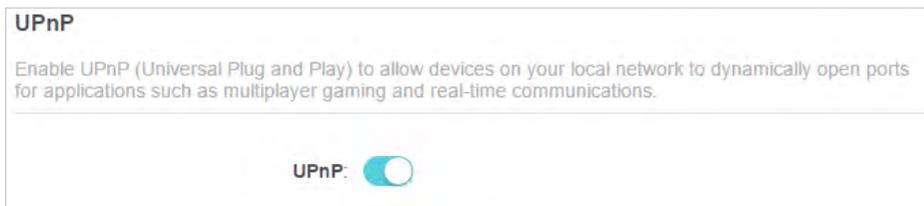


corresponding ports allowing the following data penetrating the NAT to transmit. Therefore, you can play Xbox online games without a hitch.



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

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



## Chapter 13

---

# VPN Server&Client

---

The router offers several ways to set up VPN connections:

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

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

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

**L2TP/IPSec VPN** is more secure but slower than PPTP VPN, and may have trouble getting around firewalls.

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

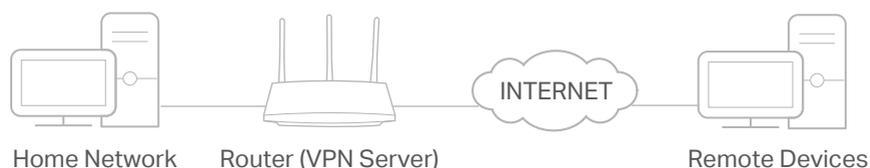
This chapter contains the following sections:

- [Use OpenVPN to Access Your Home Network](#)
- [Use PPTP VPN to Access Your Home Network](#)
- [Use L2TP/IPSec VPN to Access Your Home Network](#)
- [Use VPN Client to Access a Remote VPN Server](#)

## 13.1. Use OpenVPN to Access Your Home Network

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

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



### Step1. Set up OpenVPN Server on Your Router

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

**OpenVPN**

Set up an OpenVPN for secure, remote access to your network.

---

**Note:** No certificate has been created. Generate one below before enabling OpenVPN.

**OpenVPN:**  Enable

Service Type:  UDP  
 TCP

Service Port:

VPN Subnet:

Netmask:

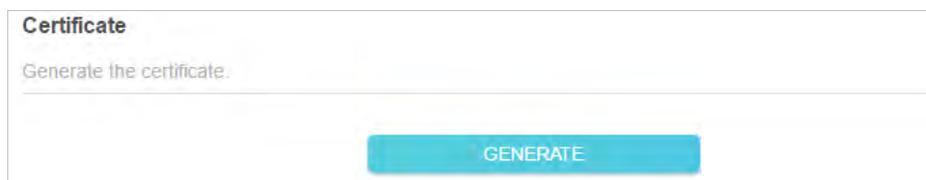
Client Access:  ▼

**Note:**

- Before you enable VPN Server, we recommend you configure Dynamic DNS Service (recommended) or assign a static IP address for router's WAN port and synchronize your System Time with internet.
- The first time you configure the OpenVPN Server, you may need to generate a certificate before you enable the VPN Server.

3. Select the **Service Type** (communication protocol) for OpenVPN Server: UDP, TCP.
4. Enter a VPN **Service Port** to which a VPN device connects, and the port number should be between 1024 and 65535.
5. In the **VPN Subnet/Netmask** fields, enter the range of IP addresses that can be leased to the device by the OpenVPN server.

6. Select your **Client Access** type. Select **Home Network Only** if you only want the remote device to access your home network; select **Internet and Home Network** if you also want the remote device to access internet through the VPN Server.
7. Click **SAVE**.
8. Click **GENERATE** to get a new certificate.



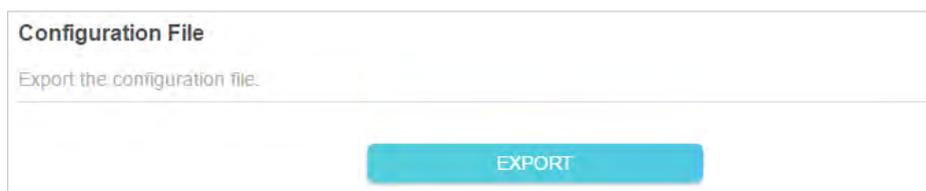
**Certificate**

Generate the certificate.

**GENERATE**

**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.



**Configuration File**

Export the configuration file.

**EXPORT**

## 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 plan to apply the VPN function to access your router. Mobile devices should download a third-party app from Google Play or Apple App Store.

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

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

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

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

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

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to [Advanced](#) > [VPN Server](#) > [PPTP](#), and tick the [Enable](#) box of [PPTP](#).

**PPTP**

Set up a PPTP VPN and accounts for quick, remote access to your network.

---

**PPTP:**  [Enable](#)

Client IP Address:  -   
(up to 10 clients)

[Allow Samba \(Network Place\) access](#)

[Allow NetBIOS passthrough](#)

[Allow Unencrypted connections](#)

**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. Set the PPTP connection permission according to your needs.
  - Select [Allow Samba \(Network Place\) access](#) to allow your VPN device to access your local Samba server.
  - Select [Allow NetBIOS passthrough](#) to allow your VPN device to access your Samba server using NetBIOS name.
  - Select [Allow Unencrypted connections](#) to allow unencrypted connections to your VPN server.
5. Click [SAVE](#).
6. Configure the PPTP VPN connection account for the remote device. You can create up to 16 accounts.

**Account List**

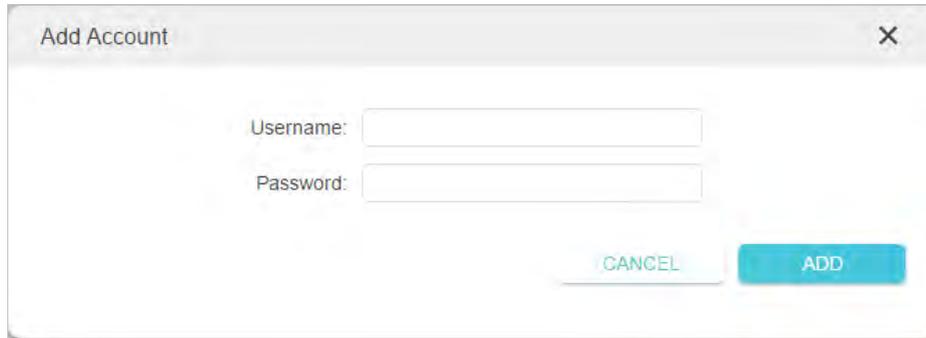
Configure accounts (up to 16) that can be used by remote clients to connect to the VPN server.

---

[+ Add](#)

Username	Password	Modify
admin	admin	<a href="#">✎</a> <a href="#">🗑</a>

- 1) Click [Add](#).
- 2) Enter the [Username](#) and [Password](#) to authenticate devices to the PPTP VPN Server.

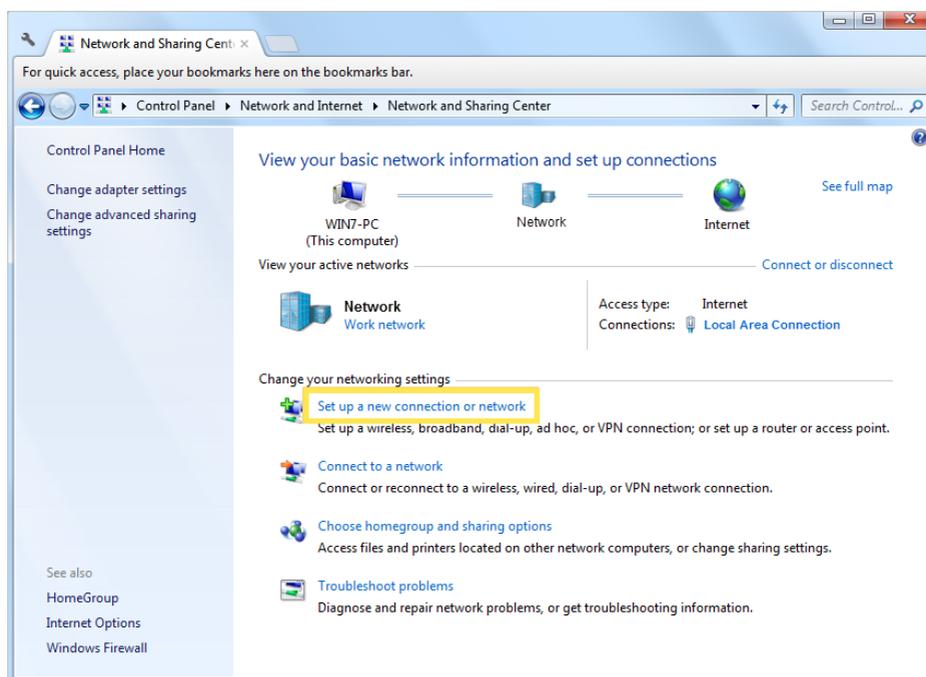


3) Click [ADD](#).

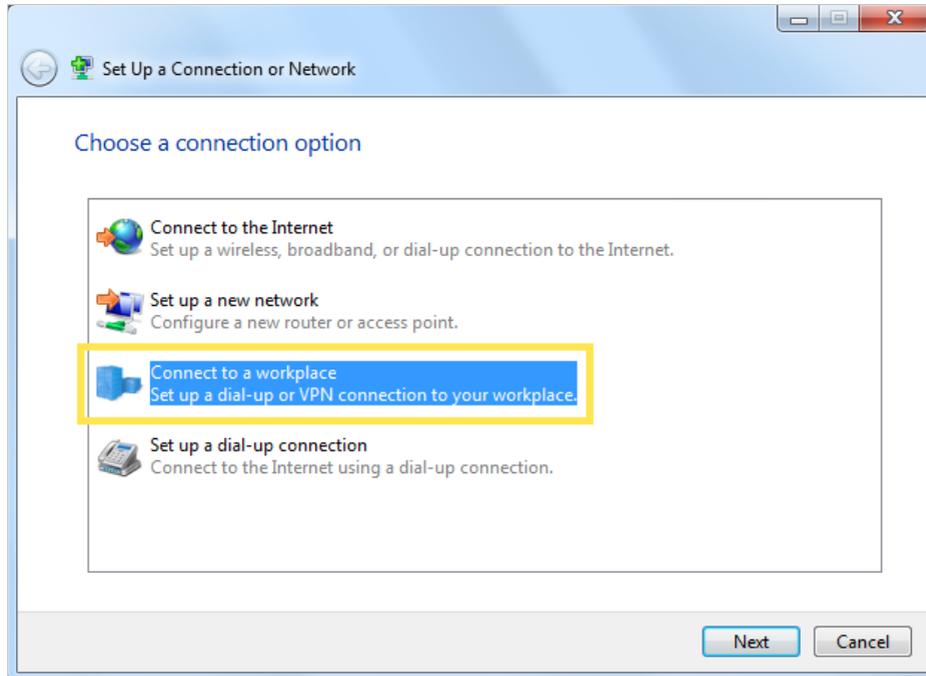
## Step 2. Configure PPTP VPN Connection on Your Remote Device

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

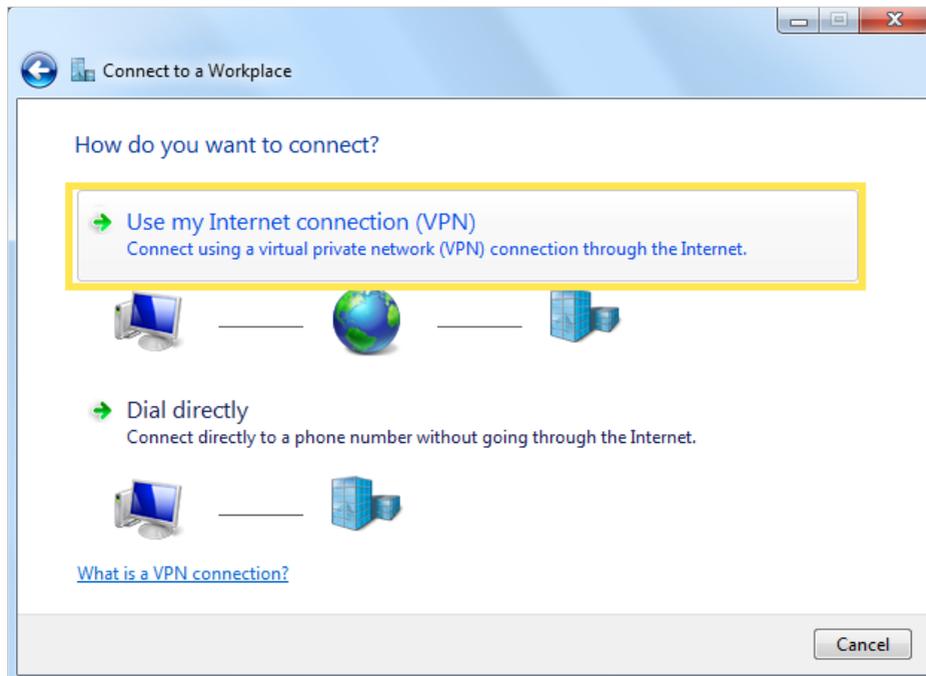
1. Go to [Start > Control Panel > Network and Internet > Network and Sharing Center](#).
2. Select [Set up a new connection or network](#).



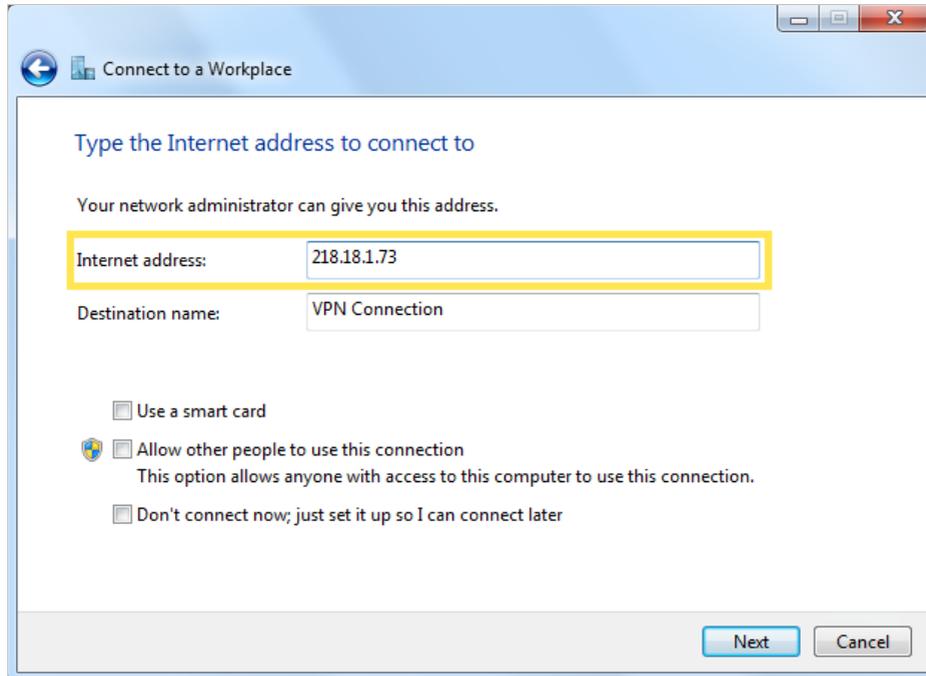
3. Select [Connect to a workplace](#) and click [Next](#).



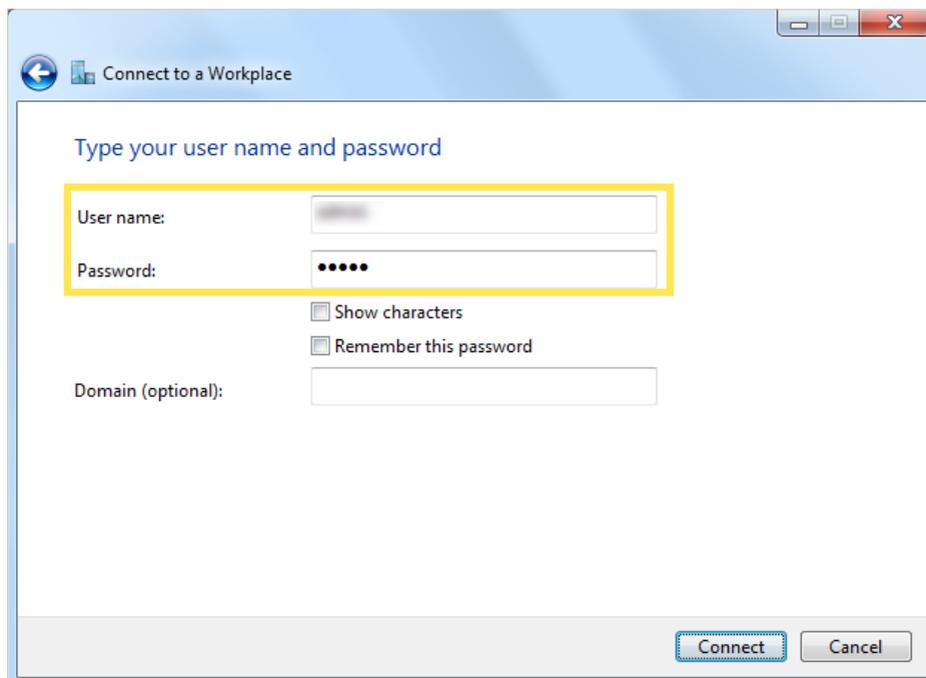
4. Select **Use my Internet connection (VPN)**.



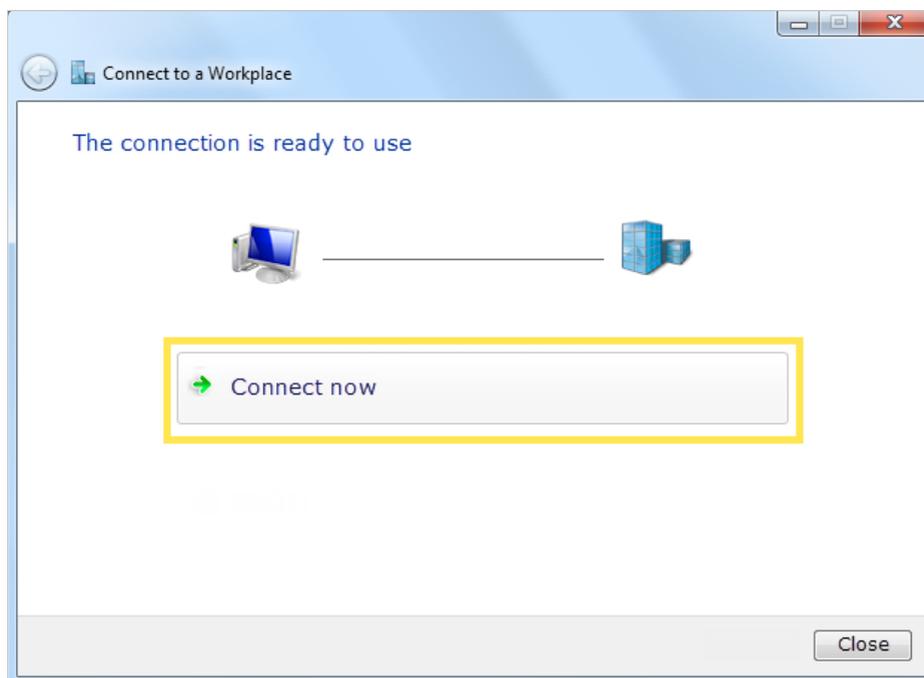
5. Enter the internet IP address of the router (for example: 218.18.1.73) in the **Internet address** field. Click **Next**.



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



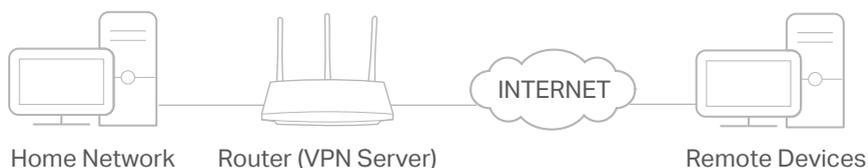
7. Click **Connect Now** when the VPN connection is ready to use.



### 13.3. Use L2TP/IPSec VPN to Access Your Home Network

L2TP/IPSec VPN Server is used to create a L2TP/IPSec VPN connection for remote devices to access your home network.

To use the VPN feature, you need to set up L2TP/IPSec VPN Server on your router, and configure the L2TP/IPSec connection on remote devices. Please follow the steps below to set up the L2TP/IPSec VPN connection.



#### Step 1. Set up L2TP/IPSec VPN Server on Your Router

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to **Advanced > VPN Server > L2TP/IPSec**, and enable **L2TP/IPSec**.

**Note:**

- Firmware update may be required to support L2TP/IPSec VPN Server.
- 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.

**L2TP/IPSec**  
Set up a L2TP/IPSec VPN and accounts for quick, remote access to your network.

L2TP/IPSec:  Enable

Client IP Address:  -   
(up to 10 clients)

IPSec Encryption:

IPSec Pre-Shared Key:

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 L2TP/IPSec VPN server.
4. Keep **IPSec Encryption** as **Encrypted** and create an **IPSec Pre-Shared Key**.
5. Click **SAVE**.
6. Configure the L2TP/IPSec VPN connection account for the remote device. You can create up to 16 accounts.

**Account List**  
Configure accounts (up to 16) that can be used by remote clients to connect to the VPN server.

[+ Add](#)

Username	Password	Modify
admin	admin	<a href="#">Edit</a> <a href="#">Delete</a>

- 4) Click **Add**.
- 5) Enter the **Username** and **Password** to authenticate devices to the L2TP/IPSec VPN Server.

**Add Account** X

Username:

Password:

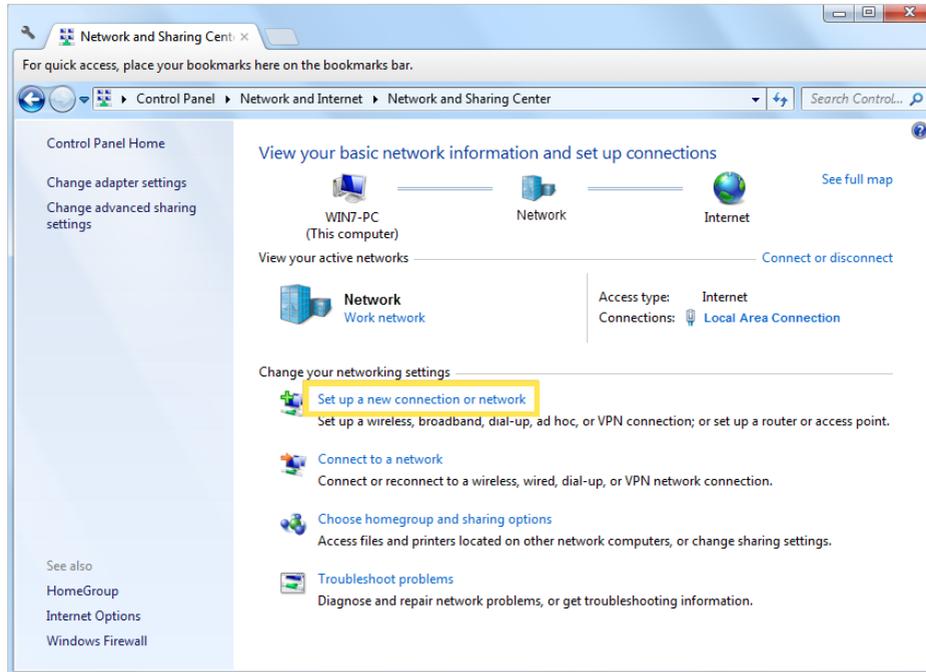
[CANCEL](#) [ADD](#)

- 6) Click **ADD**.

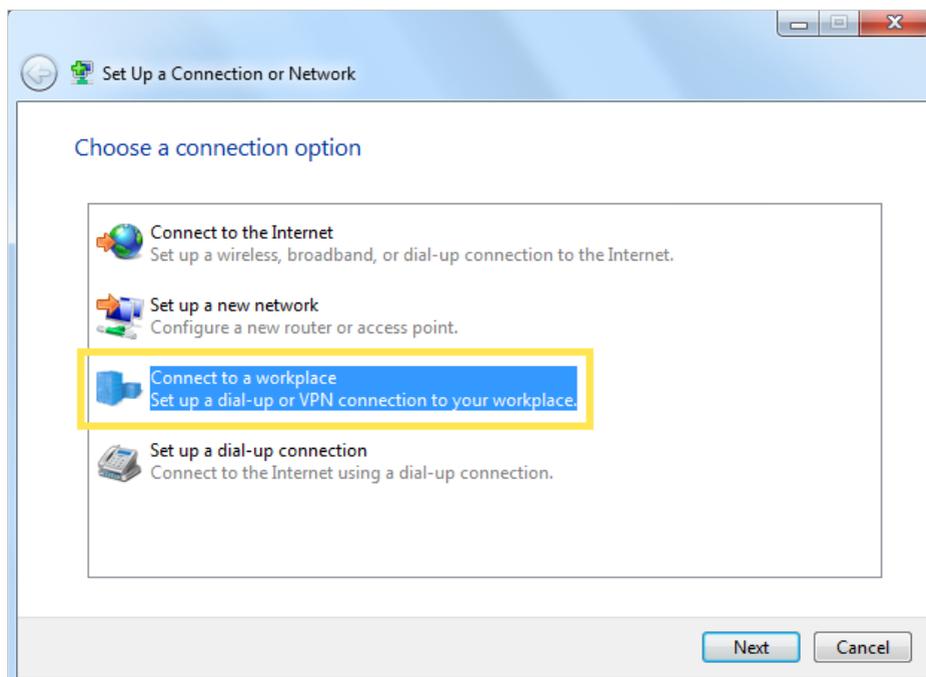
## Step 2. Configure L2TP/IPSec VPN Connection on Your Remote Device

The remote device can use the Windows or Mac OS built-in L2TP/IPSec software or a third-party L2TP/IPSec software to connect to L2TP/IPSec Server. Here we use the [Windows built-in L2TP/IPSec software](#) as an example.

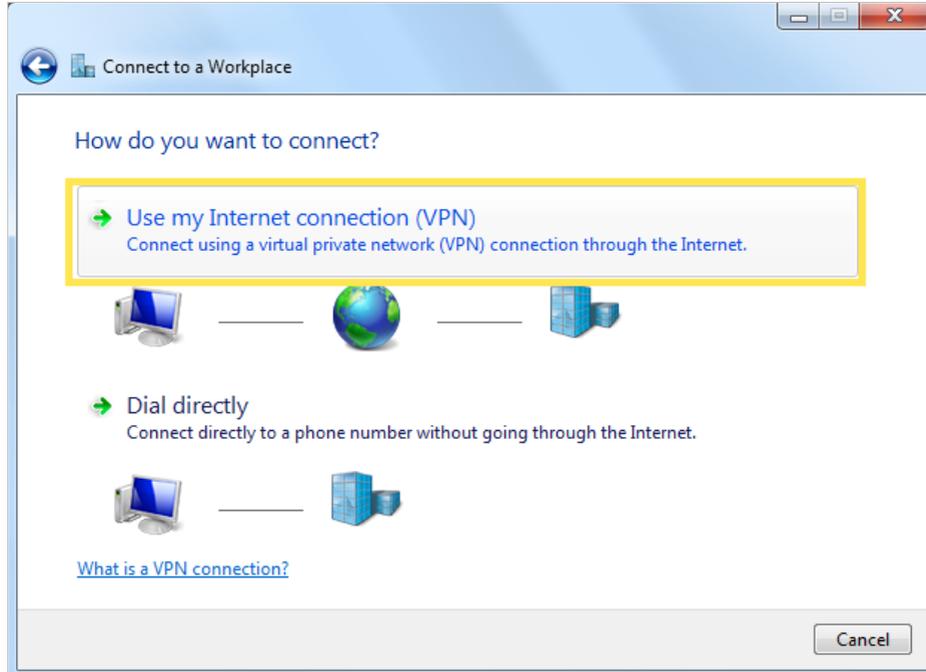
1. Go to [Start > Control Panel > Network and Internet > Network and Sharing Center](#).
2. Select [Set up a new connection or network](#).



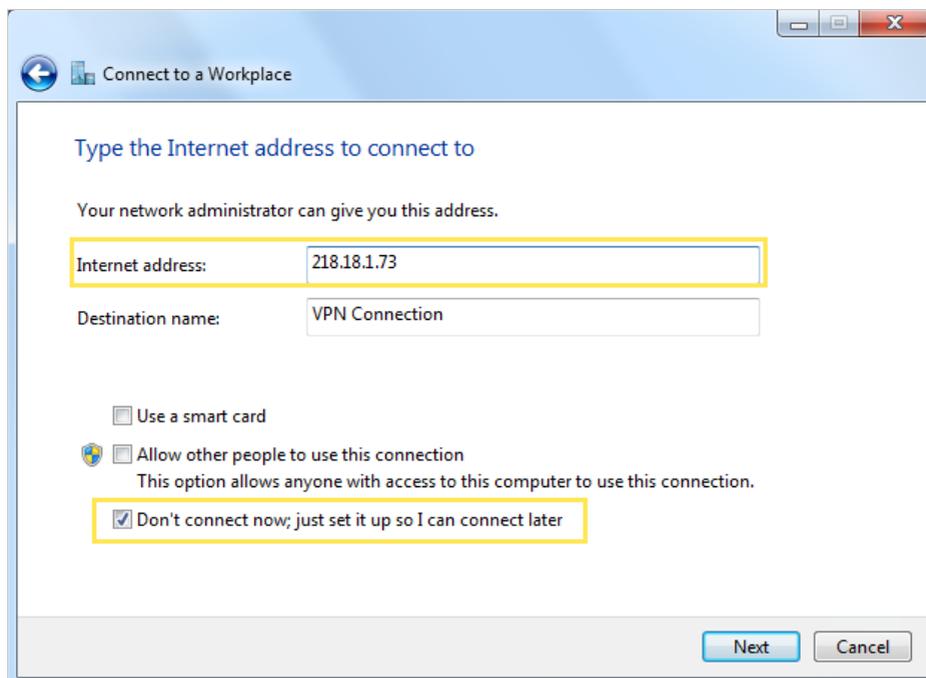
3. Select [Connect to a workplace](#) and click [Next](#).



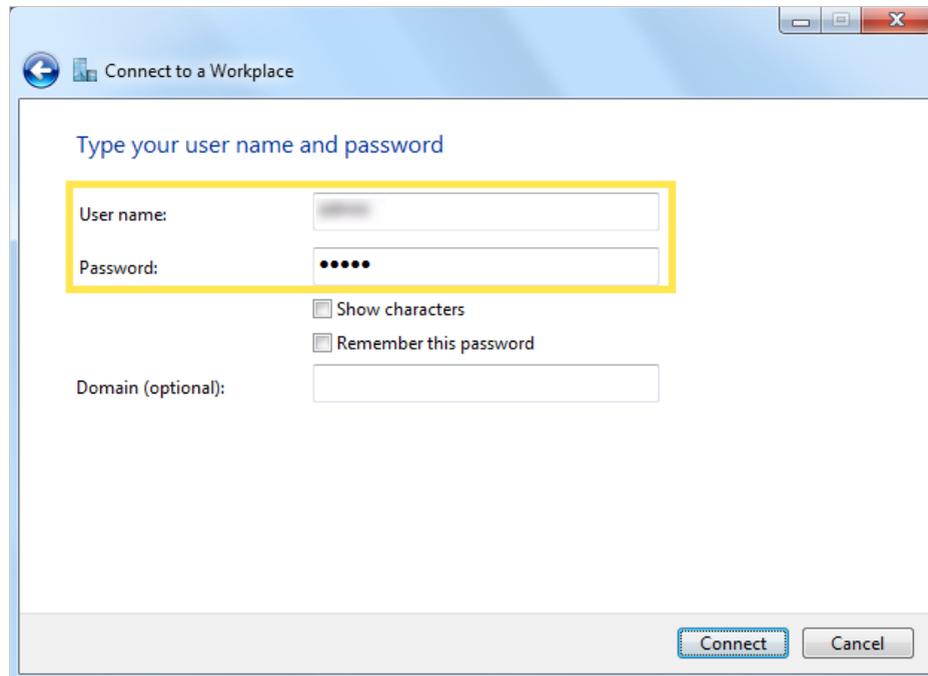
4. Select **Use my Internet connection (VPN)**.



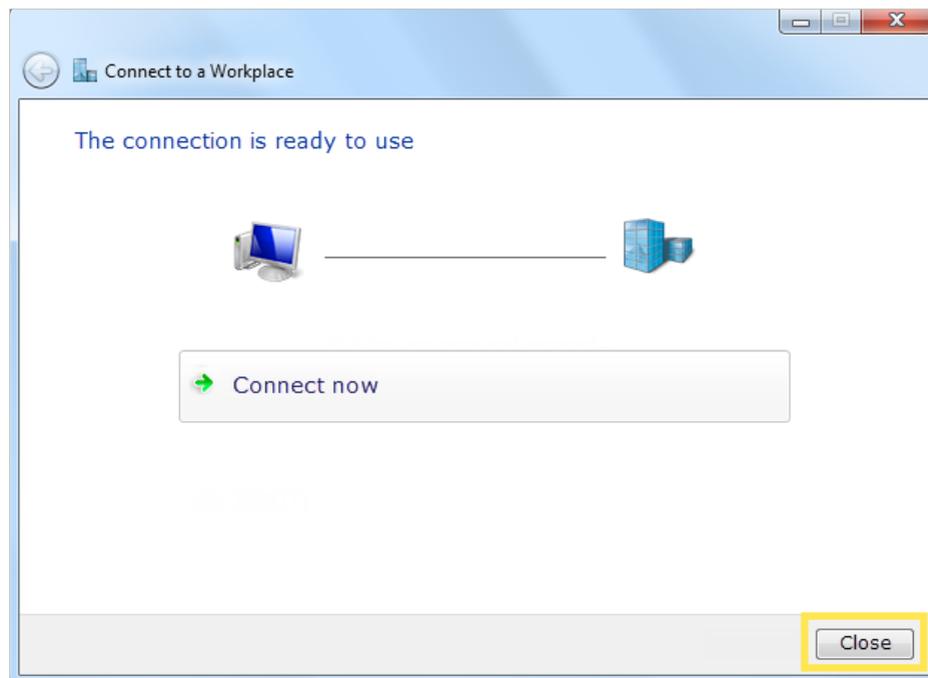
5. Enter the internet IP address of the router (for example: 218.18.1.73) in the **Internet address** field, and select the checkbox **Don't connect now; just set it up so I can connect later**. Click **Next**.



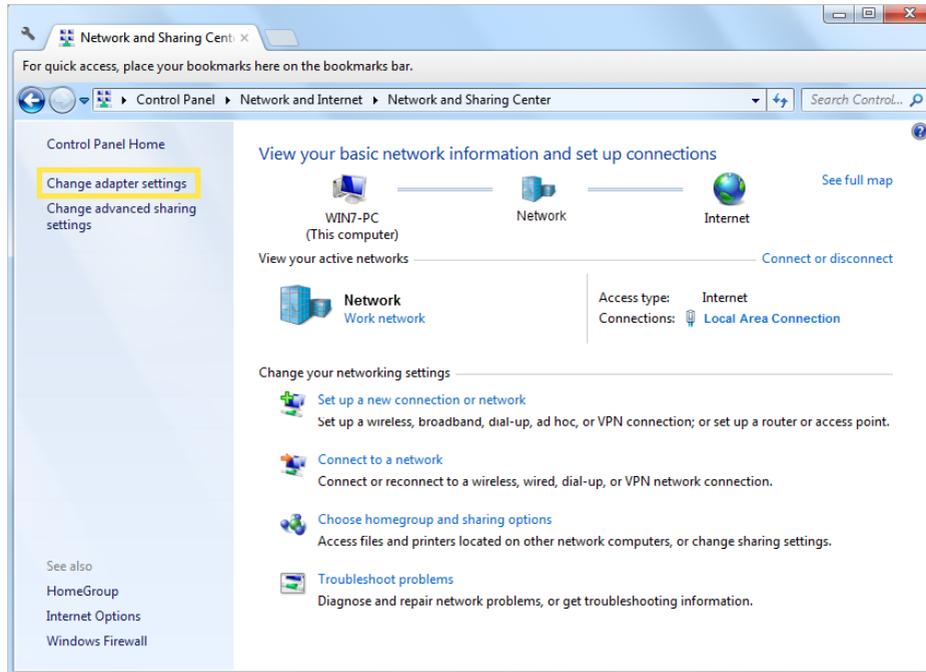
6. Enter the **User name** and **Password** you have set for the L2TP/IPSec VPN server on your router, and click **Connect**.



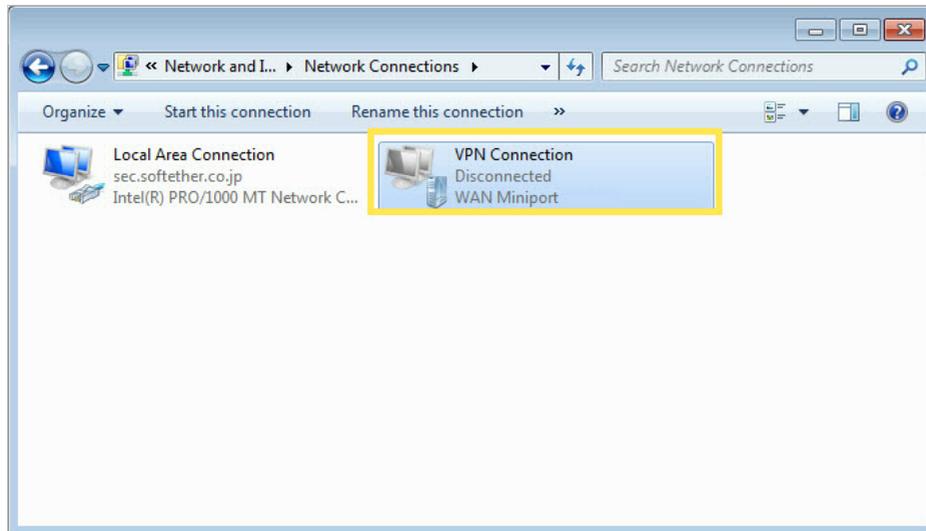
7. Click **Close** when the VPN connection is ready to use



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



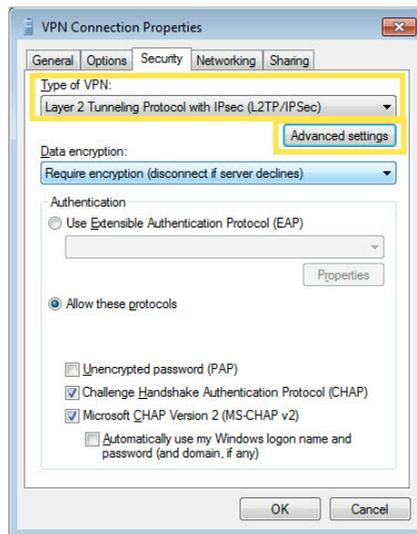
9. Find the VPN connection you created, then double-click it.



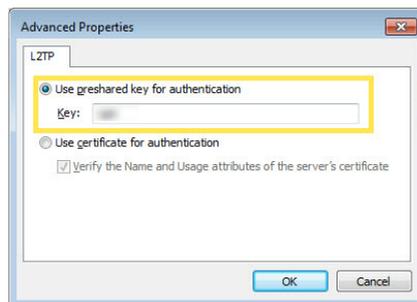
10. Enter the **User name** and **Password** you have set for the L2TP/IPSec VPN server on your router, and click **Properties**.



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



12. Select **Use preshared key for authentication** and enter the IPsec Pre-Shared Key you have set for the L2TP/IPsec VPN server on your router. Then click **OK**.



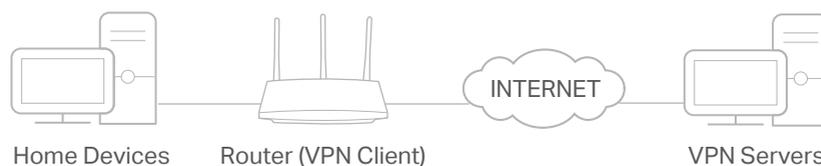
Done! Click **Connect** to start VPN connection.



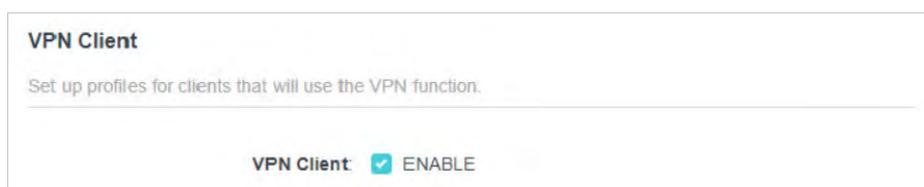
## 13.4. Use VPN Client to Access a Remote VPN Server

VPN Client is used to create VPN connections for devices in your home network to access a remote VPN server.

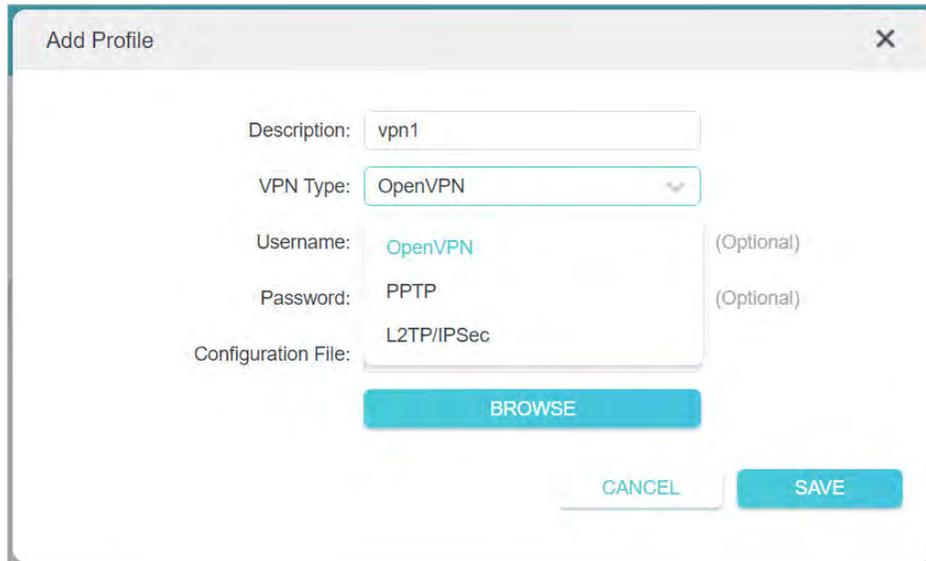
To use the VPN feature, simply configure a VPN connection and choose your desired devices on your router, then these devices can access the remote VPN server. Please follow the steps below:



1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
  2. Go to **Advanced > VPN Client**.
- Note: Firmware update may be required to support VPN Client.
3. Enable **VPN Client**, then save the settings.

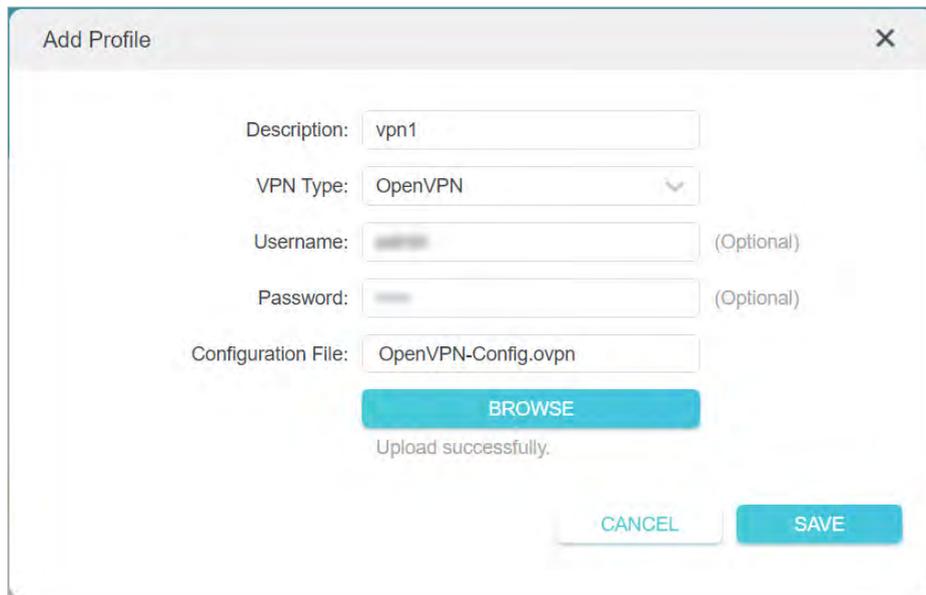


4. Add VPN servers, and enable the one you need.
  - 1) In the **Server List** section, click **Add**.
  - 2) Specify a description for the VPN, and choose the VPN type.

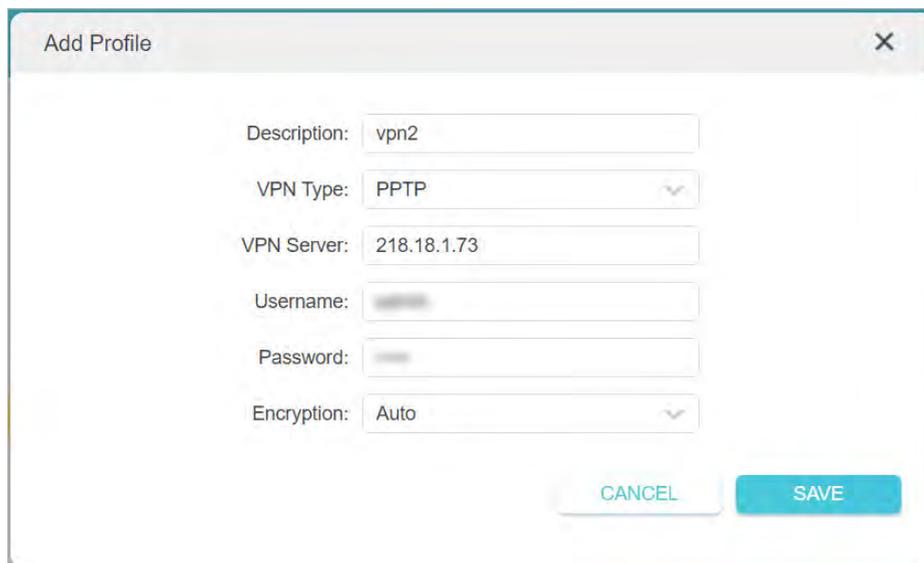


3) Enter the VPN information provided by your VPN provider.

- **OpenVPN:** Enter the VPN username and password if required by your VPN provider, otherwise simply leave them empty. Then import the configuration file provided by your VPN provider.



- **PPTP:** Enter the VPN server address (for example: 218.18.1.73) and the VPN username and password provided by your VPN provider.

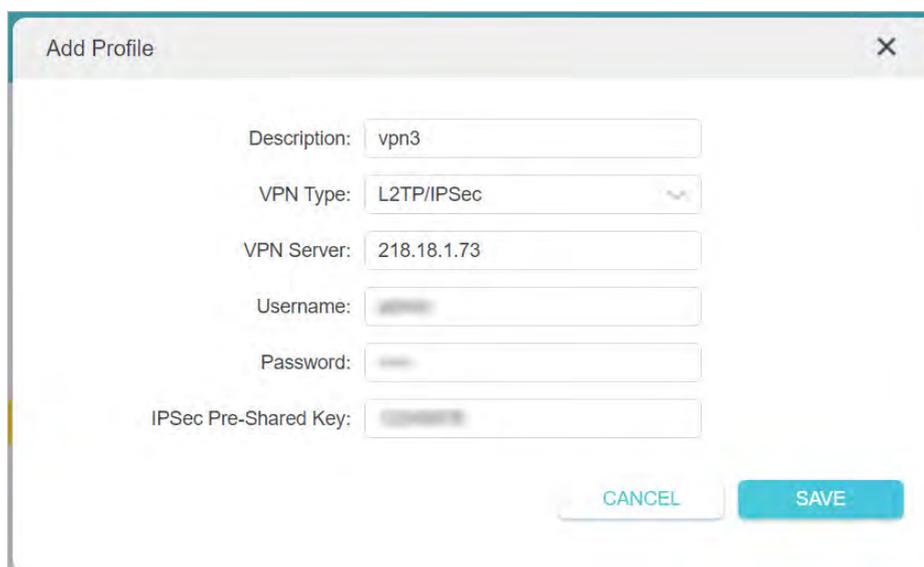


The screenshot shows a dialog box titled "Add Profile" with a close button (X) in the top right corner. The form contains the following fields:

- Description: vpn2
- VPN Type: PPTP (dropdown menu)
- VPN Server: 218.18.1.73
- Username: [blurred]
- Password: [blurred]
- Encryption: Auto (dropdown menu)

At the bottom right, there are two buttons: "CANCEL" and "SAVE".

- **L2TP/IPSec VPN:** Enter the VPN server address (for example: 218.18.1.73), VPN username and password, and IPSec pre-shared key provided by your VPN provider.



The screenshot shows a dialog box titled "Add Profile" with a close button (X) in the top right corner. The form contains the following fields:

- Description: vpn3
- VPN Type: L2TP/IPSec (dropdown menu)
- VPN Server: 218.18.1.73
- Username: [blurred]
- Password: [blurred]
- IPSec Pre-Shared Key: [blurred]

At the bottom right, there are two buttons: "CANCEL" and "SAVE".

- 4) Save the settings.
- 5) In the server list, enable the one you need.

**Server List**

Add or edit VPN server. Up to 6 VPN servers can be added.

[+ Add](#)

Description	VPN Type	Status	ENABLE	Modify
vpn3	L2TP/IPSec	Disconnected	<input checked="" type="checkbox"/>	<a href="#">✎</a> <a href="#">🗑</a>
vpn2	PPTP	Disconnected	<input type="checkbox"/>	<a href="#">✎</a> <a href="#">🗑</a>
vpn1	OpenVPN	Disconnected	<input type="checkbox"/>	<a href="#">✎</a> <a href="#">🗑</a>

5. Add and manage the devices that will use the VPN function.

- 1) In the [Device List](#) section, click [Add](#).
- 2) Choose and add the devices that will access the VPN server you have configured.

Select the devices that will access VPN server.

Online Devices

	Device Type	Device Name	MAC Address
<input checked="" type="checkbox"/>	...	...	FC-AA-14-55-FB-5D
<input checked="" type="checkbox"/>	...	...	86-D2-DE-B9-18-62

Offline Devices

	Device Type	Device Name	MAC Address
No Entries			

[Cancel](#) [Add](#)

6. Save the settings.

**Device List**

Manage devices that will use the VPN function.

[+ Add](#)

Type	Device Name	MAC Address	VPN Access	Modify
	Android	FC:AA:14:55:FB:5D	<input checked="" type="checkbox"/>	
	iPhone	86:D2:DE:B9:18:62	<input checked="" type="checkbox"/>	

**Done!** Now the devices you specified can access the VPN server you enabled.

## Chapter 14

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# Customize Your Network Settings

---

This chapter guides you on how to configure advanced network features.

It contains the following sections:

- [Change the LAN Settings](#)
- [Configure to Support IPTV Service](#)
- [Specify DHCP Server Settings](#)
- [Set Up a Dynamic DNS Service Account](#)
- [Create Static Routes](#)

## 14. 1. Change the LAN Settings

The router is preset with a default LAN IP 192.168.0.1, 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 on your local network or your network requires a specific IP subnet, you can change it.

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to [Advanced](#) > [Network](#) > [LAN](#).
3. Type in a new IP Address appropriate to your needs. And leave the [Subnet Mask](#) as the default settings.



LAN

View and configure LAN settings.

MAC Address: 98-DA-C4-B4-01-D8

IP Address:

Subnet Mask:  ▼

4. Click [SAVE](#).

**Note:** If you have set the Port Forwarding, DMZ or DHCP address reservation, and the new LAN IP address is not in the same subnet with the old one, then you should reconfigure these features.

## 14. 2. Configure to Support IPTV Service

### I want to:

Configure IPTV setup to enable Internet/IPTV/Phone service provided by my internet service provider (ISP).

### How can I do that?

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to [Advanced](#) > [Network](#) > [IPTV/VLAN](#).
3. **If your ISP provides the networking service based on IGMP technology, e.g., British Telecom(BT) and Talk Talk in UK:**
  - 1) Tick the [IGMP Proxy](#) and [IGMP Snooping](#) checkbox, then select the [IGMP Version](#), either V2 or V3, as required by your ISP.

**Multicast**

Check the multicast setting. It is recommended to keep them as default.

---

IGMP Proxy:  Enable

IGMP Snooping:  Enable

IGMP Version:

Wireless Multicast Forwarding:  Enable

- 2) Click [SAVE](#).
- 3) After configuring IGMP proxy, IPTV can work behind your router now. You can connect your set-top box to any of the router's Ethernet port.

**If IGMP is not the technology your ISP applies to provide IPTV service:**

- 1) Tick [Enable IPTV/VLAN](#).
- 2) Select the appropriate [Mode](#) according to your ISP.
  - Select [Bridge](#) if your ISP is not listed and no other parameters are required.
  - Select [Custom](#) if your ISP is not listed but provides necessary parameters.

**IPTV/VLAN**

Configure IPTV/VLAN settings if you want to enjoy IPTV or VoIP service, or if your ISP requires VLAN tags.

---

IPTV/VLAN:  Enable

Mode:

LAN1: Portugal-Meo

LAN2: Portugal-Vodafone

LAN3: Australia-NBN

1G LAN: New Zealand-UFB

1G LAN: [Bridge](#)

[Custom](#)

- 3) After you have selected a mode, the necessary parameters, including the LAN port for IPTV connection, are predetermined. If not, select the LAN type to determine which port is used to support IPTV service.
- 4) Click [SAVE](#).
- 5) Connect the set-top box to the corresponding LAN port which is predetermined or you have specified in Step 3.

**Done!**

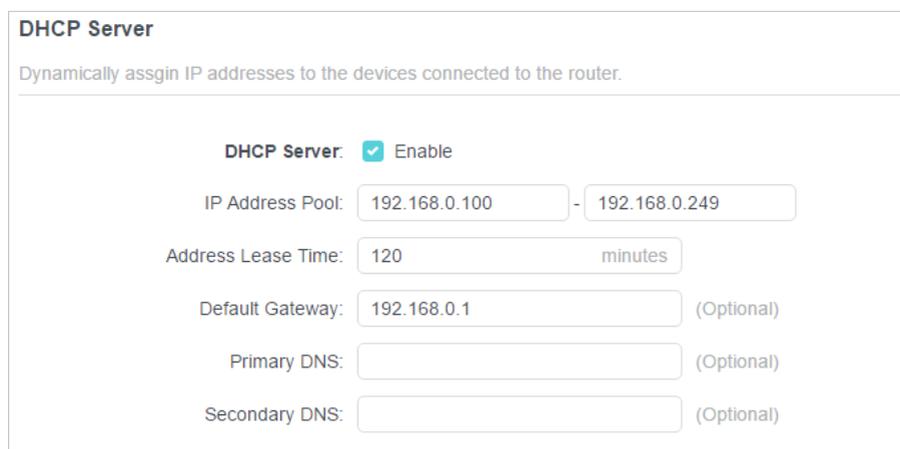
Your IPTV setup is done now! You may need to configure your set-top box before enjoying your TV.

## 14.3. Specify DHCP Server Settings

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

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to [Advanced](#) > [Network](#) > [DHCP Server](#).

- **To specify the IP address that the router assigns:**



**DHCP Server**  
Dynamically assign IP addresses to the devices connected to the router.

**DHCP Server:**  Enable

IP Address Pool: 192.168.0.100 - 192.168.0.249

Address Lease Time: 120 minutes

Default Gateway: 192.168.0.1 (Optional)

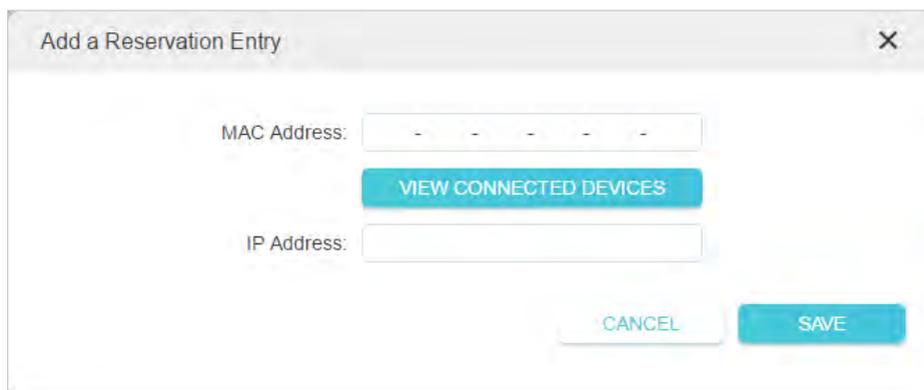
Primary DNS: (Optional)

Secondary DNS: (Optional)

1. Tick the [Enable](#) checkbox.
2. Enter the starting and ending IP addresses in the [IP Address Pool](#).
3. Enter other parameters if the ISP offers. The [Default Gateway](#) is automatically filled in and is the same as the LAN IP address of the router.
4. Click [SAVE](#).

- **To reserve an IP address for a specified client device:**

1. Click [Add](#) in the [Address Reservation](#) section.



Add a Reservation Entry

MAC Address: [Empty Field]

[VIEW CONNECTED DEVICES](#)

IP Address: [Empty Field]

[CANCEL](#) [SAVE](#)

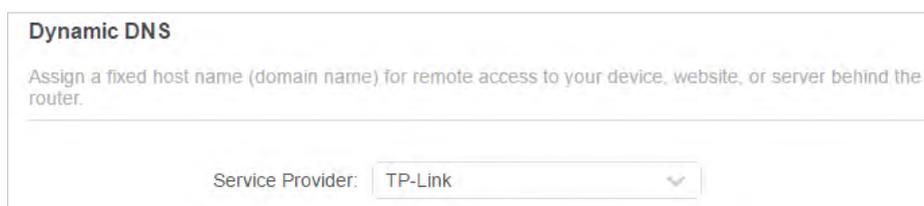
2. Click [VIEW CONNECTED DEVICES](#) and select the you device you want to reserve an IP for. Then the [MAC Address](#) will be automatically filled in. Or enter the [MAC address](#) of the client device manually.
3. Enter the [IP address](#) to reserve for the client device.
4. Click [SAVE](#).

## 14.4. Set Up a Dynamic DNS Service Account

Most ISPs 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 from time to time and you don't know when it changes. In this case, you might apply 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 a domain name without 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 router.

1. Visit <http://tplinkwifi.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, NO-IP or DynDNS. It is recommended to select TP-Link so that you can enjoy TP-Link's superior DDNS service. Otherwise, please select NO-IP or DynDNS. If you don't have a DDNS account, you have to register first by clicking [Register Now](#).



**Dynamic DNS**

Assign a fixed host name (domain name) for remote access to your device, website, or server behind the router.

Service Provider:

**Note:** To enjoy TP-Link's DDNS service, you have to log in with a TP-Link ID. If you have not logged in with one, click [log in](#).

4. Click [Register](#) in the [Domain Name List](#) if you have selected TP-Link, and enter the [Domain Name](#) as needed.

### Dynamic DNS

Assign a fixed host name (domain name) for remote access to your device, website, or server behind the router.

---

Service Provider: TP-Link ▼

Current Domain Name:

#### Domain Name List

---

[+ Register](#)

Domain Name	Registered Date	Status	Operation	Delete
No Entries				

If you have selected NO-IP or DynDNS, enter the username, password and domain name of your account.

### Dynamic DNS

Assign a fixed host name (domain name) for remote access to your device, website, or server behind the router.

---

Service Provider: NO-IP ▼ [Register Now](#)

Username:

Password:  🗄️ 🔍

Domain Name:

WAN IP binding:  Enable

Status: Not launching

LOGIN AND SAVE  
LOGOUT

5. Click [LOGIN AND SAVE](#).

🔗 **Tips:** If you want to use a new DDNS account, please click [Logout](#) first, and then log in with a new account.

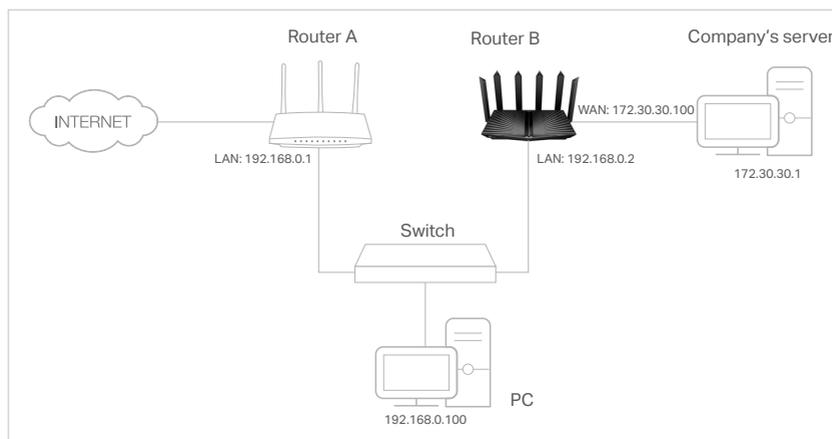
## 14.5. Create Static Routes

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

## I want to:

Visit multiple networks and servers at the same time.

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



## How can I do that?

1. Change the routers' LAN IP addresses to two different IP addresses on the same subnet. Disable Router B's DHCP function.
2. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for Router A.
3. Go to **Advanced > Network > Routing**.
4. Click **Add** and finish the settings according to the following explanations:

The screenshot shows the 'Add a Routing Entry' dialog box in a router's web interface. The fields are: Network Destination: 172.30.30.1, Subnet Mask: 255.255.255.255, Default Gateway: 192.168.0.2, Interface: LAN/WLAN, and Description: Company. There are CANCEL and SAVE buttons at the bottom right.

**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 Router A. In the example, the IP address of the company network is the destination IP address, so here enter 172.30.30.1.

**Subnet Mask:** Determines the destination network with the destination IP address. If the destination is a single IP address, enter 255.255.255.255; otherwise, enter the subnet mask of the corresponding network IP. In the example, the destination network is a single IP, so here enter 255.255.255.255.

**Default 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 data. In the example, the data packets will be sent to the LAN port of Router B and then to the Server, so the default gateway should be 192.168.0.2.

**Interface:** Determined by the port (WAN/LAN) that sends out data packets. In the example, the data are sent to the gateway through the LAN port of Router A, so **LAN/WLAN** should be selected.

**Description:** Enter a description for this static routing entry.

5. Click **SAVE**.
6. Check the **Routing Table** below. If you can find the entry you've set, the static routing is set successfully.

Routing Table			
View all valid routing entries that are currently in use.			
Active Route Number: 1			 Refresh
Network Destination	Subnet Mask	Gateway	Interface
192.168.0.0	255.255.255.0	0.0.0.0	LAN

## Done!

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

## Chapter 15

---

# Manage the Router

---

This chapter will show you the configuration for managing and maintaining your router.

It contains the following sections:

- [Upgrade the Firmware](#)
- [Backup and Restore Configuration Settings](#)
- [Change the Login Password](#)
- [Password Recovery](#)
- [Local Management](#)
- [Remote Management](#)
- [System Log](#)
- [Test the Network Connectivity](#)
- [Set Up System Time](#)
- [Set the Router to Reboot Regularly](#)
- [Control the LED](#)

## 15. 1. Upgrade the Firmware

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

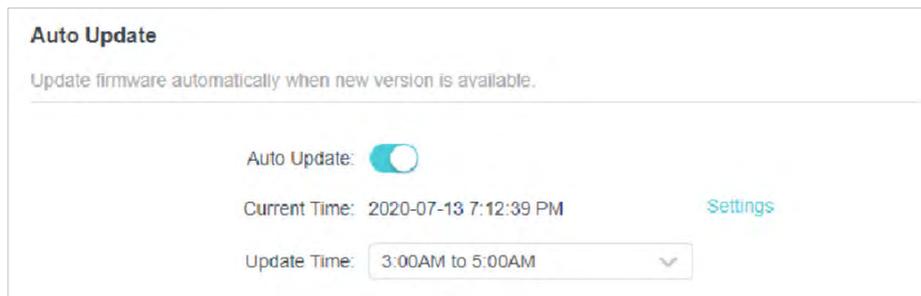
We will inform you through the web management page if there's any update firmware available for your router. Also, the latest firmware will be released at the TP-Link official website [www.tp-link.com](http://www.tp-link.com), and you can download it from the [Support](#) page for free.

**Note:**

- Backup your router configuration before firmware upgrade.
- Do NOT turn off the router during the firmware upgrade.

### 15. 1. 1. Auto Update

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Enable [Auto Update](#).



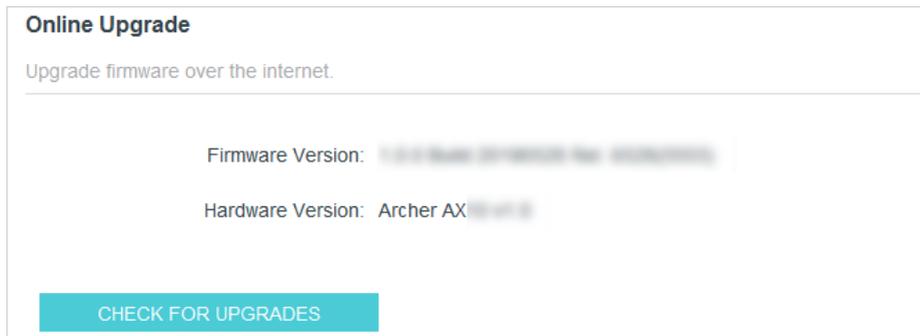
3. Specify the [Update Time](#) and save the settings.

The router will update firmware automatically at the specified time when new version is available.

### 15. 1. 2. Online Upgrade

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. When the latest firmware is available for your router, the upgrade icon  will display in the top-right corner of the page. Click the icon to go to the [Firmware Upgrade](#) page.

Alternatively, you can go to [Advanced](#) > [System](#) > [Firmware Upgrade](#), and click [CHECK FOR UPGRADES](#) to see whether the latest firmware is released.



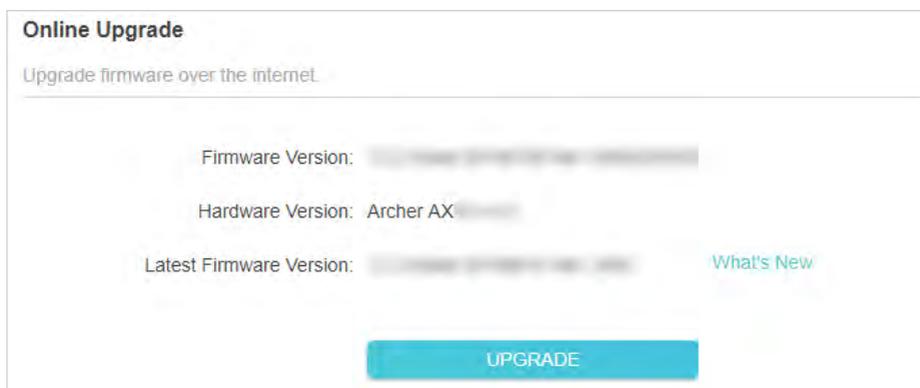
**Online Upgrade**  
Upgrade firmware over the internet.

Firmware Version: 1.1.1 (New firmware has been detected)

Hardware Version: Archer AX (V1.0)

**CHECK FOR UPGRADES**

3. Focus on the **Online Upgrade** section, and click **UPGRADE** if there is new firmware.



**Online Upgrade**  
Upgrade firmware over the internet.

Firmware Version: 1.1.1 (New firmware has been detected)

Hardware Version: Archer AX (V1.0)

Latest Firmware Version: 1.1.2 (New firmware has been detected) [What's New](#)

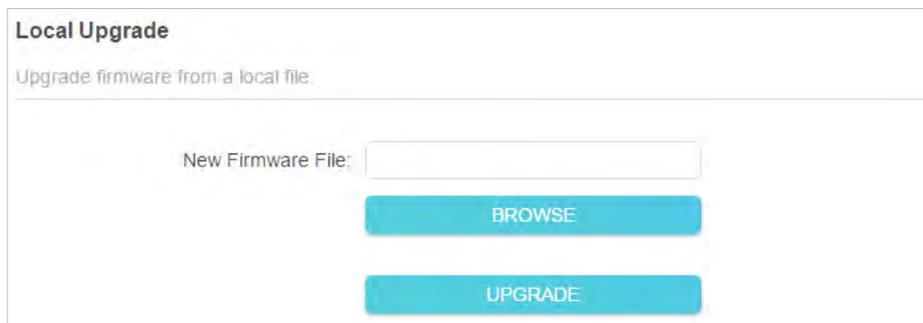
**UPGRADE**

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

**Tips:** If there's a new and important firmware update for your router, you will see the prompt notification on your computer as long as a web browser is opened. Click **UPGRADE**, and log in to the web management page with the username and password you set for the router. You will see the **Firmware Upgrade** page.

### 15. 1. 3. Local Upgrade

1. Download the latest firmware file for the router from [www.tp-link.com](http://www.tp-link.com).
2. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
3. Go to **Advanced > System > Firmware Upgrade**.
4. Focus on the **Local Upgrade** section. Click **BROWSE** to locate the downloaded new firmware file, and click **UPGRADE**.



**Local Upgrade**  
Upgrade firmware from a local file.

New Firmware File:

**BROWSE**

**UPGRADE**

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

**Note:** If you fail to upgrade the firmware for the router, please contact our [Technical Support](#).

## 15.2. Backup and Restore Configuration Settings

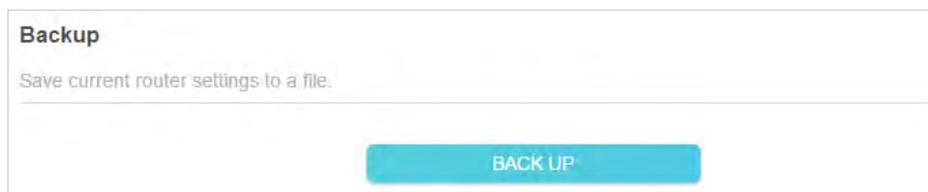
The configuration settings are stored as a configuration file in the router. You can backup the configuration file to your computer for future use and restore the router to a previous settings from the backup file when needed. Moreover, if necessary you can erase the current settings and reset the router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

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

2. Go to [Advanced](#) > [System Tools](#) > [Backup & Restore](#).

- **To backup configuration settings:**

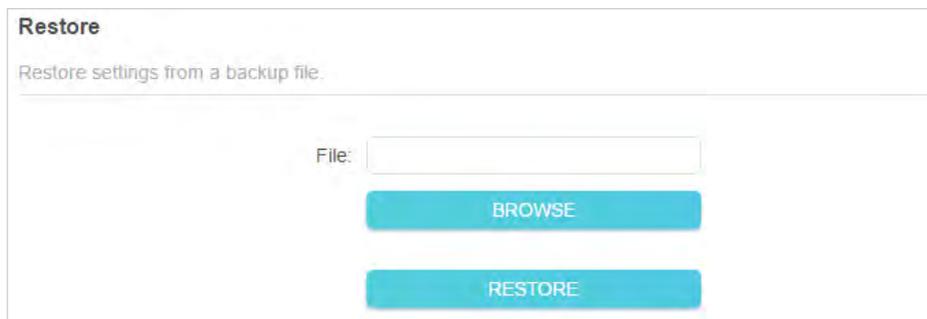
Click [BACK UP](#) to save a copy of the current settings to your local computer. A '.bin' file of the current settings will be stored to your computer.



The screenshot shows a web interface titled "Backup". Below the title, there is a subtitle "Save current router settings to a file." and a large blue button labeled "BACK UP".

- **To restore configuration settings:**

1. Click [BROWSE](#) to locate the backup configuration file stored on your computer, and click [RESTORE](#).



The screenshot shows a web interface titled "Restore". Below the title, there is a subtitle "Restore settings from a backup file." and a text input field labeled "File:". Below the input field are two blue buttons: "BROWSE" and "RESTORE".

2. Wait a few minutes for the restoring and rebooting.

**Note:** During the restoring process, do not turn off or reset the router.

- **To reset the router except your login password and TP-Link ID:**

1. In the [Factory Default Restore](#) section, click [RESTORE](#).

**Factory Default Restore**

Restore all settings to default values.

---

Restore all configuration settings to default values, except your login and cloud account information.

**RESTORE**

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

**Note:**

- During the resetting process, do not turn off the router.
- After reset, you can still use the current login password or the TP-Link ID to log in to the web management page.

• **To reset the router to factory default settings:**

1. Click **FACTORY RESTORE** to reset the router.

Restore all the configuration settings to their default values.

**FACTORY RESTORE**

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

**Note:**

- During the resetting process, do not turn off or reset the router.
- We strongly recommend you backup the current configuration settings before resetting the router.

## 15.3. Change the Login Password

The account management feature allows you to change your login password of the web management page.

**Note:** If you are using a TP-Link ID to log in to the web management page, the account management feature will be disabled. To manage the TP-Link ID, go to **Advanced > TP-Link ID**.

1. Visit <http://tplinkwifi.net>, and log in with the password you set for the router.
2. Go to **Advanced > System > Administration** and focus on the **Change Password** section.

**Change Password**

Change the router's local management password.

---

Old Password:

New Password:

Confirm New Password:

3. Enter the old password, then a new password twice (both case-sensitive). Click **SAVE**.

4. Use the new password for future logins.

## 15.4. Password Recovery

This feature allows you to recover the login password you set for your router in case you forget it.

**Note:** If you are using a TP-Link ID to log in to the web management page, the Password Recovery feature will be disabled. To manage the TP-Link ID, go to [Advanced > TP-Link ID](#).

1. Visit <http://tplinkwifi.net>, and log in with the password you set for the router.
2. Go to [Advanced > System > Administration](#) and focus on the [Password Recovery](#) section.
3. Tick the [Enable](#) box of [Password Recovery](#).
4. Specify a [mailbox \(From\)](#) for sending the recovery letter and enter its [SMTP Server](#) address. Specify a [mailbox \(To\)](#) for receiving the recovery letter. If the mailbox (From) to send the recovery letter requires encryption, Tick the [Enable](#) box of [Authentication](#) and enter its username and password.

**Tips:**

- SMTP server is available for users in most webmail systems. For example, the SMTP server address of Gmail is smtp.gmail.com.
- Generally, Authentication should be enabled if the login of the mailbox requires username and password.

### Password Recovery

Reset local management password via preset questions and answers.

Password Recovery:  Enable

From:

To:

SMTP Server:

Authentication:  Enable

Username:

Password:   

5. Click [SAVE](#).

To recover the login password, please visit <http://tplinkwifi.net>, click [Forgot Password?](#) on the login page and follow the instructions to set a new password.

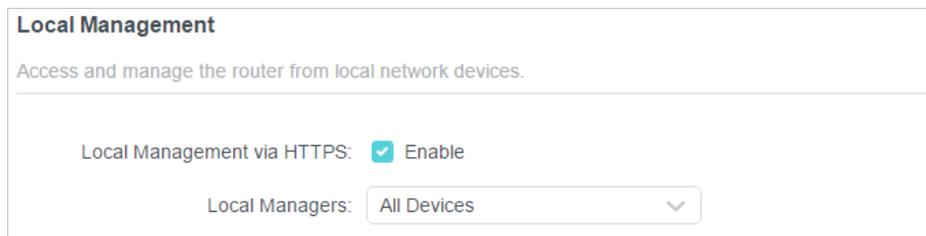
## 15.5. Local Management

This feature allows you to limit the number of client devices on your LAN from accessing the router by using the MAC address-based authentication.

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to **Advanced > System > Administration** and complete the settings in **Local Management** section as needed.

- **Access the router via HTTPS and HTTP:**

Tick the **Enable** box of **Local Management via HTTPS** to access the router via HTTPS and HTTP, or keep it disabled to access the router only via HTTP.



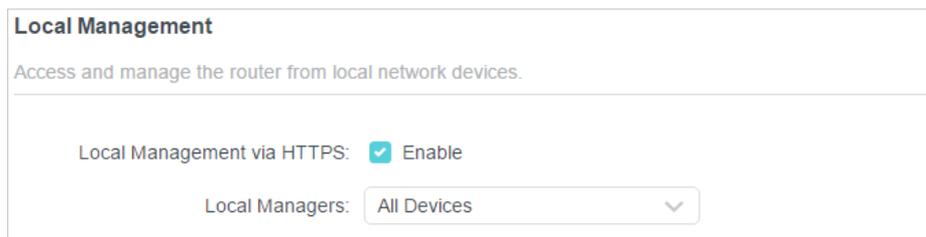
**Local Management**  
Access and manage the router from local network devices.

Local Management via HTTPS:  Enable

Local Managers: All Devices

- **Allow all LAN connected devices to manage the router:**

Select **All Devices** for **Local Managers**.



**Local Management**  
Access and manage the router from local network devices.

Local Management via HTTPS:  Enable

Local Managers: All Devices

- **Allow specific devices to manage the router:**

1. Select **All Devices** for **Local Managers** and click **SAVE**.

**Local Management**

Access and manage the router from local network devices.

---

Local Management via HTTPS:  Enable

Local Managers:  + Add Device

Description	MAC Address	Operation
No Entries		

2. Click [Add Device](#).

Add Device ✕

Description:

[VIEW CONNECTED DEVICES](#)

MAC Address:

3. Click [VIEW CONNECTED DEVICES](#) and select the device to manage the router from the Connected Devices list, or enter the MAC address of the device manually.

4. Specify a [Description](#) for this entry.

5. Click [SAVE](#).

## 15.6. Remote Management

This feature allows you to control remote devices' authority to manage the router.

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

2. Go to [Advanced](#) > [System](#) > [Administration](#) and complete the settings in [Remote Management](#) section as needed.

- **Forbid all devices to manage the router remotely:**

Do not tick the [Enable](#) checkbox of [Remote Management](#).

**Remote Management**

Access and manage the router over the internet.

---

**Note:** Remote Management is not supported when you are connected to the internet only via IPv6. If you want to use Remote Management, please make sure you have set up an IPv4 connection first.

Remote Management:  Enable

- **Allow all devices to manage the router remotely:**

**Remote Management**

Access and manage the router over the internet.

---

**Note:** Remote Management is not supported when you are connected to the internet only via IPv6. If you want to use Remote Management, please make sure you have set up an IPv4 connection first.

Remote Management:  Enable

HTTPS Port:

HTTP Port:

Web Address for Management:

Remote Managers:  ▼

1. Tick the **Enable** checkbox of **Remote Management**.
2. Keep the HTTPS and HTTP port as default settings (recommended) or enter a value between 1024 and 65535.
3. Select **All Devices** for **Remote Managers**.
4. Click **SAVE**.

Devices on the internet can log in to <http://Router's WAN IP address:port number> (such as <http://113.116.60.229:1024>) to manage the router.

 **Tips:**

- You can find the WAN IP address of the router on [Network Map > Internet](#).
- 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.

- **Allow a specific device to manage the router remotely:**

### Remote Management

Access and manage the router over the internet.

**Note:** Remote Management is not supported when you are connected to the internet only via IPv6. If you want to use Remote Management, please make sure you have set up an IPv4 connection first.

Remote Management:  Enable

HTTPS Port:

HTTP Port:

Web Address for Management:

Remote Managers:

Only this IP Address:

1. Tick the **Enable** checkbox of **Remote Management**.
2. Keep the HTTPS and HTTP port as default settings (recommended) or enter a value between 1024 and 65535.
3. Select **Specified Device** for **Remote Managers**.
4. In the **Only this IP Address** field, enter the IP address of the remote device to manage the router.
5. Click **SAVE**.

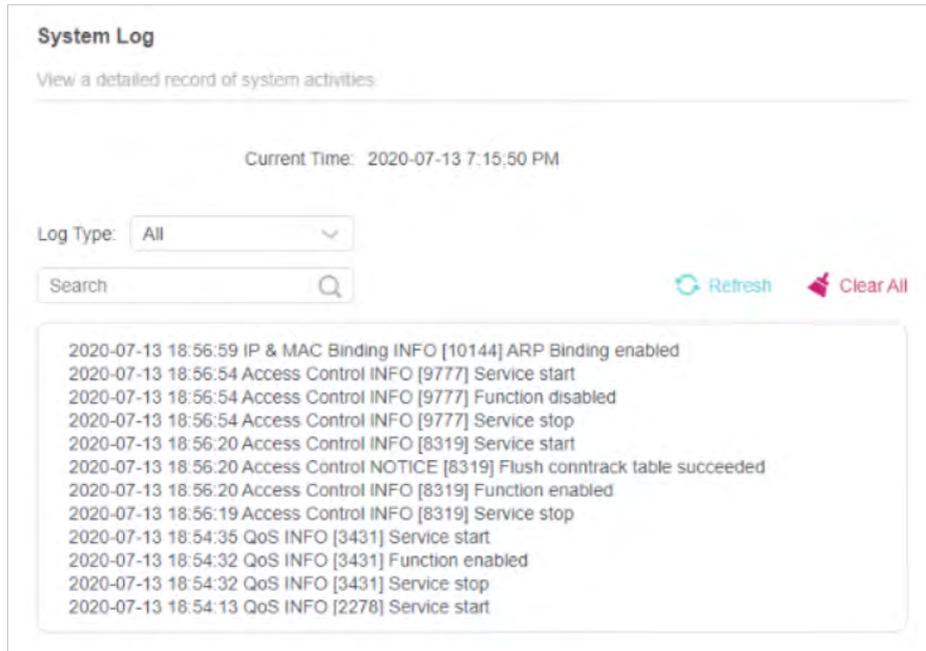
Devices using this WAN IP can manage the router by logging in to <http://Router's WAN IP:port number> (such as <http://113.116.60.229:1024>).

 **Tips:** 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.

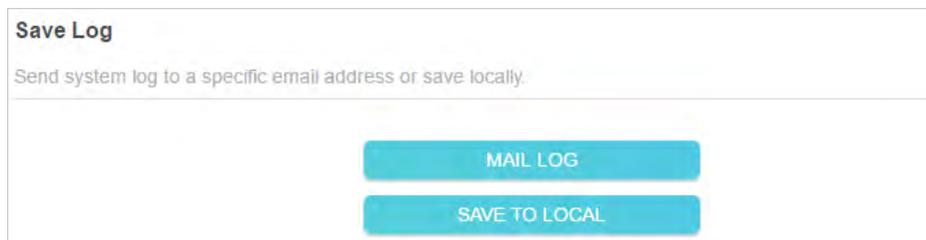
## 15.7. System Log

When the router does not work normally, you can save the system log and send it to the technical support for troubleshooting.

- **To save the system log locally:**
  1. Visit <http://tplinkwifi.net>, and log in your TP-Link ID or the password you set for the router.
  2. Go to **Advanced > System > System Log**.
  3. Choose the type and level of the system logs as needed.



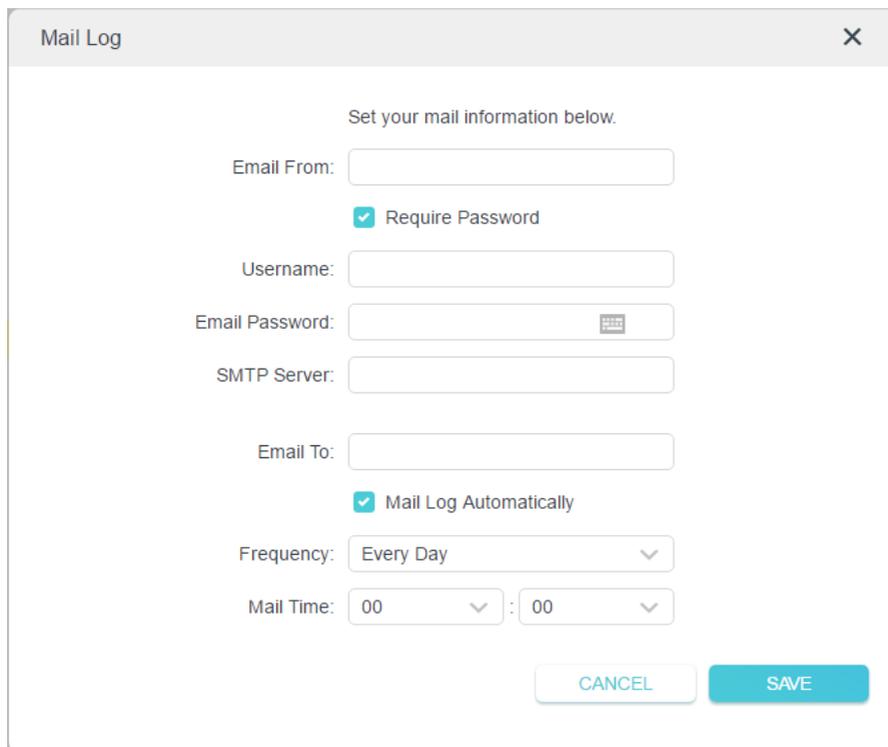
4. In the [Save Log](#) section, click [SAVE TO LOCAL](#) to save the system logs to a local disk.



- To send the system log to a mailbox at a fixed time:

For example, I want to check my router's working status at a fixed time every day, however, it's too troublesome to log in to the web management page every time I want to go checking. It would be great if the system logs could be sent to my mailbox at 8 a.m. every day.

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to [Advanced](#) > [System Tools](#) > [System Log](#).
3. In the [Save Log](#) section, click [MAIL LOG](#).
4. Enter the information required:



The image shows a 'Mail Log' configuration dialog box. It has a title bar with 'Mail Log' and a close button (X). The main content area contains the following fields and options:

- Instruction: 'Set your mail information below.'
- 'Email From:' text input field.
- Checked checkbox: 'Require Password'.
- 'Username:' text input field.
- 'Email Password:' text input field with a password icon on the right.
- 'SMTP Server:' text input field.
- 'Email To:' text input field.
- Checked checkbox: 'Mail Log Automatically'.
- 'Frequency:' dropdown menu with 'Every Day' selected.
- 'Mail Time:' two dropdown menus, both showing '00'.
- 'CANCEL' button (light blue).
- 'SAVE' button (dark blue).

1) **Email From:** Enter the email address used for sending the system log.

2) Select **Require Password**.

☞ **Tips:** Generally, Require Password should be selected if the login of the mailbox requires username and password.

3) **Username:** Enter the email address used for sending the system log.

4) **Email Password:** Enter the password to login the sender's email address.

5) **SMTP Server:** Enter the SMTP server address.

☞ **Tips:** SMTP server is available for users in most webmail systems. For example, the SMTP server address of Hotmail is smtp-mail.outlook.com.

6) **Email To:** Enter the recipient's email address, which can be the same as or different from the sender's email address.

7) Select **Mail Log Automatically**.

☞ **Tips:** The router will send the system log to the designated email address if this option is enabled.

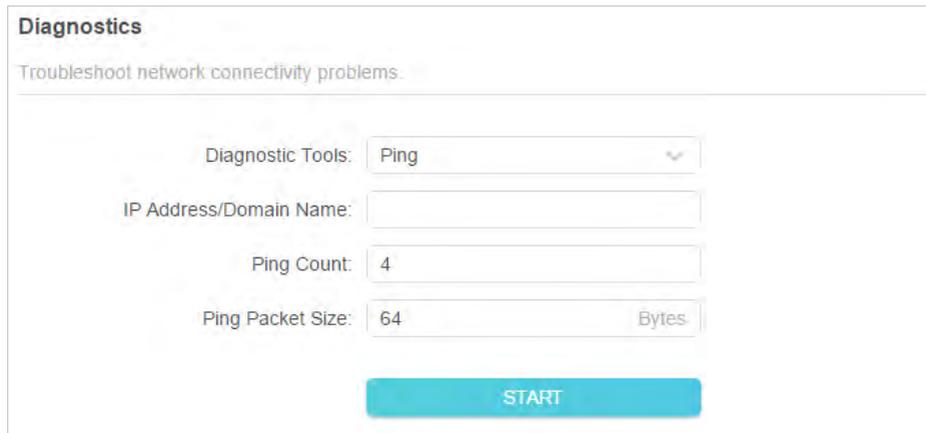
8) **Frequency:** This determines how often the recipient will receive the system log .

5. Click **SAVE**.

## 15. 8. Test the Network Connectivity

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

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



**Diagnostics**  
Troubleshoot network connectivity problems.

Diagnostic Tools:

IP Address/Domain Name:

Ping Count:

Ping Packet Size:  Bytes

**START**

3. Enter the information:

- 1) Choose **Ping** or **Traceroute** 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.
- 2) Enter the **IP Address** or **Domain Name** of the tested host.
- 3) Modify the **Ping Count** number and the **Ping Packet Size**. It's recommended to keep the default value.
- 4) If you have chosen **Traceroute**, you can modify the **Traceroute Max TTL**. It's recommended to keep the default value.

4. Click **START** to begin the diagnostics.

The figure below indicates the proper connection between the router and the Yahoo server ([www.Yahoo.com](http://www.Yahoo.com)) tested through **Ping**.

```
PING 192.168.0.1 (192.168.0.1): 64 data bytes
Reply from 192.168.0.1: bytes=64 ttl=64 seq=1 time=0.322 ms
Reply from 192.168.0.1: bytes=64 ttl=64 seq=2 time=0.308 ms
Reply from 192.168.0.1: bytes=64 ttl=64 seq=3 time=0.286 ms
Reply from 192.168.0.1: bytes=64 ttl=64 seq=4 time=0.334 ms
--- Ping Statistics for 192.168.0.1: ---
Packets: Sent=4, Received=4, Lost=0 (0.00% loss)
Round-trip min/avg/max = 0.286/0.312/0.334 ms
ping is stopped.
```

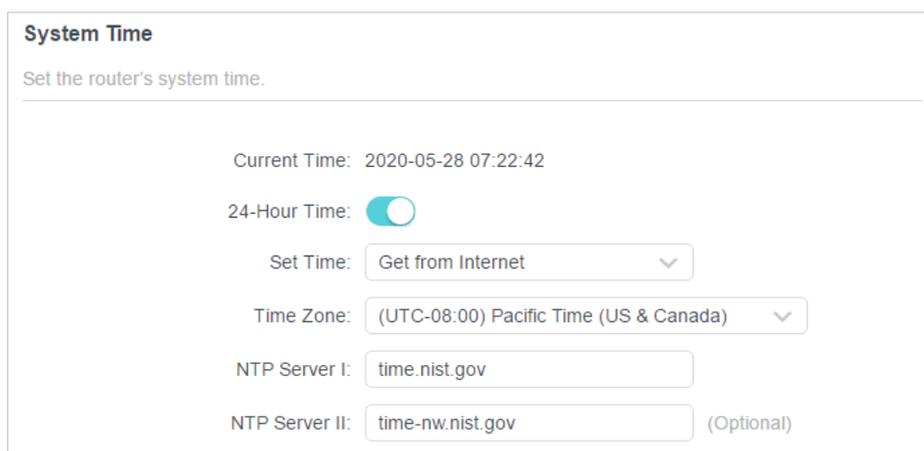
The figure below indicates the proper connection between the router and the Yahoo server (www.Yahoo.com) tested through [Traceroute](#).

```
tracert to 192.168.0.1, 5 hops max, 38 byte packets
 1 Archer (192.168.0.1) 0.045 ms 0.015 ms 0.008 ms
Trace Complete.
tracert is stopped.
```

## 15.9. Set Up System Time

System time is the time displayed while the router is running. The system time you configure here will be used for other time-based functions like Parental Controls. You can choose the way to obtain the system time as needed.

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
  2. Go to [Advanced](#) > [System](#) > [Time & Language](#).
- **To get time from the internet:**
    1. Enable [24-Hour Time](#) if you want the time to display in a 24-hour way.
    2. In the [Set Time](#) field, select [Get from Internet](#).



The screenshot shows the 'System Time' configuration page. At the top, it says 'Set the router's system time.' Below this, the 'Current Time' is displayed as '2020-05-28 07:22:42'. The '24-Hour Time' toggle is turned on. The 'Set Time' dropdown menu is set to 'Get from Internet'. The 'Time Zone' dropdown menu is set to '(UTC-08:00) Pacific Time (US & Canada)'. The 'NTP Server I' field contains 'time.nist.gov'. The 'NTP Server II' field contains 'time-nw.nist.gov' with '(Optional)' next to it.

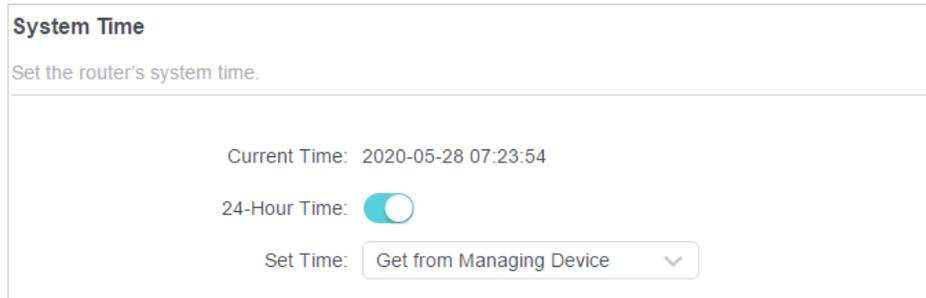
3. Select your local [Time Zone](#) from the drop-down list.
4. In the [NTP Server I](#) field, enter the IP address or domain name of your desired NTP Server.

5. (Optional) In the [NTP Server II](#) field, enter the IP address or domain name of the second NTP Server.

6. Click [SAVE](#).

- **To get time from your computer:**

1. In the [Set Time](#) field, select [Get from Managing Device](#).



**System Time**  
Set the router's system time.

Current Time: 2020-05-28 07:23:54

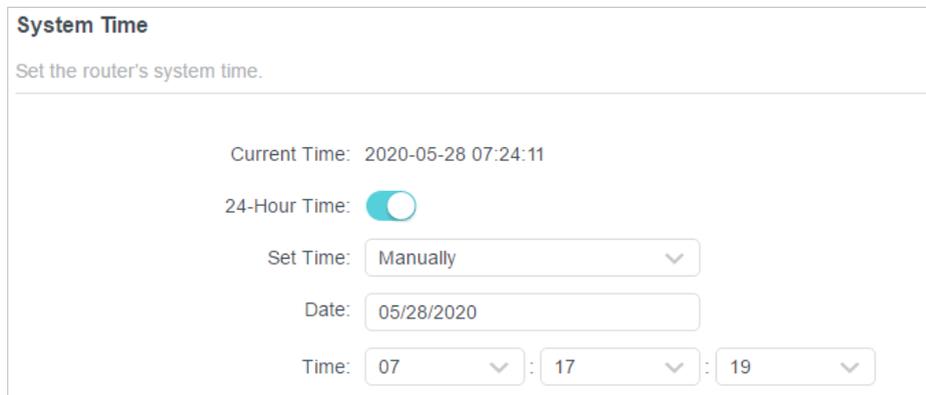
24-Hour Time:

Set Time: [Get from Managing Device](#) ▼

2. The time of your computer will then be displayed and click [SAVE](#).

- **To manually set the date and time:**

1. In the [Set Time](#) field, select [Manually](#).



**System Time**  
Set the router's system time.

Current Time: 2020-05-28 07:24:11

24-Hour Time:

Set Time: [Manually](#) ▼

Date:

Time:  :  :

2. Set the current [Date](#) (In [MM/DD/YYYY](#) format).

3. Set the current [Time](#) (In [HH/MM/SS](#) format).

4. Click [SAVE](#).

- **To set up Daylight Saving Time:**

1. Tick the [Enable](#) box of [Daylight Saving Time](#).

### Daylight Saving Time

Automatically synchronize the system time with daylight saving time.

**Daylight Saving Time:**  Enable

Start:2020

End:2020

Running Status: Daylight Saving Time is on.

2. Select the correct **Start** date and time when daylight saving time starts at your local time zone.
3. Select the correct **End** date and time when daylight saving time ends at your local time zone.
4. Click **SAVE**.

## 15. 10. Set the Router to Reboot Regularly

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

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to **Advanced > System > Reboot**.
3. Tick the **Enable** box of **Reboot Schedule**.

### Reboot Schedule

Set when and how often the router reboots automatically.

**Reboot Schedule:**  Enable

**Note:** Make sure [Time Settings](#) are correct before using this function.

**Current Time:** 2020-05-28 07:25:44

Reboot Time:  :

Repeat:

4. Specify the **Reboot Time** when the router reboots and **Repeat** to decide how often it reboots.
5. Click **SAVE**.

## 15. 11. Control the LED

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

1. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
2. Go to [Advanced](#) > [System](#) > [LED Control](#).
3. Enable [Night Mode](#).
4. Specify the LED off time, and the LED will be off during this period every day.
5. Click [SAVE](#).

### LED Control

Turn the router's LEDs on or off.

---

LED Status:

### Night Mode

Set a time period when the LEDs will be off automatically.

---

**Night Mode:**  Enable

**Note:** Make sure [Time Settings](#) are correct before using this function.

**Current Time:** 2020-05-28 07:27:05

LED Off From:  :

To:  :  (next day)

# FAQ

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

The default wireless password is printed on the label of the router. If the password has been altered:

1. Connect your computer to the router using an Ethernet cable.
2. Visit <http://tplinkwifi.net>, and log in with your TP-Link ID or the password you set for the router.
3. Go to [Wireless](#) to retrieve or reset your wireless password.

## Q2. What should I do if I forget my web management password?

- If you are using a TP-Link ID to log in, or you have enabled the Password Recovery feature of the router, click [Forgot password](#) on the login page and then follow the instructions to reset it.
- Alternatively, press and hold the [Reset](#) button of the router until the LED blinks to restore factory default settings, and then visit <http://tplinkwifi.net> to create a new login password.

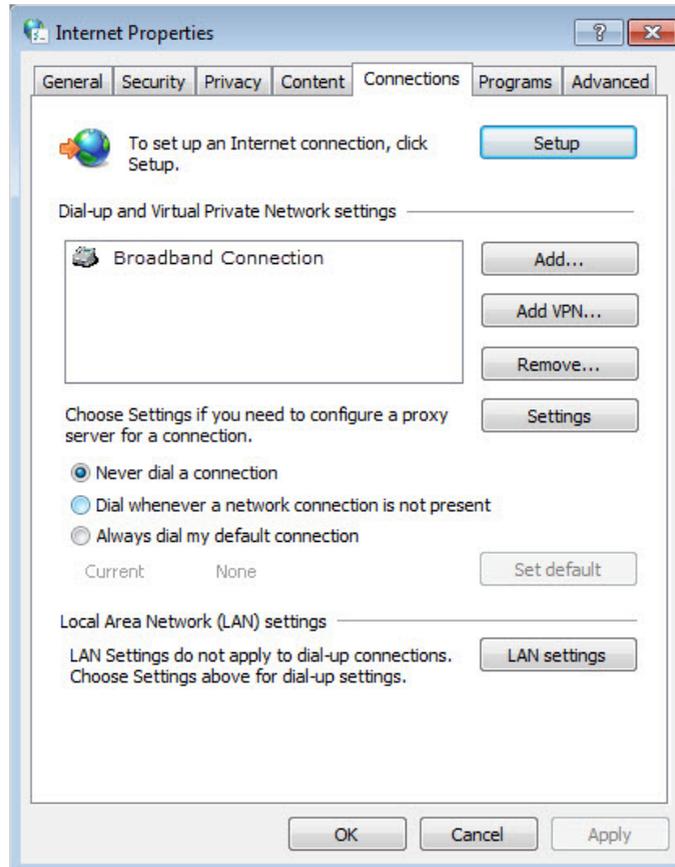
### Note:

- Please refer to [Password Recovery](#) to learn how to configure Password Recovery.
- You'll need to reconfigure the router to surf the internet once the router is reset, and please mark down your new password for future use.

## Q3. What should I do if I can't log in to the router's web management page?

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

- Make sure your computer is connected to the router correctly and the corresponding LED indicator(s) light up.
- Make sure the IP address of your computer is configured as [Obtain an IP address automatically](#) and [Obtain DNS server address automatically](#).
- Make sure <http://tplinkwifi.net> or <http://192.168.0.1> is correctly entered.
- 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](#) and select [Never dial a connection](#).



4) Click [LAN settings](#) and deselect the following three options and click [OK](#).



5) Go to [Advanced](#) > [Restore advanced settings](#), click [OK](#) to save the settings.