

# **User Guide**

AC1200 Wireless MU-MIMO Gigabit Router Archer A6/Archer C6

REV2.2.1 1910012745

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# **About This Guide**

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

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

## Conventions

Convention	Description
Underlined	Underlined words or phrases are hyperlinks. You can click to redirect to a website or a specific section.
Teal	Contents to be emphasized and texts on the web page are in teal, including the menus, items, buttons, etc.
>	The menu structures to show the path to load the corresponding page. For example, Advanced > Wireless > 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.
Ø Tips:	Indicates important information that helps you make better use of your device.
Symbols on the web page	<ul> <li>Click to edit the corresponding entry.</li> <li>Click to delete the corresponding entry.</li> <li>Click to enable or disable the corresponding entry.</li> <li>Click to view more information about items on the page.</li> </ul>

In this guide the following conventions are used:

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

\*Use of MU-MIMO requires clients to also support MU-MIMO.

## More Info

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

Specifications can be found on the product page at <a href="https://www.tp-link.com">https://www.tp-link.com</a>.

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

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

# Chapter 1

# Get to Know About Your Router

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

- Product Overview
- Appearance

## 1.1. Product Overview

The TP-Link router is designed to fully meet the need of Small Office/Home Office (SOHO) networks and users demanding higher networking performance. The powerful antennas ensure continuous Wi-Fi signal to all your devices while boosting widespread coverage throughout your home, and the built-in Ethernet ports supply high-speed connection to your wired devices. The OneMesh<sup>™</sup> function allows you to enjoy one unified network with seamless roaming.

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

## 1.2. Appearance

### 1. 2. 1. The Front Panel



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

## LED Explanation

Name	Status	Indication	
	On	The system has started up successfully.	
ப் (Power)	Flashing	The system is starting up or the firmware is being upgraded. Do not disconnect or power off your router.	
	Off	Power is off.	
	On	The 2.4GHz wireless band is enabled.	
2.4GHz Wireless)	Off	The 2.4GHz wireless band is disabled.	
	On	The 5GHz wireless band is enabled.	
র (5GHz Wireless)	Off	The 5GHz wireless band is disabled.	
	On	At least one Ethernet port is connected to a powered-on device.	
묘 (Ethernet)	Off	No powered-on device is connected to the router's corresponding Ethernet port.	
	Green On	Internet service is available.	
Ø (Internet)	Orange On	The router's Internet port is connected, but the internet service is not available.	
	Off	The router's Internet port is unplugged.	
A (WPS)	On/Off	This light remains on for 5 minutes when a WPS connection is established, then turns off.	
	Flashing	WPS connection is in progress. This may take up to 2 minutes.	

## 1. 2. 2. The Back Panel



ltem	Description		
Power Port	For connecting the router to a power socket via the provided power adapter.		
Power On/Off Button	Press this button to power on or off the router.		
Reset Button	Press and hold this button for more than 2 seconds to reset the router to its factory default settings.		
WPS/Wi-Fi On/Off	Press this button, and immediately press the WPS button on your device. The WPS LED of the router should change from flashing to solid on, indicating successful WPS connection.		
	Press and hold the Wi-Fi button for about 3 seconds to turn on or off the wireless function of your router.		
Internet Port	For connecting to a DSL/Cable modem, or an Ethernet jack.		
Ethernet Ports (1/2/3/4)	For connecting your PC or other Ethernet network devices to the router.		
Antennas	Used for wireless operation and data transmit. Upright them for the best Wi-Fi performance.		

## The router's ports (view from left to right) are located on the rear panel.

# Chapter 2

# **Connect the Hardware**

This chapter contains the following sections:

- Position Your Router
- <u>Connect Your Router</u>

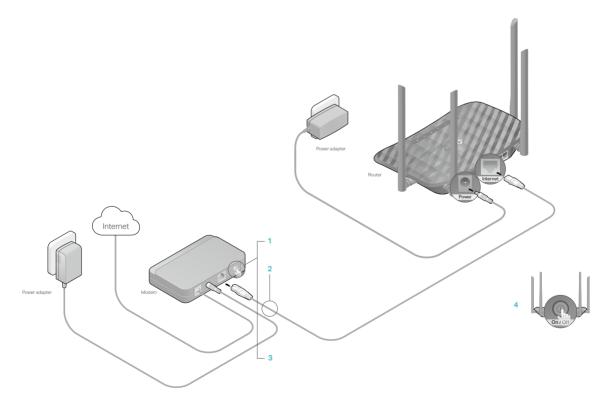
# 2.1. Position Your Router

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

## 2.2. Connect Your Router

Follow the steps below to connect your router.

If your internet connection is through an Ethernet cable directly from the wall instead of through a DSL / Cable / Satellite modem, connect the Ethernet cable to the router's Internet port, and then follow Step 4 and 5 to complete the hardware connection.



- 1. Turn off the modem, and remove the backup battery if it has one.
- 2. Connect the modem to your router's Internet port with an Ethernet cable.
- 3. Turn on the modem, and then wait about 2 minutes for it to restart.

- 4. Connect the power adapter to the router and turn on the router.
- 5. Verify that the following LEDs are on and solid to confirm the hardware is connected correctly.

Ċ	(;		Ø
Power	2.4G	5G	Internet
On	On	On	On

#### Note:

If the 2.4G LED and 5G LED are off, press and hold the WPS/Wi-Fi On/Off button on the back for about 3 seconds and then release the button. Both LEDs should turn solid on.

6. Connect your computer to the router.

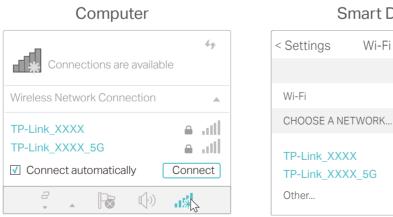
#### • Method 1: Wired

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

Ethernet cab	
--------------	--

#### • 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.



### Smart Device

🔒 🗟 🛈

● 🔶 (i)

#### Method 3: Use the WPS button

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

#### Note:

- WPS is not supported by iOS devices.
- The WPS function cannot be configured if the wireless function of the router is disabled. Also, the WPS function will be disabled if your wireless encryption is WEP. Please make sure the wireless function is enabled and is configured with the appropriate encryption before configuring the WPS.
  - 1) Tab the WPS icon on the device's screen. Here we take an Android phone for instance.
  - 2) Within two minutes, press the Reset/WPS button on your router.



Chapter 3

# Log In to Your Router

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

Follow the steps below to log in to your router.

- 1. Set up the TCP/IP Protocol in Obtain an IP address automatically mode on your computer.
- 2. Visit <u>http://tplinkwifi.net</u>, and create a login password for secure management purposes. Then click Let's Get Started to log in.

← → C' f http://tplinkwifi.net
Please create an administrator password to manage your Wireless Router .

#### Note:

- 1. If the login window does not appear, please refer to the FAQ Section.
- 2. If you have registered a TP-Link ID and bound your cloud router to it, the login password you created here will be invalid. Please log in to the cloud router using your TP-Link ID.

## Chapter 4

# **Set Up Internet Connection**

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

It contains the following sections:

- Use Quick Setup Wizard
- <u>Manually Set up Your Internet Connection</u>
- <u>Set Up an IPv6 Internet Connection</u>
- <u>Configure the Router in Access Point Mode</u>

# 4.1. Use Quick Setup Wizard

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

Ø Tips:

If you need the IPv6 internet connection, please refer to the section of <u>Set Up an IPv6 Internet Connection</u>.

Follow the steps below to set up your router.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with the password you set for the 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, etc.), log in with your TP-Link ID or click Register Now to get one. Then follow the instructions to bind the router to your TP-Link ID.

Interne	et Connection Type	Wireless Set	tings	TP-Link Cloud Service
Time Zone			Summary	
_	tulations! Network se For more TP-Link Cloud function Ema Pass	s, please log in with y		ernet.
		Log In		
	Ν	Io TP-Link ID?		
	R	egister Now		
	L	og In Later		

# 4.2. Manually Set up Your Internet Connection

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

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

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > Internet.
- 3. Select your internet connection type from the drop-down list.

Internet			
Auto Detect			
Internet Connection Type:	Dynamic IP	•	

#### Note:

If you are unsure of what your connection type is, click Auto Detect. Since different connection types require different cables and connection information, you can also refer to the demonstrations in Step 4 to determine your connection type.

- 4. 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 need to select whether to clone the MAC address. Dynamic IP users are usually equipped with a cable TV or fiber cable.

Internet		
Auto Detect		
Internet Connection Type:	Dynamic IP	•
Do NOT Clone MAC Address     Clone Current Computer MAC	Address	
Note: If you are not sure about whi Internet Service Provider (ISP) for a		ype you have, use Auto Detect or contact your
		Save

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

Internet		
Auto Detect		
Internet Connection Type:	Static IP 🔹	
IP Address:		
Subnet Mask:		
Default Gateway:		
Drimony DNC:		
Primary DNS: Secondary DNS:		(Optional)
Secondary BNS.		(optional)
Note: If you are not sure about which Internet Service Provider (ISP) for as		ou have, use Auto Detect or contact your
		Save

3) If you choose PPPoE, enter the username and password provided by your ISP. PPPoE users usually have DSL cable modems.

Internet			
Auto Detect			
Internet Connection Type:	PPPoE	T	
Username: Password:			
Note: If you are not sure about whi Internet Service Provider (ISP) for a:		be you have, use Auto Detect or c	ontact your
			Save

4) If you choose L2TP, enter the username and password and choose the Secondary Connection provided by your ISP. Different parameters are needed according to the Secondary Connection you have chosen.

Internet					
Auto Detect					
Internet Connection Type:	L2TP	T			
Username:					
Password:					
Secondary Connection:	Oynamic IP	⊖ Static IP			
VPN Server IP/Domain Name:					
Note: If you are not sure about wh Internet Service Provider (ISP) for a		ection Type y	rou have, use Au	to Detect or c	ontact your
					Save

5) If you choose PPTP, enter the username and password, and choose the Secondary Connection provided by your ISP. Different parameters are needed according to the Secondary Connection you have chosen.

Internet				
Auto Detect				
Internet Connection Type:	РРТР	T		
Username:				
Password:				
Secondary Connection:	Oynamic IP	⊖ Static IP	)	
VPN Server IP/Domain Name:				
Note: If you are not sure about wh Internet Service Provider (ISP) for a		ection Type y	ou have, use Auto	Detect or contact your
				Save

- 5. Click Save.
- 6. To check your internet connection, click Network Map on the left of the page. After the connection succeeds, the screen will display as follows. Here we take PPPoE as an example.

#### Note:

It may take 1-2 minutes to make the settings valid.

Int	ernet	Щ	중  ( 중 2.4GHz 5GHz
Wired Clients	0	Wireless Clients	
Internet			
Internet Status:	Connected		
Connection Type:	PPPoE		
IP Address:	119.123.164.17		

Ø Tips:

- If your internet connection type is BigPond Cable, please go to Advanced > Network > Internet to set your router.
- If you use Dynamic IP and PPPoE and you are provided with any other parameters that are not required on the page, please go to Advanced > Network > Internet to complete the configuration.
- If you still cannot access the internet, refer to the <u>FAQ</u> section for further instructions.

## 4.3. Set Up an IPv6 Internet Connection

Your ISP provides information about one of the following IPv6 internet connection types: PPPoE, Dynamic IP(SLAAC/DHCPv6), Static IP, 6to4 tunnel, Pass-Through (Bridge).

- 1. Visit <u>http://tplinkwifi.net</u>, and log in your TP-Link ID or with the password you set for the router.
- 2. Go to Advanced > IPv6.
- 3. Enable IPv6 and select the internet connection type provided by your ISP.

Ø Tips:

If you do not know what your internet connection type is, contact your ISP or judge according to the already known information provided by your ISP.

### 4. Fill in information as required by different connection types. Red blanks must be filled

in.

1) Static IP: Fill in blanks and click Save.

Internet	
IPv6:	
Internet Connection Type:	Static IP 🔹
IPv6 Address:	
Default Gateway:	
Primary DNS:	
Secondary DNS:	
MTU Size:	1500 bytes. (The default is 1500, do not change unless necessary.)
	Save

2) Dynamic IP (SLAAC/DHCPv6): Click Advanced to input further information if your ISP requires. Click Save and then click Renew.

Internet			
IPv6:			
Internet Connection Type:	Dynamic IP (SLAAC/DHCPv6)	•	
IPv6 Address:			
Primary DNS:			
Secondary DNS:			
Release	I		
Advanced			
			Save

3) PPPoE: By default, the router uses the IPv4 account to connect to the IPv6 server. Click Advanced to input further information if your ISP requires. Click Save and then click Connect.

Note:

If your ISP provides two separate accounts for the IPv4 and IPv6 connections, please untick the Use the same session with IPv4 connection checkbox and manually enter the username and password for the IPv6 connection.

Internet		
IPv6:		
Internet Connection Type:	РРРоЕ 💌	
	✓ PPPoE same session with IPv4 connection	
IPv6 Address:		
Advanced		
Connect Disconnect		
		Save

4) 6to4 Tunnel: An IPv4 internet connection type is a prerequisite for this connection type (Manually Set up Your Internet Connection). Click Advanced to input further information if your ISP requires. Click Save and then click Connect.

Internet		
IPv6:		
Internet Connection Type:	6to4 Tunnel	
IPv4 Address:	0.0.0.0	
IPv4 Subnet Mask:	0.0.0.0	
IPv4 Default Gateway:	0.0.0.0	
TUNNEL ADDRESS:	::	
Advanced		
Connect Disconnect		
		Save

5) Pass-Through (Bridge): Click Save and skip to step 6.

Internet			
IPv6:			
Internet Connection Type:	Pass-Through (Bridge)	¥	
			Save

5. Configure LAN ports. Windows users are recommended to choose from the first two types. Fill in Address Prefix provided by your ISP, and click Save.

```
Ø Tips:
```

Find Help on the management interface to know more about items.

LAN		
Assigned Type:	O DHCPv6    SLAAC+Stateless DHCP  SLAAC+RI	DNSS
Address Prefix:		/64
Address:	::/0	
		Save

6. Click Status to check whether you have successfully set up an IPv6 connection. The following figure is an example of a successful PPPoE configuration.

🜐 Internet 📀	IPv4   IPv6
MAC Address:	00-0A-EB-AC-25-01
IP Address:	2001:c68:202:2111::120/ 64
Default Gateway:	fe80::edd0:80d2:7f5e:6be 7
Primary DNS:	2001:c68:202:2111::1
Secondary DNS:	2001:c68:202:2111::2
Connection Type:	PPPoE

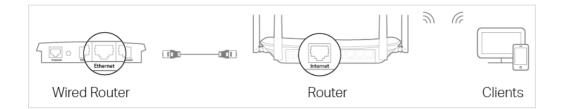
Tips:

Visit the FAQ section if there is no internet connection.

## 4.4. Configure the Router in Access Point Mode

In Access Point mode, the device can be connected to a wired network and transform the wired access into wireless one to extend the wireless coverage of your existing network. Advanced functions like NAT, Parental Controls and QoS are not supported in this mode.

If you already have a wired router, you can use this mode. To switch to Access Point mode:



- 1. Connect the router's Internet port to your wired router's Ethernet port via an Ethernet cable as shown above. And power on the router.
- 2. Connect a computer to the router via an Ethernet cable or wirelessly by using the SSID (network name) and Wireless Password printed on the label at the bottom of the router.
- 3. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 4. Go to Advanced > Operation Mode, select Access Point and click Save. Log in to the router via <u>http://tplinkwifi.net</u> after the router reboots.
- 5. Go to Quick Setup or Settings > Wireless > Wireless Settings and set the SSIDs and passwords for the wireless network.

Now, you can connect to the SSIDs and enjoy your existing network.

# 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:

- Register a TP-Link ID
- <u>Change Your TP-Link ID Information</u>
- Manage the User TP-Link IDs
- Manage the Router via the TP-Link Tether App

## 5.1. Register a TP-Link ID

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

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with the password 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.

TP-Link Cloud			
For more TP-Link Cloud functio	ns, please log in with your TP-L	ink ID. 🚺	
	🕹 Email		
	Password	ø	Forgot password?
	Log In		
	No TP-Link II	)?	
	Register No	w	

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

Note:

- To learn more about the Admin and User TP-Link ID, refer to Manage the User TP-Link IDs.
- Once you have registered a TP-Link ID on the web management page, you can only register another TP-Link ID via the Tether APP. Please refer to Manage the Router via the 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, an 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID.
- 2. Go to Basic > TP-Link Cloud, and focus on the Account Information section.

### To change your email address:

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

Change Em	ail
Password	
🖸 New Ema	il
9	Save
may not sync immediately. I	ail or password to client devices Please log in again vice is connected

#### • To change your password:

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

	0
Change Passwor	d
P Current Passwo	ord
New Password	
Low   Middle	High
🤎 Confirm Passwo	ord
Save	
Note: New email or may not sync to clie	
immediately. Please	
when your device is	
to the Internet to u	pdate
account information	

## 5.3. Manage the User TP-Link IDs

The TP-Link ID used to log in to the router for the first time will be automatically bound as the Admin account. An admin account can add or remove other TP-Link IDs to or from the same router as Users. All accounts can monitor and manage the router locally or remotely, but user accounts cannot:

• Reset the router to its factory default settings either on the web management page or in the Tether app.

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

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

1. Visit http://tplinkwifi.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 register a new one via the Tether app.Please refer to <u>Manage the Router via the</u> <u>TP-Link Tether App</u> to install the app and register a new TP-Link ID.

Add Account	8
🗹 Email	
Cancel	Save

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

Bound	d Acco	ounts		
				🕂 Bind 😑 Unbind
	ID	Email	Binding Date	Role
	1	Pargon, realized on	16/11/2016	Admin
	2	the purify to git (1) can	16/11/2016	User

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

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

Bound	d Acco	ounts		
				🕂 Bind 🛛 🖨 Unbind
	ID	Email	Binding Date	Role
	1	thergour, reading con-	16/11/2016	Admin
	2	thangourlighting@183.com	16/11/2016	User

# 5.4. Manage the Router via the 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. Connect your device to the router's wireless network.
- 3. Launch the Tether app, select the model of your router and log in with your TP-Link ID or the password your set for the router.
- 4. Manage your router as needed.

#### Note:

If you need to remotely access your router from your smart devices, you need:

- Log in with your TP-Link ID. If you don't have one, refer to Register a TP-Link ID.
- Make sure your smartphone or tablet can access the internet with cellular data or a Wi-Fi network.

# Chapter 6

# OneMesh<sup>™</sup> with Seamless Roaming

This chapter introduces the TP-Link OneMesh<sup>™</sup> feature.

It contains the following sections:

- <u>Set Up a OneMesh<sup>™</sup> Network</u>
- <u>Manage Devices in the OneMesh<sup>™</sup> Network</u>

TP-Link OneMesh<sup>™</sup> औ router and TP-Link OneMesh<sup>™</sup> औ extenders work together to form one unified Wi-Fi network. Walk through your home and stay connected with the fastest possible speeds thanks to OneMesh's seamless coverage.

# Dunified Wi-Fi Network

Router and extenders share the same wireless settings, including network name, password, access control settings and more.

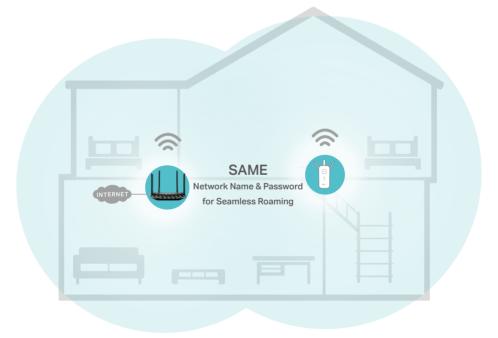
## Beamless Roaming

Devices automatically switch between your router and extenders as you move through your home for the fastest possible speeds.

## 🙆 Easy Setup and Management

Set up a OneMesh<sup>™</sup> network with a push of WPS buttons. Manage all network devices on the Tether app or at your router's web management page.

## Unified OneMesh<sup>™</sup> Network



## 6. 1. Set Up a OneMesh<sup>™</sup> Network

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

#### Note:

Early firmware versions may not support OneMesh<sup>™</sup>. If you can't find the OneMesh page, please upgrade your router to the latest firmware version. For upgrade instructions, refer to <u>Upgrade the Firmware</u>.

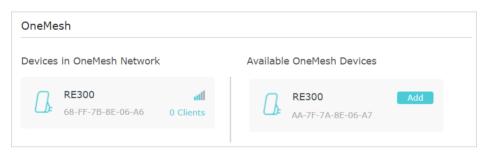
OneMesh	
No OneMesh device to work with this mesh router. Vie	w OneMesh Device List
In a OneMesh network, your mobile device will seamle provides the fastest speed as you move through your	
© OneMesh Network	Common Network

3. Connect one or more OneMesh<sup>™</sup> extenders to this router by following the setup instructions in the extenders' manuals.

#### Note:

To check full list of TP-Link OneMesh<sup>™</sup> devices, visit https://www.tp-link.com/onemesh/compatibility.

4. If you have set up an extender to join the OneMesh<sup>™</sup> network, it will be listed in the Devices in OneMesh Network list. Otherwise, you need to find it in the Available OneMesh Devices list and click Add to add it to the OneMesh<sup>™</sup> network.



Now your router and extenders successfully form one OneMesh™ network!

## 6. 2. Manage Devices in the OneMesh<sup>™</sup> Network

In a OneMesh<sup>™</sup> network, you can manage all mesh devices and clients on your router's web page.

- To view all mesh devices and clients in the OneMesh<sup>™</sup> network:
- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > Network Map.
- 3. Click the Mesh Devices, Wired Clients, or Wireless Clients icon to view the related device or client list.

	Inter	met	Archer A6	Hz 5GHz	esh Devices
	Wired Clients		Wireless Clier	nts	
1esh D ID	evices Name	Model	Status	Location	Modify
1	RE505X	RE505X	Connected		Ø

- To manage each OneMesh<sup>™</sup> device in the network:
- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > OneMesh or Advanced > Wireless > OneMesh.

OneMe	esh		
Devices	in OneMesh Network	:	Available OneMesh Devices
	RE300 68-FF-7B-8E-06-A6	all 3 Clients	No more OneMesh device to be added.
	<b>RE300</b> AA-7F-7A-8E-06-A7	all 2 Clients	

3. Click a OneMesh<sup>™</sup> device to view the device information, or click <number> Clients to view the clients connected to this device.

On the Device Info page, you can:

- Click Manage Device to redirect to the web mangement page of this OneMesh<sup>™</sup> device.
- Click Leave OneMesh to delete this device from the OneMesh<sup>™</sup> network.

Manage Device		
Name:	RE300	
Location:	Living Room 💌	
IP Address:	192.168.0.30	
MAC Address:	68-FF-7B-8E-06-A6	
Signal Strength:	att	
Link Speed:	233Mbps (2.4GHz) 150Mbps (5GHz)	

# **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 customize guest network options to ensure network security and privacy.

It contains the following sections:

- <u>Create a Network for Guests</u>
- <u>Customize Guest Network Options</u>

## 7.1. Create a Network for Guests

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Guest Network. Locate the Wireless section.
- 3. Create a guest network as needed.
- 4. Select 2.4GHz or 5GHz network and tick the Enable Guest Network checkbox.
- 5. Customize the SSID. Don't select Hide SSID unless you want your guests to manually input the SSID for guest network access.
- 6. Select a Security type:
- No Security Select this option to disable the wireless security. It is highly recommended that you enable the wireless security to protect your Guest Network from unauthorized access.

-Personal
-Person

• WPA2/WPA3 Personal - Select this option to enjoy stronger protections than WPA/ WPA2-Personal.

Wireless		2.4GHz   5GHz
2.4GHz Wireless:	Enable Guest Network	Sharing Network
Network Name (SSID):	TP-Link_Guest_5FF6	Hide SSID
Security:	<ul> <li>No Security          <ul> <li>WPA2</li> <li>WPA2</li> </ul> </li> </ul>	/WPA3-Personal O WPA/WPA2-Personal
Version:	Auto O WPA3-PSK	
Password:	12345678	
		Save

- 1) Set a security Version for your wireless network.
  - Auto It is recommended that you select Auto, which allows for gradual migration to a WPA3-Personal network while maintaining interoperability with WPA2-Personal devices and without disruption to users.
  - WPA3-PSK It provides stronger protections for the network, but only allows clients supporting WPA3 to access the wireless network.

2) Set a password for the guest network.

 WPA/WPA2 Personal - Select this option to enable the standard authentication method. If this selected, keep the Version and Encryption as default values and set a password for the wireless network.

2.4GHz Wireless:	Enable Guest Network	Sharing Network
Network Name (SSID):	TP-Link_Guest_5FF6	□ Hide SSID
Security:	○ No Security ○ WPA2/	WPA3-Personal  WPA/WPA2-Personal
Version:	● Auto ○ WPA-PSK (	WPA2-PSK
Encryption:	Auto O TKIP O Al	ES
Password:	12345678	

7. Click Save. Now your guests can access your guest network using the SSID and password you set!

Ø Tips:

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

## 7.2. Customize Guest Network Options

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Guest Network. Locate the Settings section.
- 3. Customize guest network options according to your needs.

Settings	
□ Allow guests to see each other	
□ Allow guests to access my local network	
	_
	Save

• Allow guests to see each other

Tick this checkbox if you want to allow the wireless clients on your guest network to communicate with each other via methods such as network neighbors and Ping.

Allow guests to access my local network

Tick this checkbox if you want to allow the wireless clients on your guest network to communicate with the devices connected to your router's LAN ports or main network via methods such as network neighbors and Ping.

### 4. Click Save. Now you can ensure network security and privacy!

#### Ø Tips:

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

# **Parental Controls**

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

It contains the following sections:

- <u>Set Up Access Restrictions</u>
- Monitor Internet Usage

## 8.1. Set Up Access Restrictions

### I want to:

Block access to inappropriate online content for my children's devices, restric internet access to 2 hours every day and block access during bed time (10 PM to 7 AM) on school nights (Sunday to Thursday).

### How can I do that?

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

Profiles					<b>G</b> A
Name	Time Limits	Devices	Insights	Internet Access	Modify
		Blocked	Content		
	Basic Info	(	•	Time Controls	
lame: Nam	e the Profile				
evices:					
$\left(+\right)$					
Add					
					_
				Cancel	Next

- 1) Enter a Name for the profile to make it easier to identify.
- 2) Under Devices, click + .
- 3) Select the devices that belong to this family member. Access restrictions will be applied to these devices. Click Save when finished.
   Note: Only devices that have previously been connected to your router's network are listed here. If you are

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.

- 4) Click Next.
- 5. Block content for this profile according to your needs.

files					C
Name	Time Limits	Devices	Insights	Internet Access	Modify
		Blocked	Content		
	Basic Info	(		Time Controls	
Blocked ( Block all we	Content bsites that contain a	specific keyword.			
Add a New H	Keyword:	e.g., Facebook		Add	
			Cano	el Back	Nex

- 1) Add one or more keywords. All websites containing the key words will be blocked.
- 2) Click Next.
- 6. Set time restrictions on internet access.

Profiles						🕒 Add
Name	Time Limits	Devices	Insights	Inte	ernet Access	Modify
		Blocked	l Content			
	Basic Info		•	Т	ime Controls	
Time Limits Set daily time limi	its for the total time	spent online.				
Mon to Fri	🕑 Enal	ble	2h			
Sat & Sun	🗹 Enal	ble	30min 2h Y 30min			8h 8h 8h
Bed Time Set a time period	when this profile ca	nnot access the	internet.			
School Nights (Sunday - Thursda	☑ Enal	ole Fro	om: 10:00 F	PM 🜲	To:	08:00 AM 🌲
Weekend (Friday and Sature	✔ Enal	ble Fro	om: 11:00 F	PM 💂	To:	07:00 AM 🚖
			Can	icel	Back	Save

- 1) Enable Time Limits on Monday to Friday and Saturday & Sunday then set the allowed online time to 2 hours each day.
- 2) Enable Bed Time on school nights (from Sunday to Thursday) and use the up/ down arrows or enter 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.

## 8.2. Monitor Internet Usage

## I want to:

Check which websites my child has visited and how much time they have spent online recently.

## How can I do that?

- 1. Visit<u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Basic > Parental Controls or Advanced > Parental Controls.
- **3.** Set up a profile for your child. Refer to <u>Set Up Access Restrictions</u> for detailed instruictions.
- 4. Find the profile and click o in the Insights column.

ofiles					🕂 Ad
Name	Time Limits	Devices	Insights	Internet Access	Modify
Child	2h	1	٥	(1)	0
		То	day	~	Ŀ
9	Spent Online	iosa	apps.itunes.ap	<b></b> 3min	$\otimes$
		ww	w.bing.com	3min	0000000000
		uk.	yahoo.com	3min	$\otimes$
(	3min	iTu	nes	3min	$\otimes$
		Adv	vertisement	3min	$\otimes$
		tag	s.tiqcdn.com	2min	$\otimes$
		a2.	mzstatic.com	2min	$\otimes$
		pub	ads.g.double	cli 2min	$\otimes$
		p16	-buy.itunes.a	<b>p</b> 2min	$\otimes$
		n3(	-ckdatabase.	icl 1min	$\otimes$

5. Use the drop-down menu behind Today to view the websites visited and time spent online for any of the last 7 days. Click ( to view a complete history. Click ( to block the corresponding content for this profile.

### Done!

You can now check up on your child's online activities.

# QoS

QoS (Quality of Service) allows you to prioritize the internet traffic of specific devices to guarantee a faster connection when you need it the most. Devices set as high priority will be allocated more bandwidth even when there is heavy traffic on the network.

QoS (Quality of Service) is designed to ensure the efficient operation of the network when come across network overload or congestion.

#### I want to:

Ensure a fast connection while I use my computer for the next 2 hours.

### How can I do that?

- 1. Visit<u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > QoS.
- 3. Select Enable QoS.
- **4.** Enter the upload and download bandwidth provided by your internet service provider. 1Mbps equals to 1000Kbps. Click Save.

QoS:     ✓ Enable QoS       Upload Bandwidth:     1000       Download Bandwidth:     1000	Global Settings		
	QoS:	✓ Enable QoS	
Download Bandwidth: 1000 Mbps 🔻	Upload Bandwidth:	1000	Mbps 💌
	Download Bandwidth:	1000	Mbps 💌

5. Under Device Priority, find your computer and toggle on Priority. Click the entry in the Timing column and select 2 hours as the duration you want the device to be prioritized for.

	riority					
Туре	Information	Real	-time Rate	Traffic Usage	Priority	Timing
<b>···</b> ?	(UM) FC-AA-14-55-FB-5D	ţ	0KB/s 0KB/s	9.8MB		2 hours ∽ 1 h 59 min Remaining
$(\cdots)$	(24G) C4-61-8B-CE-BF-32	ţ	0KB/s 0KB/s	14.3MB		-

### Done!

You can now use your computer without lag for the next 2 hours.

# **Network Security**

This chapter guides you on how to protect your home network from cyber attacks and unauthorized users by implementing these three network security functions. You can protect your home network against DoS (Denial of Service) attacks from flooding your network with server requests using DoS Protection, block or allow specific client devices to access your network using Access Control, or you can prevent ARP spoofing and ARP attacks using IP & MAC Binding.

It contains the following sections:

- Protect the Network from Cyber Attacks
- <u>Access Control</u>
- IP & MAC Binding

## 10. 1. Protect the Network from Cyber Attacks

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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Security > Settings.

DoS Protection			
DoS Protection:			
ICMP-FLOOD Attack Filtering:	Off	•	
UDP-FLOOD Attack Filtering:	Off	•	
TCP-SYN-FLOOD Attack Filtering:	Off		
	🗌 Ignore Ping F	Packet From WAN Port	
	🗌 Forbid Ping P	acket From LAN Port	
			_
			Sav

- 3. Enable DoS Protection.
- 4. Set the level (Off, Low, Middle or High) of protection for ICMP-FLOOD Attack Filtering, UDP-FIOOD Attack Filtering and TCP-SYN-FLOOD Attack Filtering.
  - ICMP-FLOOD Attack Filtering Enable to prevent the ICMP (Internet Control Message Protocol) flood attack.
  - UDP-FIOOD Attack Filtering Enable to prevent the UDP (User Datagram Protocol) flood attack.
  - TCP-SYN-FLOOD Attack Filtering Enable to prevent the TCP-SYN (Transmission Control Protocol-Synchronize) flood attack.

Ø Tips:

The level of protection is based on the number of traffic packets. The protection will be triggered immediately when the number of packets exceeds the preset threshold value (the value can be set on Advanced > System Tools > System Parameters > DoS Protection Level Settings), and the vicious host will be displayed in the Blocked DoS Host List.

Blocked DoS Host List								
Host N	umber:	0	👌 Refresh 🛛 🖨 Delete					
	ID	IP Address	MAC Address					

- 5. If you want to ignore the ping packets from the WAN port, select Ignore Ping Packet From WAN Port; if you want to ignore the ping packets form the LAN port, select Ignore Ping Packet From LAN Port.
- 6. Click Save.

## 10.2. 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?

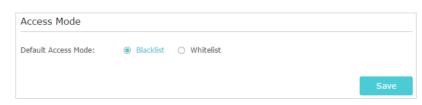
- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Security > Access Control.
- 3. Enable Access Control.



4. 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 by ticking the box.

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

Online Devices									
🖒 Refresh									
	ID	Device Name	IP Address	MAC Address	Connection Type	Modify			
<	1	Roses-iPhone	192.168.0.175	1C-1A-C0-3B-28-4B	Wireless	$\otimes$			
	2	ADMIN-PC	192.168.0.157	C0-4A-00-1A-C3-45	Wireless	$\bigcirc$			

#### To allow specific device(s)

1) Select Whitelist and click Save.

Access Mode						
Default Access Mode:	O Blacklist					
		Save				

2) Click Add in the Devices in Whitelist section. Enter the Device Name and MAC Address (You can copy and paste the information from the Online Devices list if the device is connected to your network).

Devi	ces i	n Whitelist		
			🕂 Add	🖨 Delete
	ID	Device Name	MAC Address	Modify
	Devi	ce Name:		
	MAC	Address:		
			Cancel OK	

3) Click OK.

#### Done!

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

## 10.3. IP & MAC Binding

IP & MAC Binding, namely, ARP (Address Resolution Protocol) Binding, is used to bind network device's IP address to its MAC address. This will prevent ARP Spoofing and

other ARP attacks by denying network access to an device with matching IP address in the Binding list, but unrecognized MAC address.

### I want to:

Prevent ARP spoofing and ARP attacks.

### How can I do that?

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

Settings			
ARP Binding:			

4. Bind your device(s) according to your need.

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

Click 🧬 to add the corresponding device to the Binding List.

#### To bind the unconnected device

1) Click Add in the Binding List section.

Bind	ing L	ist						
							Đ	Add 😑 Delete
	ID	MAC Address		IP Address	De	scription	Status	Modify
	IP A	Address: ddress: cription:				(Optional)		
			✓ Er	nable This Entry		Cance	IS	ave

- 2) Enter the MAC address and IP address that you want to bind. Enter a Description for this binding entry.
- 3) Tick the Enable This Entry checkbox and click Save.

#### Done!

Now you don't need to worry about ARP spoofing and ARP attacks!

# **NAT Forwarding**

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

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

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

It contains the following sections:

- Translate Address and Port by ALG
- <u>Share Local Resources on the Internet by Virtual Servers</u>
- Open Ports Dynamically by Port Triggering
- <u>Make Applications Free from Port Restriction by DMZ</u>
- Make Xbox Online Games Run Smoothly by UPnP

## 11.1. 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > NAT Forwarding > ALG.

Note: It is recommended to keep the default settings.

Application Layer Gateway (ALG)		
Enable FTP ALG		
Enable TFTP ALG		
Enable H323 ALG		
Enable RTSP ALG		
Enable SIP ALG		
Enable PPTP Passthrough		
Enable L2TP Passthrough		
Enable IPSec Passthrough		
	_	
		Save

- Enable FTP ALG: If enabled, it allows FTP (File Transfer Protocol) clients and servers to transfer data via NAT.
- Enable TFTP ALG: If enabled, it allows TFTP (Trivial File Transfer Protocol) clients and servers to transfer data via NAT.
- Enable H323 ALG: If enabled, it allows Microsoft NetMeeting clients to communicate via NAT.
- Enable RTSP ALG: If enabled, it allows RTSP (Real-Time Stream Protocol) clients and servers to transfer data via NAT.
- Enable SIP ALG: If enabled, it allows clients communicate with SIP (Session Initiation Protocol) servers via NAT.
- Enable PPTP Pass-through: If enabled, it allows Point-to-Point sessions to be tunneled through an IP network and passed through the router.
- Enable 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.
- Enable 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.

# 11.2. Share Local Resources on the Internet by Virtual Servers

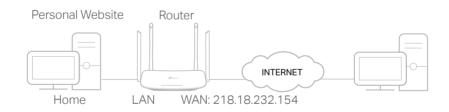
When you build up a server on the local network and want to share it on the internet, Virtual Servers can realize the service and provide it to internet users. At the same time Virtual Servers can keep the local network safe as other services are still invisible from the internet.

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

### I want to:

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

For example, the personal website has been built on my home PC (192.168.0.100). I hope that my friends on the internet can visit my website in some way. The PC is connected to the 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 192.168.0.100.
- 2. Visit <u>http://tplinkwifi.net</u>, 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. Click View Existing Services and select HTTP. The External Port, Internal Port and Protocol will be automatically filled in. Enter the PC's IP address 192.168.0.100 in the Internal IP field.
- 5. Click Save.

Virtu	ial S	Servers							
								🕂 Add	🖨 Delete
	ID	Service Type	External Port	Internal IP	Internal	Port	Protocol	Status	Modify
	Sei	rvice Type:	н	ГТР		Vie	w Existing Se	rvices	
	External Port:			80		(XX-XX or XX)			
	Int	ternal IP:							
	Int	ternal Port:	80	80		(XX or Blank ,1-65535)			
	Protocol:			ТСР 💌					
			<b>V</b> E	nable This Entry					
							Cancel	Save	

Ø Tips:

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

### Done!

Users on the internet can enter http:// WAN IP (in this example: http:// 218.18.232.154) to visit your personal website.

Ø Tips:

- The WANIP should be apublic IP address. For the WANIP is assigned dynamically by the ISP, it is recommended to apply and register a domain name for the WAN referring to <u>SetUpaDynamicDNSServiceAccount</u>. Then users on the internet can use http:// domain name to visit the website.
- 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.

## 11.3. Open Ports Dynamically by Port Triggering

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

Follow the steps below to configure the Port Triggering rules:

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

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

Port	Trigg	ering							
								🕂 Add	😑 Delete
	ID	Application	Triggering Port	Triggering Protocol	Externa	al Port	External Protocol	Status	Modify
	Appli	ication :	MSI	N Gaming Zone		View	Existing Appl	ications	
	Trigg	ering Port:	47624			(XX,1-65535)			
	Trigg	jering Protocol:	ALL		•				
	Exte	rnal Port:	230	2300-2400,28800-29000			(XX or XX-XX,1-65535,at most 5 pairs)		
	External Protocol:		ALL	ALL					
			💌 En	able This Entry					
						C	Cancel	Save	

Ø Tips:

- You can add multiple port triggering rules according to your network need.
- The triggering ports can not be overlapped.
- If the application you need is not listed in the Existing Applications list, please enter the parameters manually. You should verify the external ports the application uses first and enter them into External Port field according to the format the page displays.

# 11.4. Make Applications Free from Port Restriction by DMZ

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

#### Note:

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

### I want to:

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

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

### How can I do that?

- 1. Assign a static IP address to your PC, for example 192.168.0.100.
- 2. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 3. Go to Advanced > NAT Forwarding > DMZ and select Enable DMZ.
- 4. Enter the IP address 192.168.0.100 in the DMZ Host IP Address filed.

DMZ		
DMZ:	✓ Enable DMZ	
DMZ Host IP Address:	192.168.0.100	
		Save

#### 5. Click Save.

#### Done!

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

# 11.5. Make Xbox Online Games Run Smoothly by UPnP

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

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

Tips:

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



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

- 1. Visit <u>http://tplinkwifi.net</u>, 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.

UPnP								
UPnP:		D						
	Service List				5 p.6			
Total Clie	ents: O				🖰 Refres			
ID	Service Description	External Port	Protocol	Internal IP Address	Internal Port			

# **VPN Server**

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

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

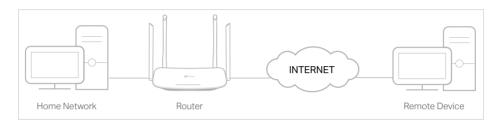
PPTP VPN is more easily used and its speed is faster, it's compatible with most operating systems and also supports mobile devices. Its security is poor and your packets may be cracked easily, and PPTP VPN connection may be prevented by some ISP.

It contains the following sections, please choose the appropriate VPN server connection type as needed.

- <u>Use OpenVPN to Access Your Home Network</u>
- <u>Use PPTP VPN to Access Your Home Network</u>

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

In the 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, and install and run VPN client software on the remote device. Please follow the steps below to set up an OpenVPN connection.



## 12. 1. 1. Step1. Set up OpenVPN Server on Your Router

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

OpenVPN			
Note: No certificate curre	ntly, please <b>Generate</b> one befo	ore enabling VPN Server.	
	Enable VPN Server		
Service Type:	● UDP ○ TCP		
Service Port:	1194		
VPN Subnet/Netmask:	10.8.0.0	255.255.255.0	
Client Access:	Home Network Only	O Internet and Home Network	
			Save

#### 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 Servive 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.	Export

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

1. Visit <u>http://openvpn.net/index.php/download/community-downloads.html</u> 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.

## 12.2. Use PPTP VPN to Access Your Home Network

PPTP VPN Server is used to create a VPN connection for remote device. 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.

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

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

PPTP VPN				
	Enable VPN S	erver		
Client IP Address:	10.0.0.11	-10.0.0. 20	(up to 10 clients)	
Advanced				
Allow Samba (Network	Place) access:			
Allow NetBIOS passthro	ugh:			
Allow Unencrypted conr	nections:	<b>~</b>		
				Save

#### 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 filed, enter the range of IP addresses (up to 10) that can be leased to the devices by the PPTP VPN server.
- 4. Click Advanced to 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 (up to 16 users)							
				🕂 Add 🛛 😑 Delete			
	ID	Username	Password	Modify			
	Usern Passw						
			Can	Icel Save			
	1	admin	admin	2 1			

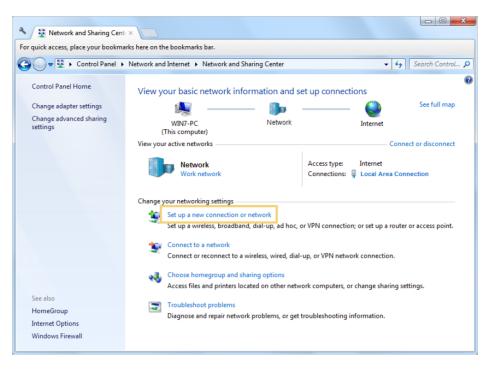
- 1) Click Add.
- 2) Enter the Username and Password to authenticate devices to the PPTP VPN Server.
- 3) Click OK.

# 12.2.2. 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.

Set Up a Connection or Network
Choose a connection option
Connect to the Internet Set up a wireless, broadband, or dial-up connection to the Internet.
Set up a new network Configure a new router or access point.
Set up a dial-up or VPN connection to your workplace.
Connect to the Internet using a dial-up connection.
Next Cancel

4. Select Use my Internet connection (VPN).

Connect to a Workplace	
How do you want to connect?	
Use my Internet connection (VPN) Connect using a virtual private network (VPN) connection through the Internet.	
i - I - I - I - I - I - I - I - I - I -	
Dial directly Connect directly to a phone number without going through the Internet.	
ing ing ing	
What is a VPN connection?	
	Cancel

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

Connect to a Workpl	ace
Type the Internet a	ddress to connect to
Your network administr	ator can give you this address.
Internet address:	218.18.1.73
Destination name:	VPN Connection
This option allow	ple to use this connection vs anyone with access to this computer to use this connection. ow; just set it up so I can connect later
	Next Cancel

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

🕝 🌆 Connect to a Workplace		
Type your user name		
User name:	admin	
Password:	••••	]
	Show characters	
Domain (optional):		
		Connect Cancel

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

Ge 🔓 Connect	to a Workplace	
The conn	ection is ready to use	
	<b>N</b>	
	➔ Connect now	
		Close

# **Customize Your Network Settings**

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

It contains the following sections:

- <u>Change the LAN Settings</u>
- <u>Configure to Support IPTV Service</u>
- <u>Specify DHCP Server Settings</u>
- <u>Set Up a Dynamic DNS Service Account</u>
- <u>Create Static Routes</u>
- <u>Specify Wireless Settings</u>
- <u>Use WPS for Wireless Connection</u>

## 13. 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 <u>http://tplinkwifi.net</u>, 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		
MAC Address:	50-C7-BF-02-EA-DC	
IP Address:	192.168.0.1	
Subnet Mask:	255.255.255.0	▼

#### 4. Click Save.

#### Note:

If you have set the Virtual Server, 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.

## 13.2. 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 <u>http://tplinkwifi.net</u>, 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 checkbox and select the IGMP Version, either V2 or V3, as required by your ISP.

Settings		
IGMP Snooping:	🗌 Enable	
IGMP Proxy:	Enable	
IGMP Version:	V2	T

- 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.
- 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:	Enable IPTV/VLAN			
Mode:	Bridge	T		
	Singapore-Singtel			
LAN1:	Malaysia-Unifi			
LAN2:	Malaysia-Maxis-1			
LAN3:	Malaysia-Maxis-2			
LAN4:	Vietnam-Viettel			
	Portugal-MEO			
	Portugal-Vodafone			

- 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.

🖉 Tips:

Qos and IPTV cannot be enabled at the same time.

## 13.3. 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 <u>http://tplinkwifi.net</u>, 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:

Settings			
DHCP Server:	Enable DHCP Server		
IP Address Pool:	192.168.0.100	- 192.168.0.249	
Address Lease Time:	120 minutes.	(2-2880. The default value is 120.)	
Default Gateway:	192.168.0.1	(Optional)	
Primary DNS:		(Optional)	
Secondary DNS:		(Optional)	
			Save

- 1. Tick the Enable DHCP Server 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.

Address Reservation						
					🕂 Ad	d 😑 Delete
	ID	MAC Address	Reserved IP Address	Description	Status	Modify
	MAC Ac					
Description :			Enable This Entry			
				Cance	el Sav	/e

- 2. Click View Exsiting Devices or enter the MAC address of the client device.
- 3. Enter the IP address to reserve for the client device.
- 4. Enter the Description for this entry.
- 5. Tick the Enable This Entry checkbox and click Save.

## 13.4. 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 <u>http://tplinkwifi.net</u>, 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 Go to register...

Dynamic DNS					
Service Provider:	TP-Link	○ NO-IP ○ DynE	DNS		
Current Domain Name:					
Domain Name List					
				🕂 Registe	er 😑 Delete
Domain	Name	Registered Date	Status	Operation	Modify

#### 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.

Dynamic DNS	
Service Provider:	TP-Link ONO-IP ODynDNS
DDNS Unavailable	
To use our superior TP-LINK service provider.	DDNS service, please Log in with your TP-LINK Cloud account, or choose another

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

Dynamic DNS					
Service Provider:	TP-Link	○ NO-IP ○ DynD	NS		
Current Domain Name:					
Domain Name Lis	t				
				🕂 Registe	er 😑 Delete
Doma	in Name	Registered Date	Status	Registe Operation	er 🖨 Delete Modify

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

Dynamic DNS			
Service Provider:	O TP-Link	NO-IP O DynDNS	Go to register
Username:			
Password:			
Domain Name:			
Update Interval:	1 hour	▼	
WAN IP binding:	Oisable C	) Enable	
Login and Save	Logout 😣 Not lau	unching	

#### 5. Click Login and Save.

Ø Tips:

If you want to use a new DDNS account, please click logout first, and then log in with a new account.

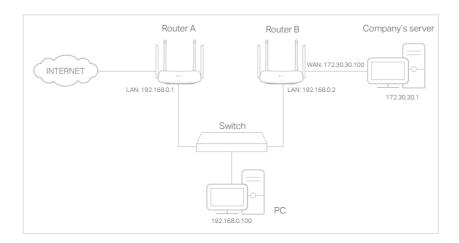
## 13.5. Create Static Routes

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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for Router A.
- 3. Go to Network > Advanced Routing.
- 4. Click Add and finish the settings according to the following explanations:

Sta	tic R	outing						
							🕂 Add	😑 Delete
	ID	Network Destination	Subnet Mask	Default Gateway	Interface	Description	Status	Modify
	Ne	etwork Destinatio	n: 172.30.31	1				
	Subnet Mask: 255.255.255.255							
	De	efault Gateway:	192.168.0	0.2				
	Interface:		LAN	~				
	De	escription:	company'	s network				
			Enable T	his Entry				
						Cancel	Save	

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 should be selected.

Description: Enter a description for this static routing entry.

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

System Routing Table							
Active Routes Number: 1							
ID Network Destination Subnet Mask Gateway Interface							
1	192.168.0.0	255.255.255.0	0.0.0	lan			

#### Done!

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

## 13.6. Specify Wireless Settings

The 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. You can customize the wireless settings according to your needs.

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

#### • To enable or disable the wireless function:

- 1. Go to Basic > Wireless.
- 2. The wireless radio is enabled by default. If you want to disable the wireless function of the router, just untick the Enable Wireless Radio checkbox. In this case, all the wireless settings will be invalid.
- To change the wireless network name (SSID) and wireless password:
- 1. Go to Basic > Wireless.
- 2. Create a new SSID in Network Name (SSID) and customize the password for the network in Password. The value is case-sensitive.

Note:

If you change the wireless settings with a wireless device, you will be disconnected when the settings are effective. Please write down the new SSID and password for future use.

#### • To hide SSID:

- 1. Go to Basic > Wireless.
- 2. Select Hide SSID, and your SSID won't display when you scan for local wireless networks on your wireless device and you need to manually join the network.

#### To use the smart connect function

The smart connect function lets you to enjoy a more high-speed network by assigning your devices to best wireless bands based on actual conditions to balance network demands.

- 1. Go to Advanced > Wireless > Wireless Settings.
- 2. Enable Smart Connect.

Smart Connect			
Smart Connect:			
	obile device to automatically switch	connection to the Wi-Fi band that	t provides
the fastest speed.			
Wireless Settings			
	Enable Wireless Radio	Sharing Network	
Network Name (SSID):	TP-Link_5FF6	Hide SSID	
	WPA2/WPA3-Personal	Ψ.	
Security:			
	Auto O WPA3-PSK		
Security: Version: Password:	<ul> <li>Auto</li> <li>WPA3-PSK</li> <li>93938846</li> </ul>		

3. Keep the default or set a new SSID and password, and click Save. This SSID and password will be applied both for 2.4GHz and 5GHz wireless networks.

#### • To change the security option:

- 1. Go to Advanced > Wireless > Wireless Settings.
- 2. Select the wireless network 2.4GHz or 5GHz.

Wireless Settings			2.4GHz   5GH
	Enable Wireless Radio	Sharing Network	
Network Name (SSID):	TP-Link_5FF6	□ Hide SSID	
Security:	WPA2/WPA3-Personal	v	
/ersion:	Auto O WPA3-PSK		
Password:	93938846		
Mode:	802.11b/g/n mixed 🔍		
Channel Width:	Auto 💌		
Channel:	Auto		
Fransmit Power:	🔿 Low 🔿 Middle 💿 H	High	

3. Select an option from the Security drop-down list. We recommend you don't change the default settings unless necessary. If you select other options, configure the related parameters according to the help page.

In addition

- Mode Select a transmission mode according to your wireless client devices. It is recommended to just leave it as default.
- Channel Width Select a channel width (bandwidth) for the wireless network.
- 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.
- Transmit Power Select either High, Middle or Low to specify the data transmit power. The default and recommended setting is High.

### 13.7. 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Wireless > WPS.

#### 13.7.1. Set the Router's PIN

Router's PIN is enabled by default to allow wireless devices to connect to the router using the PIN. You can use the default one or generate a new one.

Router's PIN		
Router's PIN:		
PIN:	35498841	Generate Default

Note:

- If you want to enable/disable the WPS feature, go to System Tools > System Parameters > WPS, tick or untick the Enable WPS checkbox.
- PIN (Personal Identification Number) is an eight-character identification number preset to each router. WPS supported devices can connect to your router with the PIN. The default PIN is printed on the label of the router.

#### 13.7.2. Use the WPS Wizard for Wi-Fi Connections

- 1. Select a setup method:
  - **Push Button (Recommended)**: Click Connect on the screen. Within two minutes, press the WPS button on the client device.
  - PIN: Enter the client's PIN, and click Connect.

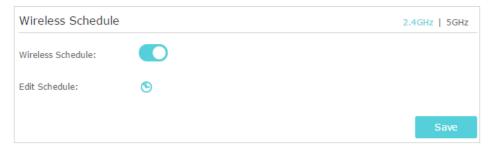
WPS Wizard	
Select a WPS connection method:	<ul> <li>Push Button (Recommended)          <ul> <li>PIN</li> </ul> </li> </ul>
Enter the client's PIN:	
Connect	

2. Success will appear on the above screen and the WPS LED on the router will keep on for five minutes if the client has been successfully added to the network.

### 13.8. Schedule Your Wireless Function

The wireless network can be automatically off at a specific time when you do not need the wireless connection.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Wireless > Wireless Schedule.
- 3. Select 2.4GHz or 5GHz to change the corresponding settings.
- 4. Enable the Wireless Schedule feature.



5. Click the icon 🕒 to set the effective time. Drag the cursor over the cells to choose the period during which you need the wireless off automatically, and click Save.

00:00		Thursday	Friday	Saturday	Sunday
01:00					
02:00					
03:00					
04:00					
05:00					
06:00					
07:00					
08:00					
09:00					
10:00					
1:00					
12:00					
13:00					
14:00					
15:00					
16:00					
17:00					
18:00					
19:00					
20:00					
21:00					
22:00					
23:00					
24:00					

#### 6. Click Save.

7. If you also want to set wireless off time for other band(s), please repeat the steps above.

Note:

- The Effective Time Schedule is based on the time of the router. You can go to Advanced > System Tools > Time Settings to modify the time.
- The wireless LED will be off if the corresponding wireless network is disabled.
- The wireless network will be automatically turned on after the time period you set.

## 13.9. TxBF, MU-MIMO

TxBF, MU-MIMO (Transmit Beamforming, Multi-User Multiple-Input Multiple-Output) enables the router to boost network capacity and strengthen Wi-Fi signals. Select the checkbox to enable this feature.

T×BF,MU-MIMO		
TxBF,MU-MIMO:	Enable TxBF,MU-MIMO	
		Save

## Chapter 14

## **Manage the Router**

This chapter will show you the configuration for managing and maintaining your router. It contains the following sections:

- Set Up System Time
- <u>Control LEDs</u>
- <u>Test the Network Connectivity</u>
- Upgrade the Firmware
- Backup and Restore Configuration Settings
- Set the Router to Reboot Regularly
- <u>Change the Login Password</u>
- Password Recovery
- Local Management
- <u>Remote Management</u>
- <u>System Log</u>
- Monitor the Internet Traffic Statistics

## 14.1. 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Time Settings. It is 12-hour time by default, and you can toggle on to change to 24-hour time.
- To get time from the internet:
- 1. In the Set Time field, select Get automatically from the Internet.

Time Settings			
Current Time:	12:06:21 AM, 01/01/2016		
24-Hour Time:			
Set Time:	Get automatically from the Intern	et 🔿 Manually	
Time Zone:	(GMT) Greenwich Mean Time, Dubli	in, London 🔹	
NTP Server I:	time.nist.gov		
NTP Server II:	time-nw.nist.gov	(Optional)	
Obtain			
		_	
			Save

- 2. Select your local Time Zone from the drop-down list.
- 3. In the NTP Server I fileId, enter the IP address or domain name of your desired NTP Server.
- 4. (Optional) In the NTP Server II fileId, enter the IP address or domain name of the second NTP Server.
- 5. Click Obtain to get the current Internet time and click Save.

#### • To manually set the date and time:

1. In the Set Time field, select Manually.

Time Settings	
Current Time:	12:10:23 AM, 01/01/2016
24-Hour Time:	
Set Time:	○ Get automatically from the Internet
Date:	01/01/2016 MM/DD/YYYY
Time:	00 V: 10 V: 23 V (HH/MM/SS)
	Save

- 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. Select Enable Daylight Saving Time.

Daylight Saving Time										
	Enable Daylight Saving Time									
Start:	2016	Mar	•	2nd	▼	Sun	•	2 AM	▼	
End:	2016	Nov	•	First	▼	Sun	•	2 AM	•	
Running Status:	Dayligh	t Saving	, Time	is on.						
										Save

- 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.

### 14.2. 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 <u>http://tplinkwifi.net</u>, 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. Toggle to turn on / off the LED.

4. You can enable Night Mode if needed, and set a time period, and then the LEDs will be off during this period.

Note: The effective time schedule for Night Mode is based on the system time of the router. Refer to <u>Set Up System</u> <u>Time</u> to get the correct system time.

LED Control		
LED Status:		
Night Mode		
Note: Before enablin	g Night Mode, plea	se make sure the System Time is correct.
Current Time:	07/07/201	7 01:13:48
Night Mode: (everyday)	☑ Enable	
LED Off Time:	From:	22:00 🜲
	To:	06:00 🔷 next day
		Save

5. Click Save to make the settings effective.

### 14.3. Test the Network Connectivity

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

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

Diagnostics	
Diagnostic Tool:	Ping     Traceroute
IP Address/Domain Name:	
Start	

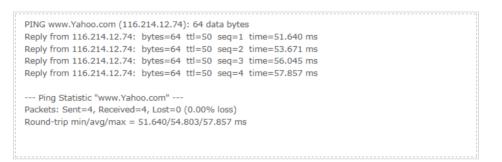
- 3. Enter the information with the help of page tips:
  - 1) Choose Ping or Traceroute as the diagnostic tool to test the connectivity;
  - Ping is used to test the connectivity between the router and the tested host, and measure the round-trip time.

- 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.
- 4. Click Start to begin the diagnostics.

Tips:

Click, Advanced, you can modify the ping count or ping packet size. It's recommended to keep the default value.

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



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



## 14.4. 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 <u>www.tp-link.com</u>, and you can download it from the <u>Support</u> page for free.

#### Note:

- Backup your router configuration before firmware upgrade.
- Do NOT turn off the router during the firmware upgrade.
- 1. Download the latest firmware file for the router from www.tp-link.com.

- 2. Visit <u>http://tplinkwifi.net</u>, 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 is matched with the Hardware Version.
- 5. Focus on the Manual Upgrade section. Click Browse to locate the downloaded new firmware file, and click Upgrade.

Manual Upgrade	
New Firmware File:	Browse
	Upgrade

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

## 14.5. 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 <u>http://tplinkwifi.net</u>, 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 Backup 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.

Backup				
Save a cop	y of your current s	ettings.		
				Backup

- To restore configuration settings from backup:
- 1. Click Browse to locate the backup configuration file stored on your computer, and click Restore.

Restore		
Restore saved settings from	a file.	
File:	Browse	
		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 bound TP-Link ID:

#### 1. Click Restore under the Factory Default Restore session.

Factory Default Restore	
Restore all configuration settings to default values, except your login and cloud account infor	mation.
	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 under the Factory Default Restore session.

Factory Default Restore	
Restore all configuration settings to default values, except your login and cloud account in	formation.
Restore all configuration settings to default values.	Restore
	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.

## 14.6. Set the Router to Reboot Regularly

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

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

Reboot Schedule		
Note: Before enabling R	eboot Schedule, please make sure the <u>System Time</u> is co	rrect.
Current Time:	12:09:35 AM, 01/01/2016	
Reboot Schedule:	Enable	
Reboot Time:	03:00 AM 🌩	
Repeat:	Every Week 💌 Monday	•
		Save

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

Note: The effective time schedule for Reboot Schedule is based on the system time of the router. Refer to <u>Set Up</u> <u>System Time</u> to get the correct system time.

5. Click Save.

## 14.7. 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 Basic > TP-Link Cloud.

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

Account Managemen	t	
Old Password:		
New Password:		
	Low Middle High	
Confirm New Password:		
		Save

- 3. Enter the old password, then a new password twice (both case-sensitive). Click Save.
- 4. Use the new password for future logins.

## 14.8. Password Recovery

This feature allows you to recover the login password you set for you 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 Basic > TP-Link Cloud.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with the password you set for the router.
- 2. Go to Advanced > System Tools > Administration and focus on the Password Recovery section.
- 3. Tick the Enable Password Recovery checkbox.
- 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, select Enable 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. You can refer to their Help page to learn the SMTP server address.
- Generally, Enable Authentication should be selected if the login of the mailbox requires username and password.

Password Recov	ery
	Enable Password Recovery
From:	
To:	
SMTP Server:	
	✓ Enable Authentication
Username:	
Password:	The second se
Test Email	
	Save

#### 5. Click Save.

You can click Test Email to test whether the configuration is successful.

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

## 14.9. 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Administration and complete the settings in Local Management section as needed.
- Enable Local Management via HTTPS

Toggle on Local Management via HTTPS if you want to access the router via HTTPS and HTTP, or keep it disabled if you only want to access the router via HTTP.

Local Management	
Local Management via HTTPS:	

• Allow all LAN connected devices to manage the router:

Toggle on Access for All LAN Connected Devices.



Toggle On to enable the management for all devices on LAN or toggle off to enable the management for specific devices.

- Allow specific devices to manage the router:
- 1. Toggle off Access for All LAN Connected Devices.
- 2. Click Add.

Local Management						
Access for All LAN Connected Toggle On to enable the management for all devices on LAN or keep it Off to enable the management for a specific device.						
				🕂 Add	😑 Delete	
	ID	MAC Address	Description	Status	Modify	
	MAC Address: View Existing Devices Description:					
	Enable This Entry					
	Cancel OK					
	1	C0-4A-00-1A-C3-45	Your PC!	Ş		

- 3. Click View Existing Devices and select the device to manage the router from the Existing Devices list, or enter the MAC address of the device manually.
- 4. Specify a Description for this entry.
- 5. Tick the Enable This Entry checkbox.
- 6. Click OK.

### 14. 10. Remote Management

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

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > Administration and complete the settings in Remote Management section as needed.
- 3. Select the checkbox to enable Remote Management function.
- 4. Keep the HTTPs Port and HTTP Port as the default settings.
- 5. Select to decide which remote device can access the router remotely. Choose All Devices to allow all remote devices to manage the router; select Specified Device

and enter the IP address of a remote device to allow only this device to manage the router.

6. Click Save.

Remote Management		
Remote Management:	Enable	
Web Address for Management:	https://0.0.0.0:443	
HTTPS Port:	443	
HTTP Port:	80	
Remote Managers:	All Devices	$\overline{\mathbf{v}}$

Devices on the internet can access manage the router via the Web Address for Management, such as https://0.0.0.0:43 shown.

## 14.11. 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 in local:
- 1. Visit <u>http://tplinkwifi.net</u>, and log in your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > System Tools > System Log.
- 3. Choose the type and level of the system logs as needed.
- 4. Click Save Log to save the system logs to local.

				🖒 Refresh 🛛 🖨 Delete Al
ID	Time	Туре	Level	Log Content
1	2016-06-24 04:28:31	Local Management	NOTICE	[19000] Accessable mode change: Device in the list.
2	2016-06-24 04:25:12	Locale	INFO	[16605] Language is changed to 'en_US'
3	2016-06-24 04:25:12	Locale	DEBUG	[16605] Explorer language is 'zh_CN'
4	2016-06-24 04:25:02	Locale	INFO	[16435] Language is changed to 'en_US'
5	2016-06-24 04:25:02	Locale	DEBUG	[16435] Explorer language is 'zh_CN'
6	2016-06-24 04:24:58	Locale	INFO	[16283] Language is changed to 'en_US'
7	2016-06-24 04:24:58	Locale	DEBUG	[16283] Explorer language is 'zh_CN'

• 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 <u>http://tplinkwifi.net</u>, 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. Click Mail Settings.
- 4. Enter the information required:

Mail Settings	
From:	
To:	
SMTP Server:	
	Enable Authentication
Username:	
Password:	
	✓ Enable Auto Mail
	● Log at 00 ▼ : 00 ▼ (HH:MM) everyday
	O Log every 24 hours
	Save

- 1) From: Enter the email address used for sending the system log.
- 2) To: Enter the recipient's email address, which can be the same as or different from the sender's email address.
- 3) 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. You can refer to their Help page to learn the SMTP server address.

4) Select Enable Authentication.

Tips: Generally, Enable Authentication should be selected if the login of the mailbox requires username and password.

- 5) Username: Enter the email address used for sending the system log.
- 6) Password: Enter the password to login the sender's email address.
- 7) Select Enable Auto Mail.

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

- 8) Set a fixed time. The recipient will receive the system log sent at this time every day.
- 5. Click Save.

## 14. 12. Monitor the Internet Traffic Statistics

The Traffic Statistics page displays the network traffic of the LAN, WAN and WLAN sent and received packets, allowing you to monitor the volume of Internet traffic statistics.

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

3. Toggle on Traffic Statistics, and then you can monitor the traffic statistics in Traffic Statistics List section.

Traffic Statisti	CS				
Traffic Statistics:					
Traffic Statisti	cs List				
			c	) Refresh 🧳 Reset	All 😑 Delete A
IP Address/MAC Address	Total Packets	Total Bytes	Current Packets	) Refresh 🆒 Reset	All 😑 Delete A Modify

Click Refresh to update the statistic information on the page.

Click Reset All to reset all statistic values in the list to zero.

Click Delete All to delete all statistic information in the list.

Click  $\bigcirc$  to reset the statistic information of the specific device.

Click 🛑 to delete the specific device item in the list.

## 14. 13. Configure the System Parameters

#### 14. 13. 1. Wireless Advanced

- 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 Parameters.
- 3. Configure the advanced settings of your wireless network and click Save.

#### Note:

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

2.4GHz Wireless		
Beacon Interval:	100	(40-1000)
RTS Threshold:	2346	(1-2346)
DTIM Interval:	1	(1-15)
Group Key Update Period:	0	seconds
WMM Feature:	Enable WMM	
Short GI Feature:	✓ Enable Short GI	
AP Isolation Feature:	Enable AP Isolation	
		Save

- Beacon Interval Enter a value between 40-1000 milliseconds for Beacon Interval here. Beacon Interval value determines the time interval of the beacons. The beacons are the packets sent by the router to synchronize a wireless network. The default value is 100.
- RTS Threshold Here you can specify the RTS (Request to Send) Threshold. If the packet is larger than the specified RTS Threshold size, the router will send RTS frames to a particular receiving station and negotiate the sending of a data frame. The default value is 2346.
- DTIM Interval This value determines the interval of the Delivery Traffic Indication Message (DTIM). A DTIM field is a countdown field informing clients of the next window for listening to broadcast and multicast messages. When the router has buffered broadcast or multicast messages for associated clients, it sends the next DTIM with a DTIM Interval value. You can specify the value between 1-15 Beacon Intervals. The default value is 1, which indicates the DTIM Interval is the same as Beacon Interval.
- Group Key Update Period Enter the number of seconds (minimum 30) to control the time interval for the encryption key automatic renewal. The default is 0, indicating no key renewal.
- Enable WMM WMM function can guarantee the packets with high-priority messages being transmitted preferentially. It is strongly recommended to enable this function.
- Enable Short GI It is recommended to enable this function, for it will increase the data capacity by reducing the guard interval time.
- AP Isolation Feature If you want to confine and restrict all devices connected to your network from internet interacting with each other but still able to access the internet, select the checkbox to enable this function.

#### 14.13.2.WDS

For example, my house covers a large area. The wireless coverage of the router I'm using (the root router) is limited. I want to use an extended router to extend the wireless network of the root router.

Note:

- WDS bridging only requires configuration on the extended router.
- WDS bridging function can be enabled either in 2.4GHz frequency or 5GHz frequency for a dual-band router. We use the WDS bridging function in 2.4GHz frequency as example.
- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Configure the IP address of the router:
  - 1) Go to Advanced > Network > LAN, configure the IP address of the extended router to be in the same subnet with the root router; (For example, the IP address

of the root router is 192.168.0.1, the IP address of the extended router can be 192.168.0.2~192.168.0.254. We take 192.168.0.2 as example.)

2) Click Save.

Note: Log in to the web management page again if the IP address of the router is altered.

LAN		
MAC Address:	50-C7-BF-02-EA-DC	
IP Address:	192.168.0.2	
Subnet Mask:	255.255.255.0	٣
		_
		Sa

- 3. Survey the SSID to be bridged:
  - Go to Advanced > System Tools > System Parameters, focus on the 2.4GHz WDS section and click Enable WDS Bridging.
  - Click Survey, locate the root router's SSID and click Choose (Here we take TP-Link\_4F98 as example).
  - 3) If the root router has wireless password, you should enter the wireless password of the root router.
  - 4) Click Save.

WDS Bridging:	✓ Enable WDS Bridging	
SSID (to be bridged):	TP-Link_4F98	Survey
MAC Address (to be bridged):	0C-4A-08-13-4F-98	Example: 00-1D-0F-11-22-33
Security:	O No Security	K/WPA2-PSK O WEP
Password:	12345678	
		Save

#### 4. Disable DHCP:

- 1) Go to Network > DHCP Server.
- 2) Deselect Enable DHCP Server and click Save.

Now you can go to Advanced > Status > Wireless to check the WDS status. When the WDS status is Run, it means WDS bridging is successfully built.

#### 14.13.3.WPS

Enable this function to easily set up and connect your WPS-enabled devices to your Wi-Fi at a push of the WPS button.

WPS		
WPS:	✓ Enable WPS	
		Save

#### 14.13.4. NAT

Select the checkbox to Enable/Disable the NAT (Network Address Translation) and NAT Boost function. The router's NAT feature makes devices on the LAN use the same public IP address to communicate with devices on the internet, which protects the local network by hiding IP addresses of the devices.

NAT	
NAT:	Enable NAT
NAT Boost:	Enable NAT Boost
	Save

#### 14.13.5. DoS Protection

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

DoS Protection Level Set	ttings		
ICMP-FLOOD Packets Level	Low:	50	(5-7200)Packets/Secs
	Middle:	20	(5-7200)Packets/Secs
	High:	10	(5-7200)Packets/Secs
UDP-FLOOD Packets Level	Low:	7200	(5-7200)Packets/Secs
	Middle:	2000	(5-7200)Packets/Secs
	High:	400	(5-7200)Packets/Secs
TCP-FLOOD Packets Level	Low:	200	(5-7200)Packets/Secs
	Middle:	100	(5-7200)Packets/Secs
	High:	50	(5-7200)Packets/Secs
			Save

- **3.** Configure ICMP-FLOOD Attack Filtering, UDP-FIOOD Attack Filtering and TCP-SYN-FLOOD Attack Filtering.
  - ICMP-FLOOD Attack Filtering Enter a value between 5 and 7200 ICMP packets to trigger the ICMP-FLOOD protection immediately when the number of packets exceeds the preset threshold value.
  - UDP-FIOOD Attack Filtering -Enter a value between 5 and 7200 UDP packets to trigger the UDP-FLOOD protection immediately when the number of packets exceeds the preset threshold value.
  - TCP-SYN-FLOOD Attack Filtering Enter a value between 5 and 7200 TCP-SYN packets to trigger the TCP-SYN-FLOOD protection immediately when the number of packets exceeds the preset threshold value.
- 4. Click Save.

#### 14.13.6. Duplex

Select the duplex type from the drop-down list and click Save. Duplex (or full-duplex) communication can go in both directions at once, while half-duplex communication can go only one way at a time. If you are not sure, you can keep the default Auto Negotiation.

Chapter 15

## **Work with Alexa**

This chapter will show you how to configure your router to work with Alexa.

Control your network devices using simply the power of your voice with the TP-Link Router Skill for Amazon. Prioritize the Internet connection of your laptop, switch off your router's LED or ask Alexa to read out the password of the guest network, all without stopping what you're doing.

- 1. Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 2. Go to Advanced > Smart Life Assistant > Alexa.

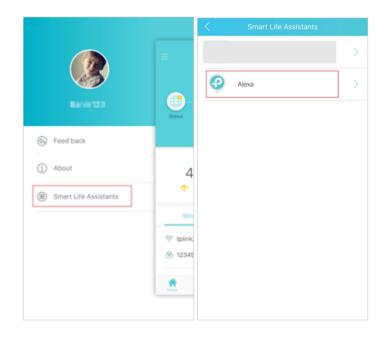
Note:

Some versions may not support Alexa.

3. Follow the on-screen instructions on the Alexa section to set up smart control of your router.

Control your network devices using simply the power of your voice with the TP-Link Router Skill for An Alexa. Prioritize the internet connection of your laptop, switch off your router's LEDs or ask Alexa to re the password of the guest network, all without stopping what you're doing. Learn more  Alexa, ask TP-Link to prioritize gaming.  >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>		uter Skill for Amaz									
the password of the guest network, all without stopping what you're doing. Learn more									-		
Alexa, ask TP-Link to	au out										
		e	n more	ig. Learn	ou re d	ing what	out stop	all with	LWOFK,	or the guest he	ne passwoi
prioritize gaming.							_				
										ioritize gaming.	
					>	> > >			> >		
			_								

Or download TP-Link Tether app, open it and tap the  $\equiv$  icon, then select Smart Life Assistants to complete the setup.



## 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 <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
- 3. Go to Basic > 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 if 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 Power LED binks to reset it, and then visit <a href="http://tplinkwifi.net">http://tplinkwifi.net</a> to create a new login password.

#### Note:

- Please refer to <u>Password Recovery</u> 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 cannot log in to the router's web management page?

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

- Make sure your computer is connected to the router correctly and the corresponding LED indicator(s) light up.
- Make sure the IP address of your computer is configured as Obtain an IP address automatically and Obtain DNS server address automatically.
- Make sure <a href="http://tplinkwifi.net">http://192.168.0.1</a> 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.

eneral Se	curity	Privacy	Content	Connections	Programs	Advanced
	o set up etup.	o an Inter	net connec	tion, click	Set	up
Dial-up and	l Virtua	Private N	Network se	ttings		
🎒 Bro	adbar	nd Conn	ection		Add	l
					Add V	PN
					Remo	ve
Choose Server for			ed to config	jure a proxy	Sett	ings
Never	dial a d	connection	n			
🔘 Dial w	heneve	r a netwo	ork connect	tion is not pres	ent	
Alway	s dial m	ny default	connection	1		
Curren		None			Set de	fault
Local Area	Netwo	rk (LAN) s	ettings -			
			to dial-up r dial-up se	connections. ettings.	LAN se	ttings

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

	nfiguration may override manual settings. To ensure th I settings, disable automatic configuration.
Automatic	ally detect settings
Use autor	natic configuration script
Address	
Proxy server	
	xy server for your LAN (These settings will not apply to VPN connections).
Address:	Port: 80 Advanced
Huuross,	and the second se

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

Interne	et Properti	es				?
General	Security	Privacy	Content	Connections	Programs	Advanced
Setting	s					
	Enable Move : Reset Reset Browsing Autom Close : Uisable Uisable	s expand caret Br system ca text size text size zoom leve atically re unused for e script de e script de	aret with fo to medium to medium el for new v ecover fron olders in His ebugging (I ebugging ((	new windows a cus/selection of for new window while zooming <sup>a</sup> windows and ta n page layout e story and Favor internet Explore	hanges ws and tabs has rrors with Co rites* er)	Dompa
	Display	y Accelera	ator button	on selection		+
*Tal	kes effect a	after you	restart Int	ernet Explorer		
Reset I	nternet Ex	olorer set	tinas	Restore	advanced s	ettings
Rese cond	ts Internet ition.	Explorer	's settings	to their default vser is in an un	Rest	
			Ok	( Ca	ancel	Apply

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

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

## Q4. What should I do if I cannot access the internet even though the configuration is finished?

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

As the follow picture shows, if IP Address is a valid one, please try the methods below and try again:

💮 Internet 🙁	IPv4   IPv6
MAC Address:	50-C7-BF-02-EA-DD
IP Address:	58.61.172.101
Subnet Mask:	255.255.255.255
Default Gateway:	58.61.172.1
Primary DNS:	202.96.134.33
Secondary DNS:	202.96.128.86
Connection Type:	PPPoE
Default Gateway: Primary DNS: Secondary DNS:	58.61.172.1 202.96.134.33 202.96.128.86

- Your computer might not recognize any DNS server addresses. Please manually configure the DNS server.
  - 1) Go to Advanced > Network > DHCP Server.
  - 2) Enter 8.8.8.8 as Primary DNS, click Save.
  - *i* Tips: 8.8.8 is a safe and public DNS server operated by Google.

DHCP Server:	Enable DHCP Server		
IP Address Pool:	192.168.0.100	- 192.168.0.199	
Address Lease Time:	120 minutes.	(1-2880. The default value is 120.)	
Default Gateway:	192.168.0.2	(Optional)	
Primary DNS:	8.8.8.8	(Optional)	
Secondary DNS:		(Optional)	

- Restart the modem and the router.
  - 1) Power off your modem and router, and leave them off for 1 minute.
  - 2) Power on your modem first, and wait about 2 minutes until it gets a solid cable or Internet light.
  - 3) Power on the router.
  - 4) Wait another 1 or 2 minutes and check the internet access.
- Reset the router to factory default settings and reconfigure the router.

- Upgrade the firmware of the router.
- Check the TCP/IP settings on the particular device if all other devices can get internet from the router.

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

💮 Internet 😢	IPv4   IPv6
MAC Address:	50-C7-BF-02-EA-DD
IP Address:	0.0.0.0
Subnet Mask:	0.0.0.0
Default Gateway:	0.0.0.0
Primary DNS:	0.0.0
Secondary DNS:	0.0.0
Connection Type:	PPPoE

- Make sure the physical connection between the router and the modem is proper.
- Clone the MAC address of your computer.
  - 1) Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
  - 2) Go to Advanced > Network > Internet and focus on the MAC Clone section.
  - 3) Choose an option as needed (enter the MAC address if Use Custom MAC Address is selected), and click Save.

MAC Clone		
Use Default MAC Address		
O Use Current Computer MAC Address		
O Use Custom MAC Address		
	Sa	ve

#### Ø Tips:

- Some ISP will register the MAC address of your computer when you access the internet for the first time through their Cable modem, if you add a router into your network to share your internet connection, the ISP will not accept it as the MAC address is changed, so we need to clone your computer's MAC address to the router.
- The MAC addresses of a computer in wired connection and wireless connection are different.

• Modify the LAN IP address of the router.

#### Note:

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

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

MAC Address:       50-C7-BF-02-EA-DC         IP Address:       192.168.2.1         Subnet Mask:       255.255.255.0	LAN		
	MAC Address:	50-C7-BF-02-EA-DC	
Subnet Mask: 255.255.2 V	IP Address:	192.168.2.1	
	Subnet Mask:	255.255.255.0	▼

- Restart the modem and the router.
  - 1) Power off your modem and router, and leave them off for 1 minute.
  - 2) Power on your modem first, and wait about 2 minutes until it get a solid cable or Internet light.
  - 3) Power on the router.
  - 4) Wait another 1 or 2 minutes and check the internet access.
- Double check the internet connection type.
  - 1) Confirm your internet connection type, which can be learned from the ISP.
  - 2) Visit <u>http://tplinkwifi.net</u>, and log in with your TP-Link ID or the password you set for the router.
  - 3) Go to Advanced > Network > Internet.
  - 4) Select your Internet Connection Type and fill in other parameters.
  - 5) Click Save.

IPv4		
Internet Connection Type:	Dynamic IP	
	Static IP	
IP Address:	Dynamic IP	
Subnet Mask:	PPPoE	
Default Gateway:	BigPond Cable	
	L2TP	
Primary DNS:	РРТР	
Secondary DNS:	0.0.0.0	
Renew Release W	AN port is unplugged.	
Advanced		

6) Restart the modem and the router again.

• Please upgrade the firmware of the router.

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

## Q5. 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, please follow the steps below:

- Make sure the wireless function of your device is enabled if you're using a laptop with built-in wireless adapter. You can refer to the relevant document or contact the laptop manufacturer.
- Make sure the wireless adapter driver is installed successfully and the wireless adapter is enabled.
  - On Windows 7 or higher
  - 1) If you see the message No connections are available, it is usually because the wireless function is disabled or blocked somehow.
  - 2) Click Troubleshoot and windows might be able to fix the problem by itself.
  - On Windows XP
  - 1) If you see the message Windows cannot configure this wireless connection, this is usually because windows configuration utility is disabled or you are running another wireless configuration tool to connect the wireless.
  - 2) Exit the wireless configuration tool (the TP-Link Utility, for example).

- 3) Select and right click on My Computer on desktop, select Manage to open Computer Management window.
- 4) Expand Services and Applications > Services, find and locate Wireless Zero Configuration in the Services list on the right side.
- 5) Right click Wireless Zero Configuration, and then select Properties.
- 6) Change Startup type to Automatic, click on Start button and make sure the Service status is Started. And then click OK.

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

- Check the WLAN LED indicator on your wireless router/modem.
- Make sure your computer/device is still in the range of your router/modem. Move it closer if it is currently too far away.
- Go to Advanced > Wireless > Wireless Settings, and check the wireless settings. Double check your Wireless Network Name and SSID is not hided.

Wireless Settings		2.4GHz   5GHz
	✓ Enable Wireless Radio	
Network Name (SSID):	TP-LINK_EADB	
Security:	WPA/WPA2-Personal (Recommended)	
Version:	● Auto ○ WPA-PSK ○ WPA2-PSK	
Encryption:	Auto O TKIP O AES	
Password:	35498841	
Mode:	802.11b/g/n mixed 🔍	
Channel Width:	Auto 🔻	
Channel:	Auto 🔻	
Transmit Power:	🔿 Low 🔿 Middle 💿 High	
		Save

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

#### • Authenticating problem/password mismatch:

 Sometimes you will be asked to type in a PIN number when you connect to the wireless network for the first time. This PIN number is different from the Wireless Password/Network Security Key, usually you can only find it on the label of your router.



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

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

- Windows unable to connect to XXXX / Can not join this network / Taking longer than usual to connect to this network:
  - Check the wireless signal strength of your network. If it is weak (1~3 bars), please move the router closer and try again.
  - Change the wireless Channel of the router to 1, 6 or 11 to reduce interference from other networks.
  - Re-install or update the driver for your wireless adapter of the computer.

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#### FCC compliance information statement



#### Product Name: AC1200 Wireless MU-MIMO Gigabit Router

Model Number: Archer A6/Archer C6

Component Name	Model
I.T.E. POWER SUPPLY	T120100-2B1

Responsible party:

#### TP-Link USA Corporation, d/b/a TP-Link North America, Inc.

Address: 145 South State College Blvd. Suite 400, Brea, CA 92821

Website: https://www.tp-link.com/us/

Tel: +1 626 333 0234

Fax: +1 909 527 6803

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

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

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

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

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

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

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

#### FCC RF Radiation Exposure Statement

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

"To comply with FCC RF exposure compliance requirements, this grant is applicable to only Mobile Configurations. The antennas used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be colocated or operating in conjunction with any other antenna or transmitter."

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

Issue Date: 2020.01.07

# FCC compliance information statement

Product Name: I.T.E. POWER SUPPLY

Model Number: T120100-2B1

Responsible party:

TP-Link USA Corporation, d/b/a TP-Link North America, Inc.

Address: 145 South State College Blvd. Suite 400, Brea, CA 92821

Website: https://www.tp-link.com/us/

Tel: +1 626 333 0234

Fax: +1 909 527 6803

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

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

user is encouraged to try to correct the interference by one or more of the following measures:

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

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

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

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

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

Issue Date: 2020.01.07

#### **Canadian Compliance Statement**

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

(1) This device may not cause interference.

(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

1) L'appareil ne doit pas produire de brouillage;

2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

#### Caution:

The device for operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems;

#### Avertissement:

Le dispositif fonctionnant dans la bande 5150-5250 MHz est réservé uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux;

#### **Radiation Exposure Statement:**

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

#### Déclaration d'exposition aux radiations:

Cet équipement est conforme aux limites d'exposition aux rayonnements IC établies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé avec un minimum de 20 cm de distance entre la source de rayonnement et votre corps.

#### **Industry Canada Statement**

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

#### Korea Warning Statements:

당해 무선설비는 운용중 전파혼신 가능성이 있음.

#### NCC Notice & BSMI Notice:

注意!

依據 低功率電波輻射性電機管理辦法

第十二條 經型式認證合格之低功率射頻電機,非經許可,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或功能。

第十四條 低功率射頻電機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。前項合法通信,指依電信規定作業 之無線電信。低功率射頻電機需忍受合法通信或工業、科學以及醫療用電波輻射性電機 設備之干擾。

4.7.9.1應避免影響附近雷達系統之操作。

4.7.9.2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。

	限用物質及其化學符號					
產品元件名稱	鉛	鎘	汞	六價鉻	多溴聯苯	多溴二苯醚
	Pb	Cd	Hg	CrVI	PBB	PBDE
PCB	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
外殼	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
電源供應器	—	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$	$\bigcirc$
備考1. 超出0.1 wt %"及 "超出0.01 wt %" 系指限用物質之百分比含量超出百分						
比含量基準值。						
備考2. "〇"系指該項限用物質之百分比含量未超出百分比含量基準值。						
備考3."-"系指該項限用物質為排除項目。						

限用物質含有情況標示聲明書

#### **Safety Information**

- Keep the device away from water, fire, humidity or hot environments.
- Do not attempt to disassemble, repair, or modify the device.
- 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.

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

#### Explanations of the symbols on the product label

Symbol	Explanation
	Class II equipment
Ē	Class II equipment with functional earthing
$\sim$	AC voltage
	DC voltage
<b>⇔</b> ⊛	Polarity of d.c. power connector
4	Hazard live parts
V	Energy efficiency Marking
$\bigtriangleup$	Indoor use only
X.	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.