Access Controller M3

User Manual

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Preface

Thank you for choosing Tenda! Please read this user guide before you start with M3.

Conventions

If not specifically indicated, “AC”, “this device” or “this product” mentioned in this User Guide stands for this AC.

In this User Guide, we assume that all settings on this device are kept in default factory settings.

Typographical conventions in this User Guide:

Item	Presentation	Example
Cascading Menus	>	Click Status > Device Status
Parameter and value	Bold	Set **User Name** to **Tom**.
UI control	Bold	On the **Policy** page, click the **OK** button.
Variable	Italic	Format: *XX:XX:XX:XX:XX:XX*
Message	“ ”	The “Success” message appears.

Symbols in this User Guide:

Item	Meaning
NOTE	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.
TIP	This format is used to highlight a procedure that will save time or resources.

Acronyms and Abbreviations

Acronym or Abbreviation	Full Spelling
AC	Access Controller
AP	Access Point
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
ISP	Internet Service Provider

Acronym or Abbreviation	Full Spelling
SSID	Service Set Identifier
VLAN	Virtual Local Area Network

Technical Support

If you need more help, contact us by any of the following means. We will be glad to assist you as soon as possible.

Hotline	Canada: 1-888-998-8966 Hong Kong: 00852-81931998	Email	support@tenda.cn
Website	http://www.tendacn.com	Skype	tendasz

Contents

1 Know Your Device

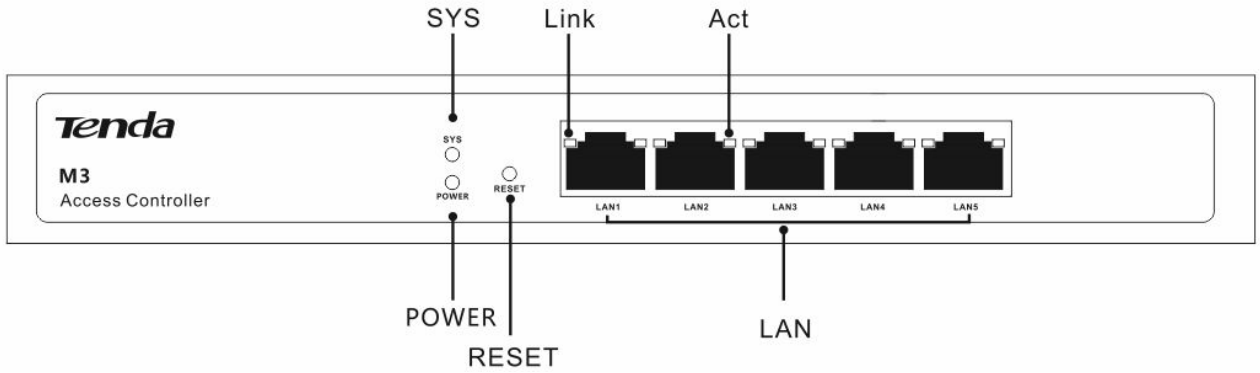
1.1 Overview

Tenda M3 is a multifunctional access controller. It supports a maximum of 64 Tenda APs to be managed in a centralized manner, providing manageable and high-stable wireless network solutions to small-to-medium-sized enterprises, higher education institutions and hotels.

1.2 Apperance

1.2.1 Front Panel

The front panel contains the following parts: LEDs, LAN port and RESET button.



- **LED indicators**

LED Indicator	Color	Status	Description
POWER	Green	Solid	Proper connection to power supply.
		Off	Improper connection to power supply or malfunction occurs.
SYS	Green	Solid	The system is starting.
		Blinking	The system is functioning normally.
Link	Orange	Solid	A valid link has been established over the corresponding port.
		Off	No link is established over the corresponding port or malfunction occurs.
Act	Green	Blinking	Data is transmitted over the corresponding port.
		Off	No data is transmitted over the corresponding port.

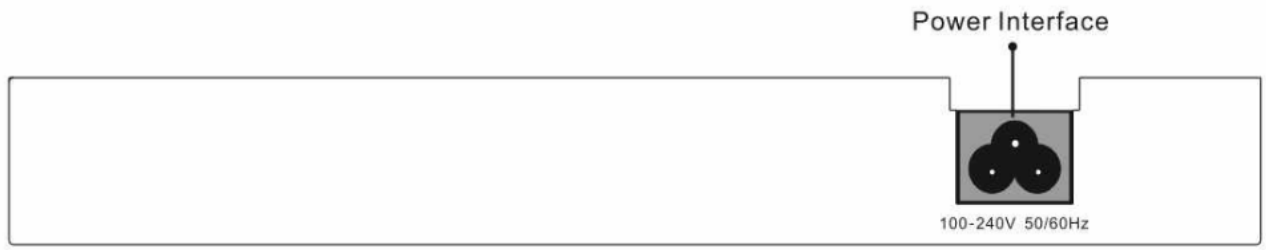
- **LAN port**

Five 10/100/1000 Mbps auto-negotiation RJ45 ports. Each RJ45 port has its corresponding Link/Act LED.

- **RESET button**

When the AC is functioning properly, press it with a needle for about 6 seconds and then release; about 45 seconds later, this device will be restored to factory settings.

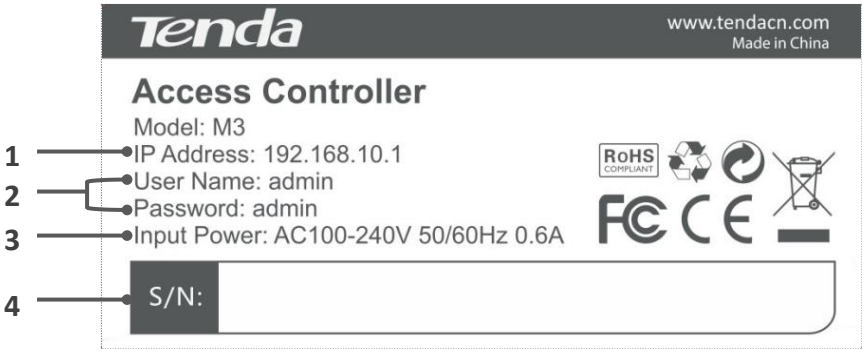
1.2.2 Rear Panel



- **Power Interface**

Used to connect to the included power adapter for power supply.

1.2.3 Label



1 Default login IP address used to log in to this AC's web UI.

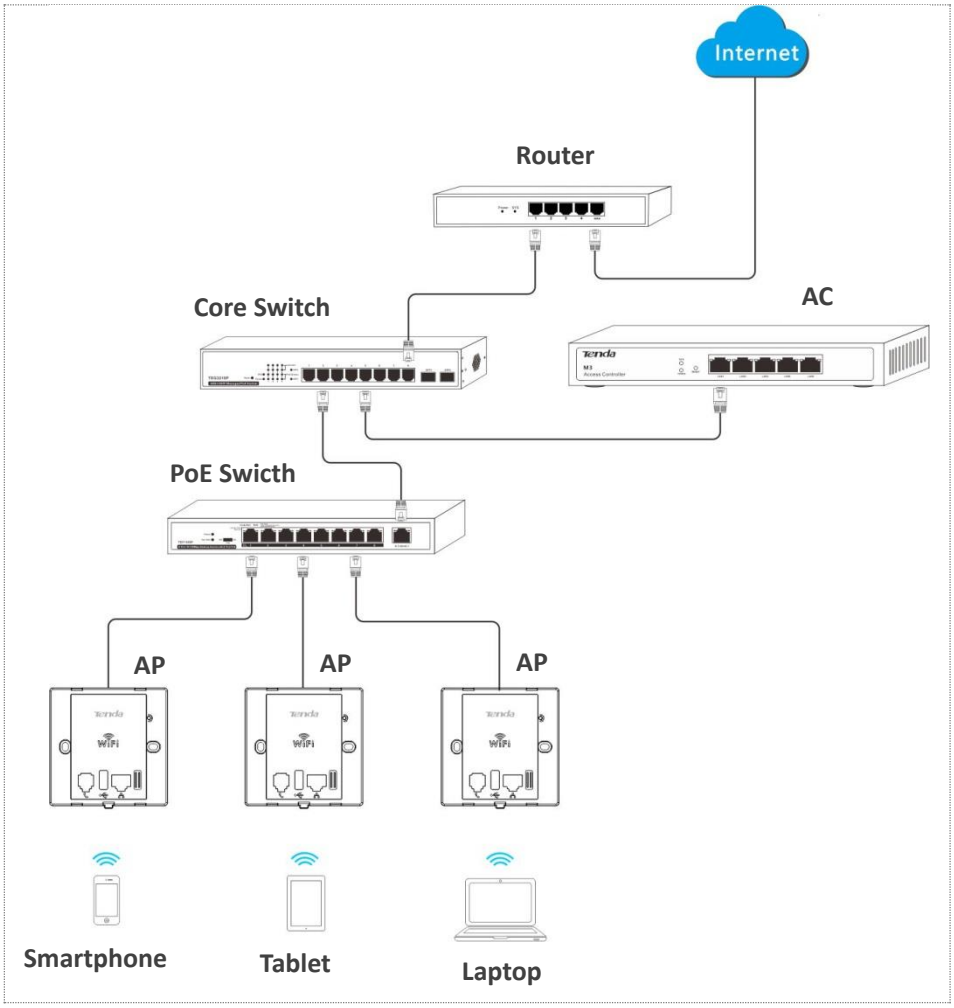
2 Default login user name and password for web access.

3 This AC's power specification.

4 S/N: If there goes something wrong with your device and you need to send it to our technical staff for repair, you will need this sequence number.

1.3 Application Topology

See the following figure below.



TIP

For simple networks with few APs, you can connect the PoE switch directly to M3.

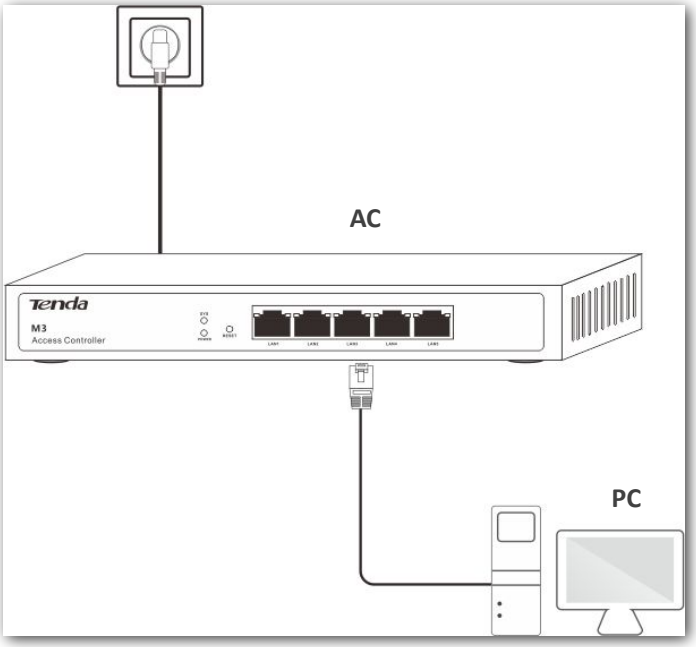
2 Web Login

2.1 Web Login

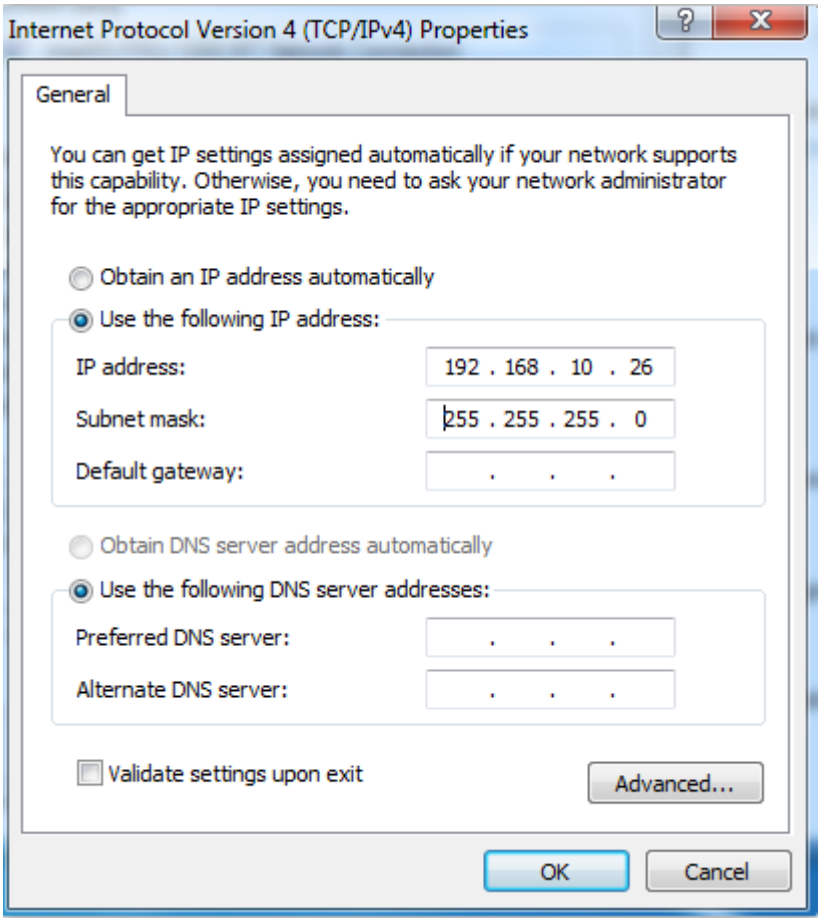
The first time you use this AC, you can access its web UI with the following default login information:

Login information	Default settings
User Name	admin
Password	admin
IP Address	192.168.10.1

Step 1 Connect your PC to a LAN port of the AC directly, or to the switch connected to the AC.

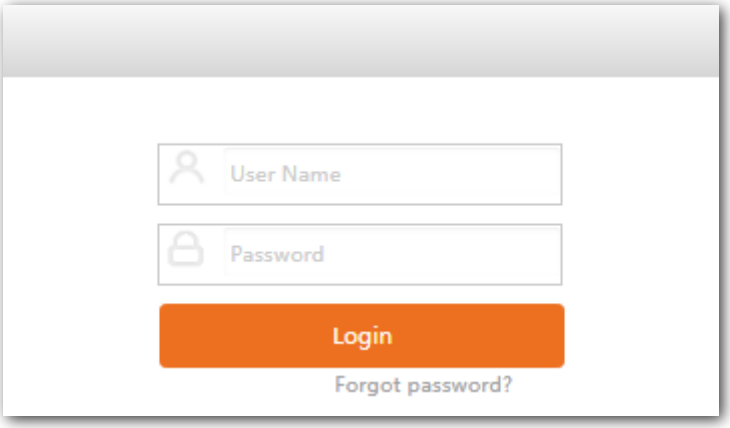


Step 2 Set your PC to an IP address within the following range: 192.168.10.X (2-254), which is **192.168.10.26** in this example, and with the subnet mask of **255.255.255.0**.

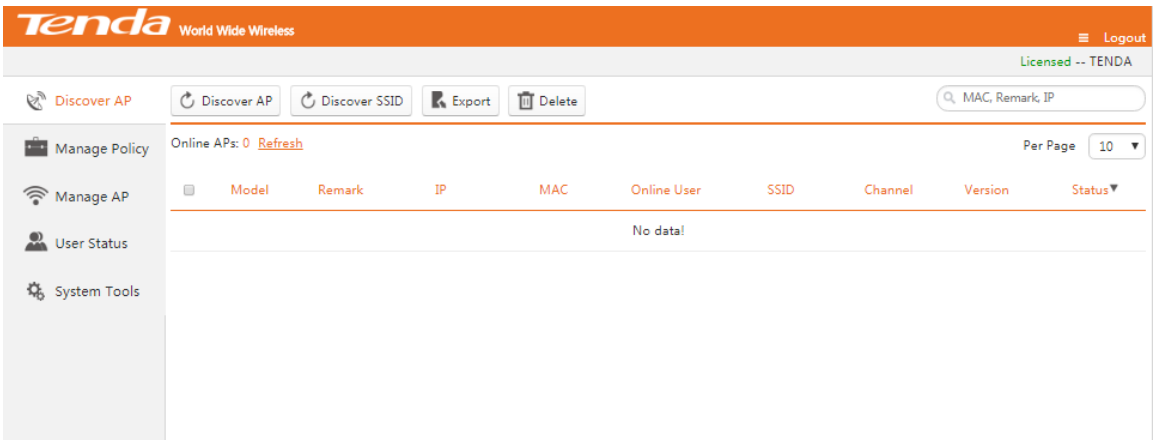


Step 3 Launch a web browser, input **192.168.10.1** in the address bar and press **Enter**.

Step 4 Type in the default user name and password (**admin/admin**) and then click **Login**.



Step 5 Then you can go to this device's web UI to view corresponding configuration information or configure relevant settings. For specific advanced settings, refer to Function Descriptions.



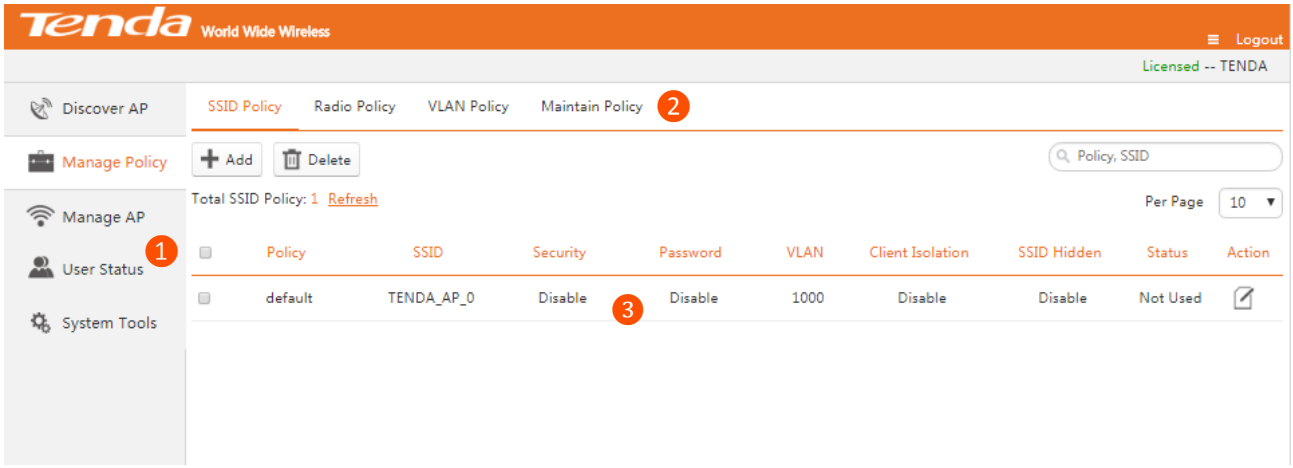
----End

2.2 Web Logout

You can safely exit this AC's web UI by directly closing your web browser or clicking **Logout** in the upper right corner of the web UI.

2.3 Layout of Web UI

The Web page can be divided into three parts: navigation bar and the configuration section.



Sequence Number	Name	Description
1	Level-1 navigation bar	The navigation bar presents web administration functions to you in the form of navigation tree. This section allows you to select function menus here.
2	Level-2 navigation bar	
3	Configuration Section	This section allows you to configure and view settings here.

NOTE

If features or parameters on the web UI display grey, they are not configurable.

2.4 Commonly Used Elements on UI

Port Graphical Status Overview:

Commonly Used Elements	Description
	Indicates no link is established over the corresponding port.
	Indicates a link has been established over the corresponding port.

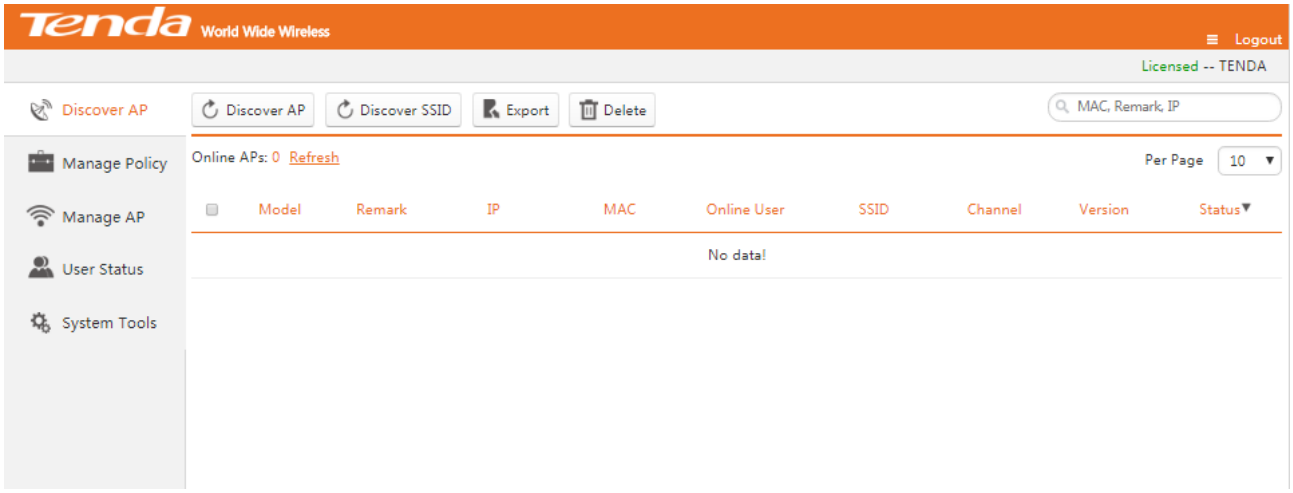
Commonly Used Buttons:

Commonly Used Elements	Description
Save	Used to save your current configurations.
Cancel	Used to save your current configurations which haven’t been saved.

3 Function Descriptions

3.1 Discover AP

This section gives you an overview of the information of connected APs, including online and offline APs.

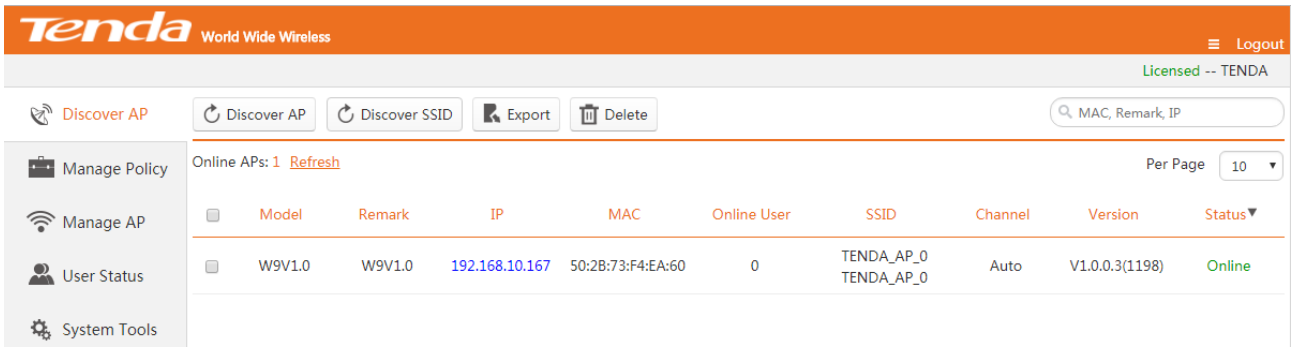


Button Description:

Button	Description
Discover AP	Used to scan the Aps in the network.
Discover SSID	Used to scan the enabled SSID information of online APs.
Export	Used to scan and saving results of **Discover AP** displayed on the page to your local computer as an excel spreadsheet.
Delete	Used to delete the selected offline APs.

3.1.1 Discover AP

Click **Discover AP** to enter the page below:

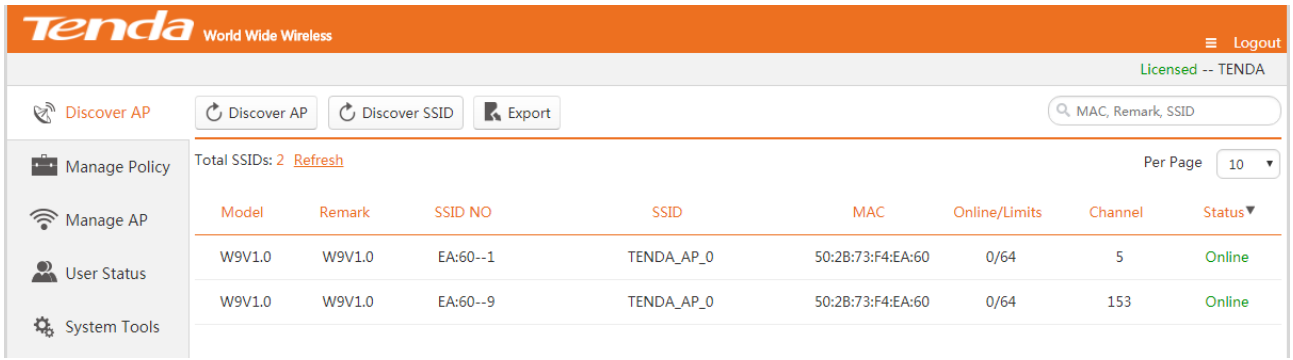


Parameter Description:

Parameter	Description
Model	The model number of the AP.
Remark	The comment of the AP. By default, it indicates the model number of the AP. When the AP is online, click it to modify. You are recommended to remark the AP using its location, so as to help you precisiely locate the AP that works improperly using the log or alert record.
IP	IP address of the AP.When the AP connects to the controller for the first time, the DHCP server on the controller will automatically assign an IP address to the AP.
MAC	MAC address of the AP.
Online User	The amount of online users connected to the WiFi network of the AP.
SSID	Wireless network name of the AP.
Channel	The wireless operating channel of the AP.
Version	The firmware version number of the AP.
Status	AP's connection status: • **Online**: The AP has been connected to the AC successfully and the AC can manage the AP. • **Offline**: The AP has not been connected to the AC. The AC can't manage the AP. TIP When the AP is offline, it still retains the previous configuration sent by the AC, and you can normally connect to its WiFi network, unless it is reset.

3.1.2 Discover SSID

To scan SSIDs on your network, click **Discover SSID,** the scanned information will be displayed on the page.

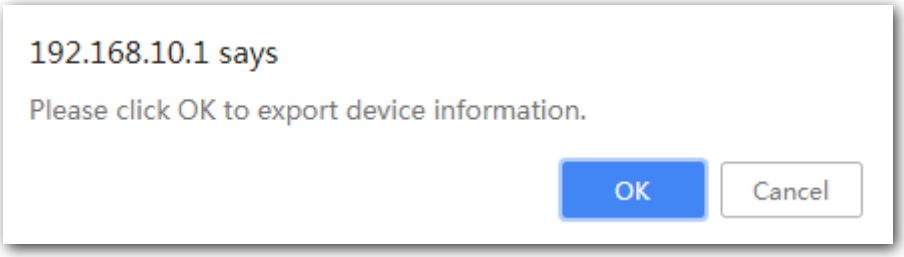


Parameter Description:

Parameter	Description
Model	The model number of the AP.
Remark	The comment information of the AP. By default, it indicates the model number of the AP. When the AP is online, click it to modify.
SSID NO	The order of the SSID. The format is **xx:xx--a**, **xx:xx** indicates the last four characters of the MAC address of the AP, and **a** is a digit number which represents the order of the SSID. For example, **EA:60--6** means the sixth SSID of the AP with the MAC address ending with **EA:60**.
SSID	The paimary wireless network name of the AP.
MAC	MAC address of the AP.
Online/Limits	**Online** indicates the amount of clients currentlty connected to the primary SSID, while **Limits** indicates the maximum amount allowed to connect to the primary SSID.
Channel	The wireless operating channel of the AP.
Status	AP's connection status: • Online: The AP has been connected to the AC successfully and the AC can manage the AP. • Offline: The AP has not been connected to the AC. The AC can't manage the AP. TIP When the AP is offline, it still retains the previous configuration sent by the AC, and you can normally connect to its WiFi network, unless it is reset.

3.1.3 Export the scanned SSID information

To export the scanned SSID information, click **Export**, the following window pops up, clikc **OK**, an Excel file is downloaded to your local computer.

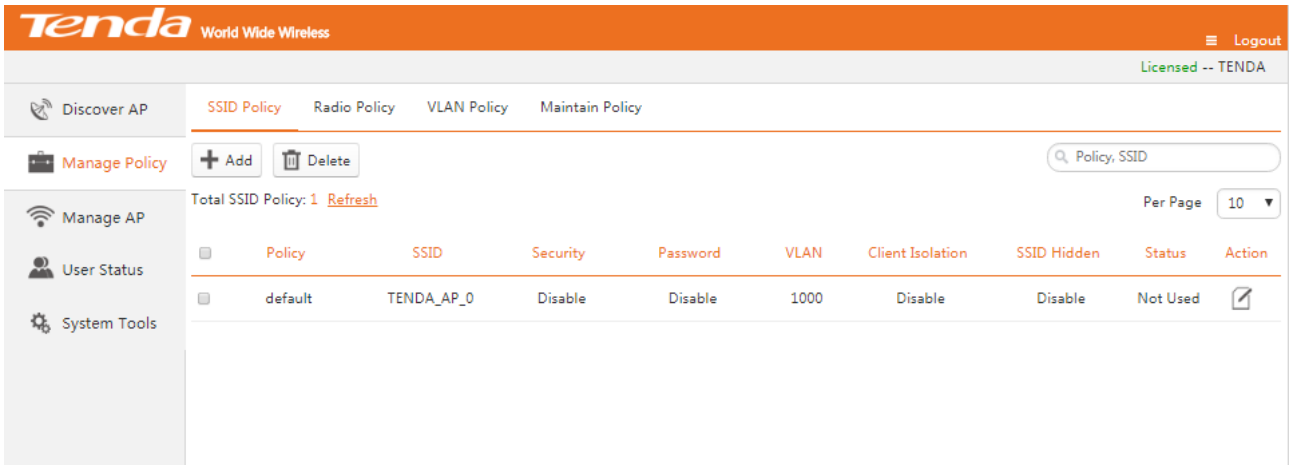


3.1.4 Deleting offline APs

Select the offline AP you wan to delete, click **Delete**.

3.2 Manage Policy

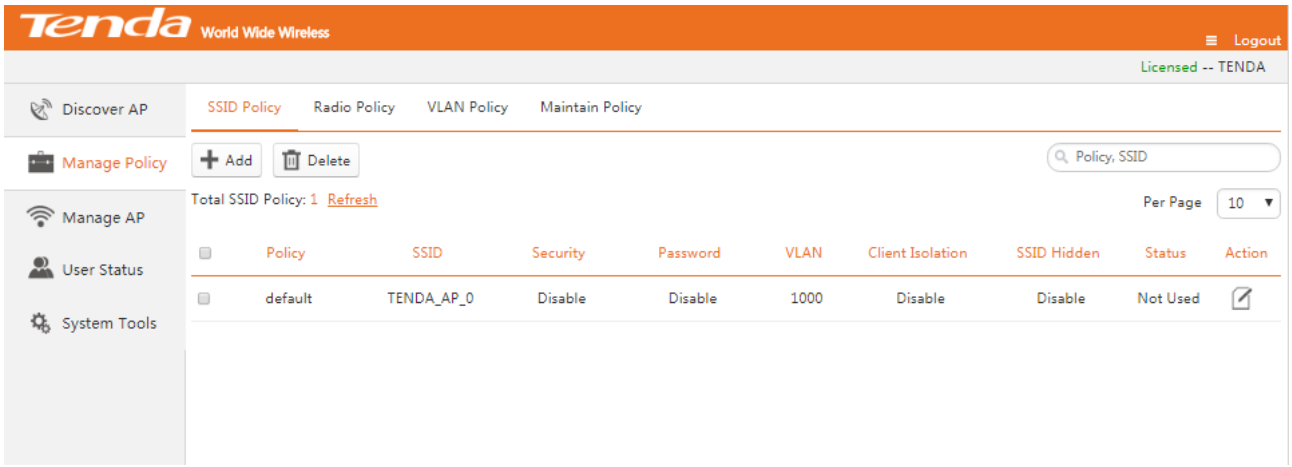
This section helps you create **SSID Policy**, **Radio Policy**, **VLAN Policy**, and **Maintain Policy**.



3.2.1 SSID Policy

Here you can view the basic information of SSID policies. SSID parameters include SSID, Security key, VLAN ID, and so on.

To create an SSID policy, click **Manage Policy** > **SSID Policy** to enter the page below.

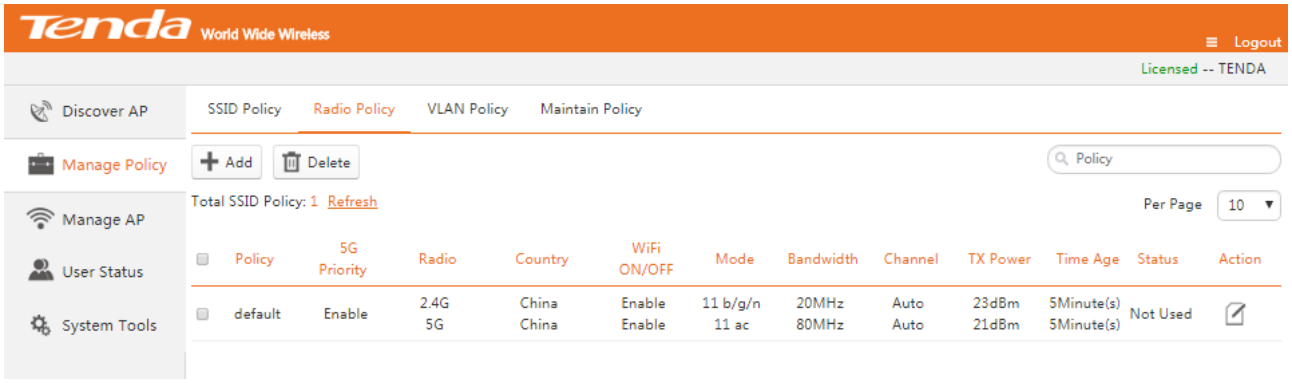


Button Description:

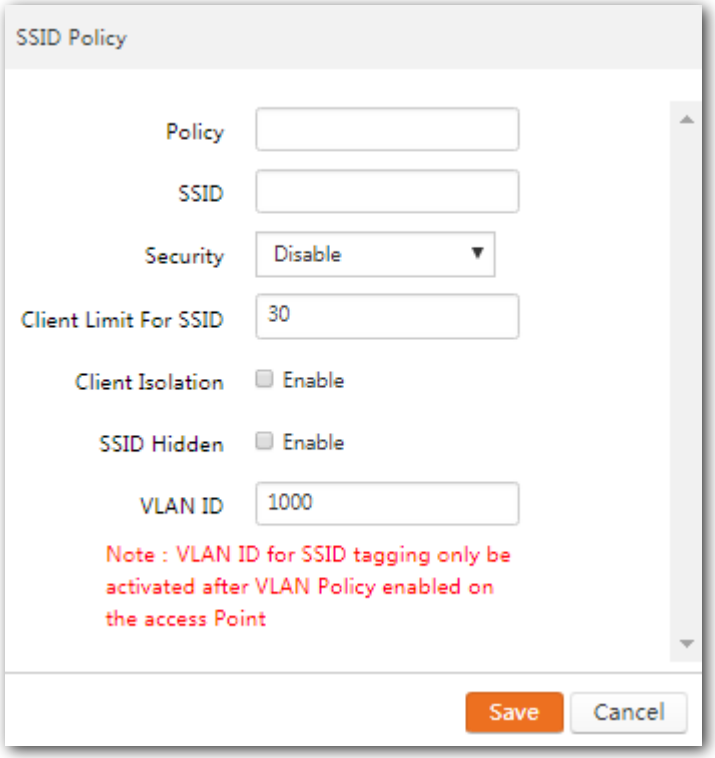
Button	Description
Add	Used to add a new SSID policy.
Delete	Used to delete the selected SSID policies in **Not Used** status.
	It is the action button used to modify parameters excluding **Policy** name. TIP

Button	Description
	You are not recommended to modify the **Used** policies.

Add SSID Policy



To create an SSID policy, click + Add .



Parameter Description:

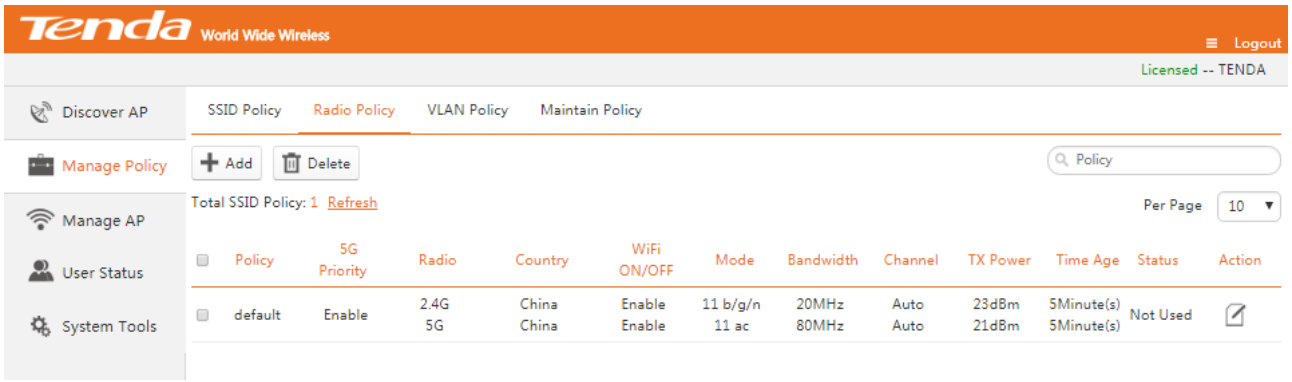
Parameter	Description
Policy	Enter a unique policy name.
SSID	Enter the SSID to which the policy applies. The length of the SSID ranges from 1 to 32 bytes.
Security	The AC supports the following three types of **Security Mode**: • **Disable**: Unencrypted wireless network, all clients can connect to your WiFi. In order to ensure network security, it is not recommended.

Parameter	Description
	• **WPA-PSK**: The security mode of the wireless network is WPA-PSK. • **WPA2-PSK**: The security mode of the wireless network is WPA2-PSK. • **WPA-Enterprise**: The security mode of the wireless network is WPA-Enterprise. • **WPA2-Enterprise**: The security mode of the wireless network is WPA2-Enterprise.
Encryption	It is available only when **Security** is enabled. The AC supports the following three types of encryption: • **AES**: AES is short for Advanced Encryption Standard. This encryption algorithm ensures a higher wireless rate. • **TKIP**: TKIP is short for Temporal Key Integrity Protocol. Wireless rate can only reach 54 Mbps with this algorithm. • **TKIP&AES**: Compatible with TKIP and AES. The wireless client can use either AES or TKIP algorithm to connect to the WiFi.
Security Key	It is available only when security is enabled. Wireless clients need to enter this security key to connect to a corresponding AP. The range of length is 8-63 characters.
Key interval	It is available only when security is enabled. Configure the key update interval for encrypting WPA data. Theoretically, the shorter the key interval is, the more secure the WPA data will be. If set to **0**, the key will not be updated.
Client Limit For SSID	Used to specify the upper limit allowed to connect to the corresponding SSID. Value range: 1-64.
Client Isolation	Enable/Disable client isolation. • **Enable**: Wireless clients that connect to the SSID cannot communicate with each other. • **Disable**: Wireless clients that connect to the SSID can communicate with each other.
SSID Hidden	Enable/Disable **SSID Hidden** function. • **Enable**: With this function enabled, the SSID will not be broadcasted so that the SSIDs can not be found in the clients' available network list. Users need to manually enter the SSID to their clients connect to the wireless network. • **Disable**: The SSID will be broadcasted and will be discovered by adjacent devices.
VLAN ID	Set VLAN ID of the SSID and all packets from connected clients will be tagged with this VLAN ID. NOTE VLAN ID is not effective unless VLAN Policy is delivered.
Status	Display whether the policy is used or not.
Action	Modify the parameters except policy name. TIP You are not recommended to modify the **Used** policies.

3.2.2 Radio Policy

Here you can view the basic information of Radio policies including 5G Prority, Radio, Mode, Bandwidth, Channel, Time Age, and so on.

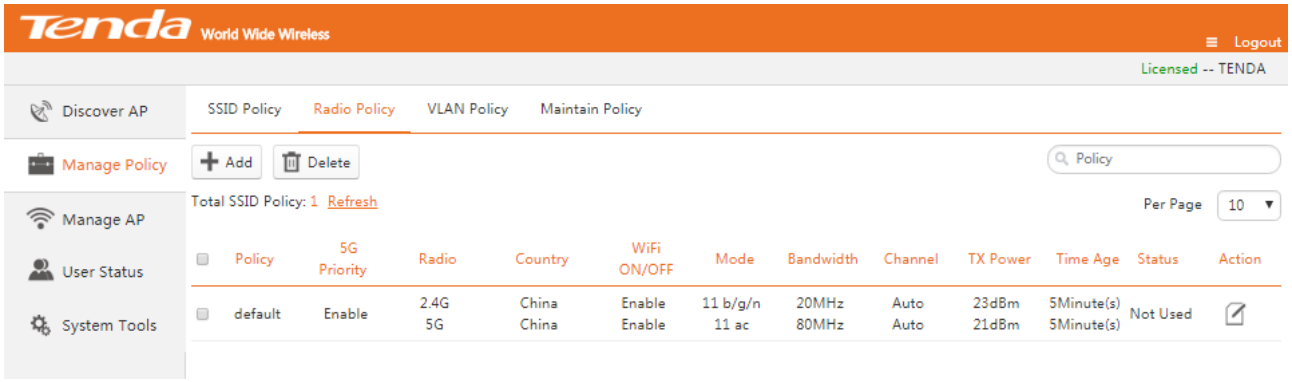
To create a radio policy, click **Manage Policy > Radio Policy** to enter the page below.



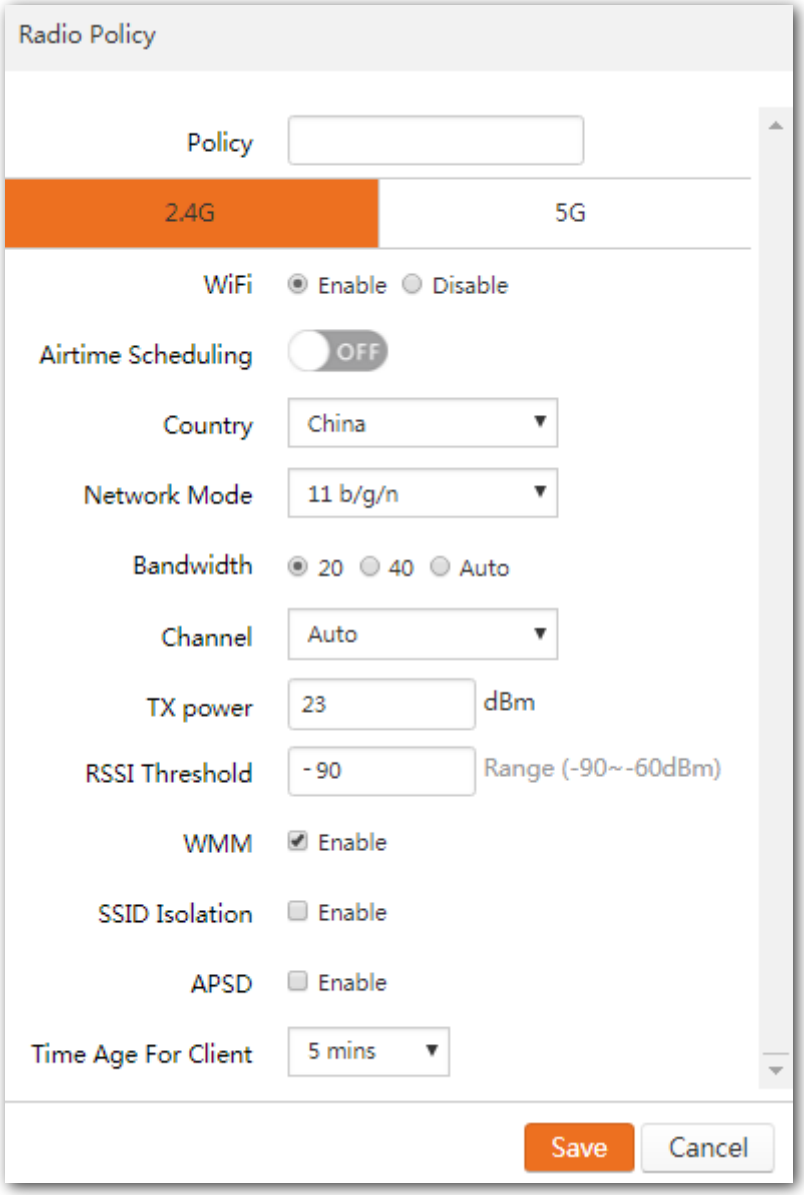
Button Description:

Button	Description
Add	Used to add radio policy.
Delete	Used to delete the selected Radio plicies in **Not Used** status.
	Used to modify the parameters except policy name. TIP You are not recommended to modify the **Used** policies.

Add Radio Policy



To add a radio policy, click + Add.



Parameter Description:

Parameter	Description
Policy	Enter a unique policy name.
Radio	Supports 2.4 GHz and 5 GHz bands. Different radio provides different signal strength and quality over different distance ranges. 2.4 GHz offers long distance data transmission, while the 5 GHz offers high-speed data transmission.
WiFi	Enable/disable 2.4 GHz or 5 GHz radio frequency.
Airtime scheduling	It is recommended to enable this function. Dynamic airtime scheduling gives equal airtime rather than frame transmission opportunity to clients, thereby allowing high-speed clients to achieve much higher throughput without significantly impacting the slow-speed clients.
Country	It specifies country or region where this device is located. You can select the country or region to ensure that this device complies with the channel regulations of the country or region.

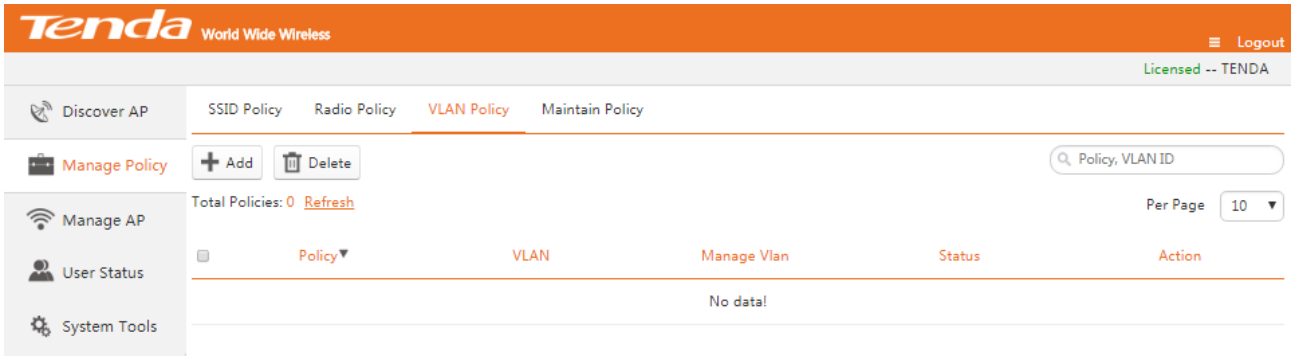
Parameter	Description
Network Mode	Select a Network Mode. 2.4 GHz band includes 11b, 11g, 11b/g and 11b/g/n, while 5 GHz band includes 11a, 11ac and 11a/n. Descriptions are as follows. • **11b**: Works in 2.4 GHz band and supports up to 11 Mbps. • **11g**: Works in 2.4 GHz band and supports up to 54 Mbps. • **11b/g**: If you select this option, wireless clients supporting 802.11b or 802.11g can connect to the WiFi. • **11b/g/n**: If you select this option, wireless clients supporting 802.11b, 802.11g or 802.11n can connect to the WiFi. • **11a**: Works in 5 GHz band and supports up to 54 Mbps. • **11ac**: Works in 5 GHz band and supports up to 1732Mbps. It is a newer standard that uses wider channels, QAM and spatial streams for higher throughput. • **11a/n**: Works in 5 GHz band and supports up to 600Mbps, compatible with 11n.
Bandwidth	Select the wireless bandwidth. • **20**: 20MHZ channel bandwidth. • **40**: 40MHZ channel bandwidth. • **80**: 80MHZ channel bandwidth. • **Auto**: Automatically adjust the channel bandwidth to 20MHZ or 40MHZ based on surrounding environment.
Channel	Select the wireless channel. Channel range differs from country and radio band.
Extension Channel	When bandwidth is **40** or **Auto**, this is used to determine the channel range of AP.
TX power	AP's wireless transmission power. If this value is greater than the maximum supported power of an AP, the maximum supported power takes effect after the policy is delivered.
RSSI Threshold	RSSI is short for Received Signal Strength Indication. If a wireless client's signal is lower than this value, the client can not connect to the AP, which helps the client connect to an AP with stronger signal.
WMM	Wi-Fi Multimedia (WMM) provides basic Quality of Service (QoS) features to IEEE 802.11 networks. The WMM mechanism divides WLAN traffic by priority in descending order into the AC-VO (voice stream), AC-VI (video stream), AC-BE (best effort), and AC-BK (background) access categories. The access category uses queues with different priorities to send packets. The WMM mechanism ensures that packets in queues with higher priorities have more opportunities to access channels.
SSID Isolation	Enable/Disable SSID isolation. When enabled, wireless clients that connect to different SSID of the AP cannot communicate with each other.
APSD	APSD is short for Automatic Power Save Delivery. If it is enabled, the power consumption of this device is reduced after a specified period during which no traffic is transmitted or received. By default, it is disabled. By allowing your mobile devices to enter standby or sleep mode, it conserves energy. It is only effective when you enable WMM.
Time Age For Client	After a client connects to the AP, if there is no data transmission within the specified time period, AP will actively disconnect the client.
5G Priority	5G priority refers to a scenario when a dual band client connects to a dual band AP, the AP makes it

Parameter	Description
	connect to 5 GHz band in higher prority, which helps the AP to reduce interference and workload in 2.4 GHz band and hence improve user experience.
Status	Display whether the Policy is used or not.
Action	Use for modifying the parameters except Policy name. TIP You are not recommended to modify the **Used** policies.

3.2.3 VLAN policy

Here you can view the basic information of VLAN policies. VLAN policy includes AP's PVID, management VLAN, trunk ports, and so on.

To create a VLAN policy, click **Manage Policy** > **VLAN Policy** to enter the page below.

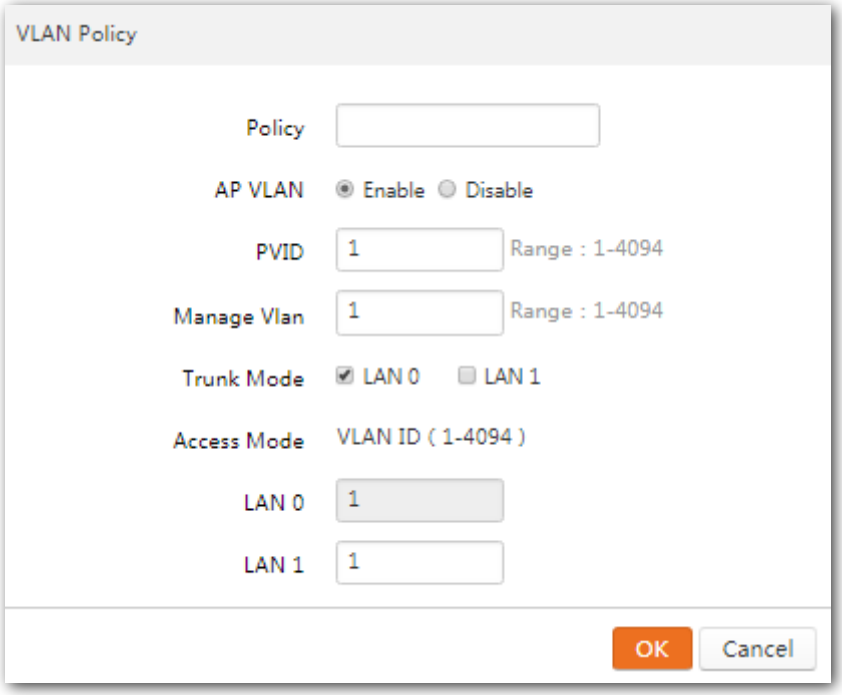


Button Description:

Button	Description
Add	Used to add VLAN policy.
Delete	Used to delete the selected VLAN plicies in Not Used status.
	Used to modify the parameters except Policy name. TIP You are not recommended to modify the **Used** policies.

Add VLAN policy

To add a VLAN policy, go to **Manage Policy > VLAN Policy**, and click + Add .



Parameter Description:

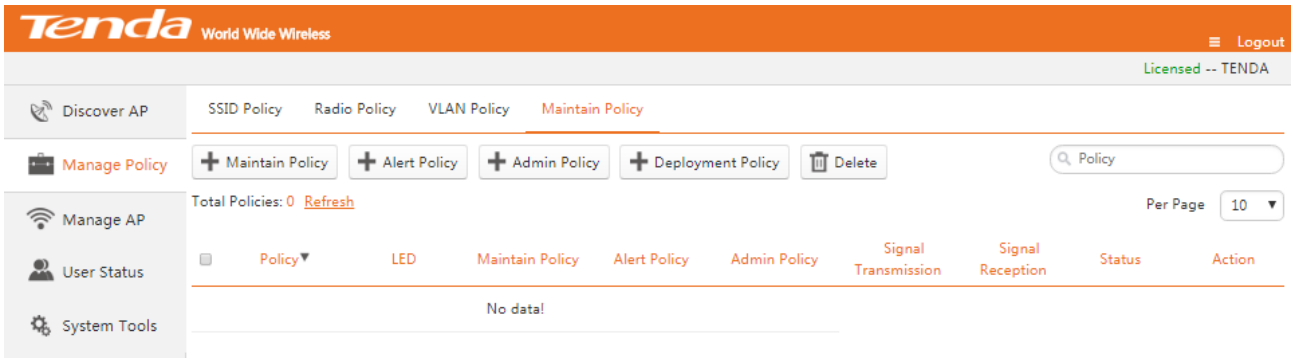
Parameter	Description
Policy	Enter a unique VLAN Policy name.
AP VLAN	Enable/disable AP's 802.1Q VLAN feature. After this feature is enabled and this VLAN policy is delivered to AP, "VLAN ID" in **Manage Policy > SSID policy** takes effect.
PVID	Enter the VLAN ID of AP's Trunk port. The default value is **1**.
Manage Vlan	AP's Management VLAN ID. NOTE If a policy with this value modified is sent to the AP, the AC cannot mange the AP any more. To recover this function, choose **System Tools** > **Network setting** > **VLAN Settings**, and set the VLAN ID same as that of the AC. A management computer can access the AP's Web UI only when it is in the same VLAN with the AP.
Trunk Mode	Select wired LAN port as a trunk port which allows all VLAN packets to pass. NOTE If AP has only one LAN port, select LAN0.
Access Mode	Display the port(s) in access mode. If a port has been set to a trunk port, it cannot be an access port.
LAN 0 LAN 1	Set up the Access port's VLAN ID.
Status	Display whether the Policy is used or not.
Action	Modify the parameters except Policy name.

Parameter	Description
	TIP You are not recommended to modify the **Used** policies.

3.2.4 Maintain Policy

Here you can view the information of maintain policies.

To create a maintain policy, alert policy, admin policy or deployment policy, click **Manage Policy > Maintain Policy** to enter the page below.



Button Description:

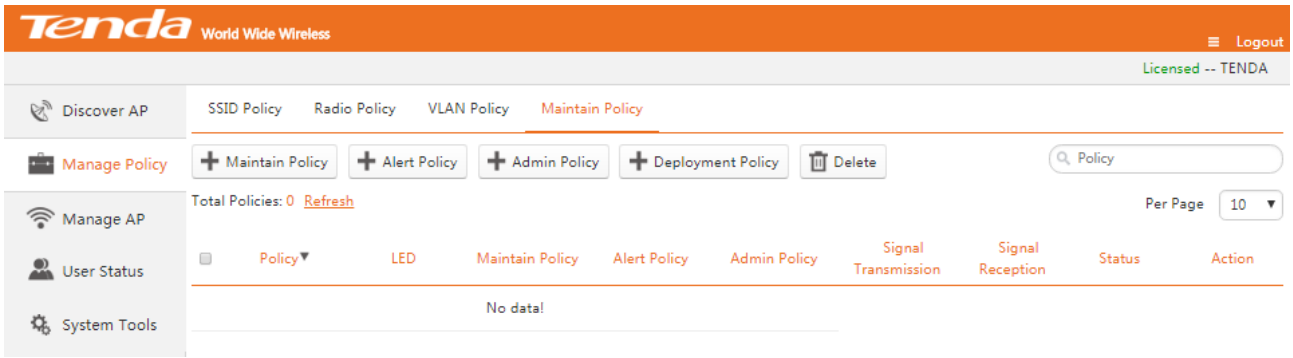
Button	Description
Maintain Policy	Used to add a new maintain policy.
Alert Policy	Used to add a new alert policy.
Admin Policy	Used to add a new admin policy.
Deployment Policy	Used to add a new deployment policy.
Delete	Used to delete the selecting policies in **Not Used** status.

Parameter Description:

Parameter	Description
Policy	Display the unique name of a policy.
LED	If the policy is a maintain policy, it indicates the LED indicator status either enable or disable. Otherwise, it displays ----.
Maintain/Alert/Admin Policy	Display corresponding information of a maintain/alert/admin policy.

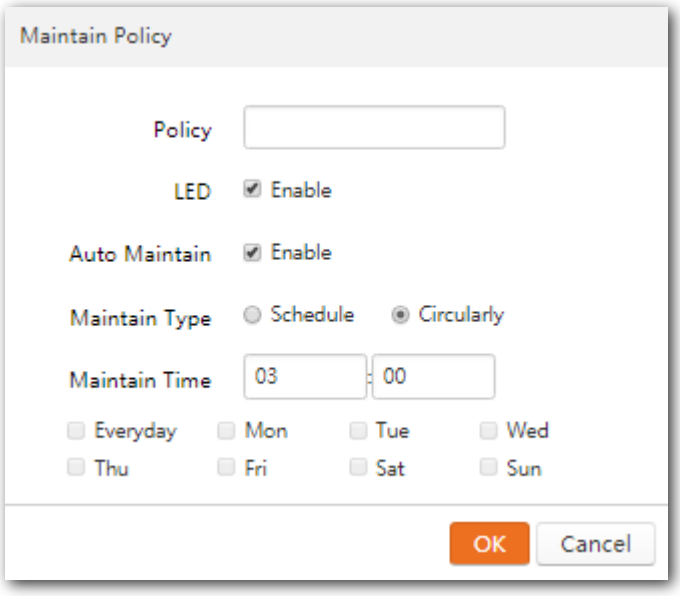
Parameter	Description
Signal Transmission	Signal interference between APs can be effectively reduced by adjusting the transmit power of AP. If it is a capacity-oriented network, please select **High Density**. Otherwise, select **Coverage**.
Signal Reception	Select a Signal Reception Method based on different scenarios. • **Coverage**: It is used in a coverage-oriented network to ensure a higher WiFi coverage. • **High Density**: It is used in a capacity-oriented network to ensure a better signal quality. • **Default**: The signal reception is between coverage and high density.
Status	Display whether the policy is used or not.
Action	Modify the parameters except policy name. TIP You are not recommended to modify the **Used** policies.

Maintain Policy



This section helps you configure the maintain policy, including LED status and auto maintain.

Click + Maintain Policy to add a maintain policy.

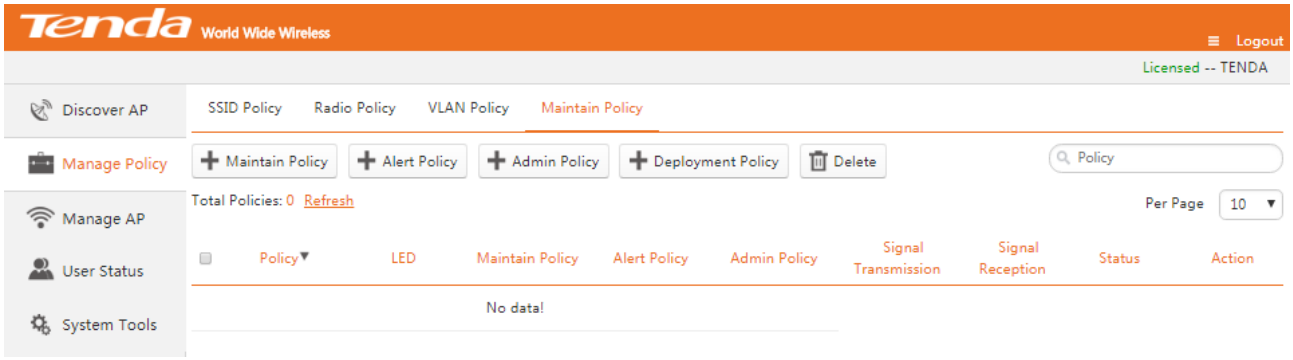


Parameter Description:

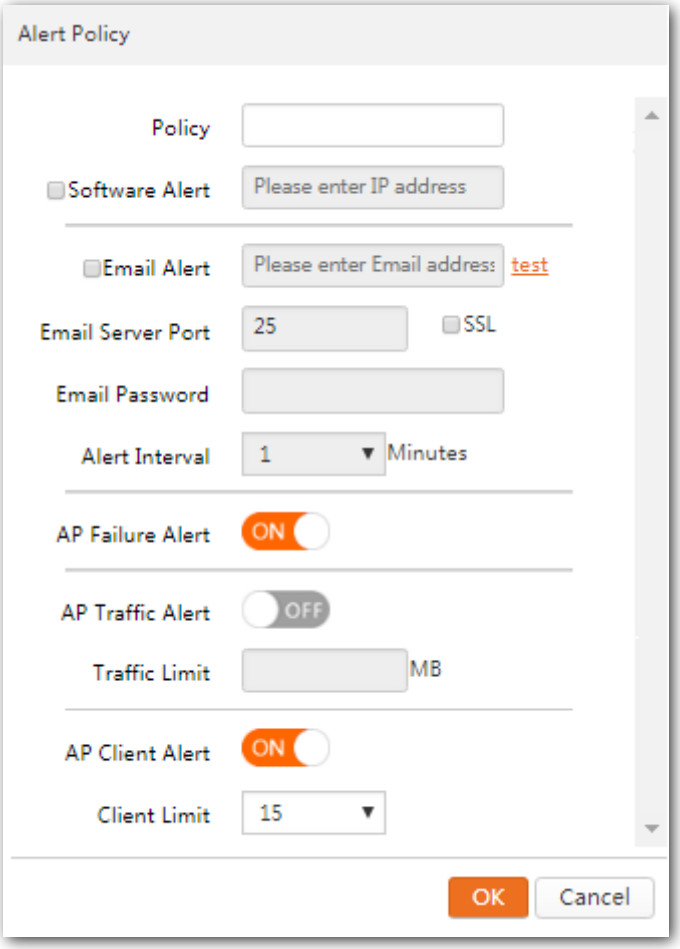
Parameter	Description
Policy	Enter a unique policy name. Duplicated names are not allowed.
LED	Use to turn on or off the AP's LED indicators.
Auto Maintain	Enable/Disable AP's auto reboot feature. If enabled, the AP will automatically reboot at a specified time (recommended in leisure time) to ensure AP's performance.
Maintain Type	Select AP reboot type. • **Circularly**: The AP will automatically reboot periodically at a specified interval. • **Schedule**: The AP will automatically reboot at specified date and time.
Maintain Time	Specify AP reboot time.
Everyday, Mon, Tue, Wed, Thu, Fri, Sat, Sun	Specify AP reboot date when **Schedule** is selected.

Alert Policy

This section helps you configure AP alert policies, including Software alert, Email alert configurations.



Click + Alert Policy to add an alert policy.



Parameter Description:

Parameter	Description
Policy	Enter a unique policy name. Duplicated names are not allowed.
Software Alert	Enable/Disable the software alert function. When enabled, please enter the IP address of the host used to receive alert logs, and the AC will send alert logs directly to the alert client program running on the host. TIP For the description of alert client program, please refer to Running Alert Client.
Email Alert	Enable/Disable Email alert function. With this function enabled, the AC will regularly send alert logs to the email you entered here.
Email Server Port	Enter the server port of the sending email.
E-mail password	Enter the password of the email used to receive alters.
Alert Interval	It specifies at which interval the alter email is sent.
AP Failure Alert	Enable/Disable AP failure alert function. If enabled, the AC will send alert logs, such as AP reboot, AP online or offline, and so on.
AP Traffic Alert	Enable/Disable AP Traffic Alert. If enabled, the AC will send alert logs when AP traffic reaches its limit.

Parameter	Description
Traffic Limit	When AP Traffic Alert is enabled, the AC will send alert logs when AP traffic reaches this limit.
AP Client Alert	Enable/Disable AP Client Alert. The AC will send alert logs when the number of connected clients reaches its limit.
Client Limit	When AP Client Alert is enable, the AC will send alert logs when AP's connected clients reach this number.

Running Alert Client: (Take Windows 7 for example)

Step 1 Go to the official website www.tendacn.com to download the corresponding alert client software to the local PC.

Step 2 Save the software to your local computer.

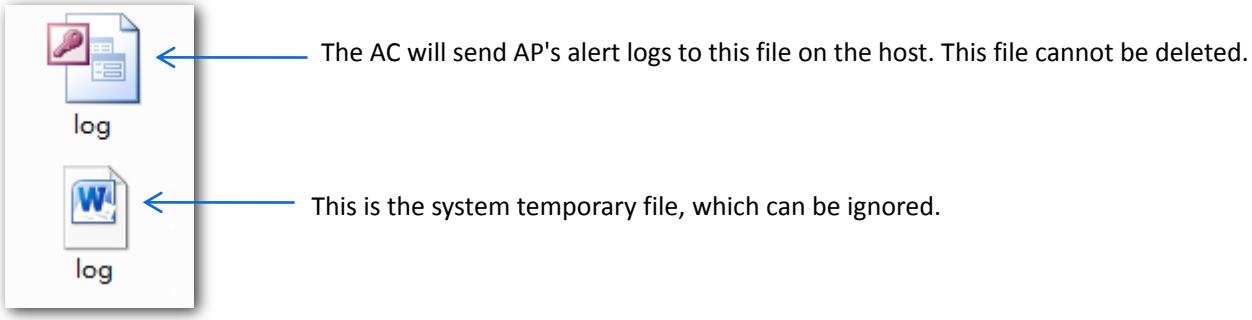
Step 3 Double-click the icon 

.

Step 4 If the "Do you want to allow the following program from unknown Publisher to make changes to this computer" dialogue prompts, click Yes .

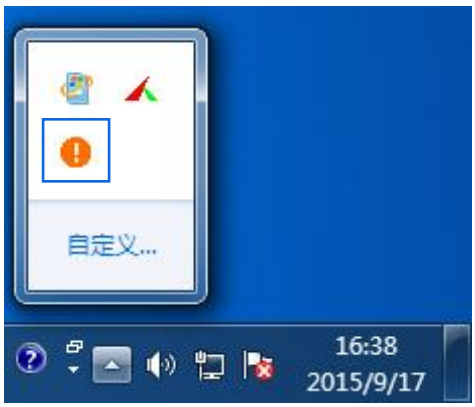
---End

After a successful installation, the system will generate the following two files in the folder:

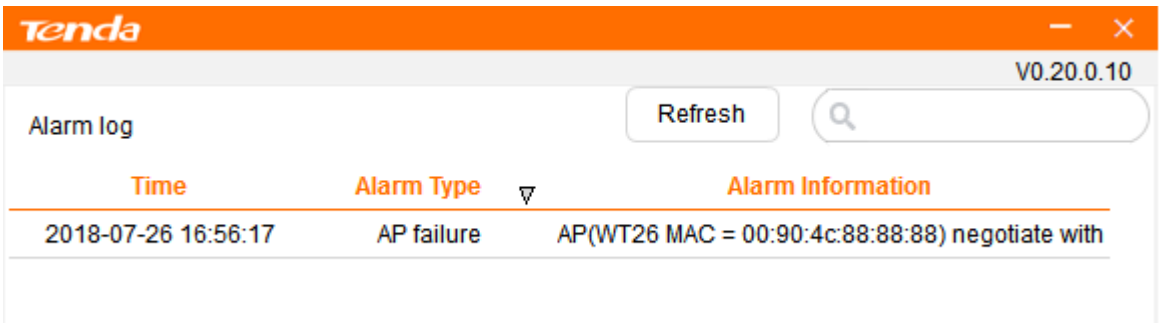


The network administrator can view AP's alert logs on the alert client program. Do as follows.

Step 1 Double-click the alert client icon.

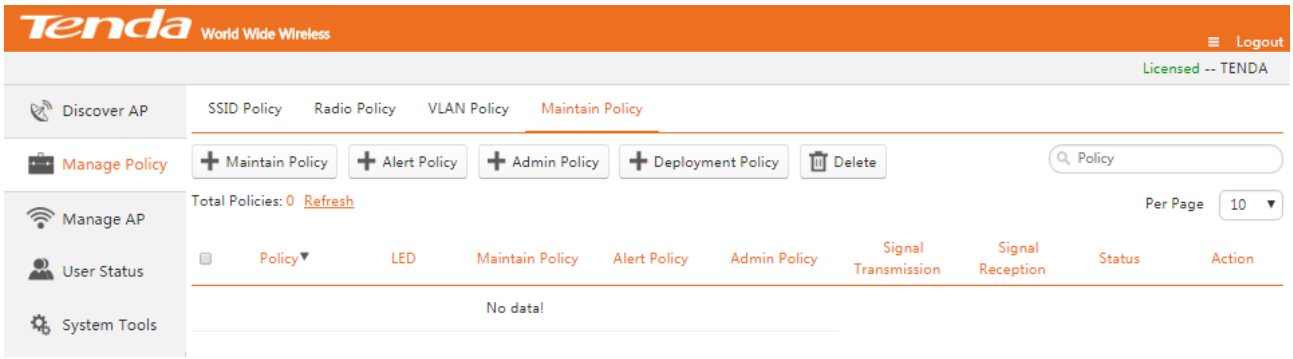


Step 2 View AP alert logs on the pop-up page. Click Refresh to view the latest alert logs.



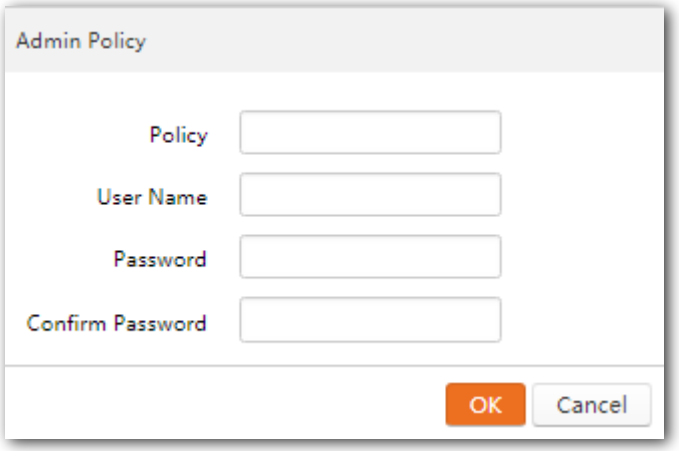
---End

Admin Policy



This section helps you configure login account and password of AP.

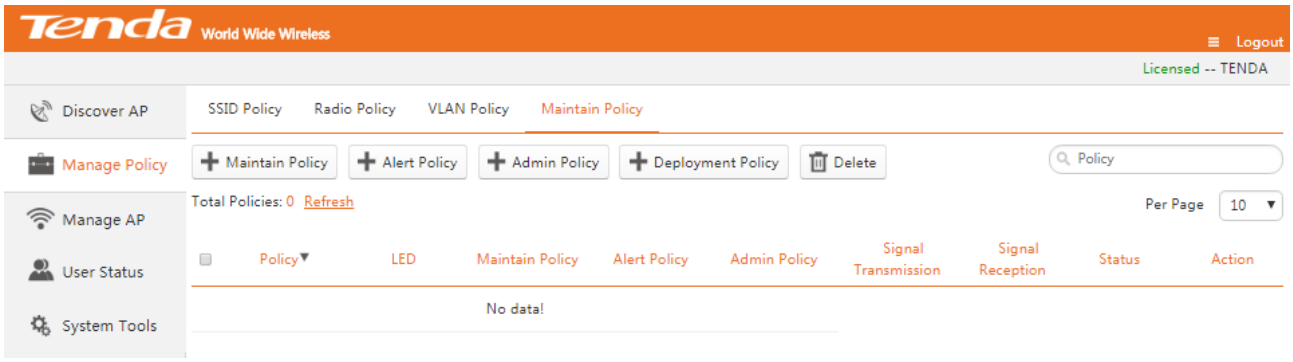
Click + Admin Policy to add an admin policy.



Parameter Description:

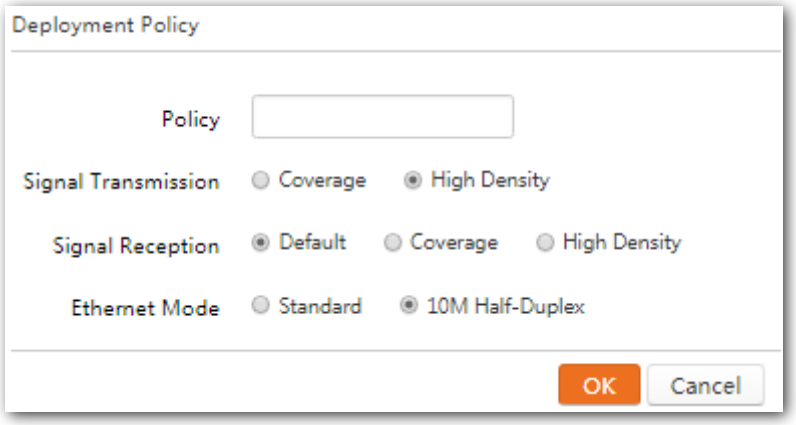
Parameter	Description
Policy	Enter a unique policy name. Duplicated names are not allowed.
User name	Set up AP's login account.
Password	Set up AP's login password.
Confirm Password	Repeat the password.

Deployment Policy



This section helps you configure deployment policies, including Signal Transmission, Signal Reception, and Ethernet Mode.

Click + Deployment Policy to add a deployment policy.



Parameter Description:

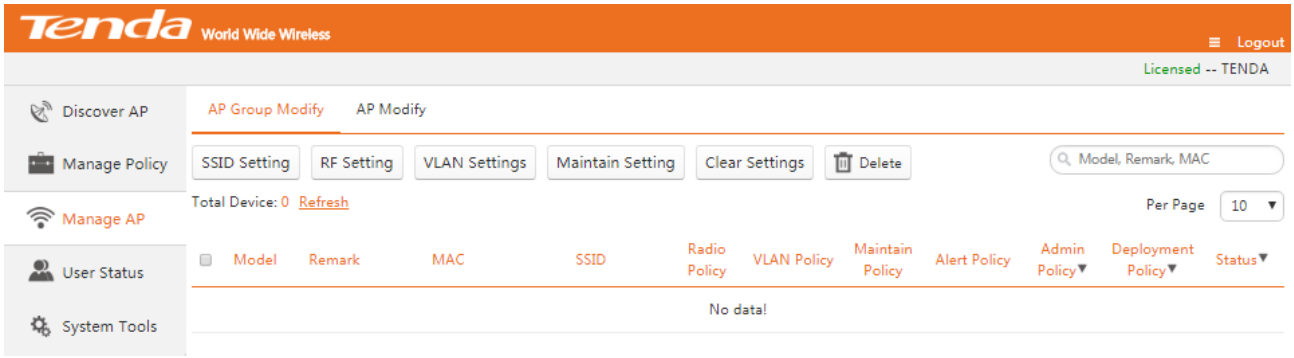
Parameter	Description
Policy	Enter a unique SSID deployment policy name. Duplicated names are not allowed.
Signal Transmission	Signal interference between APs can be effectively reduced by adjusting the transmit power of AP. If it is a capacity-oriented network, please select **High Density**. Otherwise, select **Coverage**.
Signal Reception	Select a Signal Reception Method based on different scenarios. • **Coverage**: It is used in a coverage-oriented network to ensure a higher WiFi coverage. • **High Density**: It is used in a capacity-oriented network to ensure a better signal quality. • **Default**: The signal reception is between coverage and high density.
Ethernet mode	Select AP LAN port's Ethernet mode. The default option is **10M Half-Duplex**. This mode can transmit in a longer distance with lower speed. When the distance between AP and the other device are more than 100 meters, please select **10M half-duplex** to make signal travels further. You must ensure that the other device works in auto negotiation mode, or AP LAN port can't send and receive data.

3.3 Manage AP

This section helps you deliver the configured policies to appropriate APs and manage the APs. It includes two parts, **AP Group Modify** and **AP Modify**.

3.3.1 AP Group Modify

Here you can view the basic information and policy of the connected APs. To deliver SSID policy, radio policy, VLAN policy and maintain policy to APs, click **Manage AP > AP Group Modify** to enter the page below.



Button Description:

Button	Description
SSID Setting	Used to deliver an SSID Policy to selected online APs.
RF Setting	Used to deliver a Radio Policy to selected online APs.
VLAN Settings	Used to deliver a VLAN Policy to selected online APs.
Maintain Setting	Used to deliver a maintain/alert/admin/deployment policy to selected online APs.
Clear Settings	Used to restore the maintain policy and alert policy of the selected online APs to factory settings.
Delete	Used to delete the selected offline APs.

Parameter Description:

Parameter	Description
Model	The model number of the AP.
Remark	The comment of AP. In order to manage different AP easily, it is recommended to set up the Remark name as AP's branch name or location.
MAC	AP MAC address.

Parameter	Description
SSID	AP’s SSID(s). If more than one SSID is delivered to AP, it displays all SSIDs when the cursor is hovering over.
Radio Policy	The delivered radio policy name.
VLAN policy	The delivered VLAN policy name.
Maintain Policy	The delivered maintain policy name.
Alert Policy	The delivered alert policy name.
Admin Policy	The delivered admin policy name.
Deployment Policy	The delivered deployment policy name.
Status	AP’s connection status: • **Online**: The AP has been connected to the AC successfully and the AC can manage the AP. • **Offline**: The AP has not been connected to the AC. The AC can’t configure the AP. In this status, settings on the AP are saved and you can still connect to it wirelessly if you do not reset your AP.  If the AP is offline, it keeps configuration delivered before. Users can still use their wireless network unless the AP is restored to factory settings.

SSID Setting

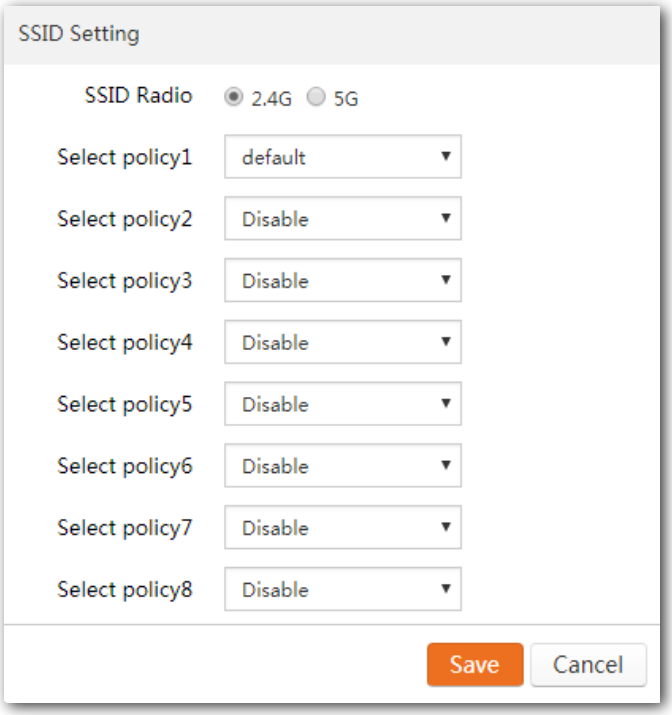
To deliver SSID policies to online APs:

Step 1 Log in to the web UI of AC, click **Manage AP > AP Group Modify**.

Step 2 Select online APs.

Step 3 Click **SSID Setting**.

Step 4 From the drop-down list, select the SSID policy name.



Step 5 Click **Save**.

----End

The SSID policies will be delivered to the selected APs.

TIP

- If an AP does not support 5 GHz band, the 5 GHz band will not be configured.
- Only policies compliant with the band of the AP can be sent to the AP successfully.
- If an AP supports a maximum of 2 SSIDs, extra selected SSIDs will not be sent to the AP.

RF Setting

To deliver a RF policy to online APs:

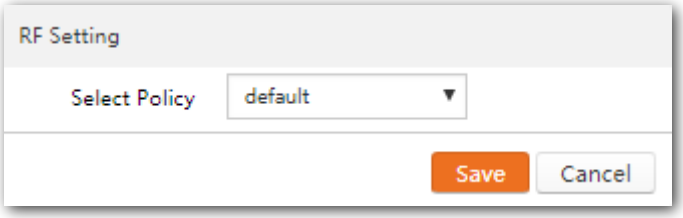
Step 1 Log in to the web UI of AC, click **Manage AP > AP Group Modify**.

Step 2 Select online APs.

Step 3 Click **RF Setting**.

Step 4 From the drop-down list, select the policy name.

Step 5 Click **Save**.



----End

The RF policy will be delivered to the selected online APs.

VLAN Settings

To deliver a VLAN policy to online APs:

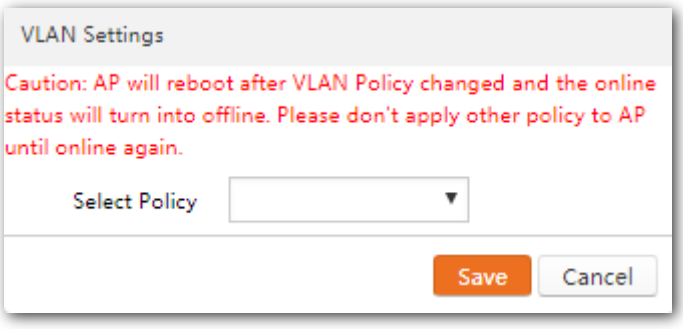
Step 1 Log in to the web UI of AC, click **Manage AP > AP Group Modify**.

Step 2 Select online APs.

Step 3 Click **VLAN Settings**.

Step 4 From the drop-down list, select the policy name.

Step 5 Click **Save**.



----End

The VLAN policy will be delivered to the selected APs.

Maintain Setting

To deliver maintain policies to online APs:

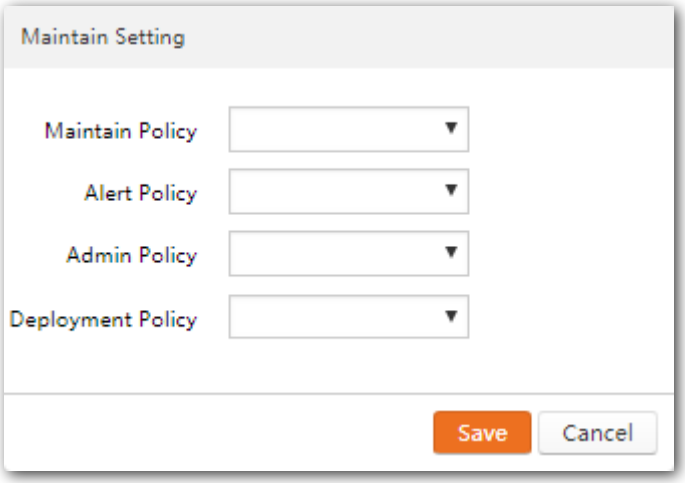
Step 1 Log in to the web UI of AC, click **Manage AP > AP Group Modify**.

Step 2 Select online APs.

Step 3 Click **Maintain Policy**.

Step 4 From the drop-down list, select the corresponding policy name.

Step 5 Click **Save**.



----End

The maintain policies will be delivered to the selected APs.

Clear Settings

To restore maintain policy and alert policy of the selected online APs to default factory settings:

Step 1 Log in to the web UI of AC, click **Manage AP > AP Group Modify**.

Step 2 Select online APs.

Step 3 Click **Clear Settings**.

----End

TIP

The maintain policy here does not include alert policy, admin policy or deployment policy.

Delete

To delete offline APs:

Step 1 Log in to the web UI of AC, click **Manage AP > AP Group Modify**.

Step 2 Select the offline APs to be deleted.

Step 3 Click **Delete**.

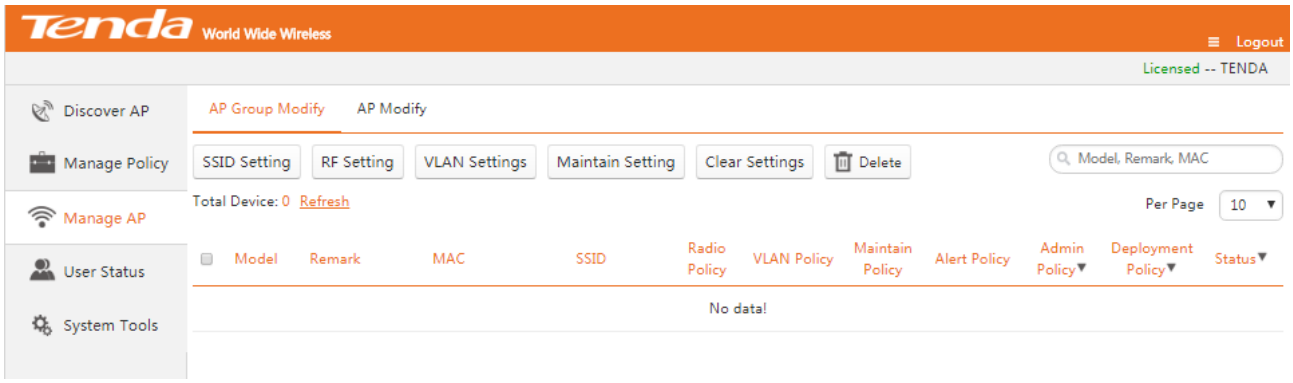
----End

TIP

Online APs will not be deleted even if you select them.

3.3.2 AP Modify

To reboot, upgrade and reset selected online APs, to delete selected offline APs or to change RF settings of an AP, click **Manage AP > AP Modify** to enter the page below.



Button Description:

Button	Description
Reboot	Used to reboot the selected online APs.
Upgrade	Used to upgrade a firmware for the selected online APs.
Reset	Used to restore the selected online APs to factory settings.
Delete	Used to delete the selected offline APs.

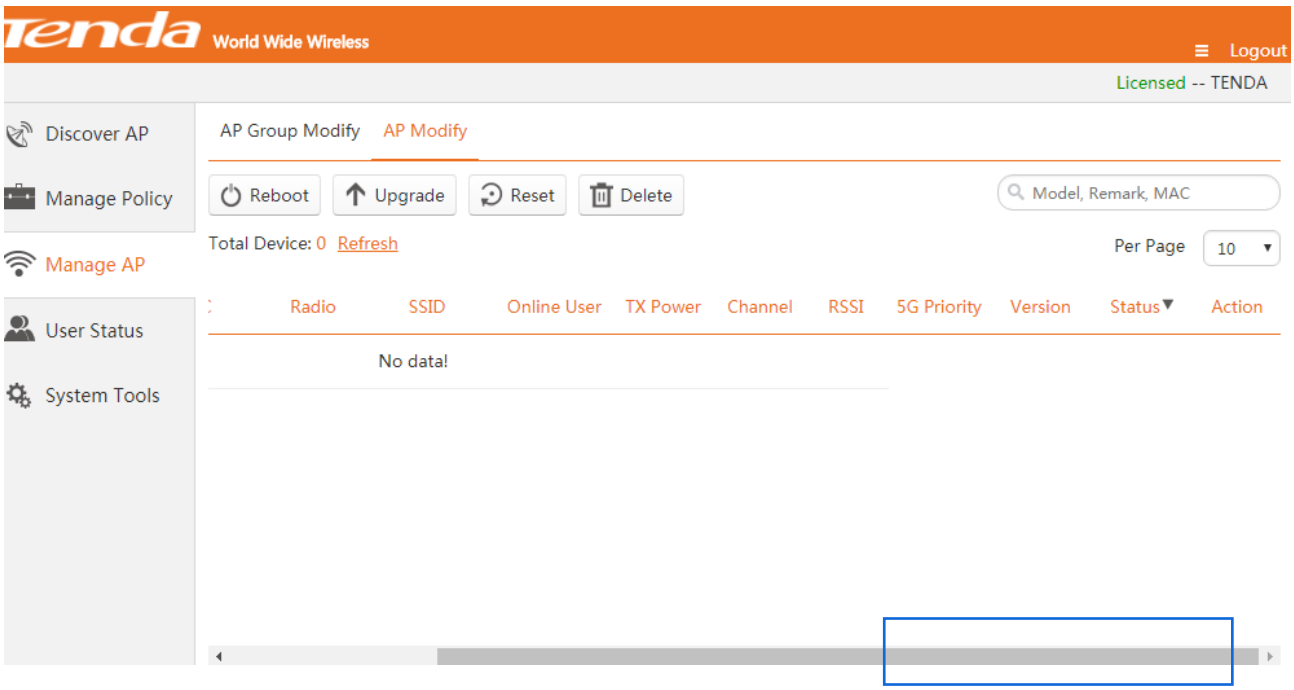
Parameter Description:

Parameter	Description
Model	The model number of the AP.
Remark	The comment of AP. In order to manage different AP easily, it is recommended to set up the Remark name as AP's branch name or location.
MAC	AP MAC address.

Parameter	Description
Radio	AP's frequency band. It may be 2.4 GHz or 5 GHz or 2.4 GHz and 5 GHz.
SSID	AP’s SSID(s). If more than one SSID is delivered to AP, it displays all SSIDs when the cursor is hovering over.
Online Users	The amount of online users which connect to the AP.
TX Power	AP's wireless transmission power. If this value is greater than the maximum supported power of an AP, the maximum supported power takes effect after the policy is delivered.
Channel	AP’s channel.
RSSI	RSSI is short for Received Signal Strength Indication. If a wireless client’s signal is lower than this value, the client can not connect to the AP, which helps the client to connect to an AP with stronger signal.
5G Priority	5G priority refers to a scenario when a dual band client connects to a dual band AP, the AP makes it connect to 5 GHz band in higher prority, which helps the AP to reduce interference and workload in 2.4 GHz band and hence improve user experience.
Version	The firmware version of the AP.
Status	AP’s connection status: • **Online**: The AP has been connected to the AC successfully and the AC can manage the AP. • **Offline**: The AP has not been connected to the AC. The AC cannot configure the AP. In this status, settings on the AP are saved and you can still connect to it wirelessly if you do not reset your AP. TIP If the AP is offline, it keeps configuration delivered before. Users can still use their wireless network unless the AP is restored to factory settings.
Action	Used to modify the AP’s RF settings.

TIP

If **Status** and **Action** does not appear in this page, please zoom in the page, e.g. 125%, and then drag the slider at the bottom of the page so that you can view the AP’s status and click  in **Actions** field to modify AP parameters.



Reboot

To reboot online APs:

Step 1 Log in to the web UI of AC, click **Manage AP > AP Modify.**

Step 2 Select online APs to be rebooted.

Step 3 Click **Reboot**.

----End

Upgrade

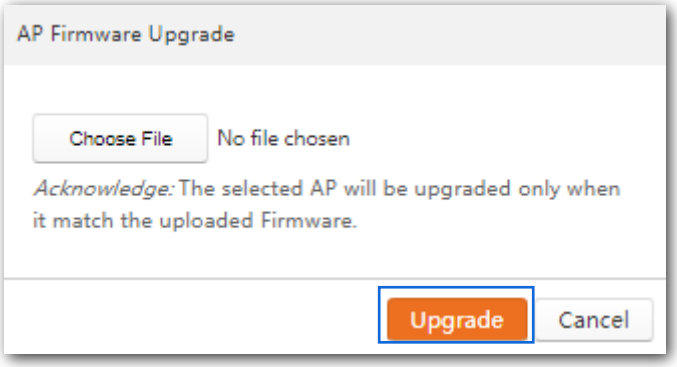
To upgrade for online APs:

Step 1 Log in to the web UI of AC, click **Manage AP > AP Modify**.

Step 2 Select online APs to be upgraded.

Step 3 Click **Upgrade**.

Step 4 Follow on-screen instructions to finish firmware upgrade.



----End

NOTE

When an AP firmware is upgrading, please DO NOT power off the AP, otherwise it may cause damage to the AP! If a sudden power failure occurs, please upgrade again. If you cannot log in to AP's Web UI after a sudden power failure, please contact our technical support.

Reset

To reset online APs to default factory settings:

Step 1 Log in to the web UI of AC, click **Manage AP > AP Modify**.

Step 2 Select online APs to be reset.

Step 3 Click **Reset**.

----End

Delete

To delete offline APs:

Step 1 Log in to the web UI of AC, click **Manage AP > AP Modify**.

Step 2 Select offline APs to be deleted.

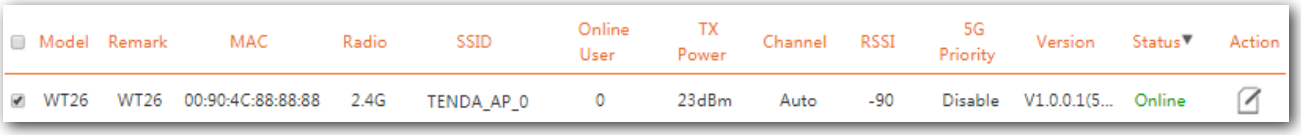
Step 3 Click **Delete**.

----End

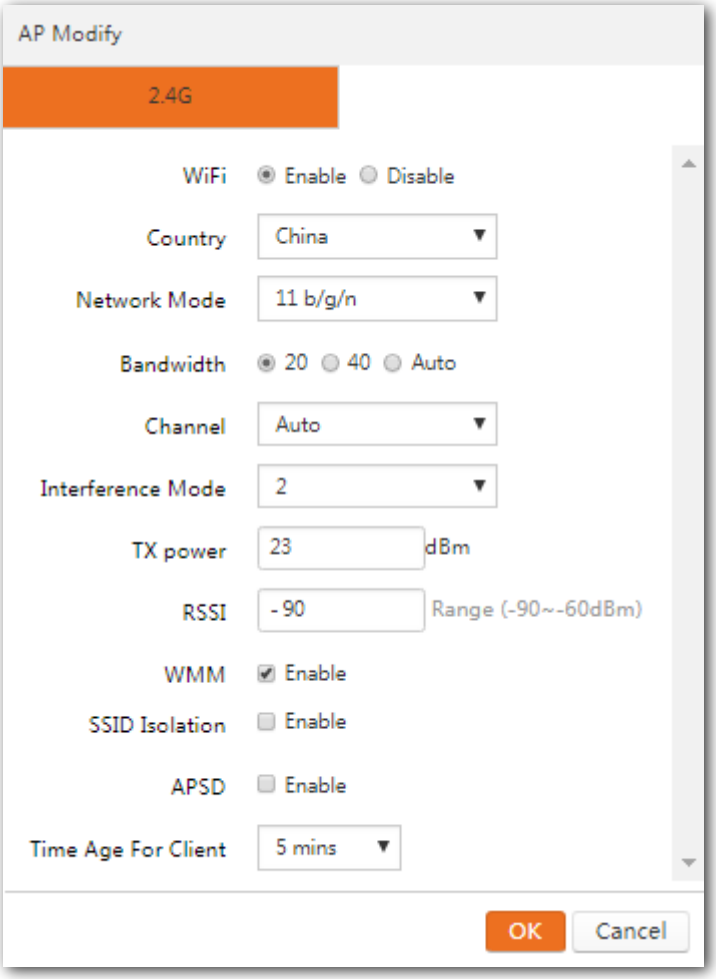
TIP

If the AP is offline, it keeps configuration delivered before. Users can still use their wireless network unless the AP is restored to factory settings.

Modify



Click  on the right page to modify the AP's RF settings.



Parameter Description:

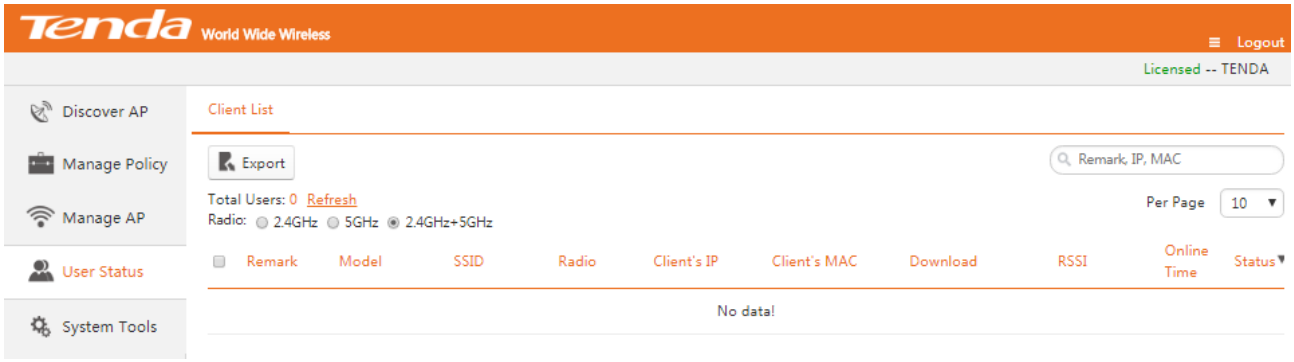
Parameter	Description
WiFi	Enable/disable AP's WiFi in each band.
Country	Countries apply for their own regulations to the allowable channels, allowed users and maximum power levels within the frequency ranges. Consult your local authorities as these regulations may be out of date as they are subject to change at any time. Most contries allow the first eleven channels in the spectrum.It specifies country or region where this device is located. You can select the country or region to ensure that this device complies with the channel regulations of the country or region.
Network Mode	Select a Network Mode. 2.4 GHz band includes 11b, 11g, 11b/g and 11b/g/n, while 5 GHz band includes 11a, 11ac and 11a/n. Descriptions are as follows. • **11b**: Works in 2.4 GHz band and supports up to 11 Mbps. • **11g**: Works in 2.4 GHz band and supports up to 54 Mbps.

Parameter	Description
	• **11b/g**: If you select this option, wireless clients supporting 802.11b or 802.11g can connect to the WiFi. • **11b/g/n**: If you select this option, wireless clients supporting 802.11b, 802.11g or 802.11n can connect to the WiFi. • **11a**: Works in 5 GHz band and supports up to 54 Mbps. • **11a**c: Works in 5 GHz band and supports up to 1732Mbps. It is a newer standard that uses wider channels, QAM and spatial streams for higher throughput • **11a/n**: Works in 5 GHz band and supports up to 600Mbps, compatible with 11n.
Bandwidth	Select the wireless bandwidth. • **20**: 20MHZ channel bandwidth. • **40**: 40MHZ channel bandwidth. • **80**: 80MHZ channel bandwidth. • **Auto**: Automatically adjust the channel bandwidth to 20MHZ or 40MHZ based on surrounding environment.
Channel	Select the wireless channel. Channel range differs from country and radio band.
Extension Channel	When bandwidth is 40 or Auto, this is used to determine the channel range of AP.
Interference Mode	Configure Interference mode. Value range: 0 – 4. • **0**: Disable all interference immunity. • **1**: Enable the same frequency interference immunity. • **2**: Force to enable radio interference immunity. • **3**: Automatically enable radio interference immunity. • **4**: Automatically enable radio interference immunity and noise reduction. TIP Different AP models have different recommended interference mode. Please contact Tenda technical support for help.
TX power	AP's wireless transmission power. If this value is greater than the maximum supported power of an AP, the maximum supported power takes effect after the policy is delivered.
RSSI	RSSI is short for Received Signal Strength Indication. If a wireless client's signal is lower than this value, the client can not connect to the AP, which helps the client to connect to an AP with stronger signal.
WMM	Wi-Fi Multimedia (WMM) provides basic Quality of Service (QoS) features to IEEE 802.11 networks. WMM prioritizes traffic according to four Access Categories (AC) - voice, video, best effort, and background. However, it does not provide guaranteed throughput. It is suitable for well defined applications that require QoS, such as Voice over IP (VoIP) on Wi-Fi phones (VoWLAN).
SSID Isolation	Enable/Disable SSID isolation. When enabled, wireless clients that connect to different SSID of the AP cannot communicate with each other.
APSD	APSD is short for Automatic Power Save Delivery. It is basically a feature mode that allows your mobile devices to save more battery while connect to your WiFi network. By allowing your mobile devices to

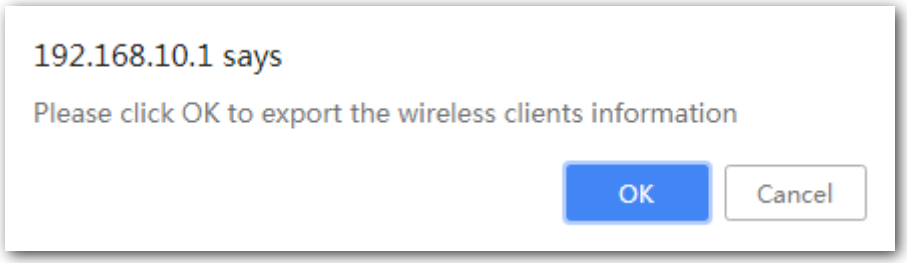
Parameter	Description
	enter standby or sleep mode, it conserves energy. It is only effective when you enable WMM.
Time Age For Client	After a client connects to the AP: If there is no data transmission within the time period, AP will actively disconnect the client. If data transmission is detected within the time period, AP will recalculate the time age.

3.4 User Status

This section gives you an overview of client information connected to the network. Click **User Status** to enter the page below.



To export and save the client information to your local computer, click **Export**, and then click **OK** on the pop-up window.



Parameter Description:

Parameter	Description
Remark	The comment of AP. In order to manage different APs easily, it is recommended to set up the Remark name as AP's model number or location.
Model	The model number of the AP.
SSID	AP's SSID which the user's device connects to.
Radio	AP's radio band which the user connects to.
Client's IP	The user device's IP address.
Client's MAC	The user device's MAC address.
Download	The user's total download traffic.
RSSI	The user's RSSI. RSSI is short for Received Signal Strength Indication.
Online Time	The authorized online period of the user.
Status	Whether the user is online or offline. • **Online**: The user has successfully authorized to the AP currently.

Parameter	Description
	• **Offline**: The user does not authorize to the AP currently.

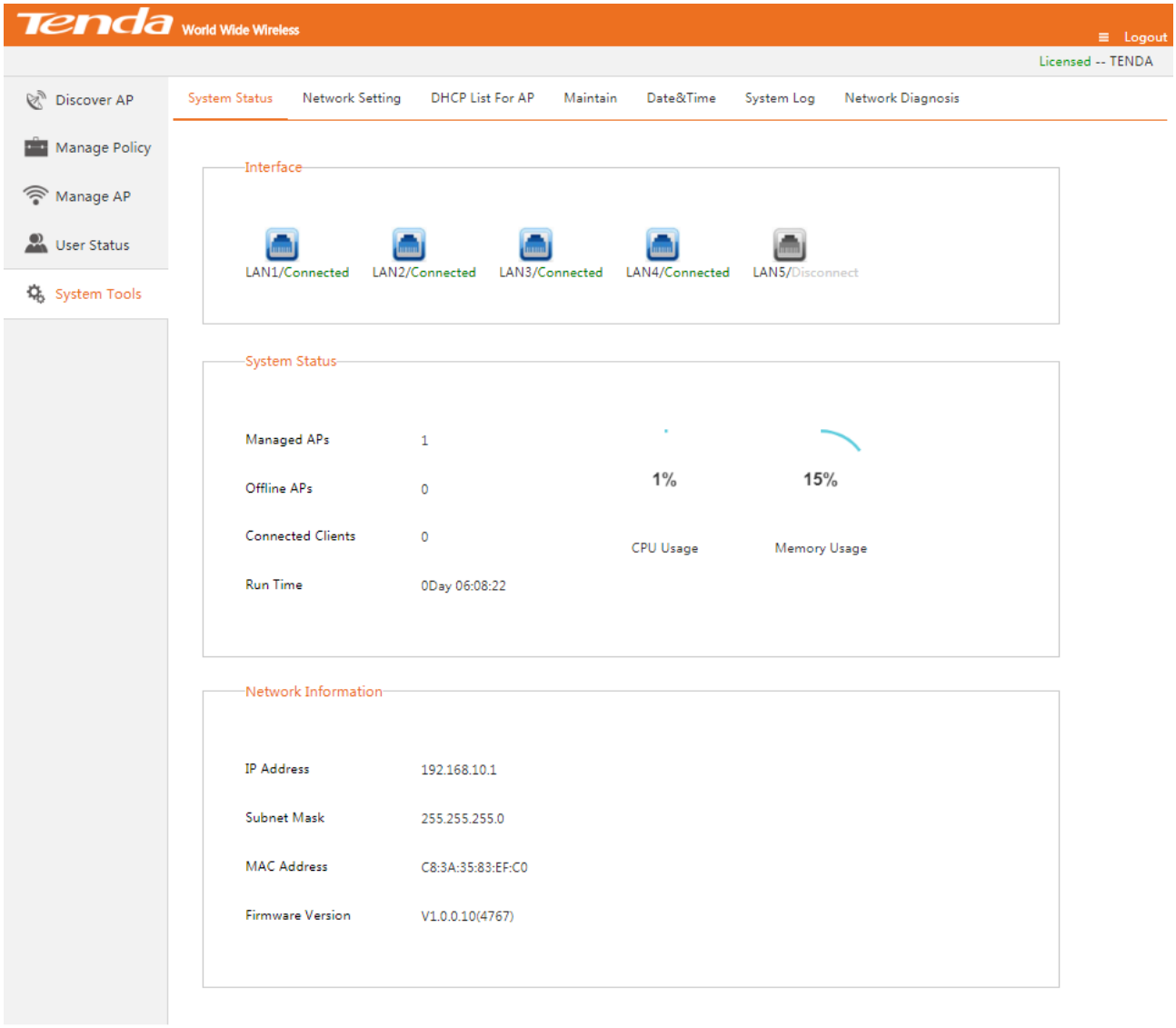
3.5 System Tools

This section helps you manage this AC in a safe and effective manner, and get to know the real-time running status. Here are the following 7 parts:

- System Status: View interface information, system status and network information.
- Network Setting: View and modify LAN settings, DHCP settings and and 802.1 QVLAN settings.
- DHCP List For AP: View and export DHCP list.
- Maintain: View license information, modify the user name and password to manage the AC, upgrade firmware, backup/restore the AC configuration and restore the device to default factory settings.
- Date&Time: View and set the system of the AC.
- System Log: View the AC system logs, and get to know the AP connection status as well as its warning info.
- Network Diagnosis: Detect network connection status of the AC

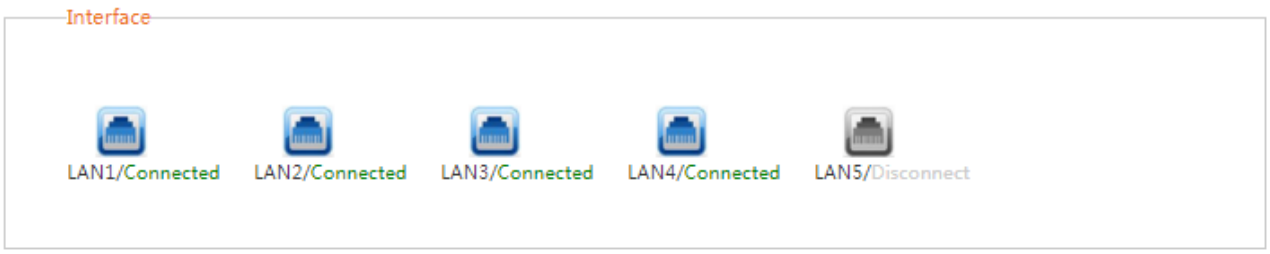
3.5.1 System Status

Here you can view Interface, System Status, and Network Information. Click **System Tools > System Status** to enter the page below.



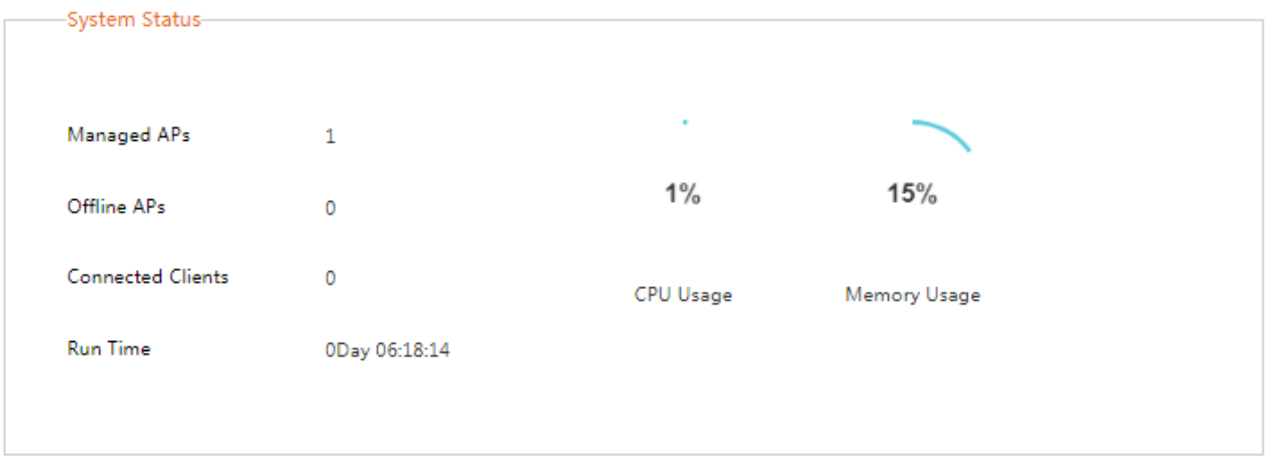
Interface

It displays the current connection status of each LAN port of the AC.



System Status

It displays how many APs are managed by the AC, offline AP numbers, connected client numbers, run time and CPU/memory usage of the AC.

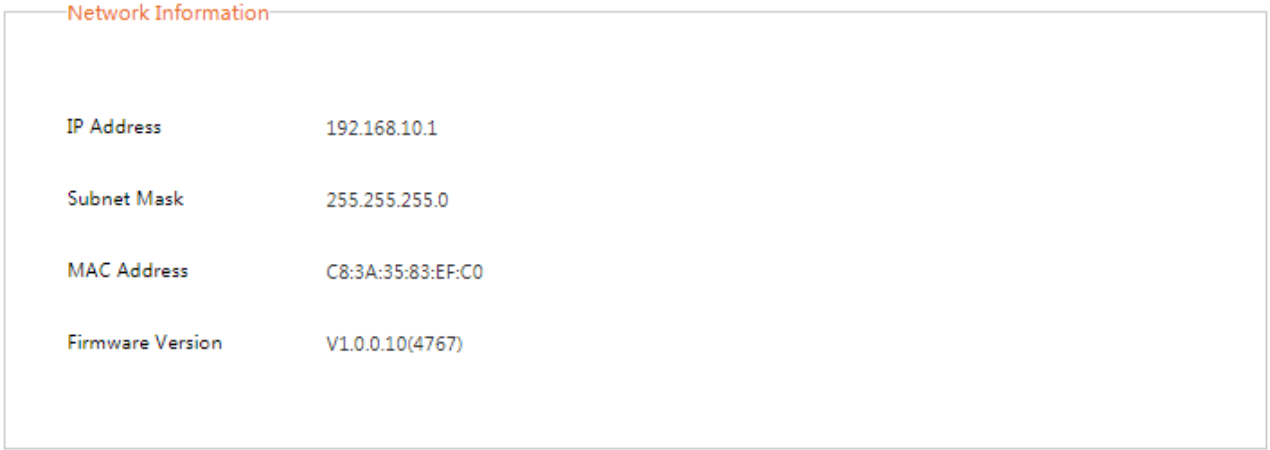


Parameter Description:

Parameter	Description
Managed APs	It indicates how many APs are managed by the AC currently.
Offline APs	It indicates how many APs are offline currently.
Connected Clients	It indicates how many wireless clients are connected to online APs currently.
Run Time	It indicates the time elapsed since the AC is rebooted last time.
CPU Usage	It indicates how much the CPU of the AC is utilized in percenteage.
Memory Usage	It indicates how much the memory of the AC is utilized in percenteage.

Network Information

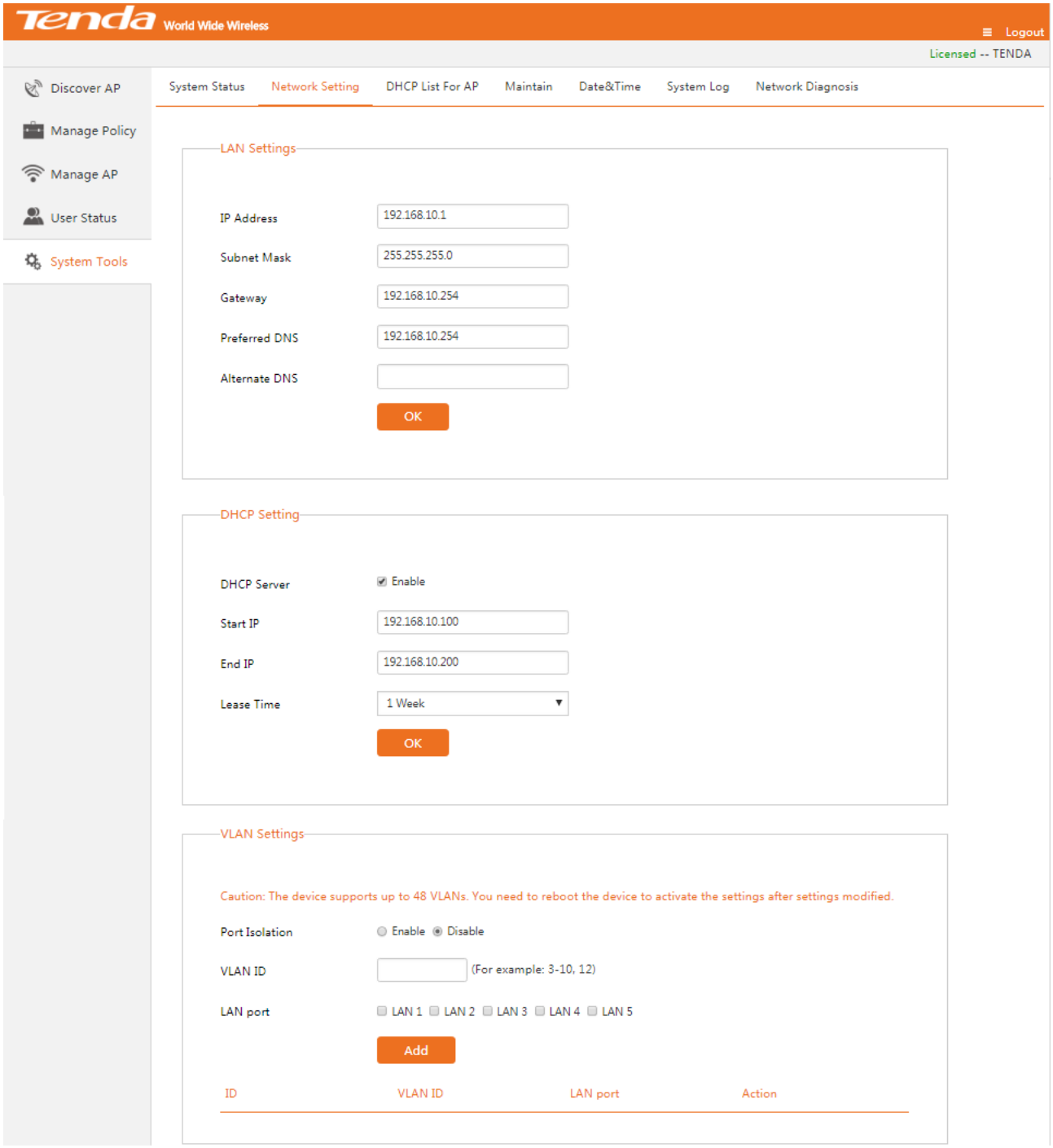
It displays the IP address, subnet mask, MAC address, and firmware version of the AC.



3.5.2 Network Setting

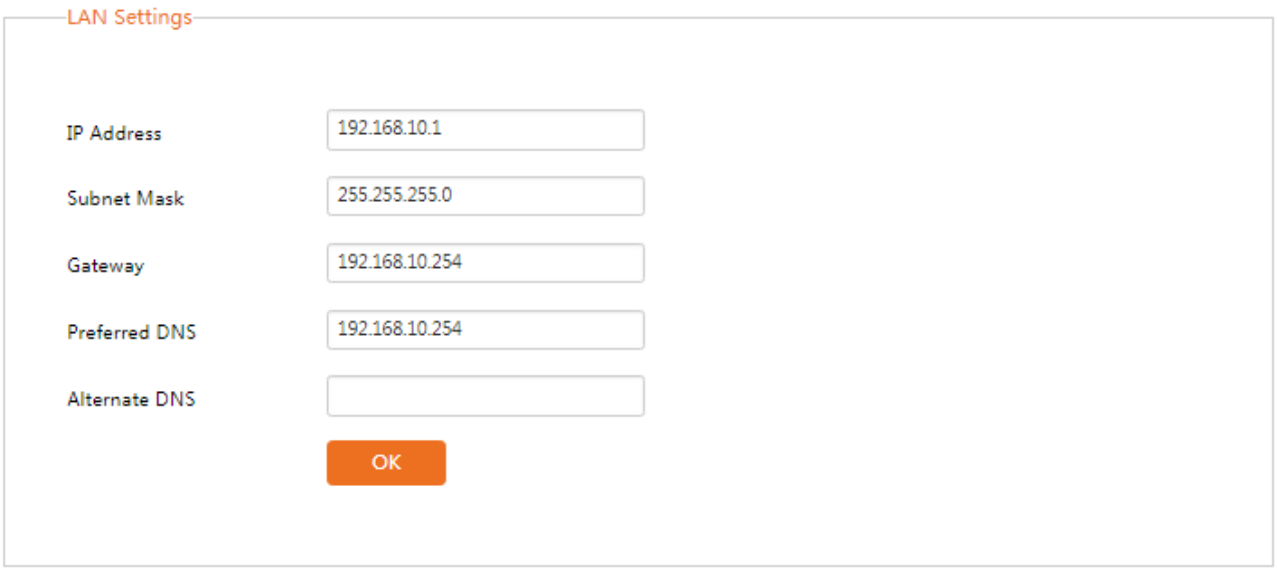
Here you can set up IP information to connect to the internet, and set up VLAN information. Click **System Tools >**

Network Setting to enter the page below.



LAN Settings

It allows you to set IP address, subnet mask, gateway, preferred DNS and alternate DNS.

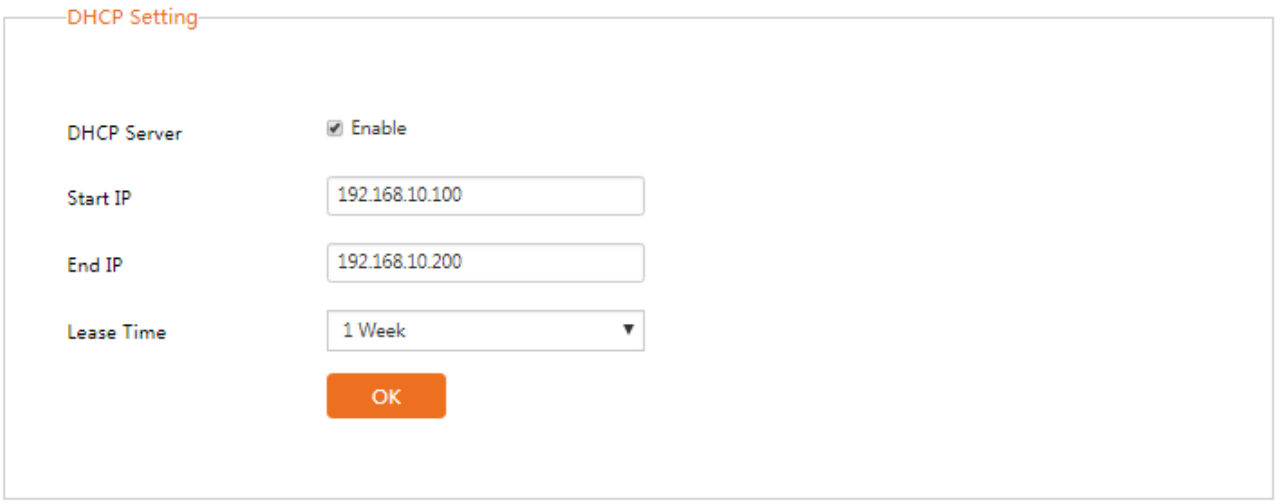


Parameter Description:

Parameter	Description
IP Address	It specifies the IP address of this AC. Users in LAN can access the web UI of this AP using this IP address. The default IP is **192.168.10.1**. TIP If you change LAN IP, you still need to change the IP address on your computer to be the same segment of the new IP address. And use the new IP address to login to the web UI of the AC.
Subnet Mask	The subnet mask of the AC, default value is **255.255.255.0**.
Gateway	The gateway of the AC, default value is **192.168.10.254**.
Preferred DNS	The DNS server address of this AC. It is a required field and the default is **192.168.10.254**.
Alternative DNS	The alternative DNS server address of this AC. It is an optional field and it is left blank by default.

DHCP Settings

It allows you to enable/disable DHCP server and modify IP address.

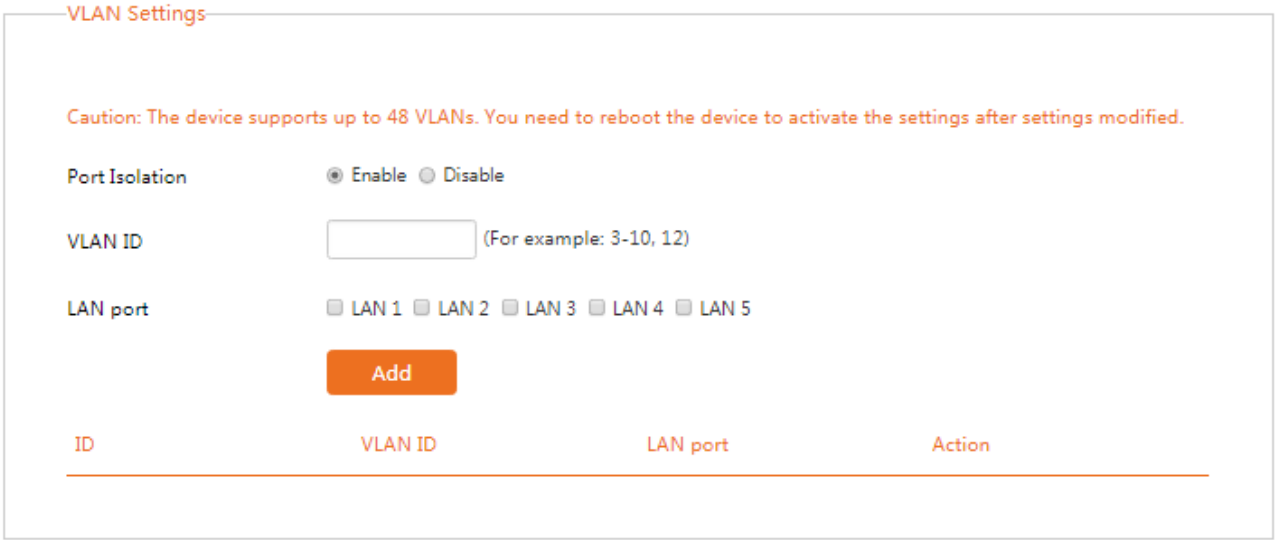


Parameter Description:

Parameter	Description
Start IP	Enter the start IP address of DHCP address pool.
End IP	Enter the end IP address of DHCP address pool. NOTE Start IP and end IP must be on the same IP segment.
Lease Time	Lease time is the assigned IP address's effective time period. When lease time is due, the online APs can renewal the lease time.

VLAN Settings

It allows you to add one or more VLAN rules to manage AP across VLANs.



Configuration steps:

Step 1 Log in to the web UI of AC, click **System Tools > Network Setting** > **VLAN Settings**.

Step 2 **Port Isolation**: Set **Port Isolation** to **Enable**.

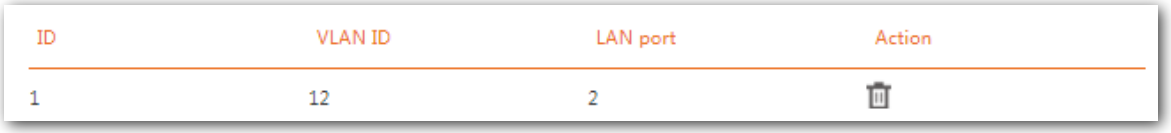
Step 3 **VLAN ID**: Set VLAN ID, such as **3-10**, or **12**. One port can only be set with one VLAN ID, but can be grouped into different VLANs.

TIP

The hyphen (-) means “consective”, and the comma (,) means “and”. For example, 3-10, 12 includes 9 VLAN IDs through VLAN3 to VLAN10, as well as VLAN12.

Step 4 **LAN port:** Select LAN port corresponding to the VLAN ID.

Step 5 Click **Add**, the added rule shows in the VLAN list.



ID	VLAN ID	LAN port	Action
1	12	2	

----End

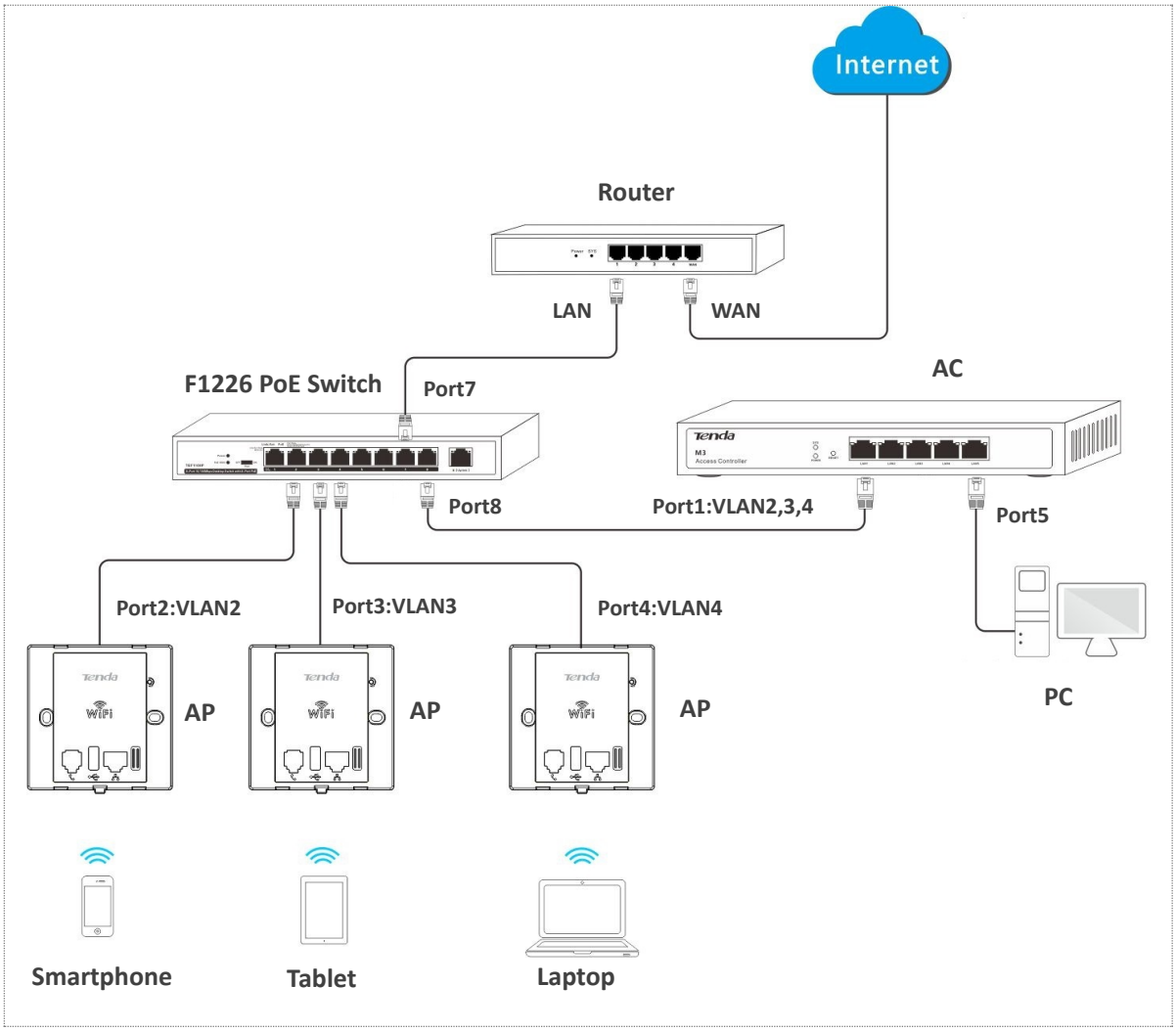
To delete a VLAN rule, click corresponding to the rule. You cannot modify a rule but delete it and then add again.

TIP

- You need to reboot the device to activate the settings after settings modified.
- After adding a VLAN rule, PVID serves as VLAN 1, a port to receive any data.

An example of configuring VLAN settings

Network Topology



Topology description: (here takes F1226P as an example)

- Create 3 802.1Q VLAN rules on the switch, VLAN IDs and corresponding ports are as below:
  - VLAN2: **Interface 2**, port link type is **Access**;
  - VLAN3: **Interface 3**, port link type is **Access**;
  - VLAN4: **Interface 4**, port link type is **Access**;
- Set 2 trunk ports, details is as below:
  - Interface 7: **Trunk port**, PVID=1, all VLANs are allowed;
  - Interface 8: **Trunk port**, PVID=1, all VLANs are allowed;

Configuration steps:

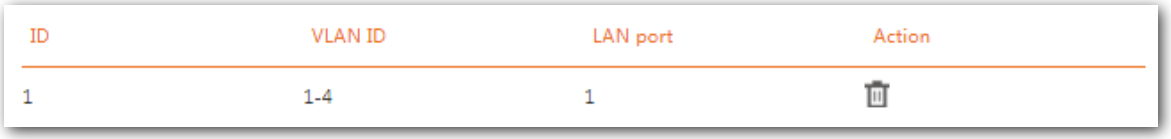
Step 1 Log in to the web UI of AC, click **System Tools** > **Network Setting > VLAN Settings**.

Step 2 **Port Isolation**: Set **Port Isolation** to **Enable**.

Step 3 **VLAN ID**: Set **VLAN ID** to **1-4**.

Step 4 **LAN port**: Set **LAN port** to **LAN1**.

Step 5 Click **Add**.

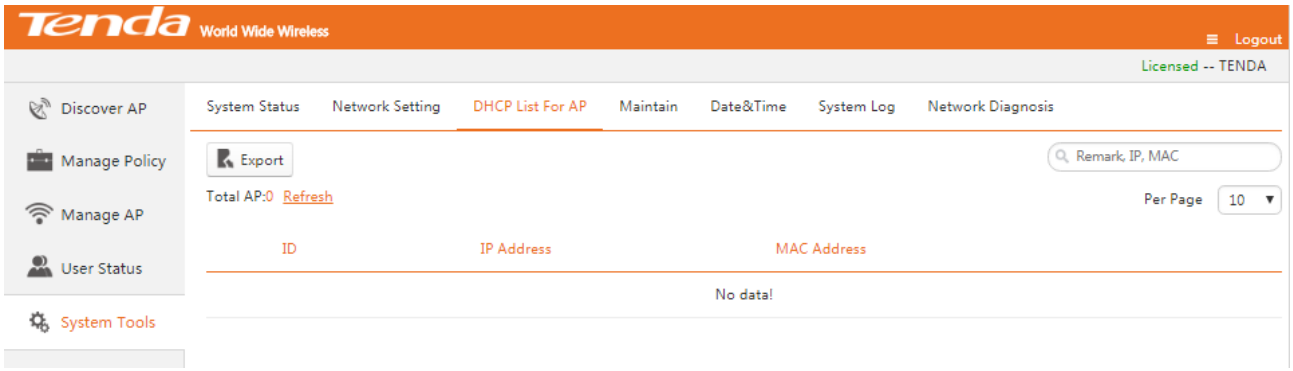


----End

Then click **System Tools > Maintain** to reboot this device to activate your settings**.**

3.5.3 DHCP List For AP

Here you can view AP's IP address obtained from AP's DHCP server, and AP's MAC address. Click **System Tools > DHCP List For AP** to enter the page below.

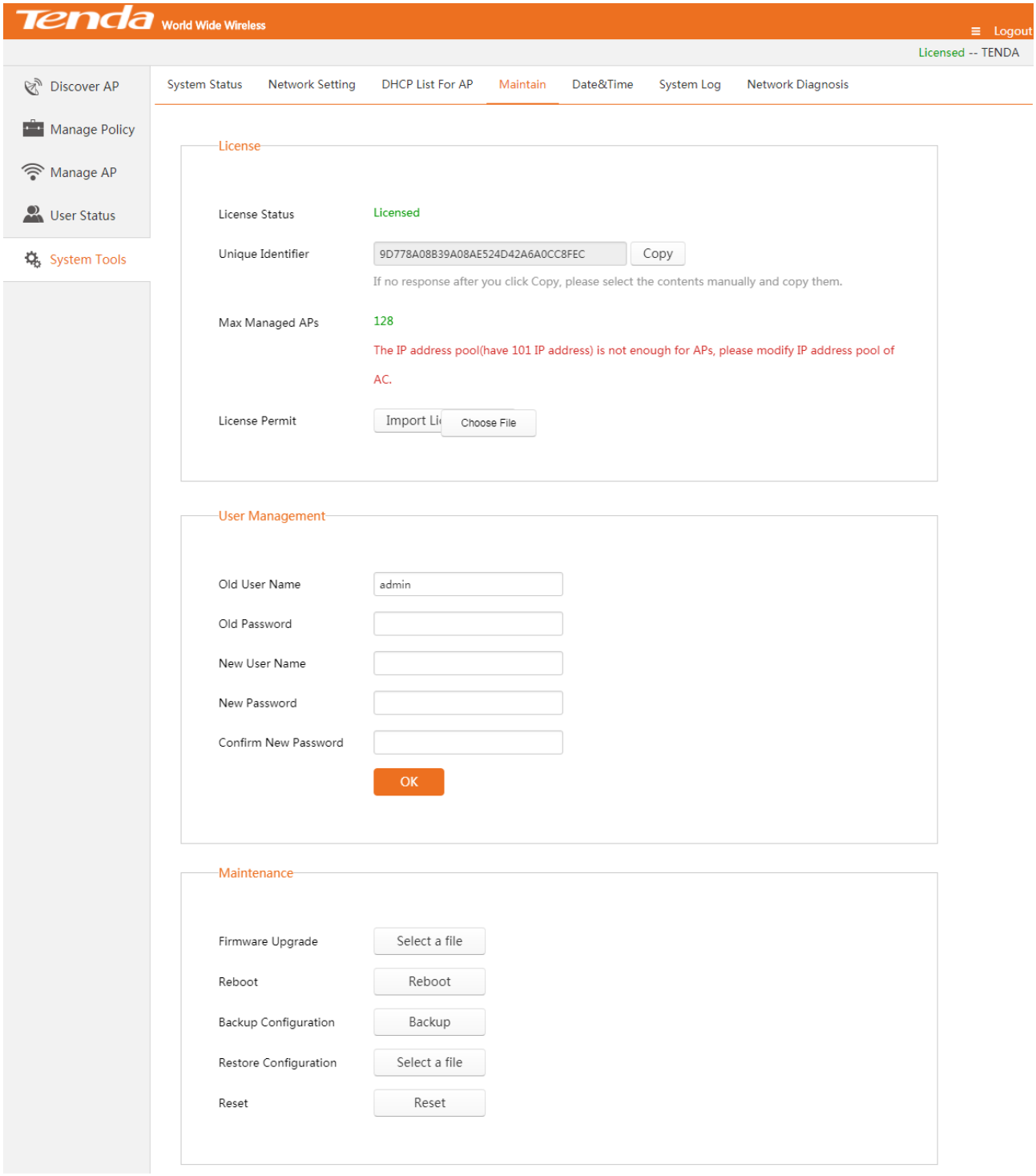


Parameter Description:

Parameter	Description
ID	The ID of the AP.
IP Address	The IP address of the AP.
MAC Address	The MAC address of the AP.

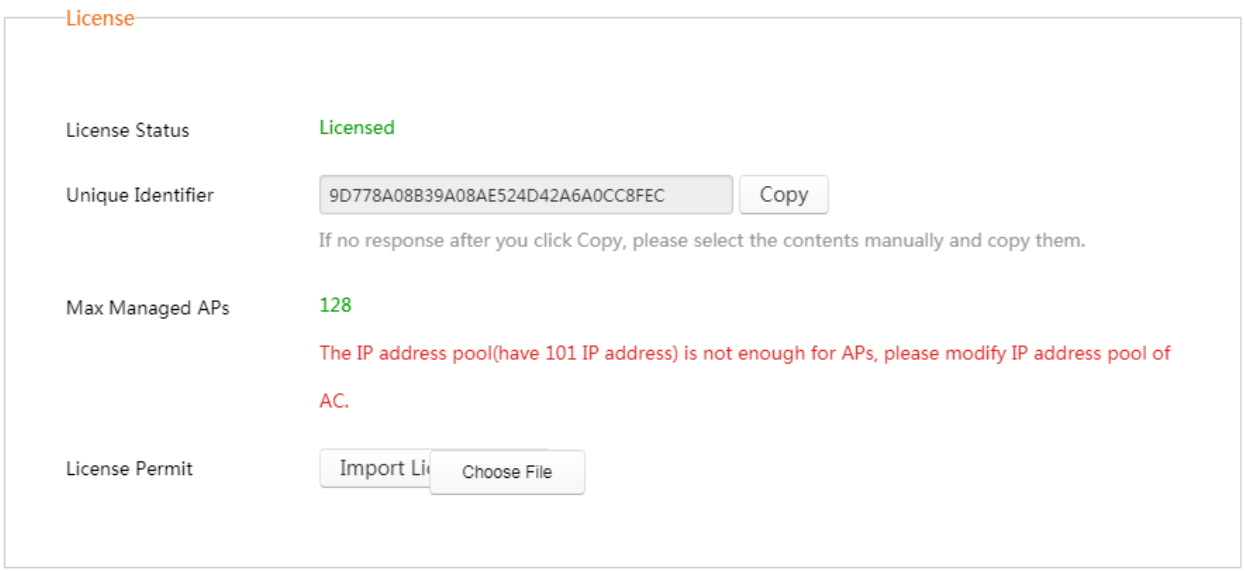
3.5.4 Maintain

Here you can view license information, modify user management information and maintain the AC. Click **System Tools > Maintain** to enter the page below.



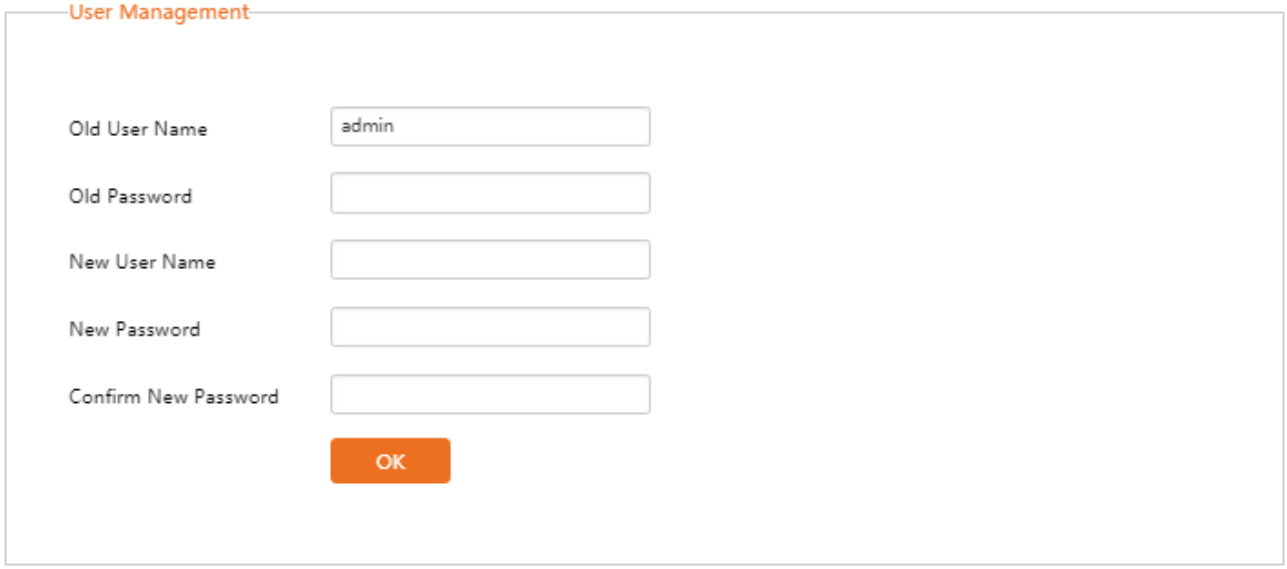
License

The AC is licensed by default, and can manage up to 128 APs.



User Management

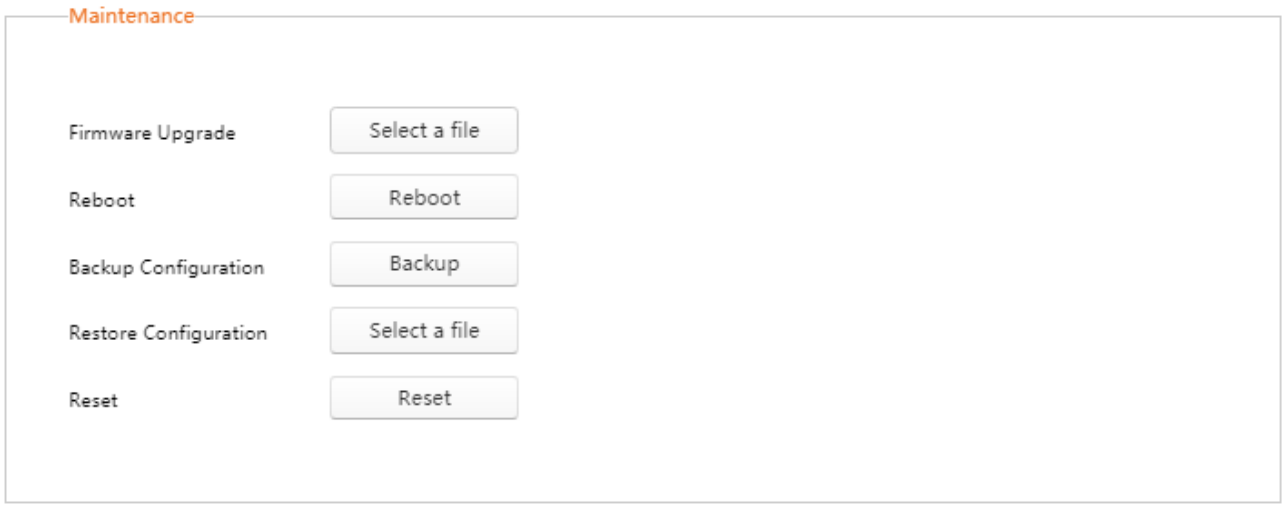
In order to prevent other person from modifying settings on your AC, it is advisable to modify your login user name and password.



After modifying your login user name and password, it will automatically skip to the login page and you need to use the new user name and password to re-access its web UI.

Maintenance

Here you can upgrade, reboot, backup, restore and reset AC.



- **Firmware Upgrade**

Firmware upgrage operation allows you to enjoy more functions and more stable performance. We recommend you go to www.tendacn.com to find out the corresponding software to upgrade the AC.

NOTE

When an AP firmware is upgrading, please DO NOT power off the AP, otherwise it may cause damage to the AP! If a sudden power failure occurs, please upgrade again. If you cannot log in to AP's Web UI after a sudden power failure, please contact our technical support.

Configuration steps:

Step 1 Go to the official website www.tendacn.com to download the corresponding software to the local PC and unzip it.

Step 2 Log in to the web UI of AC and click **System Tools > Maintain > Maintenance**.

Step 3 Click **Select a file**, select the software you've downloaded just now and follow onscreen guidelines to upload the software.

Step 4 Click **OK** in the popup window.

Step 5 Wait for a few minutes until the upgrade completes.

----End

Click **System Tools > System Status** to check firmware version, to see whether the AC was successfully upgraded into the version you need.

- **Reboot**

If a setting does not take effect or the AC works improperly, you can try rebooting the AC to resolve the problem.

Two methods to reboot the AC:

Method 1: Log in to the web UI of the AC, click **System Tools > Maintain > Maintenance,** and then click **Reboot**.

Method 2: Disconnect the AC from power supply and then reconnect the AC to power supply.

- **Backup Configuration**

If you have configured many settings on this device, which will make this device work in good status and suitable environment, it is suggested to backup settings for this device, which will be convenient for troubleshooting and saving time for next time configuration. Click **Backup** then follow onscreen instructions.

- **Restore Configuration**

If you happen to do some configurations, only to find that reduces the AC's performance, in this case, you can restore the device to its previous configurations. Click **Select a file** corresponding to **Restore Configuration**, select your former configuration file and then follow onscreen instructions.

- **Reset**

If you need to log in to the AC's web UI, but forget the login user name or login IP; or you have some trouble in surfing the Internet but unable to find where the problem is, it is advisable to restore this device to default factory settings.

Here are two methods to restore the AC to default factory settings:

Method 1: Reset by pressing the **RESET** button for at least 6 seconds, and then wait for about 45 seconds.

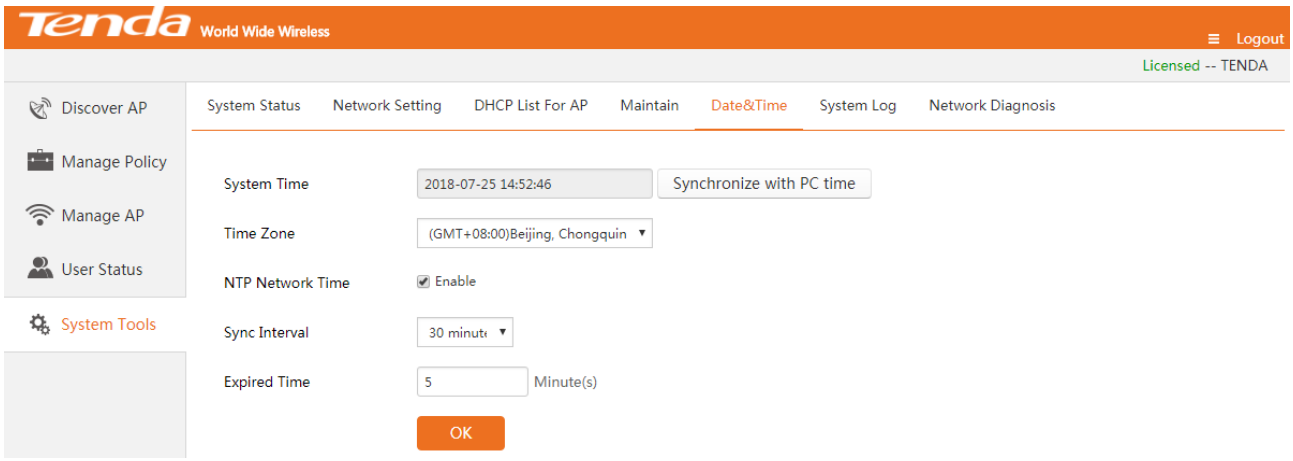
Method 2: Reset by clicking **Reset** on the **System Tools > Maintain** page.

TIP

After restoring this device to factory settings, you need to use the default IP address (192.168.10.1) and login user name and password (admin/admin) to relog in to the management webpage. For other default settings, see Default Factory Settings.

3.5.5 Date&Time

Here you can set your AC's system time and Web expired time. Click **System tools > Date&Time** to enter the page below.



TIP

Time configuration will be lost if the AC is powered off. But if you enable “NTP Network Time”, the AC will synchronize time with Internet after reboot. And then time-related functions will perform correctly.

Parameter Description:

Item	Description
System time	The AC's current time.
Synchronize with PC time	When clicked **Synchronize with PC time**, the AC will synchronize time with your computer. Ensure that your PC’s time is correct.
Time Zone	GMT time zone where the AC is deployed.
NTP network time	When enabled, the AC’s time will synchronize with Internet time server periodically at a specific time interval.
Sync Interval	How often the AC will synchronize with Internet time server. Default option is **30** minutes.
Expired Time	If the user has no operation in the Web UI within the expired time, the system logs you out. Default value: **5** minutes.

NTP Network Time

When **NTP Network Time** function is enabled, the AC will synchronize with Internet time server periodically at a specific time interval.

NTP Network Time requires a successful Internet connection. (To connect to Internet, please refer to LAN Settings)

To configure NTP Network Time:

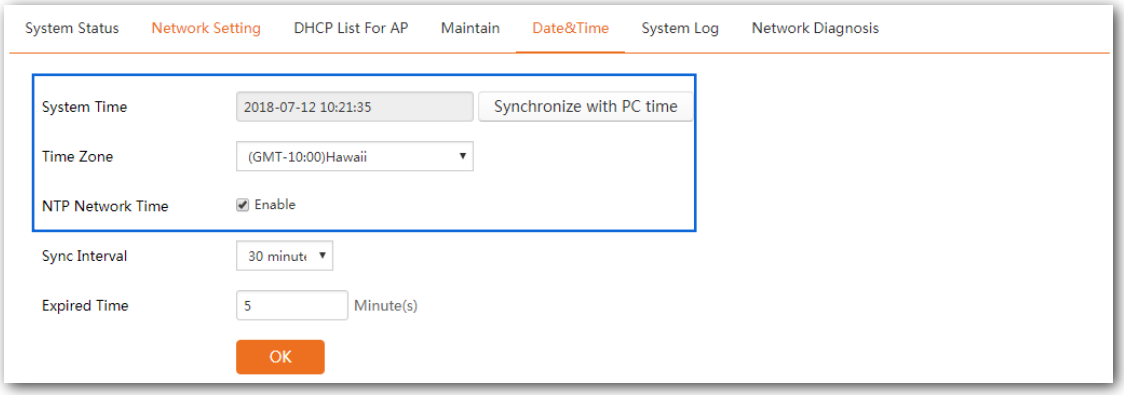
Step 1 Log in to the web UI of AC, click **System Tools > Date&Time**.

Step 2 **Time Zone**: Choose standard GMT **Time Zone** where your AC is deployed, e.g. "(GMT-10:00) Hawaii ".

Step 3 **NTP Network Time**: Set it to **Enable**.

Step 4 **Sync Interval:** Select a **Sync Interval**. It is recommended to keep the default value **30 minutes**.

Step 5 Click **OK**.



----End

Synchronize with PC time

When you click **Synchronize with PC time**, the AC will synchronize time with your computer. And you must ensure that your PC's time is correct.

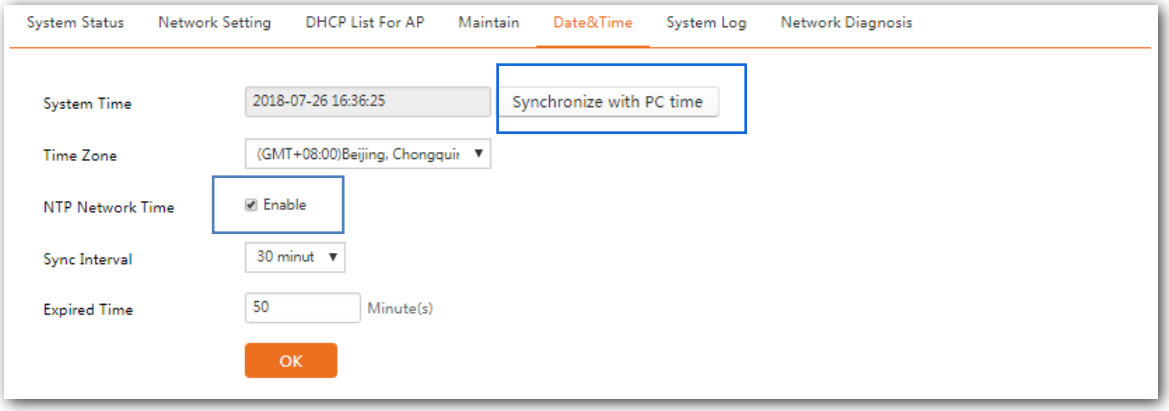
To synchronize with PC time:

Step 1 Log in to the web UI of AC, click **System Tools > Date&Time**.

Step 2 Click **Synchronize with PC time**.

Step 3 **NTP Network Time**: Disable this function.

Step 4 Click **OK**.



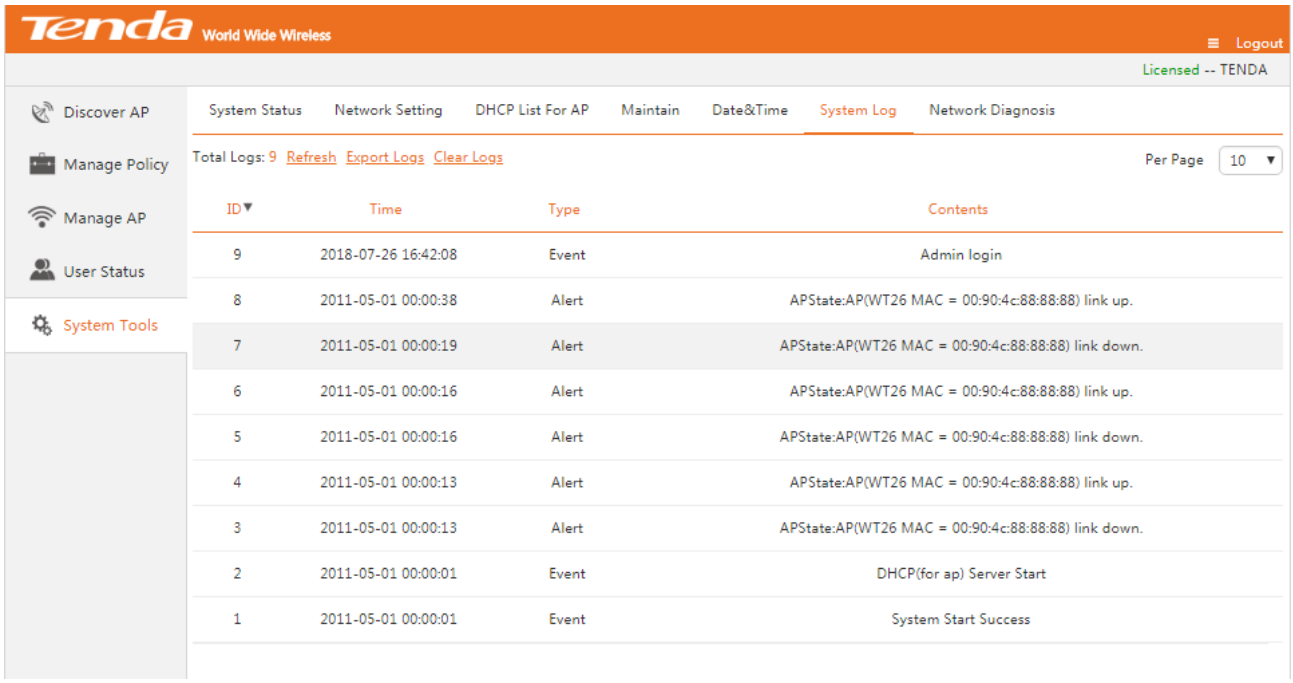
----End

3.5.6 System Log

The log system can record and classify information such as AP connections and alarms, and help network administrators to monitor network operation and diagnose network faults.

The most recent logs are displayed at first. A maximum of 3000 logs are allowed. If exceeded, old logs will be replaced with new ones.

Click **System Tools > System Log** to enter the page below:



NOTE

For the convenience of monitoring real-time network status and troubleshooting networking problems, you need to ensure that the AC acquires the correct time. Refer to Date&Time.

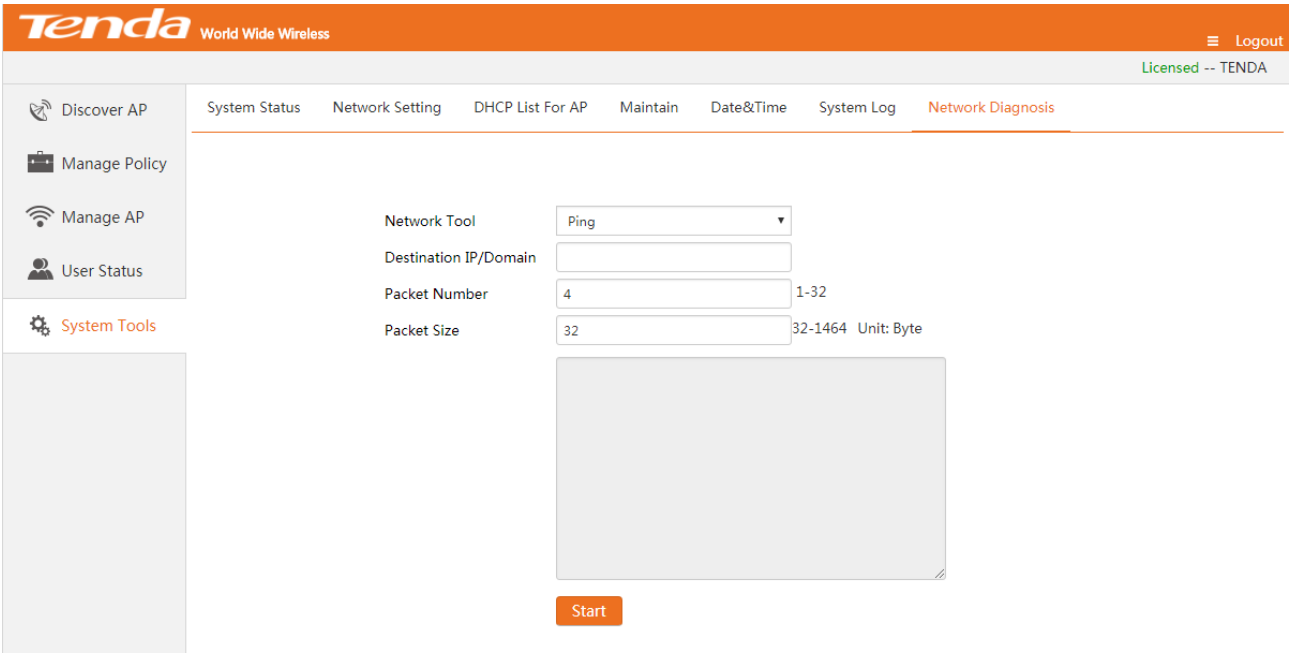
To view the latest log information, click **Refresh**; To export and save the AC's logs to your local computer, click **Export Logs**; To clear all current log information, click **Clear Logs**.

NOTE

- Restarting the AC will lose recorded log information.
- Actions, like re-powering up the device after disconnecting its power supply, modifying its LAN IP address, backuping/restoring settings, resetting, upgrading this device, etc. will restart the device itself.

3.5.7 Network Diagnosis

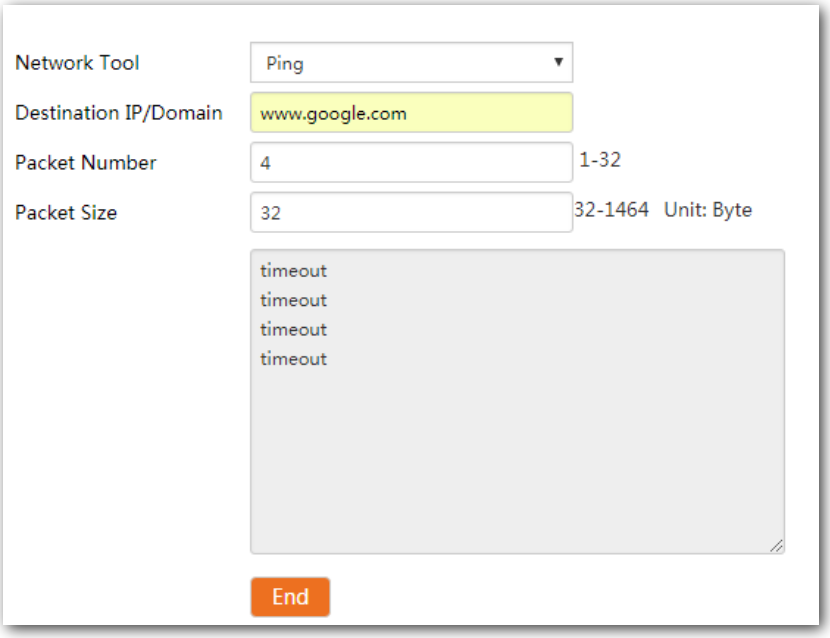
Here you can detect network connection status of the AC. Click **System Tools > Network Diagnosis** to enter the page below.



This AC provides Ping and Traceroute diagnosis tools.

Ping

Ping is a commonly used diagnosis and troubleshooting command. It consists of ICMP request and response packets. If the network works normally, the target device will return response packets.



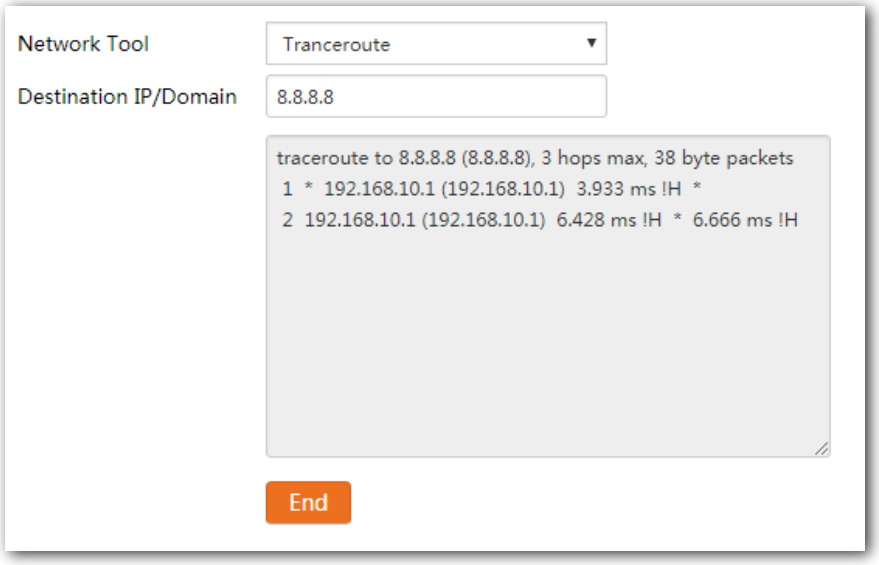
Parameter Description:

Parameter	Description
Destination IP/Domain	The target IP address or domain name, e.g. www.google.com.

Parameter	Description
Packet Number	The number of request packets.
Packet Size	The size of request packets.

Traceroute

Traceroute is computer network diagnostic tool for displaying the route (path) and measuring transit delays of packets across an Internet Protocol (IP) network.



Appendix

A.1 Troubleshooting

Q: I enter the device's LAN IP address in the web browser but cannot access this device's web UI. What should I do?

- Check the TCP/IP settings on your PC and verify that IP address is 192.168.10.X (2-254);
- Clear the browser cache or try another web browser.
- Restart your PC or close your PC's firewall.
- Ensure the management IP **192.168.10.1** is not used by other devices in the LAN.
- Ensure that there is no other device with IP address **192.168.10.1**, and try again.

Q: I've forgotten the login user name and password. What should I do?

- Try to access its web UI with the default user name and password.
- If you are still unable to log in, restore your device to default factory settings and then use the default login IP address and password to try again. To reset the AC, press the **RESET** button for at least 6 seconds with the AC powered on, and then wait for about 45 seconds, this device will be restored to factory settings.

NOTE

After restoring this device to factory settings, all your current configurations will be lost and you need to re-configure your device.

Q: Wireless clients can't connect to the managed AP or it displays "Limited" or "No Internet Access", and my PC's IP address is shown as 169.254.X.X. What should I do?

The AP DHCP server on this AC only assigns IP addresses to its managed APs. Thus, if you want wireless clients (connected to these APs) to get Internet access by obtaining IP addresses automatically, you have to set up a DHCP server in the LAN to assign IP addresses to these wireless clients.

A.2 Default Factory Settings

Parameter		Default Setting
Login Information	Login Method	HTTP (web UI)
	Login IP	192.168.10.1
	Login User name/Password	admin/admin
	Web Logout	5 minutes
Policy Configuration	/	
LAN Settings	IP Address	192.168.10.1
	Subnet Mask	255.255.255.0
	Gateway	192.168.10.254
	Preferred DNS	192.168.10.254
	Alternative DNS	/
DHCP Setting	Status	Enabled
	Start IP	192.168.10.100
	End IP	192.168.10.200
	Lease Time	1 week
VLAN Settings	/	
License	Status	Licensed
	Max Managed APs	128
Time Settings	NTP Network Time	Enable
	Time Interval	30 minutes
	Time Zone	(GMT+08:00) Beijing, Chongqing, Hong Kong,Urumuqi
	Expired Time	5 minutes