailed instructions, refer to 3G/4G Settings.

Chapter 5

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 Tether app on your smartphone or tablet. 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.

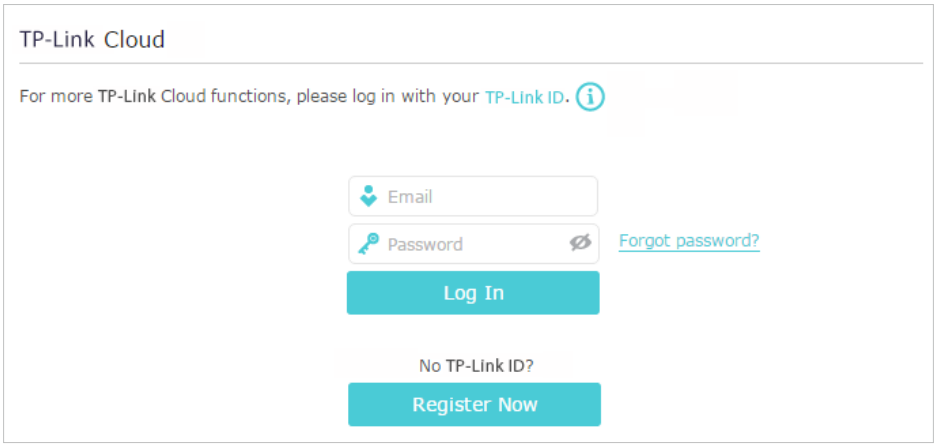
This chapter introduces how to register a new TP-Link ID, bind or unbind TP-Link IDs to manage your router, and the Tether app with which you can manage your home network no matter where you may find yourself.

It contains the following sections:

5. 1. Register a TP-Link ID

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

1. Visit http://tplinkmodem.net, and log in with the account you set for the router.
2. Go to Basic > TP-Link Cloud.
3. Click Register Now 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 first-time login TP-Link ID will be bound automatically to your cloud router as an Admin.

Note:

- To learn more about the Admin and User TP-Link ID, refer to Manage the User TP-Link IDs.
- You can register another TP-Link ID via the Tether APP. Please refer to Manage the Router via TP-Link Tether App to install the app and register a new one
- If you want to unbind the admin TP-Link ID from your router, please go to Basic > TP-Link Cloud, click Unbind in the Device Information section.

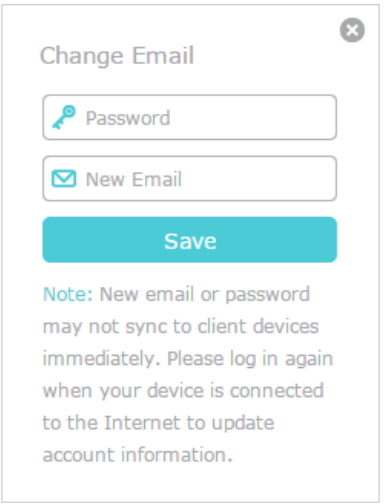
5. 2. Change Your TP-Link ID Information

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

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID.
2. Go to Basic > TP-Link Cloud, and focus on the Account Information section.

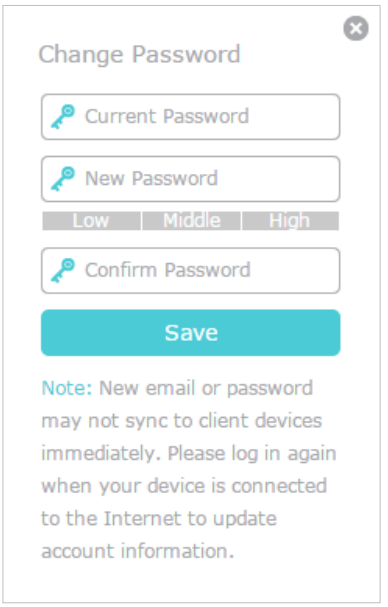
á Change your email address

1. Click behind the Email.
2. Enter the password of your TP-Link ID, then the new email address. And click Save.



á **Change your password**

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



5. 3. Manage the User TP-Link IDs

The first-time login TP-Link ID will be bound automatically to your router as an Admin account. An admin account can add or remove other TP-Link IDs to the same router as Users. Admin account and User accounts both can monitor and manage the router locally or remotely, except that user accounts cannot:

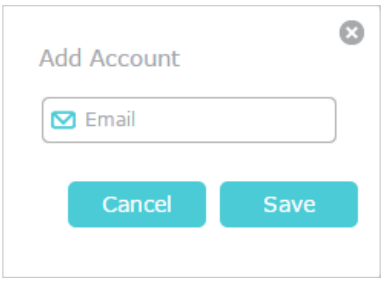
- Reset the router to its factory default settings from the web management page or the Tether app.

- Add/remove other TP-Link IDs to/from the router.

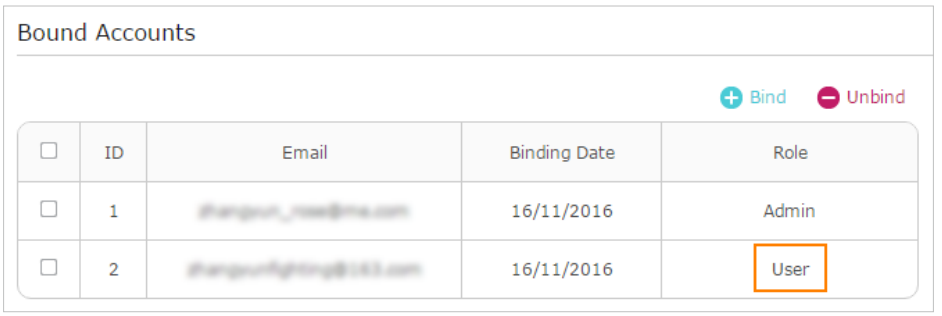
5. 3. 1. Add an TP-Link ID to Manage the Router

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID.
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.

Note:
If you need another TP-Link ID, please refer to Manage the Router via TP-Link Tether App to install the app and register a new one.

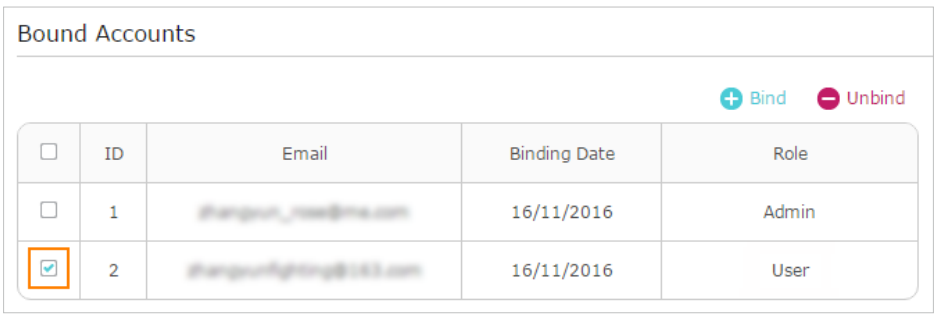


4. The new TP-Link ID will be displayed in the Bound Accounts table as a User.



5. 3. 2. Remove TP-Link ID(s) From Managing the Router

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID.
2. Go to Basic > TP-Link Cloud, and focus on the Bound Accounts section.
3. Check the box(es) of the TP-Link ID(s) you want to remove and click Unbind.



5. 4. Manage the Router via TP-Link Tether App

The Tether app runs on iOS and Android devices like smartphones and tablets.

1. Open the Apple App Store or Google Play and search the key word TP-Link Tether or simply scan the QR code to download and install the app.

2. Open the Tether app and log in with your TP-Link ID. If you don't have an account, create one first.
3. Connect your device to the router's wireless network.
4. Select the model of your router and manage your router as needed.

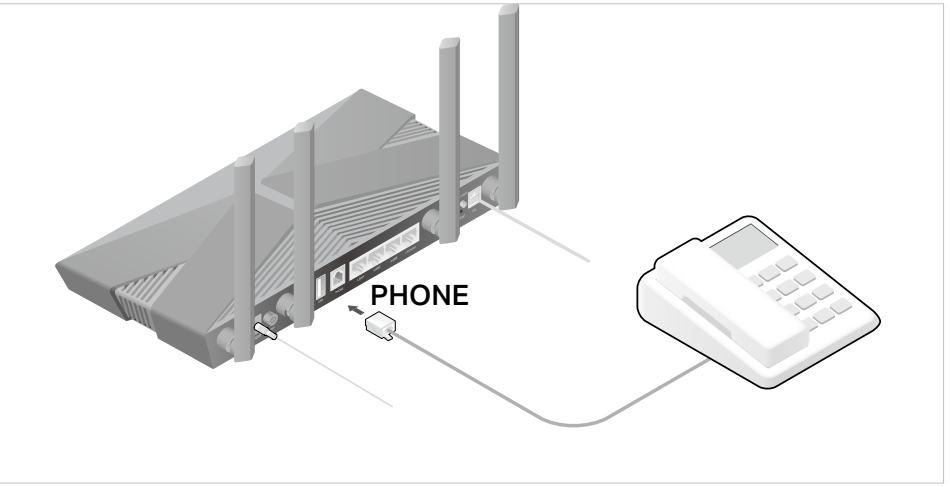
Chapter 6

Telephony

This chapter guides you on how to make telephone calls via internet.

6. 1. Connecting the Telephone

Connect your analog phone to the RJ11 PHONE port on the back panel.

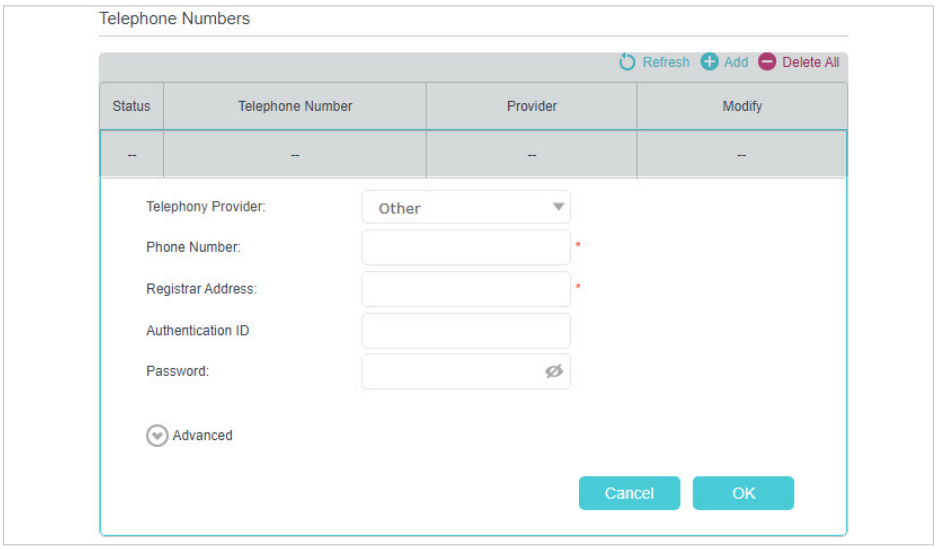


6. 2. Entering Telephone Information

Before using telephony services, you should first enter your telephone information provided by your telephony service provider.

Follow the steps below to enter information:

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > Telephone Number to open the configuration page. Click Add and you will see the following screen.



3. Choose your Telephony Provider and enter the necessary information as required, and click OK to make the settings effective.
4. If your telephony provider is not listed here, choose Other provider, enter the information as required, and click Save to make the settings effective.

Phone Number: The number you use to dial and answer.

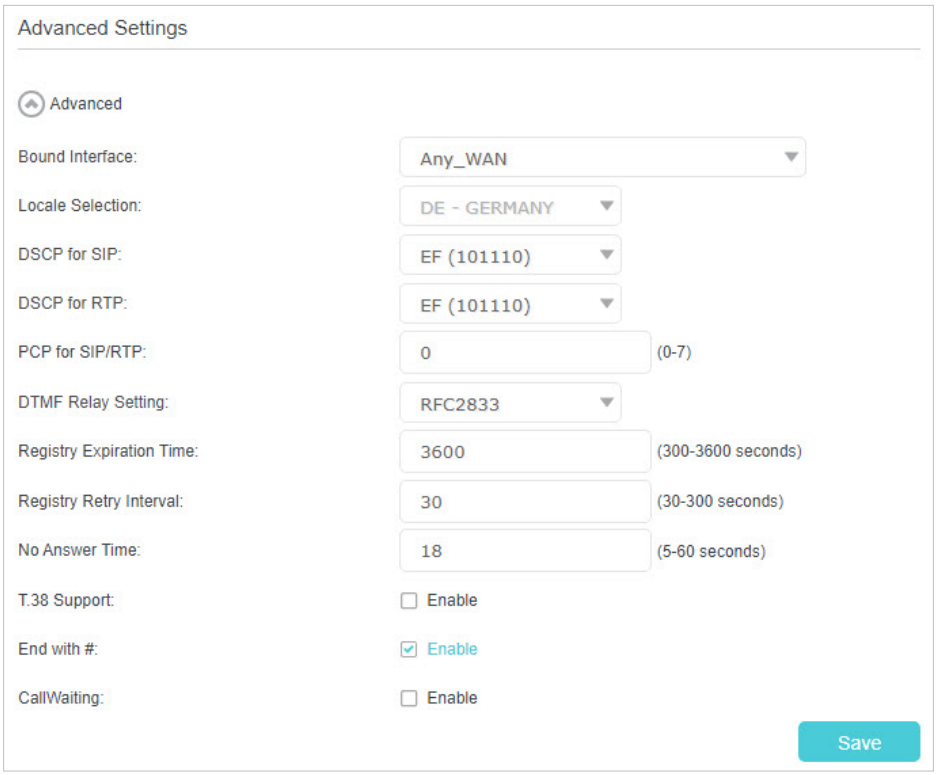
Registrar Address: Usually a domain name, if not, an IP address.

Authentication ID and Password: Not necessary information, but if you have, fill them in.

Advanced: Click to have more configuration.

To have more configuration on telephony settings

Click Advanced under Advanced Settings to configure more telephony settings.



Bound Interface: Bound Interface decides where to send/receive the VoIP traffic. An easy way to select the interface is to check the location of the SIP (Session Initiation Protocol) server. If it locates somewhere on the internet then select Any_WAN. If it is on the local network, select LAN.

Locale Selection: Select a country where you are located. The modem router is embedded with some default parameters according to different countries such as ring tones. The default country is Germany.

DSCP for SIP/RTP: DSCP (Differentiated Services Code Point) is the first 6 bits in the ToS byte. DSCP marking allows users to assign specific application traffic to be executed in priority by the next Router based on the DSCP value. Select DSCP for the

SIP (Session Initiation Protocol) and RTP (Real-time Transport Protocol) respectively. If you are unsure, please always keep the default value.

DTMF Relay Setting: DTMF is Dual Tone Multi Frequency. Options available are SIP-Info, RFC2833, and In-band. If you are unsure which one to choose, please always keep the default value.

- SIP INFO: If it is selected, the modem router will capture the DTMF tone and transfer it into SIP form. Then it will be sent to the remote end with SIP message.
- RFC2833: If it is selected, the modem router will capture the keypad number you pressed and transfer it into digital form then send to the other side; the receiver will generate the tone according to the digital form it receives. This function is very useful when the network traffic congestion occurs and it still can remain the accuracy of DTMF tone.
- In-band: If it is selected, the modem router will send the DTMF tone as audio directly when you press the keypad on the phone.

Registry Expiration Time: Expiration time for the registration message sending.

Registration Retry Interval: Set the time duration for your SIP Registrar server to keep your registration record. Before the time expires, the Modem Router will send another register request to SIP Registrar again. If you are unsure of it, please always keep the default value.

"No answer" Time: Set a time period, after which the caller is told that the call is not answered and he or she can leave a message if the voice mail function is enabled.

T 38 support: Select the checkbox to enable this function. T 38 specifies a protocol for transmitting a fax across IP network in real time. It allows the transfer of fax documents in real-time between two standard Group 3 facsimile terminals over the internet or other networks using IP protocols. It will only function when both sites support this feature and are enabled.

End With '#': Choose whether to use "#" as the end signal of your dialing or not.

When the Status column change to ✔, your telephone information is successfully registered. At this time, you can pick up your phone, dial the number, and call via internet!

CallWaiting: Enable it so you can accept a second incoming telephone call by placing an in-progress call on hold—and may also switch between calls.

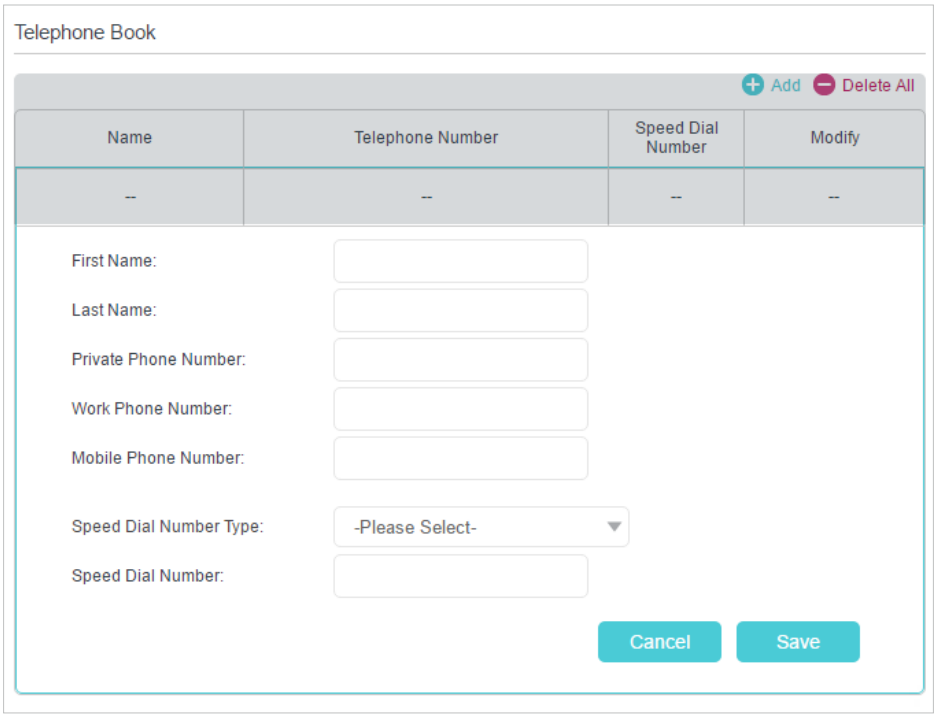
6. 3. Telephone Book

You can store all contacts on your modem router, have a telephone book, set speed dial number for some contacts and enable emergency calls.

6. 3. 1. Telephone Book

Follow the steps below to have a telephone book on the modem router.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > Telephone Book. Click Add to enter a new contact's information.



3. You can set speed dial number for certain numbers. Speed dial function allows you to reach the desired party by dialing the reduced number of keys rather than a long phone number.
4. Click OK to save the settings.

6. 3. 2. Emergency Calls

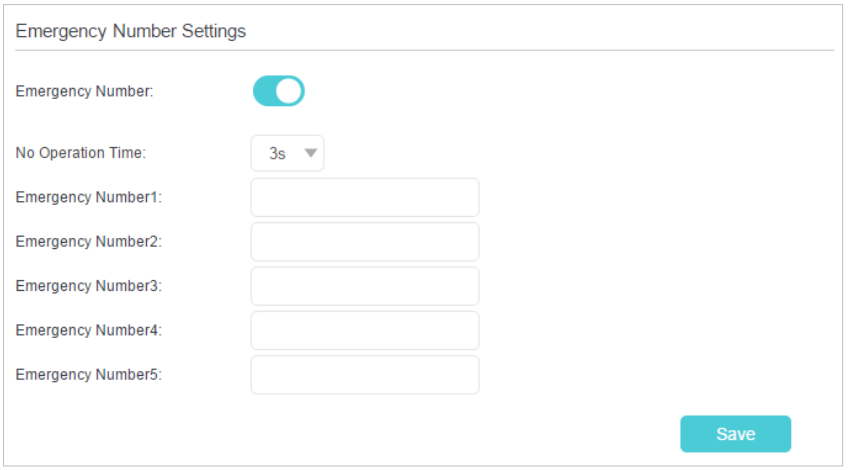
I want to:

Make my telephone automatically call a specific contact when the handset is picked up but no operation is done within a period of time. In this way the old, the kids, the patient or the pregnant in house are able to send signals for help when emergencies occur.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.

2. Go to Advanced > Telephony > Telephone Book.



3. Enable Emergency Number.
4. No Operation Time: Set how long should the telephone wait before the first number is automatically dialed).
5. Emergency Number: Set the number to be automatically reached. If more than one number is set, the modem router will automatically call the next one if the previous is not answered.
6. Click Save to make the settings effective.

Done!

From now on, if you pick up your phone but do not dial within the no operation time, your phone will automatically call the emergency number!

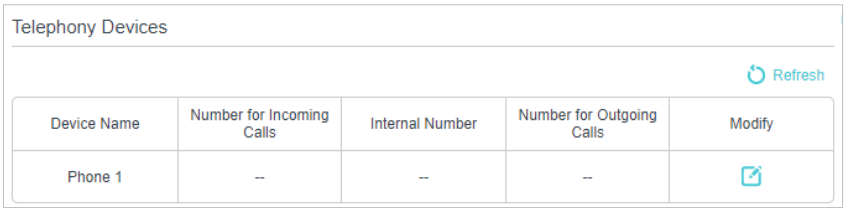
6. 4. Telephony Devices Management

I want to:

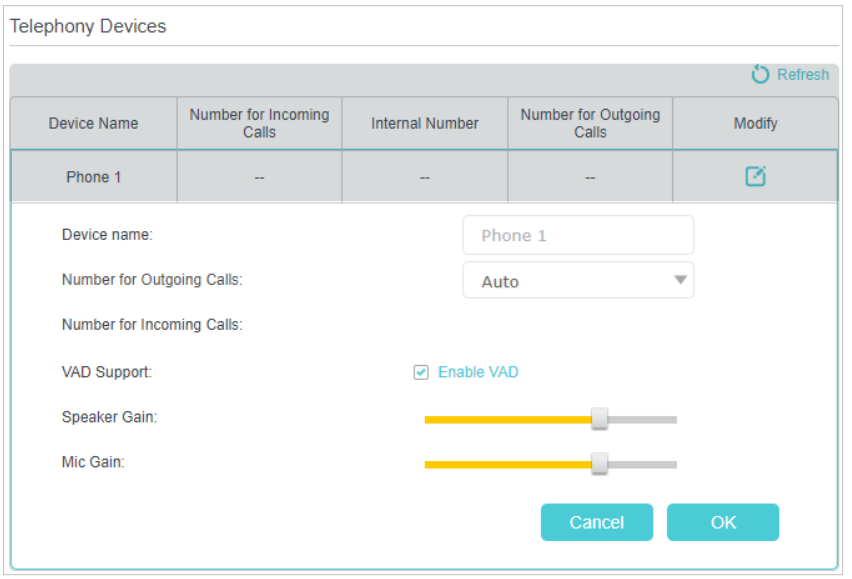
Bind different telephony devices with different incoming and outgoing call numbers, because I have more than one telephone number and telephony device and I don't want all telephones ring at the same time when a number is called.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > Telephony Devices.



3. Click to manage your telephony device.



4. Device Name: Name the telephone device here.
5. Number for Outgoing Calls: Assign an outgoing number for this phone.
6. Number for Incoming Calls: Tick the incoming number for this phone.
7. VAD Support: VAD (Voice Activation Detection) prevents transmitting the silence packets to consume the bandwidth. It is also known as Silence Suppression, a software application that ensures bandwidth when voice activity is activated.
8. Adjust the Speaker Gain slider to control the speaker sound.
9. Adjust the Mic Gain slider to control the speaker sound of microphone.
10. Click OK to make the settings effective.

Done!

Now your telephony devices are bound to different incoming call numbers and outgoing call numbers.

Tips:
Internal number showed on the table are used to make calls between telephony devices connected to the same modem router. It is preset and cannot be changed.

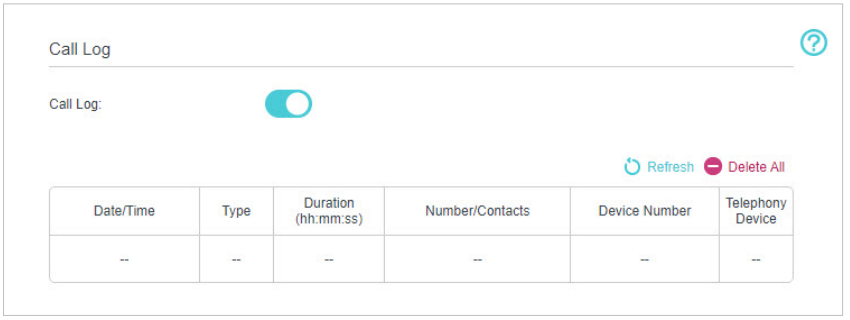
6. 5. Call Log

I want to:

Have a call list recording detailed information of incoming calls and outgoing calls on your modem router.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > Call Log.



3. Enable Call Log.

Done!

From now on, all calls in and out are recorded here. If you've already had a telephone book, name of the contact would be shown on the call list.

6. 6. Calling via Which Number

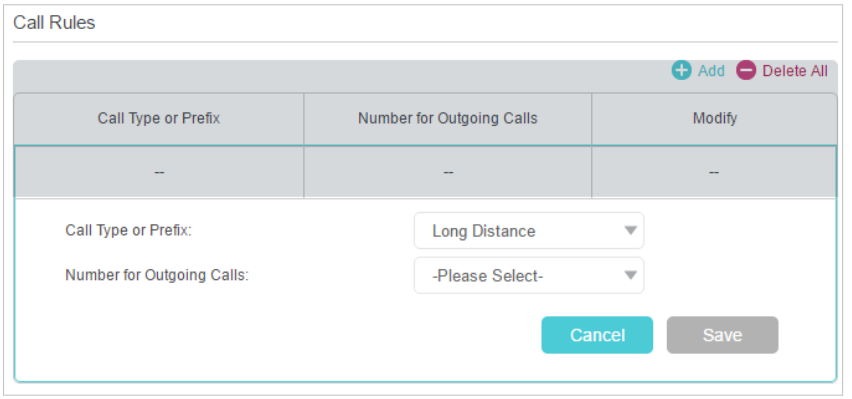
I want to:

Use different outgoing numbers to call different types of numbers.

For example, one of my phone number has a relatively low charge in making long distance calls. I want all long distance calls to be dialed via this number.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > Call Rules. Click Add to set call rules.



3. Choose Long Distance in Call Type or Prefix. Prefixes and call types can vary according to your own circumstances.
4. In Number for Outgoing Calls, choose the number that has low charge in making long distance calls.
5. Click OK to make the settings effective.

Done!

From now on, whenever you are dialing a long distance call, the call is made via the number you chose in step 5.

In addition:

Call type can vary according to your circumstances. You can also set prefix by choosing Calls with Specific Number Prefix in Call Type or Prefix. When a prefix is set, all numbers with this prefix is called via the assigned number.

6. 7. Call Blocks

When you do not want calls to be received or dialed, use call block functions. This part consists of three functions: Do Not Disturb, Block Certain Calls and Prevent from Dialing.

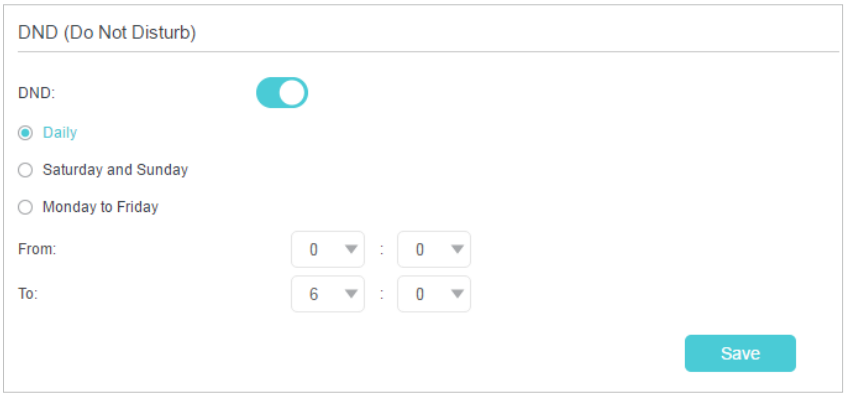
6. 7. 1. Do Not Disturb

I want to:

Have no telephone ring at a certain period of time.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > DND & Call Blocking.



3. Enable DND.
4. Set the day(s) when DND is enabled.
5. Click Save to make the settings effective.

Done!

Now, within this period of time, no telephone will ring, but all incoming calls would be recorded in call log. Enjoy your peaceful time and when you are back, check the call log to see what was missed.

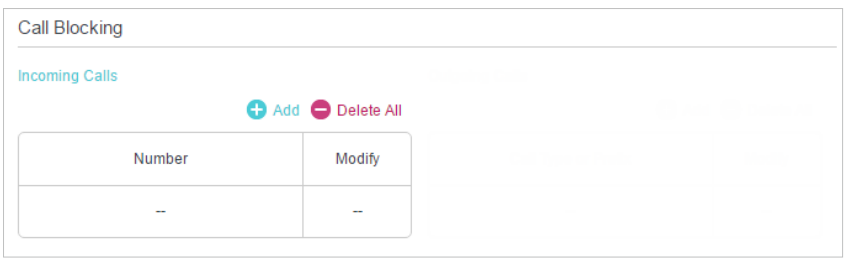
6. 7. 2. Blocking Certain Calls

I want to:

Block certain calls, for example, the anonymous calls, or calls from the annoying salesmen.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > DND & Call Blocking.



3. Click Add under Incoming Calls.
4. Choose to block a specific number or anonymous calls.
5. Click OK to make the settings effective.

Done!

From now on, these calls are all automatically blocked by your

modem router.

6. 7. 3. Prevent from Dialing

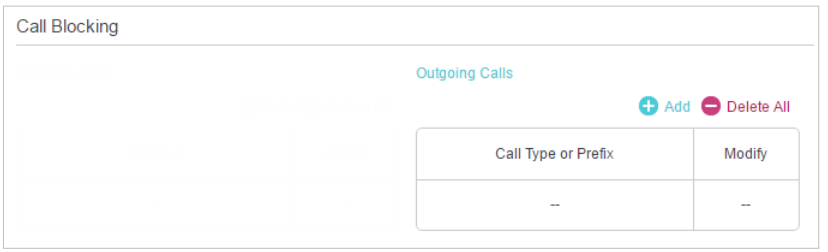
I want to:

Prevent my modem router from dialing a certain type of numbers.

For example, it costs a lot to call a mobile phone via my telephone number, so I don't want anyone to call a mobile phone using my number.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > DND & Call Blocking.



3. Click Add under Outgoing Calls.
4. Choose to prevent mobile phone from being dialed. Number type may vary according to your circumstances.
5. Click OK to make the settings effective.

Done!

Now your modem router will prevent all mobile phone from being dialed.

In addition:

Number type may vary according to your circumstances. You can also set prefix by choosing Calls with Specific Number Prefix. When a prefix is set, all numbers with this prefix is prevented from being called.

6. 8. Forwarding Calls

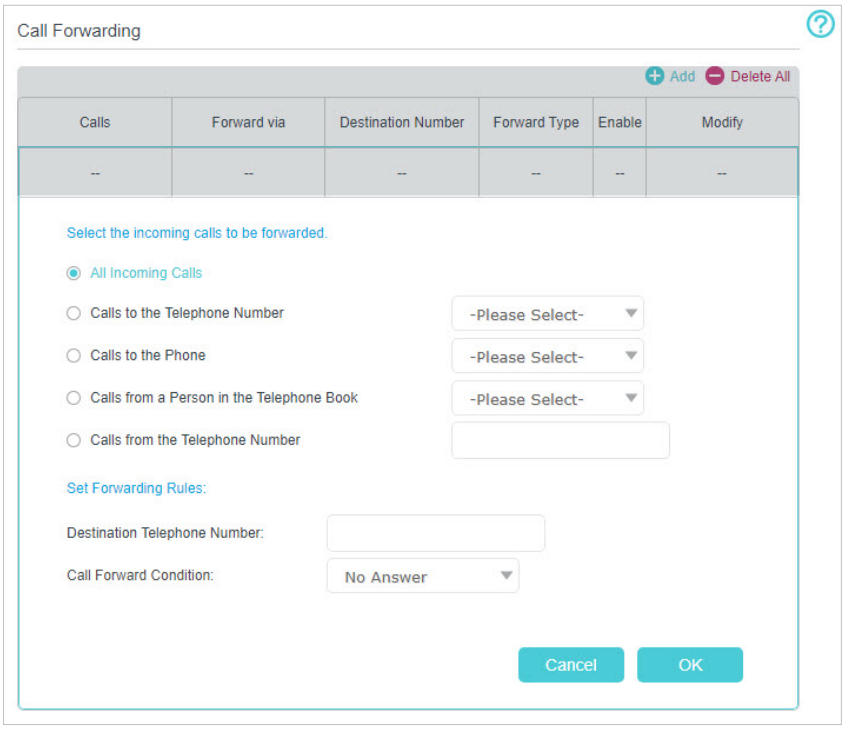
I want to:

Forward some incoming calls to a designated telephone number. For example, when no one answers the incoming call, it would be forwarded to my mobile phone so that I won't miss it.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.

2. Go to Advanced > Telephony > Call Forwarding. Click Add to set how calls should be forwarded.



3. Select the incoming calls to be forwarded: Choose to forward which call or call type.
4. Destination Telephone Number: Set the destination where calls should be forwarded.
5. Call Forward Condition: Choose the forwarding type (Unconditional or No Answer) of the entry.
6. Click OK to make the settings effective.

Done!

Now your modem router will automatically forward the call according to your rule.

6. 9. Voice Mail

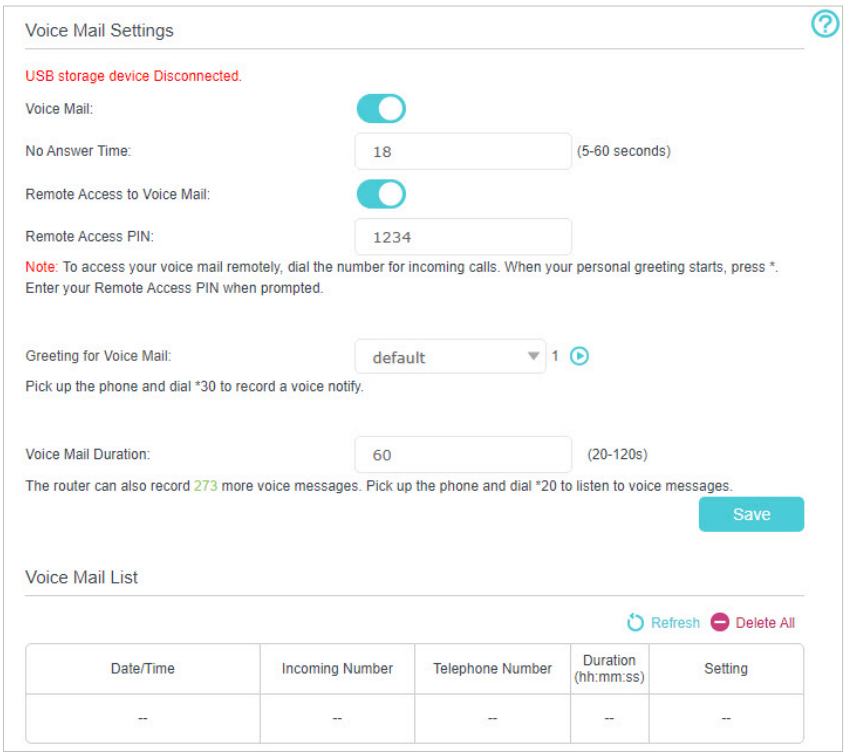
I want to:

Allow the caller who is not answered to leave a voice mail.

For example, I'm on my vocation, and cannot receive any call at the moment. If people who called can leave a voice mail, I would know what was going on when I was absent from home.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Telephony > Voice Mail.



3. Enable Voice Mail.
4. Set the "No answer" Time. A time period. If the call is not answered within this time period, the caller can leave a voice mail.
5. If you want to access your voice mail remotely, enable Remote Access Voice Mail and create a new Remote Access PIN to make this function available. You need to enter this new PIN when listening to your voice mails remotely.
6. Choose greetings for your Voice Mail. You can record the greeting by dialing *30 on the keyboard of your telephone.
7. Set how long a voice mail can last at Voice Mail Duration.
8. Click Save to make the settings effective.

Done!

When a voice mail is recorded, the modem router will display it in the Voice Mail List.

There are three ways to listen to these voice mails.

- Click on the table to listen.

- Press *20 on the telephone keyboard to listen.
- Dial the number of your telephone, press * when you hear the greeting and follow the voice prompt to enter the Remote Access PIN to listen.

Chapter 7

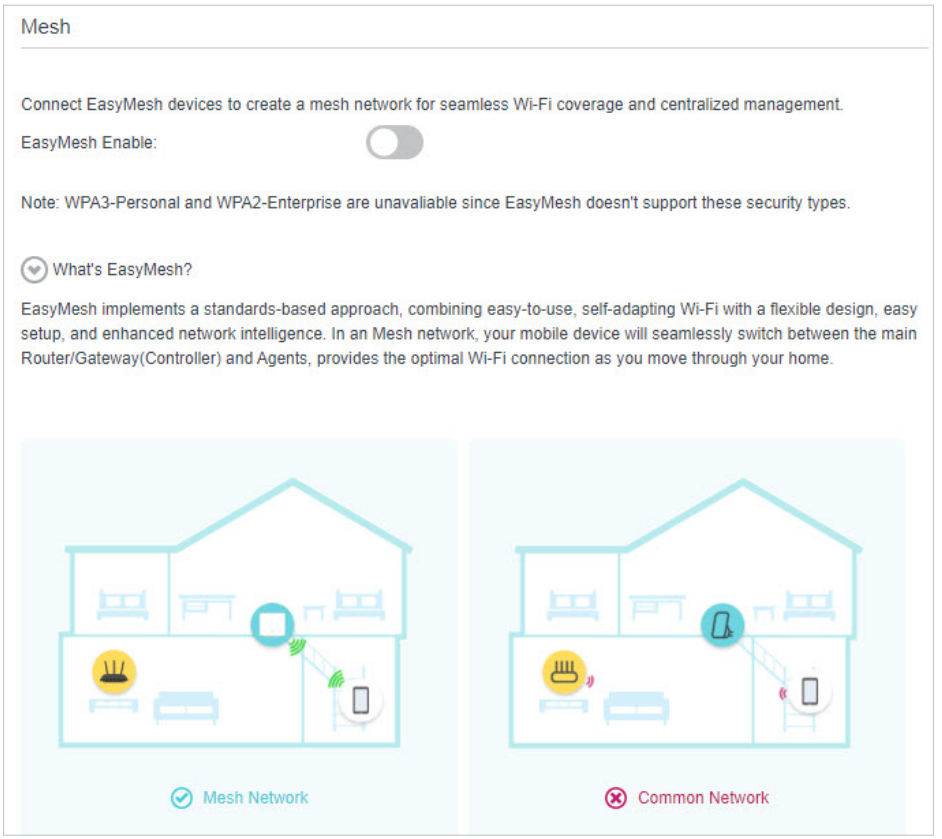
EasyMesh with Seamless Roaming

This product is compatible with EasyMesh. This chapter introduces how to enable the EasyMesh feature.

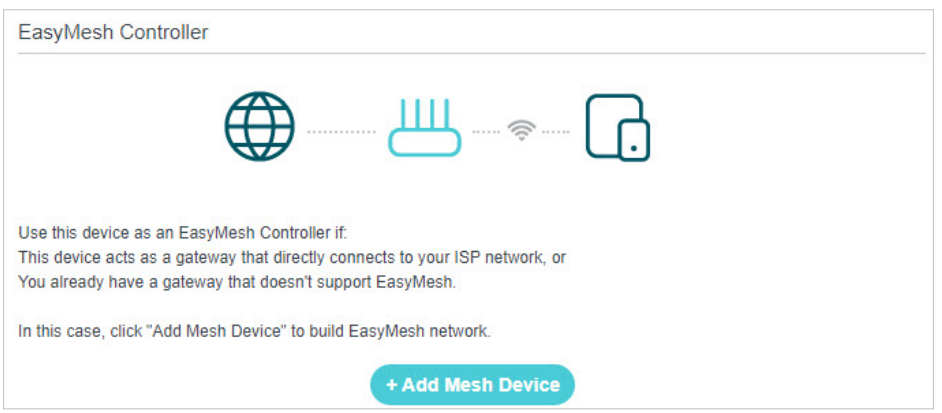
EasyMesh routers and extenders work together to form one unified Wi-Fi network. Walk through your home and stay connected with the fastest possible speeds thanks to EasyMesh's seamless coverage.

Note: Routers and range extenders must be compatible with EasyMesh. Firmware upgrades may be required.

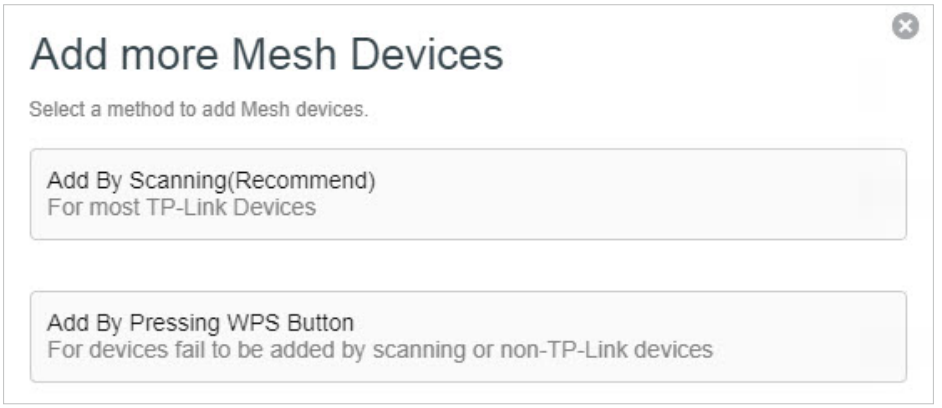
1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the modem router.
2. Go to Basic > Mesh, and turn on Easymesh Enable.



3. Click Add Mesh Device.



4. Select a method to add Mesh devices. You can add by scanning devices, or add by pressing the WPS button. Then follow instructions to complete the settings.


Add more Mesh Devices
Select a method to add Mesh devices.
Add By Scanning(Recommend)
For most TP-Link Devices
Add By Pressing WPS Button
For devices fail to be added by scanning or non-TP-Link devices

Chapter 8

Wireless Settings

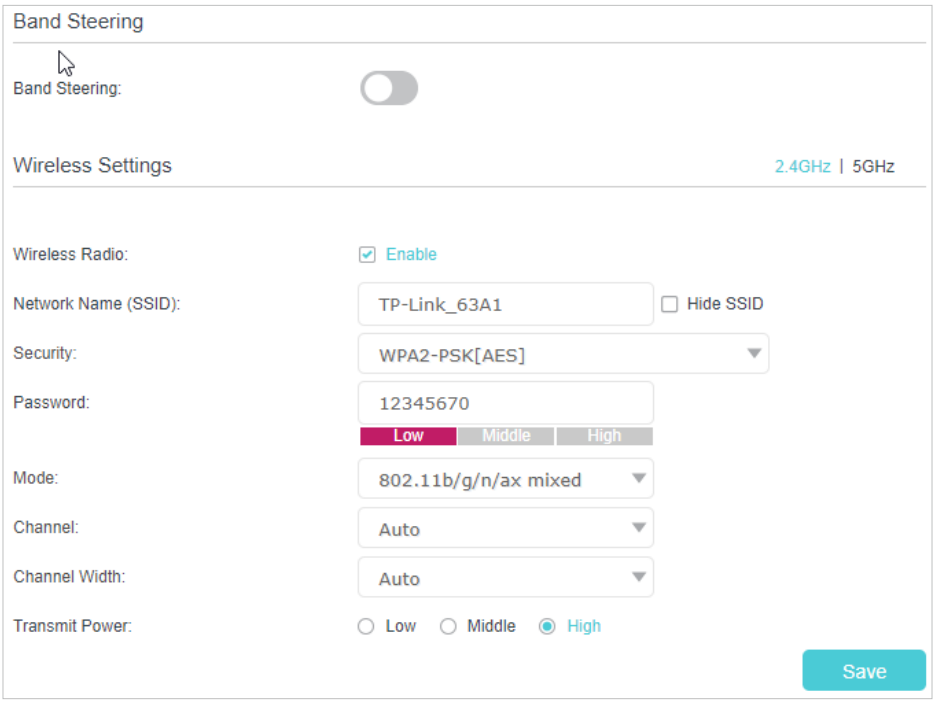
This chapter guides you on how to configure the wireless settings.

It contains the following sections:

8. 1. Specify Wireless Settings

The modem router's wireless network name (SSID) and password, and security option are preset in the factory. The preset SSID and password can be found on the label of the router.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > Wireless Settings page.



• 2.4GHz/5GHz - Select the band to configure the wireless network settings.

• Wireless Radio- Select the checkbox to enable the wireless network of the band.

• Network Name (SSID) - Enter a value of up to 32 characters. The same Name (SSID) must be assigned to all wireless devices in your network.

• Hide SSID - Select this checkbox if you want to hide the network name (SSID) from the Wi-Fi network list. In this case, you need to manually join the network.

• Security - Select an option from the Security drop-down list: No Security, WPA-PSK[TKIP]+WPA2-PSK[AES], WPA2-PSK[AES], WPA2-PSK[AES]+WPA3-Personal, WPA3-Personal, WPA2-Enterpris. We recommend you don't change the default settings unless necessary.

• Password - Customize the password for the network.

• Mode - Select a transmission mode.

• Channel - Select an operating channel for the wireless network. It is recommended to leave the channel to Auto if you are not experiencing the intermittent wireless connection issue.

• Channel Width - This field determines which operating frequency will be used. It is not necessary to change the wireless channel unless you notice interference problems with another nearby access point. If you select auto, then AP will choose the best channel automatically.

• Transmit Power - Select High, Middle or Low to specify the data transmit power. The default and recommended setting is High.

3. Click Save.

8. 2. Use WPS for Wireless Connection

Wi-Fi Protected Setup (WPS) provides an easier approach to set up a security-protected Wi-Fi connection.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > WPS page.

Method 1: Use the WPS button

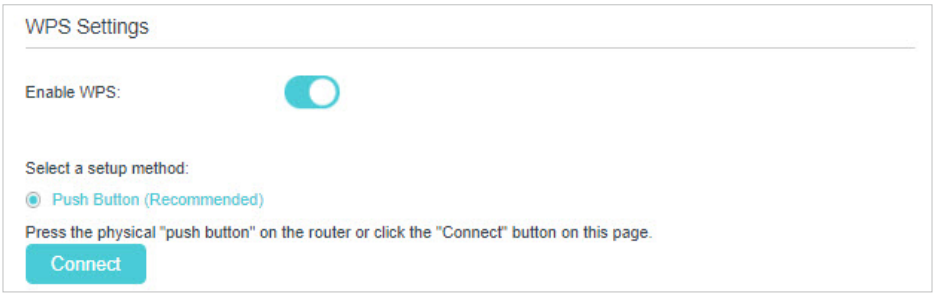
Use this method if your client device has a WPS button.

1. Press the WPS button the modem router for 1 second.
2. Press the WPS button of the client device directly.
3. The WPS LED flashes for about 2 minutes during the WPS process.
4. When the WPS LED is on, the client device has successfully connected to the modem router.

Method 2: Use the WPS button on the web management page

Use this method if your client device has a WPS button.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > WPS page. In WPS Settings, select Push Button (Recommended). Then click Connect on the page.

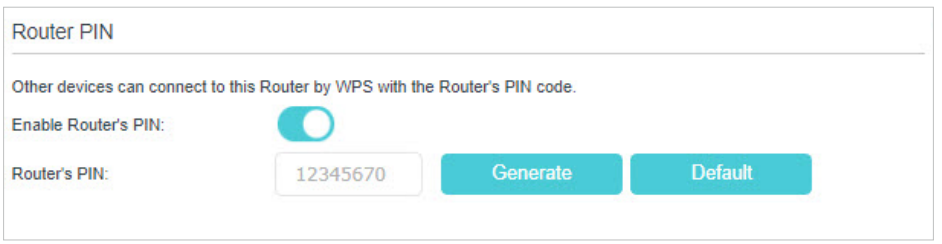


3. Press the WPS button of the client device directly.
4. The WPS LED of the router flashes for about 2 minutes during the WPS process.
5. When the WPS LED is on, the client device has successfully connected to the modem router.

Method 3: Enter the modem router's PIN on your client device

Use this method if your client device asks for the modem router's PIN.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > WPS page. Switch on Enable Router's PIN.



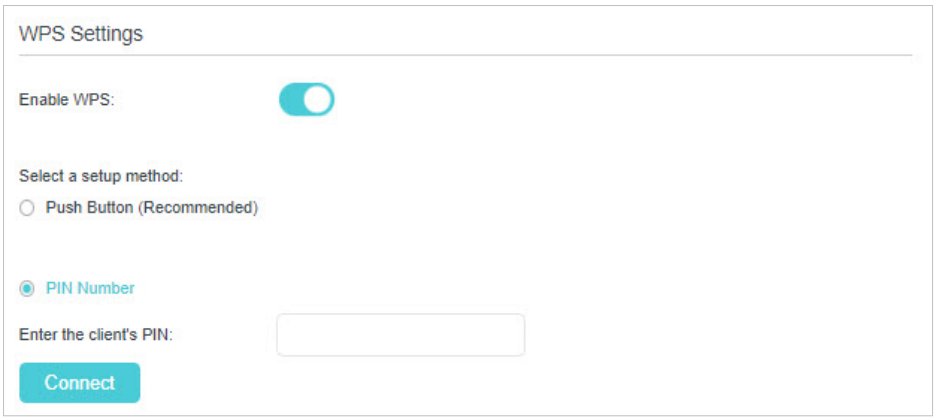
3. Take a note of the Current PIN of the modem router. You can also click the Generate button to get a new PIN.
4. On the client device, enter the modem router's PIN. (The default PIN is also printed on the label of the modem router.)
5. The WPS LED flashes for about two minutes during the WPS process.
6. When the WPS LED is on, the client device has successfully connected to the modem router.

Note:

1. The WPS LED on the modem router will light on for five minutes if the device has been successfully added to the network.
2. The WPS function cannot be configured if the wireless function of the modem router is disabled. Please make sure the wireless function is enabled before configuring WPS.

Method 4: Enter the client device's PIN on the modem router

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > WPS page. Click PIN Number.

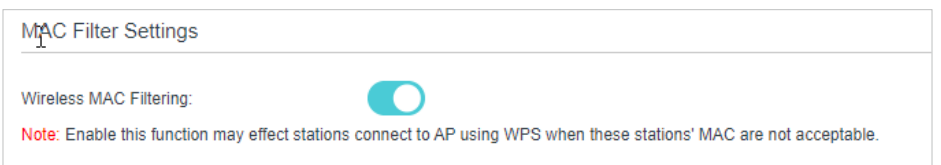


3. Enter the client device's PIN in the field. Then click the Connect button.
4. Device has been added successfully! will appear on the above screen, which means the client device has successfully connected to the modem router.

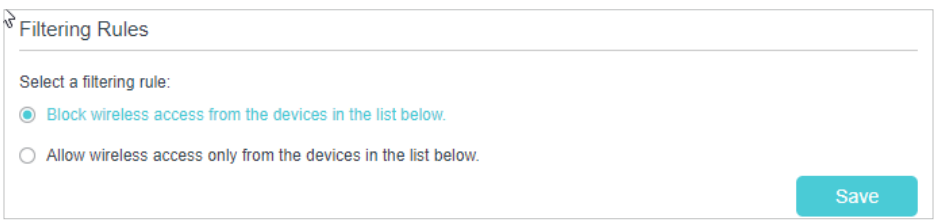
8. 3. MAC Filtering

MAC Filtering prevents unauthorized users from accessing your wireless network by utilizing the network device's wireless MAC address.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > MAC Filtering page.
3. Enable Wireless MAC Filtering.

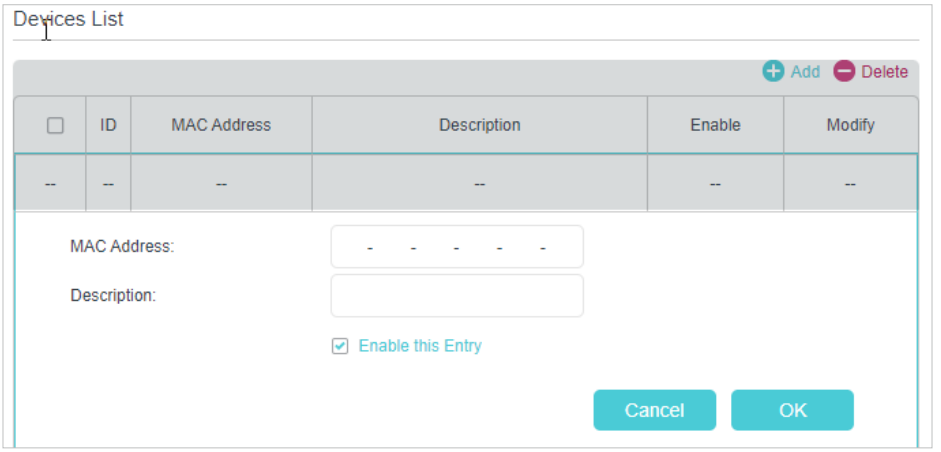


4. Select a Filtering Rule.



- Block wireless access from the devices in the list below: Select to block wireless access from the devices in the list below.
- Allow wireless access only from the devices in the list below: Select to allow wireless access only from the devices in the list below.

5. Add a device. Fill in the MAC address of the device and give it a description. Toggle Enable this Entry to enable or disable the MAC Filtering feature of this device.

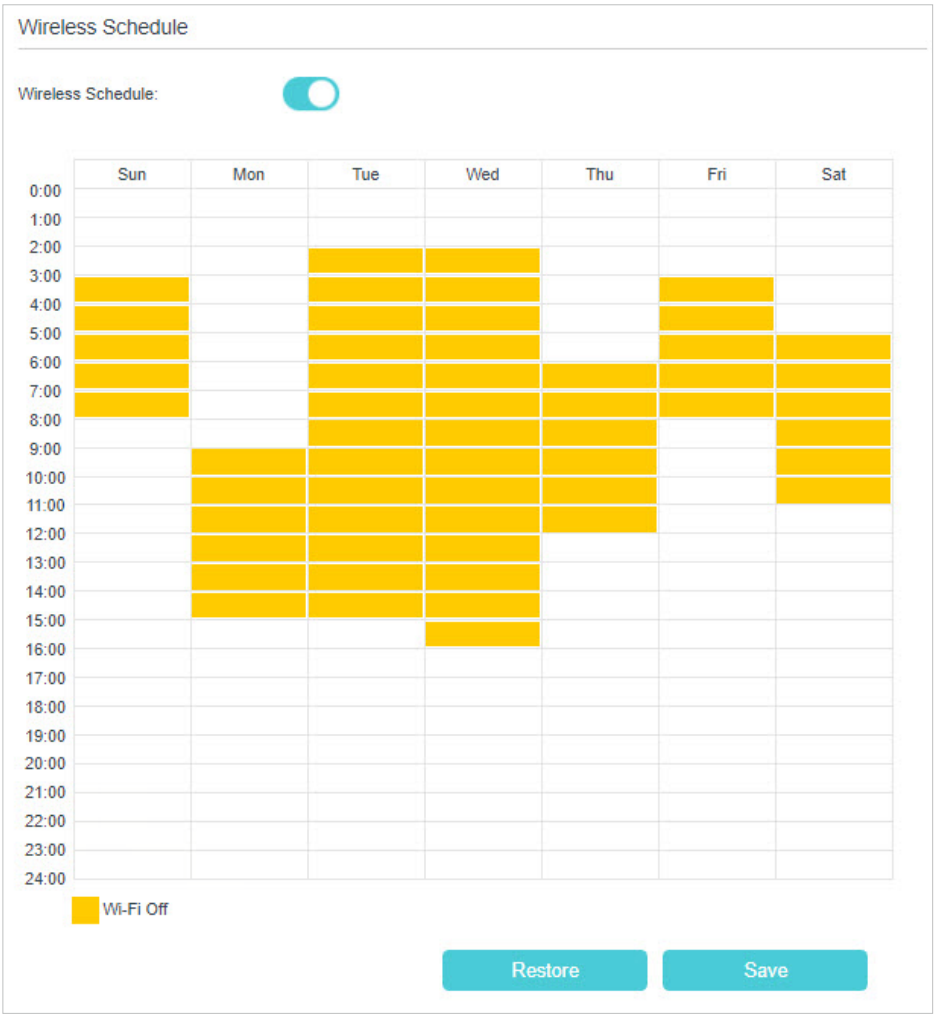


6. Click OK to save the settings.

8. 4. Wireless Schedule

You can automatically turn off your wireless network (both 2.4GHz and 5GHz) when you do not need the wireless connection.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > Wireless Schedule page.
3. Enable Wireless Schedule.

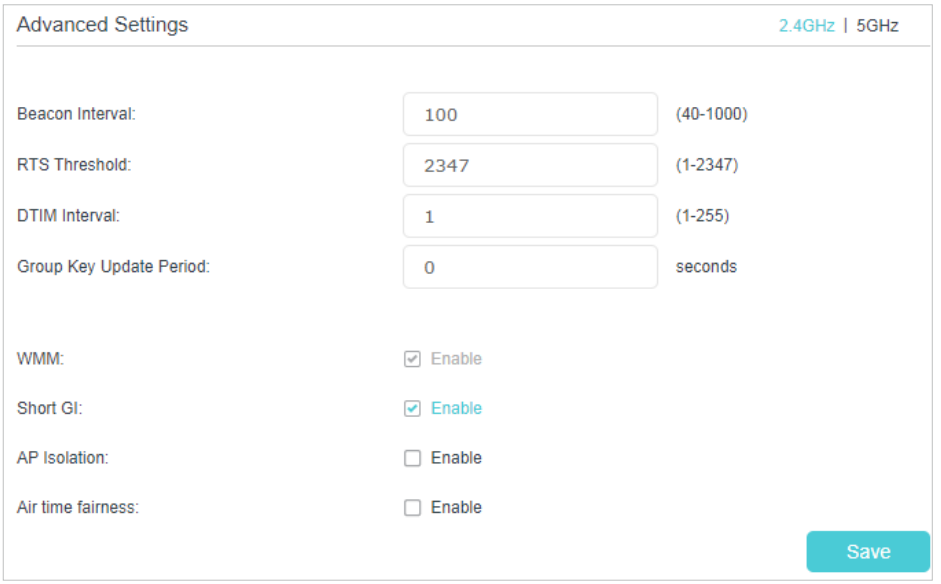


4. Select Wi-Fi off time as needed and click Save.

8. 5. Advanced Wireless Settings

Advanced wireless settings are for those who have a network concept. If you are not familiar with the settings on this page, it's strongly recommended that you keep the provided default values; otherwise it may result in lower wireless network performance.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > Advanced Settings page.

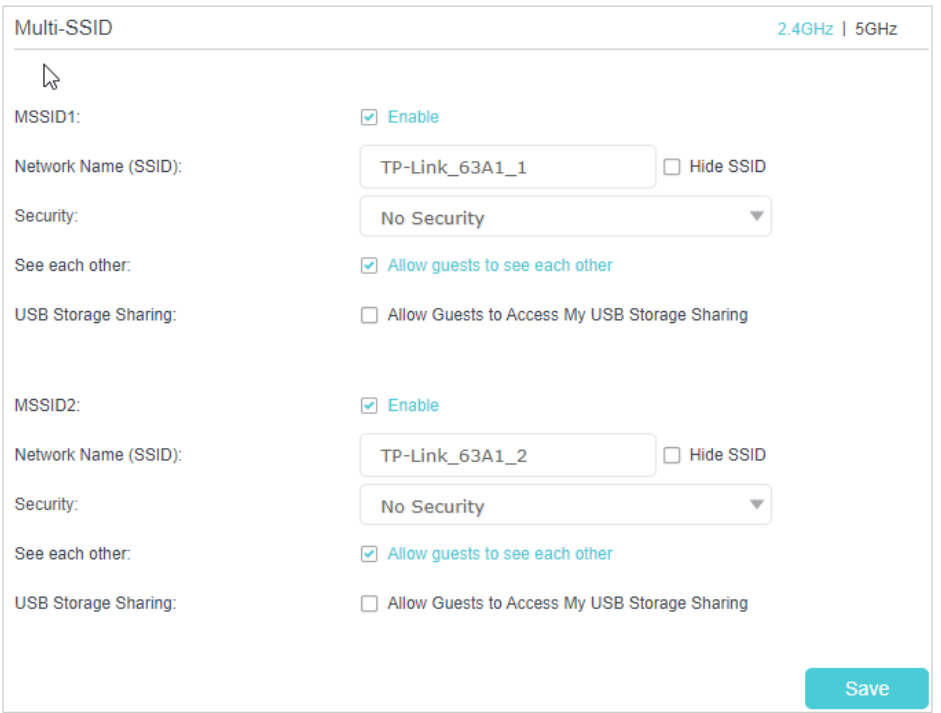


- Beacon Interval: Enter a value between 40 and 1000 in milliseconds to determine the duration between which beacon packets are broadcasted by the router to synchronize the wireless network. The default is 100 milliseconds.
- RTS Threshold: Enter a value between 1 and 2347 to determine the packet size of data transmission through the router. By default, the RTS (Request to Send) Threshold size is 2346. If the packet size is greater than the preset threshold, the router sends Request to Send frames to a particular receiving station and negotiates the sending of a data frame, or else the packet will be sent immediately.
- DTIM Interval: Enter a value between 1 and 255 to determine the interval of the Delivery Traffic Indication Message (DTIM). 1 indicates the DTIM Interval is the same as Beacon Interval.
- Group Key Update Period: Enter the number of seconds to control the time interval for the encryption key automatic renewal. The default is 0, indicating no key renewal.
- WMM: This feature guarantees the packets with high-priority messages being transmitted preferentially. WMM is enabled compulsively under 802.11n or 802.11ac mode.
- Short GI: This feature is enabled by default and recommended to increase the data capacity by reducing the Guard Interval (GI) time.
- AP Isolation: Select this check box to enable the AP Isolation feature that allows you to confine and restrict all wireless devices on your network from interacting with each other, but still able to access the internet. AP isolation is disabled by default.
- Air time fairness: Select this checkbox to enable the Airtime Fairness(ATF) feature that allows you to optimize the throughput of each flow. The ATF traffic scheduler uses the per-destination airtime targets to balance airtime usage across flow destinations.

8. 6. Multi-SSID

The router can create multiple wireless networks to provide different security and VLAN groups. This is suitable when you want your devices connected to different wireless networks and become isolated by VLANs.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Wireless > Multi-SSID page.
3. Select 2.4GHz or 5GHz to configure the corresponding settings.



- MSSID: Click the corresponding button to enable the Multi-SSID.
- Network Name (SSID): Either use the default SSID or create a new name using 1 to 32 characters. This field is case-sensitive.
- Security: Select one of the security options.
- See each other: Tick this checkbox if you want to allow the clients in your Multi-SSID network to communicate with each other via methods such as Network Neighborhood and Ping.
- USB Storage Sharing: Tick this checkbox if you want to allow the clients in your Multi-SSID network to access your router's USB storage sharing via methods such as Network Neighborhood and FTP.

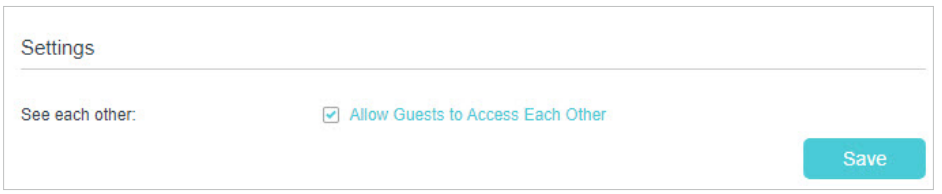
Chapter 9

Guest Network

This function allows you to provide Wi-Fi access for guests without disclosing your main network. When you have guests in your house, apartment, or workplace, you can create a guest network for them. In addition, you can assign network authorities and bandwidth for guests to ensure network security, privacy, and fluency.

9. 1. Create a Network for Guests

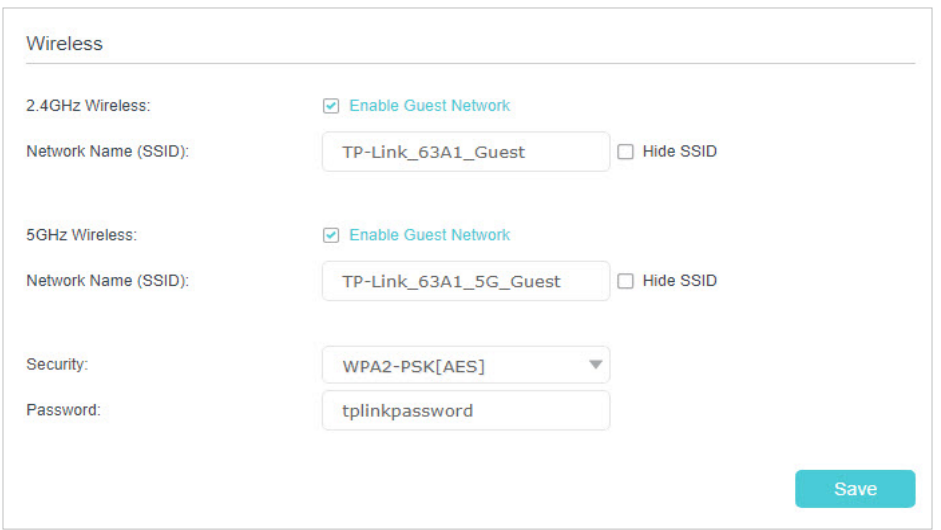
1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Guest Network. Assign network authorities and bandwidth according to your needs.



- Allow Guests to Access Each Other

  Select this check box to allow the clients in your guest network to access each other's files.

3. Locate the Wireless section.



4. Create 2.4GHz and 5GHz guest network according to your needs.
   1) Enable 2.4GHz Wireless or 5GHz Wireless or enable both according to your needs.
   2) Set an easy-to-identify SSID. Don't select Hide SSID unless you want your guests and other people to manually input this SSID for Wi-Fi access.
   3) Set Security to WPA-PSK/WPA2-PSK/WPA3 Personal, and set an easy-to-remember password. 2.4GHz and 5GHz guest networks share the same password.
5. Click Save. Now your guests can access your guest network using the SSID and password you set!

Tips:
To view guest network information, go to Advanced > Status and find the Guest Network section.

Chapter 10

USB Settings

This chapter describes how to use the USB ports to share files, and media from the USB storage devices over your home network locally, or remotely through the internet.

The modem router supports USB external flash drives, and hard drives.

This chapter contains the following sections:

10. 1. Access the USB Storage Device

Insert your USB storage device into the modem router's USB port and then access files stored there locally or remotely.

Tips:

- If you use USB hubs, make sure no more than 4 devices are connected to the modem router.
- If the USB storage device requires using bundled external power, make sure the external power has been connected.
- If you use a USB hard drive, make sure its file system is FAT32 or NTFS. Some modem routers also support the HFS+ and exFAT file systems.
- Before you physically disconnect a USB device from the modem router, safely remove it to avoid data damage: Go to Advanced > USB Sharing > USB Storage Device and click Remove.

10. 1. 1. Access the USB Device Locally

Insert your USB storage device into the modem router's USB port and then refer to the following table to access files stored on your USB storage device:

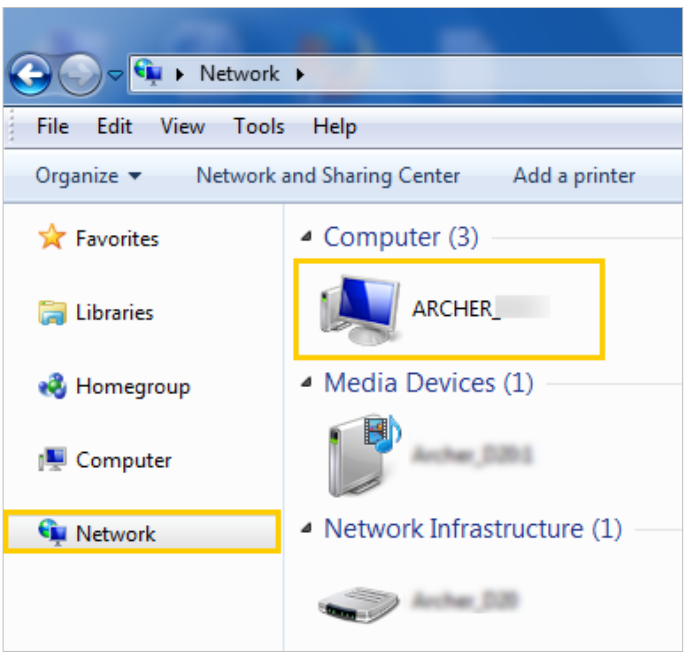
Windows computer

- **Method 1:**

Go to Computer > Network, then click the Network Server Name (ARCHER_model number by default) in the Computer section.

Note:

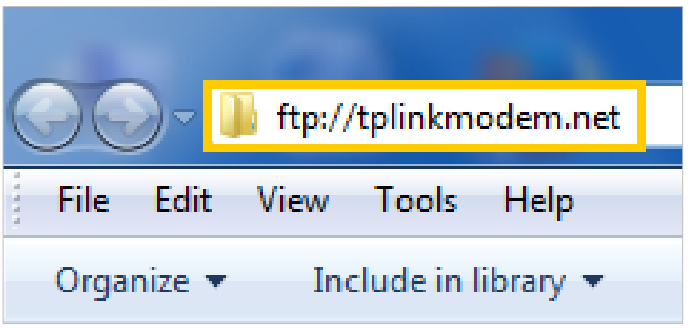
1. Operations in different systems are similar. Here we take Windows 7 as an example.
2. Network Server Name can be customized on the web management page.



<table>
<tr><td>Windows computer</td><td>

- **Method 2:**

Open the Windows Explorer (or go to Computer) and type the server address \\tplinkmodem.net or ftp://tplinkmodem.net in the address bar, then press Enter.

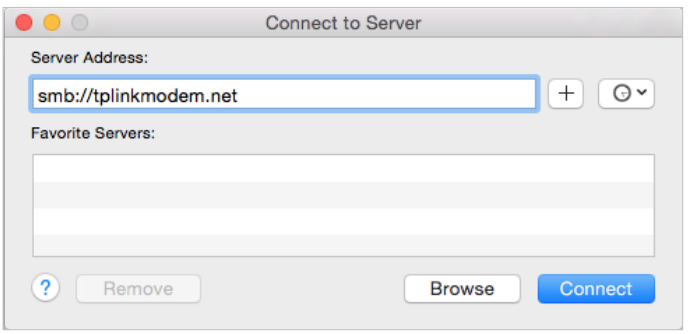


</td></tr>
<tr><td>Mac</td><td>

1) Select Go > Connect to Server

2) Type the server address smb://tplinkmodem.net

3) Click Connect



4) When prompted, select the Guest radio box. (If you have set up a username and a password to deny anonymous access to the USB disks, you should select the Registered User radio box. To learn how to set up an account for the access, refer to To Set up Authentication for Data Security.)

Tips:
You can also use the FTP, http and SFTP methods to access the USB storage device.

</td></tr>
<tr><td>Tablet</td><td>Use a third-party app for network files management.</td></tr>
</table>

10. 1. 2. Access the USB Device Remotely

You can access your USB disk outside the local area network. For example, you can:

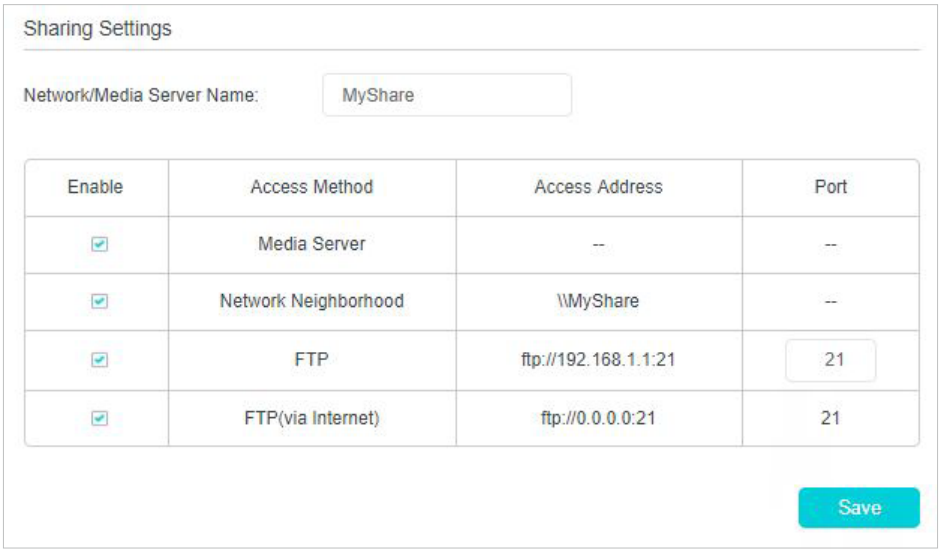
- Share photos and other large files with your friends without logging in to (and paying for) a photo-sharing site or email system.
- Get a safe backup for the materials for a presentation.
- Save and remove the files on your camera's memory card during your travels.

Note:

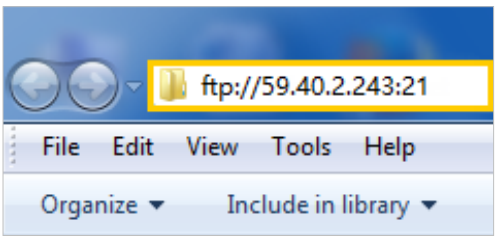
If your ISP assigns a private WAN IP address (such as 192.168.x.x or 10.x.x.x), you cannot use this feature because private addresses are not routed on the internet.

Follow the steps below to configure remote access settings.

1. Visit http://tplinkmodem.net, then log in with your TP-Link ID or the password you set for the modem router.
2. Go to Advanced > USB Sharing > Sharing Access page and locate the Sharing Settings section.
3. Select the check box to enable FTP (via Internet), or https (via Internet), or SFTP (via Internet), then click Save.



4. Refer to the following table to access your USB disk remotely.

Windows computer	1) Open the Windows Explorer (or go to Computer, only for Windows users) or open a web browser. 2) Type the server address in the address bar: Type in ftp://<WAN IP address of the modem router>:<port number> (such as ftp://59.40.2.243:21). If you have specified the domain name of the modem router, you can also type in ftp://<domain name>:<port number> (such as ftp://MyDomainName:21)  3) Press Enter on the keyboard. 4) Access with the username and password you set in To Set up Authentication for Data Security. Tips: You can also access the USB disk via a third-party app for network files management, which can resume broken file transfers.
Tablet	Use a third-party app for network files management.

Tips:

Click Set Up a Dynamic DNS Service Account to learn how to set up a domain name for your modem router.

10. 1. 3. Customize the Access Settings

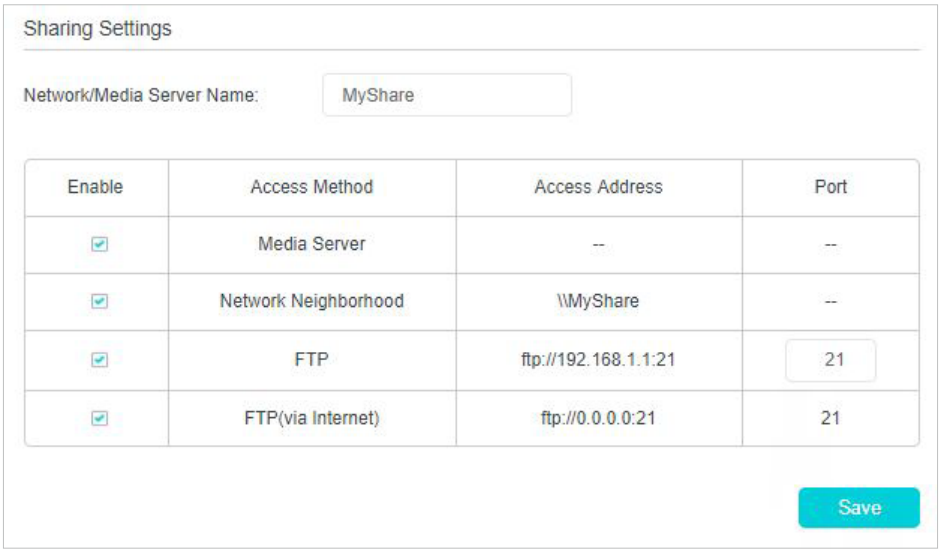
By default, all the network clients can access all folders on your USB disk. You can customize your sharing settings by setting a sharing account, sharing specific contents and setting a new sharing address on the modem router's web management page.

1. Visit http://tplinkmodem.net, then log in with your TP-Link ID or the password you set for the modem router.
2. Go to Advanced > USB Sharing > Sharing Access page.

- **To Customize the Address of the USB Disk**

You can customize the server name and use the name to access your USB disk.

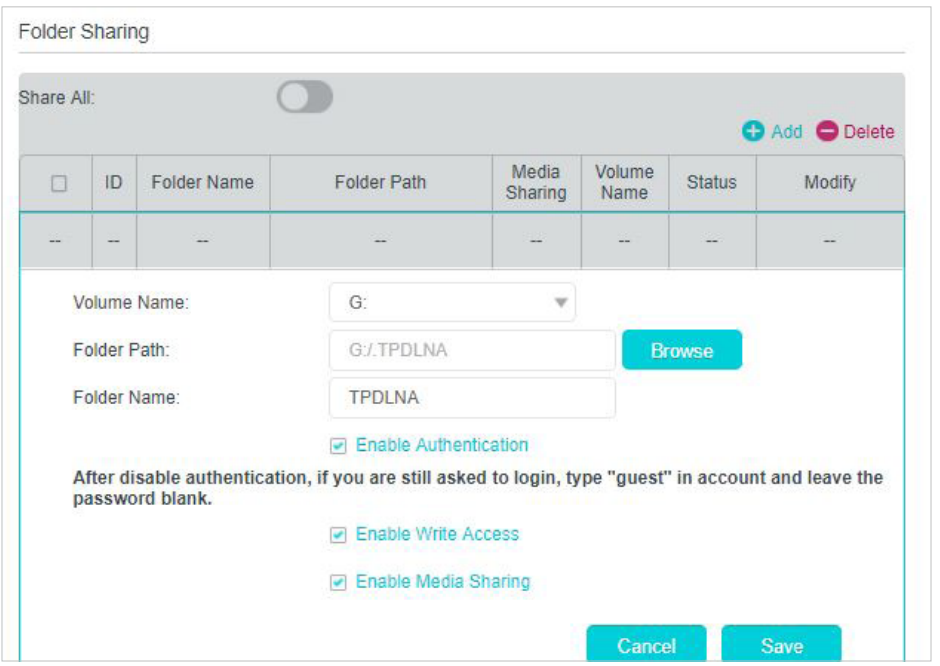
1. On the Sharing Settings part, make sure Network Neighborhood is ticked, and enter a Network/Media Server Name as you like, such as MyShare, then click Save.



2. Now you can access the USB disk by visiting \\MyShare (for Windows) or smb://MyShare (for Mac).

- **To Only Share Specific Content**

1. Focus on the Folder Sharing section. Click the button to disable Share All, then click Add to add a new sharing folder.



2. Select the Volume Name and Folder Path, then enter a Folder Name as you like.
3. Decide the way you share the folder:

- Enable Authentication: Select to enable authentication for this folder sharing, and you will be required to log in to the Sharing Account to access the USB disk. Refer to To Set up Authentication for Data Security to learn more.
- Enable Write Access: If you tick this check box, network clients can modify this folder.
- Enable Media Sharing: Tick to enable media sharing for this folder, and you can view photos, play music and watch movies stored on the USB disk directly from DLNA-supported devices. Refer to Media Sharing to learn more.

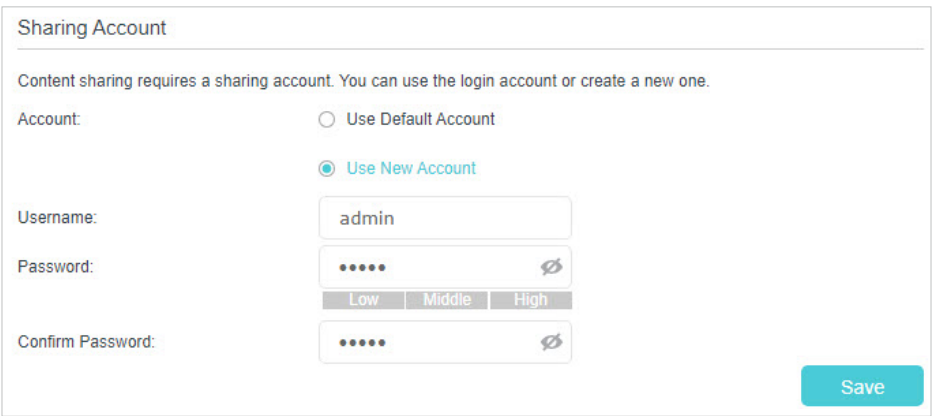
4. Click Save.

Tips:
The modem router can share eight volumes at most. You can click on the page to detach the corresponding volume you do not need to share.

- **To Set up Authentication for Data Security**

You can set up authentication for your USB device so that network clients will be required to enter the username and password when accessing the USB disk.

1. Under Sharing Account, choose Use Default Account or Use New Account. The username and password are same as login account for the default account. If your choose Use New Account, you have to customize the username and a password.

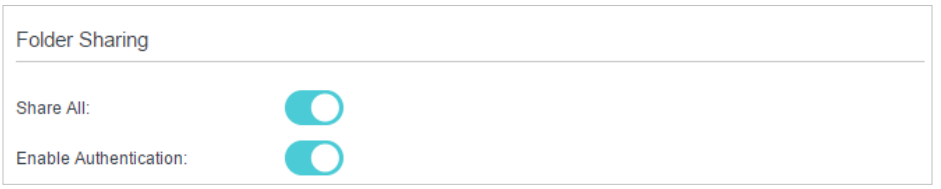


Note:
For Windows users, do not set the sharing username the same as the Windows username. Otherwise, Windows credential mechanism may cause the following problems:

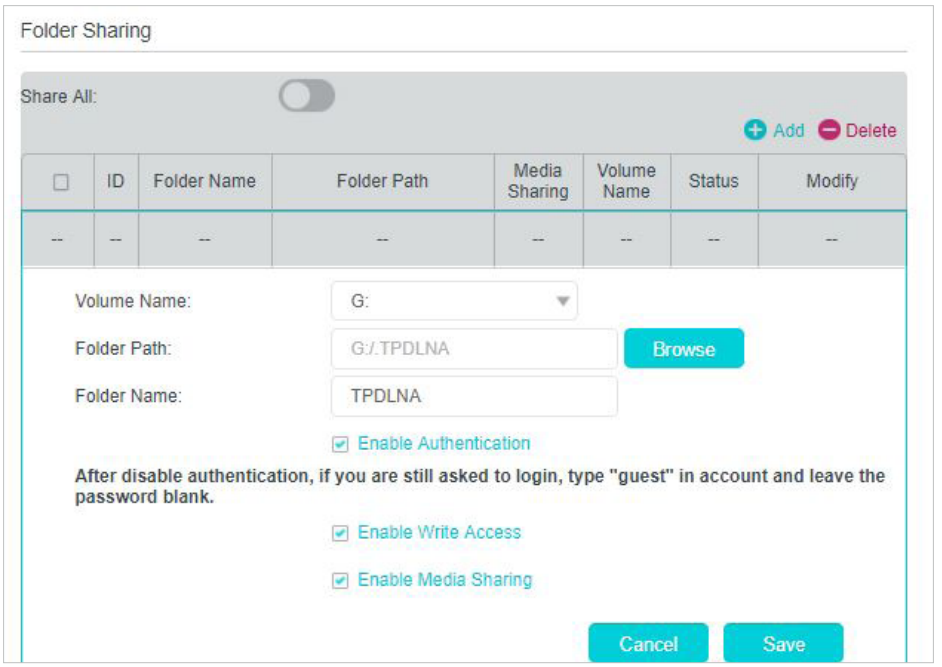
- If the sharing password is also the same as the Windows password, authentication will not work since the Windows system will automatically use its account information for USB access.

- If the sharing password is different from the Windows password, the Windows system will be unable to remember your credentials and you will always be required to enter the sharing password for USB access.

2. Specify the folder(s) to enable authentication.
   - If you want to enable authentication for all folders, leave Share All enabled, and toggle on Enable Authentication.



   - If you want to enable authentication for specific folders, disable Share All and click Add to specify the folders, and select Enable Authentication.



Note:

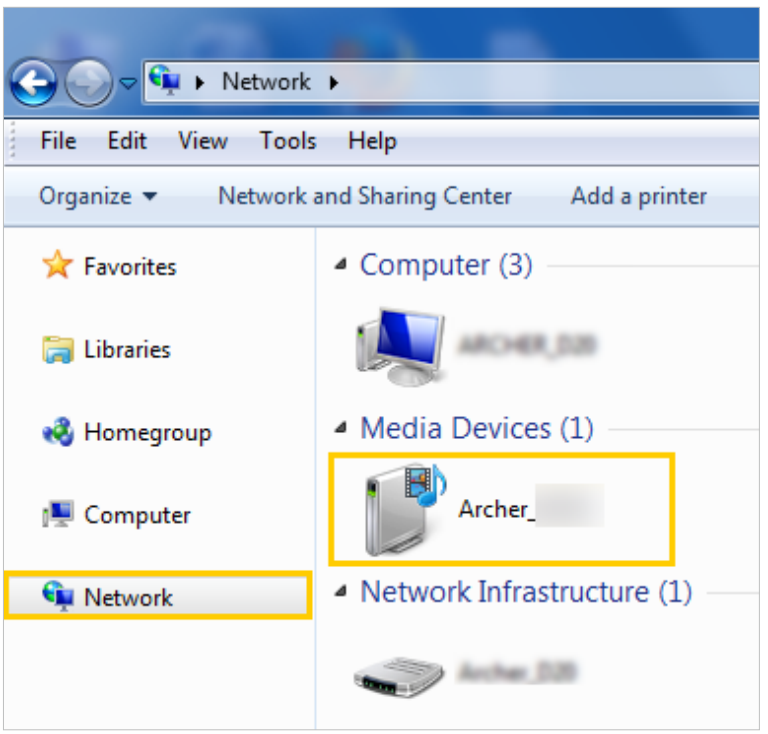
Due to Windows credential mechanism, you might be unable to access the USB disk after changing Authentication settings. Please log out from the Windows and try to access again. Or you can change the address of the USB disk by referring to To Customize the Address of the USB Disk.

10. 2. Media Sharing

Media Sharing allows you to view photos, play music and watch movies stored on the USB disk directly from DLNA-supported devices, such as your computer, tablet or games console.

1. When your USB disk is inserted into the modem router, your DLNA-supported devices (such as your computer and tablet) connected to the modem router can detect and play the media files on the USB disks.

2. Refer to the following table for detailed instructions.

Windows Computer	• Go to Computer > Network, then click the Media Server Name (Archer_ model number by default) in the Media Devices section. Note: Here we take Windows 7 as an example. 
Smart device	• Use a third-party DLNA-supported player.

10. 3. 3G/4G Settings

The modem router can be used as a 3G/4G wireless router if you have a 3G/4G USB modem. You can use your 3G/4G network an a backup solution for the Internet access:

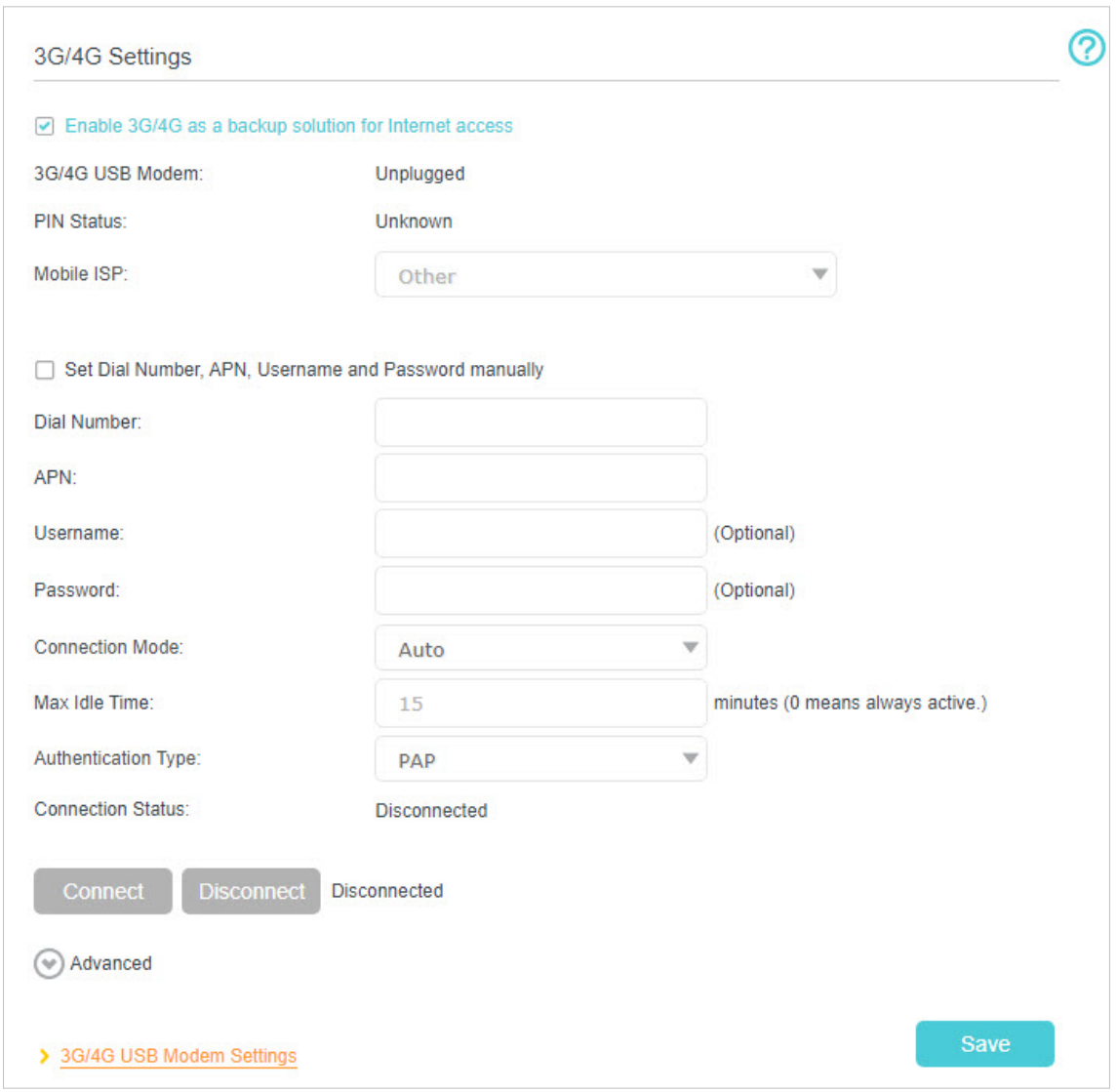
10. 3. 1. As a Backup Solution for Internet Access

Using 3G/4G network as a backup solution for internet access, your modem router will be directly connected to the 3G/4G network when the original network service fails.

Follow the steps below to set your 3G/4G network as a backup for internet access:

1. Plug your USB modem into the USB port of your modem router.

2. Visit http://tplinkmodem.net, then log in with your TP-Link ID or the password you set for the modem router.
3. Go to Advanced > USB Sharing > 3G/4G Settings, and select the box of Enable 3G/4G as a backup solution for Internet access.



4. Verify that your 3G/4G USB Modem is successfully identified.

Note:

The 3G/4G USB modem will not be identified if it is incompatible with the modem router. Find the 3G/4G Compatibility List on the web page: http://www.tp-link.com/en/comp-list.html. If your USB modem is incompatible, contact our technical support.

5. Verify that the modem router has correctly recognized your Mobile ISP. When your Mobile ISP is correct, you have successfully set 3G/4G network as a backup solution for internet access. Otherwise, select the box Set the Dial Number, APN, Username and Password manually and enter the information provided by your 3G/4G network service provider.

6. Click Advanced to have more configurations if needed.
7. Click Save to make the settings effective.

Chapter 11

Parental Controls

Parental Controls allows you to set up unique restrictions on internet access for each member of your family. You can block inappropriate content, set daily limits for the total time spent online and restrict internet access to certain times of the day.

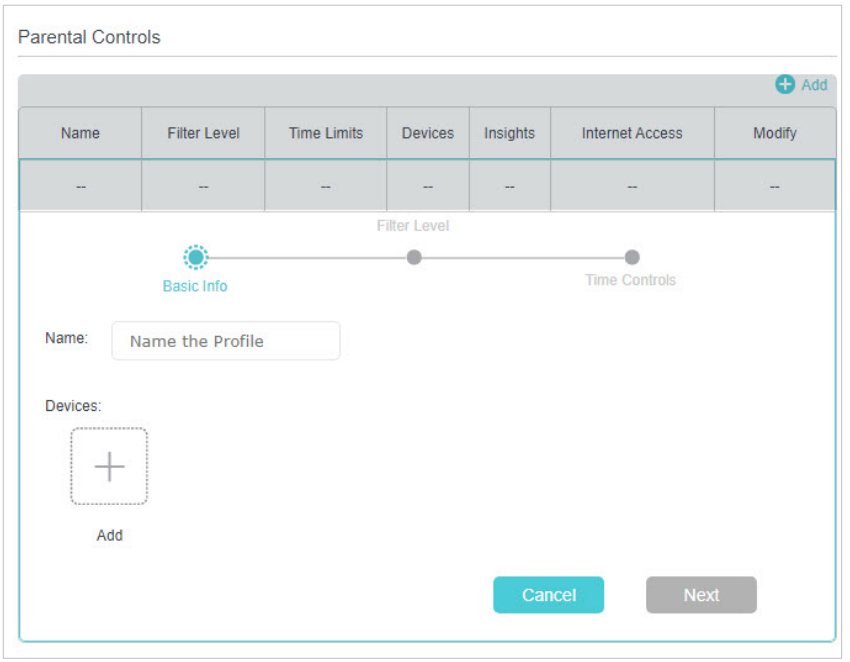
I want to:

Control what types of websites my children or other home network users can visit and the time of day they are allowed to access the internet.

For example, I want to allow my children's devices (for example, a computer or a tablet) to access only www.tp-link.com and wikipedia.org from 18:00 (6PM) to 22:00 (10PM) on weekdays and not other time.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Basic or Advanced > Parental Controls.
3. Click Add to create a profile for a family member.

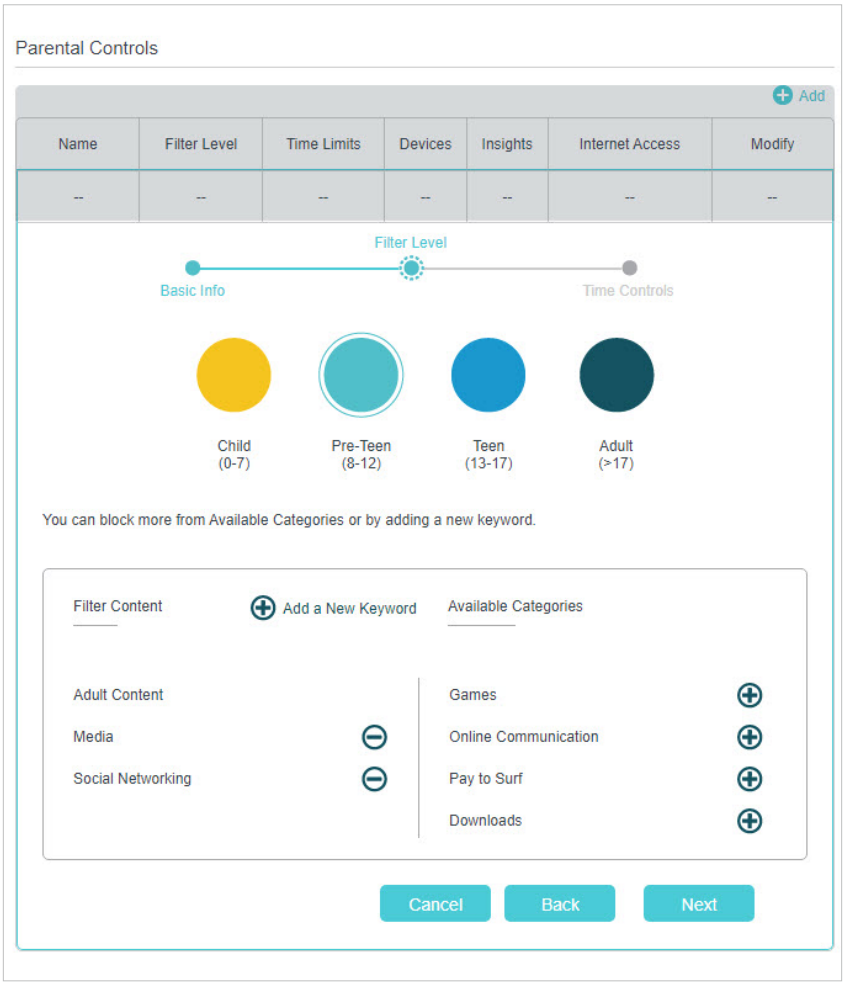


4. Name the profile and add devices that belong to this family member. Access restrictions will be applied to these devices.

Note:

Only devices that have previously been connected to your router's network are listed here. If you are unable to find the device you want to add, connect it to your network and then try again.

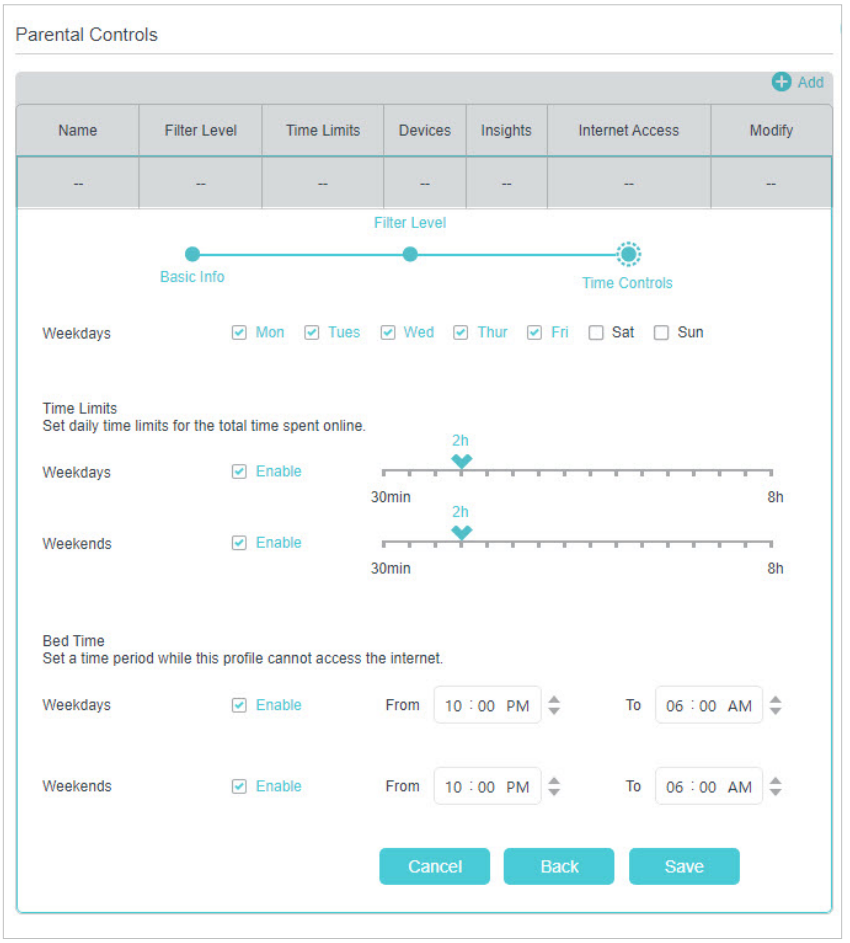
5. Block content for this profile.



1) Select a filter level based on the age of the family member this profile belongs to. Blocked content will then be displayed in the Category Filter list.

2) Choose which categories to be available for the profile or to be blocked from accessing.

6. Set time restrictions on internet access.



1) Enable Time Limits on Weekdays or Weekends then set the allowed online time each day.

2) Enable Bed Time on on Weekdays or Weekends and select allowed online times in the fields. Devices under this profile will be unable to access the internet during this time period.

3) Click Save.

Done!

The amount of time your child spends online is controlled and inappropriate content is blocked on their devices.

Chapter 12

QoS

This chapter explains how to create a QoS (Quality of Service) rule to prioritize your online activities, which minimizes the impact caused by heavy internet traffic.

It contains the following sections:

12. 1. Prioritize Internet Traffic with QoS

QoS (Quality of Service) is designed to ensure the efficient operation of the network when network congestion is encountered.

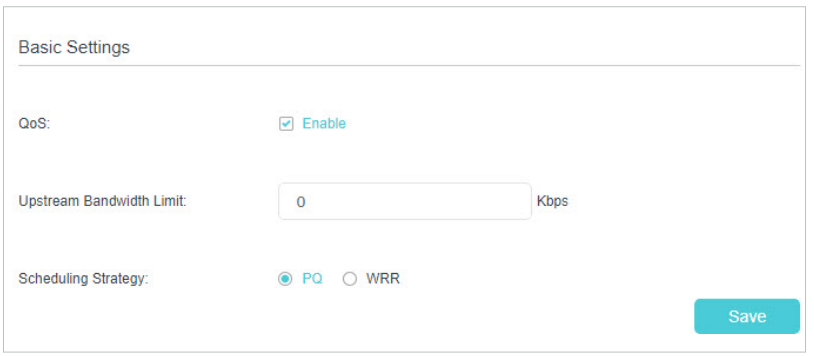
I want to:

Specify priority levels for some devices or applications.

For example, I have several devices that are connected to my wireless network. I would like to set an intermediate speed on the internet for my phone.

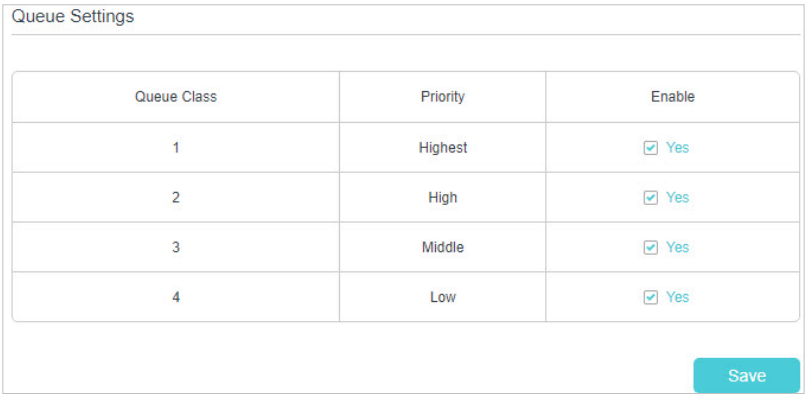
How can I do that?

1. Enable QoS and set bandwidth allocation.
   1) Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
   2) Go to Advanced > QoS > Basic Settings.
   3) Enable QoS.
   4) Enter the Upstream Bandwidth Limit. 1Mbps equals to 1000Kbps.



   5) Select the scheduling strategy according to your needs:
   - PQ (Priority Queueing) - Select this if you want to ensure services in higher-priority queues. The router will process outgoing traffic from the highest-priority queue first, then from a lower-priority queue.
   - WRR (Weighted Round Robin) - Select this if you want to balance traffic in queues proportional to their queue weight. The router will process more packets in a queue if the queue has a higher weight.

   6) Click Save.
2. Mange your network with queues.
   1) Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
   2) Go to Advanced > QoS > Queue Settings.



3) Enable the priority of queue class which is more important and get throught more quickly.

12. 2. Flow Classification

Flow Classification allows you to add classification rules to choose certain kind of packages to enter a queue. The classification of packages is based mainly on the differences of data link layer header, network layer header, transport layer header and so on. An option should be empty if you don't want to use it for a classification.

To add a new classification:

1) Click Add.

2) Enter the Class Name. Each classification has a unique name as its identification.

3) Select Ingress Interface. Classification will only take effect at packets ingressing from this interface.

4) Enter Source MAC Address and Destination MAC Address for classification. Please note that only LAN mac address can take effect.

5) Select a 802.1P Priority Check.

6) Enter the Source IP address and Destination IP address for classification.

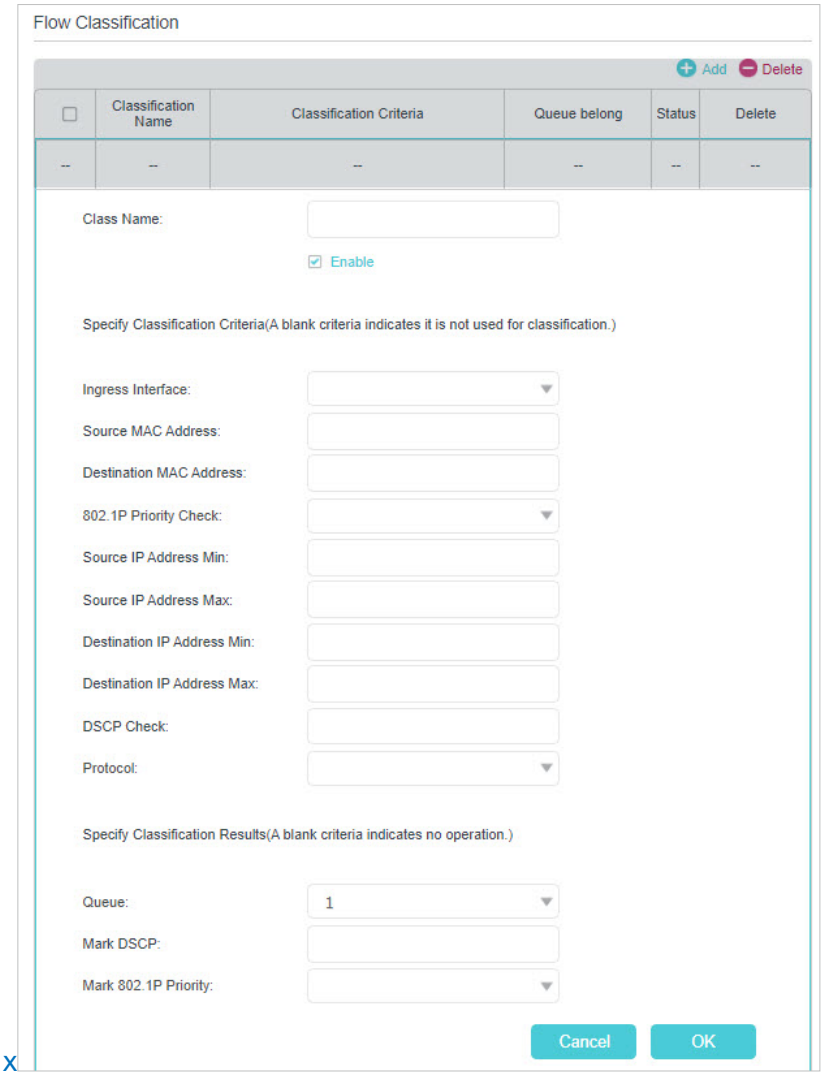
7) Enter the DSCP Check. Classification will only take effect at packets having this DSCP.

8) Enter the Protocol. Classification will only take effect at packets of this protocol.

9) Select a queue into which packets enter.

10) Enter the Mark DSCP. Packets matching the classification will be marked at DSCP field.

11) Select a Mark 802.1P Priority value. Packets matching the classification will be marked at 802.1P field.



12) Click Save.

Chapter 13

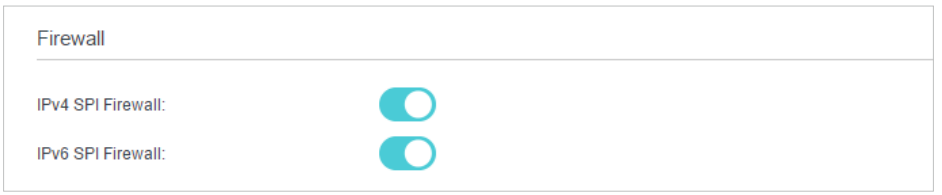
Network Security

This chapter guides you on how to protect your home network from unauthorized users by implementing these five network security functions. You can protect the router from cyber attacks using the Firewall, prevent certain users from accessing the specified service, and even block internet access completely using Service Filtering, or use Access Control to block or allow specific client devices to access your network. Or you can prevent ARP spoofing and ARP attacks by using IP & MAC Binding and you can protect your IPv6 network by preventing access from the internet using IPv6 Firewall.

13. 1. Firewall & DoS Protection

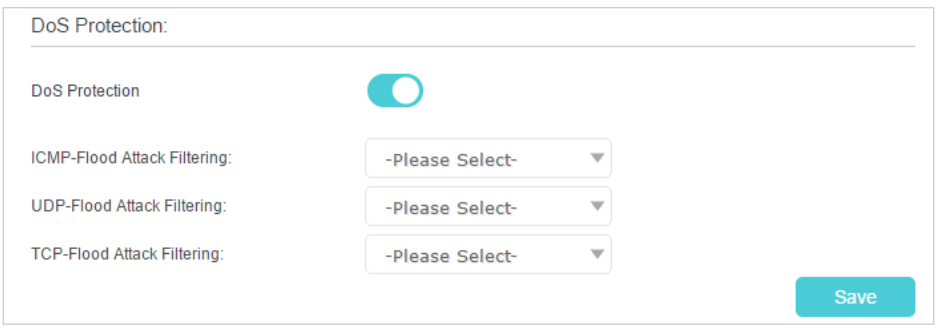
The SPI (Stateful Packet Inspection) Firewall and DoS (Denial of Service) Protection protect the router from cyber attacks.

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's 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.

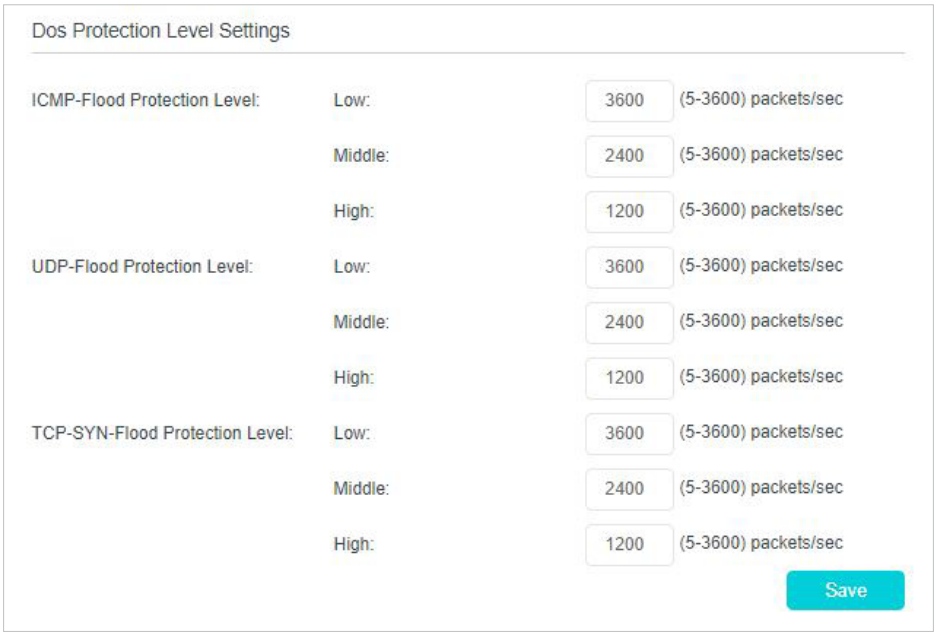
1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Security > Firewall & DoS Protection.



3. Enable DoS Protection.
4. Set the level (Low, Middle or High) of protection 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. Specify the level at DoS Protection Level Settings.

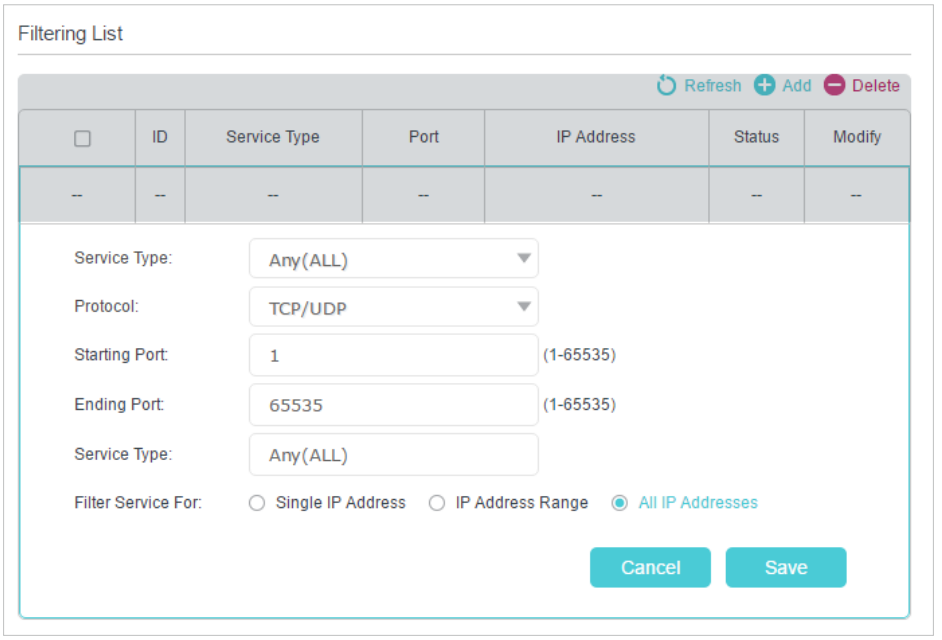


2. The protection will be triggered immediately when the number of packets exceeds the preset threshold value, and the vicious host will be displayed in the Blocked DoS Host List.

13. 2. Service Filtering

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

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Security > Service Filtering.
3. Toggle on Service Filtering.
4. Click Add.



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

Note: If you want to disable this entry, click the icon.

13. 3. Access Control

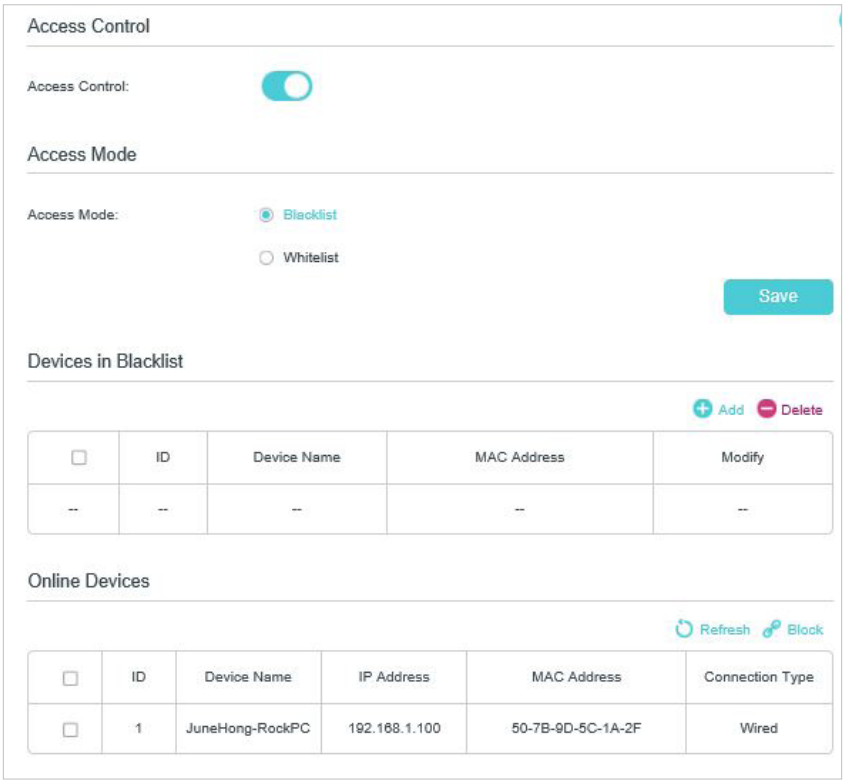
Access Control is used to block or allow specific client devices to access your network (via wired or wireless) based on a list of blocked devices (Blacklist) or a list of allowed devices (Whitelist).

I want to:

Block or allow specific client devices to access my network (via wired or wireless).

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Security > Access Control and enable Access Control.



3. Select the access mode to either block (recommended) or allow the device(s) in the list.

To block specific device(s)

1) Select Blacklist and click Save.

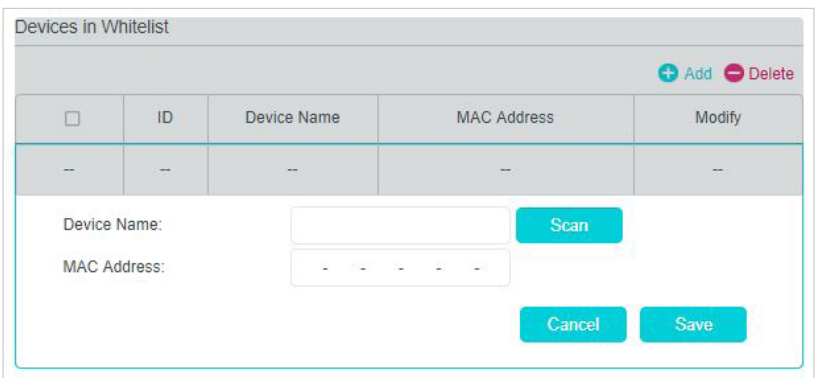
2) Select the device(s) to be blocked in the Online Devices table.

3) Click Block above the Online Devices table. The selected devices will be added to Devices in Blacklist automatically.

To allow specific device(s)

1) Select Whitelist and click Save.

2) Click Add.



1) Click San and the Device Name and MAC Address will be automatically filled in. Or enter the Device Name and MAC Address manually.

2) Click Save.

Done!

Now you can block or allow specific client devices to access your network (via wired or wireless) using the Blacklist or Whitelist.

13. 4. IP & MAC Binding

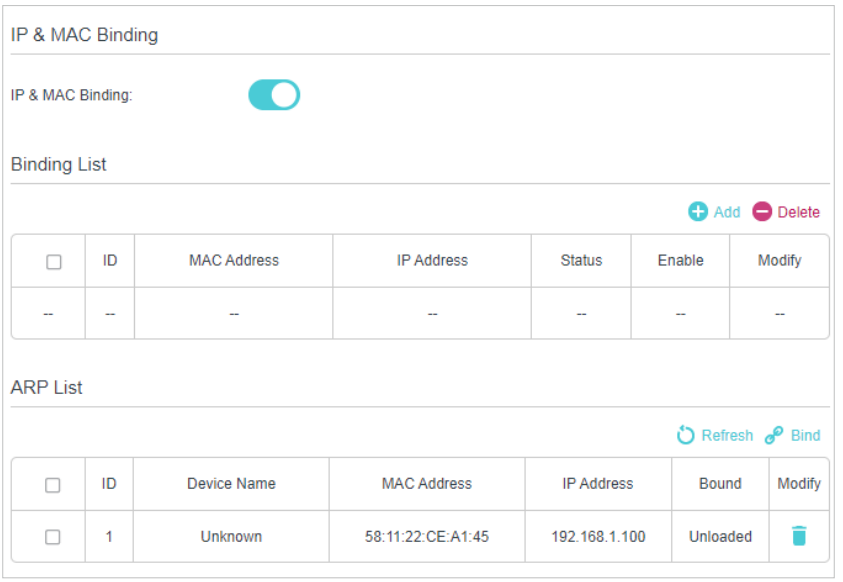
IP & MAC Binding, namely, ARP (Address Resolution Protocol) Binding, is used to bind a network device's IP address to its MAC address. This will prevent ARP spoofing and other ARP attacks by denying network access to a device with a matching IP address in the Binding list, but an unrecognized MAC address.

I want to:

Prevent ARP spoofing and ARP attacks.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Security > IP & MAC Binding and enable IP & MAC Binding.



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

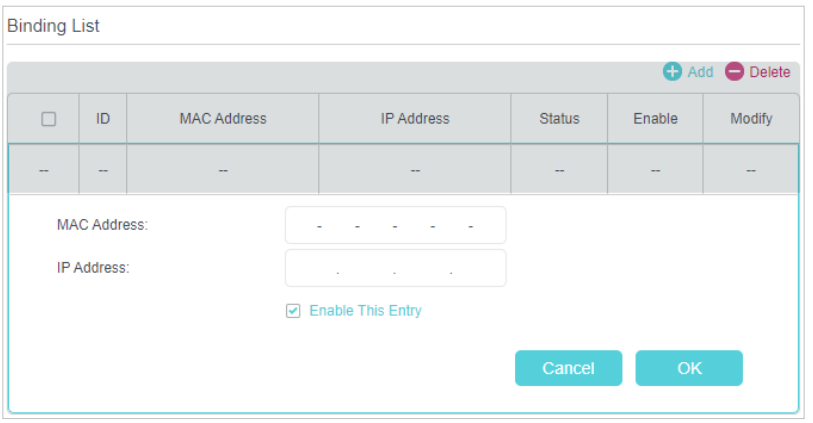
To bind the connected device(s)

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.



2) Enter the MAC Address and IP Address that you want to bind.

3) Select the check box to enable the entry and click OK.

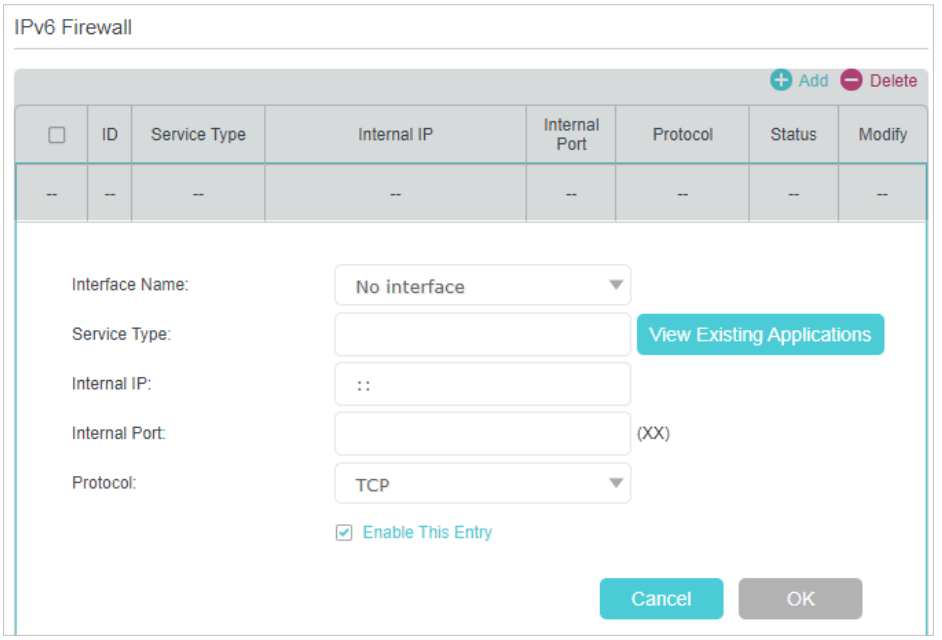
Done!

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

13. 5. IPv6 Firewall

IPv6 Firewall protects your IPv6 network by preventing 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 http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
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 Internal 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).
6. Select a protocol for the service from the drop-down list.
7. Tick Enable This Entry and click Save.

Note: If you want to disable this entry, click the icon.

Chapter 14

NAT Forwarding

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

The modem router can use a forwarding feature to remove the isolation of NAT and allow external internet hosts to intuitively communicate with the devices in the local network, thus enabling some special features.

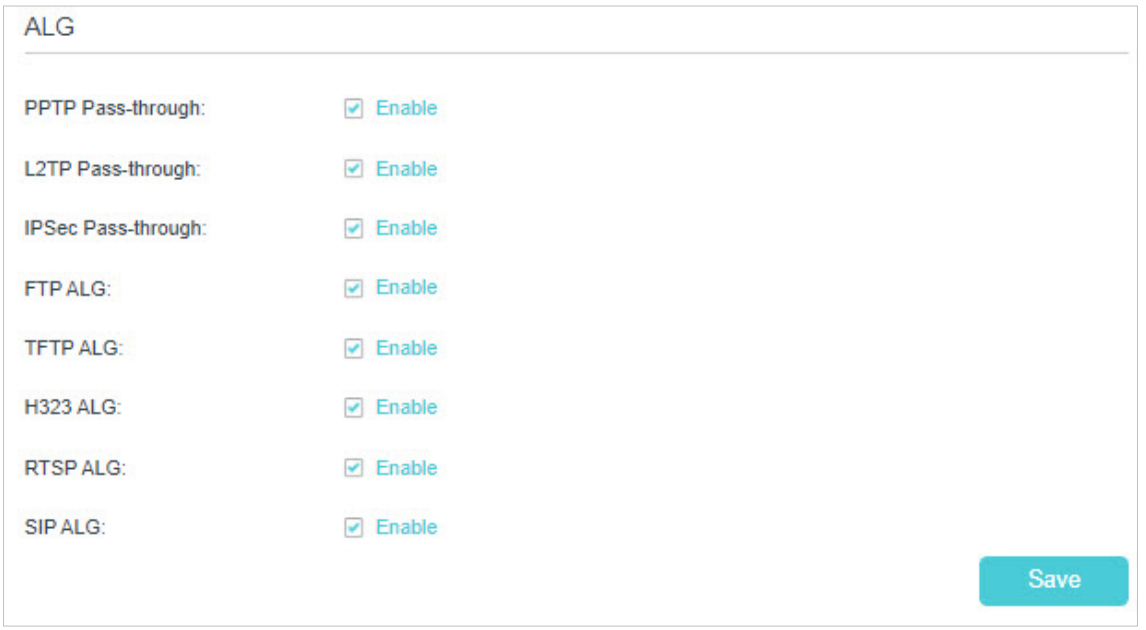
TP-Link modem router includes four forwarding rules. If two or more rules are set, the priority of implementation from high to low is Virtual Servers, Port Triggering, UPNP and DMZ.

This chapter contains the following sections:

14. 1. Translate Address and Port by ALG

ALG (Application Layer Gateway) allows customized NAT (Network Address Translation) traversal filters to be plugged into the gateway to support address and port translation for certain application layer "control/data" protocols: FTP, TFTP, H323 etc. Enabling ALG is recommended.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > NAT Forwarding > ALG.



- PPTP Pass-through: If enabled, it allows Point-to-Point sessions to be tunneled through an IP network and passed through the router.
- L2TP Pass-through: If enabled, it allows Layer 2 Point-to-Point sessions to be tunneled through an IP network and passed through the router.
- IPSec Pass-through: If enabled, it allows IPSec (Internet Protocol Security) to be tunneled through an IP network and passed through the router. IPSec uses cryptographic security services to ensure private and secure communications over IP networks.
- FTP ALG: If enabled, it allows FTP (File Transfer Protocol) clients and servers to transfer data via NAT.
- TFTP ALG: If enabled, it allows TFTP (Trivial File Transfer Protocol) clients and servers to transfer data via NAT.
- H323 ALG: If enabled, it allows Microsoft NetMeeting clients to communicate via NAT.
- RTSP ALG: If enabled, it allows RTSP (Real-Time Stream Protocol) clients and servers to transfer data via NAT.

- SIP ALG: If enabled, it allows clients communicate with SIP (Session Initiation Protocol) servers via NAT.

14. 2. Share Local Resources over the Internet by Virtual Server

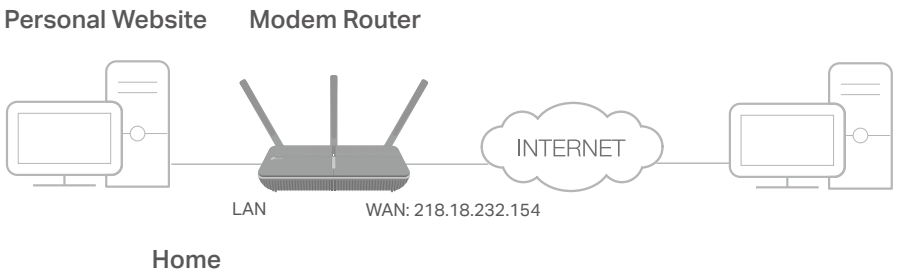
When you build up a server in the local network and want to share it on the internet, Virtual Server can realize the service and provide it to the internet users. At the same time virtual server can keep the local network safe as other services are still invisible from the internet.

Virtual server can be used for setting up public services in your local network, such as HTTP, FTP, DNS, POP3/SMTP and Telnet. Different service uses different service port. Port 80 is used in HTTP service, port 21 in FTP service, port 25 in SMTP service and port 110 in POP3 service. Please verify the service port number before the configuration.

I want to:

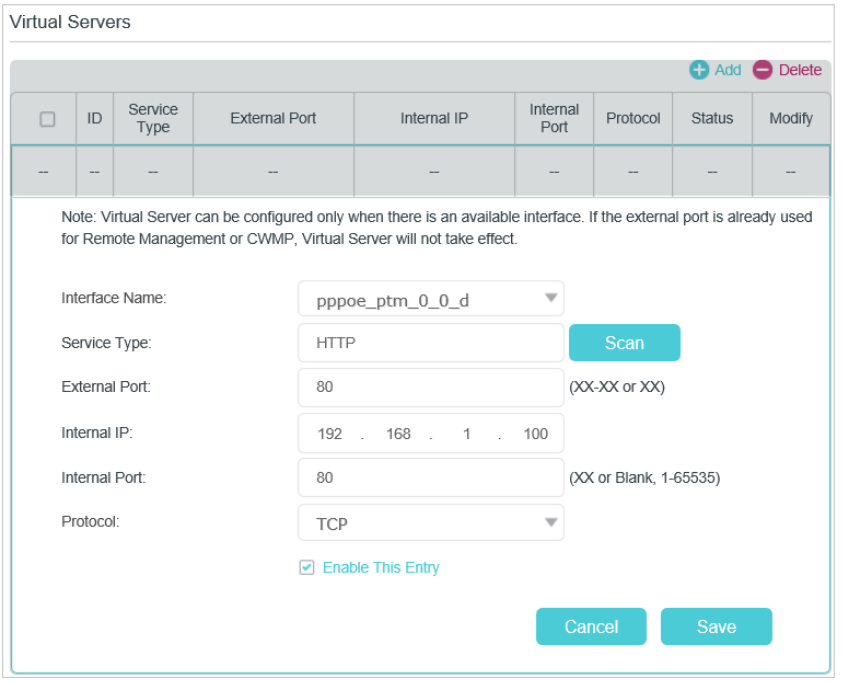
Share my personal website I've built in a local network with my friends through the internet.

For example, the personal website has been built on my home PC (192.168.1.100). I hope that my friends can visit my website. The PC is connected to the modem router with the WAN IP address 218.18.232.154.



How can I do that?

1. Assign a static IP address to your PC, for example 192.168.1.100.
2. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
3. Go to Advanced > NAT Forwarding > Virtual Servers, click Add.



4. Click Scan, and choose HTTP. The external port, internal port and protocol will be automatically filled with contents. Enter the PC's IP address 192.168.1.100 in the Internal IP field.

5. Click Save to save the settings.

Tips:

1. It is recommended to keep the default settings of Internal Port and Protocol if you are not clear about which port and protocol to use.
2. If the service you want to use is not in the Service Type, you can enter the corresponding parameters manually. You should verify the port number that the service needs.
3. You can add multiple virtual server rules if you want to provide several services from a modem router. Please note that the External Port cannot be overlapped.

Done!

Internet users can enter http://WAN IP (in this example: http://218.18.232.154) to visit your personal website.

Tips:

1. For a WAN IP that is assigned dynamically by ISP, it is recommended to apply and register a domain name for the WAN by DDNS, go to Set Up a Dynamic DNS Service Account for more information. Then you can use http://domain name to visit the website.
2. If you have changed the default External Port, you should use http://WAN IP: External Port or http://domain name: External Port to visit the website.

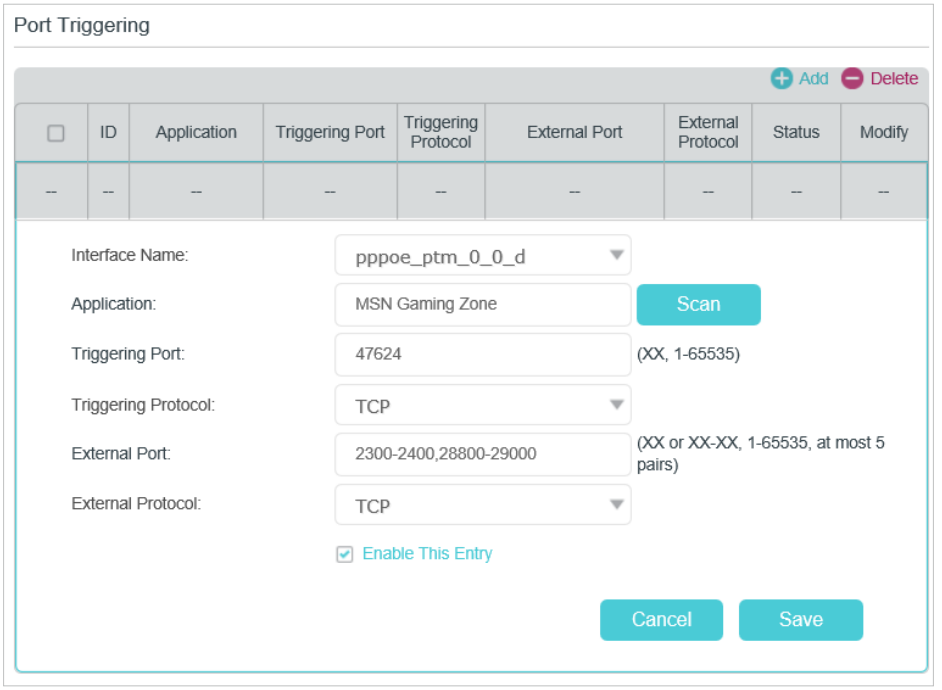
14. 3. Open Ports Dynamically by Port Triggering

Port triggering can specify a triggering port and its corresponding external ports. When a host in the local network initiates a connection to the triggering port, all the external ports will be opened for subsequent connections. The modem router can record the IP

address of the host. When the data from the internet returns to the external ports, the modem router can forward them to the corresponding host. Port triggering is mainly applied to online games, VoIPs and video players. Common applications include MSN Gaming Zone, Dialpad, Quick Time 4 players, and so on.

Follow the steps below to configure the port triggering rules:

1. Visit http://tplinkmodem.net, 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 Scan, and select the desired application. The triggering port and protocol, the external port and protocol will be automatically filled with contents. Here we take MSN Gaming Zone as an example.
4. Click Save to save the settings.

Tips:

1. You can add multiple port triggering rules according to your network need.
2. 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.

14. 4. Make Applications Free from Port Restriction by DMZ

When a PC is set to be a DMZ (Demilitarized Zone) host in 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, like IP camera and database software, you can set the PC to be a DMZ host.

Note:

DMZ is most applicable when you don't know which ports to open. When it is enabled, the DMZ host is totally exposed to the internet, which may bring some potential safety hazard. 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 login normally but cannot join a team with other players. To solve this problem, set your PC as a DMZ with all ports opened.

How can I do that?

1. Assign a static IP address to your PC, for example 192.168.1.100.
2. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
3. Go to Advanced > NAT Forwarding > DMZ and enable DMZ.

4. Enter the IP address 192.168.1.100 in the DMZ Host IP Address filed.
5. Click Save to save the settings.

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.

14. 5. Make Xbox Online Games Run Smoothly by UPnP

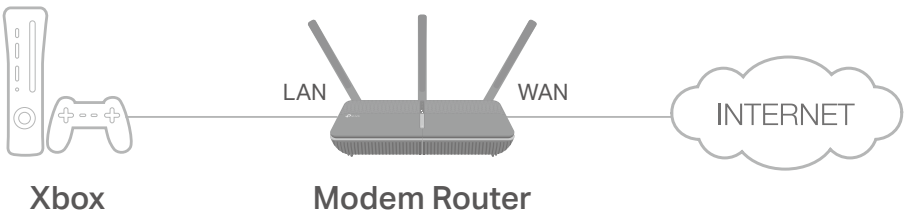
UPnP (Universal Plug and Play) protocol allows the applications or host devices to automatically find the front-end NAT device and send request to it to open the corresponding ports. With UPnP enabled, the applications or host devices in the both sides of NAT device can freely communicate with each other realizing the

seamless connection of the network. You may need to enable the UPnP if you want to use applications such as multiplayer gaming, peer-to-peer connections, real-time communication (for example, VoIP or telephone conference), or remote assistance.

Tips:

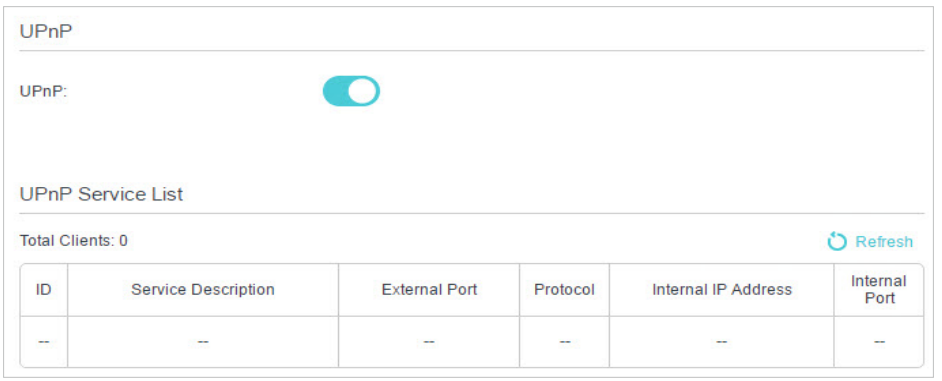
1. UPnP is enabled by default in this modem router.
2. Only the application supporting UPnP protocol can use this feature.
3. UPnP feature needs the support of operating system (e.g. Windows Vista/ Windows 7/ Windows 8, etc. Some of operating system need to install the UPnP components).

For example, when you connect your Xbox to the modem router which has connected to the internet to play online games, UPnP will send request to the modem 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.

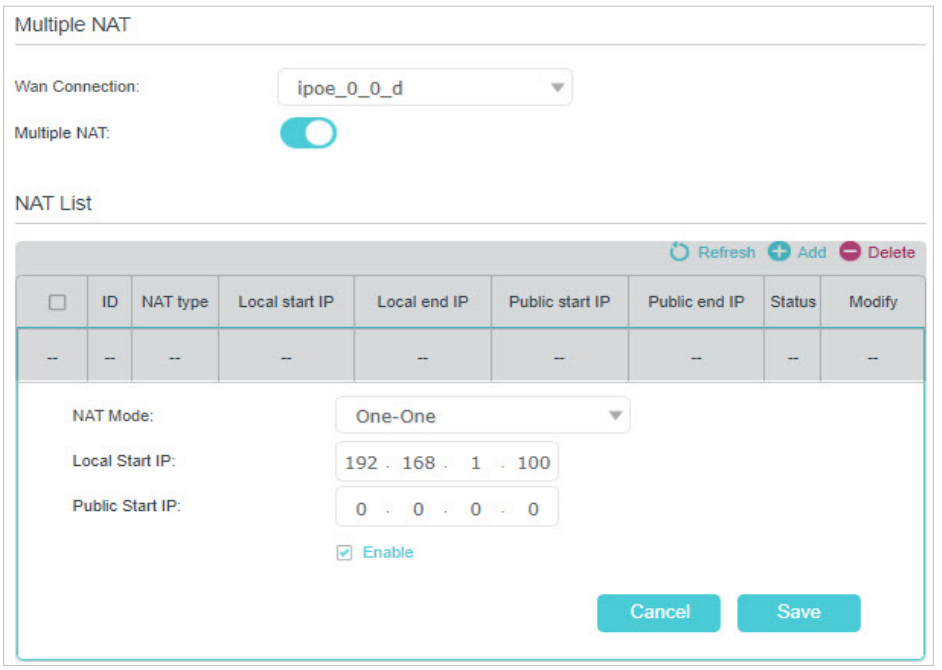
1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the modem router;
2. Go to Advanced > NAT Forwarding > UPnP and toggle on or off according to your needs.



14. 6. Multiple NAT

Multi-NAT can be used where you have been allocated multiple public IP addresses by your ISP. Instead of a many-to-one relationship, you can have a one-to-one relationship between a public IP address and an internal/private IP address.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > NAT Forwarding > Multiple NAT.



3. Select your WAN Connection.
4. Enable Multiple NAT.
5. Choose a NAT Mode: Server/One-One/Many-One/Many-Many. Then set the basic information about the mode.
   - Server - Configure a specific WAN IP. All the LAN packets will pass through the WAN by this IP setting.
   - One-One - Configure a specific LAN IP to correspond to a specific WAN IP. Packets of the specific LAN IP will pass through the WAN by this specific WAN IP setting.
   - Many-One - Configure a segment of LAN IPs to correspond to a specific WAN IP. Packets of this segment of LAN IPs will pass through the WAN by this specific WAN IP setting.
   - Many-Many - Configure the specific segment of LAN IPs to correspond to the specific segment of WAN IPs. Packets of this segment of LAN IPs will pass through the WAN by this specific WAN IP setting. The specified WAN IPs can be less than LAN IPs. The Many-Many profile will work as several Many-One profiles each of which binds several LAN IPs with one WAN IP.
6. Click Save.

Chapter 15

VPN Server

The VPN (Virtual Private Networking) Server allows you to access your home network in a secured way through the internet when you are out of the house. The router offers three ways to setup VPN connection: OpenVPN, PPTP (Point to Point Tunneling Protocol) VPN and IPSec (Internet Protocol Security) VPN.

OpenVPN is somewhat complex but with greater security and more stability. It is suitable for restricted environment, such as campus network and company intranet.

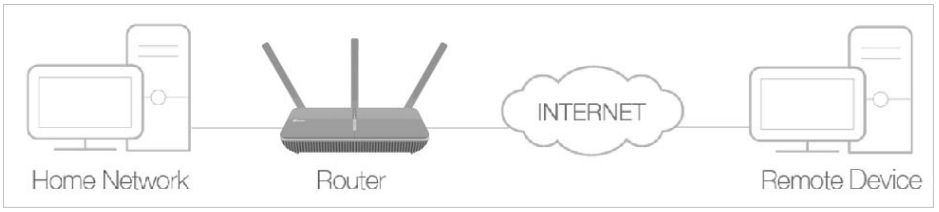
PPTP VPN is easier to use and its speed is faster. It's compatible with most operating systems and also supports mobile devices. However, its security is poor and packets may be cracked easily. PPTP VPN may be blocked by some ISPs.

IPSec (IP Security) is a set of services and protocols defined by IETF (Internet Engineering Task Force) to provide high security for IP packets and prevent attacks.

This chapter contains the following sections, please choose the appropriate VPN server connection type according to your needs.

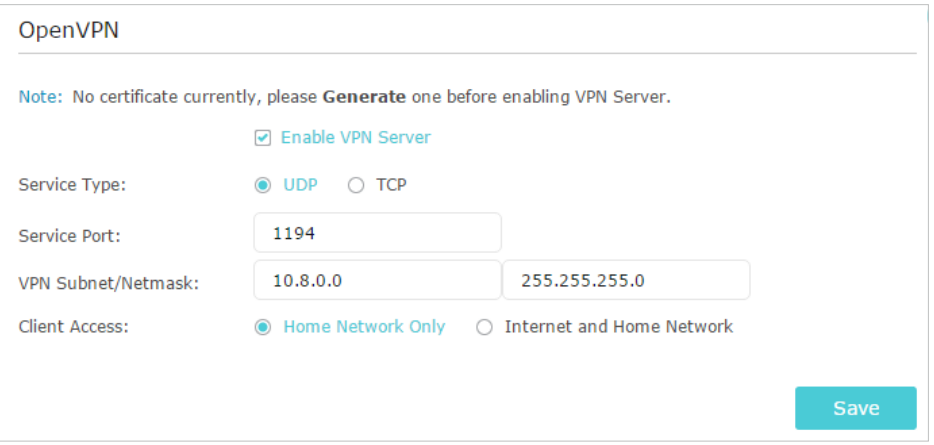
15. 1. Use OpenVPN to Access Your Home Network

In an OpenVPN connection, the home network can act as a server, and the remote device can access the server through the router which acts as an OpenVPN Server gateway. To use the VPN feature, you should enable OpenVPN Server on your router, install and run VPN client software on the remote device. Please follow the steps below to set up an OpenVPN connection.



Step 1. Set up OpenVPN Server on Your Router

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > VPN > OpenVPN, and select Enable VPN Server.



Note:

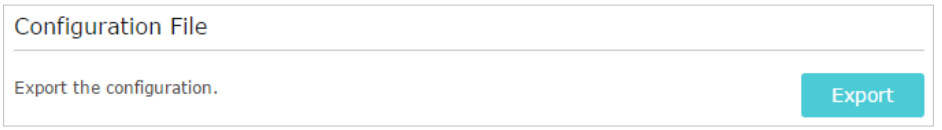
- Before you enable VPN Server, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for your router's WAN port and synchronize your System Time via the internet.
- The first time you configure the OpenVPN Server, you may need to Generate a certificate before you 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. 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 the 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 http://openvpn.net/index.php/download/community-downloads.html 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 want to be able to use the VPN function. Mobile devices should download a third-party app from Google Play or Apple App Store.

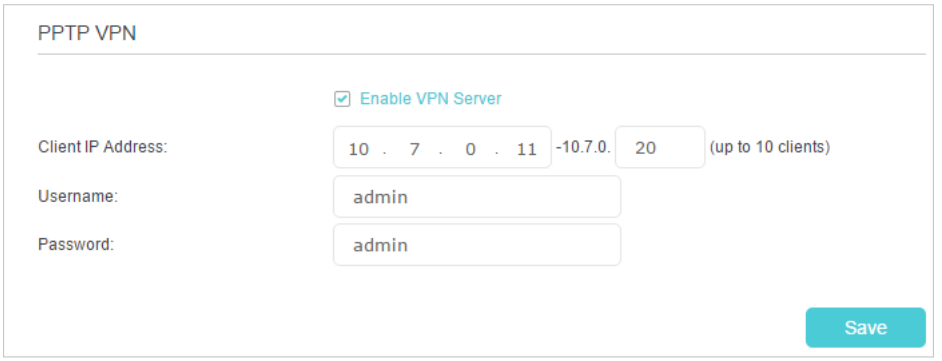
2. After the installation, copy the file exported from your router to the OpenVPN client utility's "config" folder (for example, C:\Program Files\OpenVPN\config on Windows). The path depends on where the OpenVPN client utility is installed.
3. Run the OpenVPN client utility and connect it to OpenVPN Server.

15. 2. Use PPTP VPN to Access Your Home Network

PPTP VPN Server is used to create a VPN connection for remote devices. To use the VPN feature, you should enable PPTP VPN Server on your router, and configure the PPTP connection on the remote device. Please follow the steps below to set up a PPTP VPN connection.

Step 1. Set up PPTP VPN Server on Your Router

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > VPN > PPTP VPN, and select Enable VPN Server.



Note:

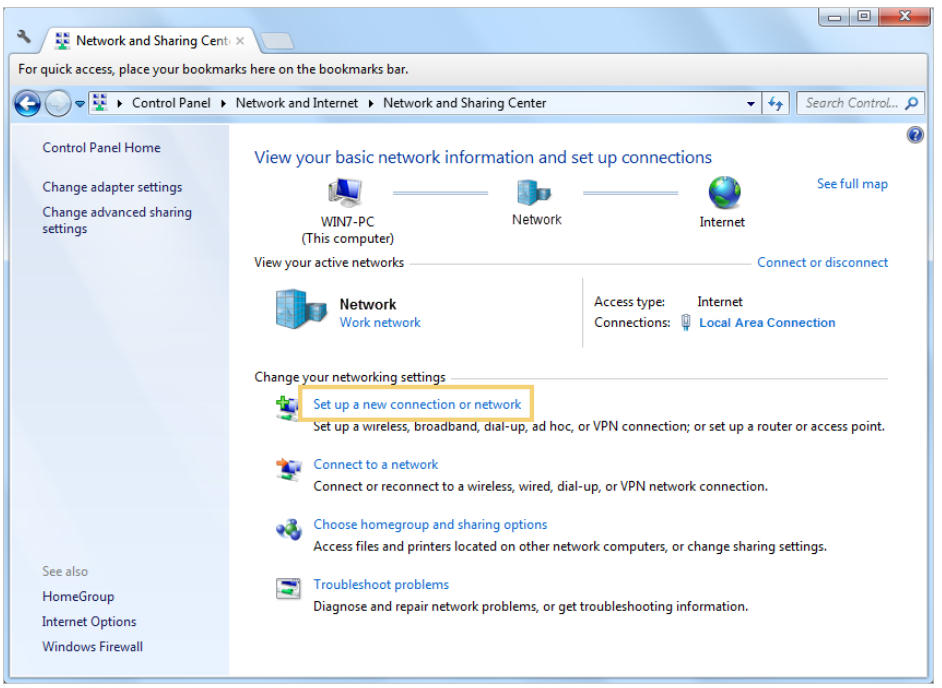
Before you enable VPN Server, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for router's WAN port and synchronize your System Time with internet.

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.

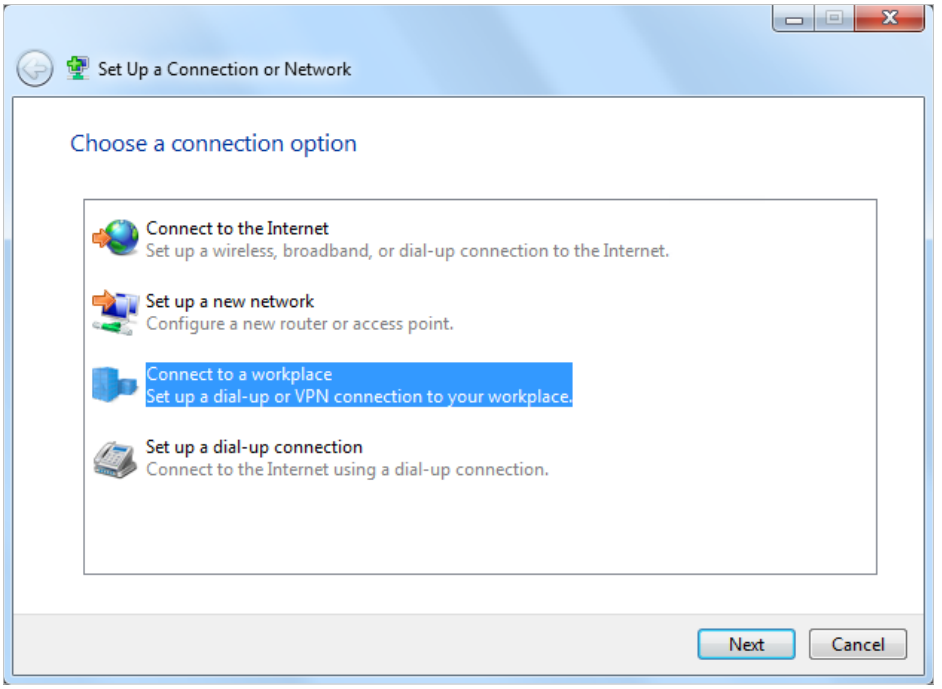
Step 2. Configure PPTP VPN Connection on Your Remote Device

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.

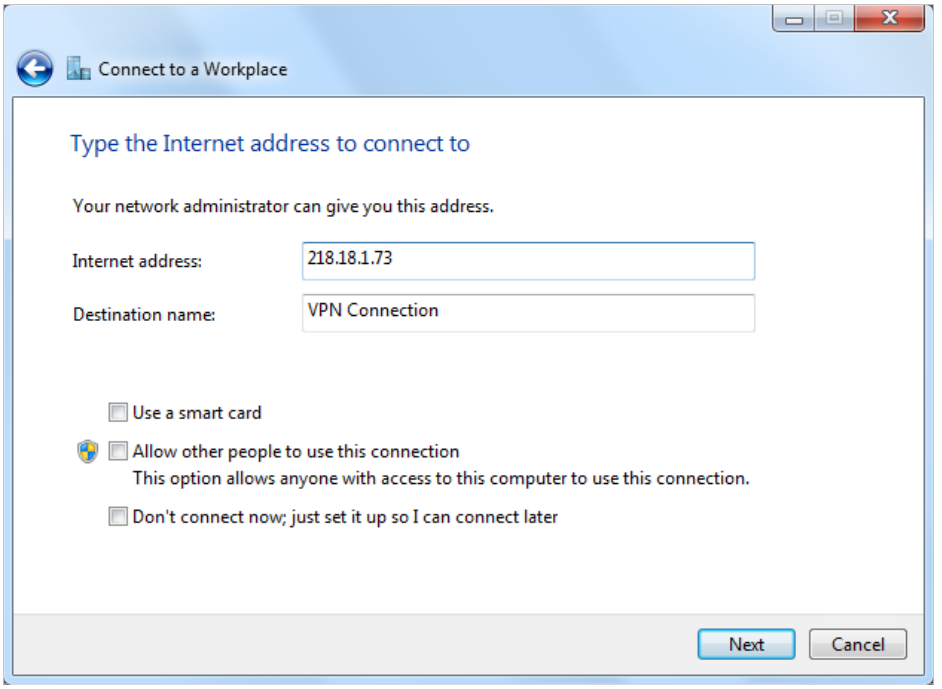


3. Select Connect to a workplace and click Next.

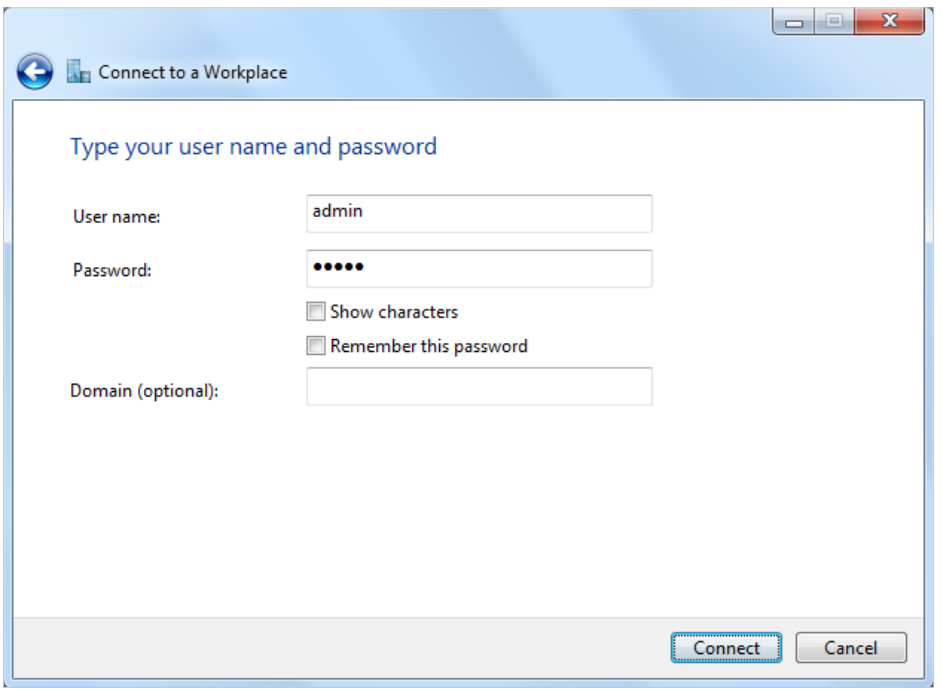


4. Select Use my Internet connection (VPN).

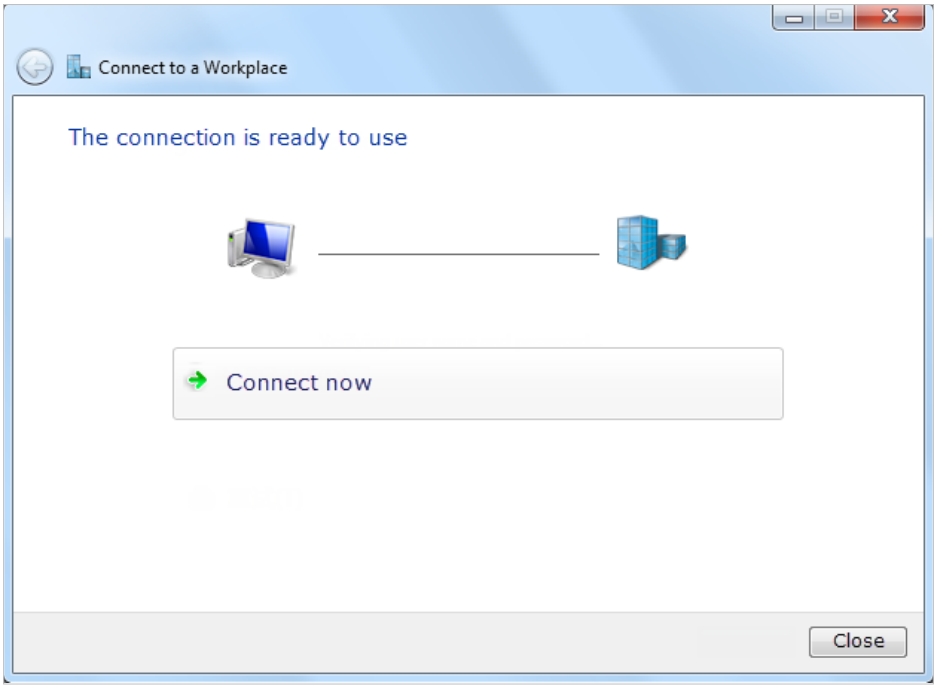
5. Enter the internet IP address of the router (for example: 218.18.1.73) in the Internet address field. Click Next.



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



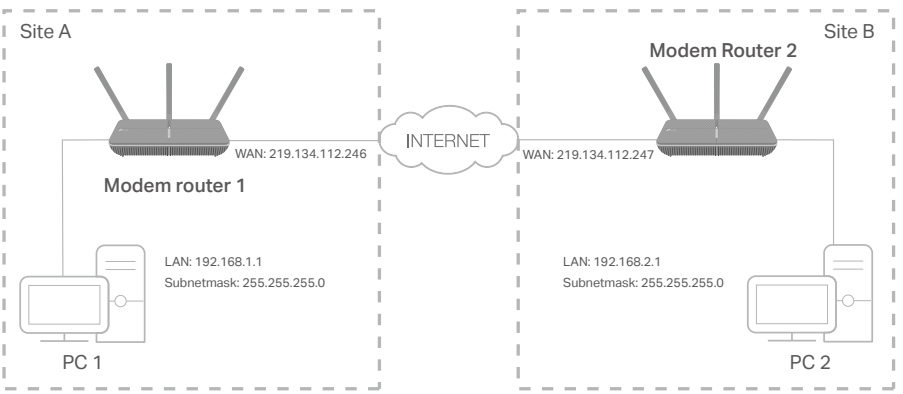
7. The PPTP VPN connection is created and ready to use.



15. 3. Use IPSec VPN to Access Your Home Network

IPSec VPN is used to create a VPN connection between local and remote networks. To use IPSec VPN, you should check that both local and remote routers support IPSec VPN feature. Then, follow the steps below to set up an IPSec VPN connection.

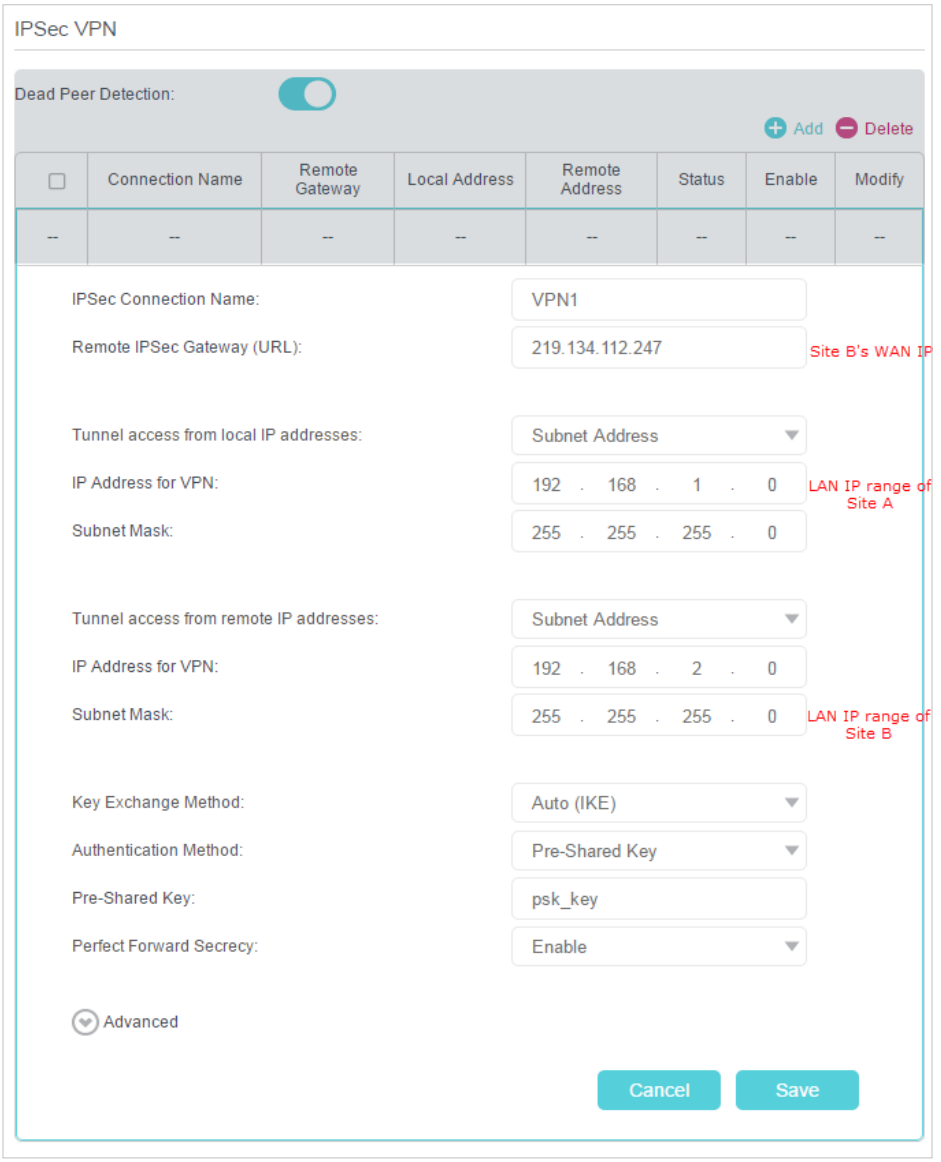
1. The typical VPN topology is here. Site A refers to local network, and Site B refers to the remote network that is to be connected. Record Site A and Site B's LAN and WAN IP addresses before you start configuration.



2. Configuration on Site A (local network).

   1) Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.

   2) Go to Advanced > VPN > IPSec VPN, and click Add.



3) In the IPSec Connection Name column, specify a name.

4) In the Remote IPSec Gateway (URL) column, Enter Site B's WAN IP address.

5) Configure Site A's LAN.
In the Tunnel access from local IP addresses column, we take Subnet Address as an example. Input the LAN IP range of Site A in the IP Address for VPN column, and input Subnet Mask of Site A.

6) Configure Site B's LAN.
In the Tunnel access from remote IP addresses column, we take Subnet Address as an example. Input the LAN IP range of Site B in the IP Address for VPN column, and input Subnet Mask of Site B.

7) Select the Key Exchange Method for the policy. We select Auto(IKE) here.

8) Enter the Pre-Shared Key for IKE authentication. Then keep Perfect Forward Secrecy enabled.

Note: Make sure Site A and Site B use the same key.

9) Leave the Advanced Settings as default value. Then click Save.

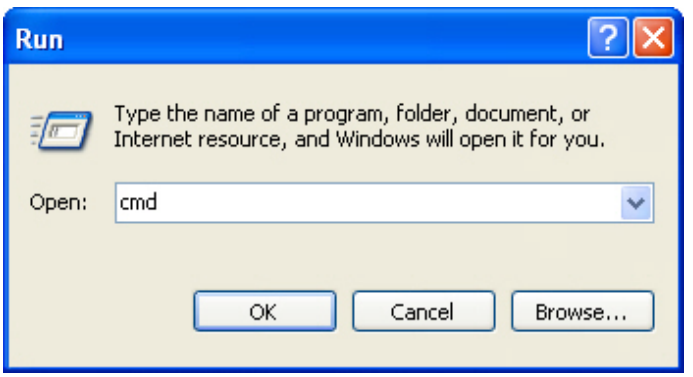
	Connection Name	Remote Gateway	Local Address	Remote Address	Status	Enable	Modify
☐	VPN1	219.134.112.247	192.168.1.0	192.168.2.0	Down		

Note: The Status column is Down after the configuration, and it will change to UP only when Site A and Site B are communicating via the VPN connection.

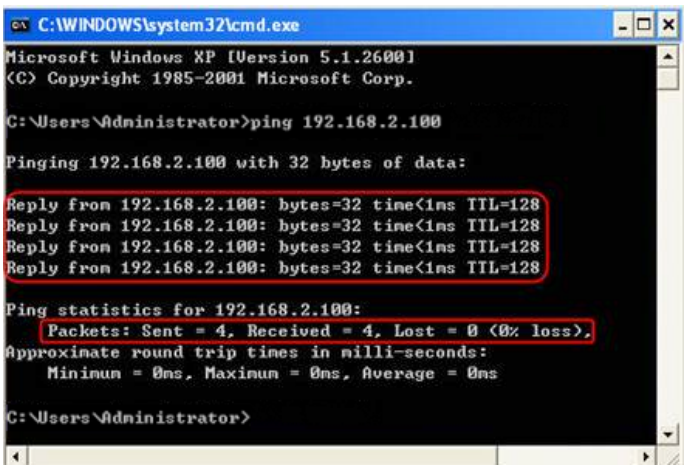
3. Configuration on Site B (remote network). Refer to step 2 configuration on Site A and make sure that Site A and Site B use the same pre-shared keys and Perfect Forward Secrecy settings.
4. Check the VPN connection. You can ping site B' LAN IP from your computer in site A to verify that the IPSec VPN connection is set up correctly.

Tips: To check the VPN connection, you can do the following.

1. On the host in Site A, press [Windows Logo] + [R] to open Run dialog. Input "cmd" and hit OK.



2. In the CLI window, type in "ping 192.168.2.x" ("192.168.2.x" can be IP address of any host in Site B). Then press [Enter].



3. If Ping proceeds successfully (gets replies from host in Site B), the IPSec connection is working properly now.

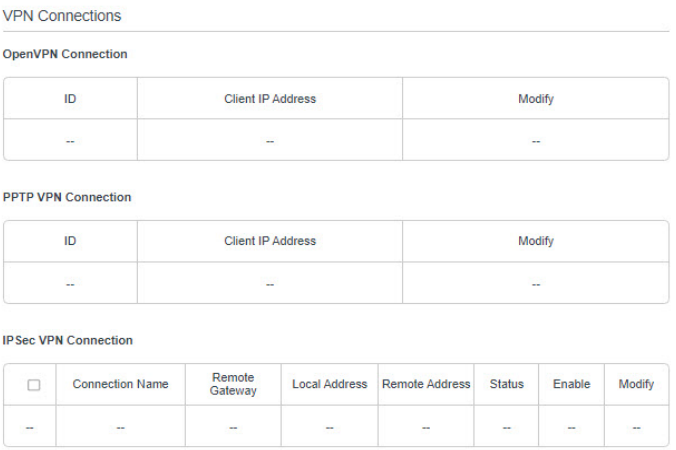
5. Now IPSec VPN is implemented to establish a connection.

Note:

1. The product supports a maximum of ten simultaneous connections.
2. If one of the site has been offline for a while, for example, if Site A has been disconnected, on Site B you need to click Disable and then click Enable after Site A back on line in order to re-establish the IPSec tunnel.

15. 4. VPN Connections

You can view the clients that are currently connected to the OpenVPN servers, PPTP VPN servers and IPSec VPN hosted on the router on the VPN Connection page.



Chapter 16

Customize Your Network Settings

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

It contains the following sections:

16. 1. LAN Settings

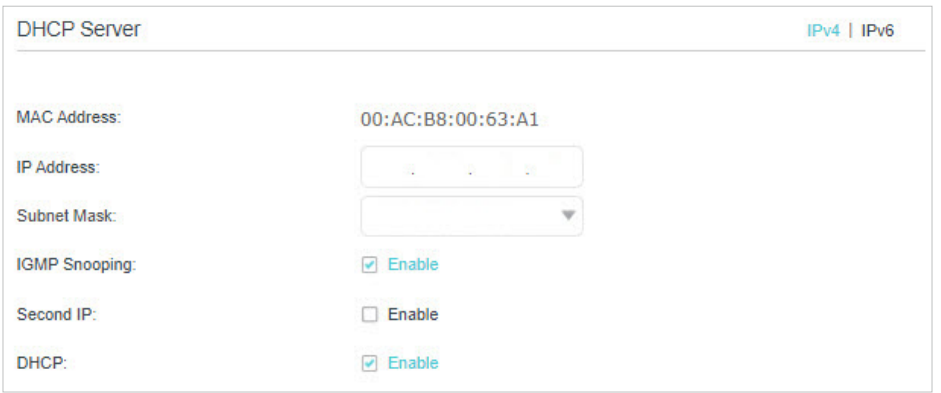
16. 1. 1. Change the LAN IP Address

The modem router is preset with a default LAN IP 192.168.1.1, 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 http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > LAN Settings page and select IPv4.

Note:
If you have created an interface group, you can configure different IPv4 LAN settings for the default and created interface groups.



3. Type in 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 modem router's Second IP and Subnet Mask for LAN interface through which you can also access the web management page.
7. Leave the rest of the default settings as they are.
8. Click Save to make the settings effective.

16. 1. 2. Use the Modem Router as a DHCP Server

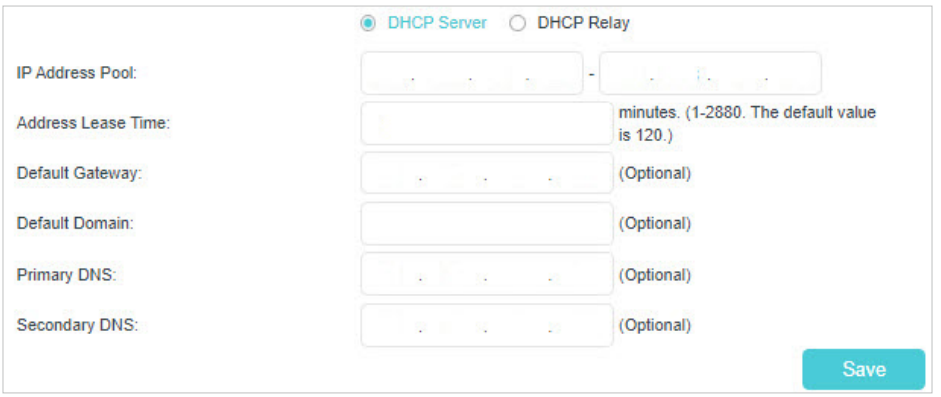
You can configure the modem router to act as a DHCP server to assign IP addresses to its clients. To use the DHCP server function of the modem router, you must configure all computers on the LAN to obtain an IP Address automatically.

Follow the steps below to configure DHCP server.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > LAN Settings page and select IPv4.

Note:

If you have created an interface group, you can configure different IPv4 LAN settings for the default and created interface groups.



3. Select DHCP to enable the 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 modem router will assign addresses within this specified range to its clients. It is from 192.168.1.100 to 192.168.1.199 by default.
5. Enter a value for the Address Lease Time. The Address Lease Time is the amount of time in which a DHCP client can lease its current dynamic IP address assigned by the modem router. After the dynamic IP address expires, the user will be automatically assigned a new dynamic IP address. The default is 1440 minutes.
6. Keep the rest of the settings as default and click Save.

Note:

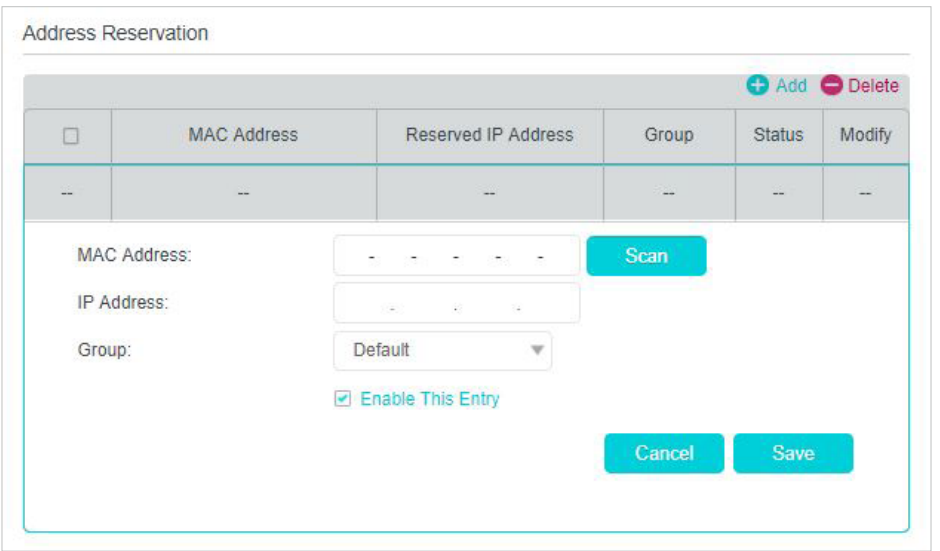
1. The modem router can be configured to work as a DHCP Relay. A DHCP relay is a computer that forwards DHCP data between computers that request IP addresses and the DHCP server that assigns the addresses. Each of the device's interfaces can be configured as a DHCP relay. If it is enabled, the DHCP requests 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 (192.168.1.50 to192.168.1.80) 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.

16. 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 device.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > LAN Settings page and select IPv4.
3. Scroll down to locate the Address Reservation table and click Add to add an address reservation entry for your device.



4. Click Scan and select the device for which you want to reserve IP address. Then the MAC Address and IP Address fields will be automatically filled in.
5. Specify the IP address which will be reserved by the router.
6. Check to Enable this entry and click Save to make the settings effective.

16. 2. IPv6 LAN Settings

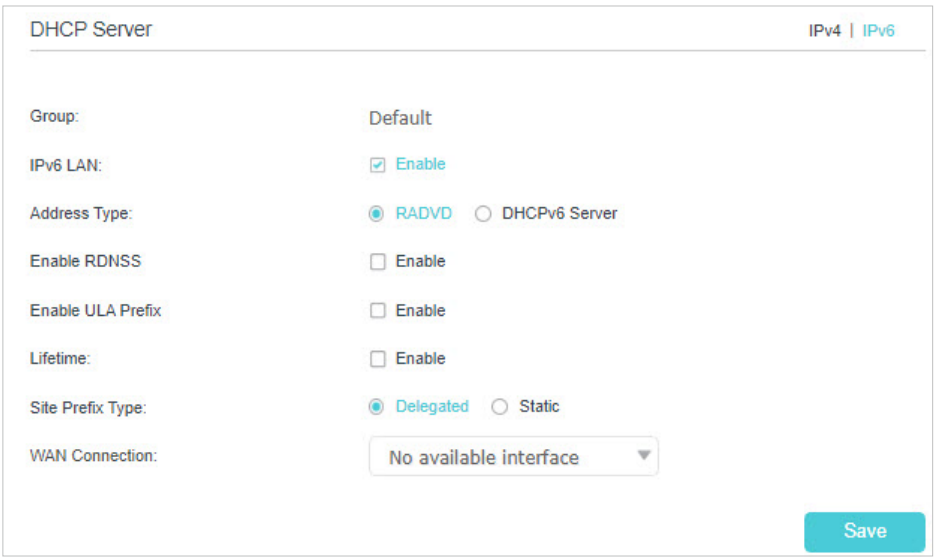
Based on the IPv6 protocol, the modem router provides two ways to assign IPv6 LAN addresses:

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

16. 2. 1. Configure the RADVD Address Type

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > LAN Settings.
3. Select IPv6 to configure IPv6 LAN parameters.

Note:
If you have created an interface group, you can configure IPv6 LAN settings for the default interface group only.



1) Select the RADVD address type to make the modem 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 value Delegated. If your ISP has provided a specific IPv6 site prefix, select Static and enter the prefix.

3) Keep WAN Connection as the default value.

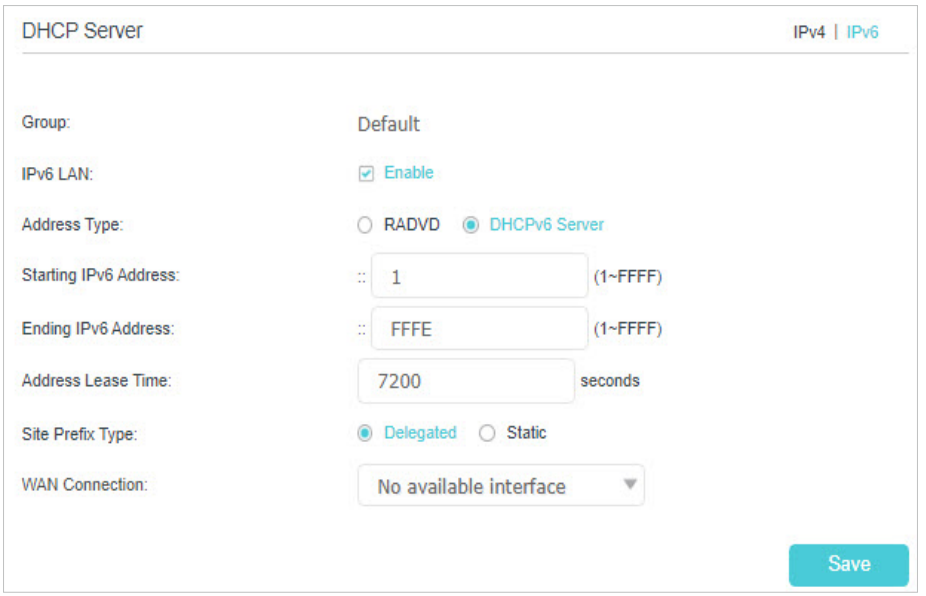
4. Click Save to make the settings effective.

16. 2. 2. Configure the DHCPv6 Server Address Type

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > LAN Settings.
3. Select IPv6 to configure IPv6 LAN parameters.

Note:

If you have created an interface group, you can configure IPv6 LAN settings for the default interface group only.

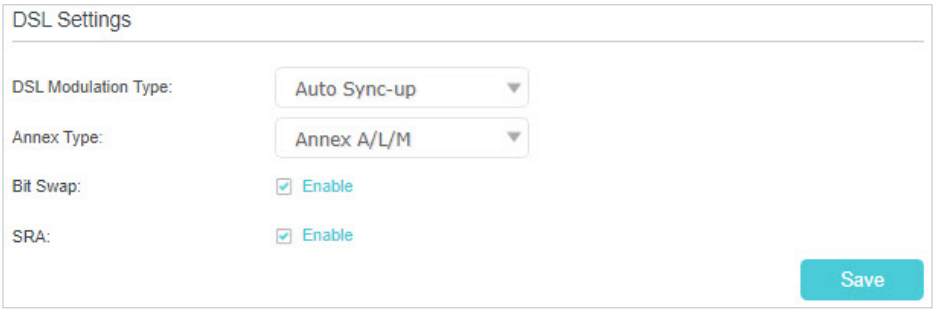


1) Select the DHCPv6 Server address type to make the modem router assign IPv6 addresses to hosts.
2) Specify the Starting/Ending IPv6 Address for the IPv6 suffixes. The modem router will generate IPv6 addresses within the specified range.
3) Keep Address Lease Time as the default value.
4) Keep Site 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 value.

4. Click Save to make the settings effective.

16. 3. DSL Settings

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > DSL Settings.



- DSL Modulation Type: Select a DSL modulation type from the drop-down list. Do not change the default settings unless necessary.
- Annex Type: Select a DSL annex type from the drop-down list. Do not change the default settings unless necessary.
- Bit Swap: Select this checkbox to enable the Bit Swap feature. With bit-swapping, the router can swap bits around different channels, allowing it to robustly adapt to changing telephone line conditions.
- SRA: Select this checkbox to enable the SRA (Seamless Rate Adaptation) feature that prevents ADSL data rate interference caused by the cross-talk between telephone lines.

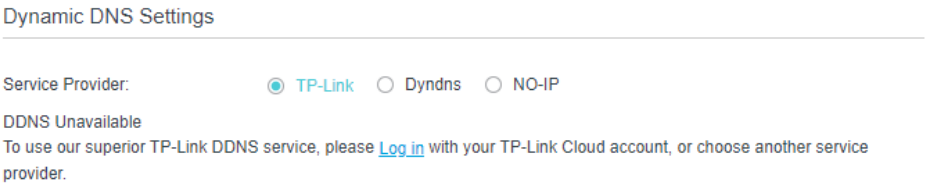
16. 4. Set Up a Dynamic DNS Service Account

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 192.168.1.x) to the modem router.

To set up DDNS, please follow the instructions below:

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > Dynamic DNS.
3. Select the DDNS service provider (TP-Link, Dyndns or NO-IP).
4. To use TP-Link DDNS service, you should log in with your TP-Link ID.
5. If you choose other DDNS service, you should also log in with your DDNS account, select a service provider and click Go to register ... Enter the username, password and domain name of the account (such as lisa.ddns.net).



6. Click Log in and Save.

Tips: If you want to use a new DDNS account, please Logout first, then login with the new account.

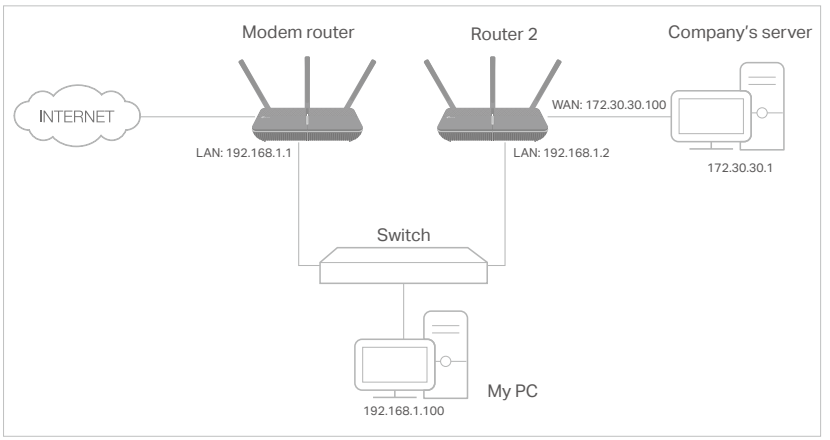
16. 5. Create Static Routes

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.

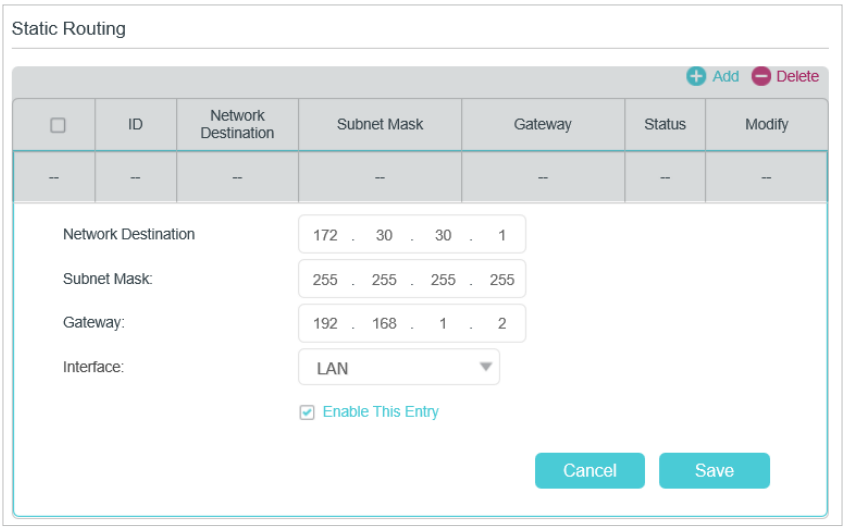
For example, in a small office, my PC can surf the internet, but I also want to visit my company's server. Now I have a switch and another router. I connect the devices as shown in the following figure so that the physical connection between my PC and my company's server is achieved. To surf the internet 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 2's DHCP function.
2. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.

3. Go to Advanced > Network > Static Routing.
4. Select IPv4 or IPv6.
5. 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. In the example, the IP address of the company network is the destination IP address, so here enters 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 enters 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 2 and then to the Server, so the default gateway should be 192.168.1.2.
- 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, so LAN should be selected.

6. Select the check box to enable this entry.
7. Click Save to save the settings.

Done!

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

16. 6. Set Up the IPv6 Tunnel

The IPv6 Tunnel feature helps you obtain IPv6 resources based on an IPv4 WAN connection or vice versa.

IPv6 Tunnel is a transition mechanism that allows isolated IPv6 hosts and networks to reach each other over IPv4-only infrastructure before IPv6 completely supplants IPv4. It is a temporary solution for networks that do not support native dual-stack, where both IPv6 and IPv4 run independently.

The modem router provides three tunneling mechanisms: 6to4, 6rd and DS-Lite. The way to set up 6rd and DS-Lite tunnel are similar.

16. 6. 1. Use the Public IPv6 Tunnel Service-6to4

The 6to4 tunnel is a kind of public service. If there are any 6to4 servers on your network, you can use this mechanism to access IPv6 service. If your ISP provides you with an IPv4-only connection but you want to visit IPv6 websites, you can try to set up a 6to4 tunnel.

I want to:

Set up the IPv6 tunnel though my ISP doesn't provide me with the tunnel service.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > DSLWAN > IPv6 Tunnel.
3. Enable IPv6 Tunnel.
4. Tick the check box, select 6to4 as the tunneling mechanism and then click Save.

Note:

If there is no available WAN connection to choose, make sure you have connected to the internet and the connection type is not Bridge.

Done!

Now you can visit the IPv6 websites with the 6to4 tunnel.

Note:

Still not being able to access IPv6 resources means that not any 6to4 public server was found in your network. You can contact your ISP to sign up for IPv6 connection service.

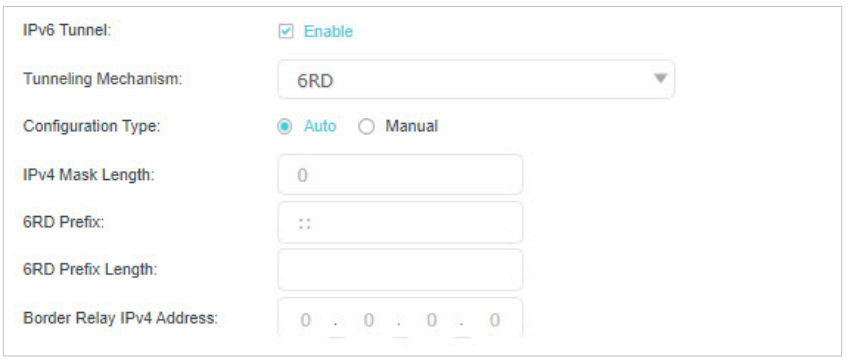
16. 6. 2. Specify the 6rd Tunnel with Parameters Provided by Your ISP

I want to:

Specify the 6rd tunnel with the parameters provided by my 6rd tunnel service provider.

How can I do that?

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > DSLWAN > IPv6 Tunnel.
3. Enable IPv6 Tunnel.
4. Tick the check box, select 6rd as the tunneling mechanism and select a WAN connection from the drop-down list.
5. According to the parameters provided by your ISP, choose Auto or Manual. More parameters are needed if you choose Manual.
6. Click Save.



Note:

If there is no available WAN connection to choose, make sure you have connected to the internet and the connection type is not Bridge.

Done!

Now you can visit the IPv6 websites with the 6rd tunnel.

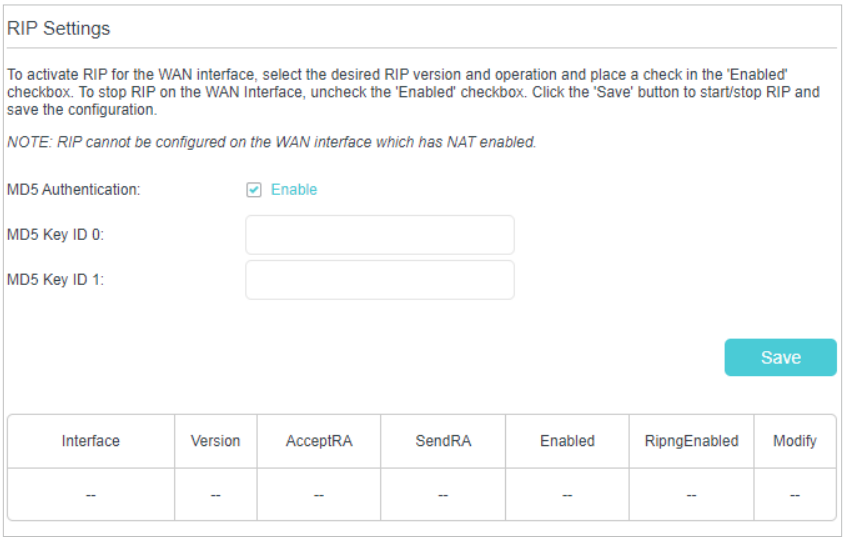
Tips:

The way to set up DS-Lite tunnel is similar to that of 6rd tunnel. If you are provided with an IPv6-only WAN connection and have signed up for DS-Lite tunnel service, specify the DS-Lite tunnel by referring to the steps above.

16. 7. RIP Settings

RIP (Routing Information Protocol) is a distance-vector routing protocol which can be used to exchange topology information between routers. Generally, it is used in small to medium-sized network as an Interior Gateway Protocol. RIP uses the UDP (User Datagram Protocol) as its transport protocol.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > Network > RIP Settings.
3. Tick the Enable checkbox.



- MD5 Authentication: Enable MD5 Authentication to enhance the rip RA packets security.
- MD5 Key ID 0: Enter the MD5 Key ID 0 value.
- MD5 Key ID 1: Enter 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 IPv4.
- Modify: Click here to modify the RIP rule entry.

4. Click Save.

Chapter 17

Administrate Your Network

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

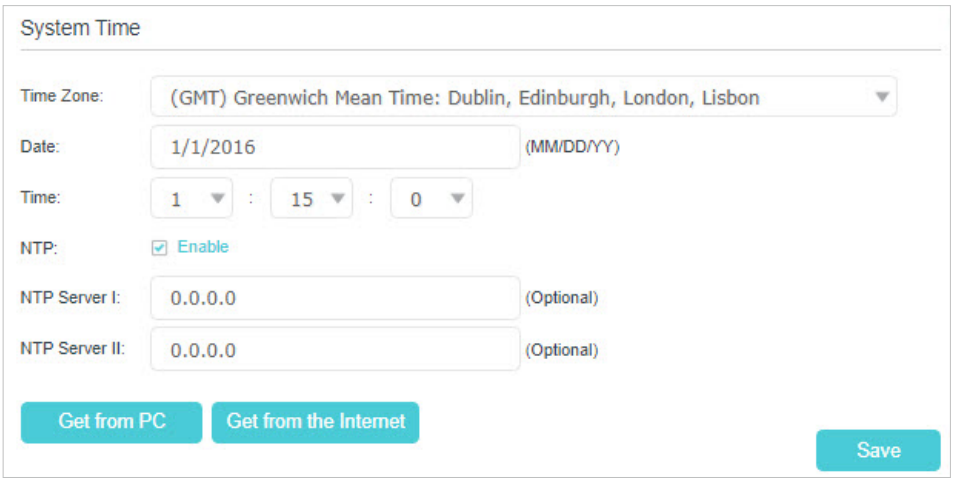
This chapter contains the following sections:

17. 1. Set Up System Time

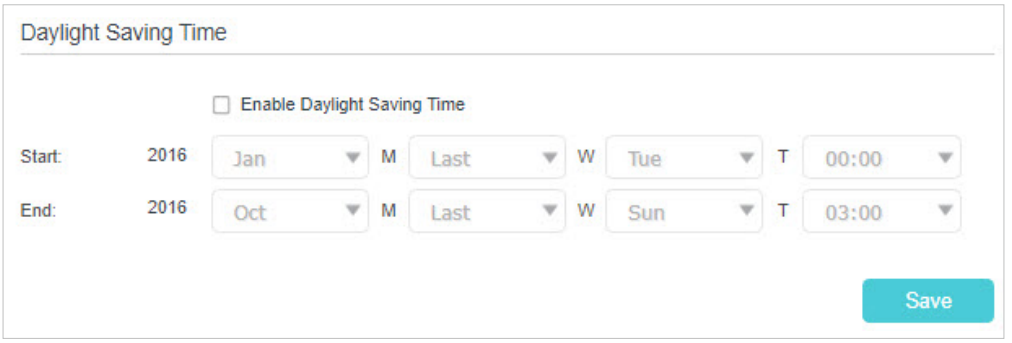
System time is the time displayed while the modem router is running. The system time you configure here will be used for other time-based functions like Parental Controls and Wireless Schedule. You can manually set how to get the system time.

Follow the steps below to set your system time.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the modem router.
2. Go to Advanced > System Tools > Time Settings page.



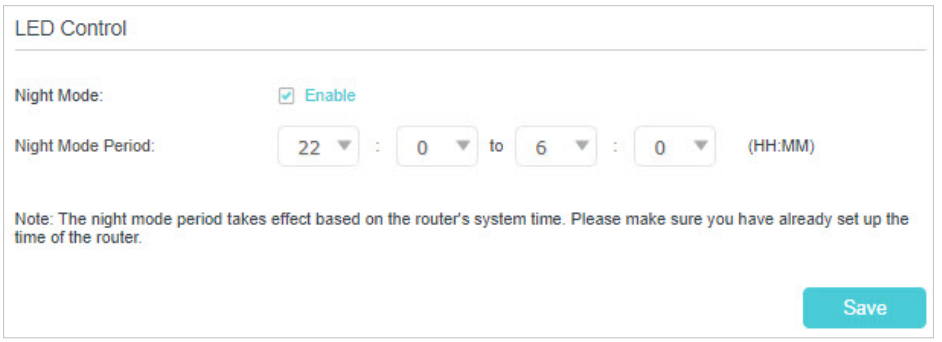
3. Select your local Time Zone from the drop-down list and enter your local time manually. You can also click Get from PC or Get from the Internet to get local time automatically.
4. Enable NTP. In the NTP Server I field, enter the IP address or domain name of your desired NTP Server.
5. (Optional) In the NTP Server II field, enter the IP address or domain name of the second NTP Server.
6. Click Save.
7. After setting the system time, you can set Daylight Saving Time according to your needs. Click Enable Daylight Saving Time, set the start and end time and then click Save to make the settings effective.



17. 2. Control LEDs

The router's LEDs indicate router's activities and status. You can turn on or turn off the LEDs either from the web management page or by pressing the LED button.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > LED Control.
3. Enable Night Mode.
4. Specify a time period in the Night Mode Period as needed.

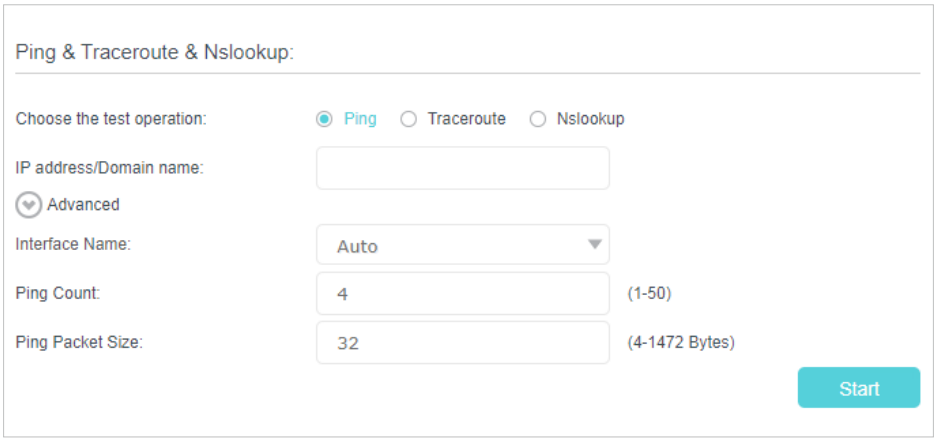


8. Click Save, and then the LEDs will be off during this period.

17. 3. Test the Network Connectivity

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

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



3. Enter the information:

1) Choose Ping, 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 query the Domain Name System (DNS) to obtain the mapping between a domain name and IP address, or other DNS records.

2) Enter the IP Address or Domain Name of the tested host.

3) Click Advanced.

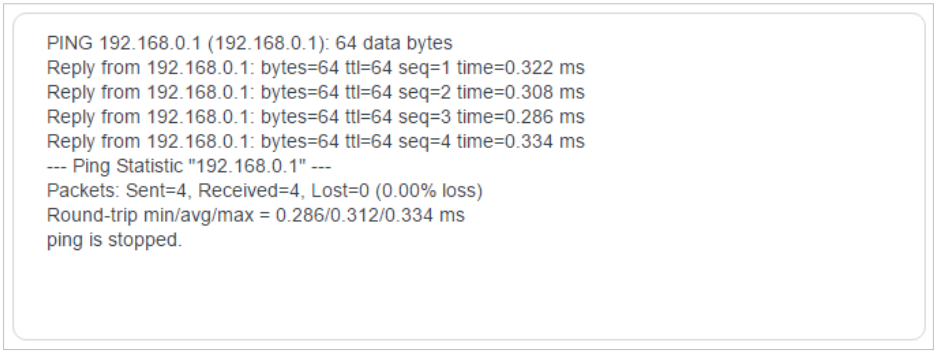
4) Choose an interface name.

5) Modify the Ping Count number and the Ping Packet Size. It's recommended to keep the default value.

6) If you have chosen Traceroute, you can modify the Traceroute Max TTL. It's recommended to keep the default value.

4. Click START to run the test.

The figure below indicates the proper connection between the router and the Yahoo server (www.Yahoo.com) tested through Ping.



17. 4. Update the Firmware

TP-Link aims at providing better network experience for users.

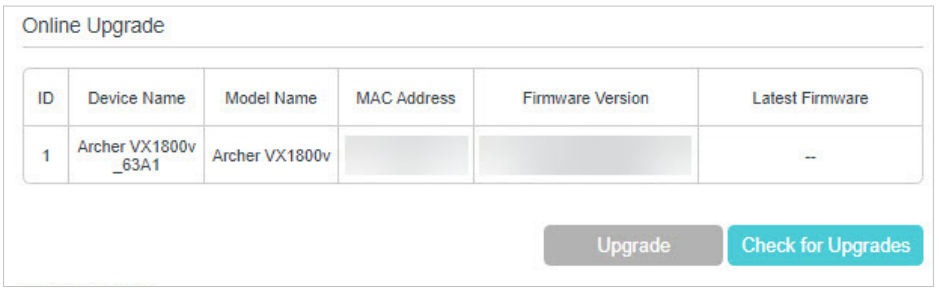
We will inform you through the web management page if there's any update firmware available for your router. Also, the latest firmware will be released at the TP-Link official website www.tp-link.com, and you can download it from the Support page for free.

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. Make sure you remove any USB storage device connected to the router before the firmware upgrade to prevent data loss.
3. Back up your router configuration before upgrading the firmware.
4. Do NOT turn off the router during the firmware upgrade.

17. 4. 1. Online Upgrade

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Firmware Upgrade, and click Check for Upgrades to see if there's any new firmware.



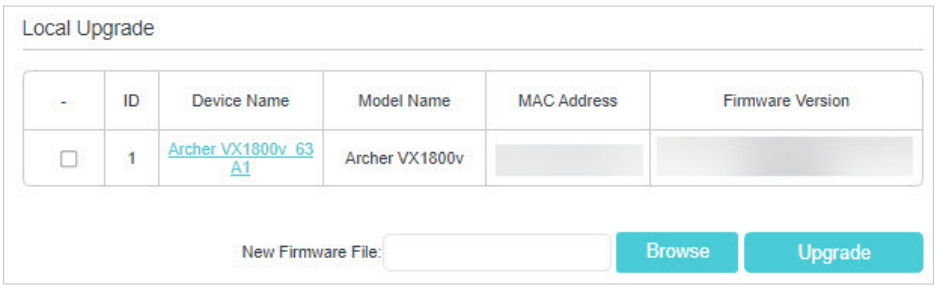
3. Wait a few moments for the upgrading and rebooting.

17. 4. 2. Local Upgrade

1. Download the latest firmware file for the router from our website www.tp-link.com.

2. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
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 moments for the upgrading and rebooting.

17. 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 modem router to a previous settings from the backup file when needed. Moreover, if needed you can erase the current settings and reset the modem router to the default factory settings.

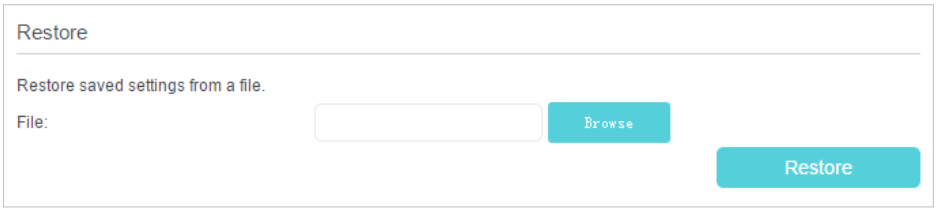
- **To back up configuration settings**

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Click Advanced > System Tools > Backup & Restore page.
3. 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. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.

2. Click Advanced > System Tools > Backup & Restore page.



3. Click Browse to locate the previous backup configuration file, and click Restore.
4. Wait for the restoring and then the modem router will automatically reboot.

- **To reset the modem router to factory default settings**

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Click Advanced > System Tools > Backup & Restore page.
3. Click Restore to restore all configuration settings to default values, except your login and TP-Link ID information. Click Factory Restore to reset the modem router.
4. Wait for the reset process to complete, and then the modem router will automatically reboot.

Note:

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

17. 6. Reboot the Modem Router

The Reboot feature cleans the cache to enhance the running performance of the router.

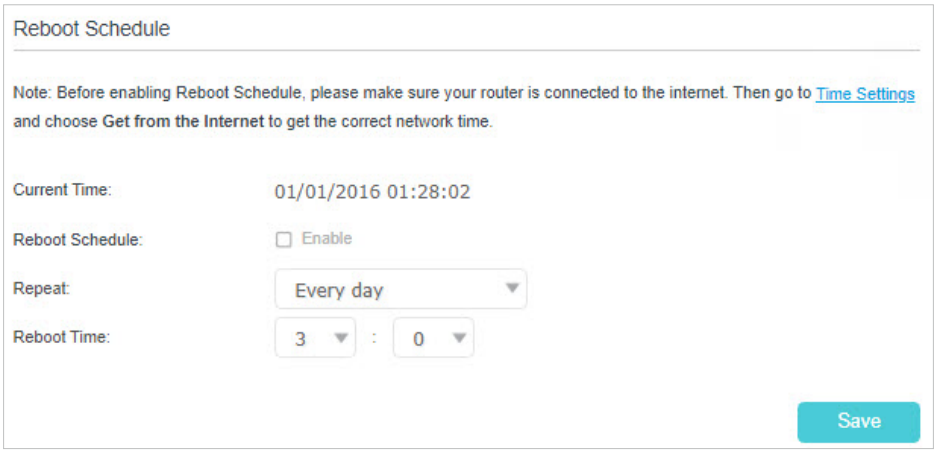
1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Reboot.

- **To Reboot Manually**

Locate the System Reboot section and click Reboot.

- **To Reboot Automatically**

1. Locate the Reboot Schedule section and check the box to enable Reboot Schedule.



2. Specify the Reboot Time when the router reboots and Repeat to decide how often it reboots.

Note:

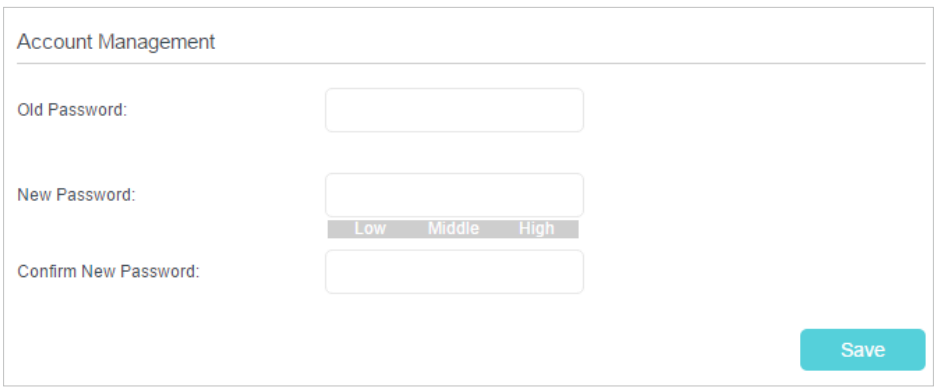
Before enabling Reboot Schedule, please make sure your router is connected to the internet, then go to Advanced > System Tools > Time Settings and choose Get from the Internet to get the correct network time.

3. Click Save.

17. 7. Change the Administrator Account

Admin account is used to log in to the modem router's web management page. You are required to set the admin account at first login. You can also change it on the web page.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Administration page. Locate the Account Management section.



3. Enter the old password. Enter the new password and enter again to confirm.
4. Click Save to make the settings effective.

17. 8. Local Management

You can control the local devices' authority to manage the modem router via Local Management feature. By default all local connected devices are allowed to manage the modem router. You can also specify one device to manage the modem 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 http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Administration page. Locate the Local Management section.
3. Keep the Port as the default setting. Enable Management over HTTPS and keep the Port for HTTPS as the default setting. Enter the IP address or MAC address of the local device to manage the modem router.

4. Click Save.

Now, you can manage the modem router over both HTTP (http://tplinkmodem.net) and HTTPS (https://tplinkmodem.net).

Note:

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

17. 9. Remote Management

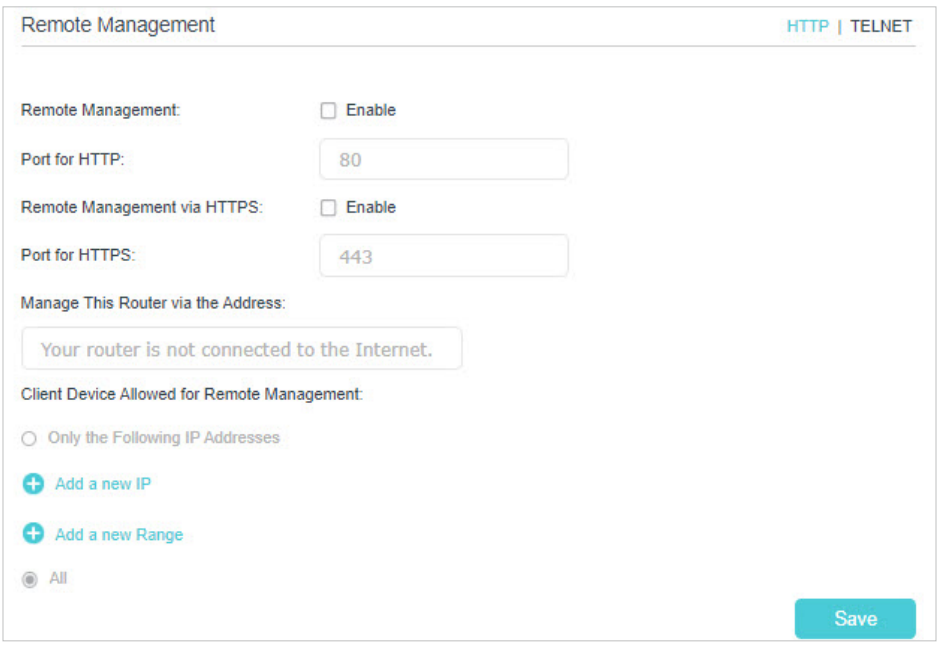
By default, the remote devices are not allowed to manage the modem router from the internet. You can enable remote management over HTTP and/or HTTPS if needed. HTTPS is a more secure way to access the router.

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 modem router over HTTPS.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Administration page. Locate the Remote Management section.



3. Tick the check box to enable Remote Management. Enable 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 modem router. If you just want to allow a specific device to manage the modem router, select Only the Following IP Address and enter the IP 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 modem router.

Tips:

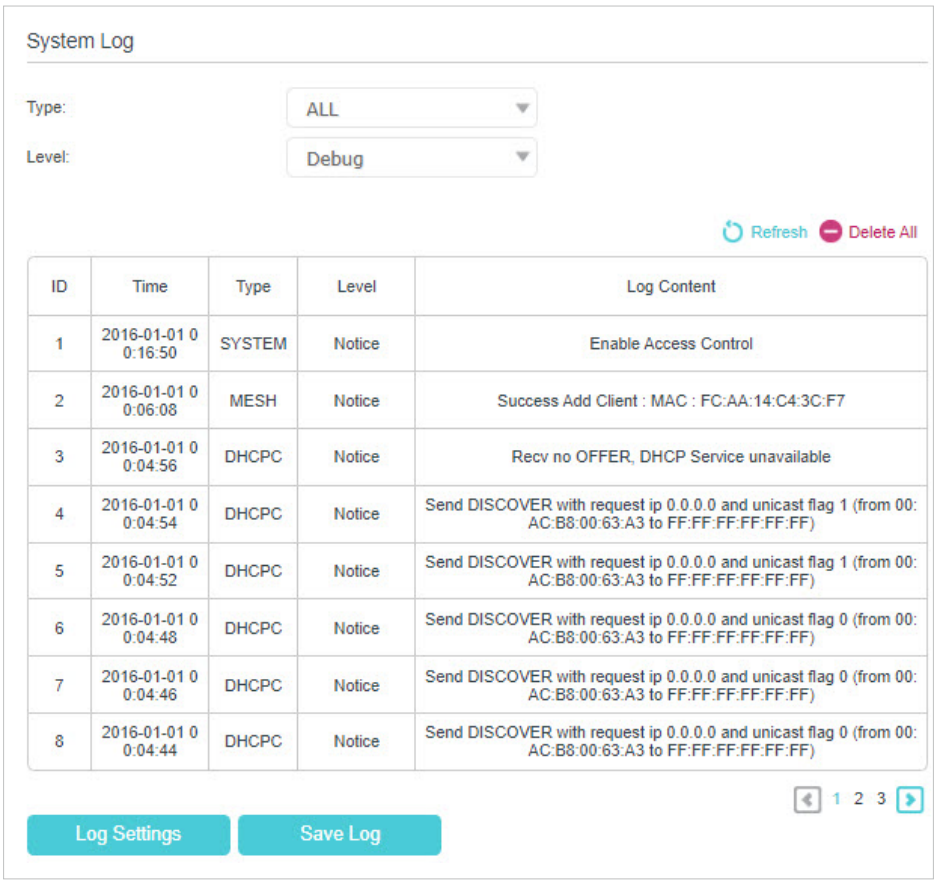
1. If you were warned about the certificate when visiting the web management page remotely, click Trust (or a similar option) to continue. To avoid this warning, you can download and install the certificate on the modem router's web management page at Advanced > System Tools > Administration.

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

17. 10. System Log

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

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Click Advanced > System Tools > System Log page.



- **To view the system logs:**

You can view specific system logs by selecting the log Type and Level.

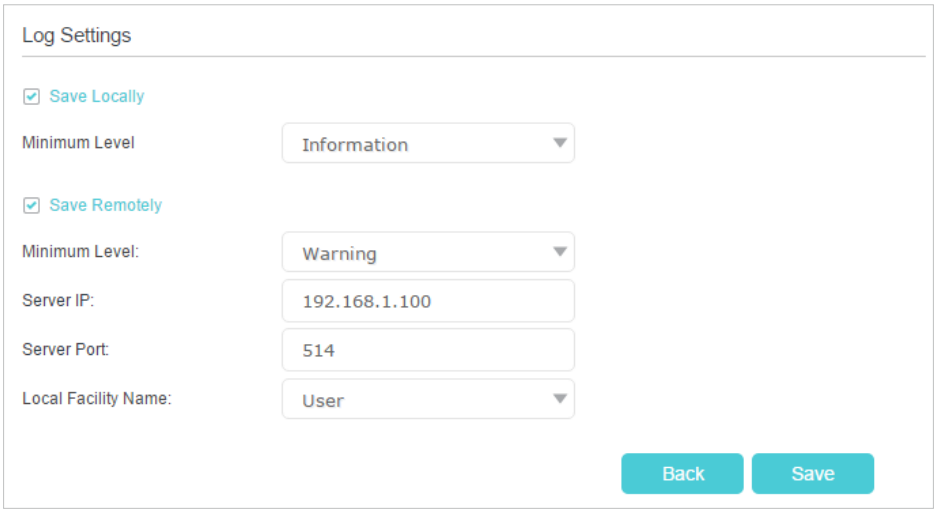
Click Refresh to refresh the log list.

- **To save the system logs:**

You can choose to 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.

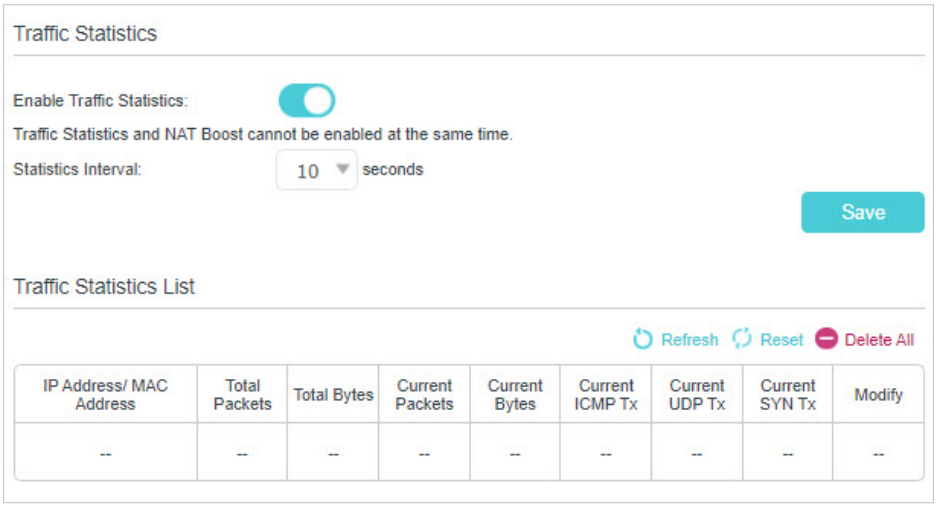


- Save Locally: Select this option to cache the system log to the router's local memory, select the minimum level of system log to be saved from the drop-down list. The logs will be shown in the table in descending order on the System Log page.
- Save Remotely: Select this option to send the system log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

17. 11. Monitor the Internet Traffic Statistics

The Traffic Statistics page displays the network traffic of the interfaces, including the received and sent packets.

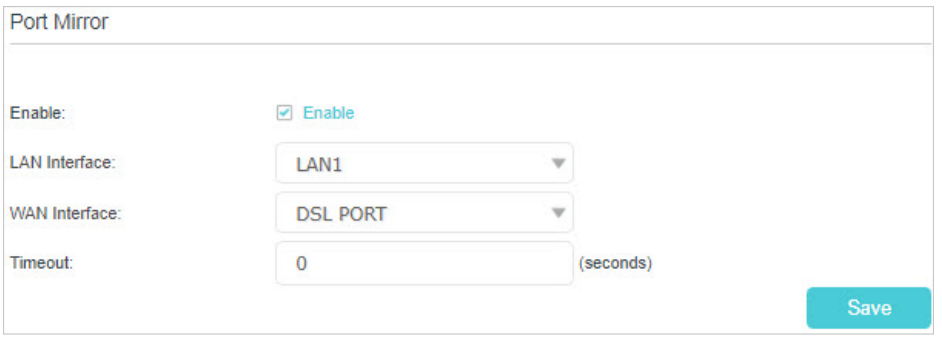
1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Traffic Statictics.
3. Select Statistics Interval.
4. The traffic usage of all interfaces will be displayed in the Traffic Statictics List.



17. 12. Port Mirror

Port Mirror copies network packets of the WAN port to a specific LAN port for data analysis and network monitoring.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Port Mirror.
3. Enable Port Mirror.
4. Select a LAN port to mirror network packets of the WAN port.
5. Set a Timeout duration after which Port Mirroring will disable automatically. If you set Timeout to 0 seconds, Port Mirroring will not disable automatically.

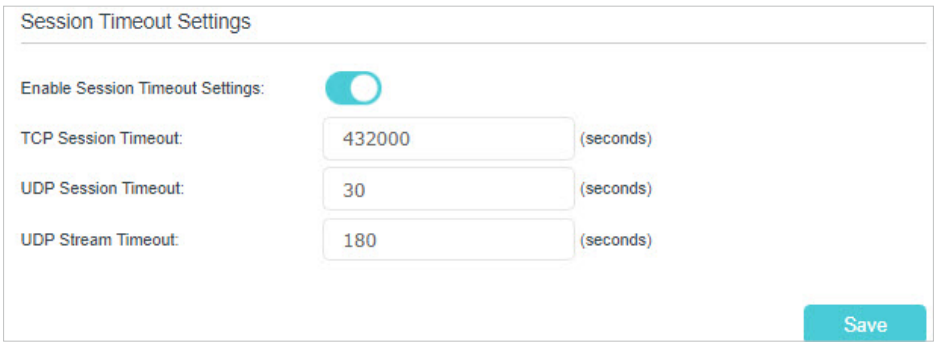


6. Click Save.

17. 13. Session Timeout

Session Timeout allows you to set the session timeout for system connection.

1. Visit http://tplinkmodem.net, and log in with your TP-Link ID or the password you set for the router.
2. Go to Advanced > System Tools > Session Timeout Settings.



3. Turn on Enable Session Timeout Settings.
4. Fill in TCP Session Timeout. After the specified time, if the established TCP connection is not active, the connection will be cleared. The default value is 432000 seconds.
5. Fill in UDP Session Timeout. After the specified time, if the UDP connection does not respond, the connection will be cleared. The default value is 30 seconds.
6. Fill in UDP Stream Timeout. After the specified time, if the UDP connection does not respond, the connection will be cleared. The default value is 180 seconds.

Appendix: Troubleshooting

T1. How do I restore my modem router's configuration to its factory default settings?

With the modem router powered on, press and hold down the Reset button on the modem router for 8 seconds until all LEDs turn on momentarily, then release the button.

Note: Once the modem router is reset, the current configuration settings will be lost and you will need to re-configure the modem router.

T2. What should I do if I forgot my password?

Web management page 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 the password.
- Alternatively, refer to T1 to reset the router, and then visit http://tplinkmodem.net to create a new login password.

Wireless network password:

- The default Wireless Password/PIN is printed on the product label of the modem router.
- Connect a computer directly to the router using an Ethernet cable. Log in to the modem router's web management page and go to Basic > Wireless to retrieve or reset your password.

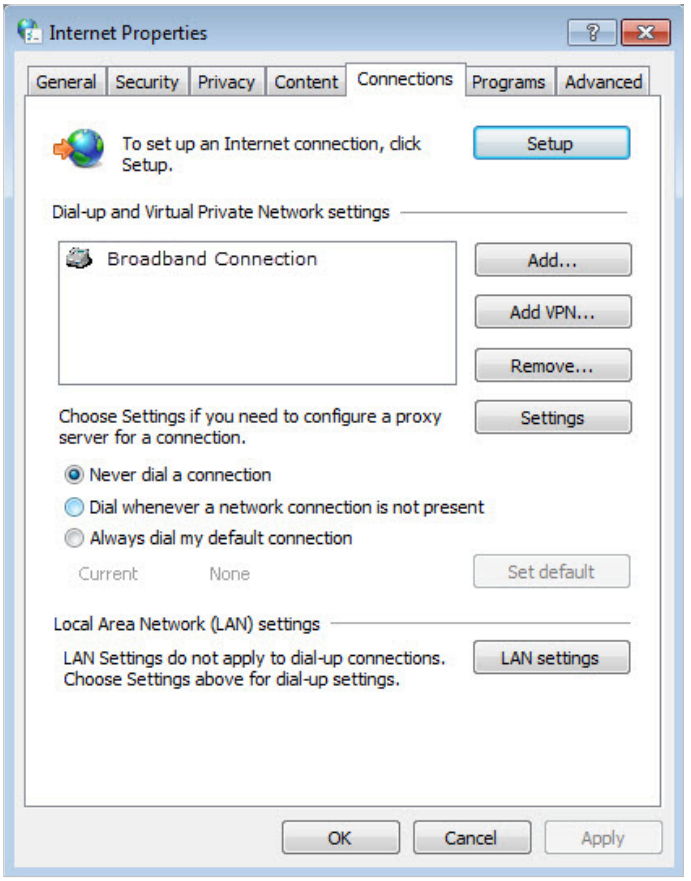
T3. What should I do if I cannot log in to the modem router's web management page?

- Make sure the modem router connects to the computer correctly and the corresponding LED indicator(s) light up.
- Make sure the IP address of your computer is configured to obtain an IP address automatically and obtain the DNS server address automatically.
- Make sure the default access you input is right.
- Check your computer's settings:

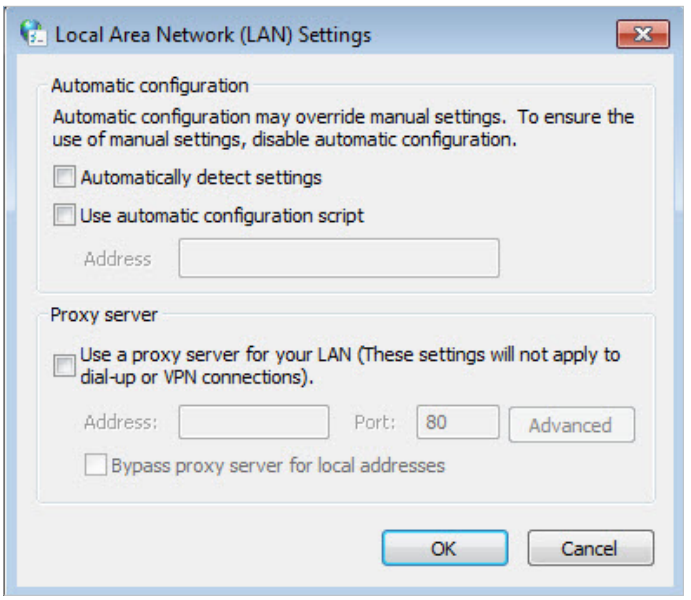
  1) Go to Start > Control Panel > Network and Internet, and click View network status and tasks;

  2) Click Internet Options on the bottom left;

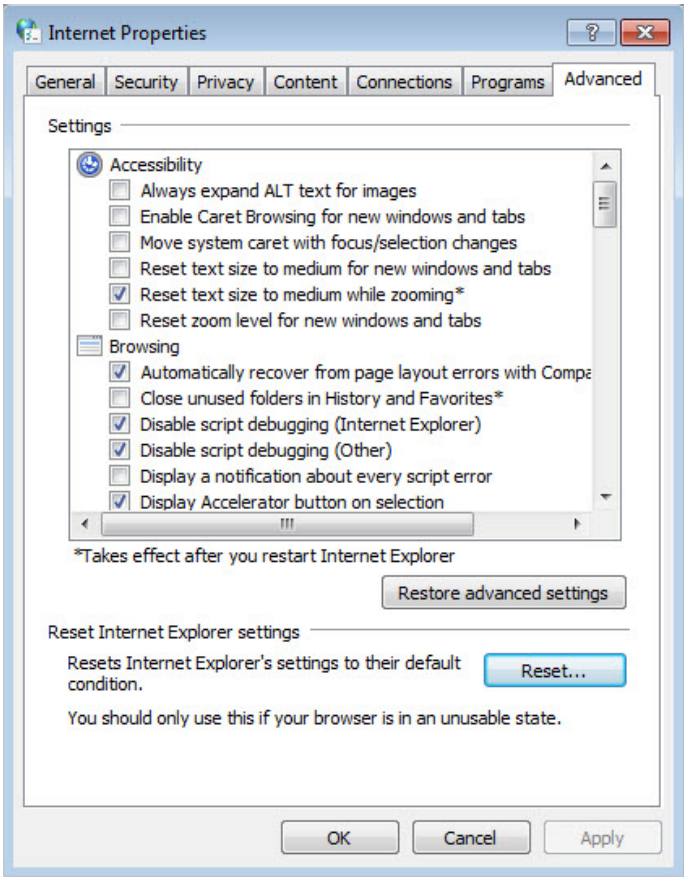
  3) Click Connections, select Never dial a connection;



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



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



- Change a web browser or computer and log in again.
- Reset the modem router to factory default settings. Refer to Back up and Restore Configuration Settings for detailed information. Open a web browser and log in again. If login fails, please contact our Technical Support.

T4. What should I do if I cannot access the internet?

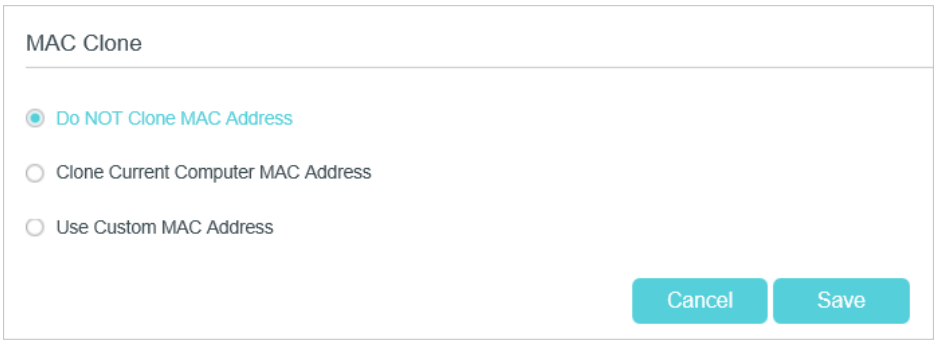
1. Ensure all connections are secure, including telephone lines, Ethernet cables and power adapters.
2. Check to see if you can log in to the web management page of the modem router. If you cannot, please adjust your computer's settings according to T3 and then see if you can access the internet. If the problem persists, please go to the next step.
3. Consult your ISP and make sure the VPI/VCI, Connection Type, account username and password are correct. If there are any mistakes, please correct the settings and try again.
4. Refer to T5 to clone the MAC address.
5. If you still cannot access the internet, please restore your modem router to its factory default settings and reconfigure your modem router by following the instructions in Use Quick Setup Wizard.

6. Please contact our Technical Support if the problem persists.

T5. How do I clone a MAC address?

You can manually change the MAC address of the modem router. It is helpful when your internet access account provided by your ISP is bound to one specific MAC address, in other words, your ISP just permits only one computer with the authenticated MAC address to access the internet. In this case, you can use MAC Clone to allow more computers to access the internet via the same account.

1. Visit http://tplinkmodem.net, and log in with the account you set for the modem router.
2. Go to Advanced > Network > Internet page. Click the Add icon, and scroll down to get the MAC Clone section.



   - If you are using the computer with the authenticated MAC address to access the modem router, please select Use Current Computer MAC Address.
   - If you know the authenticated MAC address, please select Use Custom MAC Address and then enter the address.
3. Click OK to make the settings effective.

T6. How can I change my computer's settings to obtain an IP address automatically?

To change the computer's network settings, follow the steps below.

- For MAC OS X:

1) Click the Apple icon, and select System Preferences from the drop-down list.

2) Click the Network icon.

3) Select Ethernet (for wired connection) or Wi-Fi (for wireless connection) in the left panel, then click Advanced.

4) Click TCP/IP.

5) From the Configure IPv4 drop-down list, select Using DHCP.

6) Click OK.

- For Windows 7/8/8.1/10:

1) Right-click the Network icon on the system tray and select Open Network and Sharing Center > Change adapter settings.

2) Right-click your network connection (wired or wireless) and select Properties.

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

4) Select both Obtain an IP address automatically and Obtain DNS server address automatically, then click OK.

5) Click OK again to save your configuration.

- For Windows XP:

1) Right-click the Network icon on the system tray and select Open Network Connections.

2) Right-click your network connection (wired or wireless) and select Properties.

3) Double-click Internet Protocol (TCP/IP).

4) Select both Obtain an IP address automatically and Obtain DNS server address automatically, then click OK.

5) Click OK again to save your configuration.

T7. What should I do if I cannot find my wireless network or I cannot connect the wireless network?

- **If you fail to find any wireless network, follow the steps below:**

1. Make sure the wireless function 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.
2. Make sure the wireless adapter driver is installed successfully and the wireless adapter is enabled. You can refer to the relevant document or contact the wireless adapter manufacturer.

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

1. Check the Wi-Fi LED indicator on your wireless router/modem;
2. Make sure your computer/device is still in range of your router/modem. Move closer if you are currently too far away.
3. Go to Basic > Wireless page, and check the wireless settings, double-check your Wireless Name (SSID) is not hidden.
4. Connect to wireless network.

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

1. Authentication problem: Network Security Key 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 modem router.

   2) If you cannot find the PIN or PIN failed, you may choose "Connecting using a security key instead", and then type in the Network Security Key/Wireless Password;

   3) If you continue to be told there is a network security key mismatch, it is suggested to check the wireless password on your modem router.

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

4) Connect to wireless network.

2. Windows was unable to connect to XXXX /Cannot join this network/Taking longer than usual to connect to this network.

1) Check the wireless signal strength of your network, if it is weak (1~3 bars), please move the router closer and try again;

2) Change the wireless Channel of the router to 1,6,or 11 to reduce interference from other networks;

3) Re-install or update the driver for your wireless adapter of the computer;

4) Connect to wireless network.

CE Mark Warning

CE

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)

2400 MHz -2483.5 MHz(20dBm)

5150 MHz -5250 MHz(23dBm)

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/

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/

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, EFTA countries and Northern Ireland.

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

	AT	BE	BG	CH	CY	CZ	DE	DK
	EE	EL	ES	FI	FR	HR	HU	IE
	IS	IT	LI	LT	LU	LV	MT	NL
	NO	PL	PT	RO	SE	SI	SK	UK(IN)

Korea Warning Statements

당해 무선설비는 운용중 전파혼신 가능성이 있음.

NCC & 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

- 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。
- 請不要私自打開機殼，不要嘗試自行維修本產品，請由授權的專業人士進行此項工作。

限用物質含有情況標示聲明書

設備名稱：AX1800 Dual-Band Wi-Fi 6 VDSL/ADSL Modem Router				型號（型式）：Archer VX1800v Type designation (Type)		
單元 Unit	限用物質及其化學符號 Restricted substances and its chemical symbols					
	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	○	○	○	○	○	○
外殼	○	○	○	○	○	○
電源供應器	—	○	○	○	○	○
天線	○	○	○	○	○	○

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.〝○〞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 water, fire, humidity or hot environments.
- Do not attempt to disassemble, repair, or modify the device. If you need service, please contact us.
- Do not use damaged charger or USB cable to charge the device.
- Do not use any other chargers than those recommended
- Do not use the device where wireless devices are not allowed.
- Adapter shall be installed near the equipment and 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: 0°C ~ 40°C (32°F ~ 104°F)

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.

Explanation of the symbols on the product label

Symbols may vary from products.

Note: The product label can be found at the bottom of the product and its I.T.E. power supply.

Symbol	Explanation
	Class II equipment
	Class II equipment with functional earthing
	Alternating current
	DC voltage
	Polarity of output terminals
	Indoor use only
	Dangerous voltage
	Caution, risk of electric shock
	Energy efficiency Marking
	Protective earth
	Earth
	Frame or chassis
	Functional earthing
	Caution, hot surface
	Caution
	Operator’s manual
	Stand-by
	“ON”/”OFF” (push-push)

Symbol	Explanation
	Fuse
	Fuse is used in neutral N
	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.
	Caution, avoid listening at high volume levels for long periods
	Disconnection, all power plugs
m	Switch of mini-gap construction
μ	Switch of micro-gap construction (for US version) Switch of micro-gap / micro-disconnection construction (for other versions except US)
ε	Switch without contact gap (Semiconductor switching device)