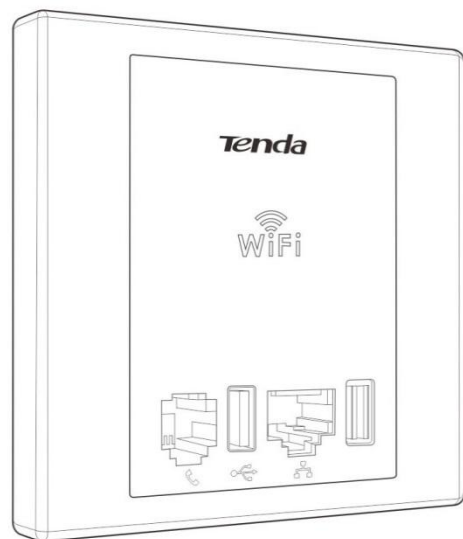


# User Guide



Wireless N300 Wall Plate Access Point

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## Technical Support

Website: <http://www.tendacn.com>



TEL: (86 755) 2765 7180

Email: [support@tenda.com.cn](mailto:support@tenda.com.cn)

# About This User Guide

Thank you for choosing Tenda! Please read this user guide before you start! This user guide instructs you to install and configure the device.

This user guide uses the following formats to highlight special messages:

Icon	Description
 <b>Note</b>	This format is used to highlight information of importance or special interest. Ignoring this type of note may result in ineffective configurations, loss of data or damage to device.
 <b>Tip</b>	This format is used to highlight a procedure that will save time or resources.

## How to Use This Guide

Chapter	Content
I Product Overview	Describes product appearance and lists features.
II Install	Explains how to install hardware and connect cables.
III Login	Explains how to logs in to the web interface.
IV Features & Configurations	Introduces how to configure the device features.
V Appendix	Explains how to configure PC TCP/IP settings, lists default feature values and Safety and Emission Statement.

# Contents

<b>I PRODUCT OVERVIEW .....</b>	<b>1</b>
<b>1 What It Does .....</b>	<b>1</b>
<b>2 Package Content .....</b>	<b>1</b>
<b>3 LED .....</b>	<b>2</b>
<b>4 Button &amp; Interface .....</b>	<b>2</b>
<b>5 Label.....</b>	<b>3</b>
<b>II INSTALL .....</b>	<b>4</b>
<b>III LOGIN .....</b>	<b>6</b>
<b>1 Configure PC TCP/IP Settings .....</b>	<b>6</b>
<b>2 Log in to Device.....</b>	<b>6</b>
<b>IV FEATURES &amp; CONFIGURATIONS.....</b>	<b>8</b>
<b>1 Status .....</b>	<b>8</b>
1.1 System Status .....	8
1.2 Wireless Status .....	9
1.3 Traffic Statistics.....	9
1.4 Wireless Clients .....	10
<b>2 LAN Settings .....</b>	<b>10</b>
<b>3 DHCP Server.....</b>	<b>11</b>
3.1 DHCP Server .....	11
3.2 DHCP Client List.....	13
<b>4 Wireless Settings.....</b>	<b>13</b>
4.1 Basic Settings.....	14
4.2 Radio .....	19
4.3 Advanced Settings .....	21
4.4 Access Control .....	22
4.5 QVLAN .....	23
<b>5 SNMP .....</b>	<b>24</b>

<b>6 Tools .....</b>	<b>25</b>
6.1 Firmware Upgrade & Reboot .....	26
6.2 System Time & Login Timeout Setup .....	27
6.3 Syslog.....	29
6.4 Log Settings .....	30
6.5 Backup & Restore .....	30
6.6 Restore to Factory Default.....	31
6.7 User Name & Password.....	32
6.8 Diagnostics .....	33
<b>V APPENDIX.....</b>	<b>34</b>
<b>1 Configure PC TCP/IP Settings .....</b>	<b>34</b>
Windows 7 .....	34
Windows XP .....	36
<b>2 Factory Default Settings .....</b>	<b>38</b>
<b>3 Safety and Emission Statement .....</b>	<b>40</b>

# I Product Overview

## 1 What It Does

This Wireless N300 Wall Plate Access Point, is a best-in-class 802.11n indoor access point designed specifically for business-class environments such as hotels, airports, coffee shops, shopping centers, sporting venues, and university campus. With standard install design and stylish appearance, it nicely fits into an 86-type wall jack and seamlessly blends in with most interior decorations in an office or room. No need to rebuild or change existing walls. The unit comes with a built-in USB port that charges mobile devices such as a smart phone via a USB cable as well as a RJ11 port for connecting to your telephone. Integrated 802.3af Power over Ethernet (PoE) allows installation in areas where power outlets are not readily available. Plus, it supports port “Bypass”. Client connected to the device’s LAN port can still communicate with the remote uplink device (PoE switch) even when no power is supplied to this device or it goes dead).

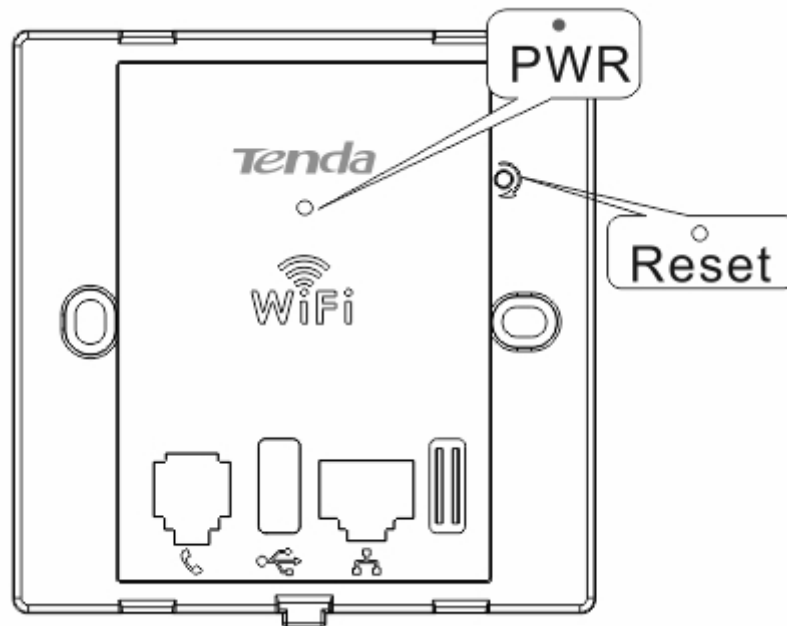
## 2 Package Content

Unpack the package. Your box should contain the following items:

- AP
- 2\*Screws
- Ethernet Cable
- Install Guide
- Resource CD

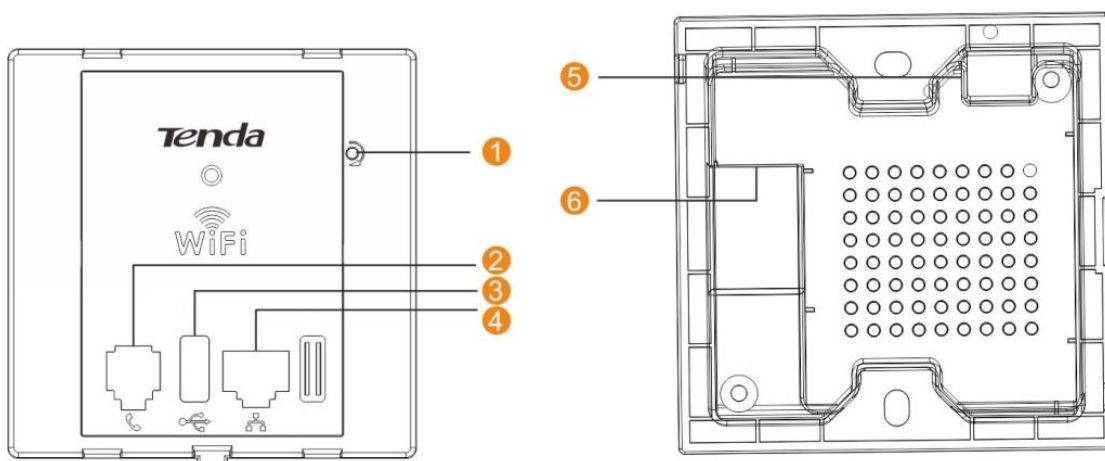
If any of the parts are incorrect, missing, or damaged, contact your dealer. Keep the carton, including the original packing materials, in case you need to return the product for repair.

### 3 LED



LED	Color	Status	Description
PWR	Green	Solid	The device is connected to power supply.
		Blinking	The device is functioning correctly.
		Off	Power is not supplied to the device or the device is malfunctioning.

### 4 Button & Interface

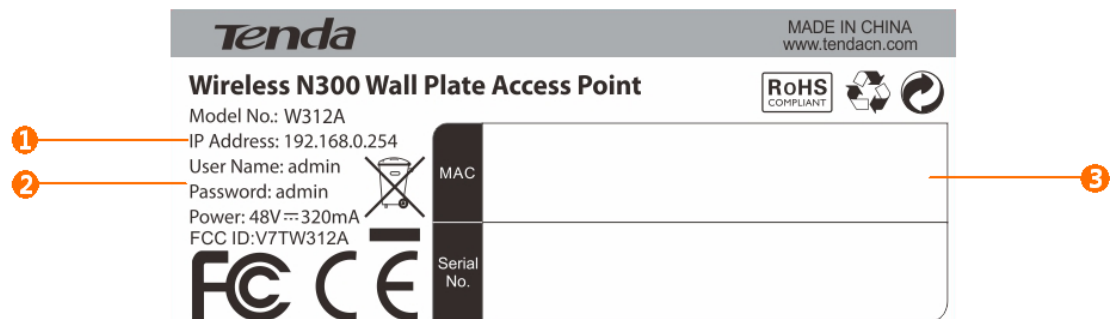


**1** ⇒ **Reset:** Open the housing of the AP and press this reset button with a needle for 7 seconds to restore the device to the factory default settings.

**2** ⇒ **Phone Interface:** For connection to a telephone.

- 3 ⇒ **USB Port:** The USB port that charges terminal devices with a USB cable.
- 4 ⇒ **LAN:** 100M Ethernet Port for connecting to an Ethernet LAN device such as a PC or switch, etc. This port supports “Bypass”. Client connected to the device’s LAN port can still communicate with the remote uplink device (PoE switch) even when no power is supplied to this device or it goes dead).
- 5 ⇒ **Green Connector:** For connecting to a 4-core phone cable.
- 6 ⇒ **RJ45:** The RJ45 port for connecting to a PoE switch.

## 5 Label



- 1 ⇒ Default Login IP address. This IP address is to be used to access the device’s settings through a web browser. If you change it, you have to open a new connection to the new IP address and log in again.
- 2 ⇒ Administrator user name and password
- 3 ⇒ This is the device’s MAC address. The device’s default primary SSID (wireless network name) is Tenda\_XXXXXX (where XXXXXX is the last 6 characters of this MAC address).

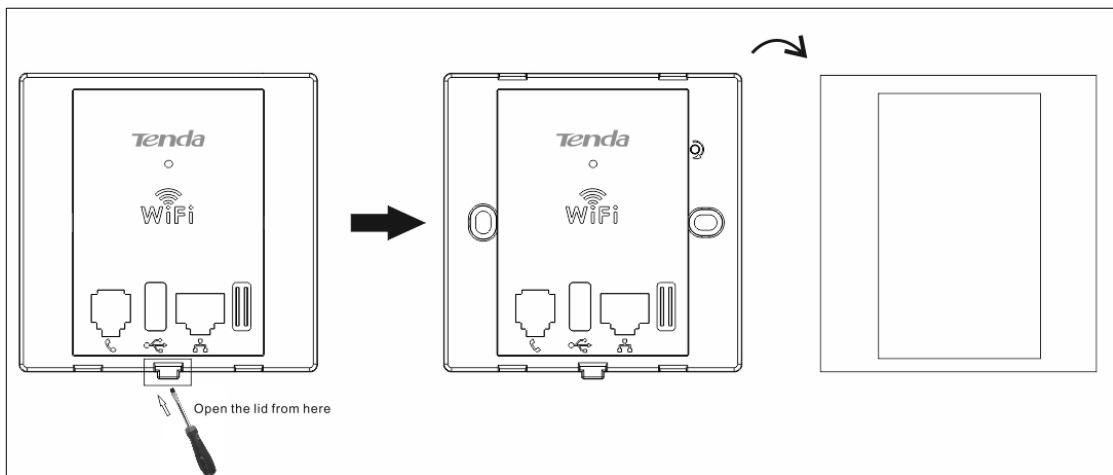


## II Install

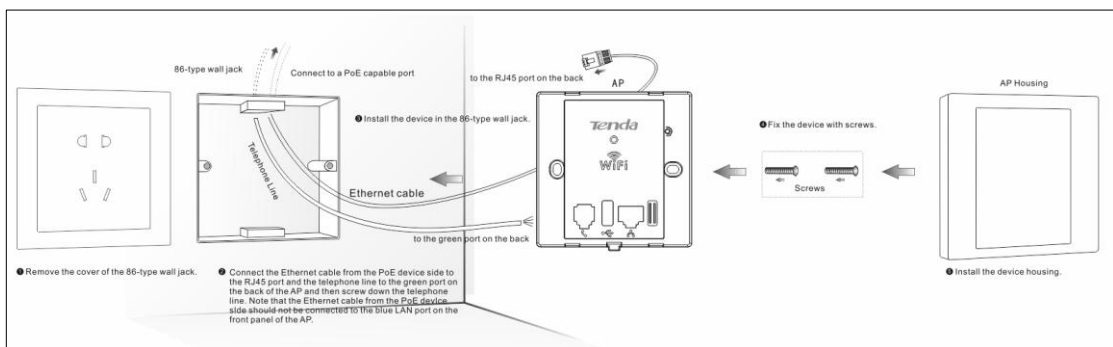
**Step 1:** Prepare the following installation tools.



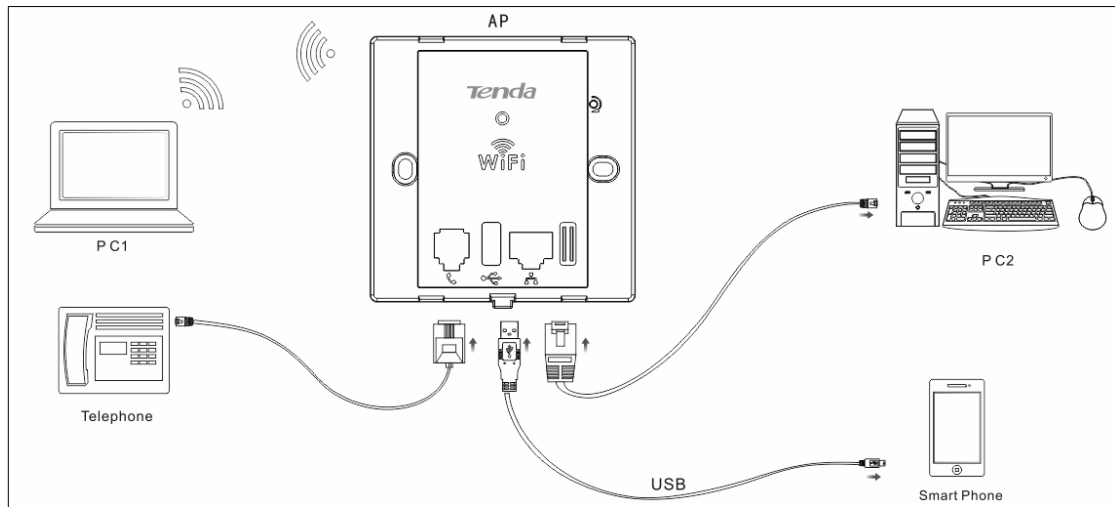
**Step 2:** Remove the device's lid with a flathead screwdriver.



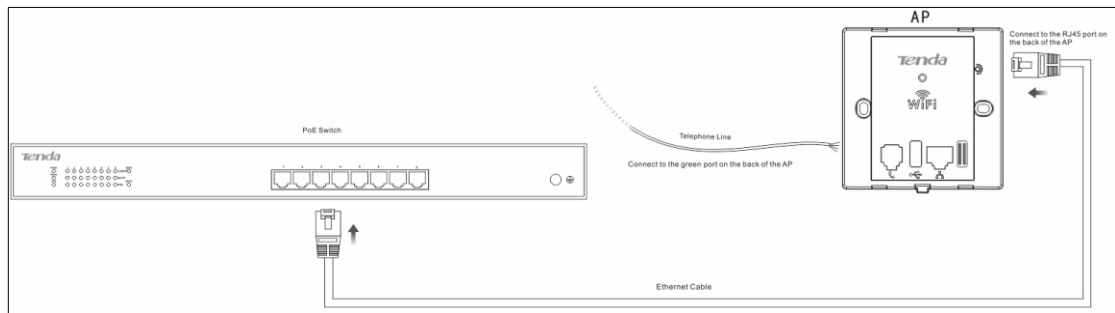
**Step 3:** Install the device (For details, please go to the Install Guide).



**Step 4: Connect terminal device(s).**



**Step 5: Verify the network topology.**



# III Login

## 1 Configure PC TCP/IP Settings

Connect your PC to this device wirelessly or using an Ethernet cable. The default IP address of your wireless access point is 192.168.0.254. If you are using the default IP subnet, the computer you are using to connect to the device should be configured with an IP address that starts with 192.168.0.x (where x can be any integer between 2~253) and a Subnet Mask of 255.255.255.0; if you have changed the subnet of the wireless access point, the computer you are using to connect must be within the same subnet.

---



### Tip

If you are not clear about how to set up your PC's IP address, see [1 Configure PC TCP/IP Settings](#).

---

## 2 Log in to Device

- 1) Launch a web browser, say, IE, input 192.168.0.254 and press **Enter**.
  - 2) The login window appears. Enter the login user name and password (Both are "admin" by default) and click **Login**.
- 

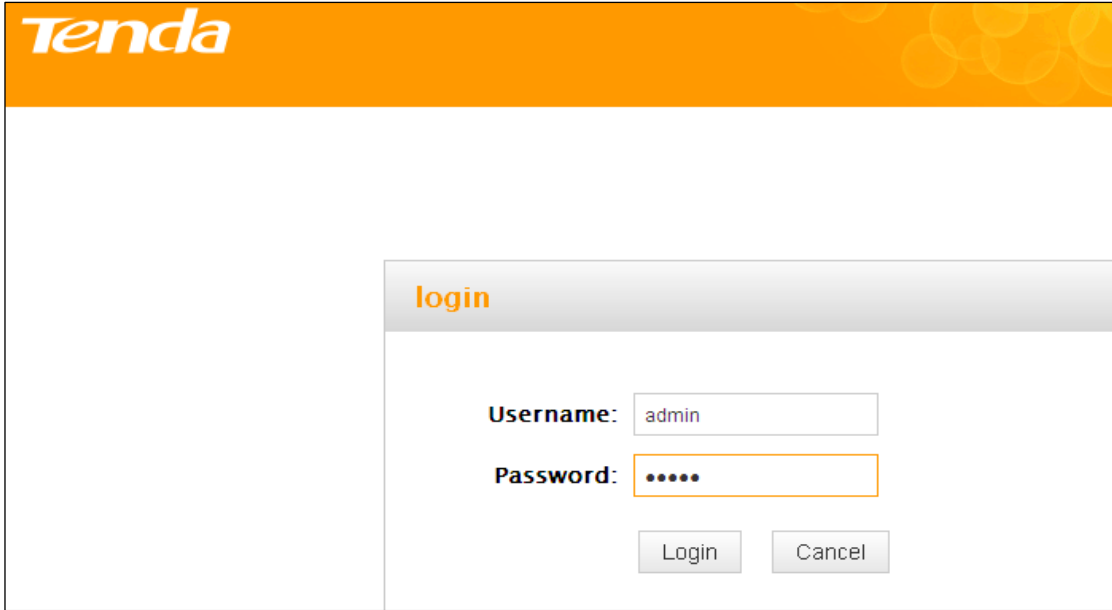


### Tip

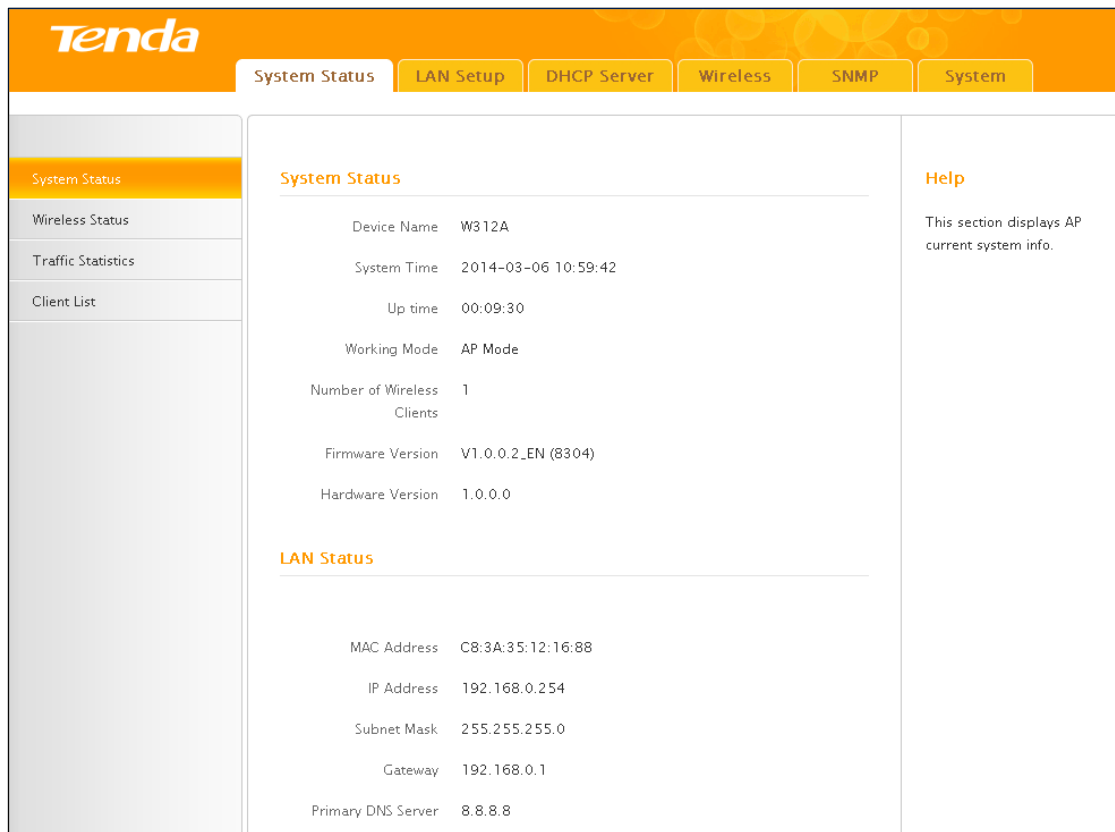
You can click **Tools -> User Name & Password** to manage this user name and password.

For more information, see [6.7 User Name & Password](#).

---



3) You will now enter the web configuration interface as seen below.



# IV Features & Configurations

## 1 Status

This section includes the following:

[1.1 System Status](#): View the device's system information and LAN settings.

[1.2 Wireless Status](#): View the device's wireless information and current SSID settings.

[1.3 Traffic Statistics](#): View current traffic statistics of each SSID.

[1.4 Wireless Clients](#): View the MAC addresses and connection speed of the wireless clients that currently connect to each SSID.

### 1.1 System Status

Here you can view the device's system status and LAN status.

The screenshot displays the Tenda web management interface. At the top, there is an orange header with the 'Tenda' logo and a navigation menu with tabs for 'System Status', 'LAN Setup', 'DHCP Server', 'Wireless', 'SNMP', and 'System'. The 'System Status' tab is selected. On the left side, there is a sidebar menu with options: 'System Status', 'Wireless Status', 'Traffic Statistics', and 'Client List'. The main content area is divided into two sections: 'System Status' and 'LAN Status'. The 'System Status' section lists the following information: Device Name (W312A), System Time (2014-03-06 10:59:42), Up time (00:09:30), Working Mode (AP Mode), Number of Wireless Clients (1), Firmware Version (V1.0.0.2\_EN (8304)), and Hardware Version (1.0.0.0). The 'LAN Status' section lists: MAC Address (C8:3A:35:12:16:88), IP Address (192.168.0.254), Subnet Mask (255.255.255.0), Gateway (192.168.0.1), and Primary DNS Server (8.8.8.8). On the right side of the main content area, there is a 'Help' section with the text: 'This section displays AP current system info.'

## 1.2 Wireless Status

Click **Status -> Wireless Status** and you can view the device's wireless information and current SSID settings.

**Tenda**

System Status LAN Setup DHCP Server **Wireless** SNMP System

System Status

Wireless Status

Traffic Statistics

Client List

### Wireless Status

Radio (On/Off) On

Network Mode 11b/g/n mixed

Channel 1

SSID	MAC Address	Security Mode	Status
Tenda_121688	C8:3A:35:12:16:88	On	None
Tenda_121689	C8:3A:35:12:16:89	Off	None

**Help**

**Radio ON/OFF:** Displays the primary SSID's wireless status.

**Network Mode:** Displays currently operative network mode. We recommend you select 11b/g/n mixed mode.

**Channel:** Displays the channel the device is currently operating on.

## 1.3 Traffic Statistics

Click **Status -> Traffic Statistics** and you can view current traffic statistics of the device's SSID.

**Tenda**

System Status LAN Setup DHCP Server **Wireless** SNMP System

System Status

Wireless Status

**Traffic Statistics**

Client List

### AP StatisticList

SSID	Total RX Traffic (MB)	Total RX Packets	Total TX Traffic (MB)	Total TX Packets	Total Link Speed (KB/s)
Tenda_121688	0.01MB	51	0.03MB	392	0.05KB/s
Tenda_121689	0.00MB	0	0.00MB	0	0.00KB/s

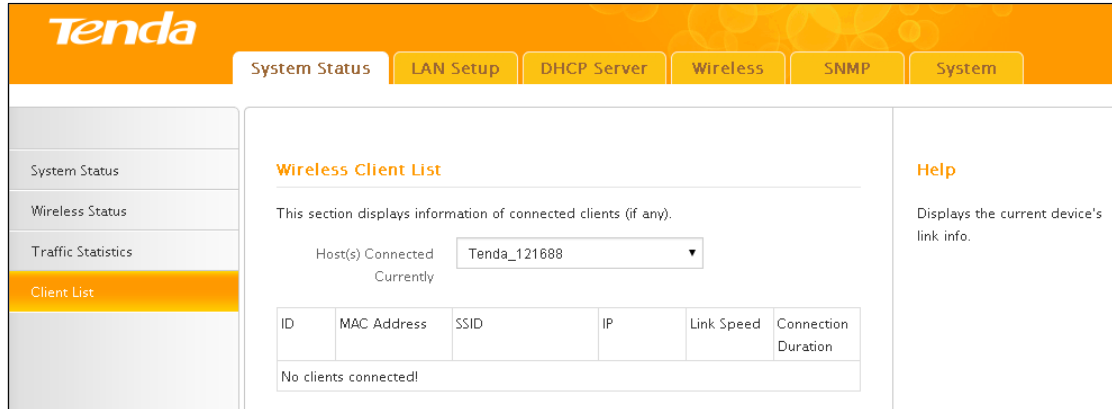
Refresh

**Help**

Displays current traffic statistics

## 1.4 Wireless Clients

Here you can view the MAC addresses and connection speed of the wireless clients that currently connect to each SSID.



The screenshot shows the Tenda web interface. At the top, there is a navigation bar with the Tenda logo and several menu items: System Status, LAN Setup, DHCP Server, Wireless, SNMP, and System. The 'Wireless' menu item is highlighted. On the left side, there is a sidebar with a list of menu items: System Status, Wireless Status, Traffic Statistics, Client List (highlighted), and another unlabeled item. The main content area is titled 'Wireless Client List'. It contains a sub-header 'Wireless Client List' and a description: 'This section displays information of connected clients (if any)'. Below this, there is a dropdown menu labeled 'Host(s) Connected Currently' with the value 'Tenda\_121688' selected. Underneath the dropdown is a table with the following columns: ID, MAC Address, SSID, IP, Link Speed, and Connection Duration. The table currently shows 'No clients connected!'. To the right of the main content area, there is a 'Help' section with the text: 'Displays the current device's link info.'

To view wireless clients connected to a specific SSID, simply select it from the drop-down list on the screen.

## 2 LAN Settings

Here you can configure the device's LAN IP address for Internet access. This IP address is also to be used to access the device's settings through a web browser. Most of the default settings work in most cases. However, if your access point is part of a more complex LAN network, then modify the settings to meet the requirements of your network based on the explanation of the various fields.

**Address Mode-Static IP:** Manually specify the Static IP information (LAN IP address, subnet mask, gateway, DNS server address) that corresponds with your existing networking equipment.

**Address Mode-Dynamic IP:** Select it if you already have an active DHCP server on your existing network. The wireless access point gets its IP address, subnet mask, and default gateway settings automatically from the DHCP server on your network when you connect the access point to your existing network.

**Tenda**

System Status LAN Setup DHCP Server Wireless SNMP System

LAN Setup

**LAN Settings**

LAN MAC Address C8:3A:35:12:16:88

IPMETHOD Static IP

IP Address 192.168.0.254  
For example: 192.168.0.254

Subnet Mask 255.255.255.0  
For example: 255.255.255.0

Gateway 192.168.0.1  
For example: 192.168.0.1

Primary DNS Server 8.8.8.8

Secondary DNS Server (Optional)

Save Cancel

**Help**

Here you can configure the LAN IP address.

**IP Address:** The AP's LAN IP address. The default is 192.168.0.254.

**Subnet Mask:** The AP's LAN subnet mask.

**Gateway:** Enter the IP address of the uplinked router.

**Note:** If you change this IP address, you must use the new one to re-log on to this web utility. The default gateways of all PCs in this LAN must be the same as this AP. If necessary, please press the Reset button to restore factory settings.



**Tip**

- 1) Default IP address and subnet mask are respectively 192.168.0.254 and 255.255.255.0.
- 2) Be sure to make a note of any changes you apply to this page. If you change the LAN IP address of this device, you have to update your PC's TCP/IP settings and open a new connection to the new IP address and then log in again.

## 3 DHCP Server

This section includes the following:

**[3.1 DHCP Server:](#)** Configure DHCP server settings.

**[3.2 DHCP Client List:](#)** View the information of the DHCP clients that currently obtain IP addresses from the DHCP server.

### 3.1 DHCP Server

DHCP (Dynamic Host Configuration Protocol) assigns an IP address to each device on



the LAN/private network. When you enable the DHCP Server, the DHCP Server will automatically allocate an unused IP address from the IP address pool specified in this screen to the requesting device as long as the device is set to "Obtain an IP Address Automatically". If you disable this feature, you have to manually configure the TCP/IP settings for all PCs on your LAN to access Internet.

Click **DHCP Server** to enter the configuration screen.

**Tenda**

System Status LAN Setup **DHCP Server** Wireless SNMP System

**DHCP Server**

DHCP Client List

**DHCP Server**

DHCP Server  Enable

Start IP 192.168.0.100

End IP 192.168.0.200

Lease Time 1 day

lanmask 255.255.255.0

gateway 192.168.0.254

Primary DNS Server 192.168.0.254

Secondary DNS Server (Optional)

Save Cancel

**Help**

This section allows you to config the DHCP settings. The Dynamic Host Configuration Protocol (DHCP) is an automatic configuration protocol used on IP networks. If you enable the built-in DHCP server on this router, it will automatically configure TCP/IP protocol settings for all PCs in LAN, including IP address, subnet mask, gateway and DNS etc..

**IP Address Pool:** Enter the starting IP address for the DHCP server's IP assignment.

**Lease Time:** The length of time for the IP address lease.

To set up the DHCP Server:

- 1) Enable the DHCP Server.
- 2) Specify the starting and ending address of the IP address pool. These addresses should be part of the same IP segment as the remote Internet enabled device's LAN IP Address.
- 3) Specify the lease time. It is a time length that the IP address is assigned to each device before it is refreshed.
- 4) Specify the subnet mask. It should match the remote Internet enabled device's LAN subnet.
- 5) Set the gateway address to the LAN IP address of the remote device.
- 6) Configure correct DNS settings. If a wrong DNS server address is entered, Web

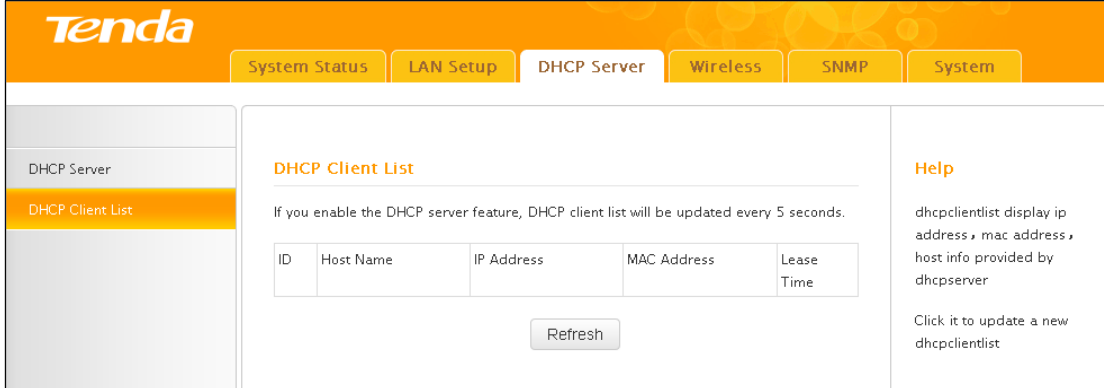
pages may not be open.

### Note

If there is already an active DHCP server on your network, make sure the IP address pool you specified here is not a part of that existing DHCP server. Otherwise, IP collisions may occur.

## 3.2 DHCP Client List

Click **DHCP Server** -> **DHCP Client List** to enter the DHCP clients screen. Here you can view the host name, IP address, MAC address, and lease time information.



The screenshot shows the Tenda web interface for the DHCP Client List. The top navigation bar includes tabs for System Status, LAN Setup, DHCP Server, Wireless, SNMP, and System. The DHCP Server tab is active, and the DHCP Client List sub-tab is selected. The main content area displays the title "DHCP Client List" and a note: "If you enable the DHCP server feature, DHCP client list will be updated every 5 seconds." Below this is a table with columns for ID, Host Name, IP Address, MAC Address, and Lease Time. A "Refresh" button is located below the table. On the right side, there is a "Help" section with the text: "dhcplist display ip address, mac address, host info provided by dhcpserver" and "Click it to update a new dhcplist".

## 4 Wireless Settings

This section describes the following.

**[4.1 Basic Settings](#)**: Here you can configure the basic wireless settings of the device such as the SSID (name of the network) and broadcast SSID, etc.

**[4.2 Radio](#)**: Here you can configure basic wireless settings including network mode and channel, etc.

**[4.3 Advanced Settings](#)**: Here you can configure advanced wireless settings. This is only recommended to advanced users.

**[4.4 Access Control](#)**: Specify a list of devices to allow or disallow a connection to your wireless network via the device's MAC addresses.

**[4.5 QVLAN](#)**: Here you can configure the QVLAN feature to better manage wireless traffic and enhance wireless security.

## 4.1 Basic Settings

Here you can configure the basic wireless settings of the device such as the SSID (name of the network) and security.

### ➤ Basic information

**SSID:** Select the SSID you wish to use. This is the public name of your wireless network.

Two SSIDs are supported.

**Enable:** Select whether to enable the selected SSID.

**Broadcast SSID:** This option allows you to have your network names (SSIDs) publicly broadcast or if you choose to disable it, the SSIDs will be hidden. To join your hidden wireless network, you must enter the SSID manually.

**AP Isolation:** Isolates clients connecting to this SSID.

**Maximum Clients:** Set the number of wireless clients that can join your wireless network.

When the number of wireless clients reaches the set value, new connections to this SSID will be denied.

**SSID:** This field is configurable. You can change the current SSID.

**Security Mode:** Configure security settings for the current SSID. This device supports WEP, WPA-PSK, WPA2-PSK, WPA/WPA2-PSK Mixed, WPA and WPA2 (To learn more,

read the following).

## WEP

WEP (Wired Equivalent Privacy): WEP is a security algorithm for IEEE 802.11 wireless networks. Introduced as part of the original 802.11 standard, its intention was to provide data confidentiality comparable to that of a traditional wired network. Wireless speed can reach up to 54Mbps if WEP is used.

The screenshot shows the Tenda wireless configuration interface. The top navigation bar includes 'System Status', 'LAN Setup', 'DHCP Server', 'Wireless', 'SNMP', and 'System'. The 'Wireless' tab is active, and the 'Basic' sub-tab is selected. The main configuration area is titled 'Basic' and contains the following settings:

- SSID: Tenda\_121688
- enable:
- Broadcast SSID: Enable
- AP isolation:  Disable  Enable
- Maximum clients: 15 (Range: 1-15)
- SSID: Tenda\_121688
- Security Mode: WEP
- Encryption Type: Open
- Default Key: Security Key 1
- WEP Key 1: ASCII (ASCII)
- WEP Key 2: 12345 (ASCII)
- WEP Key 3: 12345 (ASCII)
- WEP Key 4: 12345 (ASCII)

At the bottom of the configuration area are 'Save' and 'Cancel' buttons. On the right side, there is a 'Help' section with the following text:

**Help**

In this section you can configure the basic wireless settings of the device such as the SSID (name of the network) .

**SSID Broadcast:** This option allows you to have your network name (SSID) publicly broadcast or if you choose to disable it, the SSID will be hidden.

**AP Isolation:** Isolates clients connecting to the same SSID.

**Maximum Clients:** Total clients should be within 15.

**SSID :** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.

**Security Mode:** Select WEP, WPA-PSK or WPA2-PSK.

Open, Shared and 802.1x are the same in encryption progression yet different in authentication mode.

**Open:** Uses "no authentication" + WEP Encryption. Wireless clients can be associated with the device without going through authentication. Only data in transmission is encrypted with WEP encryption.

**Shared:** Uses shared key authentication + WEP Encryption. A WEP key that is mutually agreed in advance is required from both sides while wireless clients try to associate with the device. Association is established only if the two sides provide the same WEP key.

**802.1x:** Adopts 802.1x identity authentication + WEP encryption mode. The supplicant (i.e., client device) is not allowed to access through the authenticator to the protected side of

the network until the supplicant's identity has been validated and authorized. If authentication is successful, the authenticator sets the port to the "authorized" state and normal traffic is allowed, if it is unsuccessful the port remains in the "unauthorized" state and blocks traffic.

**Default Key:** Specify a WEP key from the preset keys for current use. For example, if you select Key 2, wireless clients must join your wireless network using this Key 2.

➤ **WEP-802.1x Configuration Procedures:**

The screenshot shows the Tenda web interface for configuring wireless settings. The 'Wireless' tab is selected, and the 'Basic' sub-tab is active. The configuration fields are as follows:

- SSID: Tenda\_121688 (dropdown menu)
- enable:
- Broadcast SSID: Enable (dropdown menu)
- AP isolation:  Disable  Enable
- Maximum clients: 15 (text input, Range: 1-15)
- SSID: Tenda\_121688 (text input)
- Security Mode: WEP (dropdown menu)
- Encryption Type: 802.1x (dropdown menu)
- RADIUS Server: (text input)
- RADIUS Port: (text input)
- RADIUS Key: (text input)

Buttons for 'Save' and 'Cancel' are at the bottom. A 'Help' section on the right provides additional information:

- SSID Broadcast:** This option allows you to have your network name (SSID) publicly broadcast or if you choose to disable it, the SSID will be hidden.
- AP Isolation:** Isolates clients connecting to the same SSID.
- Maximum Clients:** Total clients should be within 15.
- SSID:** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.

**SSID:** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.

**Security Mode:** Select WEP.

**Encryption Mode:** Select 802.1X.

**Radius Server:** Enter the IP address of Radius server on your LAN.

**Radius Port:** Enter the Authentication port for the Radius server on your LAN.

**Radius Key:** Enter the Authentication key for the Radius server.

**WPA-PSK, WPA2-PSK**

**WPA:** The WPA protocol implements the majority of the IEEE 802.11i standard. It enhances data encryption through the Temporal Key Integrity Protocol (TKIP) which is a

128-bit per-packet key, meaning that it dynamically generates a new key for each packet. WPA also includes a message integrity check feature to prevent data packets from being tampered with. Only authorized network users can access the wireless network. WPA adopts enhanced encryption algorithm over WEP.

**WPA2:** WPA2 is based on 802.11i and uses Advanced Encryption Standard (AES) instead of TKIP. It is more secure than WPA and WEP.

The screenshot shows the Tenda wireless configuration interface. The top navigation bar includes 'System Status', 'LAN Setup', 'DHCP Server', 'Wireless', 'SNMP', and 'System'. The 'Wireless' tab is active. On the left, a sidebar lists 'Basic', 'Radio', 'Advanced', 'Wireless Access Control', and 'QVLAN Configuration'. The main content area is titled 'Basic' and contains the following settings:

- SSID: Tenda\_121688
- enable:
- Broadcast SSID: Enable
- AP isolation:  Disable  Enable
- Maximum clients: 15 (Range: 1-15)
- SSID: Tenda\_121688
- Security Mode: WPA-PSK
- Cipher Type:  AES  TKIP  TKIP&AES
- Key: 12345678
- Key Update Interval: 3600 Seconds (60-99999 seconds. If set to 0, key will not be updated.)

At the bottom of the settings are 'Save' and 'Cancel' buttons. On the right, a 'Help' section provides additional information:

- SSID Broadcast:** This option allows you to have your network name (SSID) publicly broadcast or if you choose to disable it, the SSID will be hidden.
- AP Isolation:** Isolates clients connecting to the same SSID.
- Maximum Clients:** Total clients should be within 15.
- SSID:** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.

**Security Mode:** Supports WPA-PSK, WPA2-PSK and WPA/WPA2-PSK Mixed.

**WPA-PSK:** Supports AES and TKIP cipher types.

**WPA2-PSK:** Supports AES, TKIP and TKIP+AES cipher types.

**WPA/WPA2-PSK mixed:** If selected, both WPA-PSK and WPA2-PSK secured wireless clients can join your wireless network.

**Cipher Type:** Includes AES, TKIP and TKIP&AES.

**AES:** If selected, wireless speed can reach up to 300Mbps.

**TKIP:** If selected, wireless speed can reach up to 54Mbps.

**TKIP+AES:** If selected, both AES and TKIP secured wireless clients can join your wireless network.

**Key Update Interval:** Enter a valid time period for the key to be changed.

➤ **Configuration Procedures:**

- 1) **SSID:** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.
- 2) **Security Mode:** Select WPA-PSK, WPA2-PSK or WPA/WPA2-PSK Mixed.
- 3) **Cipher Type:** Select the cipher type you wish to use.
- 4) **Key:** Enter a security key.

**WPA, WPA2**

The Wi-Fi Alliance defined the WPA/WPA2 in response to weaknesses found in WPA-PSK or WPA2-PSK in key management. It uses 802.1x to authenticate users and generate a root key for encrypting data instead of using a manually set pre-shared key.

With 802.1X authentication, the supplicant provides credentials, such as user name/password or digital certificate, to the authenticator, and the authenticator forwards the credentials to the authentication server for verification. If the authentication server determines the credentials are valid, the supplicant (client device) is allowed to access resources located on the protected side of the network. Data transmission over the wireless network is encrypted with dynamic keys assigned by the Radius server, which greatly enhances security. WPA/WPA2 becomes the most preferred security mode with its offered better security.

**Tenda**

System Status | LAN Setup | DHCP Server | **Wireless** | SNMP | System

Basic | Radio | Advanced | Wireless Access Control | QVLAN Configuration

**Basic**

SSID: Tenda\_121688

enable:

Broadcast SSID: Enable

AP isolation:  Disable  Enable

Maximum clients: 15 (Range:1-15)

SSID: Tenda\_121688

Security Mode: WPA

RADIUS Server:

RADIUS Port:

RADIUS Key:

Cipher Type:  AES  TKIP  TKIP&AES

Key Update Interval: 3600 Seconds(60—99999 seconds. If set to 0, key will not be updated.)

Save Cancel

**Help**

In this section you can configure the basic wireless settings of the device such as the SSID (name of the network) .

**SSID Broadcast:**This option allows you to have your network name (SSID) publicly broadcast or if you choose to disable it, the SSID will be hidden.

**AP Isolation:** Isolates clients connecting to the same SSID.

**Maximum Clients:**Total clients should be within 15.

**SSID :** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.

**Security Mode:** Select WEP, WPA-PSK or WPA2-PSK.

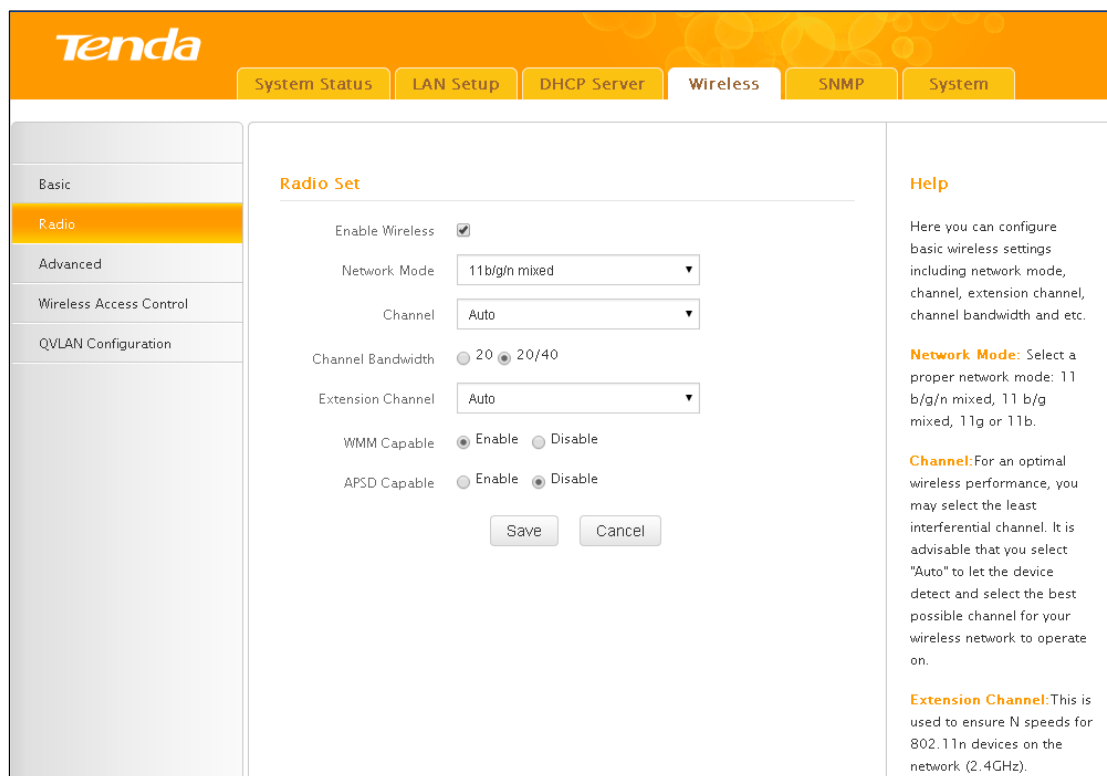
➤ **Configuration Procedures:**

- 1) **SSID:** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.
- 2) **Security Mode:** Select WPA or WPA2.
- 3) **RADIUS Server:** Enter the IP address of Radius server on your LAN.
- 4) **RADIUS Port:** Enter the Authentication port for the Radius server on your LAN.
- 5) **RADIUS Key:** Enter the Authentication key for the Radius server.
- 6) **Cipher Type:** Select the cipher type you wish to use.

## 4.2 Radio

Click **Wireless -> Radio** to enter the configuration screen. Here you can configure basic wireless settings including network mode, channel and etc.





**Enable Wireless:** Enable or disable the wireless feature.

**Network Mode:** Select a correct mode according to your wireless clients. The default is 11b/g/n mixed.

**11b:** This network mode delivers wireless speed up to 11Mbps and is only compatible with 11b wireless clients.

**11g:** This network mode delivers wireless speed up to 54Mbps and is only compatible with 11g wireless clients.

**11b/g:** This network mode delivers wireless speed up to 54Mbps and is compatible with 11b and 11g wireless clients.

**11b/g/n mixed:** This network mode delivers wireless speed up to 300Mbps and is compatible with 11b/g/n wireless clients.

**Channel:** Select a channel or select Auto to let system automatically select one for your wireless network to operate on if you are unsure. The best selection is a channel that is the least used by neighboring networks.

**Channel Bandwidth:** Select a proper channel bandwidth to enhance wireless performance. This option is available only in 802.11b/g/n. Wireless speed in the channel bandwidth of 20/40 is 2 times in 20.

**Extension Channel:** This is used to ensure N speeds for 802.11n devices on the network. This option is available in 11b/g/n mixed mode with channel bandwidth of 20/40.

**WMM-Capable:** WMM is QoS for your wireless network. Enabling this option may better stream wireless multimedia data (such as video or audio).

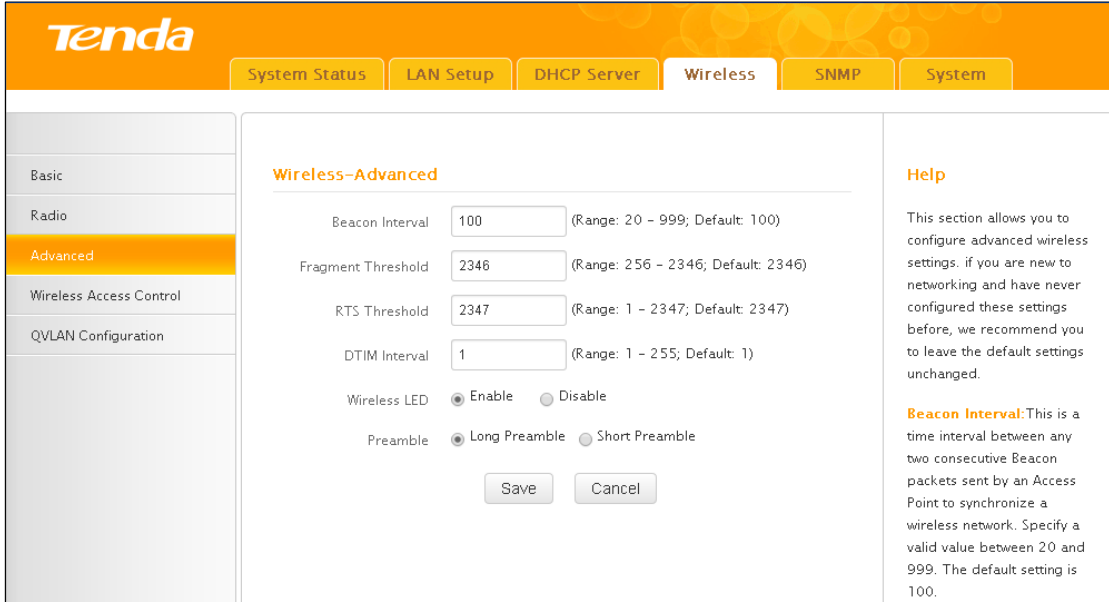
**ASPD Capable:** Auto power saving mode. This option is effective only if WMM is enabled. It is advisable to keep it disabled.

## 4.3 Advanced Settings

Here you can configure the advanced wireless settings including AP Isolation, Beacon interval, Fragment threshold, RTS threshold and DTIM interval, etc, for your wireless networks. Normally, the default settings will work. If not, change them according to the suggestions given by your ISP or our technical staff. Click **Wireless -> Advanced** to enter the configuration interface.

### Note

Only change the default settings if instructed by your ISP or our technical staff. Wrong configurations may degrade your wireless performance.



**Wireless-Advanced**

Beacon Interval  (Range: 20 - 999; Default: 100)

Fragment Threshold  (Range: 256 - 2346; Default: 2346)

RTS Threshold  (Range: 1 - 2347; Default: 2347)

DTIM Interval  (Range: 1 - 255; Default: 1)

Wireless LED  Enable  Disable

Preamble  Long Preamble  Short Preamble

**Help**

This section allows you to configure advanced wireless settings. If you are new to networking and have never configured these settings before, we recommend you to leave the default settings unchanged.

**Beacon Interval:** This is a time interval between any two consecutive Beacon packets sent by an Access Point to synchronize a wireless network. Specify a valid value between 20 and 999. The default setting is 100.

**Beacon Interval:** A time interval between any two consecutive Beacon packets sent by an Access Point to synchronize a wireless network. The valid value range is between

20~999.

**Fragment Threshold:** Specify a Fragment Threshold value. Any wireless packet exceeding the preset value will be divided into several fragments before transmission. The valid value range is between 256~2346.

**RTS Threshold:** If a packet exceeds the set value, RTS/CTS scheme will be used to reduce collisions. Set it to a smaller value provided that there are distant clients and interference. For normal SOHO, it is recommended to keep the default value unchanged; otherwise, device performance may be degraded. The valid value range is between 1~2347.

**DTIM Interval:** A DTIM (Delivery Traffic Indication Message) Interval is a countdown informing clients of the next window for listening to broadcast and multicast messages. When such packets arrive in the router's buffer, the router will send DTIM (delivery traffic indication message) and DTIM interval to alert clients of the receiving packets.

**Wireless LED:** Select to turn on or off the wireless LED.

**Preamble:** There are two types of preambles: long preamble and short preamble. The preamble signals to the receiving node that data is incoming and indicates when the data flow is about to begin. For wireless transmission, the longer the preamble is, the less the data is. So support of a short preamble can boost the transmission efficiency of a wireless interface. Support of short preamble is optional for 802.11b yet a must for 802.11g.

## 4.4 Access Control

Specify a list of devices to permit or forbid a connection to your wireless network via the devices' MAC Addresses. Click **Wireless -> Access Control** to enter the configuration screen.

**MAC Filter:** There are three options available: **Disable**, **Deny** and **Allow**.

**Disable:** Disable the access control feature.

**Allow:** Allow only devices at specified MAC addresses to join your wireless network.

**Deny:** Blocks only devices at specified MAC addresses from joining your wireless network.

➤ **Configuration Procedures:**

- 1) **SSID:** This is the public name of your wireless network. Select the SSID you wish to configure from the drop-down list.
- 2) **MAC Filter Mode:** Select a MAC filter mode from the drop-down list.
- 3) Enter the wireless MAC address you wish to restrict and click **Add**. (Also, you can simply select a wireless MAC address from the MAC addresses displayed on this page to quickly add it)

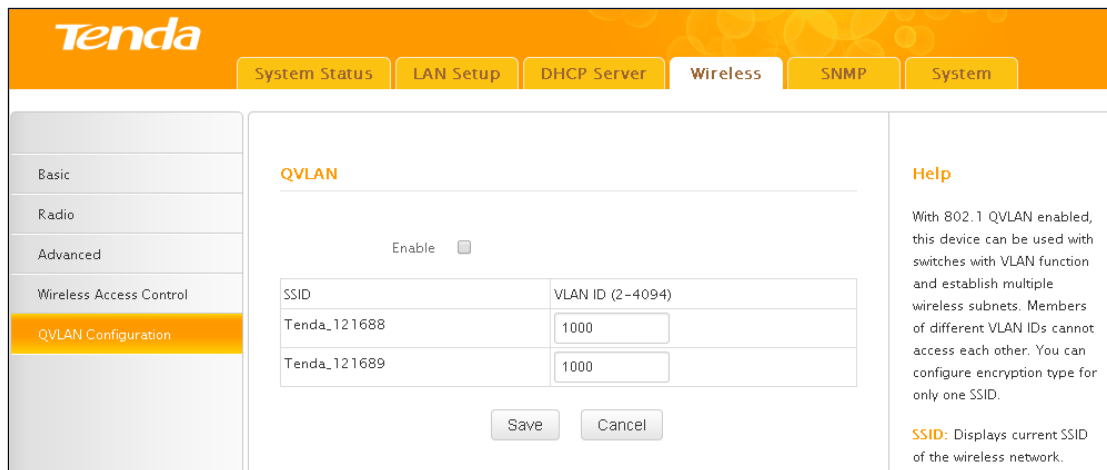
## 4.5 QVLAN

This device supports IEEE 802.1Q VLAN. With QVLAN enabled, this device can work together with a VLAN capable switch to create multiple wireless subnets. Wireless stations with different VLAN IDs will not be able to intercommunicate.

 **Note**

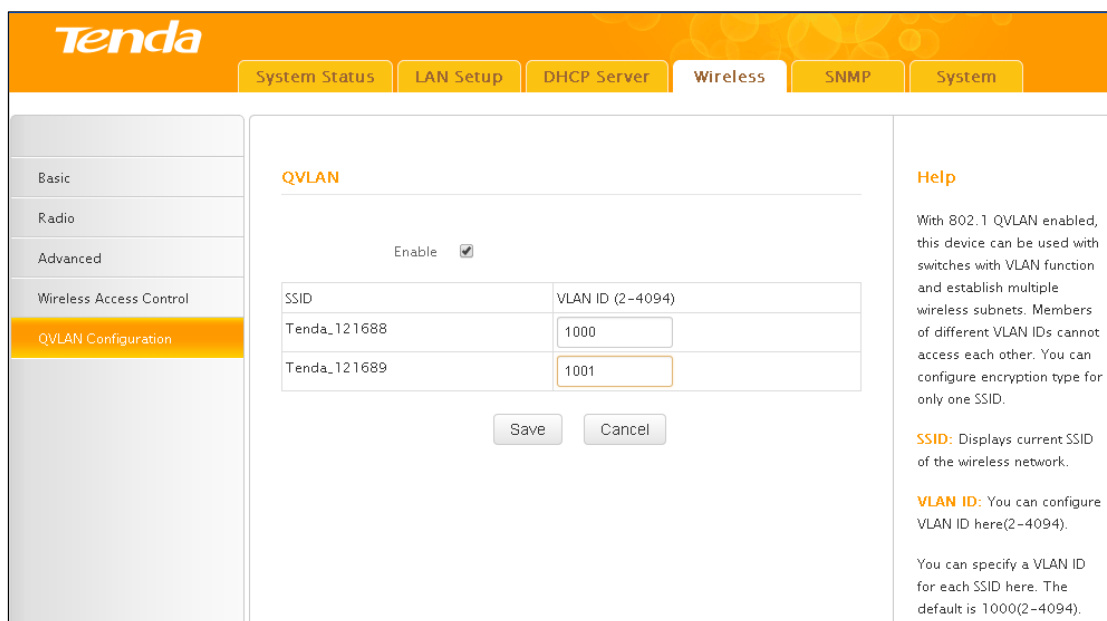
When you enable QVLAN, only one SSID can be encrypted.

Click **Wireless -> QVLAN Configuration** to enter the configuration interface.



➤ **Configuration Procedures:**

- 1) Check **Enable**.
- 2) Configure a VLAN ID for a corresponding SSID.



## 5 SNMP

This device can be managed from SNMP management utility. Click **SNMP** to enter the configuration screen. Here you can configure the SNMP settings.

**Tenda**

System Status LAN Setup DHCP Server Wireless **SNMP** System

**SNMP**

Here you can configure SNMP settings. SNMP v1 and v2c are supported.

SNMP  Disable  Enable

Administrator Name

Device Name

Location

Read Community

Write/Read Community

**Help**

Here you can configure SNMP v1 & v2c that can read and write Administrator Name, Device Name and Location.

**SNMP:** Enable/disable the SNMP proxy feature.

**Read Community:** Specify a community string for reading SNMP proxy information.

**Write/Read Community:** Specify a community string for writing/reading SNMP proxy information.

➤ **Configuration Procedures:**

- 1) **SNMP:** Select **Enable** to enable the SNMP proxy feature.
- 2) Specify the **Administrator Name**, **Device Name** and **Location**.
- 3) **Read Community:** Specify a community string for SNMP management utility to read the device's MIB information.
- 4) **Write/Read Community:** Specify a community string for SNMP management utility to write/read the device's MIB information.

## 6 Tools

This section explains the following:

[6.1 Firmware Upgrade & Reboot](#): Explains firmware upgrade and device reboot.

[6.2 System Time & Login Timeout Setup](#): Explains how to set up system time and web login timeout.

[6.3 Syslog & 6.4 Log Settings](#): View the history of the device's actions, log events and simultaneously send them to the specified log server.

[6.5 Backup & Restore & 6.6 Restore to Factory Default](#): Explains how to save, restore configurations as well as restore factory defaults.

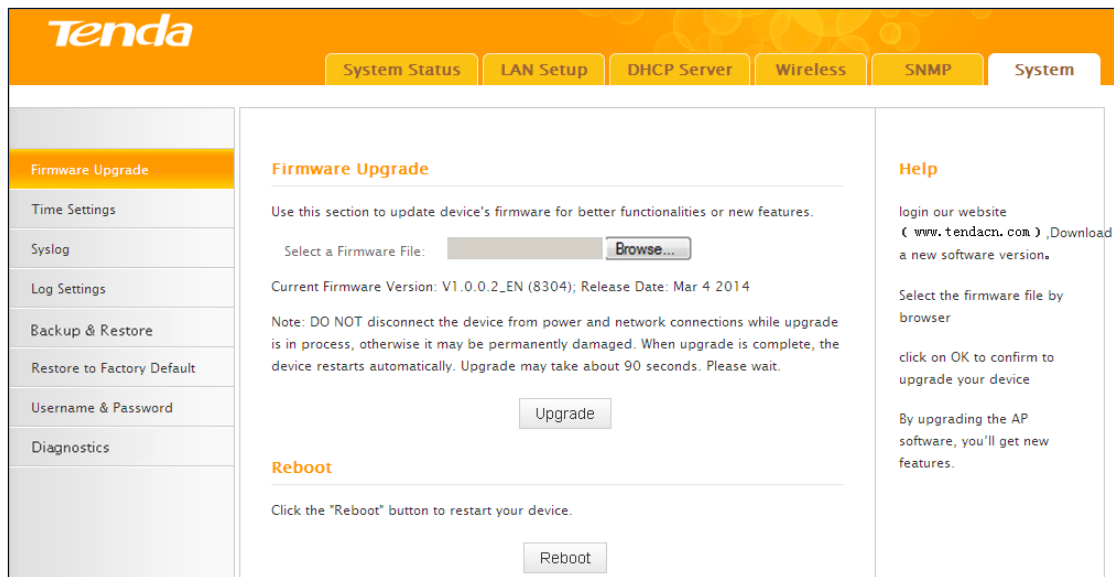
[6.7 User Name & Password](#): Explains how to change login user name and password.

[6.8 Diagnostics](#): Explains how to locate a network failure.

## 6.1 Firmware Upgrade & Reboot

### Firmware Upgrade

Firmware upgrade is released periodically to improve the functionality of your device and also to add new features. If you run into a problem with a specific feature of the device, log on to Tenda website (<http://www.tendacn.com>) to download the latest firmware to update your device.



To update firmware, do as follows:

- 1) Go to <http://www.tendacn.com> to download latest firmware.
- 2) Unzip the downloaded firmware and save it to your hard drive.
- 3) Click **Browse** to locate the firmware.
- 4) Click **Upgrade** and wait until the Progress Indicator bar shows 100% completed.

#### Note

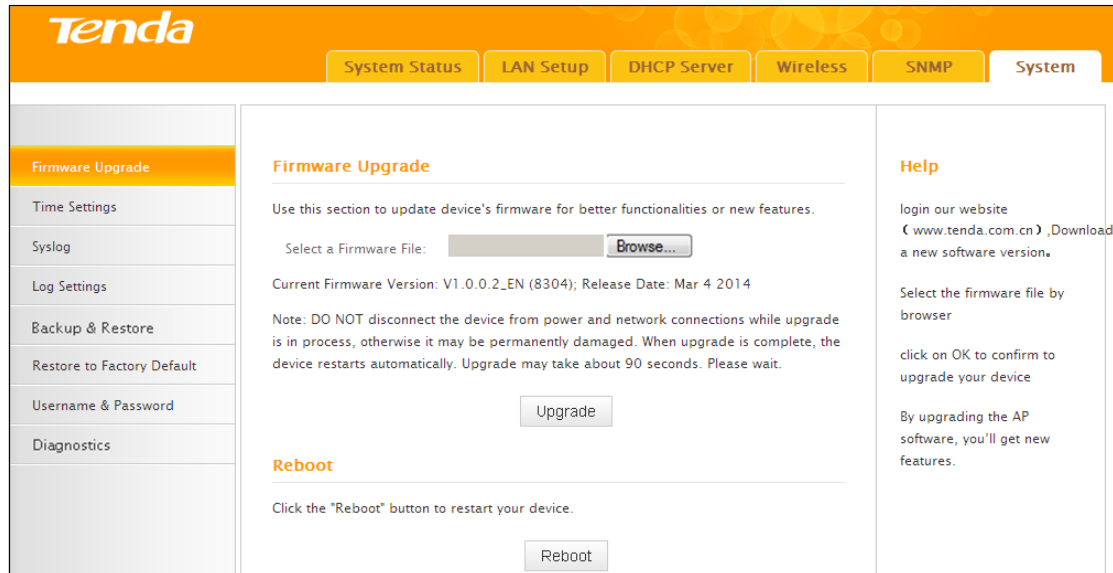
Do NOT disconnect the device from power supply when uploading software to the device. If the power supply is interrupted, the upload may fail, corrupt the software, and render the device inoperable. When the upload completes, your wireless access point will automatically restart. The upgrade process typically takes about several minutes.

To better experience stability or added features, restore the device to factory default

settings after upgrading firmware and then reconfigure it.

## Reboot

For some settings to be effective, a reboot is required. All connections will be lost while rebooting.



## 6.2 System Time & Login Timeout Setup

### System Time

System can be configured using the following 2 methods:

**Sync with Internet time servers:** If enabled, system automatically connects to NTP server on the Internet to synchronize the time.

**Set Time and Date Manually/Sync with Your PC:** Specify the time and date manually or click **Sync with Your PC** to automatically copy your current PC's time to the device.



To Sync with Internet time servers:

- 1) Enable **Sync with Internet time servers**.
- 2) Select a Sync Interval from the drop-down list.
- 3) Select your time zone.

To set time and date manually:

- 1) Disable **Sync with Internet time servers**.
- 2) Specify the time and date manually or click **Sync with Your PC** to automatically copy your PC's time to the device.
- 3) Go to **Status** to make sure the system time is correctly updated.

### Web Login Timeout

Here you can set up the web Login Timeout. The device returns to login window automatically depending on the specified login timeout and user name/password will be required.

**System Time**

Note: System time will be lost when the device is disconnected from power supply. However, it will be updated automatically when the device reconnects to Internet.

Sync with Internet time servers

Sync Interval: 30 minutes

Time Zone: (GMT+08:00) Beijing, Chongqing, Hong Kong, Urumuqi, Taipei

(Note: GMT time will be updated automatically only when the device is connected to Internet)

Set Time and Date Manually:

2014 year 03 month 06 day 11 hour 31 minute 09 second

**Timeout Setup**

Login Timeout Setup: 5 (1~60 minutes)

**Help**

This section assists you in setting the device's current time; you can select to either set the time and date manually or obtain the GMT time from Internet automatically.

**overtime:** Here you can configure the web login timeout (1~60 minutes). The default is 5 minutes.

## 6.3 Syslog

### View Logs

Here you can view the history of the device's actions.

**System Log**

Type of logs to display: All

Index	Time	Type	Log Content
37	2014-03-06 11:03:00	System	wl0.4 wireless interface up
36	2014-03-06 11:03:00	System	eth1 wireless interface up
35	2014-03-06 11:03:00	System	wl0.4 wireless interface down
34	2014-03-06 11:02:59	System	eth1 wireless interface down
33	2014-03-06 11:02:56	System	wl0.4 wireless interface up
32	2014-03-06 11:02:56	System	eth1 wireless interface up
31	2014-03-06 11:02:56	System	wl0.4 wireless interface down

pages 3 2 1 Page

**Help**

Logs in page

**NOTE:** Here you can view the history of Range Extender's actions. After 140 entries, the previous logs will be cleared automatically.

There are three types of logs are available: All, System and LAN. To view a specific type of log, simply select it from the **Type of logs to display** drop-down list.

## 6.4 Log Settings

You can set the maximum number of logs that can be displayed and configure the log server settings.

The screenshot shows the Tenda web interface. The top navigation bar includes 'System Status', 'LAN Setup', 'DHCP Server', 'Wireless', 'SNMP', and 'System'. The left sidebar menu includes 'Firmware Upgrade', 'Time Settings', 'Syslog', 'Log Settings' (highlighted), 'Backup & Restore', 'Restore to Factory Default', 'Username & Password', and 'Diagnostics'. The main content area is titled 'log set' and contains a 'Number of Logs' input field with the value '200' and a note '(Default: 200. Range: 200-300)'. Below this is a checkbox labeled 'To use the following rules, you must check this box.' with a table for adding log servers. The table has columns for 'ID', 'Log Server IP', 'Log Server Port', 'Enable', and 'Action'. There is an 'Add' button below the table and 'Save' and 'Cancel' buttons at the bottom. The right sidebar contains a 'Help' section with two entries: 'Log Server IP Address: SysLog Server IP Address.' and 'Log Server Port: Refers to the protocol port for syslog (514 by default). You should set it the same to the host server.'

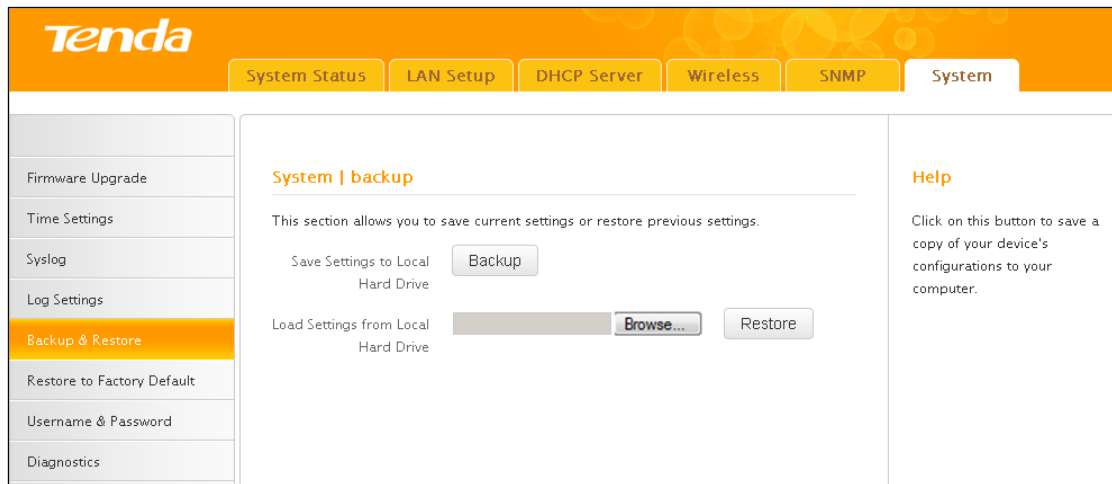
To configure the log server:

- 1) Click **Add** to add a log server.
- 2) Specify the IP address and port of the syslog server on your LAN and enable the log server.
- 3) Check the "To use the following rules, you must check this box." option.

If configured successfully, the system will begin to log events and simultaneously send them to the specified log server on your LAN. You can view all logs there.

## 6.5 Backup & Restore

Once you have configured the device the way you want it, you can save these settings to a configuration file on your local hard drive that can later be imported to your device in case that the device is restored to factory default settings.



To back up configuration:

- 1) Click **Backup**.
- 2) Click **Save** on the **File Download** window and select a hard drive to save the file.



#### Tip

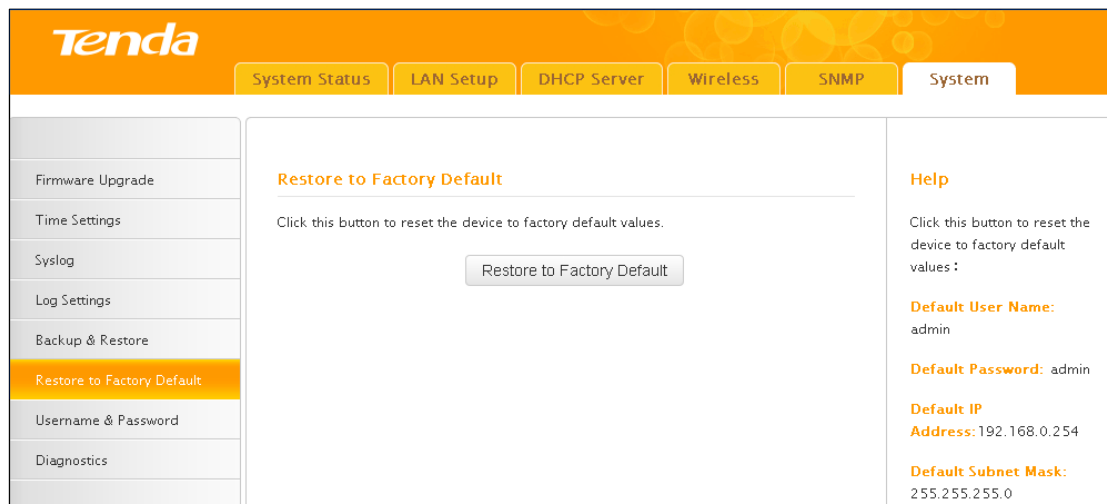
The default configuration file name is "APCfmfile.cfg". Do include the file name suffix of ".cfg" when renaming the file name to avoid problems.

To restore configuration:

- 1) Click **Browse**.
- 2) Select and load the configuration file that is saved previously to your local hard drive and click the **Restore** button.

## 6.6 Restore to Factory Default

If the device or clients connected to the device fail to access the Internet due to incorrect configurations and you cannot solve the problem, reset the device and then reconfigure it.



**Method 1:** To restore factory default using UI: Click the **Restore to Factory Default** button and wait until the progress indicator displays 100% completed.

**Method 2:** To restore factory default by pressing the hardware reset button:

- 1) Remove the cover of the device.
- 2) Press the Reset button with a needle for about 7 seconds.

**Factory Default Settings are listed below:**

- Default User Name: admin
- Default Password: admin
- Default LAN IP Address: 192.168.0. 254. This IP address is to be used to access the device's settings through a web browser.hg
- Default LAN Subnet Mask: 255.255.255.0



#### Tip

- 1) The action of "restore factory default" removes all your configurations from the device. So if you want to keep your configurations, do not perform this action.
- 2) Do not restore factory default settings unless the following happens:
  - You need to join a different network or unfortunately forget the login password.
  - You cannot access the Internet and Tenda technical staff asks you to reset the router.

## 6.7 User Name & Password

Here you can change the user name and password for web login. We suggest that you

change the default password to a more secure password.

Access Mode	User Name	Enable	Action
Administrator	admin	<input checked="" type="checkbox"/>	Change
User	user	<input checked="" type="checkbox"/>	Delete Change

Save Cancel

**Help**  
This section allows you to change your login user name and password.  
**NOTE:** Input a new password. Password must only include 3 ~ 12 characters without any space.

**Administrator:** If you log in to the device as an administrator, you have all available rights to access the device.

**User:** If you log in to the device as a user, you can only view configurations instead of configuring or changing any existing configurations.

## 6.8 Diagnostics

The device is capable of testing your connection. If your network is malfunctioning, use the ping utility to test your network and find out where the problem is.

**Ping**

Please enter an IP(eg: 192.168.0.254) address or a domain name(eg: www.google.com):

Input an IP or a domain name to test network connectivity. :


ping  ping

**Help**  
This section allows you to check connection to the Internet

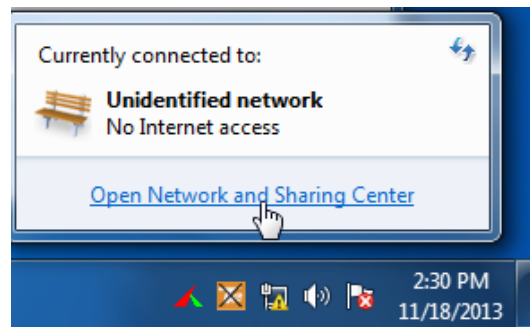
# V Appendix

## 1 Configure PC TCP/IP Settings


### Windows 7

**Step 1:** Click the icon  on the bottom right corner of your desktop.

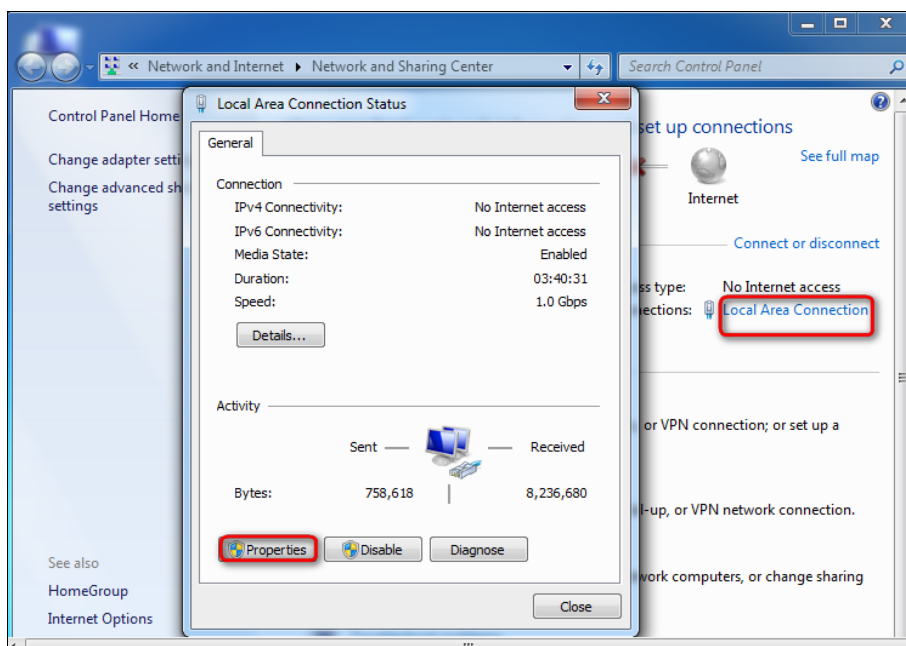
**Step 2:** Click **Open Network and Sharing Center**.



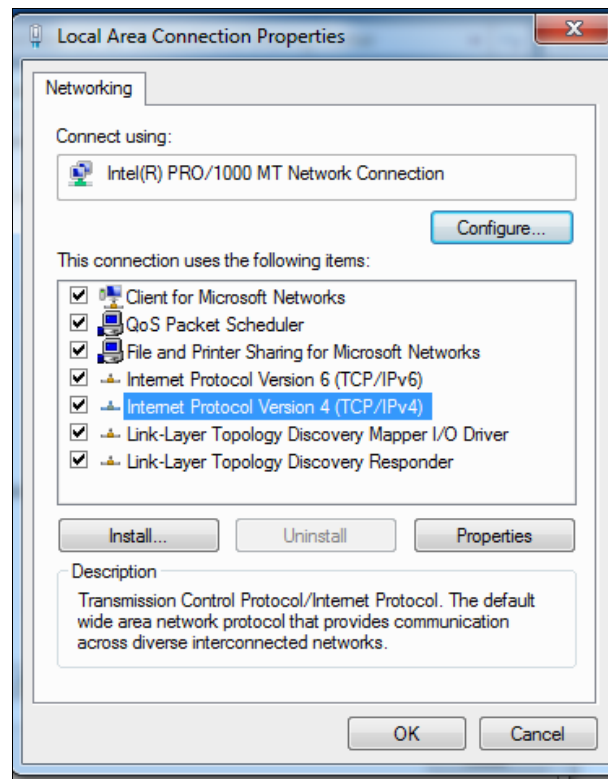
**Tip**

If you cannot find the icon  on the bottom right corner of your desktop, follow steps below: Click **Start -> Control Panel -> Network and Internet -> Network and Sharing Center**.

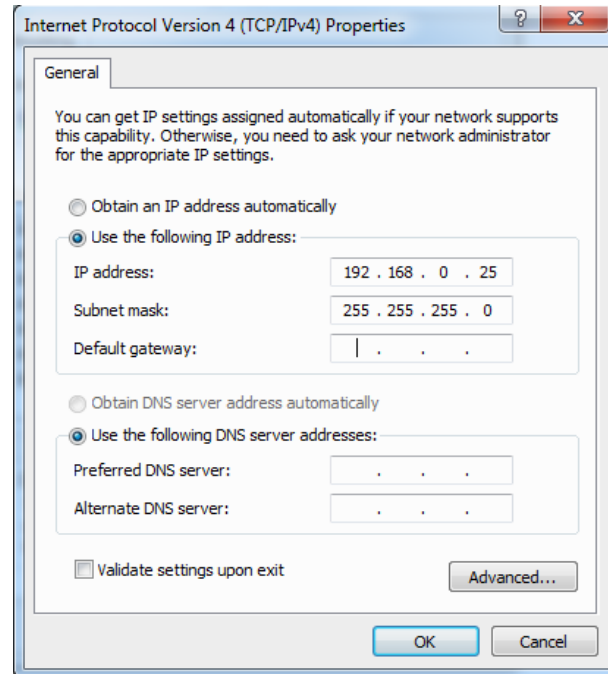
**Step 3:** Click **Local Area Connection -> Properties**.



**Step 4:** Find and double click **Internet Protocol Version 4(TCP/IPv4)**.



**Step 5:** Select **Use the following IP address**, IP address: **192.168.0.x** (2~253); Subnet mask: **255.255.255.0** and click **OK**.



**Step 6:** Click **OK** on the **Local Area Connection Properties** window (see **Step 4** for the screenshot).

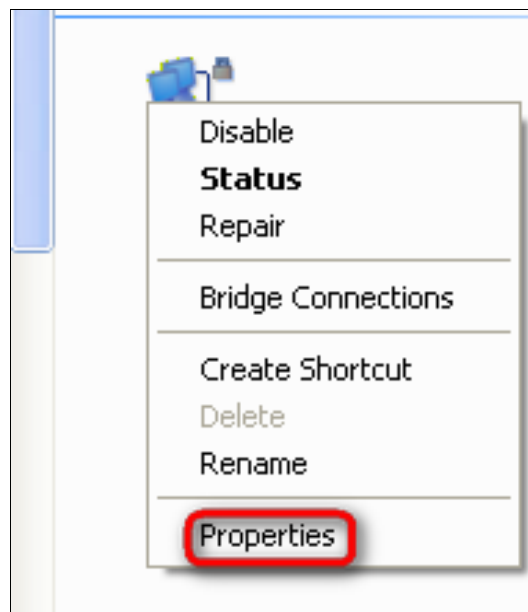


## Windows XP

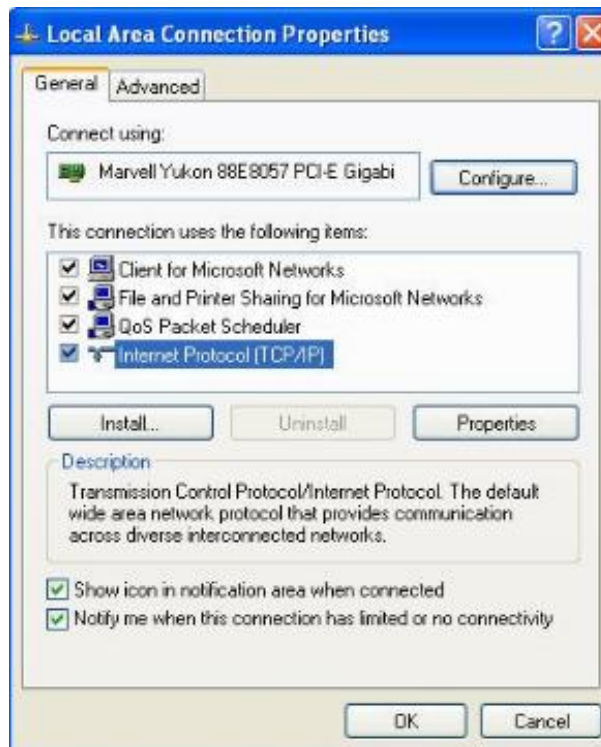
**Step 1:** Right click **My Network Places** on your desktop and select **Properties**.



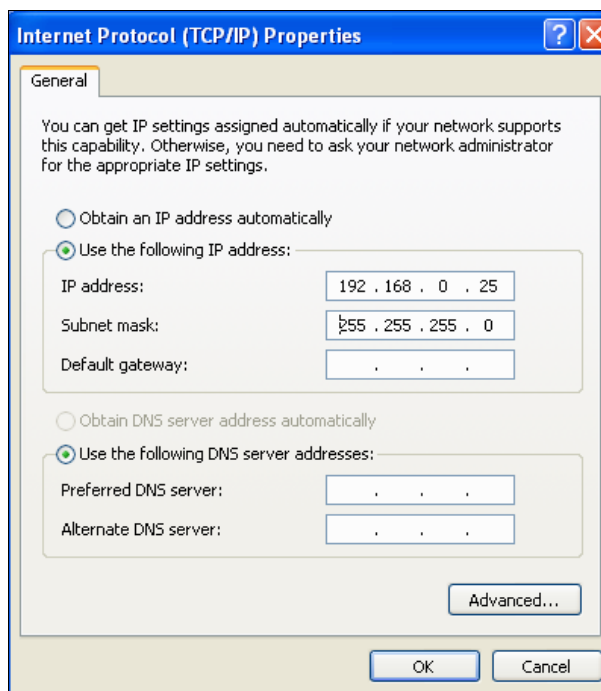
**Step 2:** Right click **Local Area Connection** and select **Properties**.



**Step 3:** Scroll down to find and double click **Internet Protocol (TCP/IP)**.



**Step 4:** Select **Use the following IP address**, IP address: **192.168.0.x** (2~253); Subnet mask: **255.255.255.0** and click **OK**.



**Step 5:** Click **OK** on the **Local Area Connection Properties** window (see **Step 3** for the screenshot).

## 2 Factory Default Settings

Item		Default Settings
Login	Login IP Address	192.168.0.254
	Login User Name	admin
	Login Password	admin
LAN Settings (LAN)	IP Address	192.168.0.254
	Subnet Mask	255.255.255.0
	DHCP Server	Disabled
	IP Pool	192.168.0.100~192.168.0.200
Wireless	Wireless	Enabled
	Network Mode	11b/g/n mixed
	Channel  Channel Bandwidth Extension Channel	Auto 20/40 Auto
	WMM	Enabled
	APSD	Disabled
	SSID	Primary SSID: Tenda_XXXXXX Secondary SSID: Tenda_XXXXXY (where "XXXXXX" is the last six characters of the device's MAC address and Y = X+1.) You can find the MAC address on the label attached to the device.
	SSID Status	Primary SSID: Enabled Secondary SSID: Disabled
	Broadcast SSID	Enabled
	AP isolation	Disabled
	Number of Clients	25
	Beacon Interval	100ms
Fragment Threshold	2346	

	RTS Threshold	2347
	DTIM Interval	1
	Wireless LED On/Off	Enable
	Preamble	Long Preamble
	Wireless Security	Disabled
	Wireless Access Control	Disabled
Tools	SNMP	Disabled
	SNMP	Administrator Name: Administrator Device Name: W312A Location: Shenzhen Read Community String: public Write/Read Community String: private
	System Time	Sync with Internet Time Servers Time Zone: (GMT+08:00)Beijing, Chongqing, Hong Kong, Urumqi
	Web Login Timeout	5 minutes
	Number of Logs	200
	User Name & Password	Administrator: User Name   Password (admin   admin) User: User Name   Password (user   user)

## 3 Safety and Emission Statement



### CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures. This device complies with EU 1999/5/EC.

**NOTE:** (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.



### FCC Statement

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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 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.

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

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment.

#### **Radiation Exposure Statement**

This equipment complies with FCC 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.

**NOTE:** (1) The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. (2) To avoid unnecessary radiation interference, it is recommended to use a shielded RJ45 cable.

#### **NCC Notice**

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、加大功率或變更設計之特性及功能。

低功率射頻電機之作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。

低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。