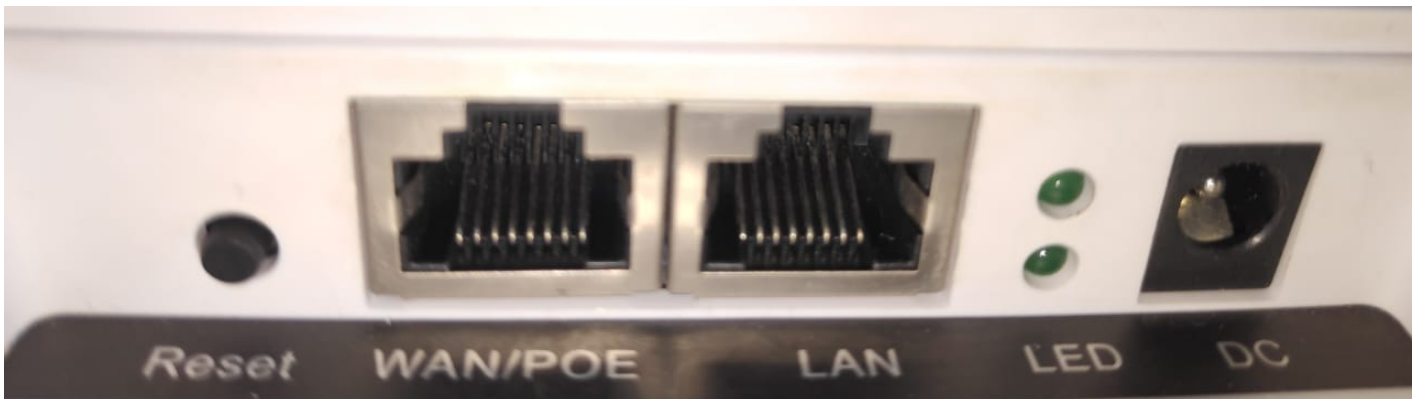




# **COMMANDO AirONE AP300 Indoor Wireless Access Points Configuration Guide**

## OVERVIEW

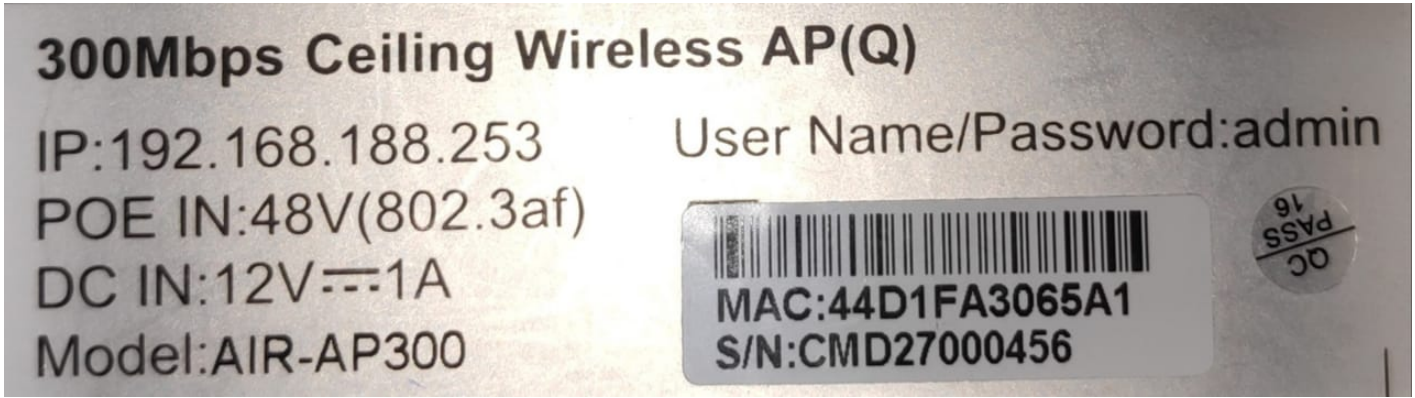
COMMANDO AirONE AP300 is Indoor AP which enables communication between wireless and wired computers/laptops and mobile devices in the network. It complies IEEE 802.11b/g/n standard and comes with single band 2.4GHz with Separate 10/100Mbps WAN and LAN ports with Dual power input facility with either IEEE 802.3af PoE input or DC IN 12V, 1A.



**Fig 1. Physical port on AirONE AP300**

**Table 1. Physical port on AirONE AP300 Description.**

Physical Port	Description
Reset	Reset Button, makes AP revert to default settings after pressing for 15sec.
WAN/PoE	WAN Port, connect with PoE Switch or internet gateway.
LAN	LAN Port to end users Switch or PC for Accessing device via WEBGUI.
LED	Upper LED for WAN port and Lower LED for LAN port ( Green and Blinking to show ACT/Link connection).
DC	DC input power 12V, 1 A.



**Fig 2. Access information on AirONE AP300**

**Table 2 .COMMANDO AirONE AP300 LED indication**

LED Indicator	LED Status
Power	Green Blinking: Power ON Indication Blue and Blinking: Wi-Fi indication that SSID now available for use.
WAN	Upper LED WAN: Connect with Gateway or PoE devices and Green Blinking shows activity on WAN port.
LAN	Lower LED LAN: Connect to end users and Green ON shows activity on LAN port.

It is 4 in 1 mode Access Point with Gateway, Repeater, WISP and AP mode (Default Mode) with range up to 45 meters and above in all directions with up to 300mW input Power. It is industrial grade Wall/Ceiling Indoor Access Point with speed up to 300Mbps. It equipped with separate Gigabit WAN & LAN port which enhances the sharing of files, photo, audio, video and gaming experience over wireless network. It can also be used as DHCP server and works as layer 3 device when configured in gateway mode. It supports (IEEE 802.3af) PoE, which helps in easy installation by eliminating the need of a dedicated power source and need of a power adapter. It can identify and determine the correct transmission speed and half/full duplex mode of the attached devices. It also supports standard Auto-MDI/MDI-X that can detect the type of connection to any Ethernet device without requiring special straight or crossover cables, Store-and-Forward forwarding scheme to ensure low latency and high data integrity.

You can access and manage AirONE AP300 using the Web based GUI (Graphical User

Interface), also called Web GUI interface.

## INTRODUCTION

COMMANDO AirONE AP300 Indoor AP are WEB GUI based easy to use and manage device. It requires minimal configuration, so setup is simple and hassle-free. Auto-negotiation senses the link speed of a network device in wired 10 or 100Mbps and also for wireless clients. It intelligently adjusts for compatibility and optimal performance by DFS and setting channel bandwidth 20/40MHz wireless band and also can check free channels available with inbuilt Wi-Fi analysis. Its compact size makes it ideal for Indoor desktops/wall/ceiling with limited space. Dynamic LED lights provide real-time work status display and basic fault diagnosis. Easy Plug-and-play installation with no configuration required. It operates quietly, making it ideal for use in virtually any room or office. Perfect for noise sensitive environments. It has Dual power options with DC input power and PoE power input which protect from power failures and increases life of device. With Inbuilt security features protect your business by losing network sensitive information and data of wireless users/surveillance cameras connected to them.

It supports energy-efficient Ethernet that can save power. It automatically adjusts power consumption according to the link status to limit the carbon footprint of your network. It also complies with RoHS, CE, FC prohibiting the use of certain hazardous materials. Besides that most of the packaging material can be recycled and reused.

It has state of art quality product that can serve on real time high-speed Performance with dual input power, cost effective, highly reliable, conformance to international open standards, durable, serviceable, aesthetics, perceived quality, enhanced performance leads to value to money.

### Hardware Highlights

#### **Solid performance with non-blocking architecture**

- Up to 16 MB Flash, 32MB RAM
- LAN and WAN ports capable of Fast Ethernet speed with (Auto-Negotiation/Auto MDI/MDIX).
- Solid performance with non-blocking architecture.

#### **Physical Ports and Networking Interfaces**

- Up to 2 x 10/100 Mbps Rj45 Ethernet Ports with combined IEEE 802.3af PoE with WAN and separate LAN port
- LED Indicators: Power, LAN/WAN (Link/Act)

- Reset Button

## **Extra Long operational life**

- Dual input Power Either DC 12V/1A or IEEE 802.3af PoE via WAN port.
- High Quality PCB Circuit Board and PCB Surface Treatment Using Gold Sinking Process.
- Support temperature range 0° C to 50° C • Desktop and Wall mount design that enables to mounts Which enables horizontal and vertical wall mounting. • Comes with one-year default warranty – optionally extendable up to 3 years.

## **Noise-free Operation**

- The ports support reduced power modes for silent operation. Perfect for noise sensitive environments.

## **Software Highlights**

- Multiple Operational Modes like Gateway, Repeater, WISP and AP mode (Default mode).
- Multiple SSID with Up to 4 SSIDs with VAP.
- Supports IEEE 802.11b/g/n 2.4GHz with Antenna RF input Power of 27dBm.
- Support wireless RF power adjustable as per user movements from AP.
- Access end users up to 64 max, with concurrent 50 end users.
- Support tag VLAN and VLAN management.
- Supports intelligent load balance based on users.
- Support seamless roaming and low rate terminal access.
- Support inbuilt WI-FI channel analysis.
- Internal Antenna enabling maximum client density deployments with no interference.
- Supports Wi-Fi client distance up to 45 meters (150 feet) in all directions and above depending on surrounding conditions.
- Support Open or encryption like WPA/WPA2PSK\_TKIPAES.

## **How to take access of COMMANDO AirONE AP300?**

### **1. Wired access Via LAN port connected to PC.**

Power ON AirONE AP300.

Connect LAN port of AirONE AP300 to PC via RJ-45 cable.

Open Network and sharing center.

Go to Change adapter settings.

Double click on Local Area Connection. Go to Properties. Double click on Internet Protocol Version 4 (TCP/IPv4) option and set any IP address form 192.168.188.1 to 252 and Gateway of PC to be set as 192.168.188.253 to as shown below.

Internet Protocol Version 4 (TCP/IPv4) Properties

**General**

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

Obtain an IP address automatically

Use the following IP address:

IP address:	192 . 168 . 188 . 100
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192 . 168 . 188 . 253

Obtain DNS server address automatically

Use the following DNS server addresses:

Preferred DNS server:	. . .
Alternate DNS server:	. . .

Validate settings upon exit

Advanced...

OK Cancel

### **Fig 3. IP setting in PC connected to AirONE AP300**

#### **2. Wireless access Via SSID connected to PC.**

Power ON AirONE AP300.

Connect Default SSID named “COMMANDO AIR-AP300 2.4G” with the help of default Wi-Fi Password “66666666”.

Click on properties of SSID “COMMANDO AIR-AP300 2.4G”.

Edit IP setting from DHCP to Manual and set any IP address from 192.168.188.1 to 252 and Gateway of PC to be set as 192.168.188.253 to as shown below.

**Note:**

All Default SSID and password can be changed as per user requirement.





Fig 4. Default SSID of AirONE AP300

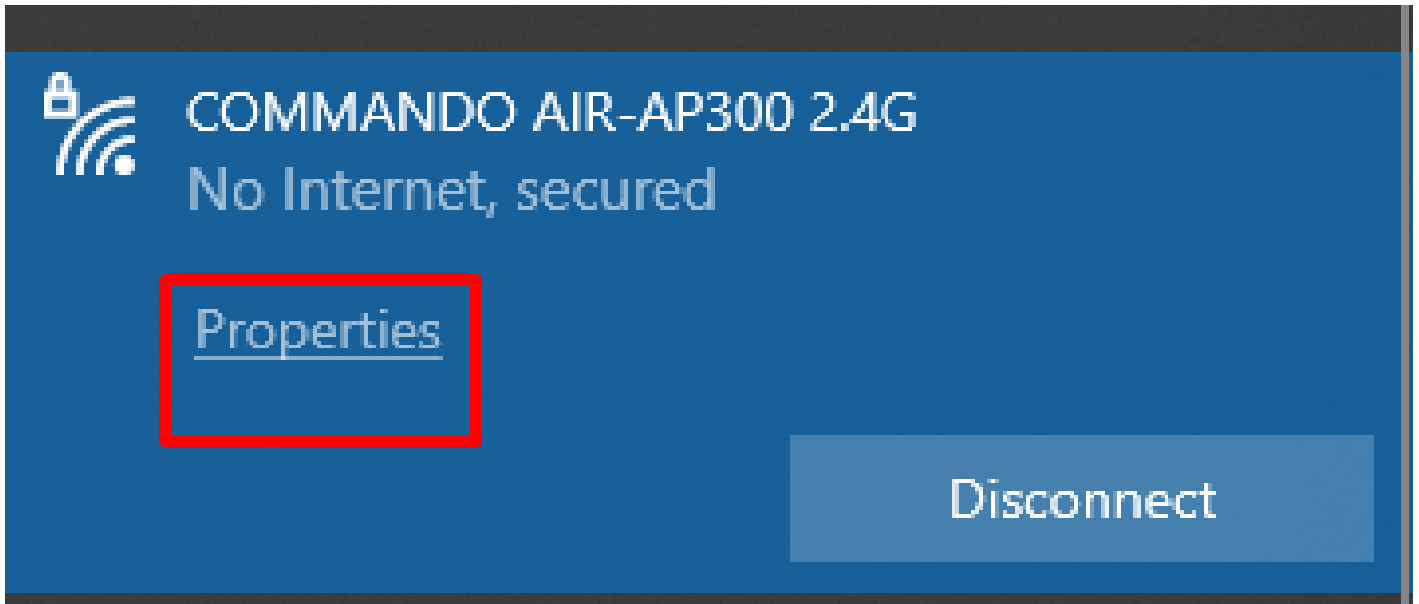
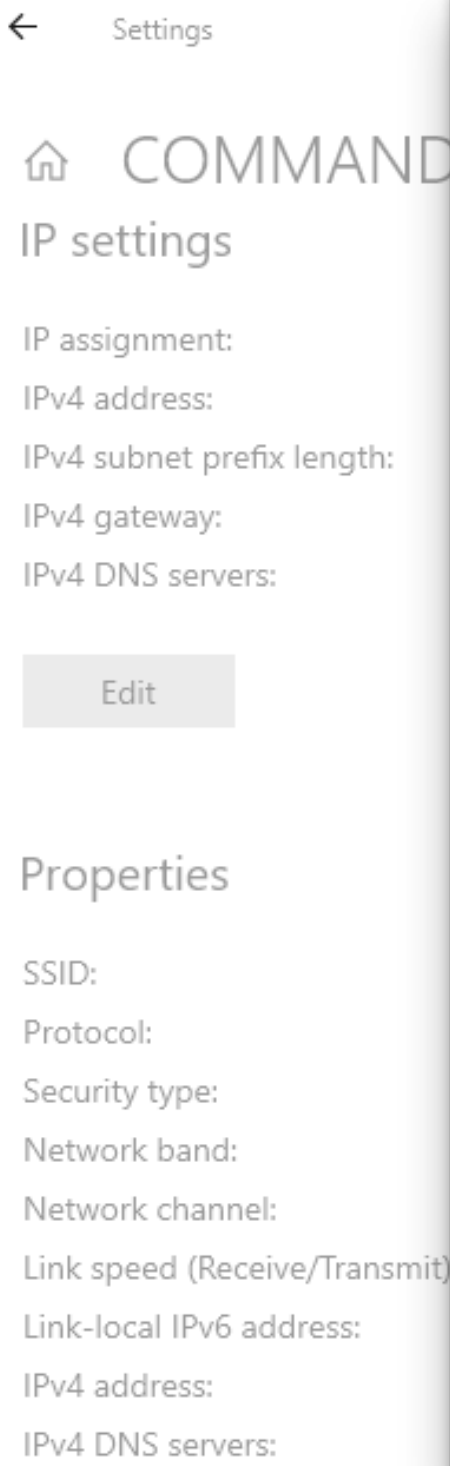


Fig 5. Properties of SSID COMMANDO AIR-AP300 2.4G



## Edit IP settings

### IPv4

 On

#### IP address

#### Subnet prefix length

#### Gateway

#### Preferred DNS

#### Alternate DNS

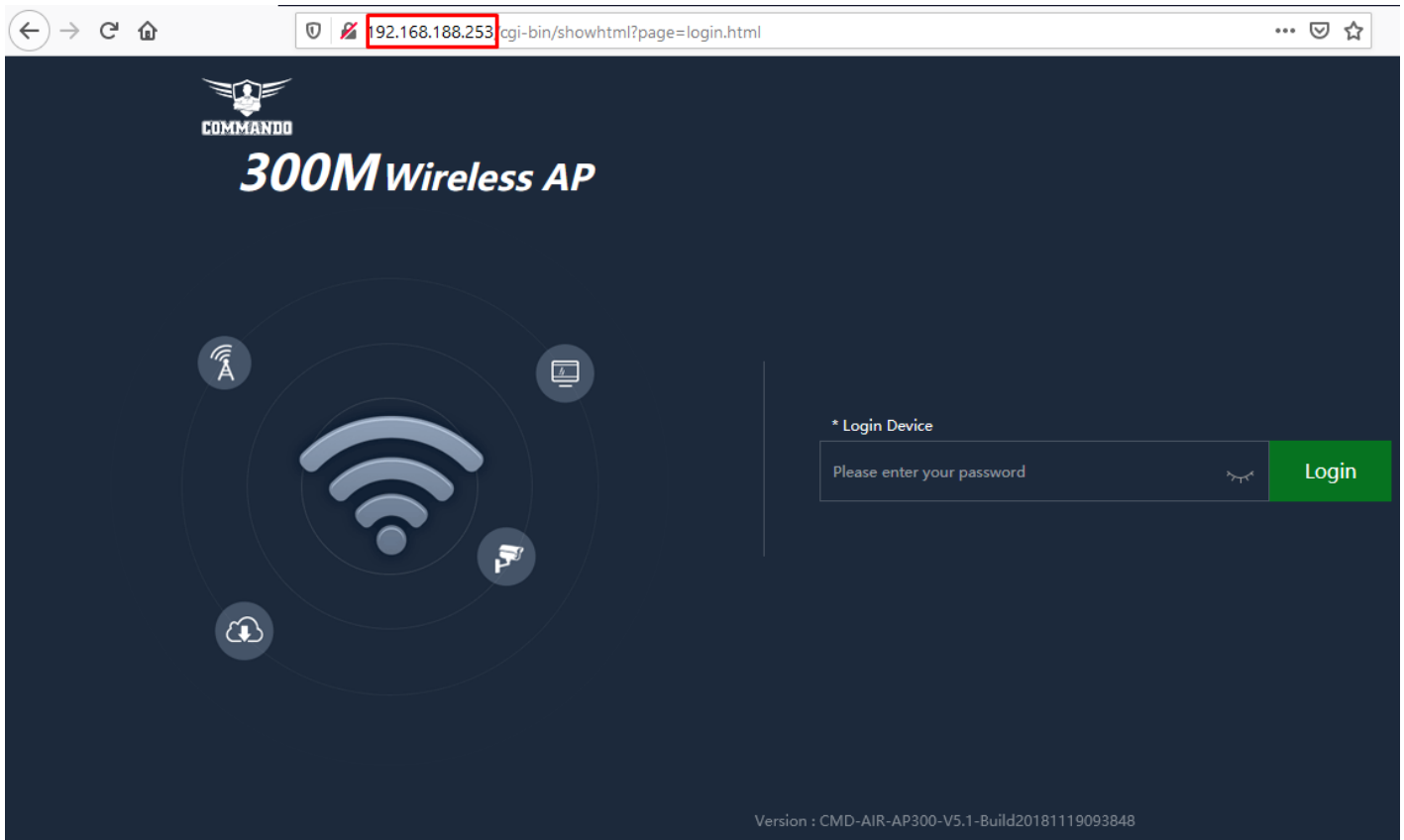
 

**Fig 6. Edit IP setting from DHCP to Manual as shown for COMMANDO AIR-AP300 2.4G**

Open any web browser like Chrome/Firefox/Internet Explorer/Opera etc. and enter default IP address **192.168.188.253** in address field.

**Caution:**

If you have already taken any Other COMMANDO wireless device access. Then before taking access of this device, you are required to clean the browser history to avoid catch pages issue.



**Fig 7. Login page for AirONE AP300**

Default Password: **admin**

**Note:**

Password can be changed as per user choice. Default password is written on backside of device

After giving proper password Home page is displayed giving device information like CPU usage, memory usage, LAN Information like IP Mode Get IP From AC/Gateway/Static, Status with 2G Wi-Fi Clients Status with information like SSID, Channel, Bandwidth, Encrypt, MAC Address, Operation Mode configure like AP/ Fat AP Mode with Uptime, Flow in bps for AP downstream and AP Up stream

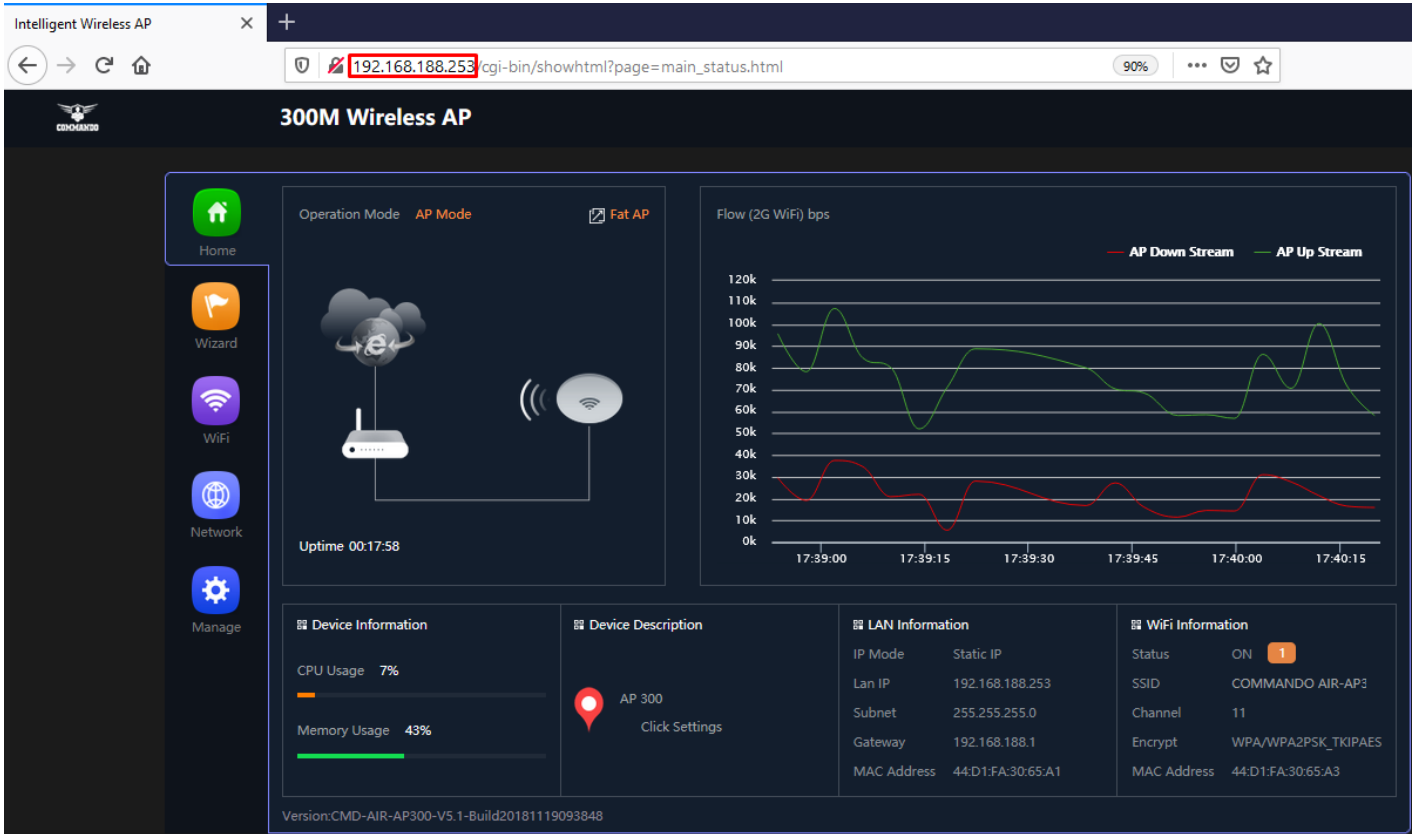


Fig 8. Home page after login AirONE AP300

# HOME

After login, home page will be showed. This page will show device Information like CPU Usage, Memory Usage, LAN/WAN Information like IP Mode Get IP From AC/Gateway/Static, Status with 2G Wi-Fi Clients Status with information like SSID, Channel, Bandwidth, Encrypt, MAC Address, Operation Mode configure like AP/ Fat AP Mode with Uptime, Flow in bps for AP downstream and AP Upstream. All information can help to troubleshoot network issue, if any very easily.

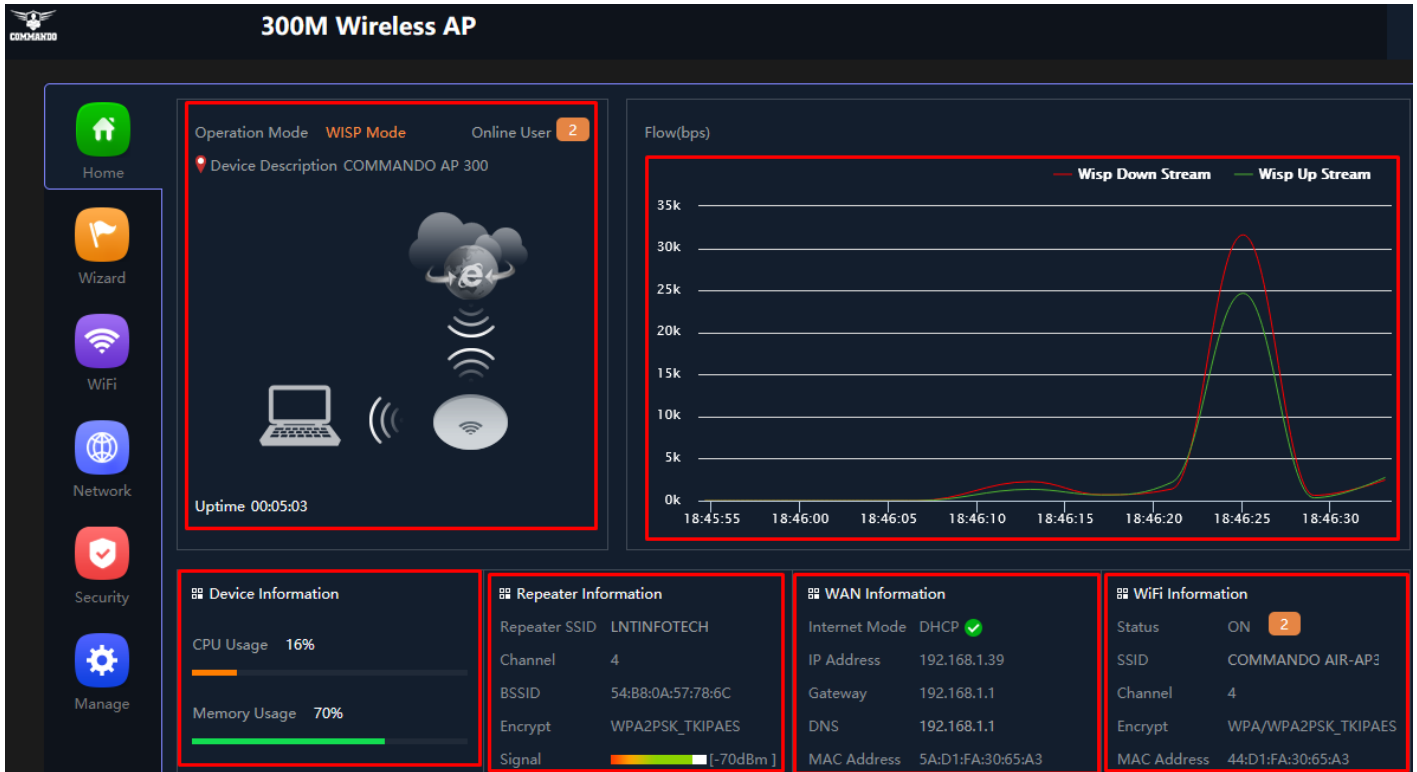


Fig 1.1 Home page Components of AirONE AP300

## 1.1 Device Information

In Device Information, Current CPU Usage percentage and Memory Usage percentage of the AP is shown.

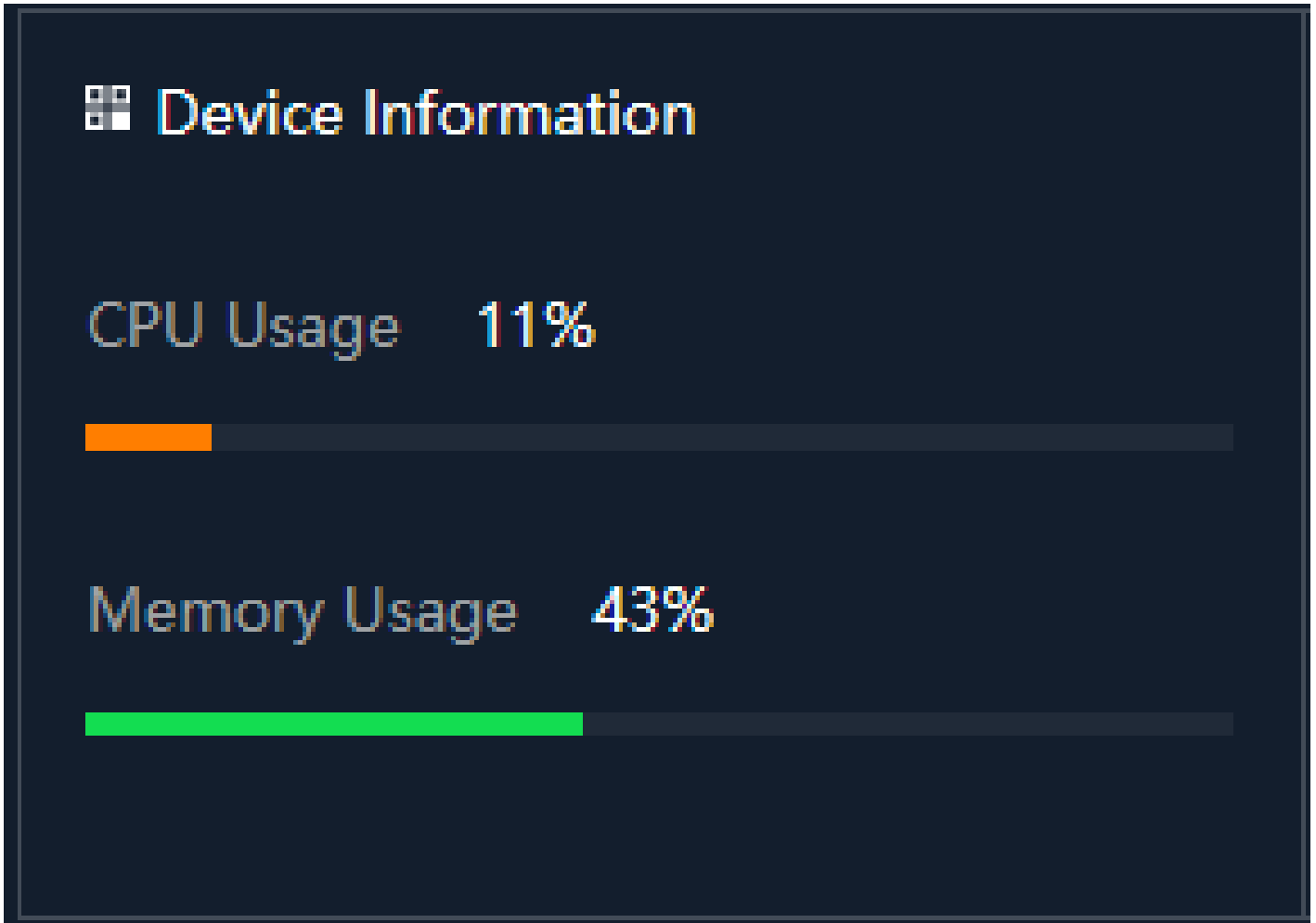
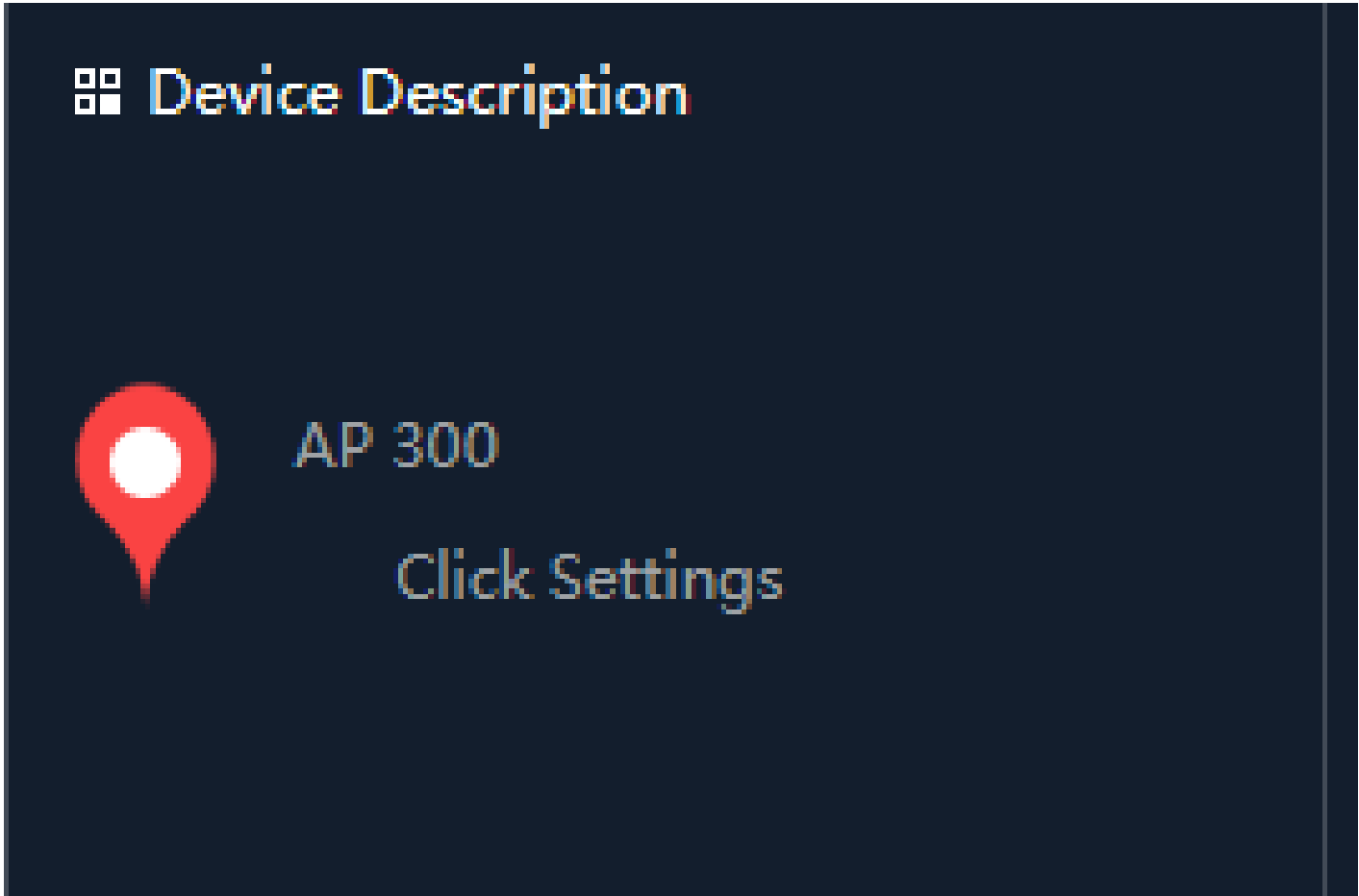
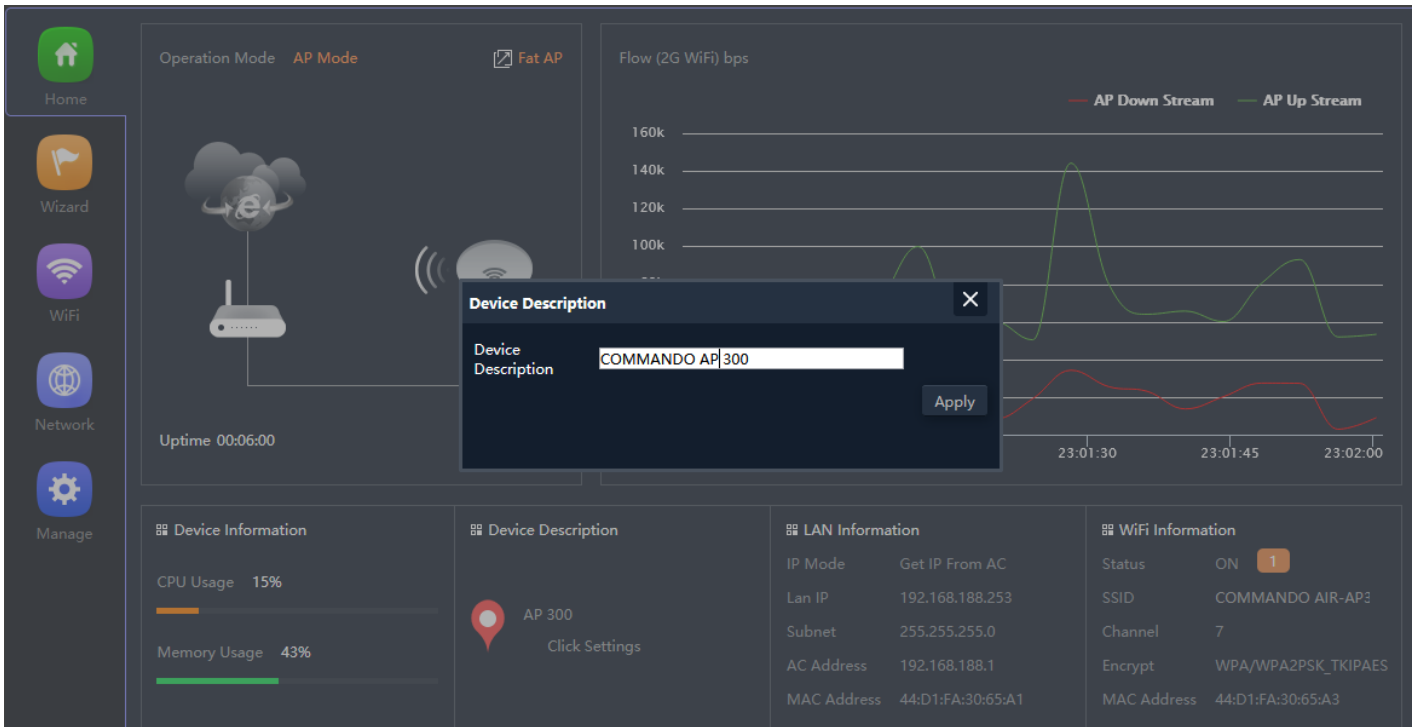


Fig 1.1.1 Home page Components of AirONE AP300



**Fig 1.1.2 Device Description of AirONE AP300**

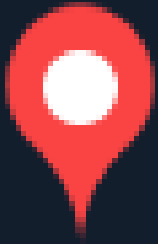
In Device Description you can add the APs description by clicking on Click Settings



**Fig 1.1.3 Changing Device Description of AirONE AP300**



## Device Description



COMMANDO AP 300

Click Settings

Fig 1.1.4 New Device Description of AirONE AP300

## 1.2 LAN/WAN Information

In LAN Information you can find the IP Mode, LAN IP, Subnet, Gateway and MAC Address. In WAN Information like WAN IP address, Gateway, DNS and MAC Address.

### LAN Information

IP Mode	Static IP
Lan IP	192.168.188.253
Subnet	255.255.255.0
Gateway	192.168.188.1
MAC Address	44:D1:FA:30:65:A1

## WAN Information


Internet Mode	DHCP 
IP Address	192.168.1.39
Gateway	192.168.1.1
DNS	192.168.1.1
MAC Address	5A:D1:FA:30:65:A3

Fig 1.2.1 LAN/WAN information of AirONE AP300

### 1.3 Wi-Fi Information

In Wi-Fi Information, Status along with number of client connected to AP, SSID, Channel used, Encryption and MAC Address of AP is shown.

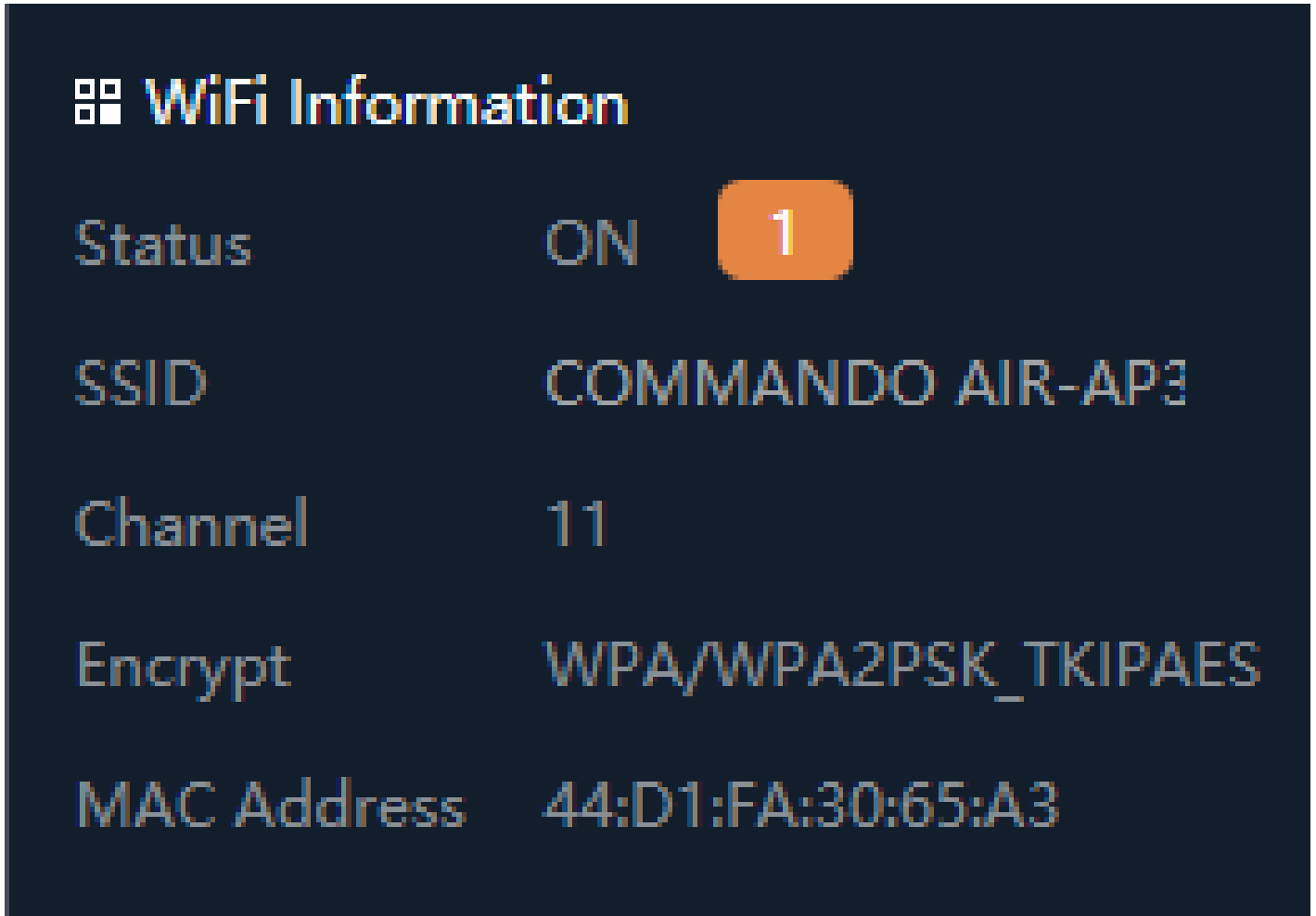
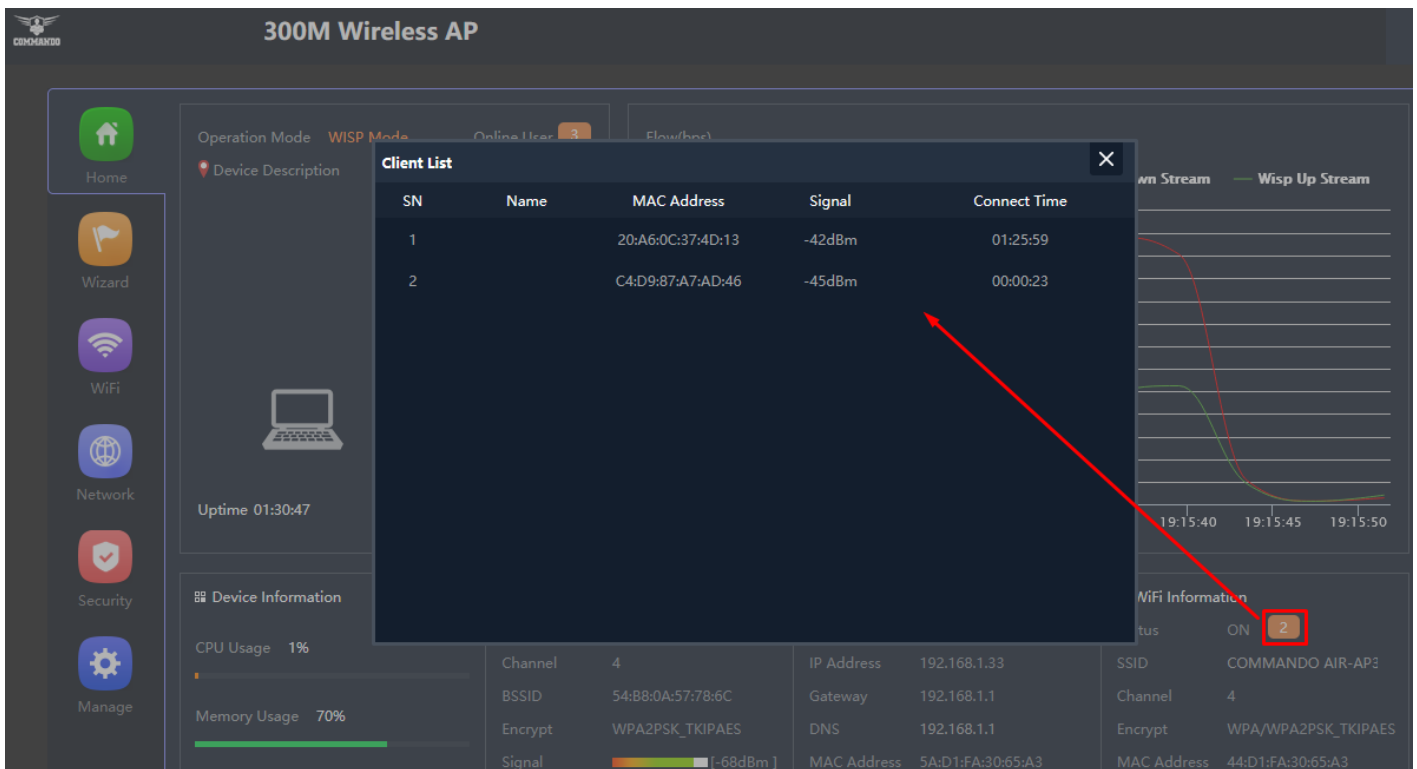


Fig 1.3.1 Wi-Fi Information of AirONE AP300

## 1.4 Clients List

Clients list along with number of clients connected to AP, MAC address of clients connected, Signal strength of clients' connection along with connection time is shown. We can learn about users in network with all vital information.

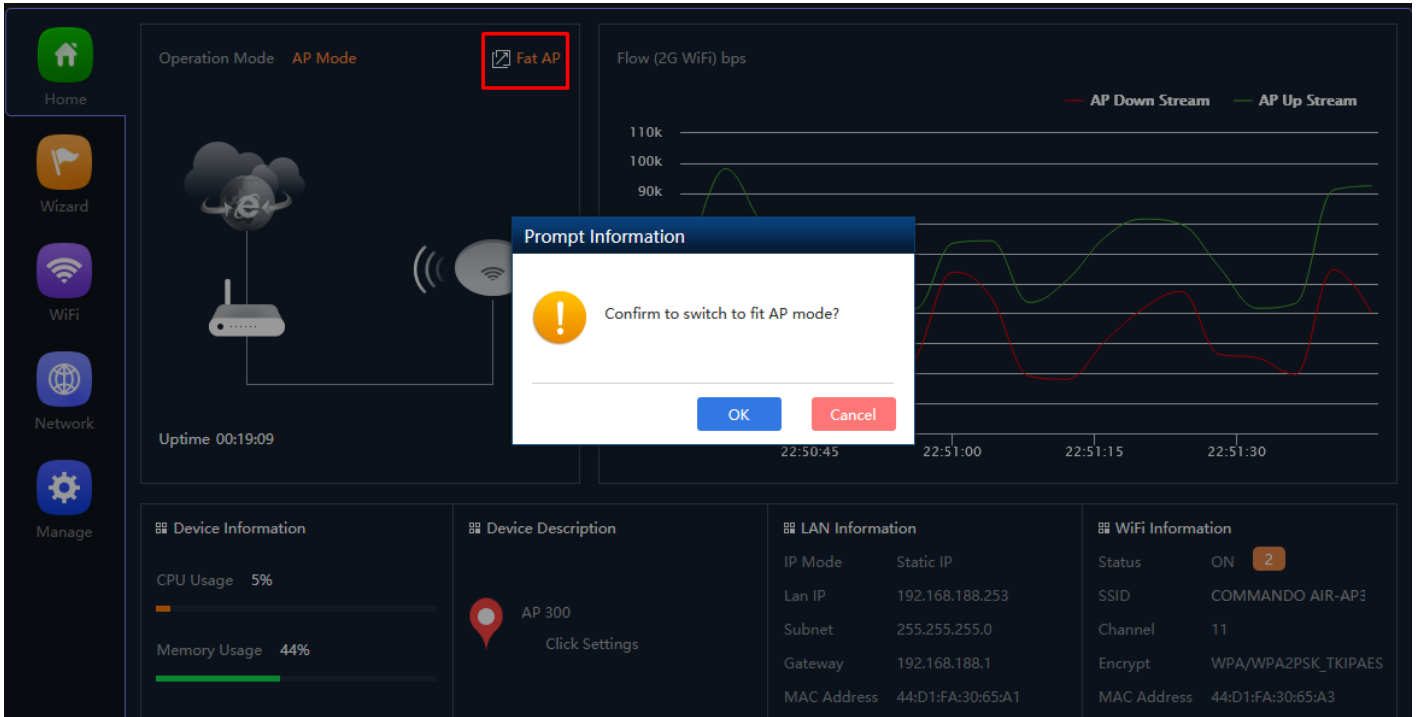


**Fig 1.4.1 Clients list of AirONE AP300**

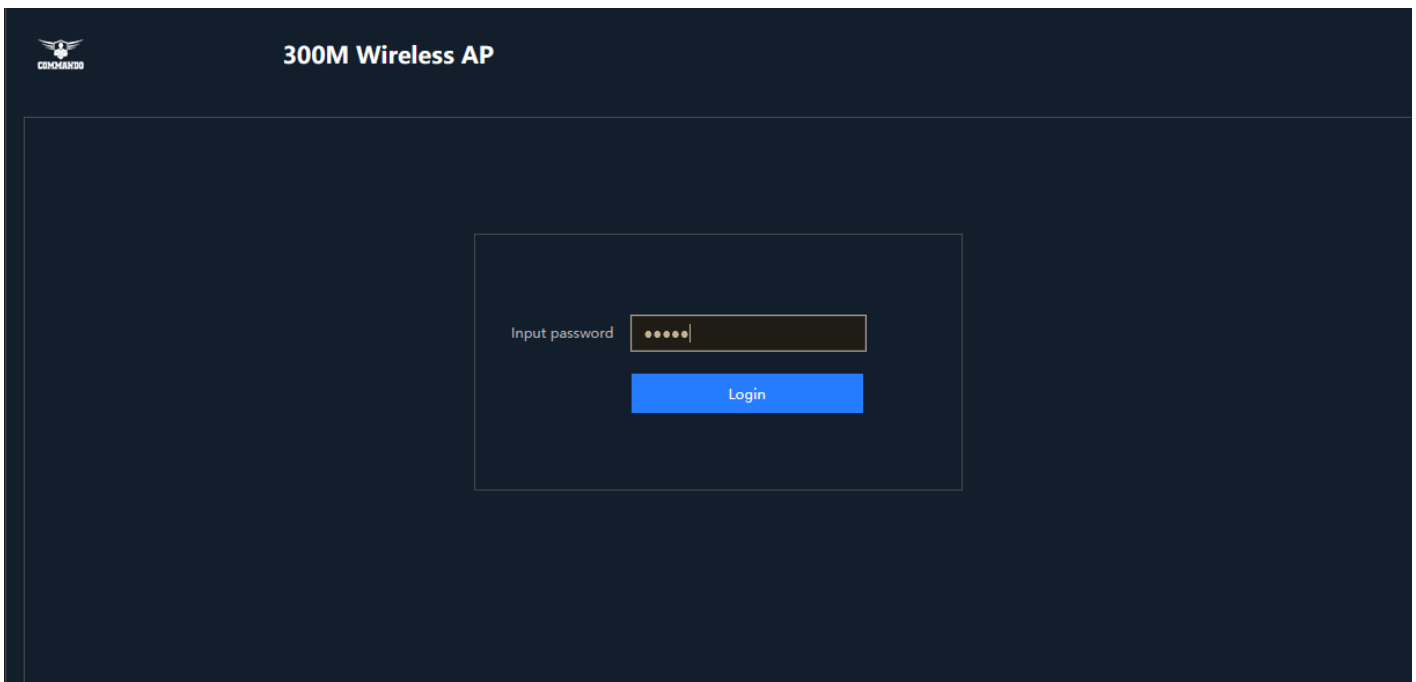
## 1.5 Operation Mode configuration

Default operation is Fat AP where it integrates the WLAN physical layer functions, service data encryption, user authentication, QoS, network management, roaming technologies, and application layer functions. It can provide wireless access independently. Each AP is an independent node. The channels and power on each AP are configured independently. All APs work independently and support advanced and independent security policy.

A Fit AP has only select IP mode along with reset and reboot options.



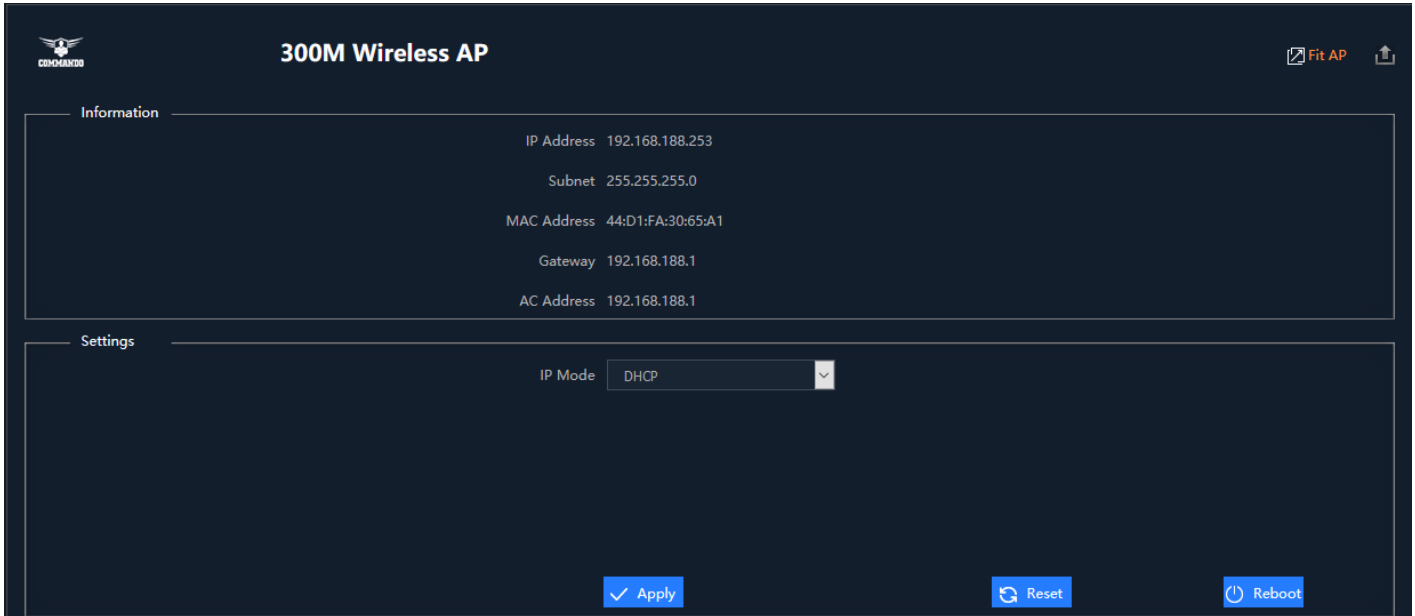
**Fig 1.5.1 Fat AP mode of AirONE AP300**



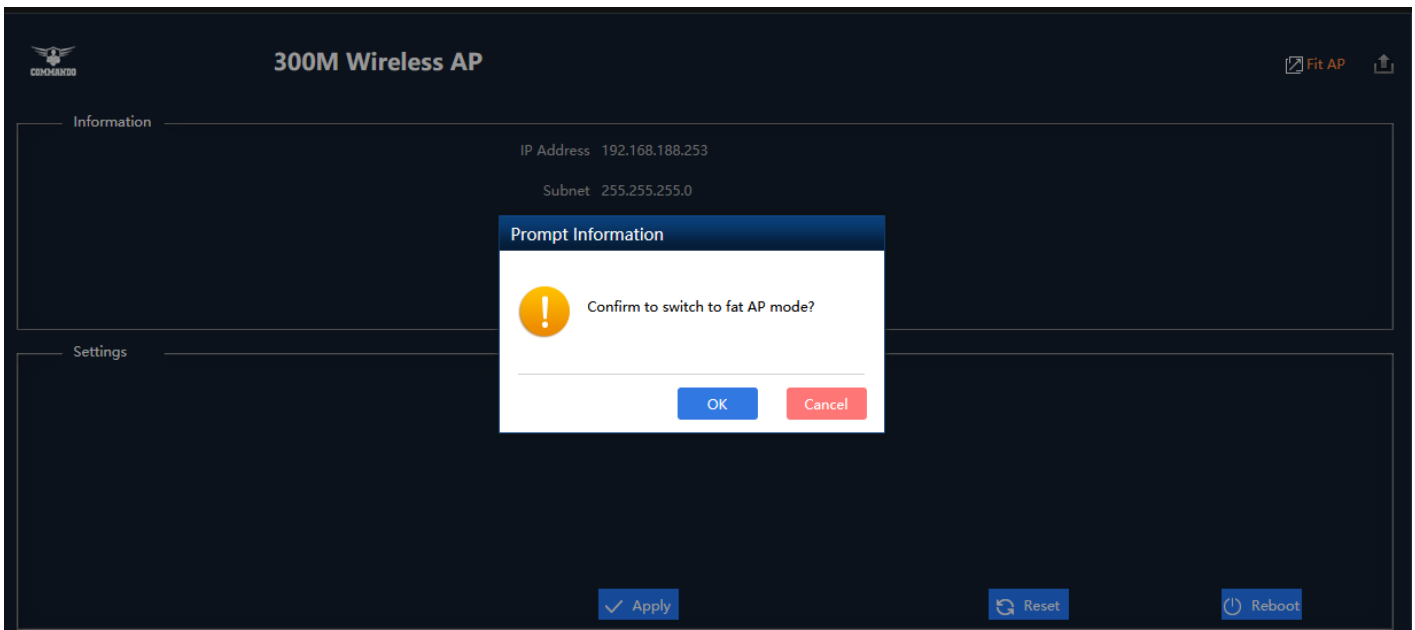
**Fig 1.5.2 Fit AP mode Login of AirONE AP300**

**Note:**

Same Password to be used for login in Fit and Fat mode of operation.



**Fig 1.5.3 Fit AP mode of AirONE AP300**



**Fig 1.5.4 Switching mode to Fat AP of AirONE AP300**

## 1.6 AP UP/Down stream Flow (2G Wi-Fi) bps

In Flow (2G Wi-Fi) bps you can monitor the AP's Upstream and Downstream bandwidth in bps.

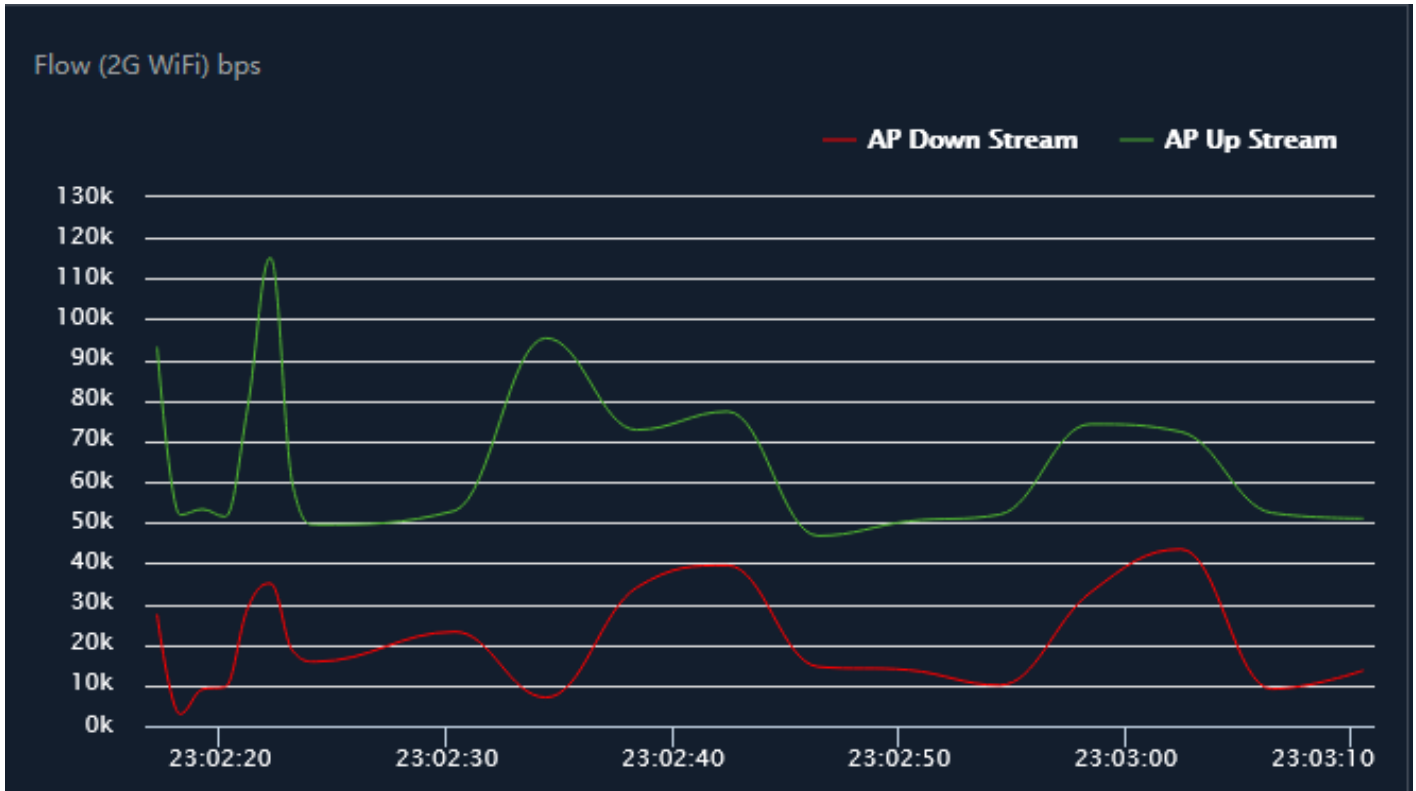


Fig 1.6.1 Flow (2G Wi-Fi) bps of AirONE AP300



## **WIZARD**

After clicking Wizard page, you can set device in Gateway Mode, Repeater Mode, WISP and AP Mode (Default Selection). It provides flexibility to configure wireless AP's operation mode based on network scenario making this AP future proof. You are required to select corresponding operation mode first before starting the configuration. Clicking Wizard will pop up following page to configure the operation mode along with photos with explanation for each operation mode.

### **Gateway Mode:**

In Gateway mode, all Ethernets are bridged together, and wireless clients will connect ISP access point or router connecting directly to the Internet via WAN PORT. NAT is enabled and PCs in Ethernet LAN port share the same IP to ISP through wireless LAN.

### **Repeater Mode:**

In Repeater mode is used to extend the range of wireless coverage of existing Wi-Fi network. This mode is suitable when you are in a Wi-Fi dead-zone or a place with weak wireless signal, and you want to have a larger effective range of the wireless signal throughout your home or office.

### **WISP Mode:**

In WISP mode, the device connects to ISP station or hot spot wirelessly to share network with local wired and wireless devices.

### **AP Mode:**

In AP mode, the device works as an access point to transform your existing wired network into a wireless network.

## **2.1 Gateway Mode**

In Gateway mode, your internet provider's RJ-45 is connected to WAN port of AP300. Internet provider WAN setting can have Static IP, PPPoE, or DHCP accordingly select option. Then configure the wireless parameters as per your choice of SSID, Channel width, Encryption and Time reboot if required.

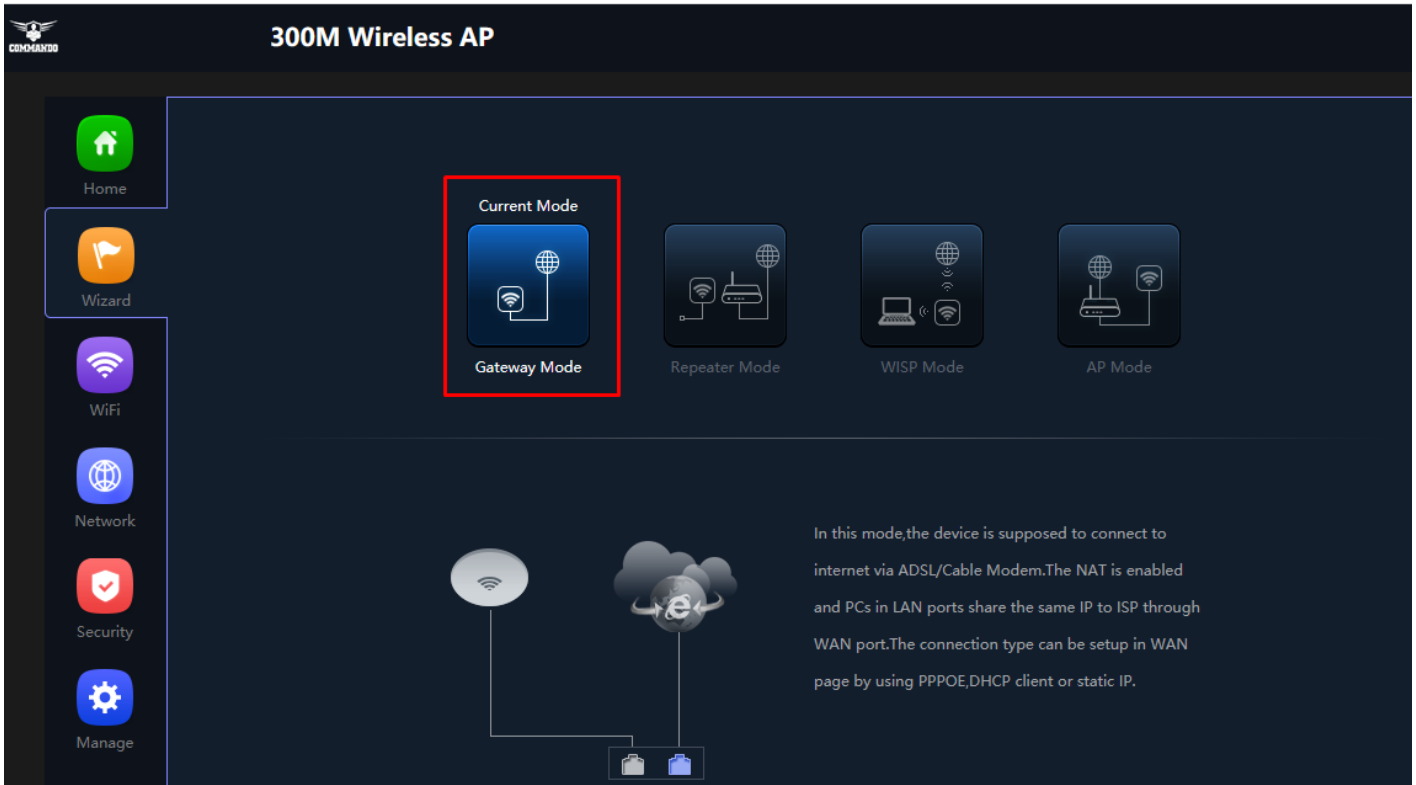


Fig 2.1.1 Gateway mode of AirONE AP300

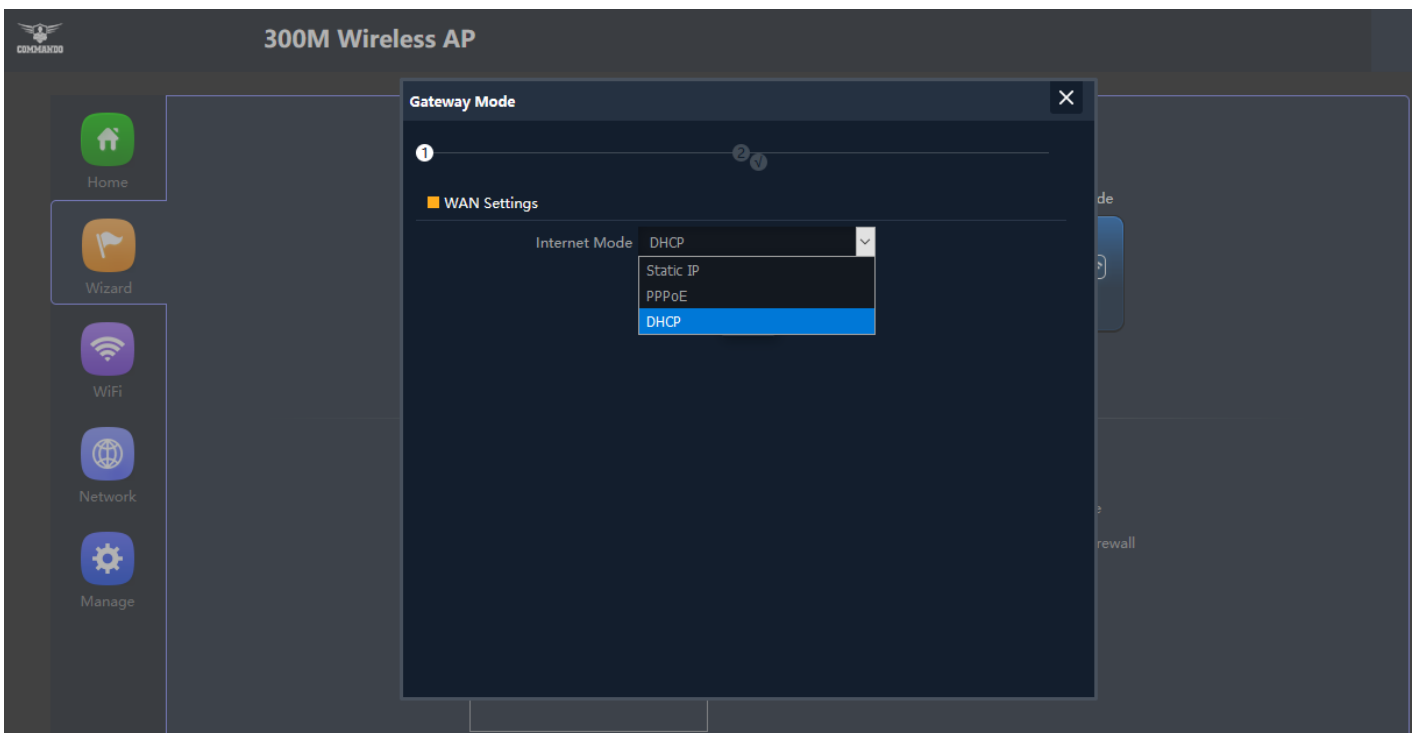
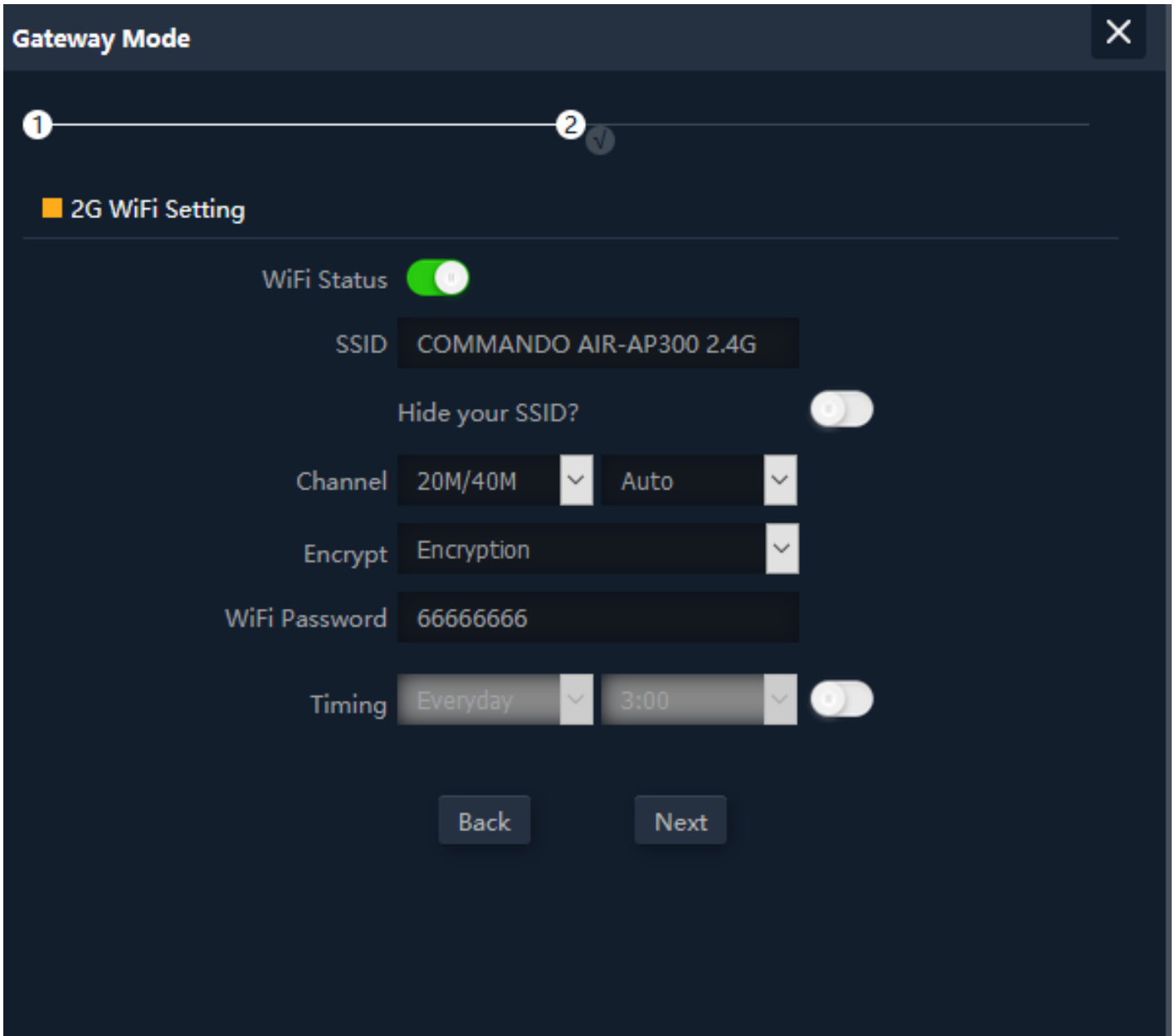


Fig 2.1.2 Gateway mode WAN Setting of AirONE AP300

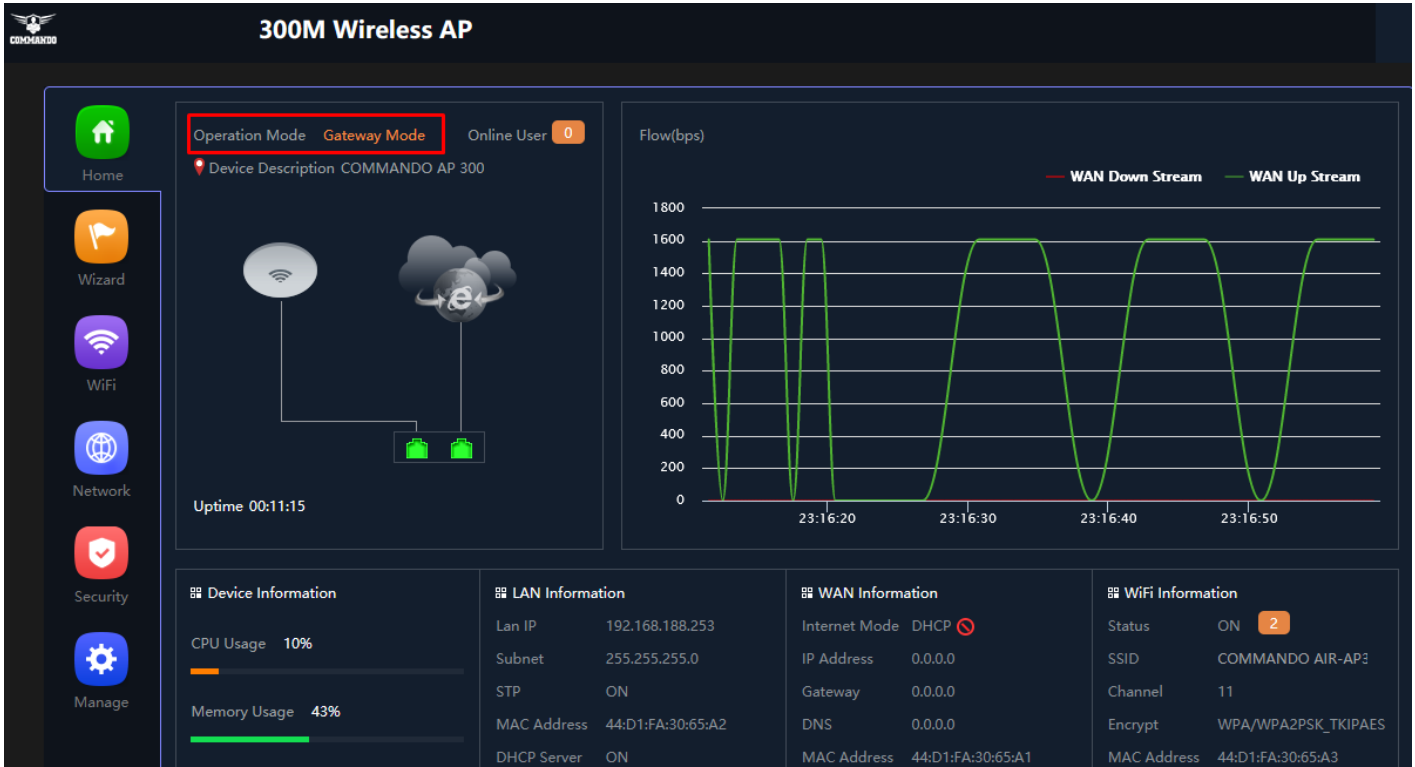


**Fig 2.1.3 Gateway mode 2G Wi-Fi Setting of AirONE AP300**

**Note:**

The device will restart for the changes to take effect for mode changes to Gateway mode.

Home page will show LAN, WAN, Wi-Fi, Device Information, along with operation mode shown as below.



**Fig 2.1.4 Gateway mode Home page of AirONE AP300**

## 2.2 Repeater Mode

In Repeater mode, Scan Repeater SSID whose password is known. Then configure the wireless parameters as per your choice of SSID, Channel width, Encryption and Time reboot if required.

### **Suggestion:**

Just in case if you don't have any RJ 45 cable running to any room then In Repeater mode you have to just power on the device and wirelessly can connect to clients as well as ISP router (BSSID). No need of connecting physically LAN as well as WAN port. So, Can help to make auditorium online without any cabling.

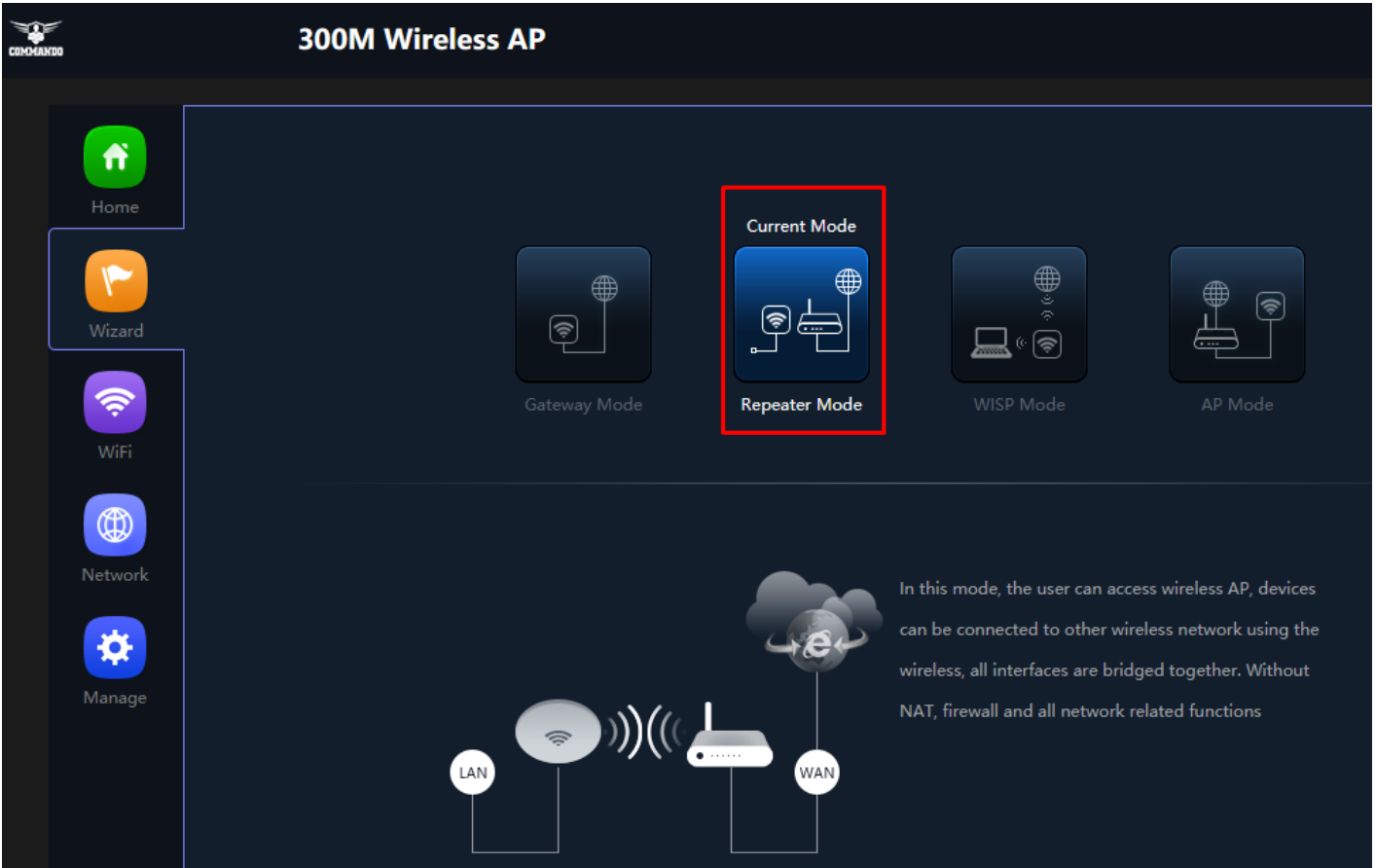


Fig 2.2.1 Repeater mode of AirONE AP300

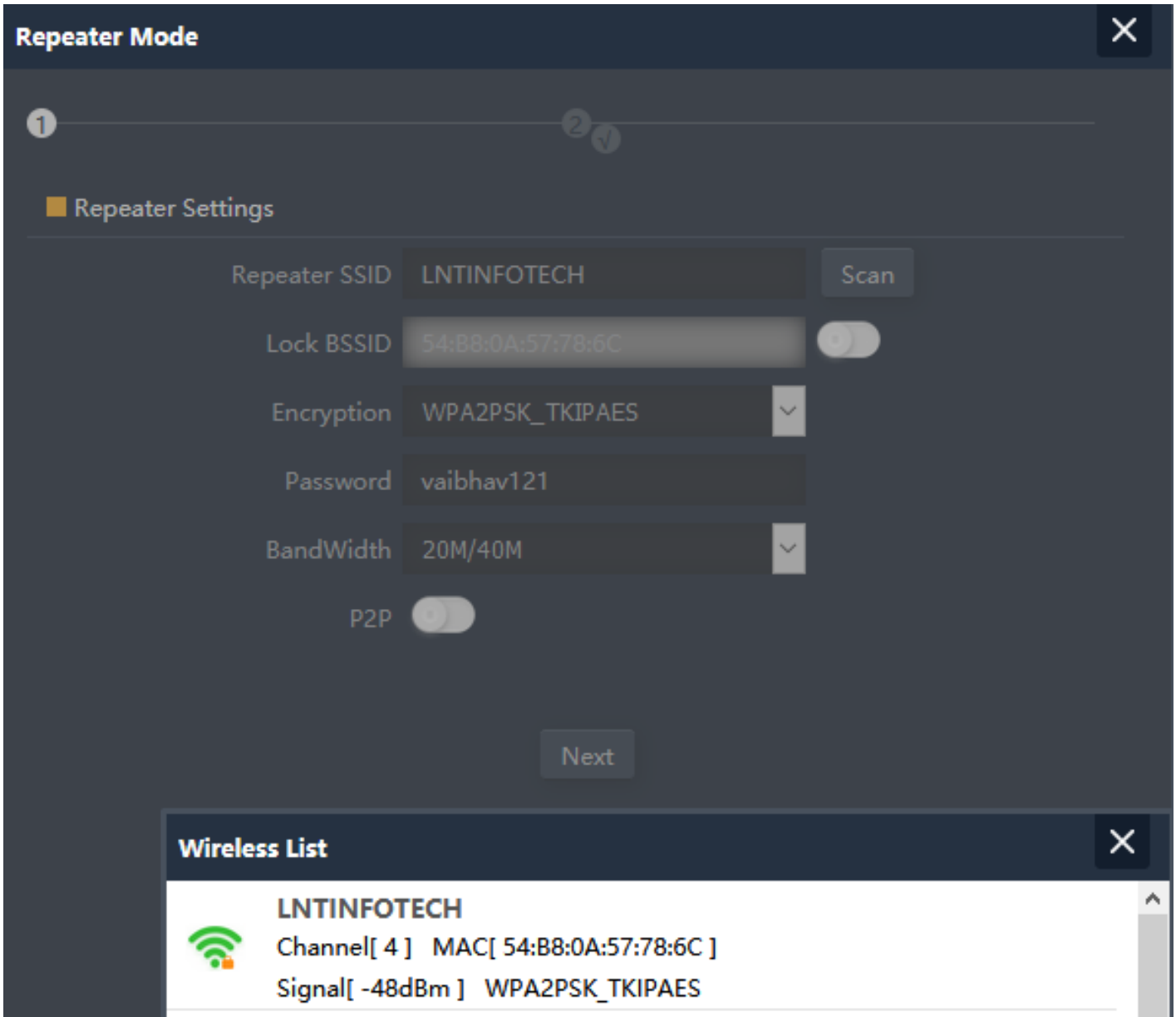
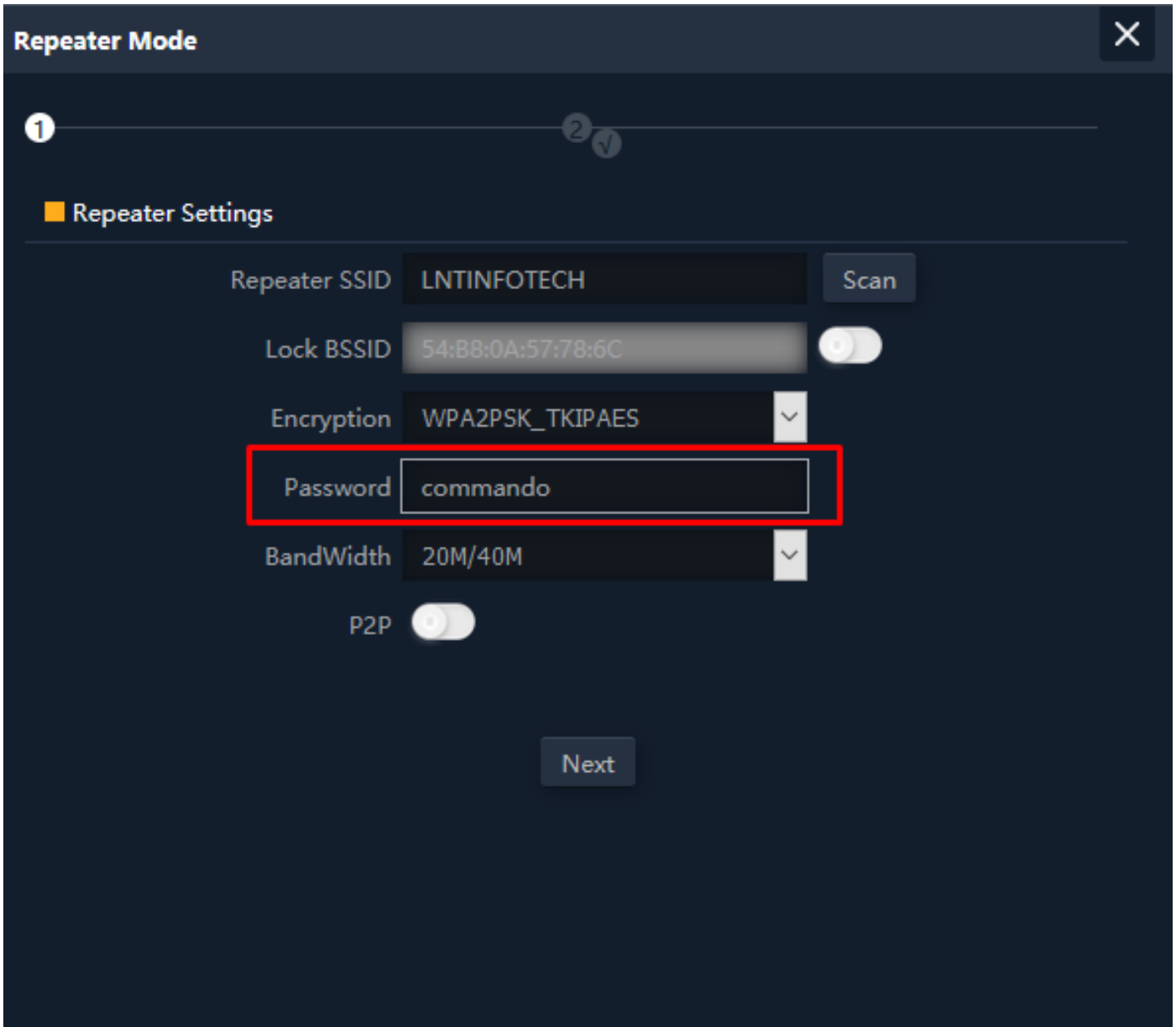


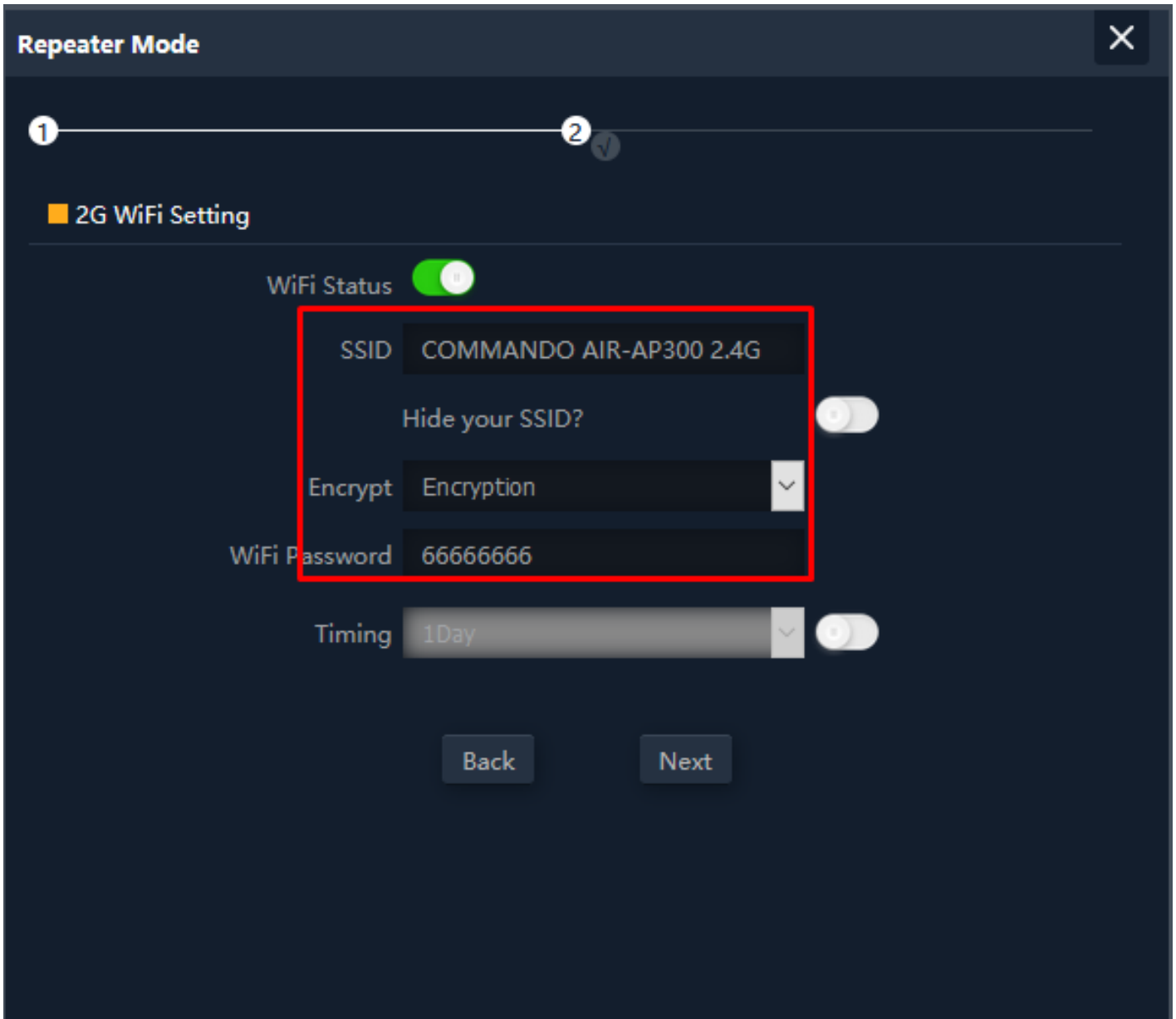
Fig 2.2.2 Selecting Repeater SSID of AirONE AP300



**Fig 2.2.3 Repeater SSID password AirONE AP300**

**Note:**

This repeater SSID password is password of scan SSID with matching encryption.



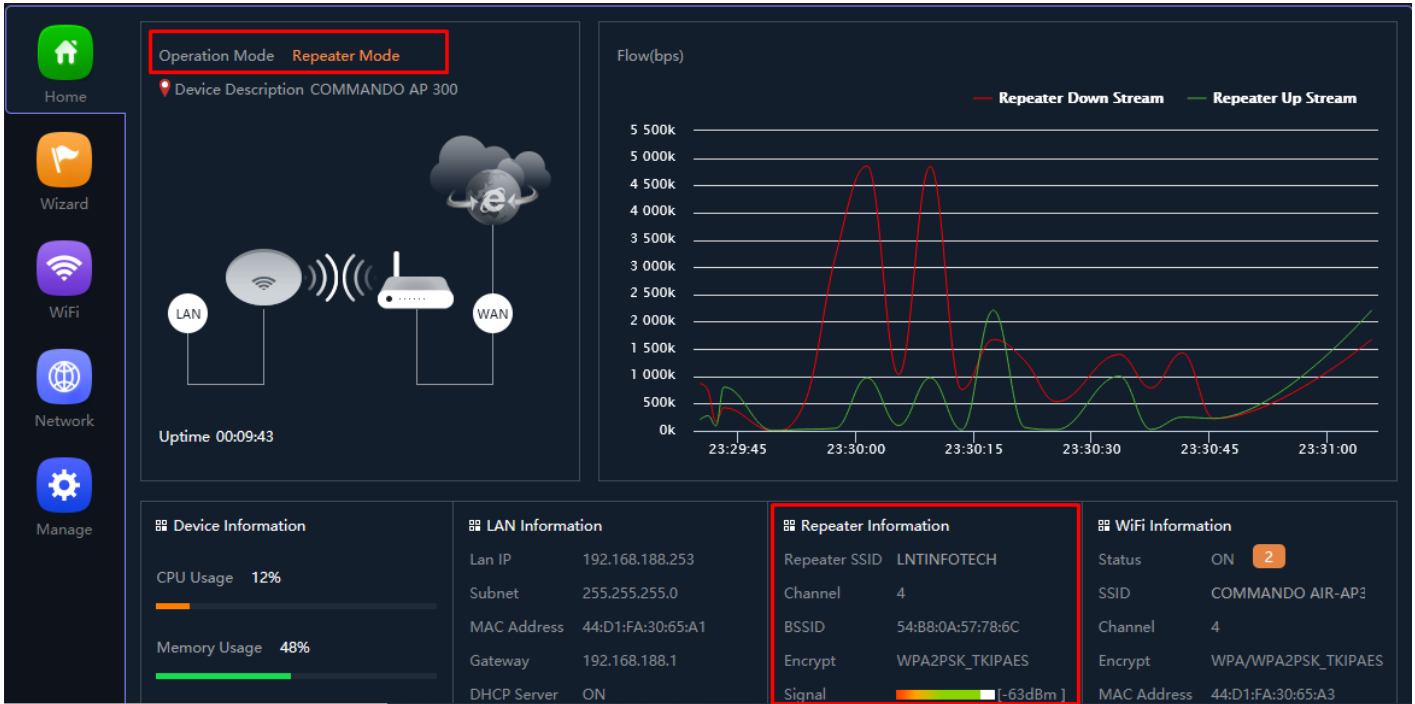
**Fig 2.2.4 Setting 2G Wi-Fi setting of AirONE AP300**

**Note:**

The device will restart for the changes to take effect for mode changes to Repeater mode.

Home page will show LAN, Repeater, Wi-Fi, Device Information, along with operation mode shown as below.





**Fig 2.2.5 Repeater mode Home page of AirONE AP300**

### 2.3 WISP Mode

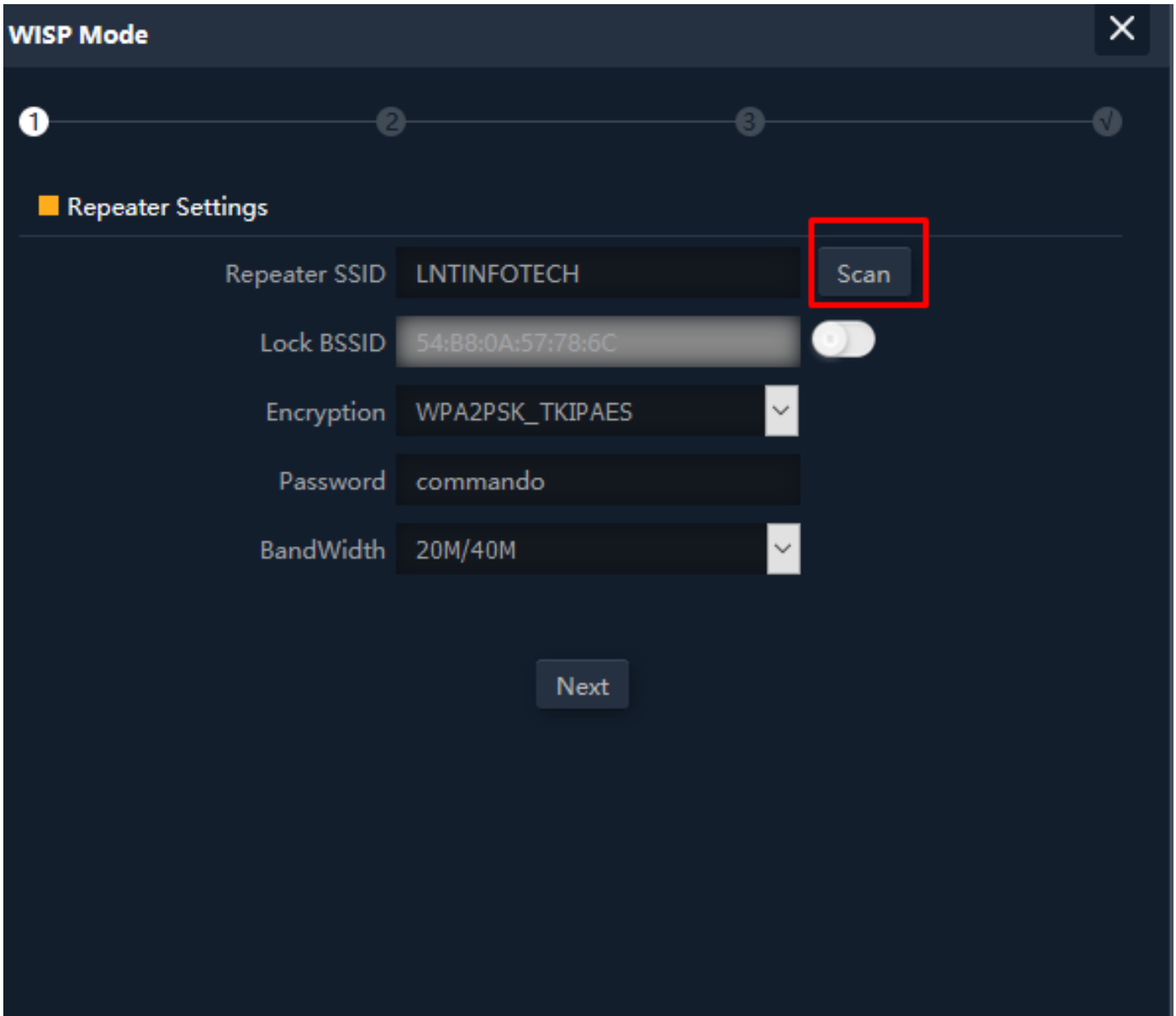
In WISP mode, Scan Repeater SSID whose password is known and configure WAN setting. Then configure the wireless parameters as per your choice of SSID, Channel width, Encryption and Time reboot if required.

**Note:**

Just in case if you don't have any RJ 45 cable running to any room then In WISP mode you have to just power on the device and wirelessly can connect to clients as well as ISP router (BSSID). No need of connecting physically LAN as well as WAN port. So, can help to make auditorium online without any cabling.



Fig 2.3.1 WISP mode of AirONE AP300



**Fig 2.3.2 Repeater Setting WISP mode of AirONE AP300**

**Note:**

This repeater SSID password is password of scan SSID with matching encryption.

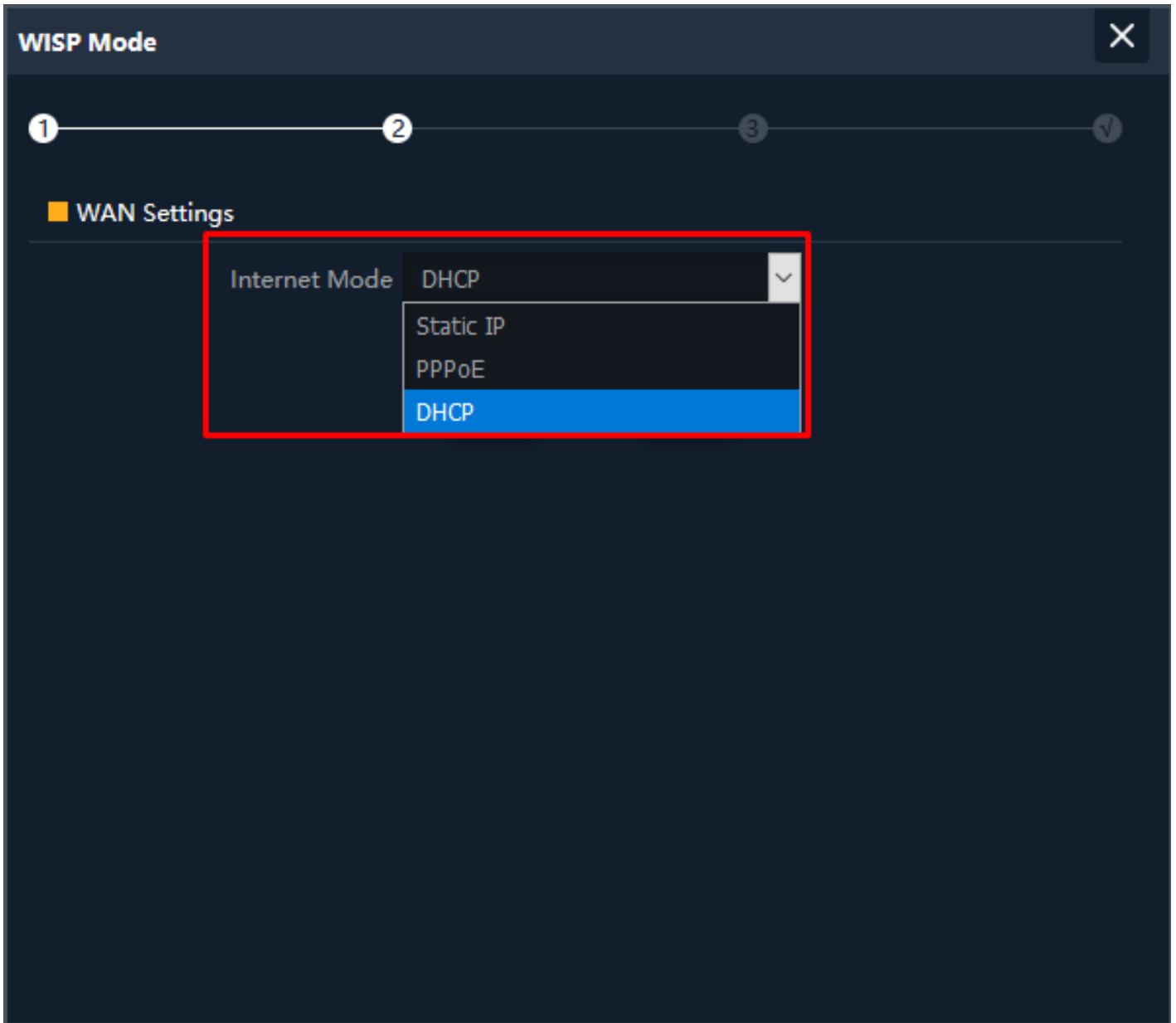
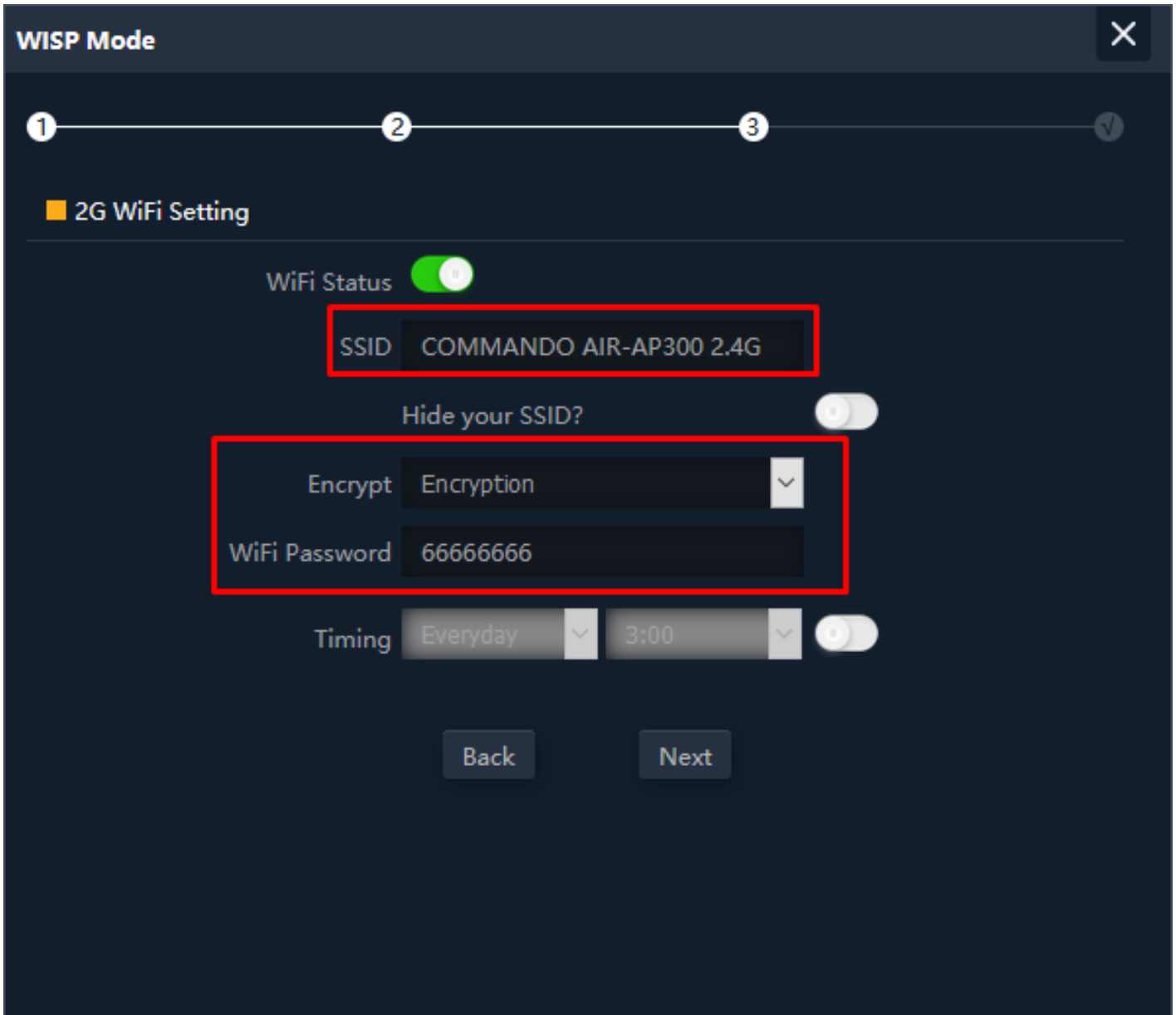


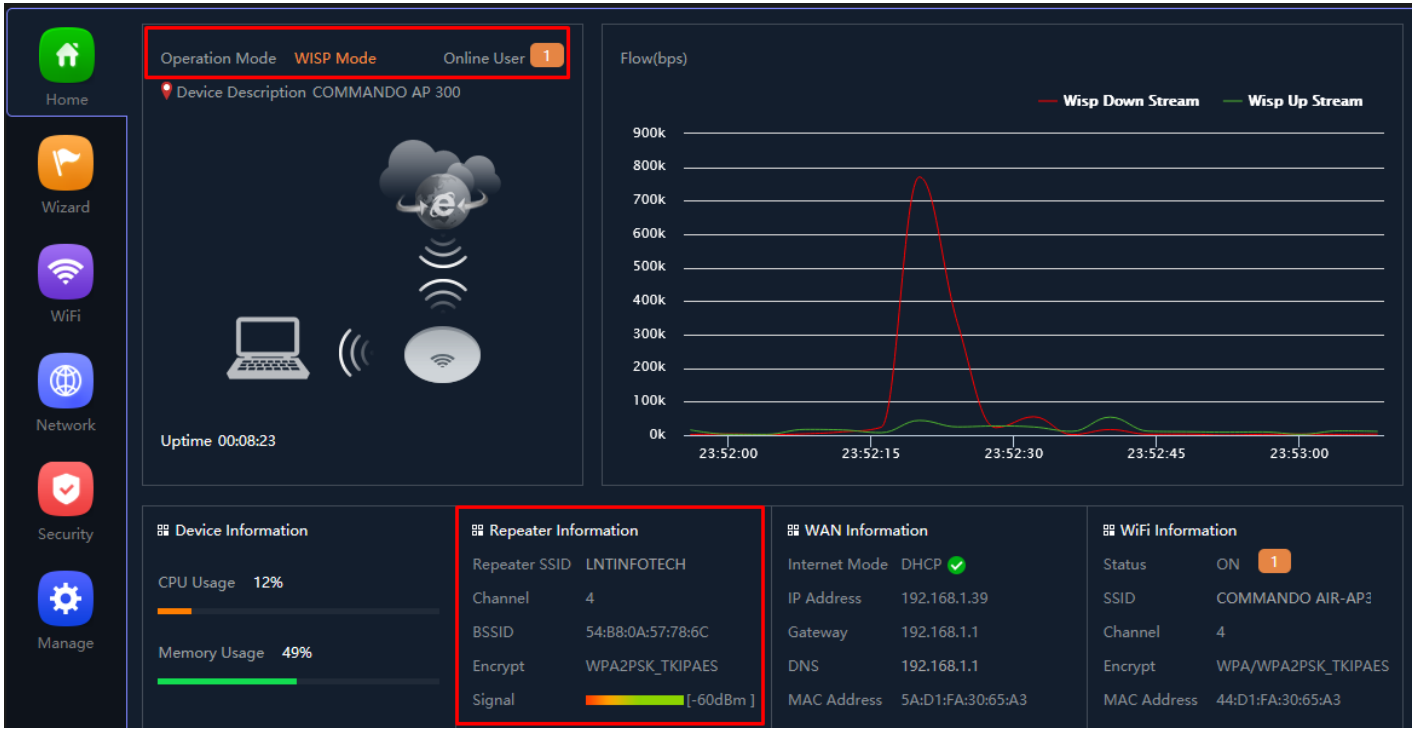
Fig 2.3.3 WAN Setting WISP mode of AirONE AP300



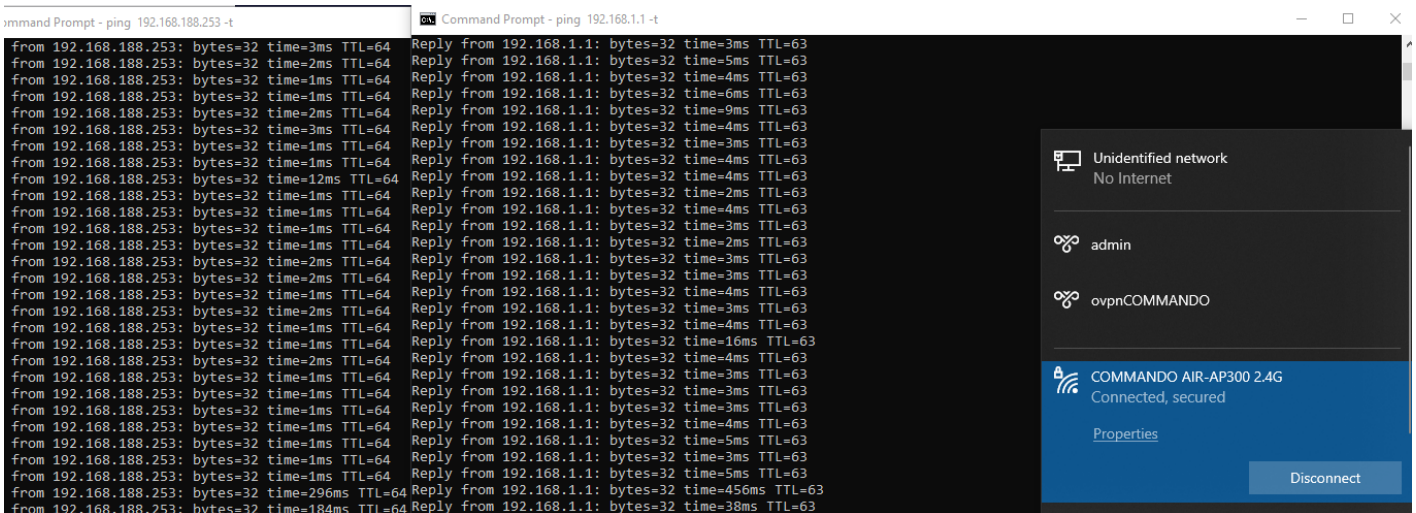
**Fig 2.3.4 2G Wi-Fi Setting WISP mode of AirONE AP300**

**Note:** The device will restart for the changes to take effect for mode changes to WISP mode.

Home page will show WAN, Repeater, Wi-Fi, Device Information, along with operation mode shown as below.



**Fig 2.3.5 WISP mode Home page of AirONE AP300**



**Fig 2.3.6 WISP mode Ping response of Client of AirONE AP300**

## 2.4 AP Mode

In AP mode, Set LAN setting from static IP, AC or gateway. Then configure the wireless parameters as per your choice of SSID, Channel width, Encryption and Time reboot if required.

Note: This is a default mode of operation for device.



Fig 2.4.1 AP mode of AirONE AP300

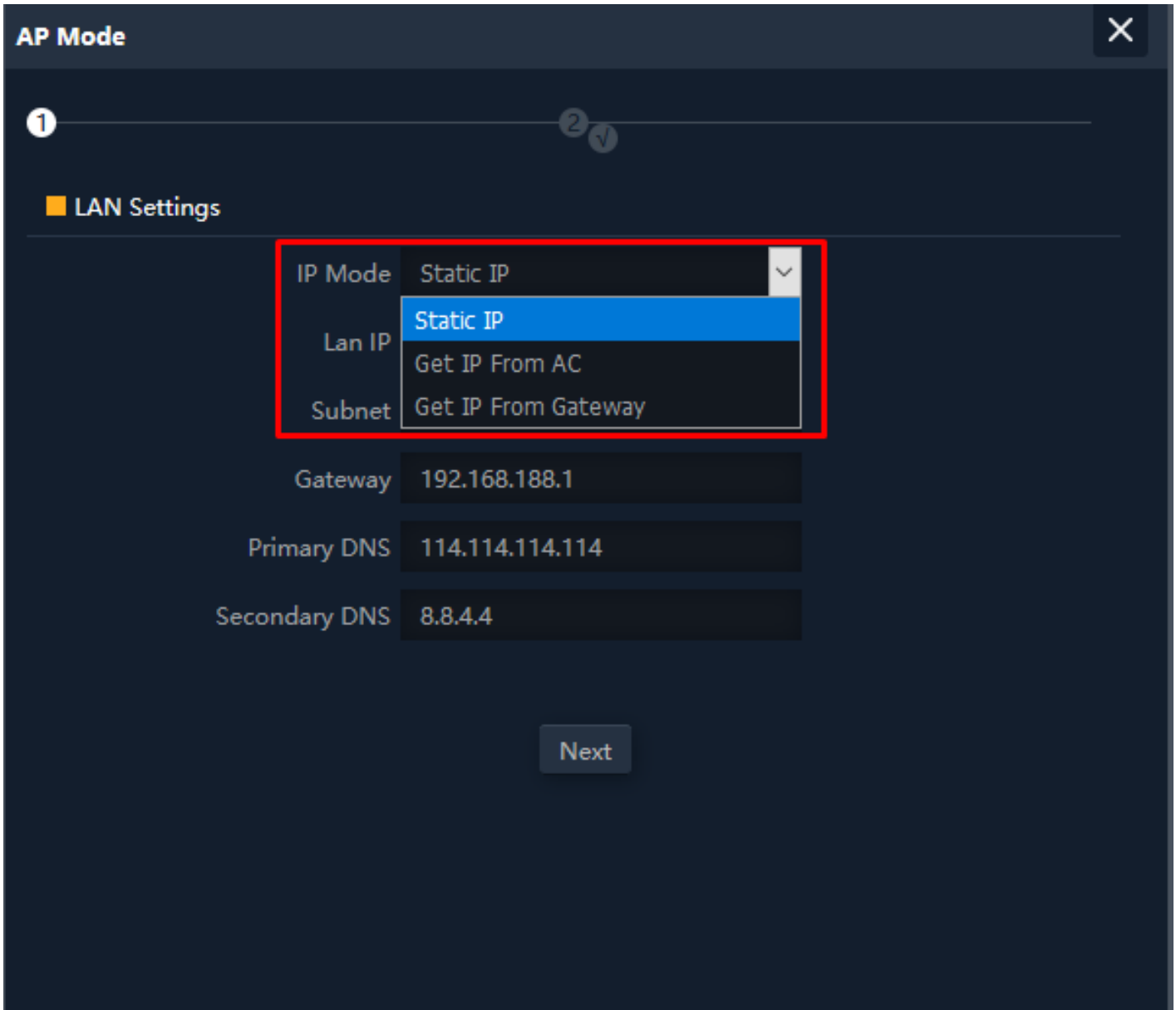
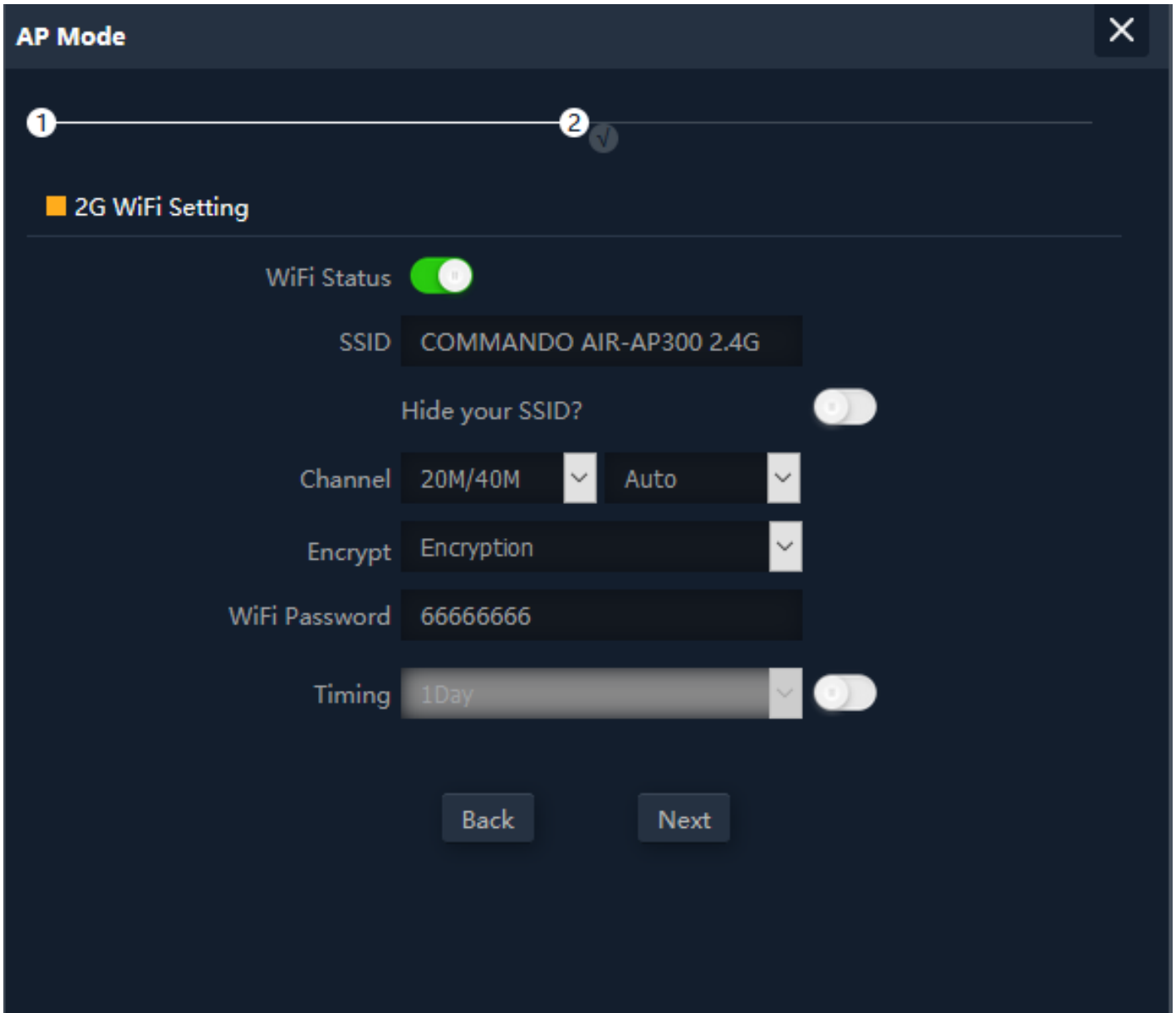


Fig 2.4.2 Setting IP mode for AP mode of AirONE AP300

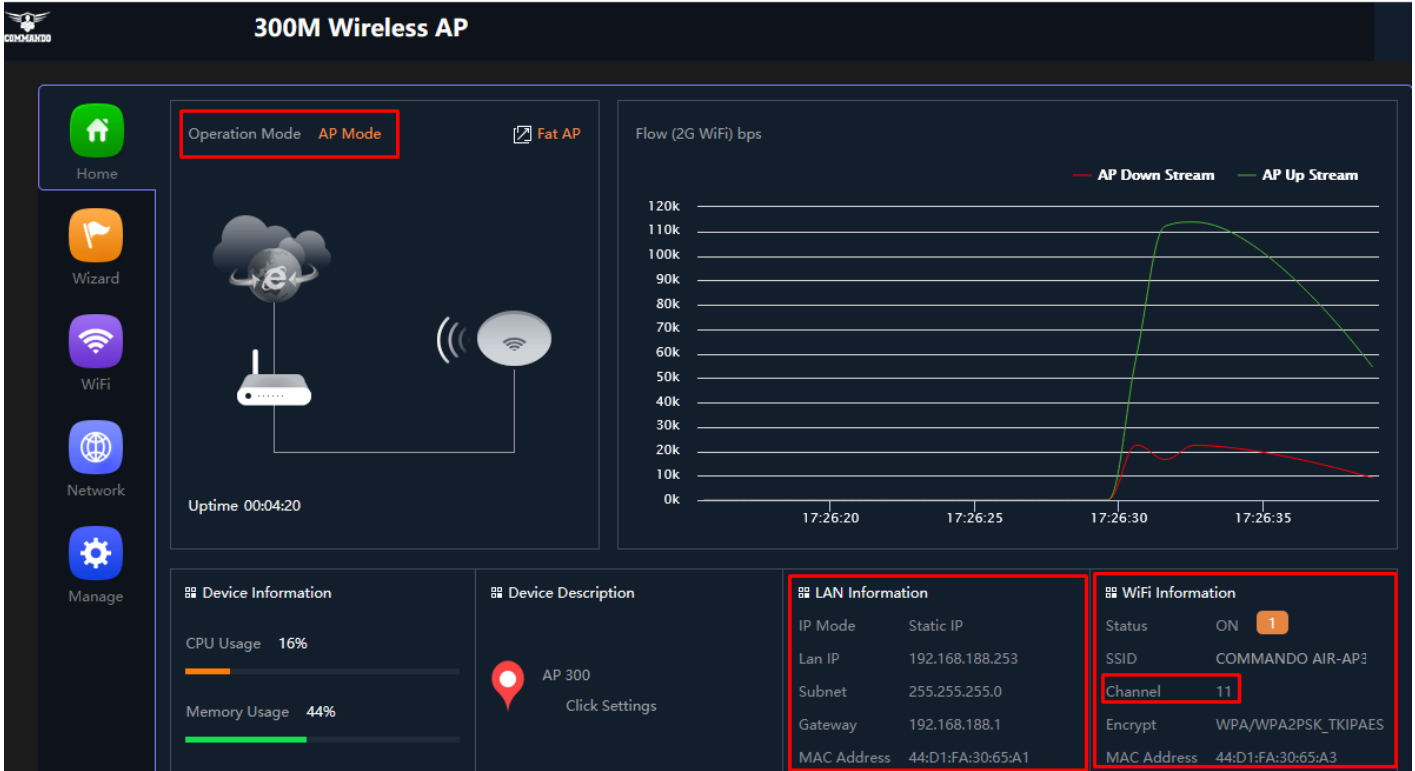




**Fig 2.4.3 Setting 2G Wi-Fi for AP mode of AirONE AP300**

Note: The device will restart for the changes to take effect for mode changes to AP mode.

Home page will show LAN, Repeater, Wi-Fi, Device Information, along with operation mode shown as below.



**Fig 2.4.4 Home page after setting AP mode of AirONE AP300**

## WI-FI

In Wi-Fi setting you can set the 2.4G, MAC ACL, Repeater, Wi-Fi Timer off and Advanced settings.

### **2G Wi-Fi Settings:**

Can set Multi SSID along with Basic SSID all other VAP 1, VAP 2, VAP 3 SSID can be set. You can ON/OFF particular SSID with this setting.

### **Repeater Settings:**

*Repeater can be turn ON or OFF. Selecting scanning repeater SSID with lock BSSID and password and encryption setting.*

### **MAC ACL Settings:**

Can allow and prohibit wireless clients based on MAC address.

### **Wi-Fi Timer Settings:**

Wi-Fi Timer ON/ Off along with setting Time Frame.

### **Advanced Settings:**

In Advanced setting can set Country Region, 2G Mode, Multicast Fast, Maximum wireless clients for AP (Range 1-64), WLAN Partition, Short GI, Coverage Threshold and Transmit Power

### **Note:**

All *italic config* options are only available in WISP and Gateway mode only.

## **3.1 2G Wi-Fi Setting**

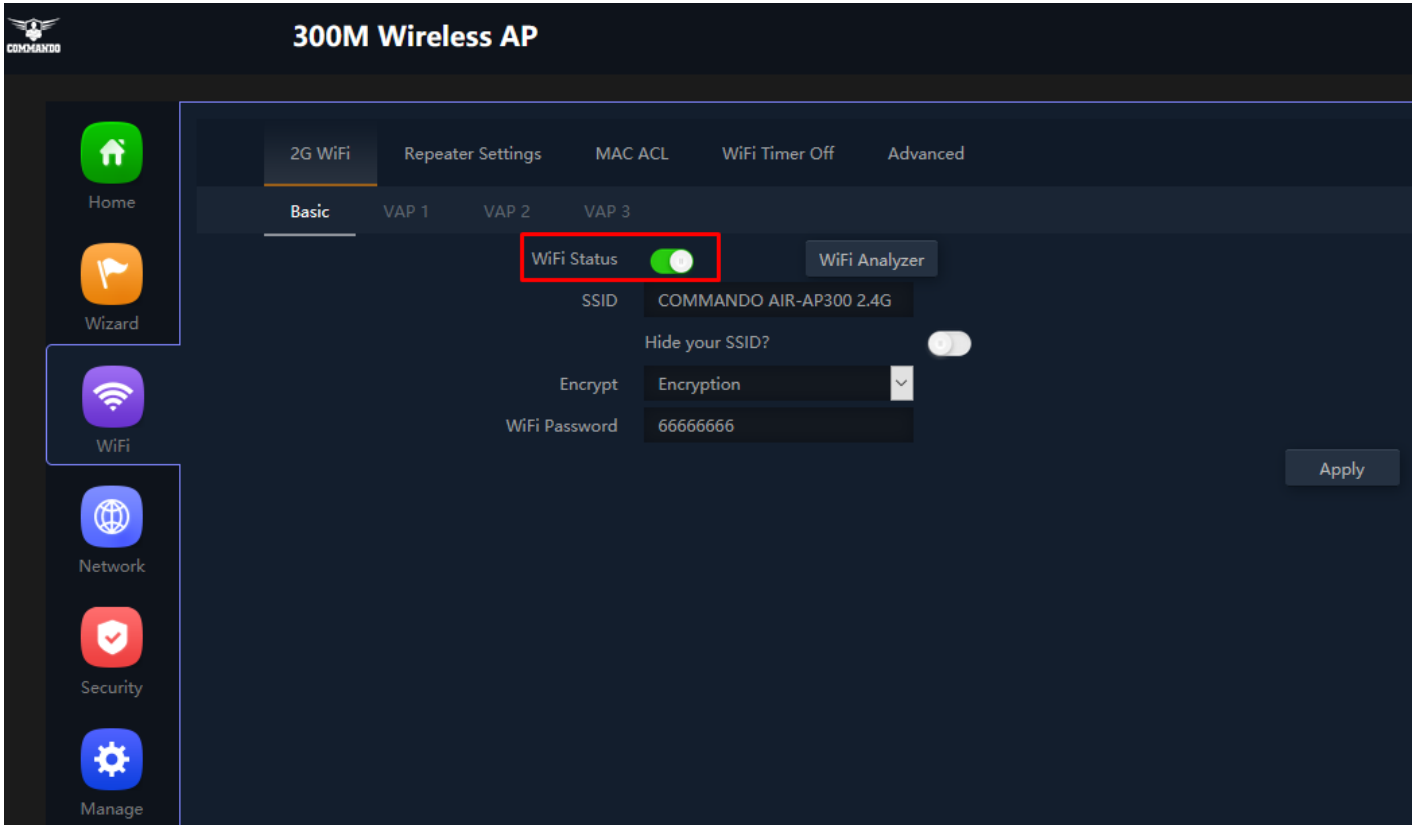
We can set 2.4G Basic Setting along with Virtual AP setting. You can enable or disable Wi-Fi by

**Wi-Fi Status: On** mean SSID is available for wireless clients.

**Wi-Fi Status: Off** mean SSID not available.

### **Note:**

By default Basic Wi-Fi SSID "COMMANDO AIR-AP300 2.4G" is turned ON.



**Fig 3.1.1 Wi-Fi enable and disable of AirONE AP300**

Wi-Fi Analyzer is a handy tool which helps you to select a better channel and mainly to analyze the AP's signal strength and channel, to make it easier for users to choose the channel with less Wireless Interference.

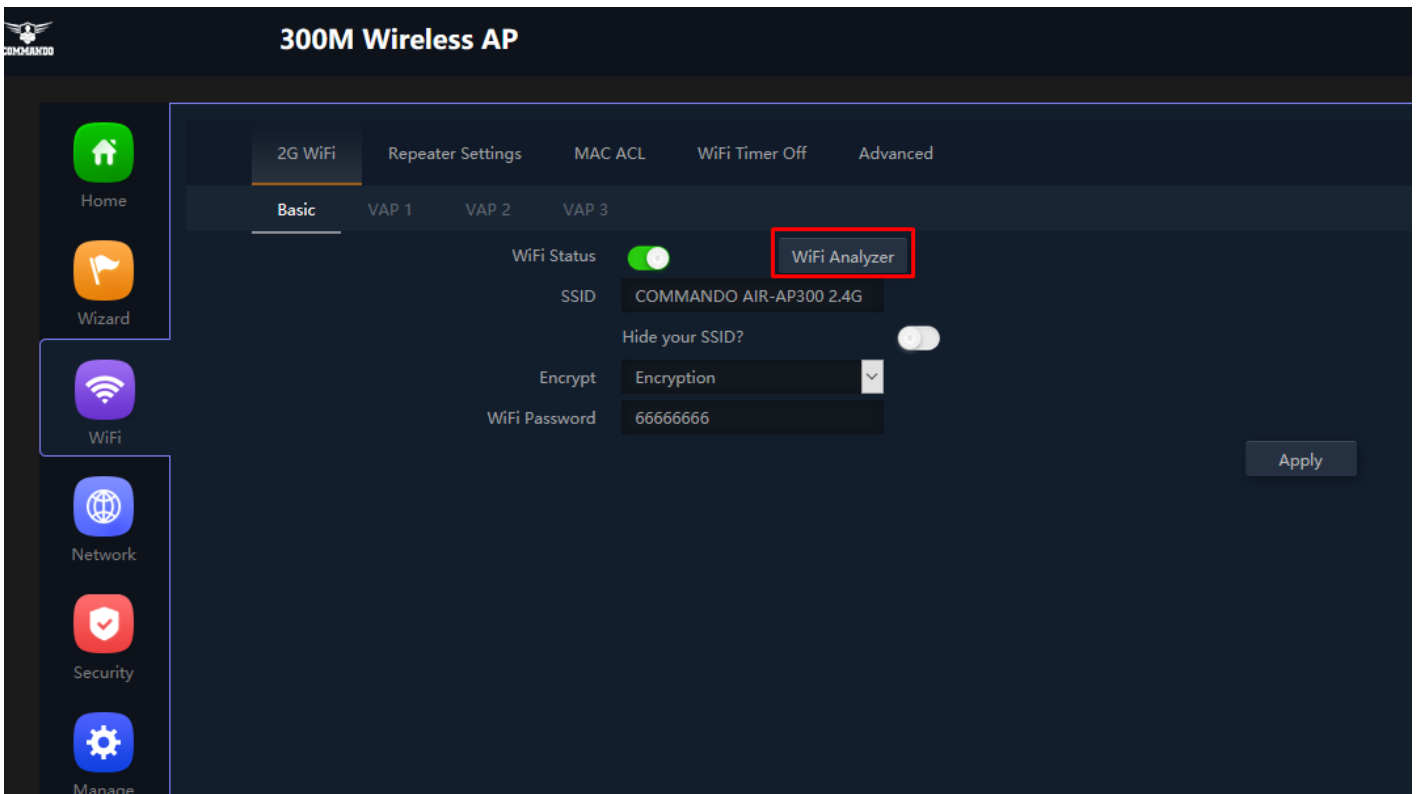


Fig 3.1.2 Wi-Fi Analyzer button of AirONE AP300

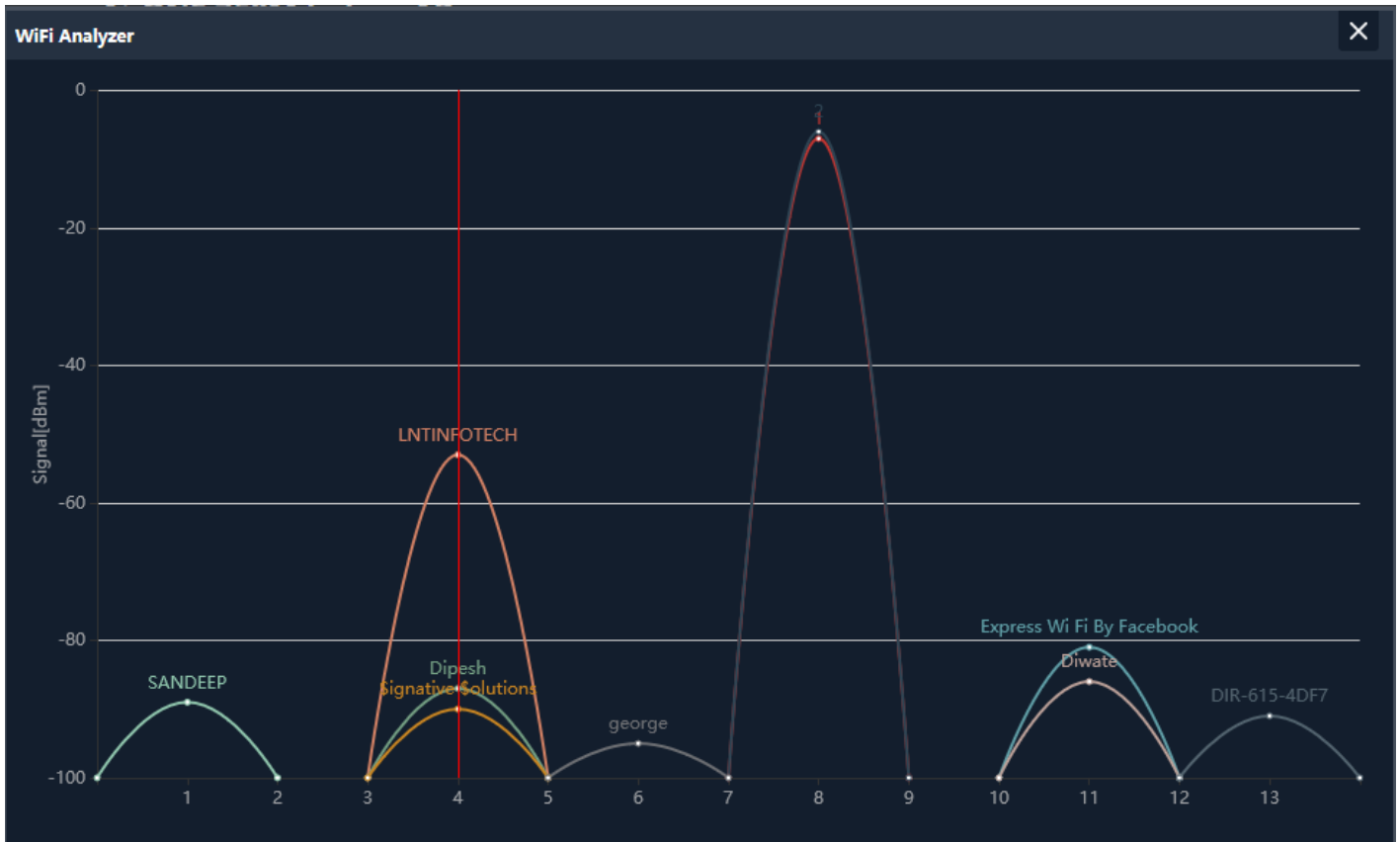


Fig 3.1.3 Wi-Fi Analysis of AirONE AP300

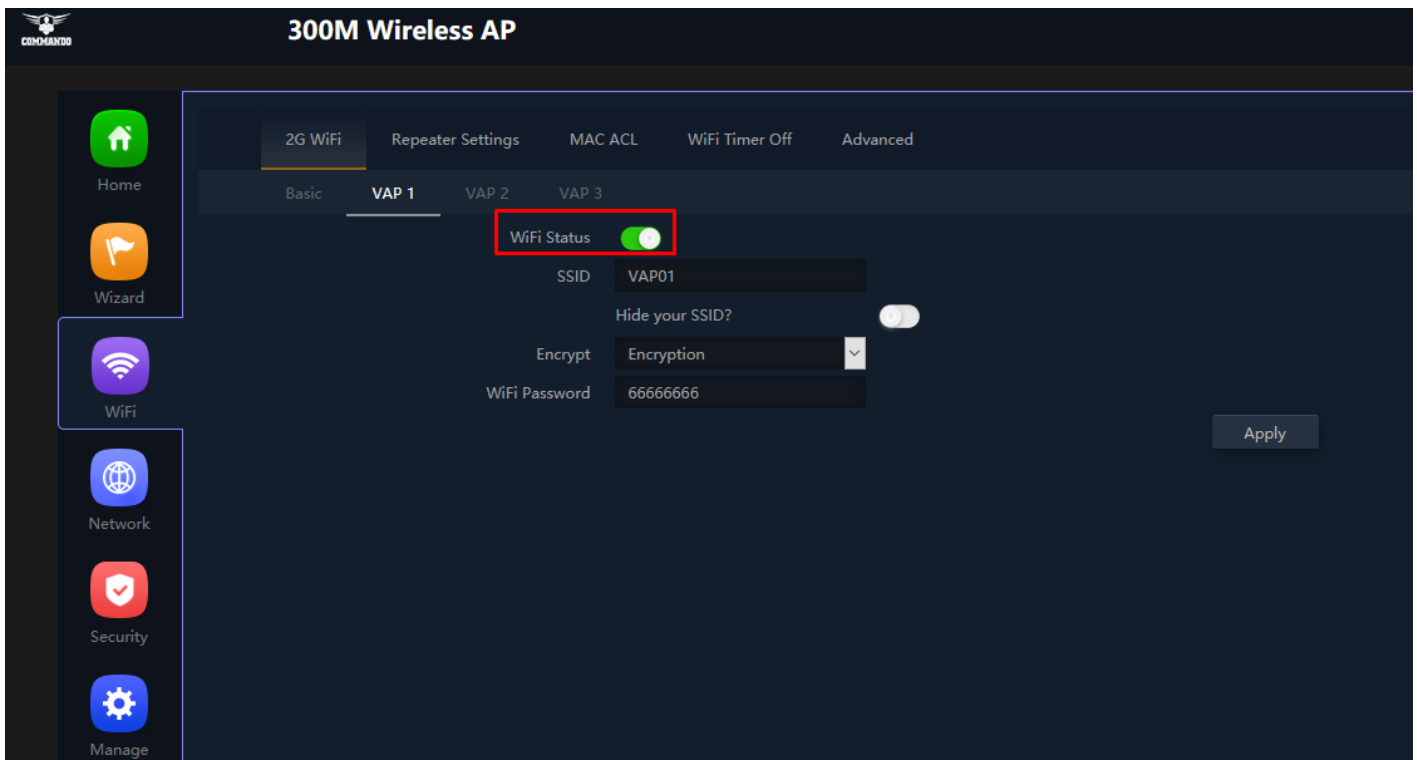


Fig 3.1.4 Enabling VAP 1 of AirONE AP300

Note:

You can change SSID, Encryption and Wi-Fi password as per your choice to be used by wireless clients.

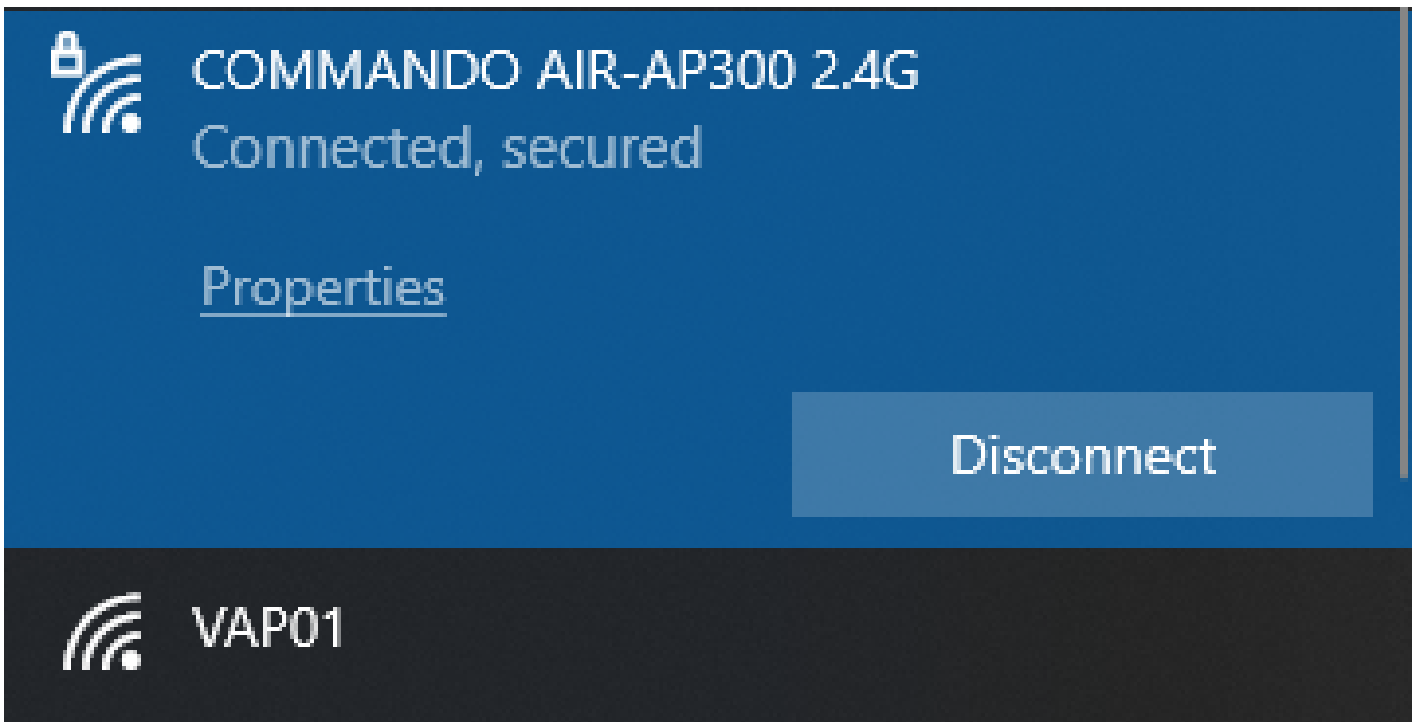


Fig 3.1.5 Wireless VAP 1 available for clients

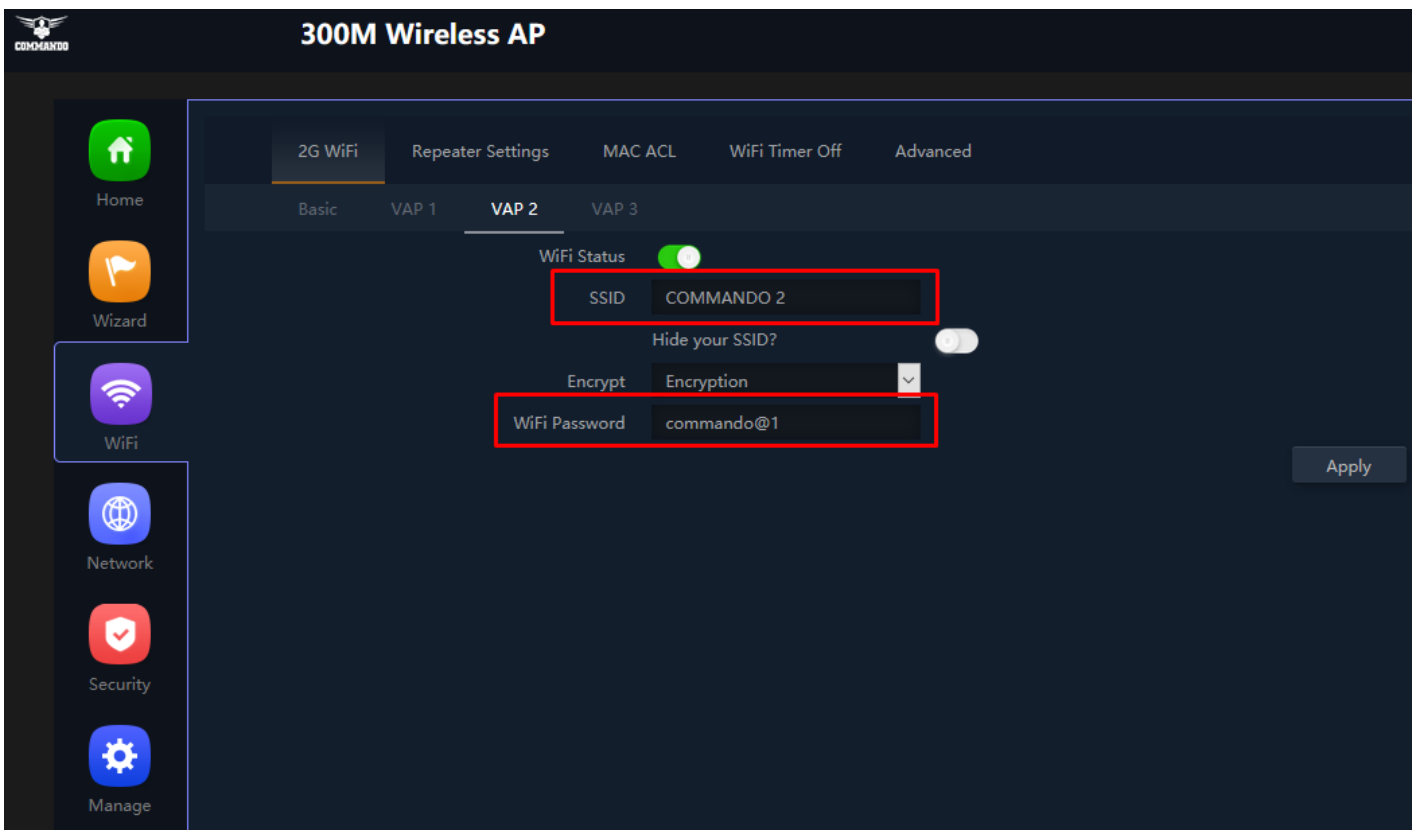
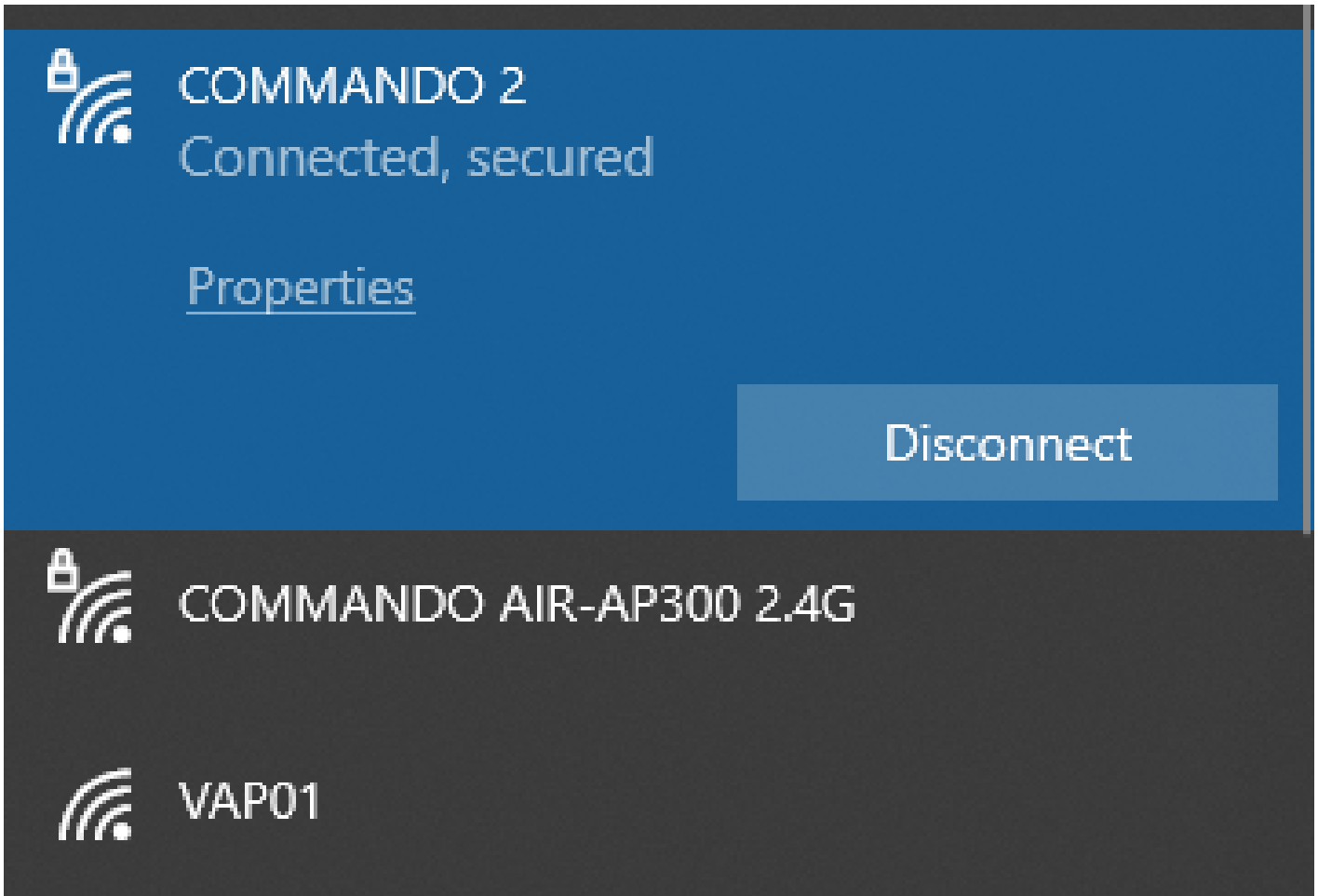


Fig 3.1.5 Enabling VAP 2 of AirONE AP300

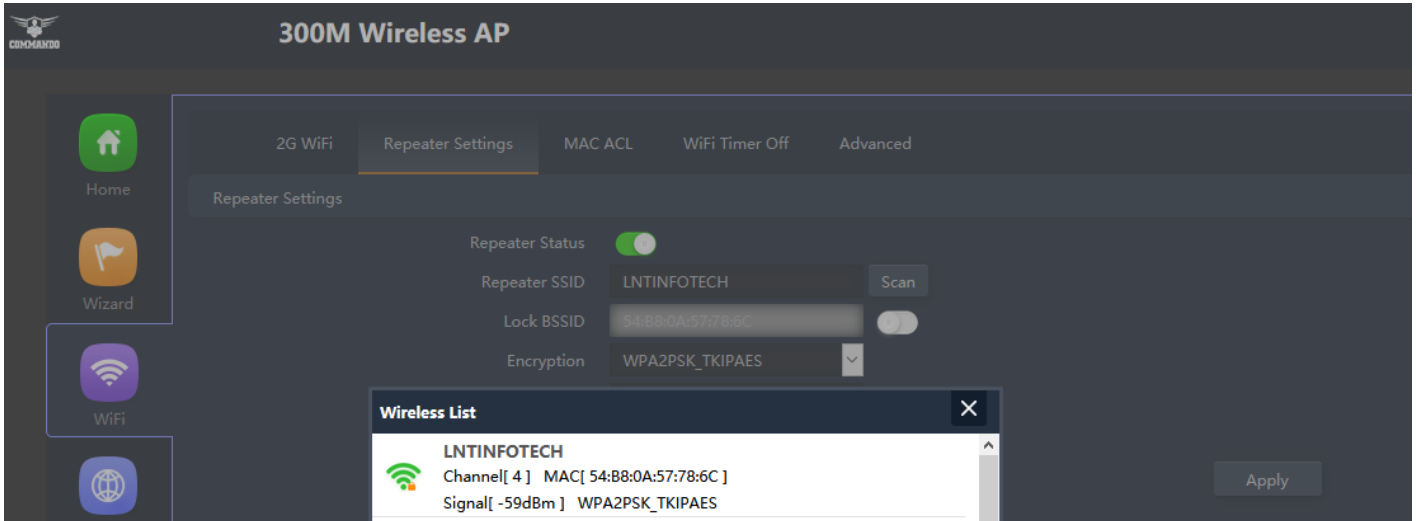


**Fig 3.1.6 Wireless VAP 2 named COMMANDO 2 and Wireless clients connected**

Note: You can have Multi SSID up to 4 configured on AirONE AP300. All SSID will use same channel and channel width as set in Basic SSID but each Virtual Access Point (VAP) can set different name, encryption and password.

### **3.2 Repeater Settings**

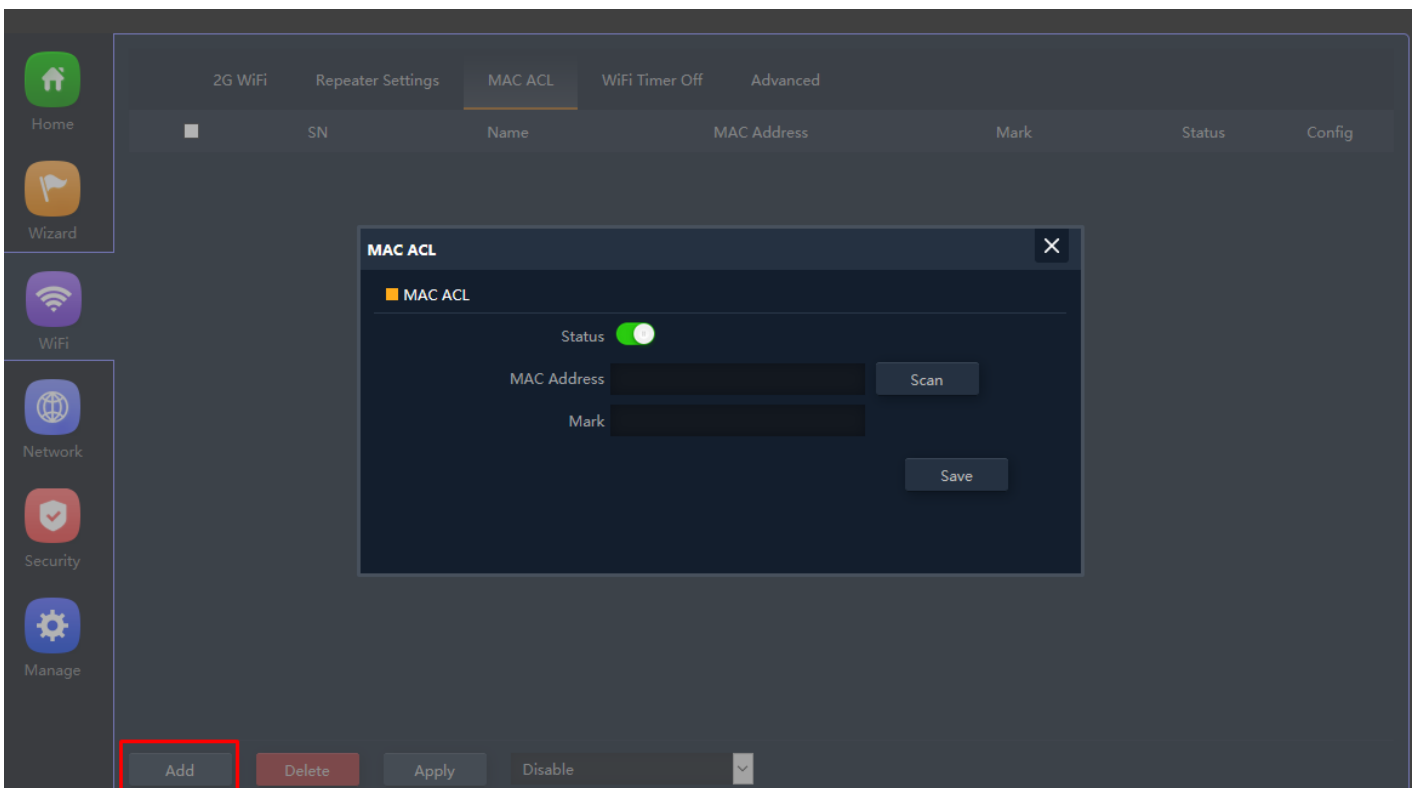
Repeater Settings like scan Repeater SSID, Encryption, Password of scan SSID and bandwidth can be set.



**Fig 3.2.1 Scan Repeater SSID AirONE AP300**

### 3.3 MAC ACL Settings

MAC ACL Allow or prohibits the wireless users access into this device based on MAC address. Filters using MAC address of wireless client. If you permit or allow few clients then automatically all other non-allowed client cannot associate with AP. When a client is denied access through a MAC-based filter, the client cannot associate with the AP.



**Fig 3.3.1 Default MAC ACL of AirONE AP300**



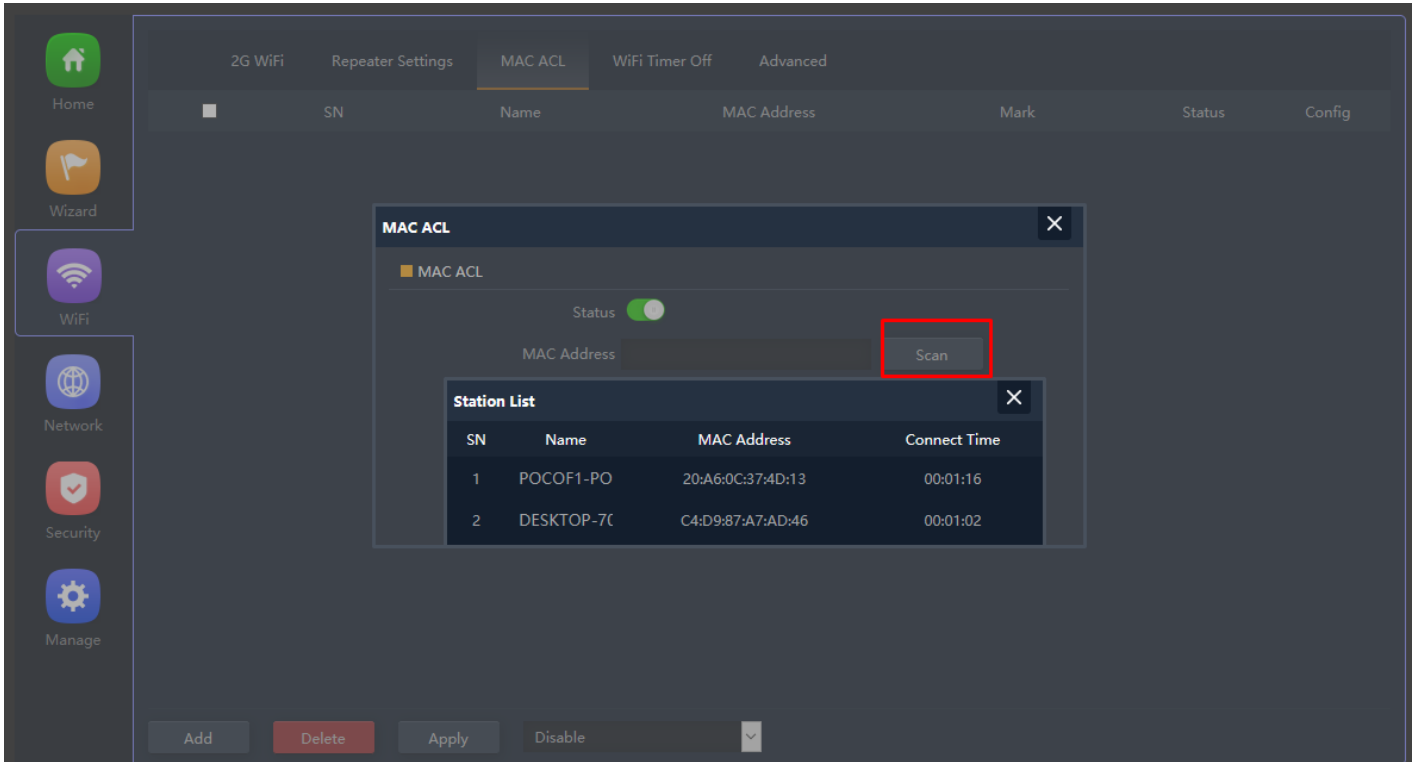


Fig 3.3.2 Add MAC ACL of AirONE AP300

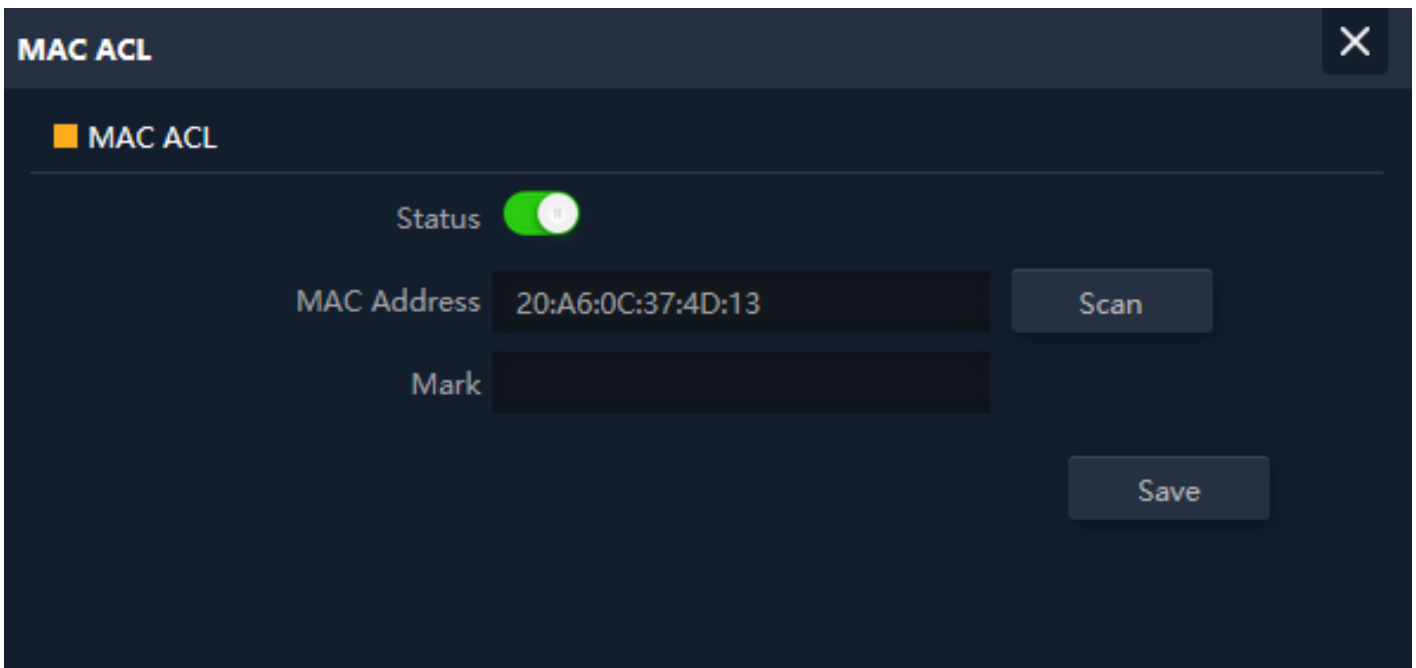
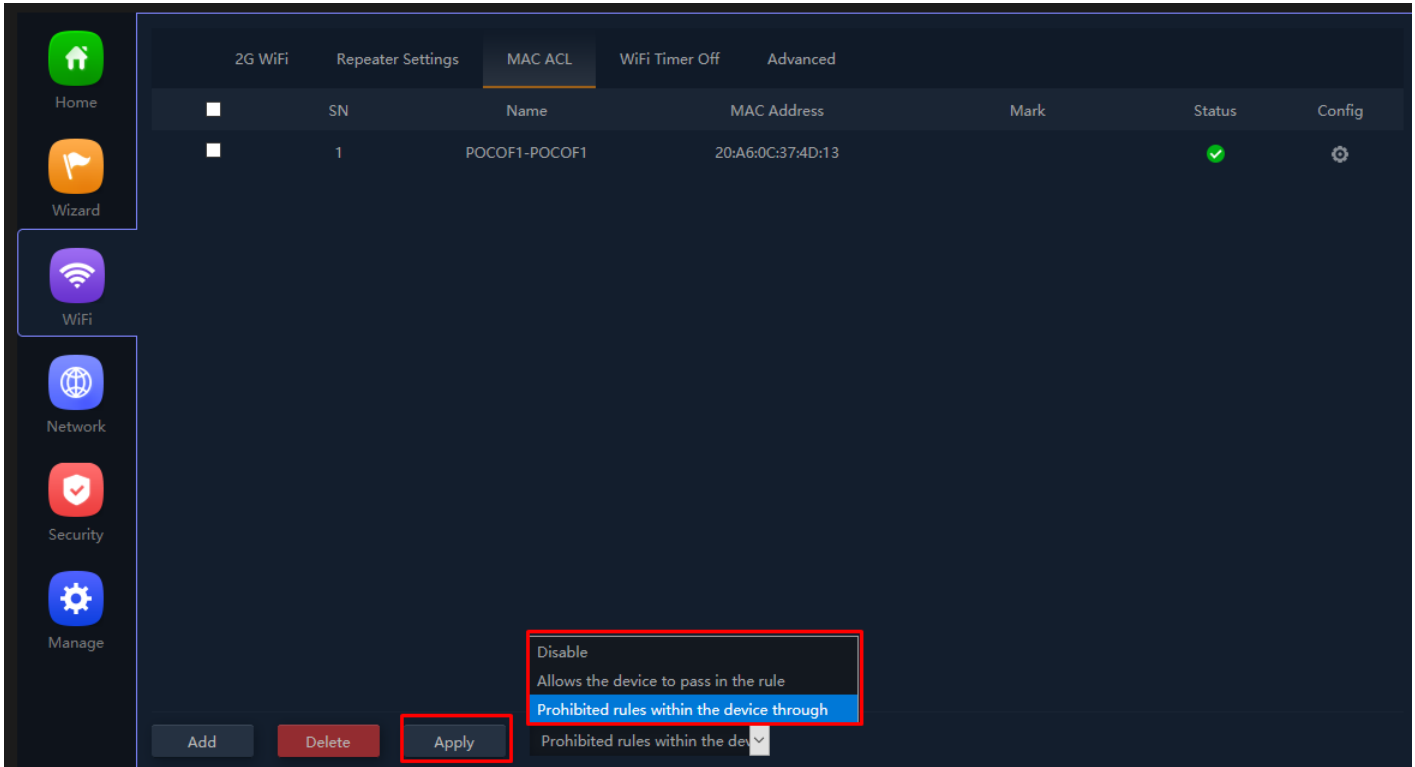


Fig 3.3.3 Select MAC address of AirONE AP300

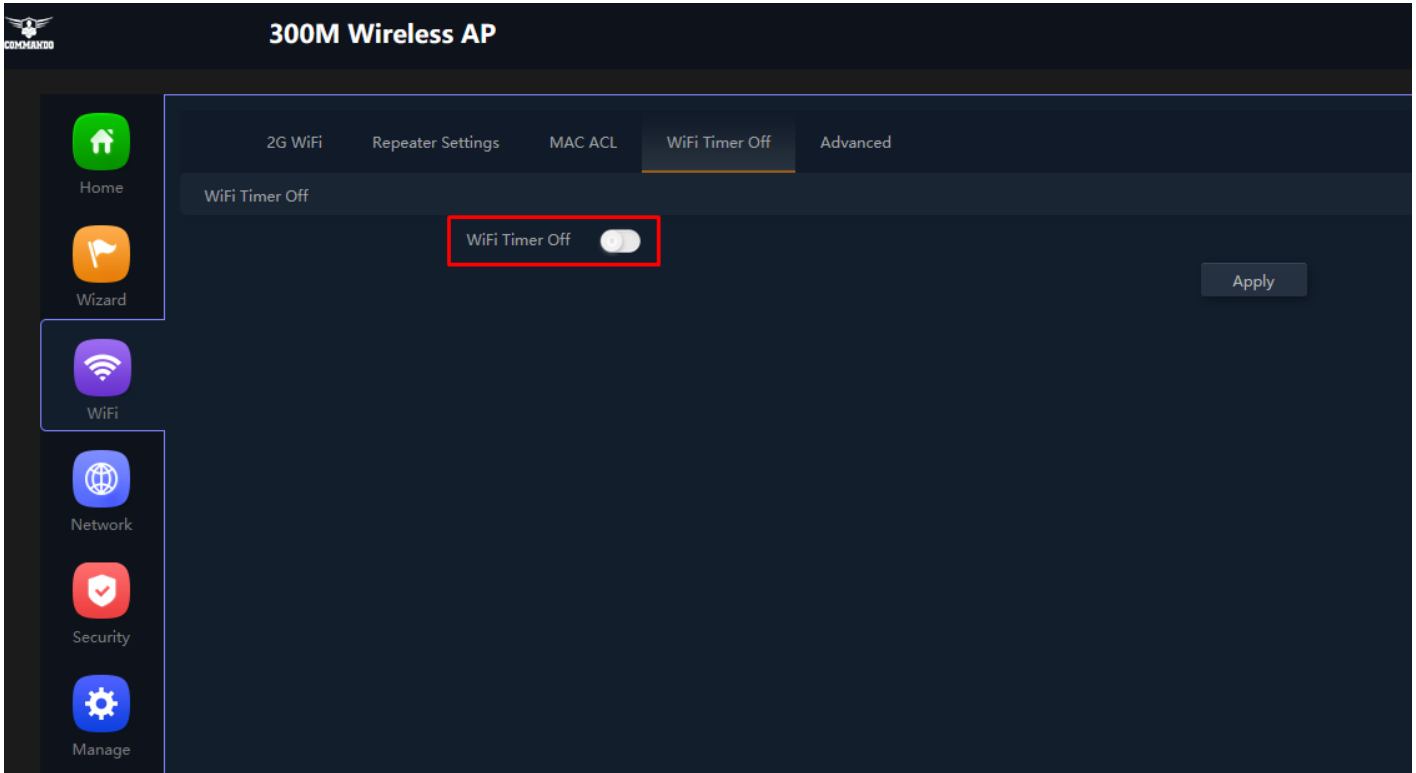


**Fig 3.3.4 Apply MAC ACL for AirONE AP300**

### 3.4 Wi-Fi Timer Settings

Enable **Wi-Fi Timer Off** to turn off the SSID in the specified time. It schedules, turning your Wi-Fi OFF at a given time so that wireless client cannot associate with AP.

Recommendation: It is not recommended to make Wi-Fi Timer to be OFF in Wizard as well as in this setting to enjoy Wi-Fi all the time.



**Fig 3.4.1 Default Wi-Fi Timer Off for AirONE AP300**

How to shutdown Wi-Fi after office time?

Assume office time is from 9:00AM to 10:00PM and you wish to turn off Wi-Fi access but want to keep power ON for other use. Then you have to turn OFF Wi-Fi from 22:00 to 09:00 as shown.



**Fig 3.4.2 Wi-Fi Timer Off for AirONE AP300**

### **3.5 Advance Setting**

In Advanced setting can set Country Region, 2G Mode, Multicast Fast, Maximum wireless clients for AP (Range 1-64), WLAN Partition, Short GI, Coverage Threshold and Transmit Power.



Fig 3.5.1 Default Advanced setting for AirONE AP300



Fig 3.5.2 Selecting Country Region for AirONE AP300



Fig 3.5.3 Selecting 2G Mode for AirONE AP300

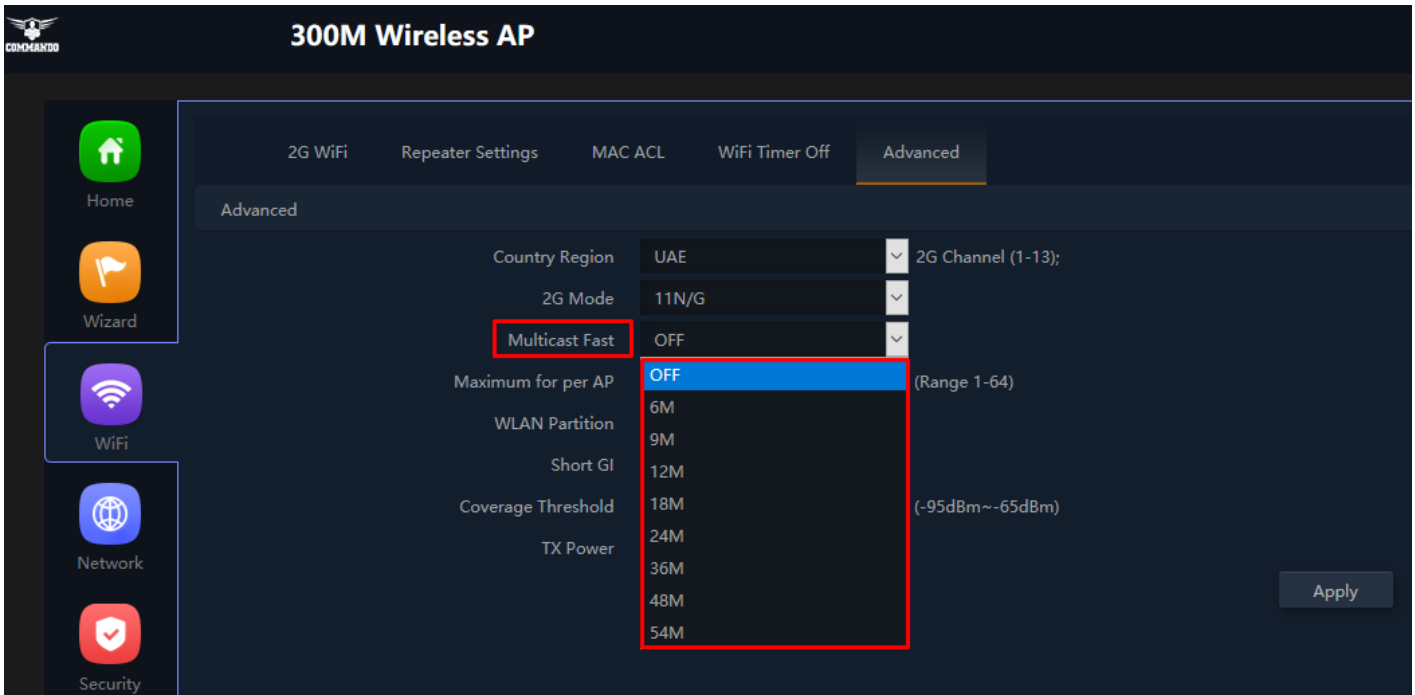


Fig 3.5.4 Selecting Multicast Fast for AirONE AP300



Fig 3.5.5 Setting Maximum wireless clients for AirONE AP300

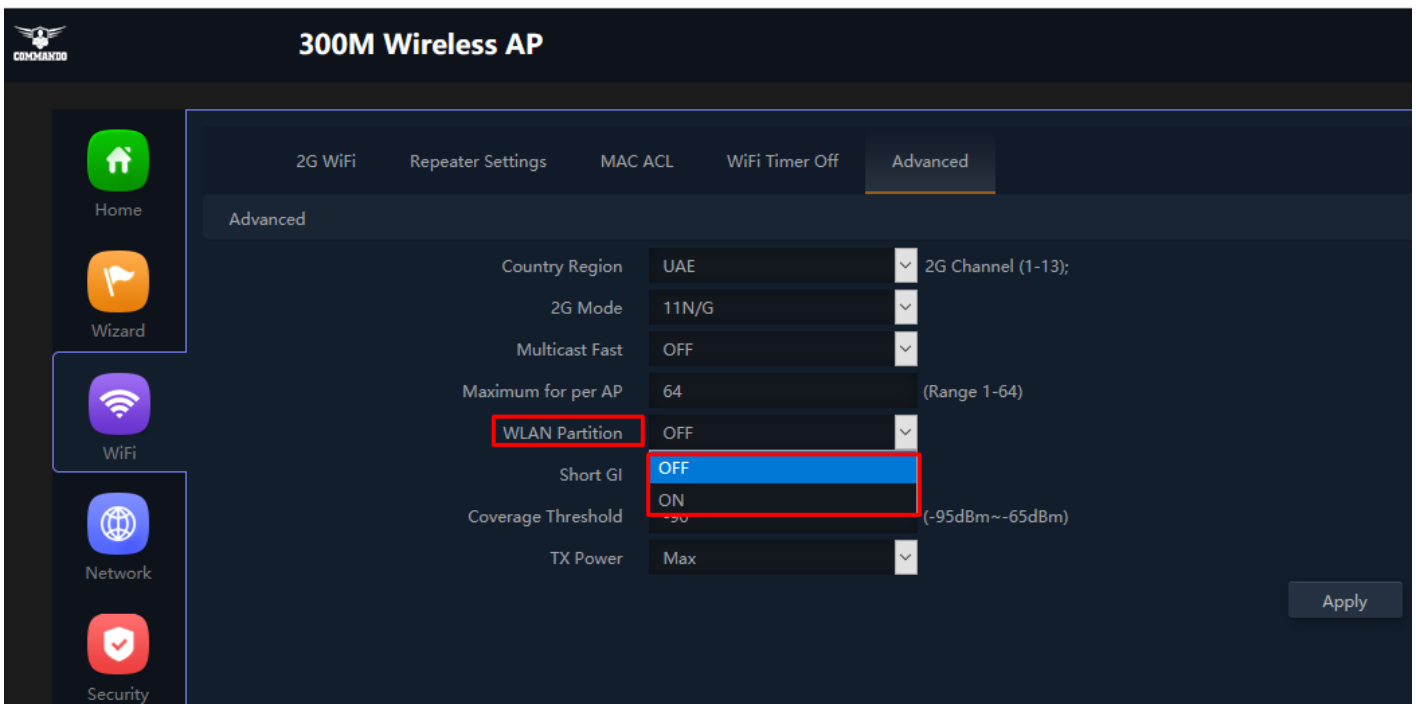


Fig 3.5.6 Selecting WLAN Partition for AirONE AP300

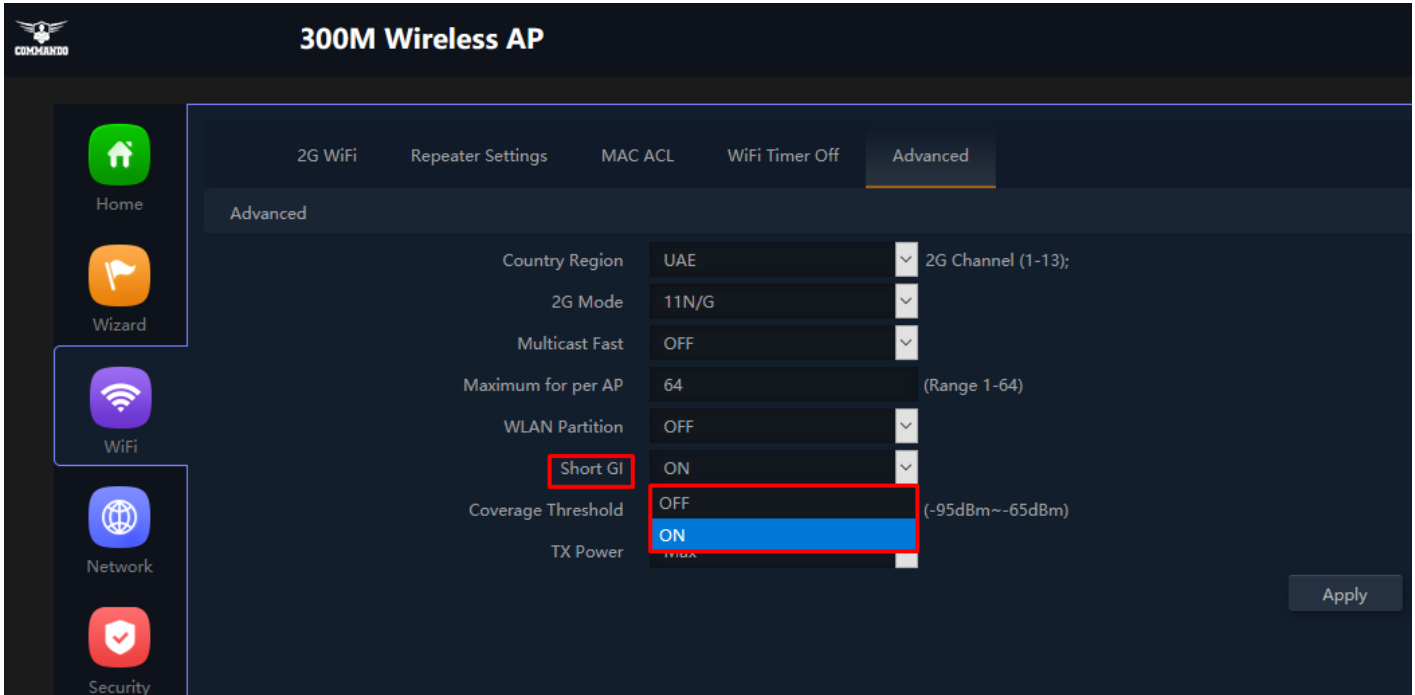


Fig 3.5.7 Selecting Short GI for AirONE AP300

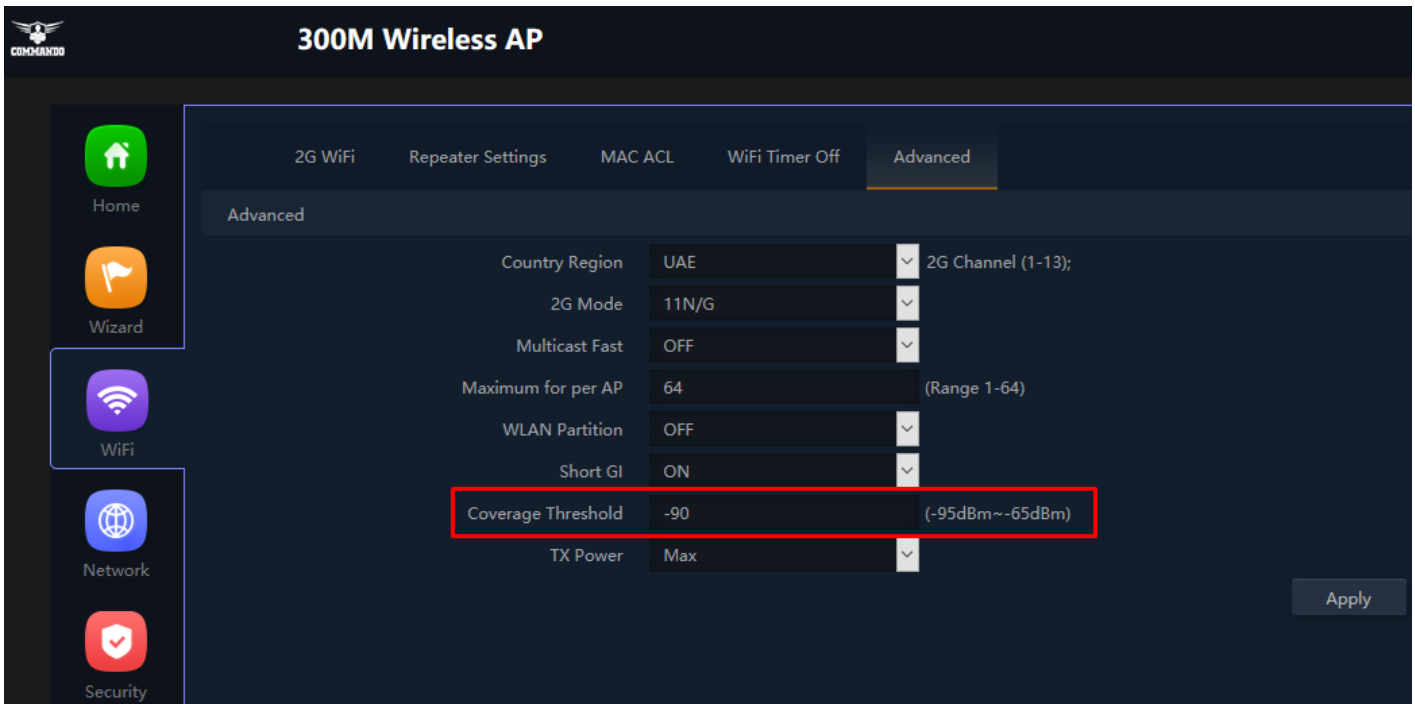
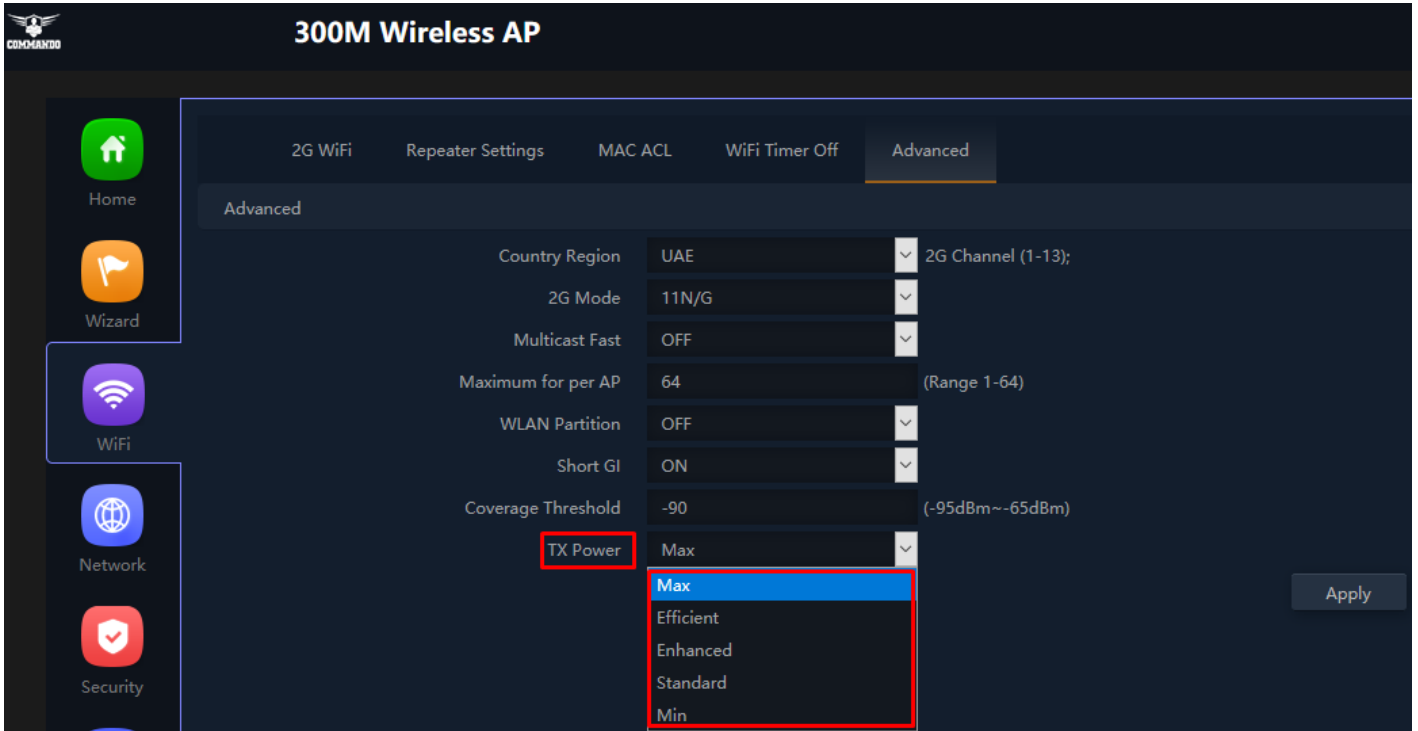


Fig 3.5.8 Setting Coverage Threshold for AirONE AP300





**Fig 3.5.9 Setting Tx Power for AirONE AP300**

# NETWORK

## **LAN Settings:**

It can set Lan IP (Access IP), Subnet and STP along with DHCP Server, Start and maximum DHCP address, DHCP Lease Time and client list along with utilized IP count.

## **VLAN Settings:**

Multi SSID can be provided with different VLAN ID to set different network with separate broadcast domain.

## **Static DHCP:**

*The DHCP Static IP Mapping feature enables assignment of static IP addresses with MAC address without taking IP addresses from DHCP pool with manual bindings.*

## **WAN Settings:**

*You can set WAN Connect Method, MTU and DNS Manually along with Primary.*

*Secondary DNS.*

## **WAN Advanced Settings:**

*It can Enable web server access on WAN ports from 1 to 65535. It can set MAC Clone, Enable or disable Ping Access on WAN. Enable or disable IPsec, PPTP, L2TP pass through on VPN connection.*

## **Cloud Server Settings:**

You can set Cloud server URL along with binding code.

## **URL Mapping:**

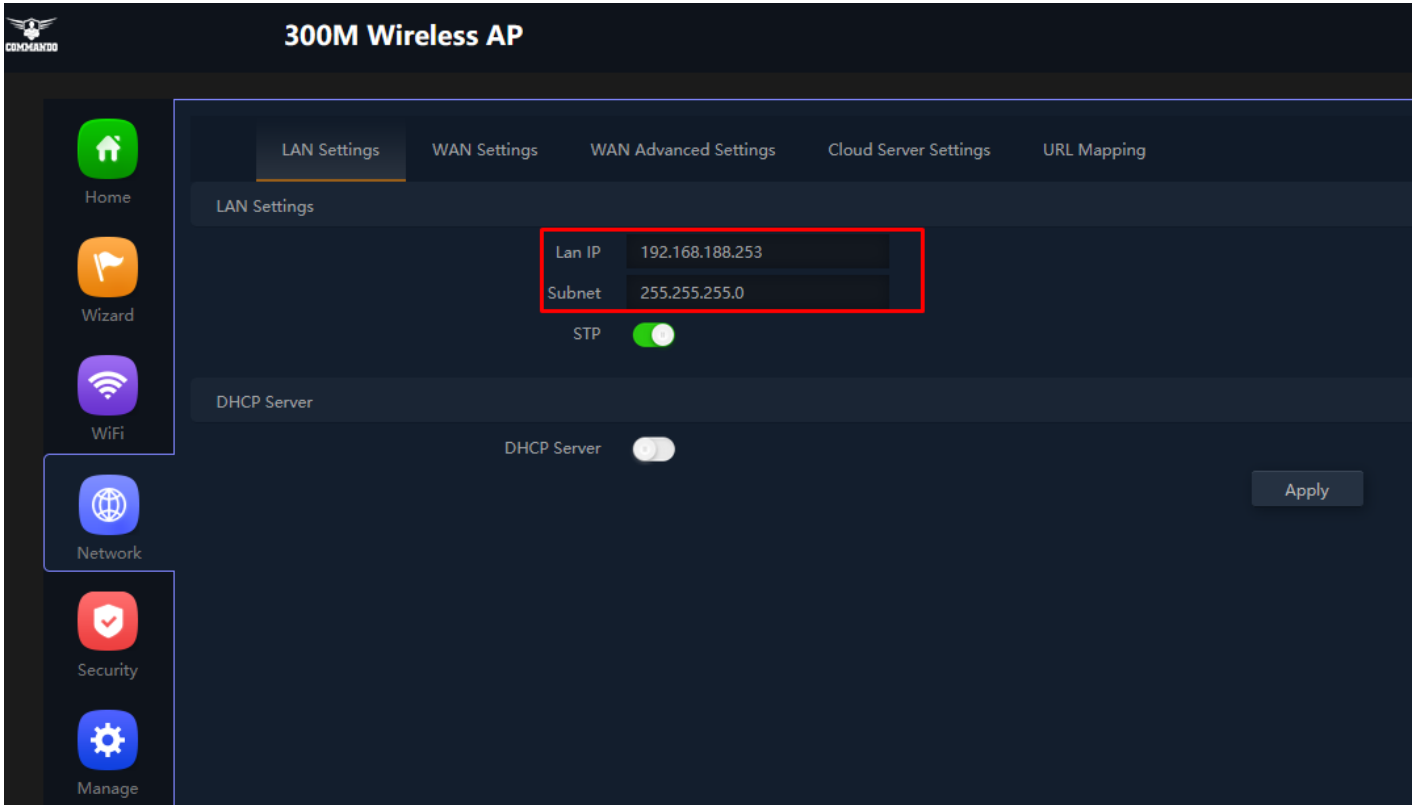
*URL mappings work for the new Portal installation. URL mapping redirection to particular website.*

## **Note:**

All *italic config* options are only available in WISP and Gateway mode only.

## **4.1 LAN Settings**

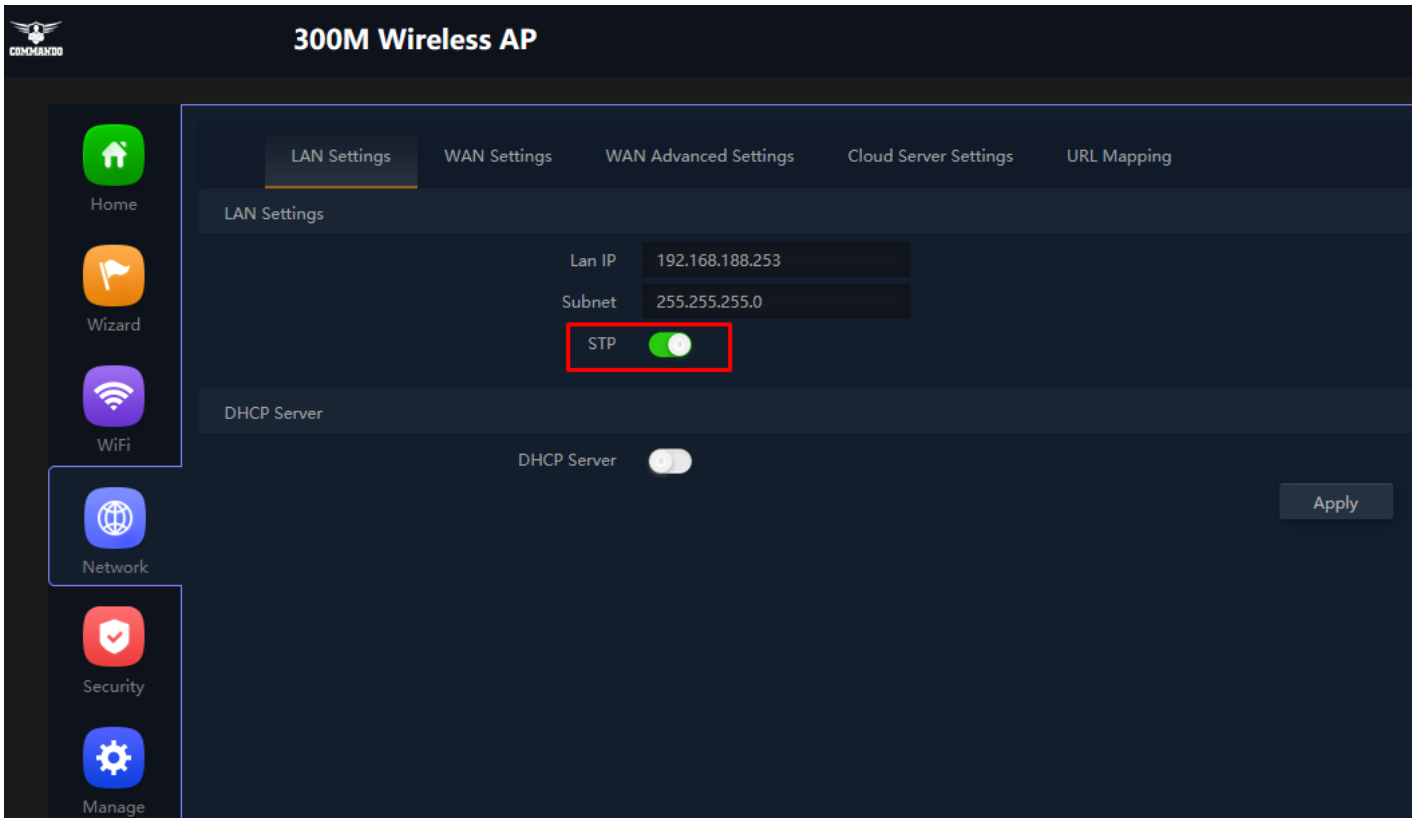
IN LAN Setting you can set access IP for AP along with subnet. You can enable STP to avoid loops in network and preventing broadcast storms. You can set DHCP Server which acts as a network server that automatically provides and assigns IP addresses, default gateways and other network parameters to client devices. It relies on the standard protocol known as Dynamic Host Configuration Protocol or DHCP to respond to broadcast queries by clients.



**Fig 4.1.1 Setting LAN IP which used as access IP for AirONE AP300**

**STP:**

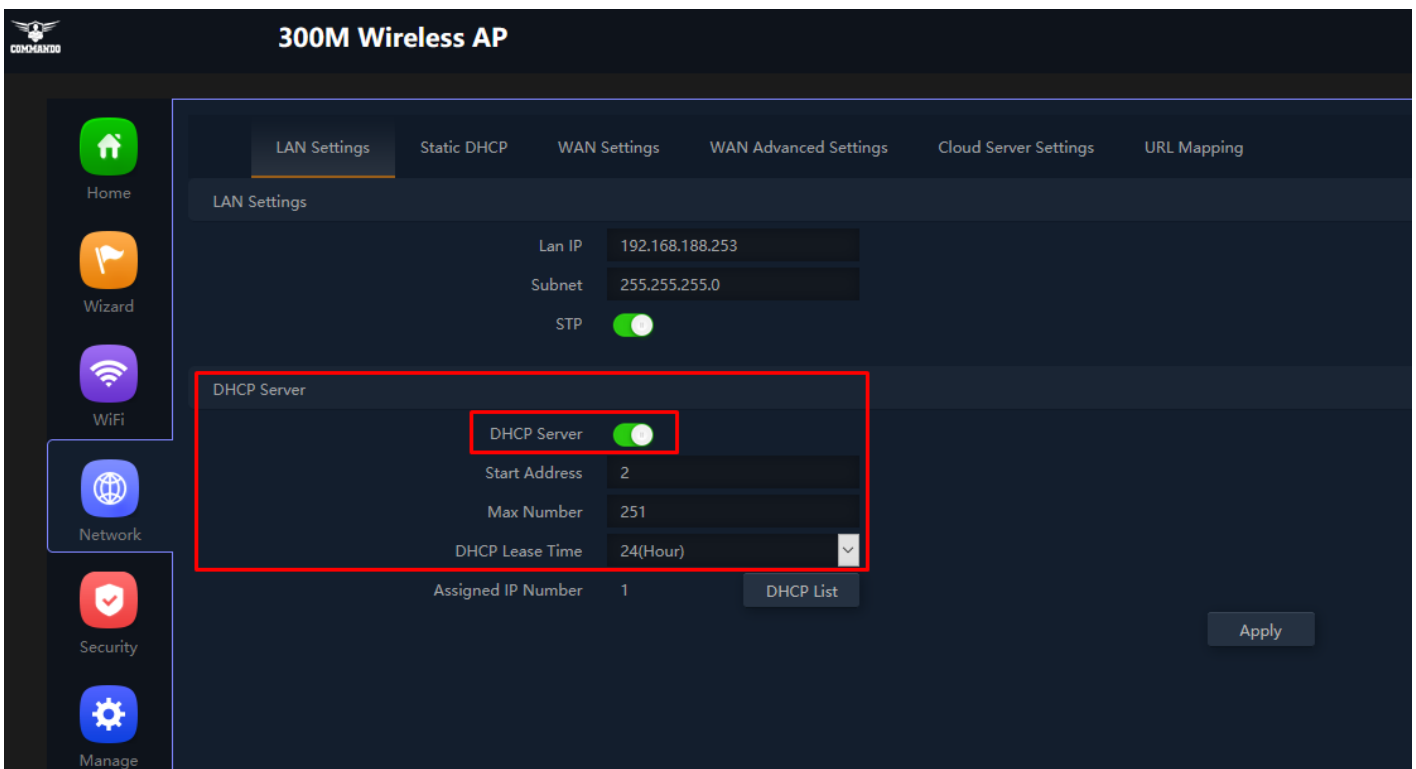
The Spanning Tree Protocol (STP) is a network protocol that builds a loop-free logical topology for Ethernet networks. The Spanning Tree Protocol (STP) is responsible for identifying links in the network and shutting down the redundant ones, preventing possible network loops. The purpose of STP is to allow redundant connection between devices while ensuring a loop-free topology for a LAN. It can also automatically re-enable redundant paths as backup paths in case the active path fails.



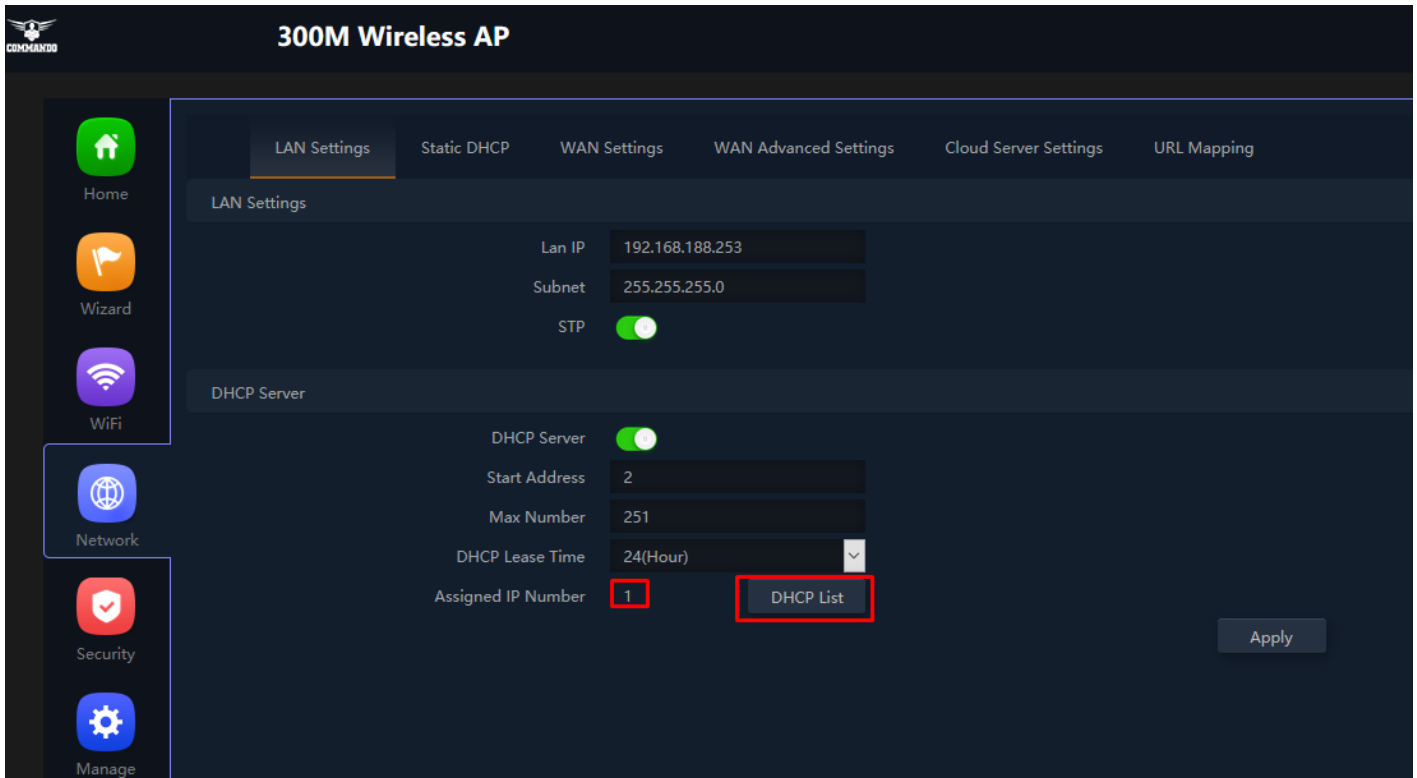
**Fig 4.1.2 Enabling STP for AirONE AP300**

### DHCP Server:

A DHCP Server is a network server that automatically provides and assigns IP addresses to wireless client devices. It relies on the standard protocol known as Dynamic Host Configuration Protocol or DHCP to respond to broadcast queries by clients.



**Fig 4.1.3 Setting DHCP for AirONE AP300**



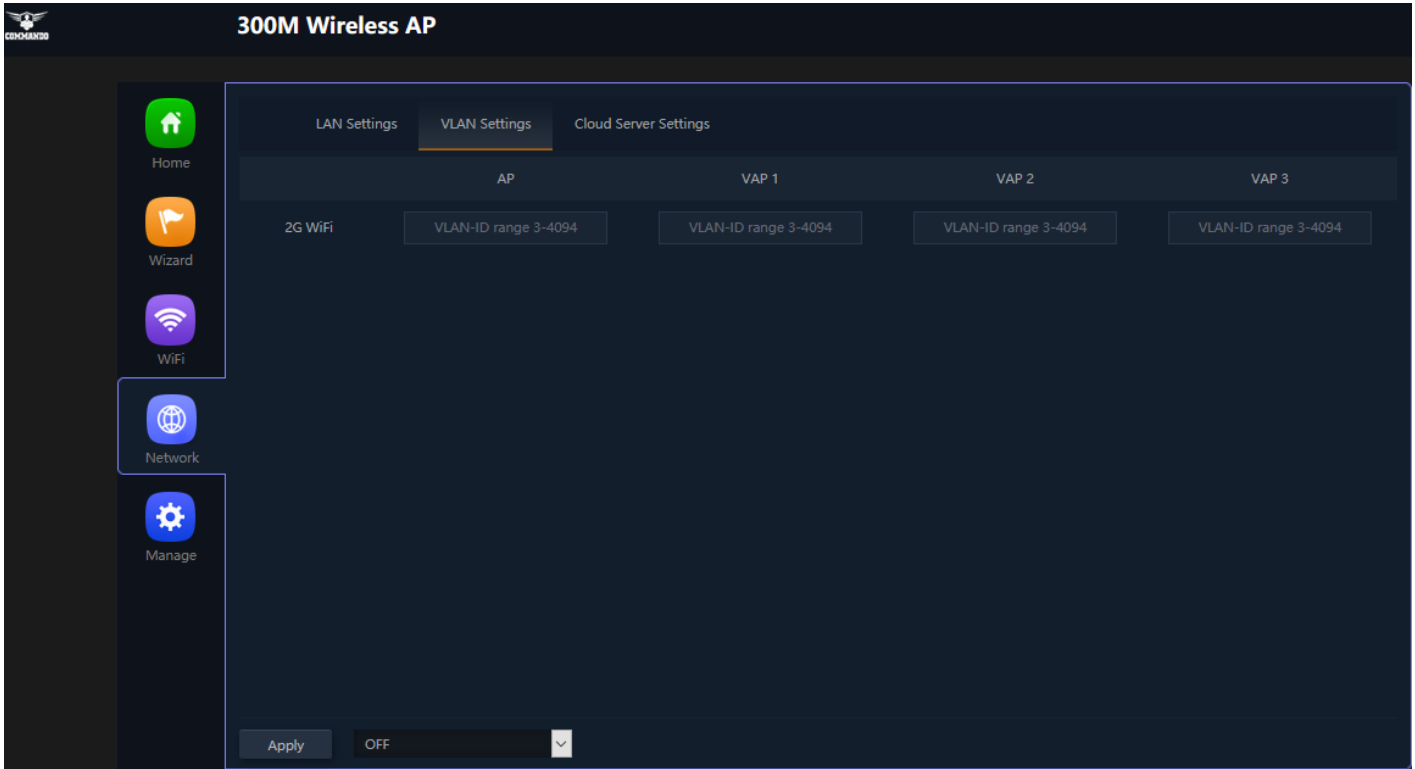
**Fig 4.1.4 DHCP Assigned list for AirONE AP300**

SN	Name	IP Address	MAC Address	DHCP Lease Time
1	POCOF1-POCOF1	192.168.188.237	20:A6:0C:37:4D:13	0Day22H7M28S

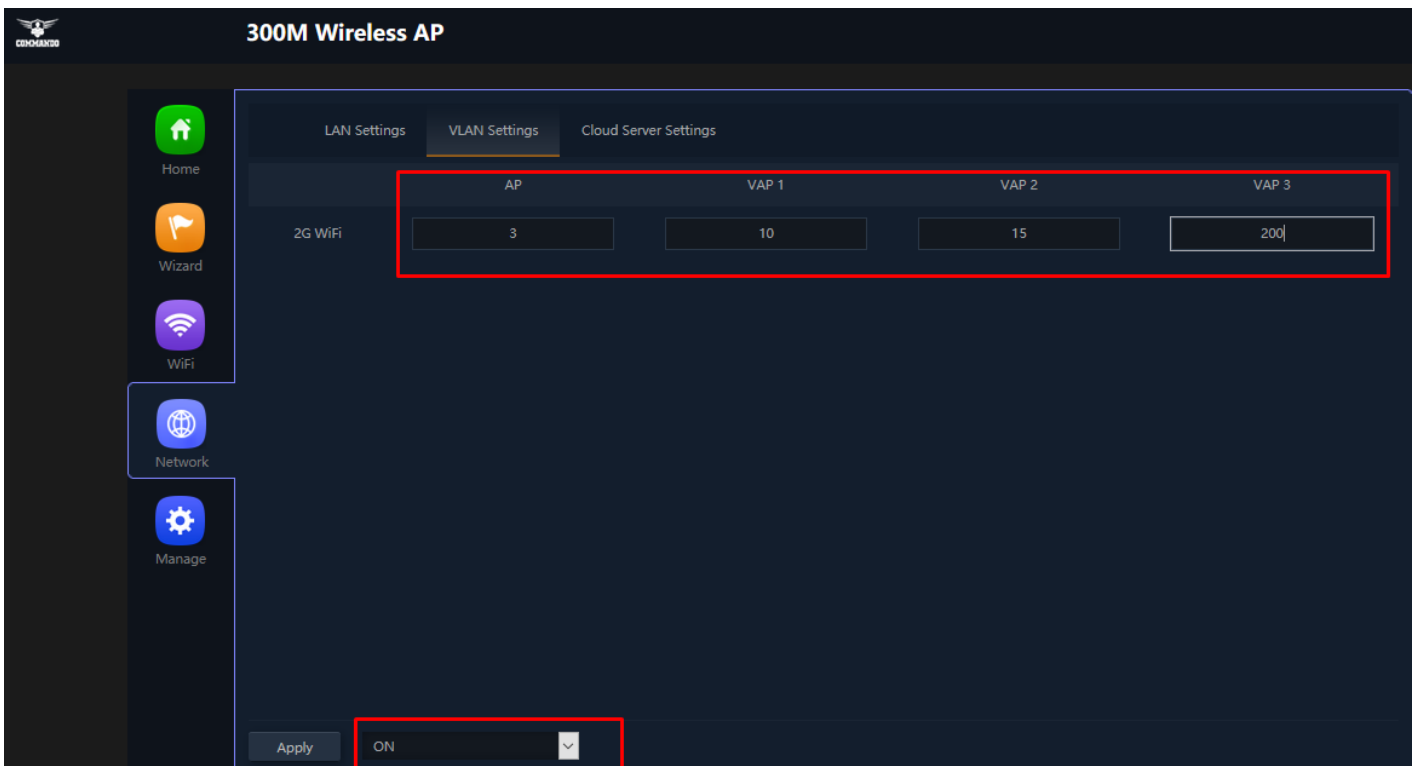
**Fig 4.1.4 DHCP client list for AirONE AP300**

## 4.2 VLAN Setting

In VLAN Setting, you need L2/L3 switch that make use of multiple VLAN. You can give wireless clients member of multiple VLAN using multi SSID. It is required to enable basic and VAP. These Multi SSID an be provided with different VLAN ID to set different network with separate broadcast domain.



**Fig 4.2.1 Default VLAN setting for AirONE AP300**



**Fig 4.2.2 VLAN setting for AirONE AP300**

### 4.3 Static DHCP Setting

A static IP address binding is ultimately set by an administrator and does not change. Although DHCP stands for dynamic host configuration protocol, you can still set up static IP addresses using DHCP. This allows the network server to always get the same IP even

after it reboots, without dynamically assigning the IP. The DHCP Static IP Mapping feature enables assignment of static IP addresses with MAC address without taking IP addresses from DHCP pool with manual bindings. Compatible ARP binding list is statically assigned.

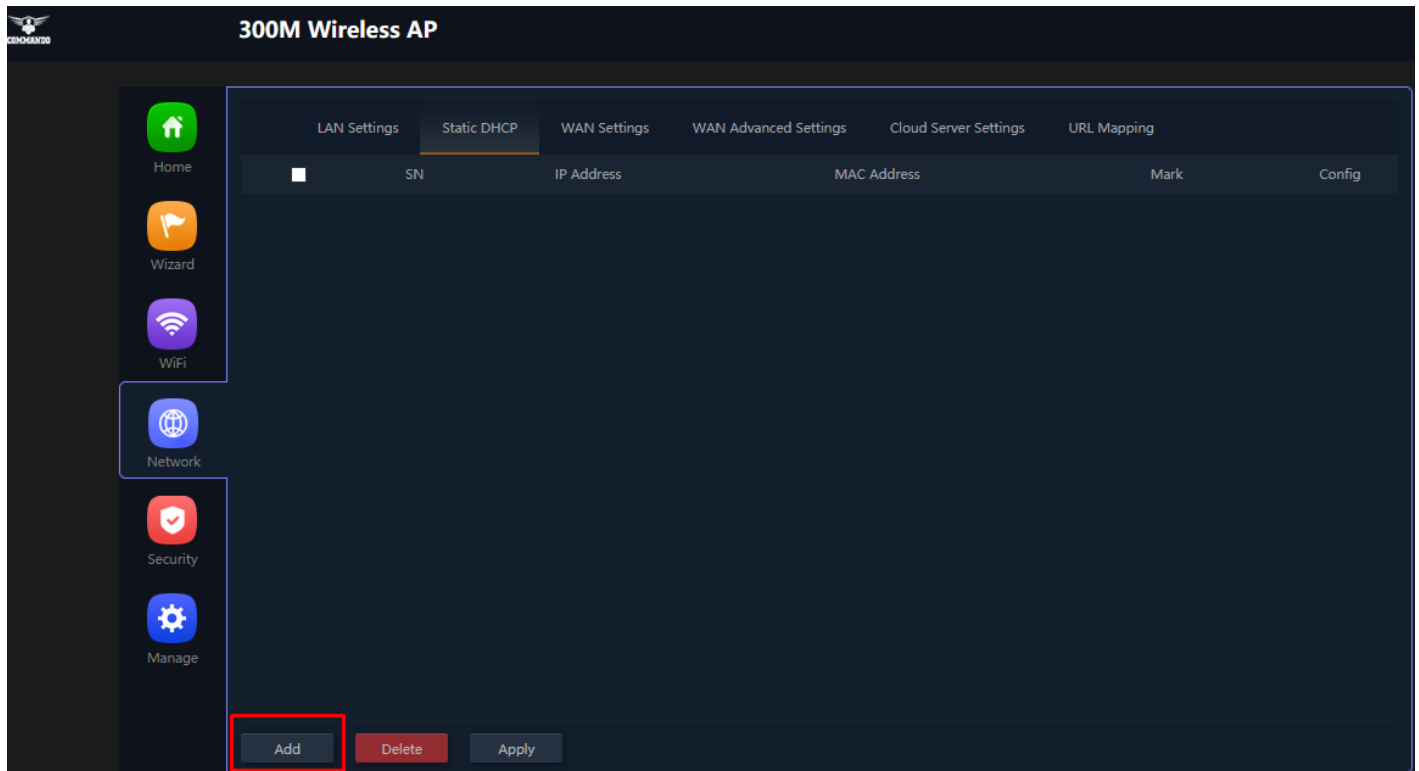


Fig 4.3.1 Default Static DHCP for AirONE AP300

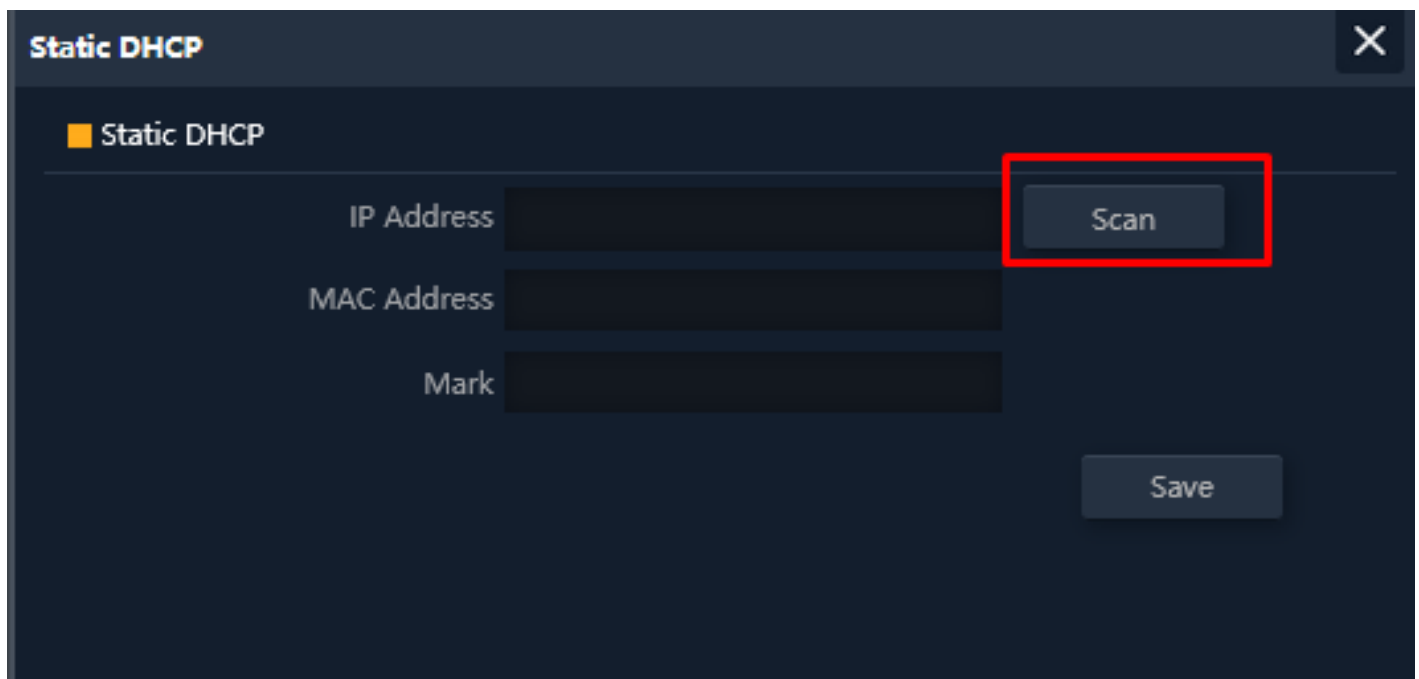


Fig 4.3.2 Static DHCP scan for AirONE AP300

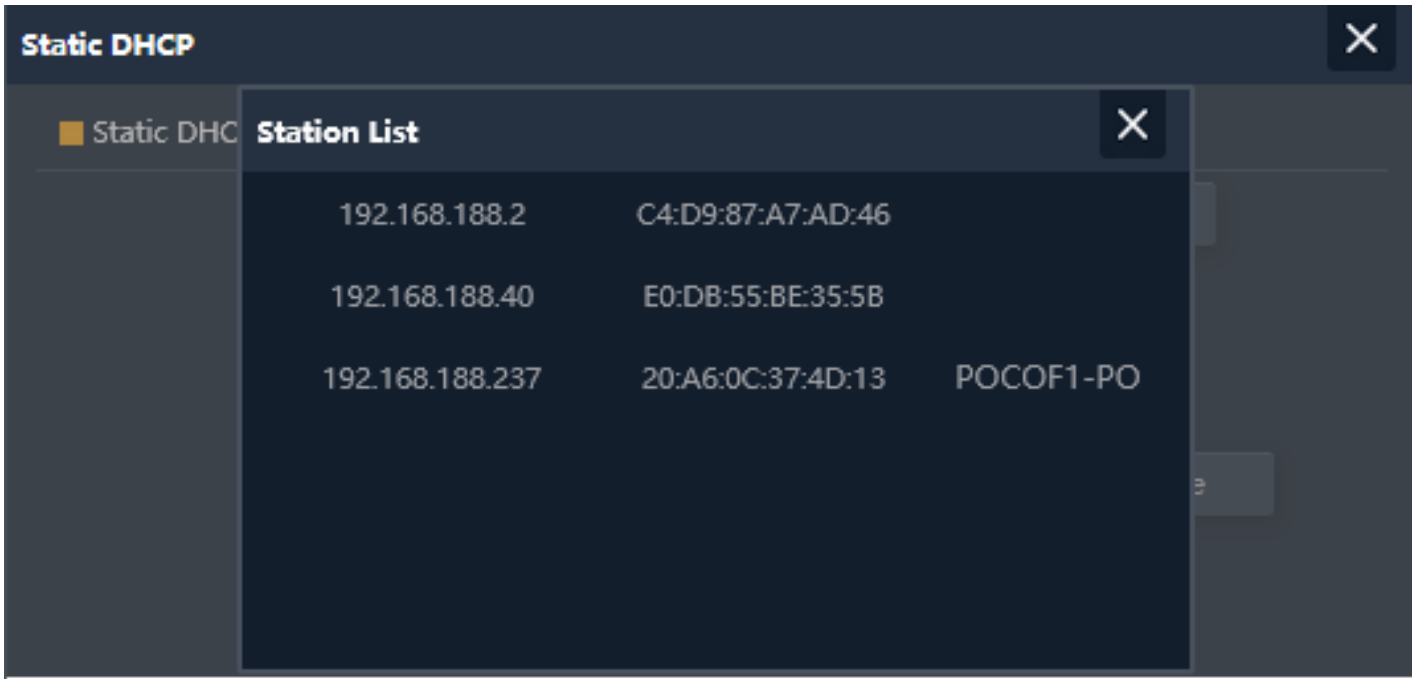


Fig 4.3.3 Station list for AirONE AP300

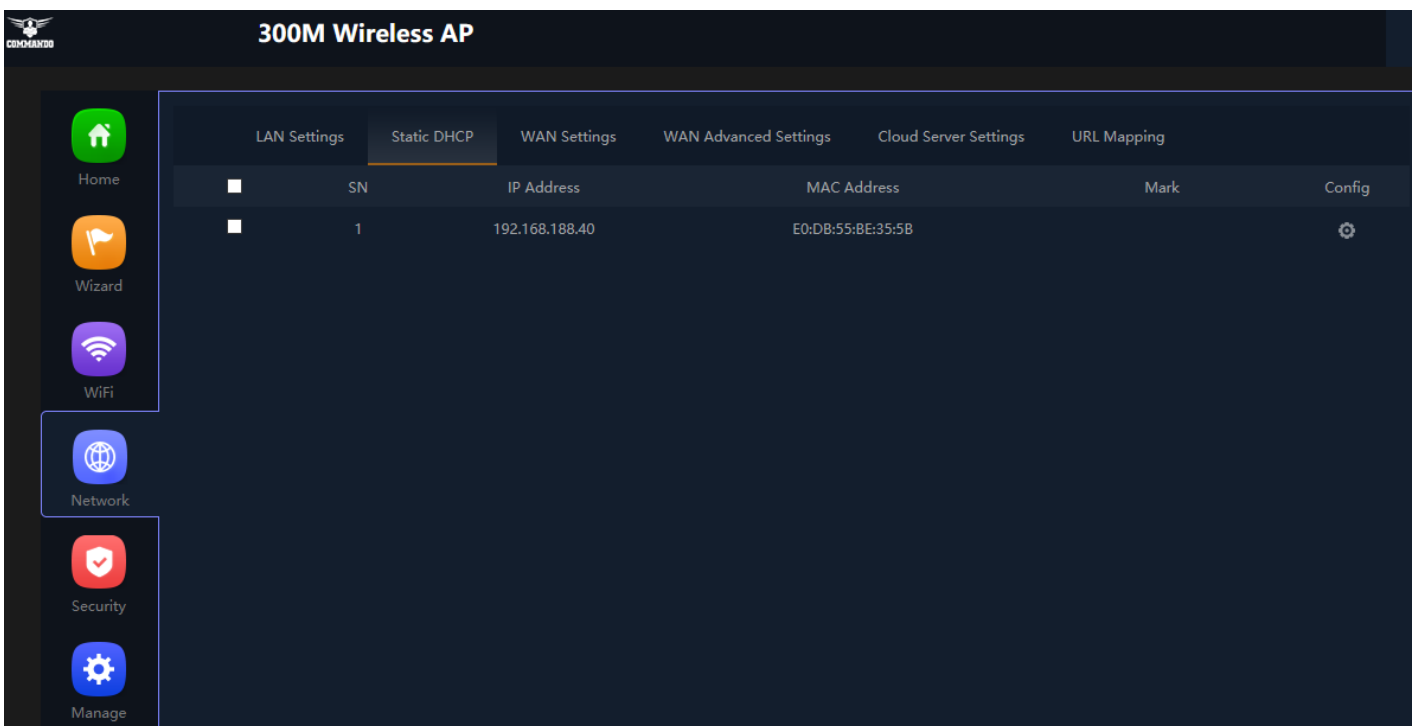
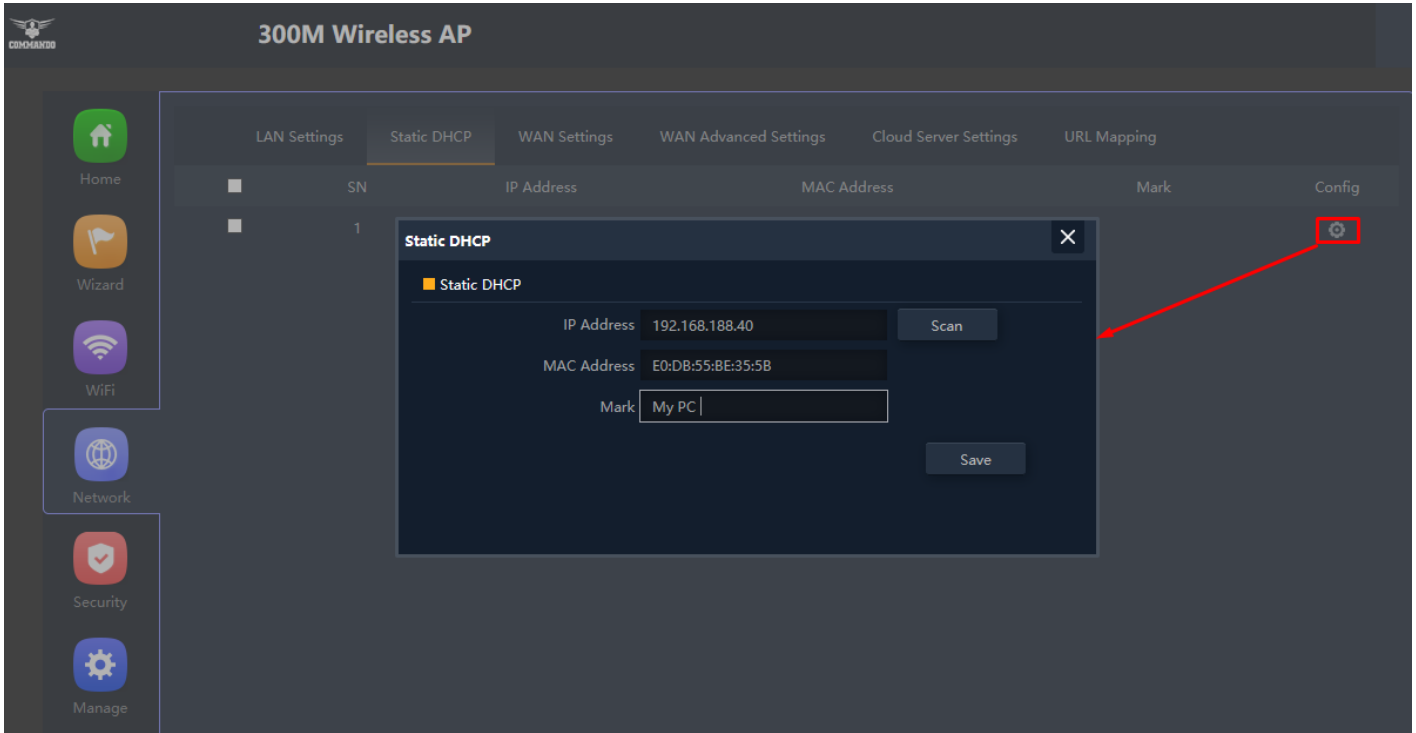


Fig 4.3.4 Static DHCP for AirONE AP300





**Fig 4.3.5 Config Button for Static DHCP for AirONE AP300**

## 4.4 WAN Settings

You can set WAN Connect Method, MTU and DNS Manually along with Primary, Secondary DNS.



Fig 4.4.1 Default WAN Setting for AirONE AP300

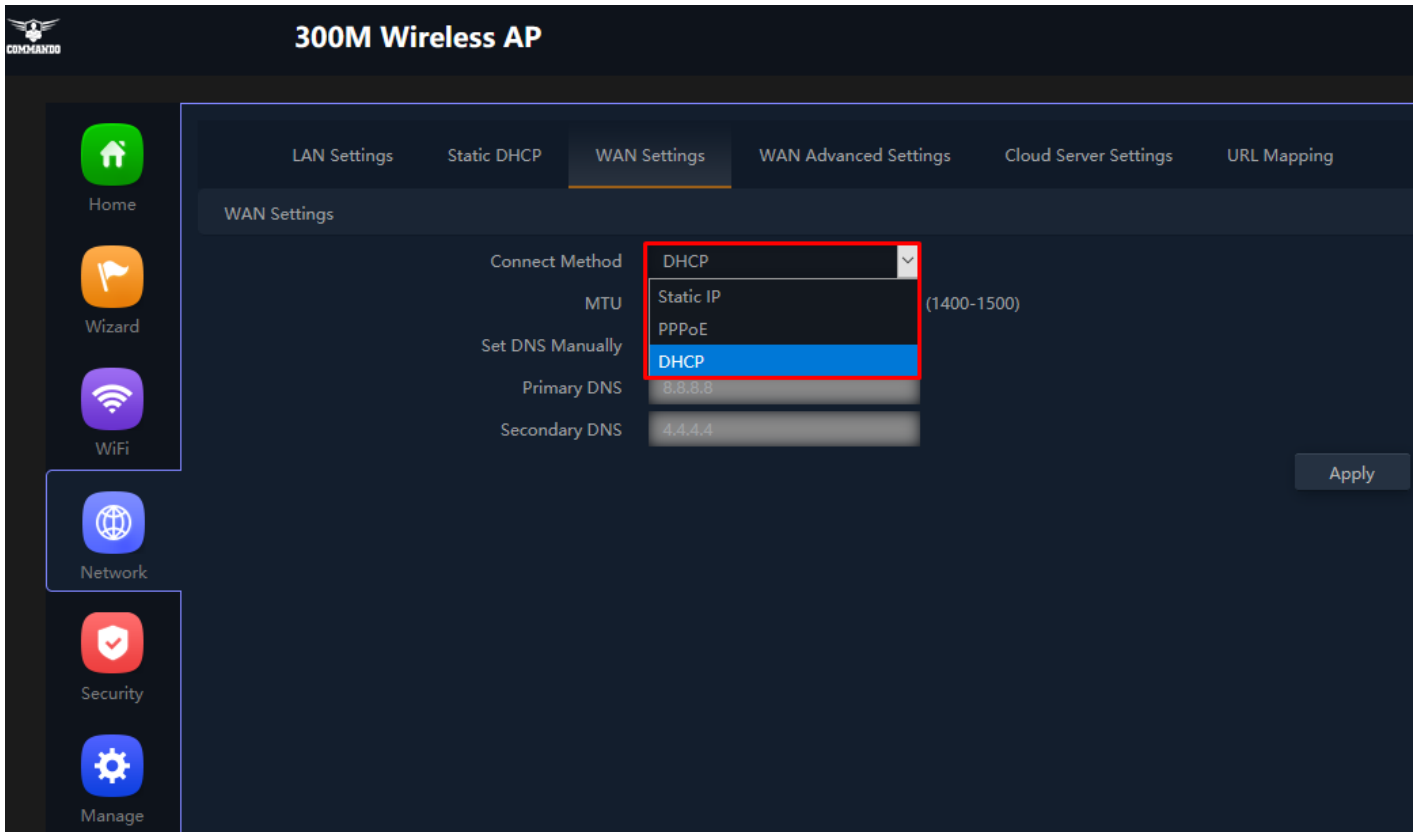


Fig 4.4.2 Changing Connect type manually for AirONE AP300

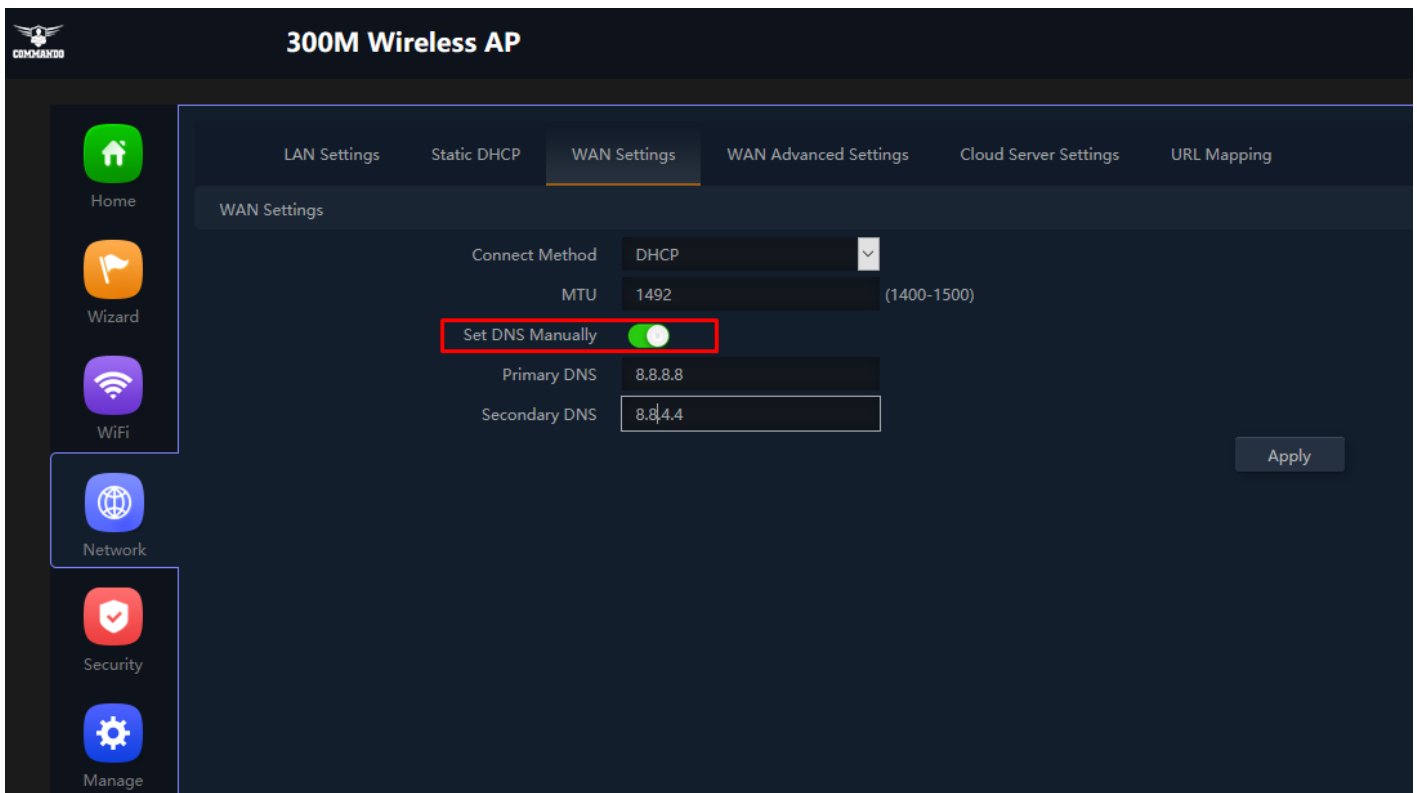


Fig 4.4.3 Set DNS manually for AirONE AP300

## 4.5 WAN Advanced Settings

It can Enable web server access on WAN interface on per ports basis from 1 to 65535. You also can set MAC Clone, Enable or disable Ping Access on WAN. Enable or disable IPsec, PPTP, L2TP pass through on VPN connection.

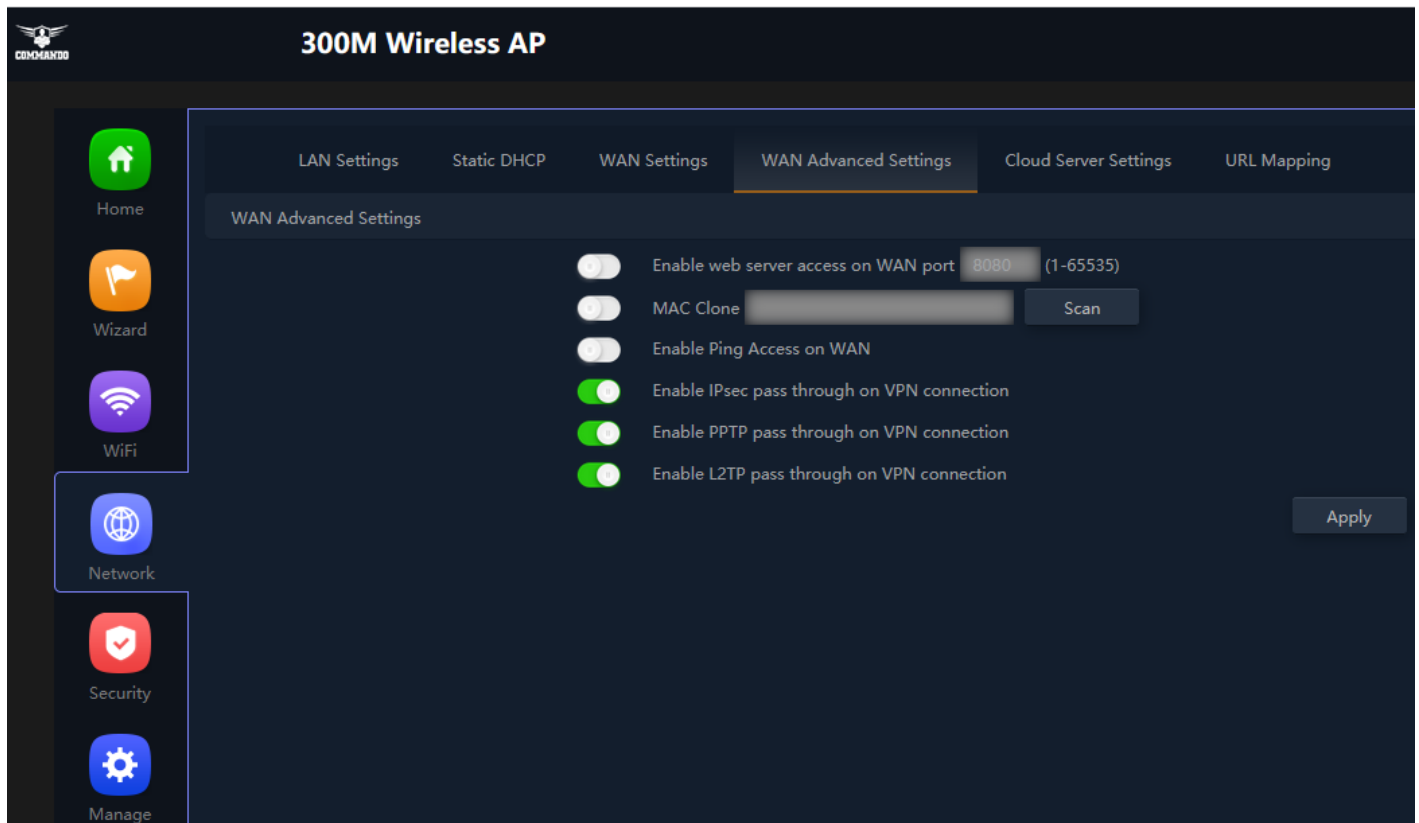


Fig 4.5.1 Default WAN Advanced setting for AirONE AP300

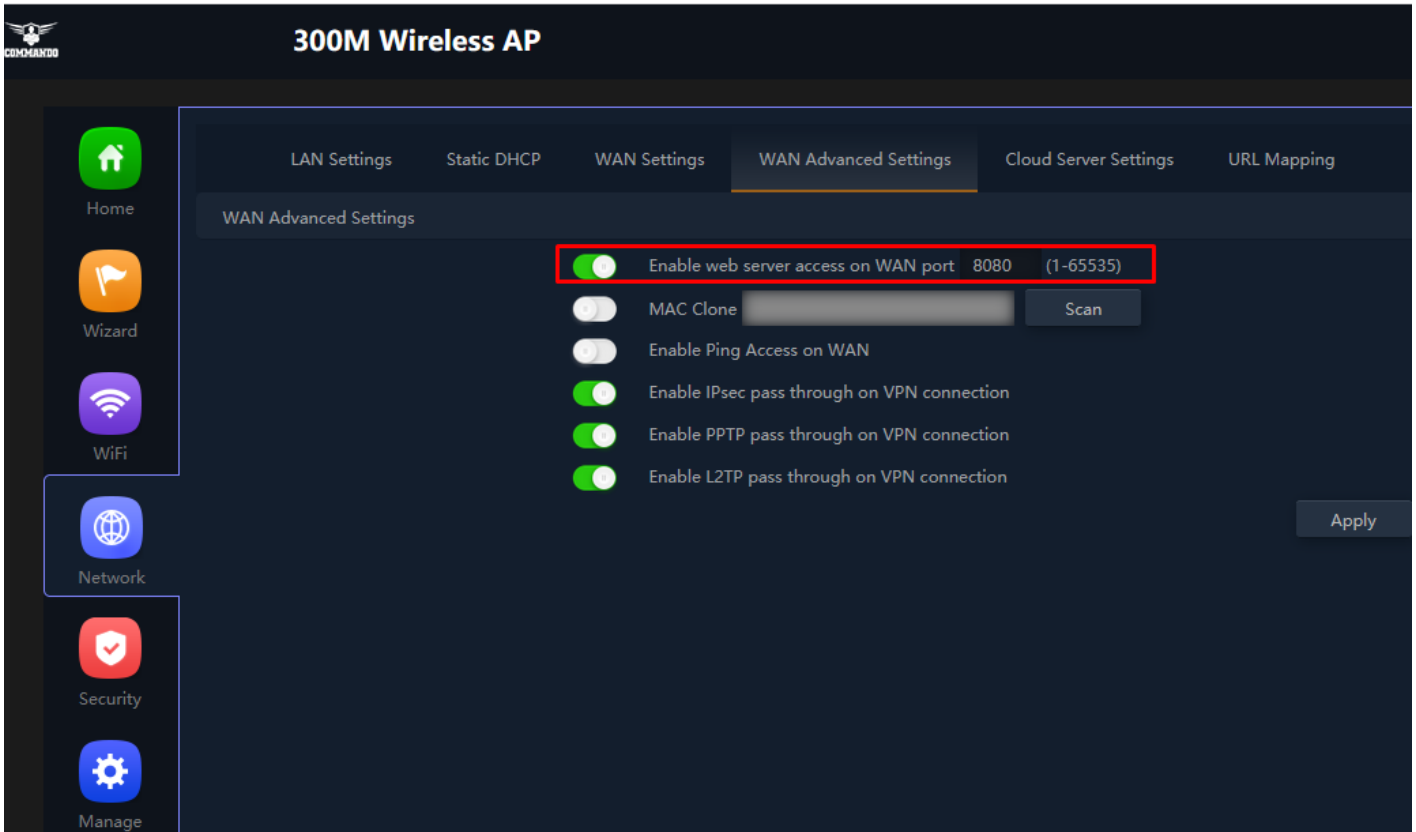


Fig 4.5.2 Enable Port setting for WEB server for AirONE AP300

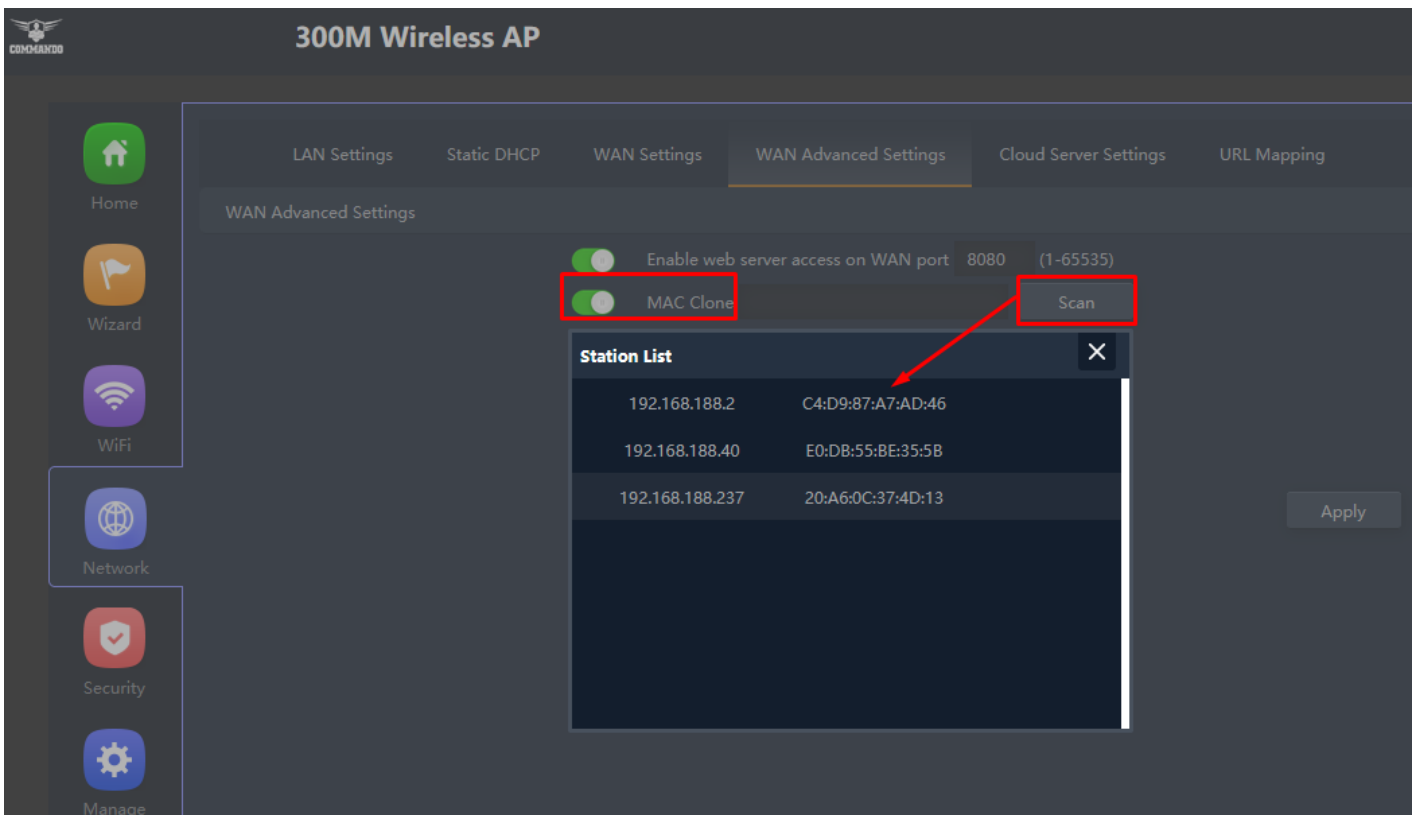


Fig 4.5.3 Configuration of MAC clone for AirONE AP300

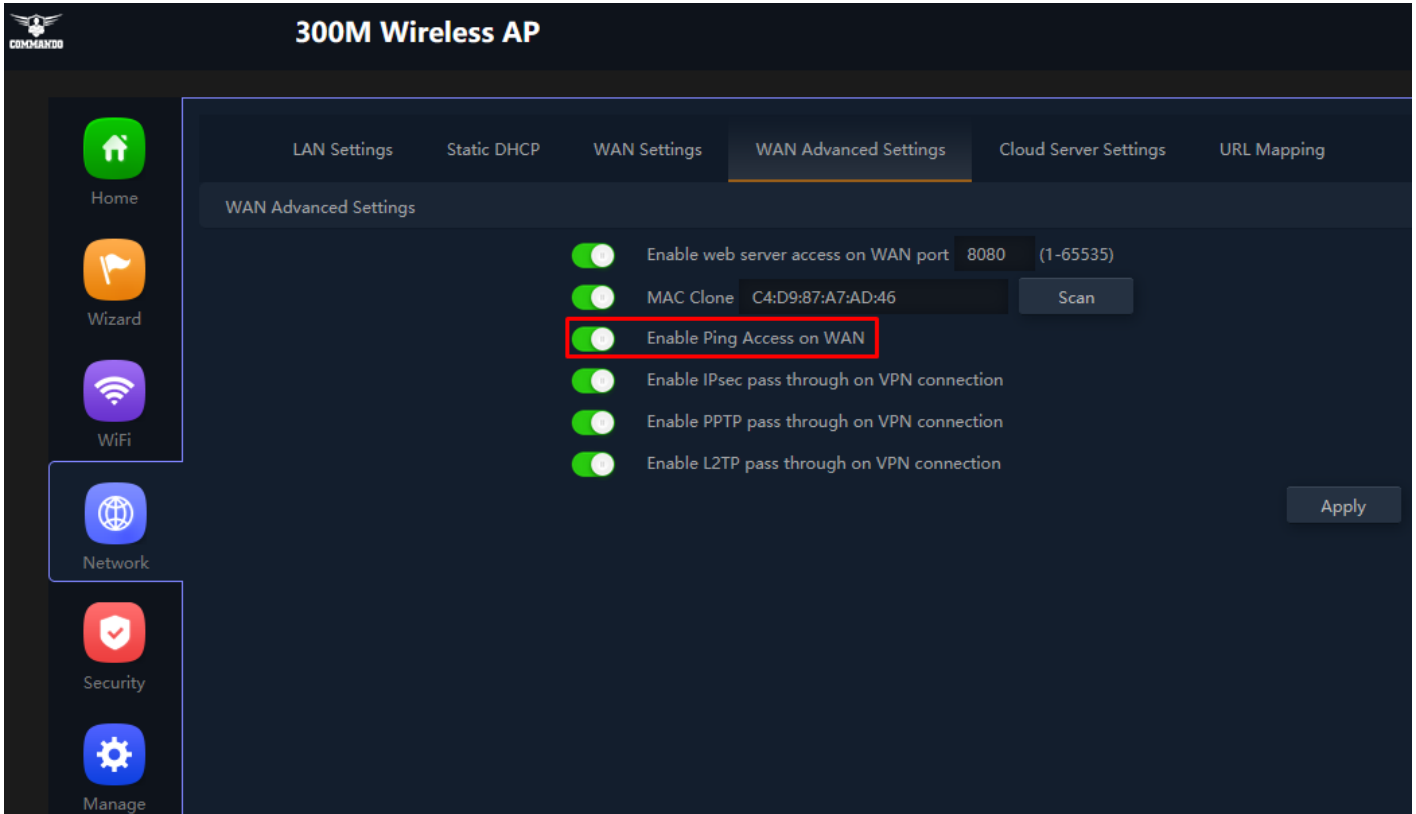


Fig 4.5.4 Enabling Ping access through WAN for AirONE AP300

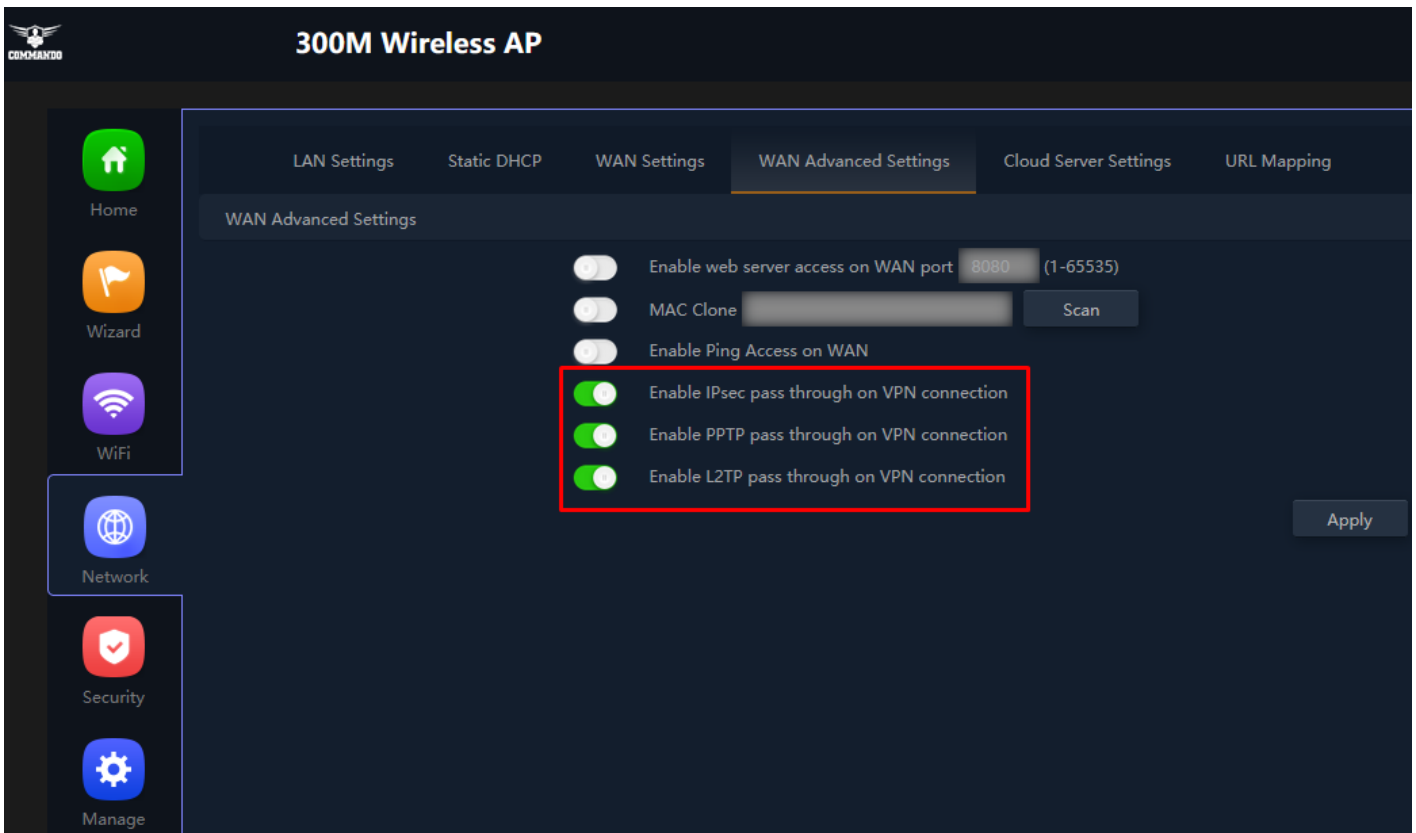


Fig 4.5.5 Enabling IPsec/PPTP/L2TP access through VPN for AirONE AP300

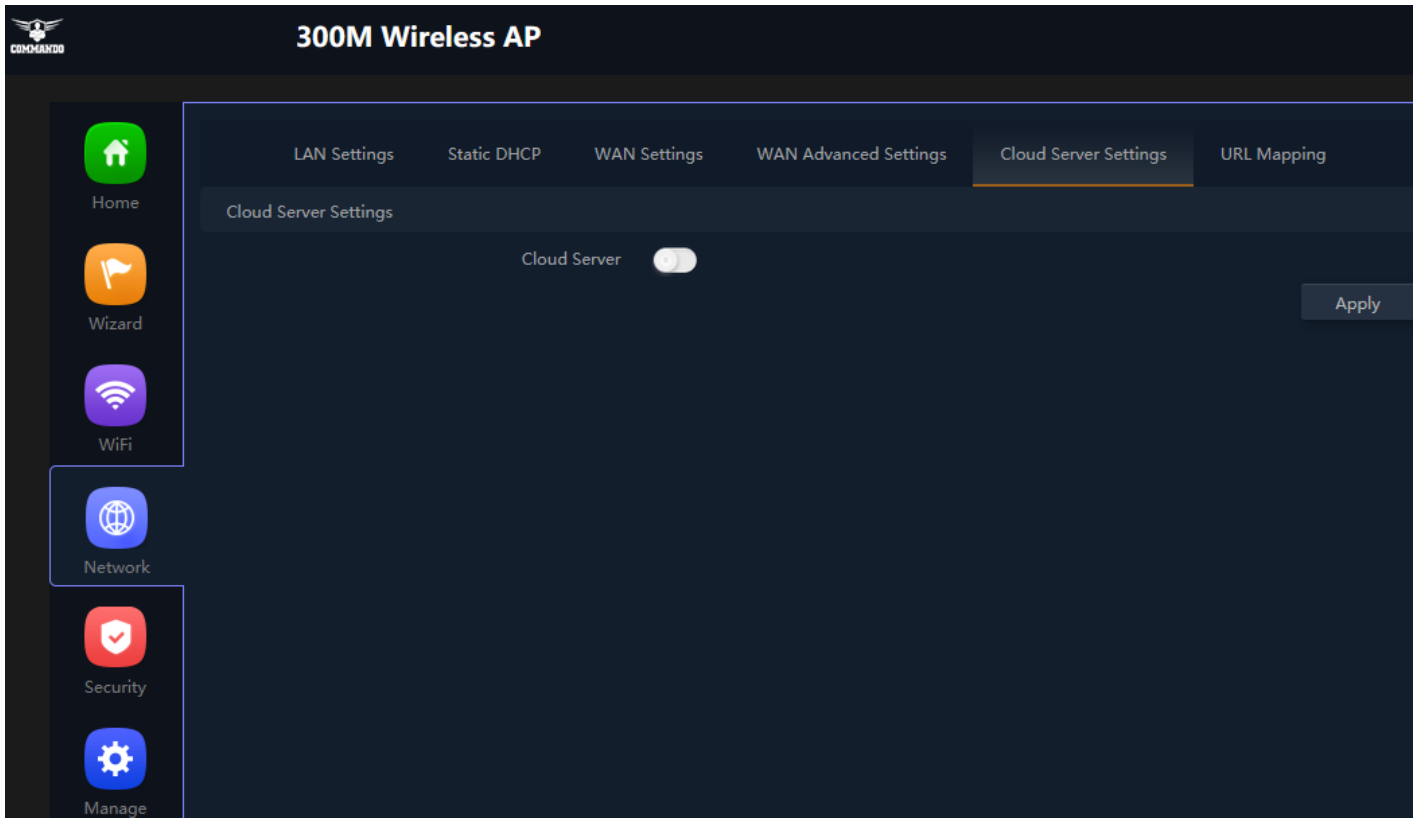
## 4.6 Cloud Server Setting

A cloud-managed access point or networking solution allows business owners to manage

Wi-Fi and network infrastructure over the cloud with zero maintenance charges, centralize control painlessly. This means businesses can connect to the cloud by subscribing to a pay-as-you-go, on-demand model.

**Note:**

This function is currently not activated.



**Fig 4.6.1 Default Cloud server setting for AirONE AP300**

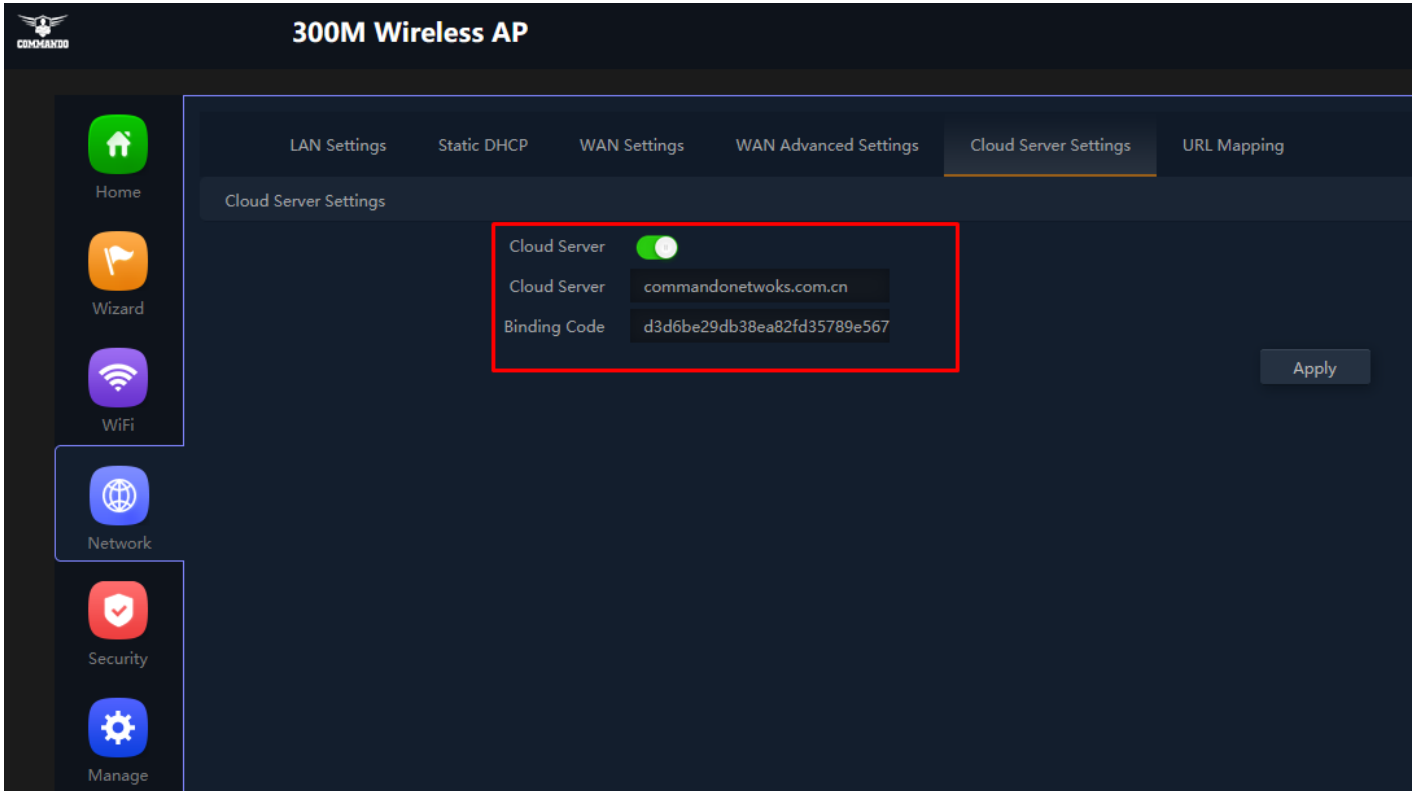


Fig 4.6.2 Enabling Cloud server setting for AirONE AP300

## 4.7 URL Mapping

URL mappings work for the new Portal installation. URL mapping redirection to particular website. You can replace URL for a selected IP.

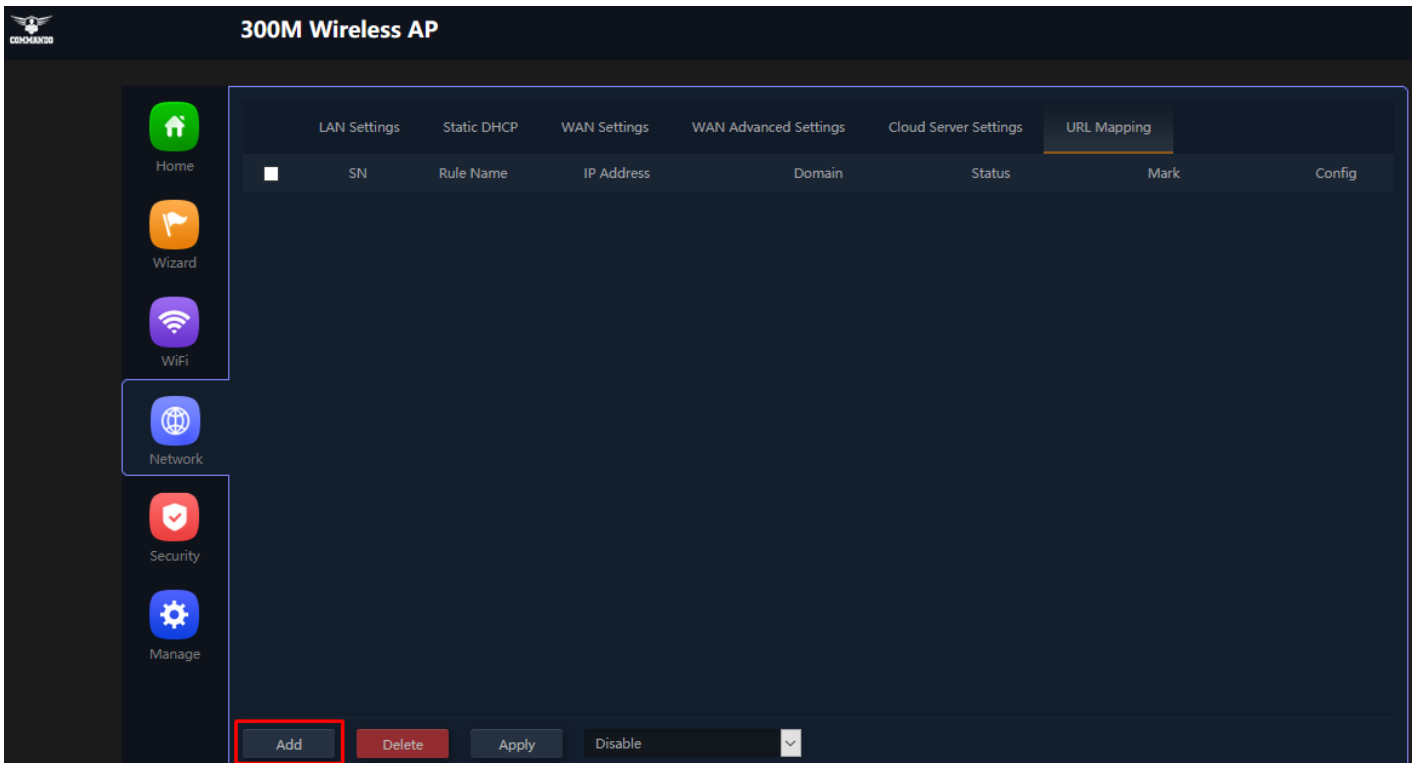


Fig 4.7.1 Default URL Mapping setting for AirONE AP300

URL Mapping

■ URL Mapping

Status

Rule Name 1

IP Address 192.168.188.2

Domain commandonetworks.com

Mark

Fig 4.7.2 Configure URL Mapping setting for AirONE AP300

300M Wireless AP

LAN Settings Static DHCP WAN Settings WAN Advanced Settings Cloud Server Settings URL Mapping

SN	Rule Name	IP Address	Domain	Status	Mark	Config
1	1	192.168.188.2	commandonetworks.com	<input checked="" type="checkbox"/>		<input type="button" value="⚙"/>



### **Fig 4.7.3 URL Mapping setting for AirONE AP300**

# SECURITY

## **URL Filter Settings:**

*URL filtering is a type of web filtering and is used to restrict web content.*

## **IP Filter Settings:**

*IP Filter bars filter IP to access the AP SSID.*

## **MAC Filter Settings:**

*MAC Filter bars filter particular MAC to access the AP SSID.*

## **Security Settings:**

*It can set Rule for particular TCP or UDP Protocol for selected wireless client IP with port mapping function.*

## **DMZ Settings:**

*It can set DMZ Host IP to provide an internal network with an additional security layer by restricting access.*

## **Note:**

All *italic config* options are only available in WISP and Gateway mode only.

## **5.1 URL Filter Settings**

Organizations can create policies such as permanently allowing or blocking access to specific sites or groups of websites, such as social networking pages to either redirect, filter or blocked. URL filtering is a type of web filtering and is used to restrict web content in order to restrict what content their employees can access over company networks. URL blocking refers process of allowing or denying the access to a certain websites or certain URL addresses for the web users either temporarily or permanently. If a URL is blocked, then the user will not be able to view the URL address or its web content.

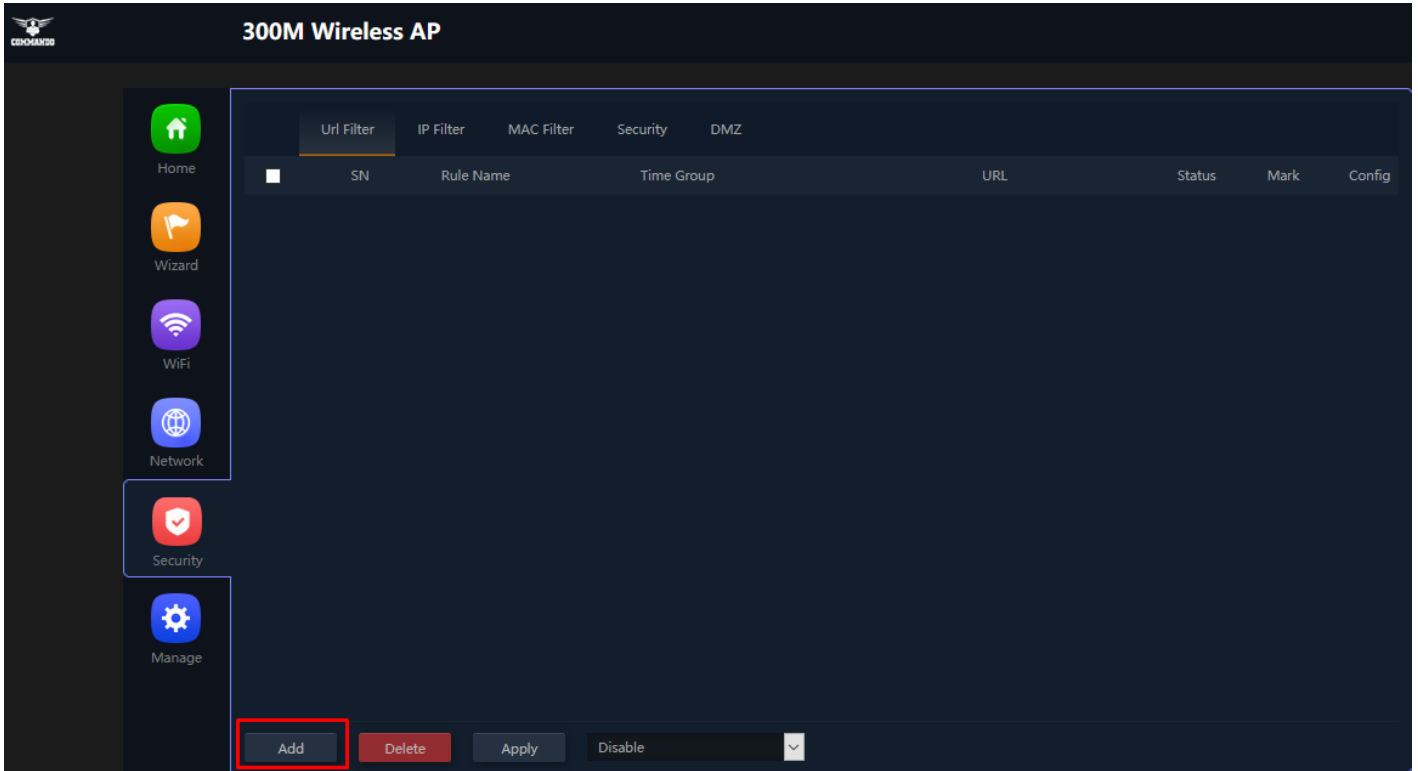


Fig 5.1.1 Default URL filter setting for AirONE AP300

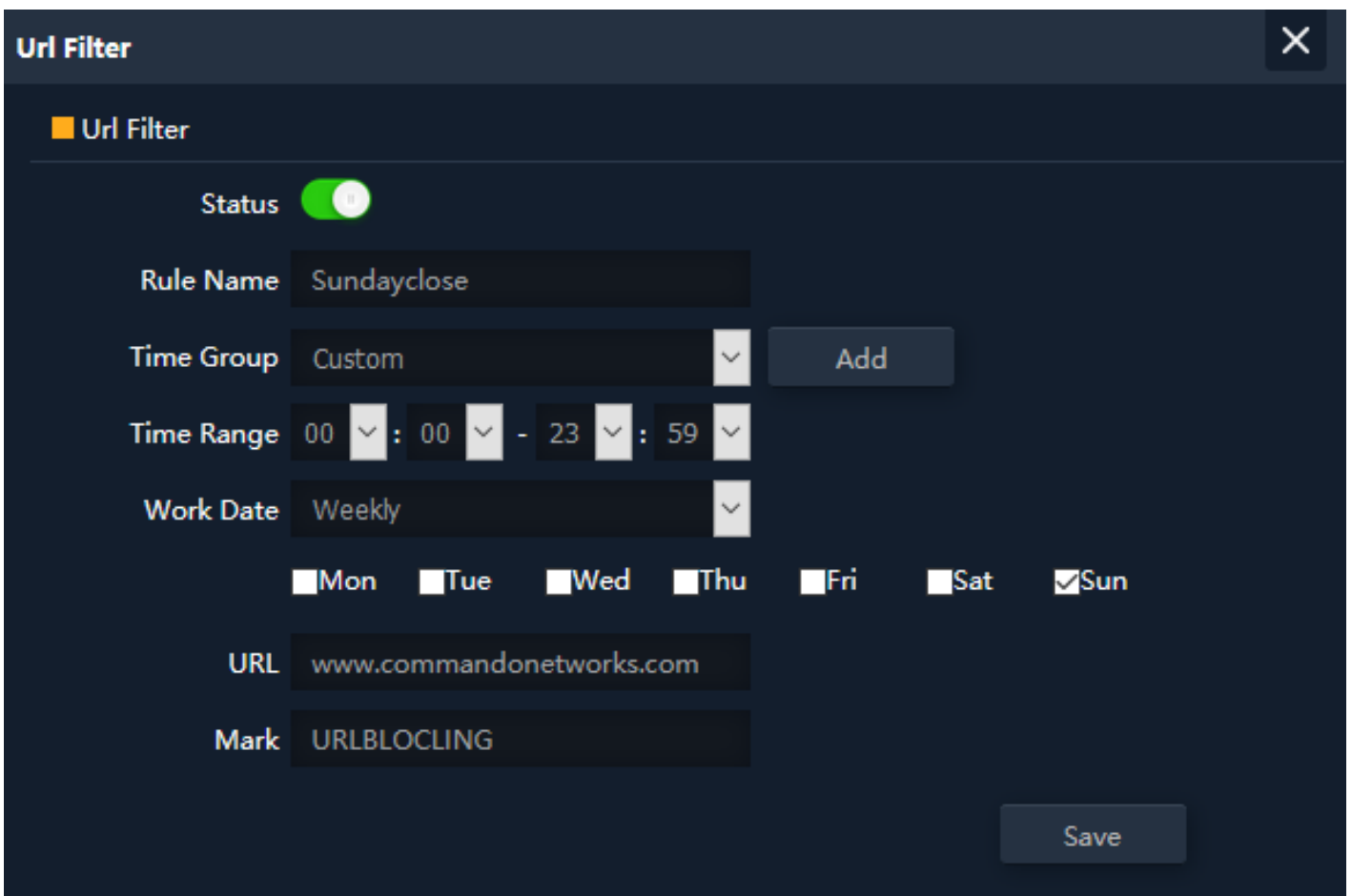
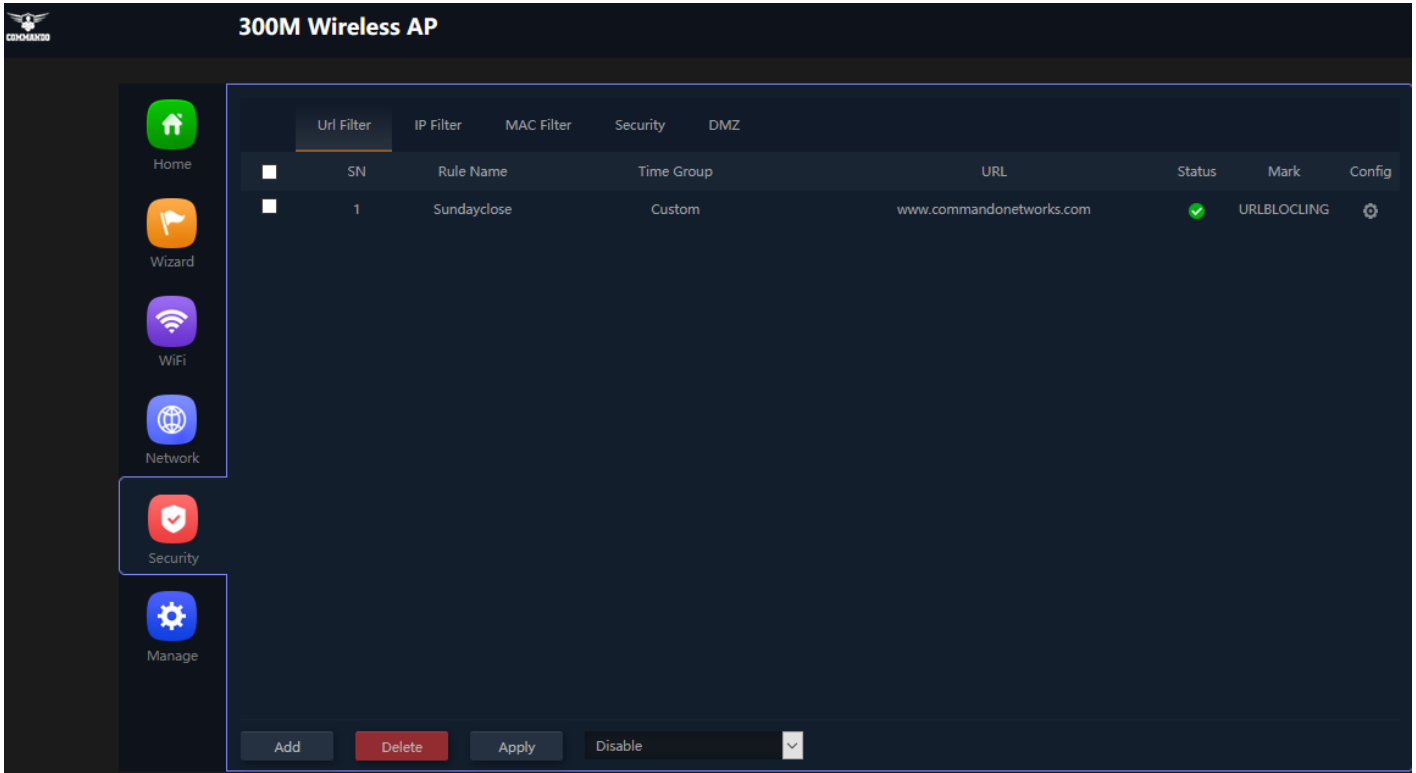


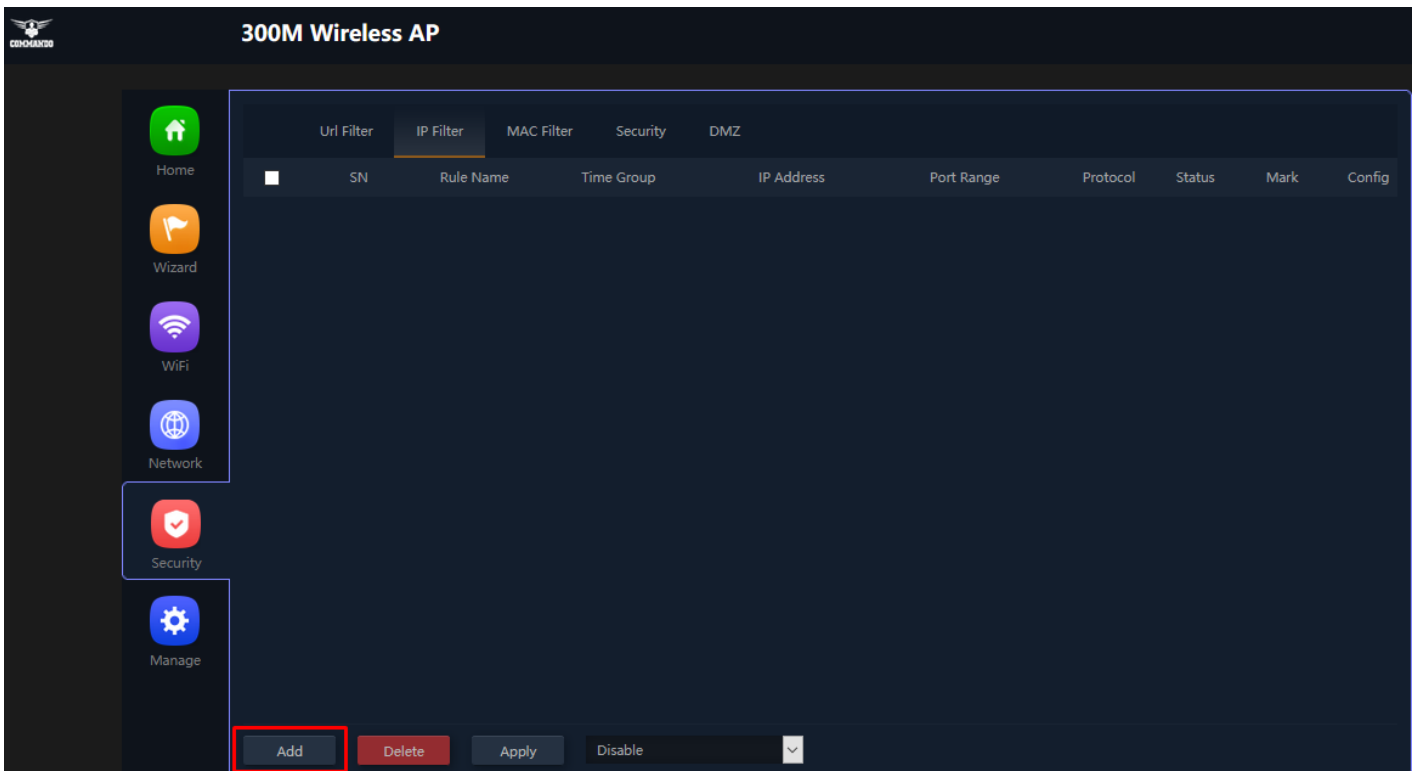
Fig 5.1.2 Setting URL filter for AirONE AP300



**Fig 5.1.3 URL filter setting for AirONE AP300**

## 5.2 IP Filter Settings

IP Filter bars filter IP to access the AP SSID.



**Fig 5.2.1 Default IP filter setting for AirONE AP300**

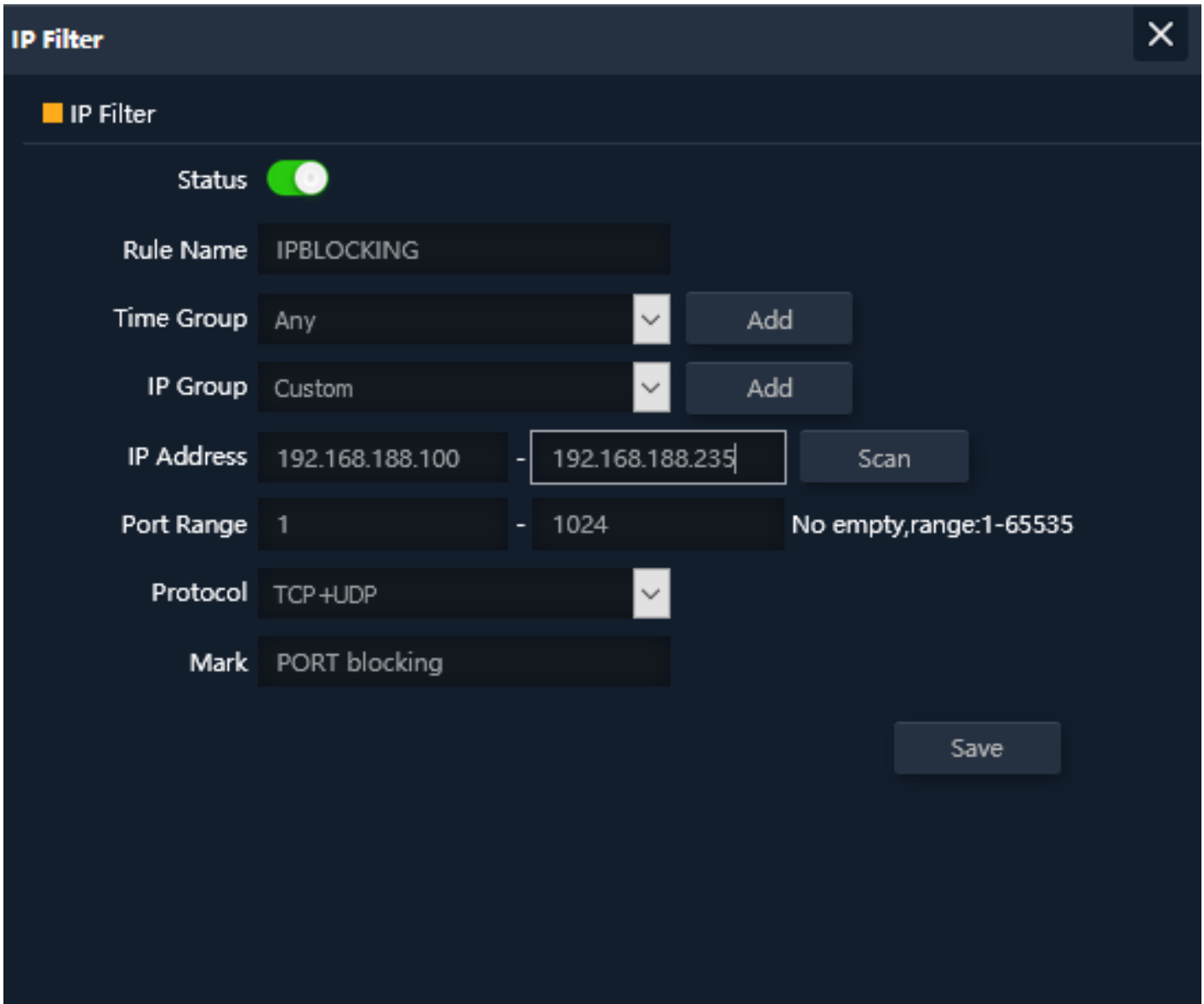
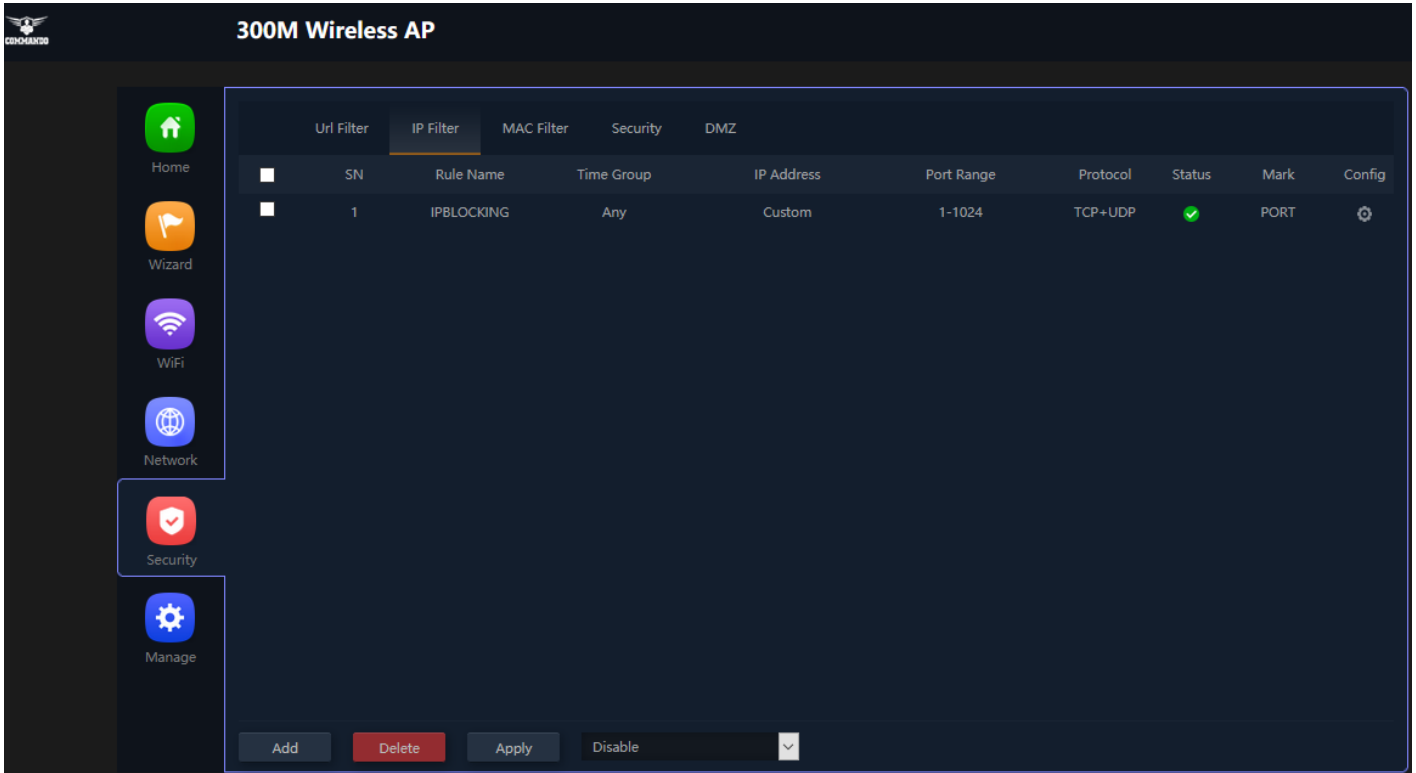


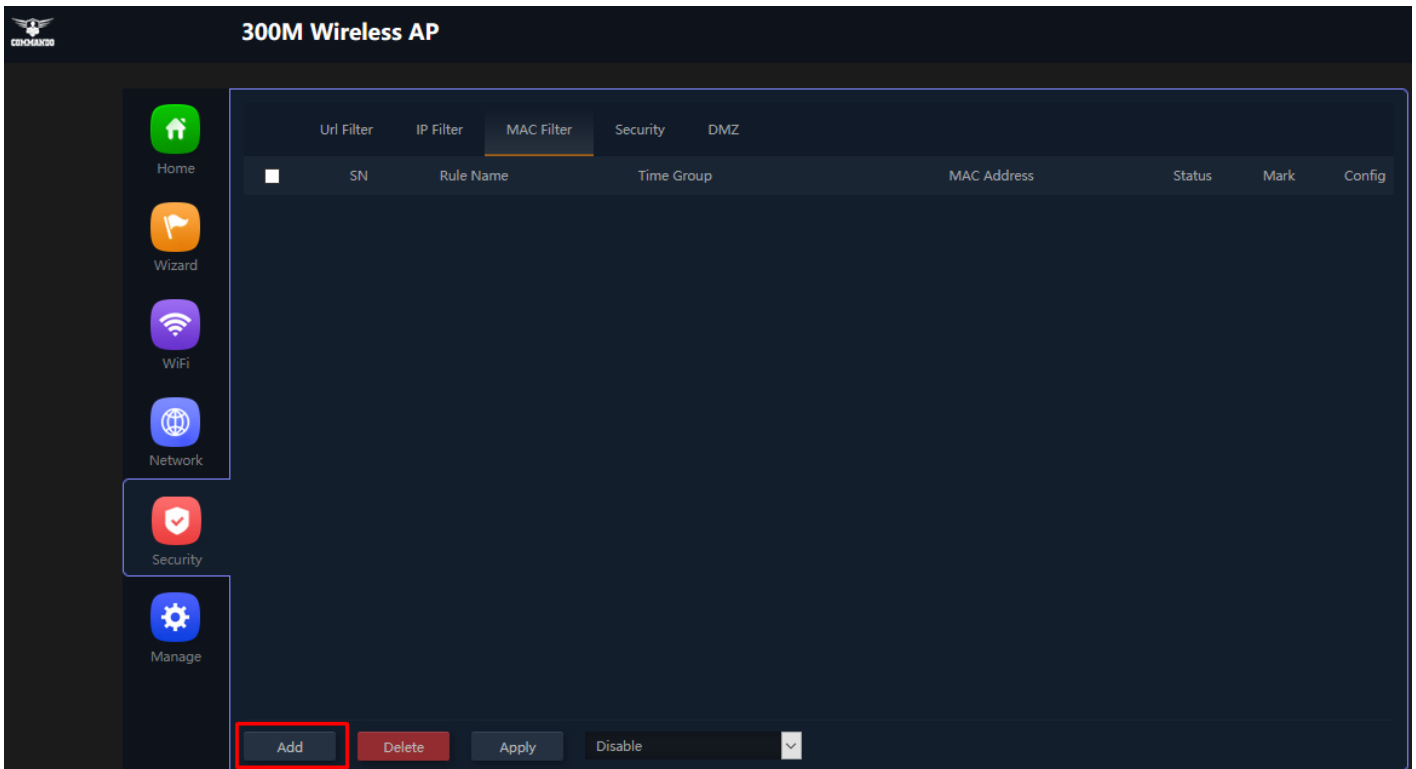
Fig 5.2.2 Setting IP filter for AirONE AP300



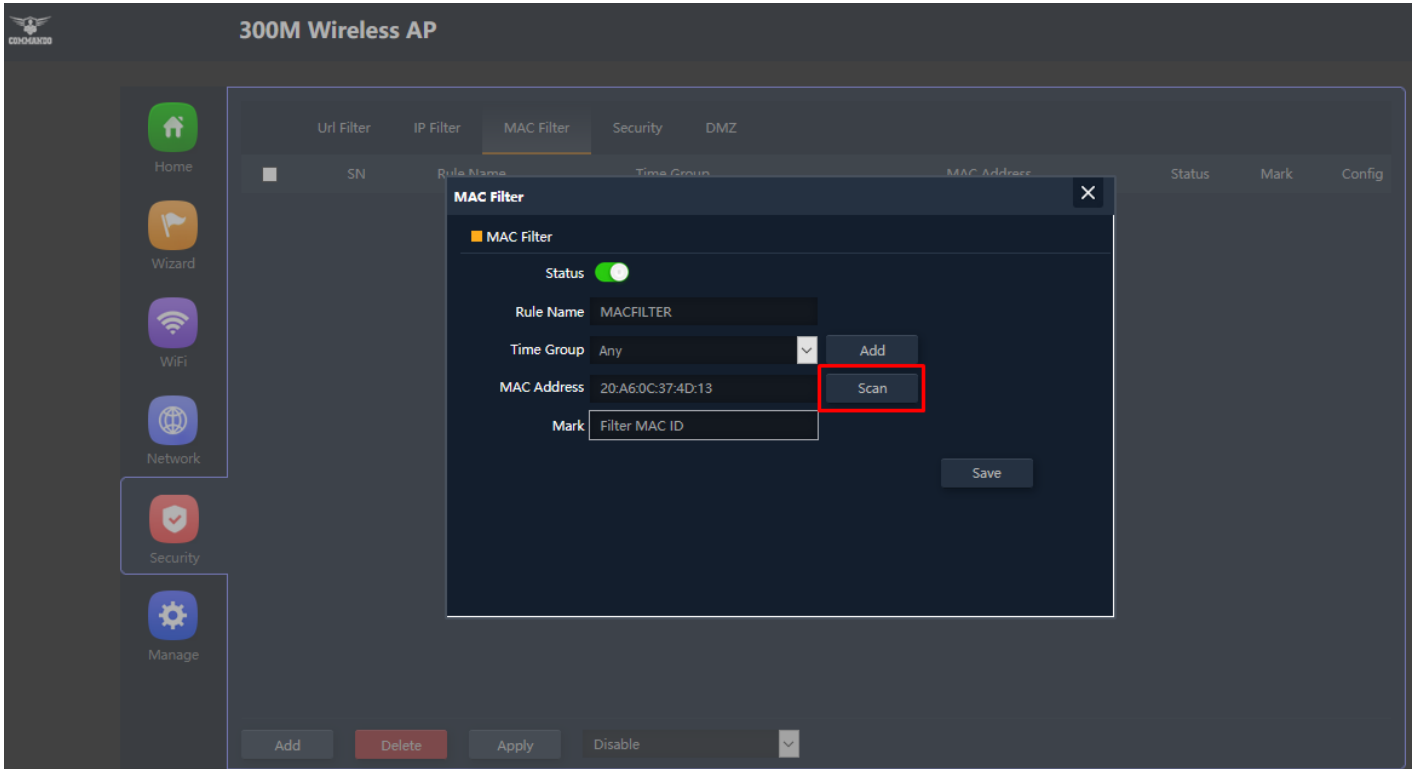
**Fig 5.2.3 IP filter setting for AirONE AP300**

### 5.3 MAC Filter Settings

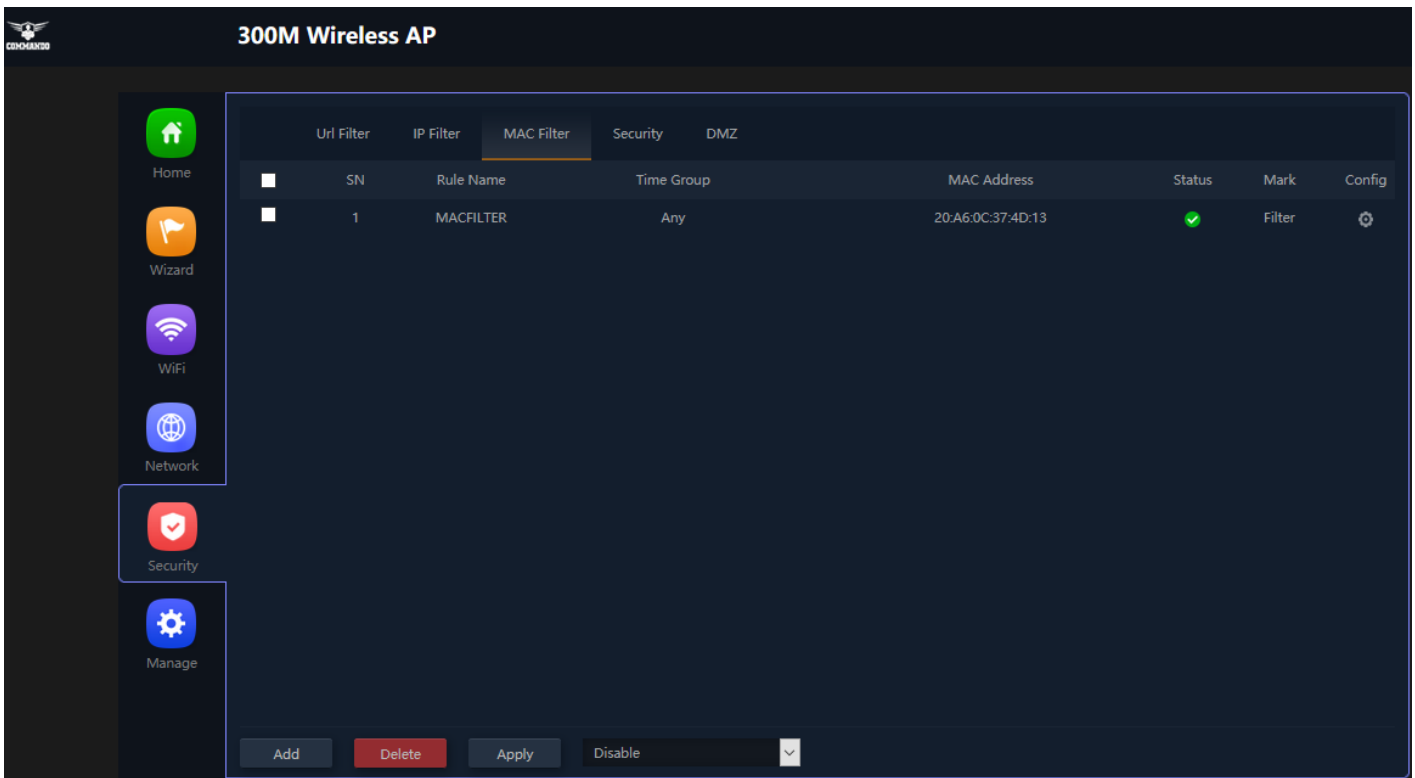
MAC Filter bars filter MAC to access the AP SSID.



**Fig 5.3.1 Default MAC filter setting for AirONE AP300**



**Fig 5.3.2 Setting MAC filter for AirONE AP300**



**Fig 5.3.3 MAC filter setting for AirONE AP300**

## 5.4 Security Settings

A security setting monitors incoming and outgoing network traffic and permits, or blocks data packets based on a set of security rules. It can help protect your network by filtering

traffic and blocking outsiders from gaining unauthorized access.

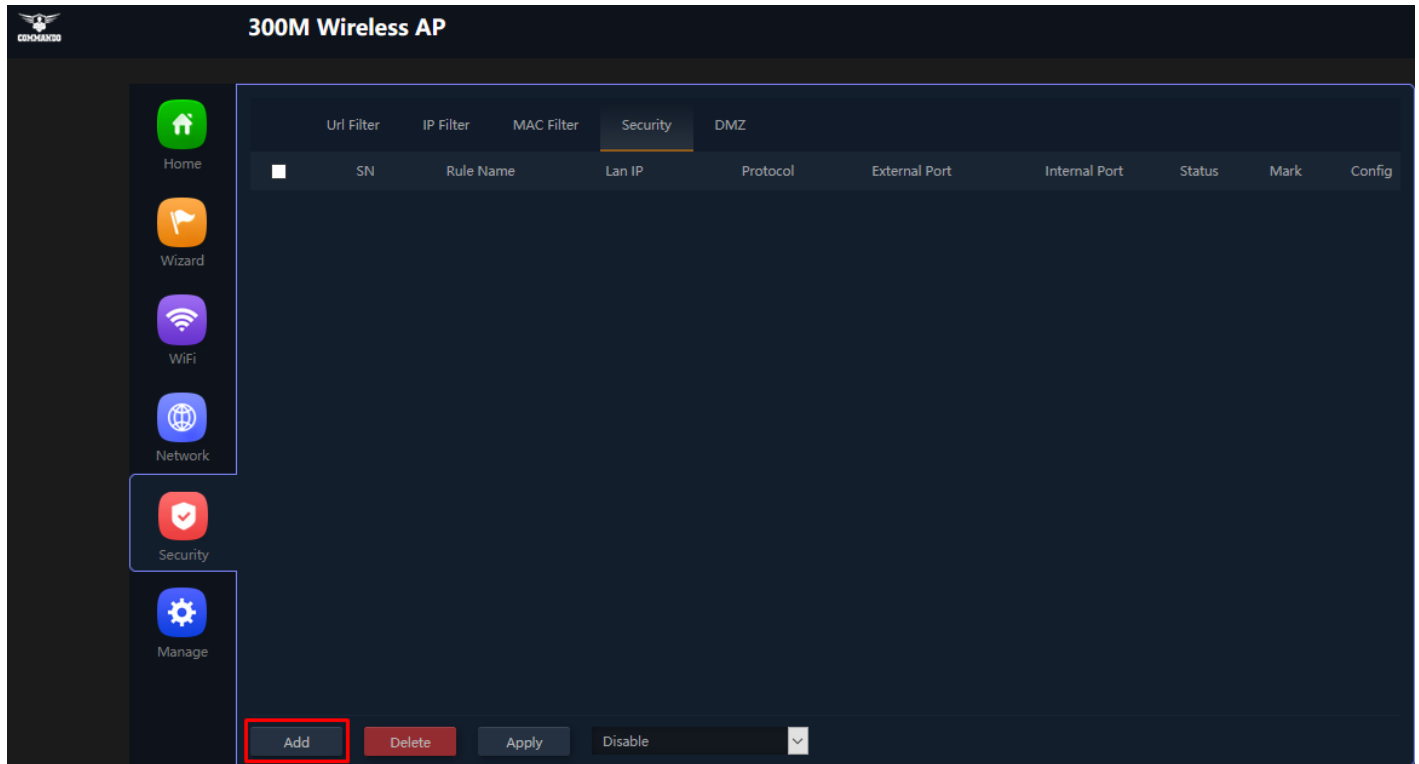
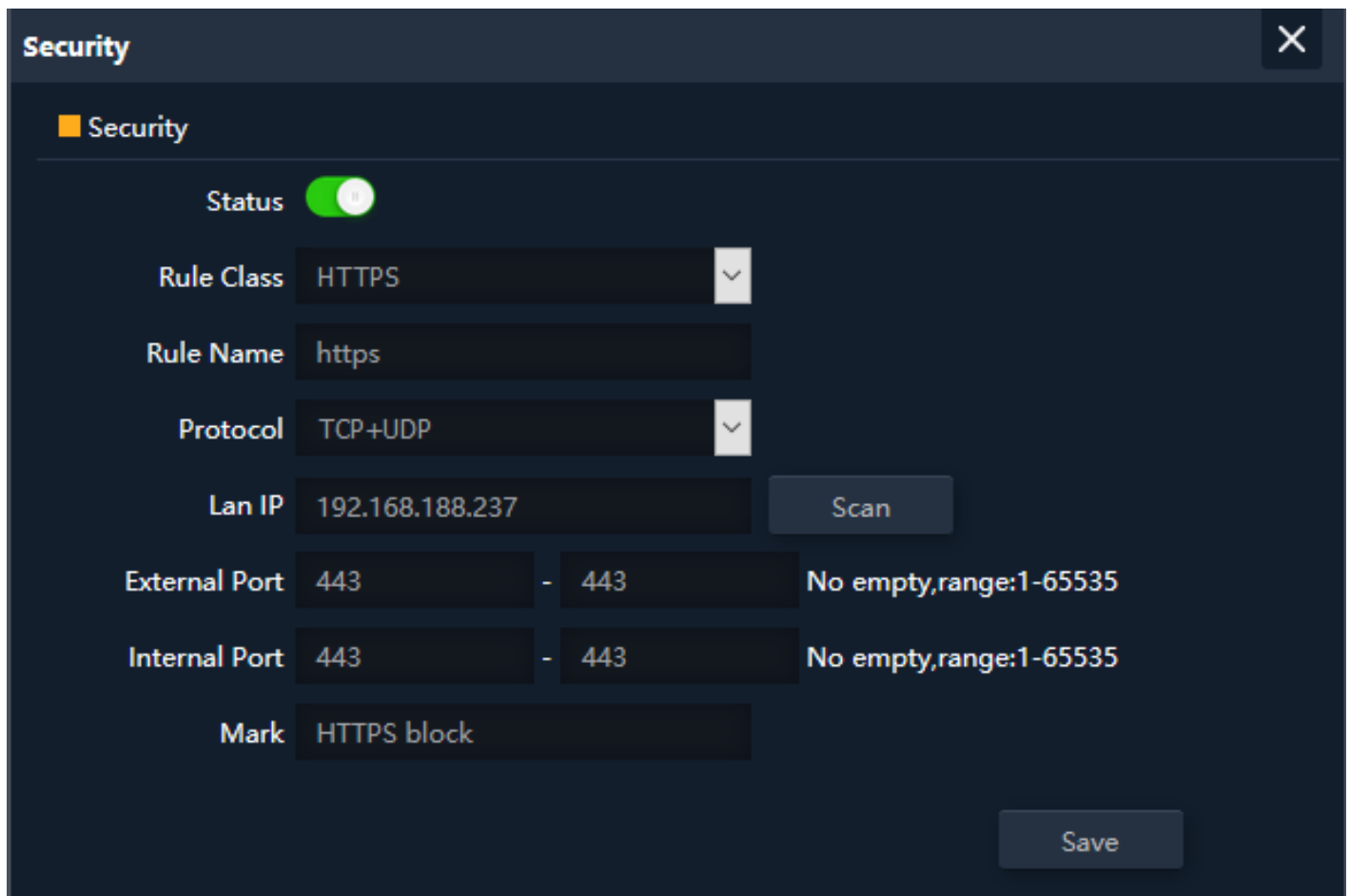
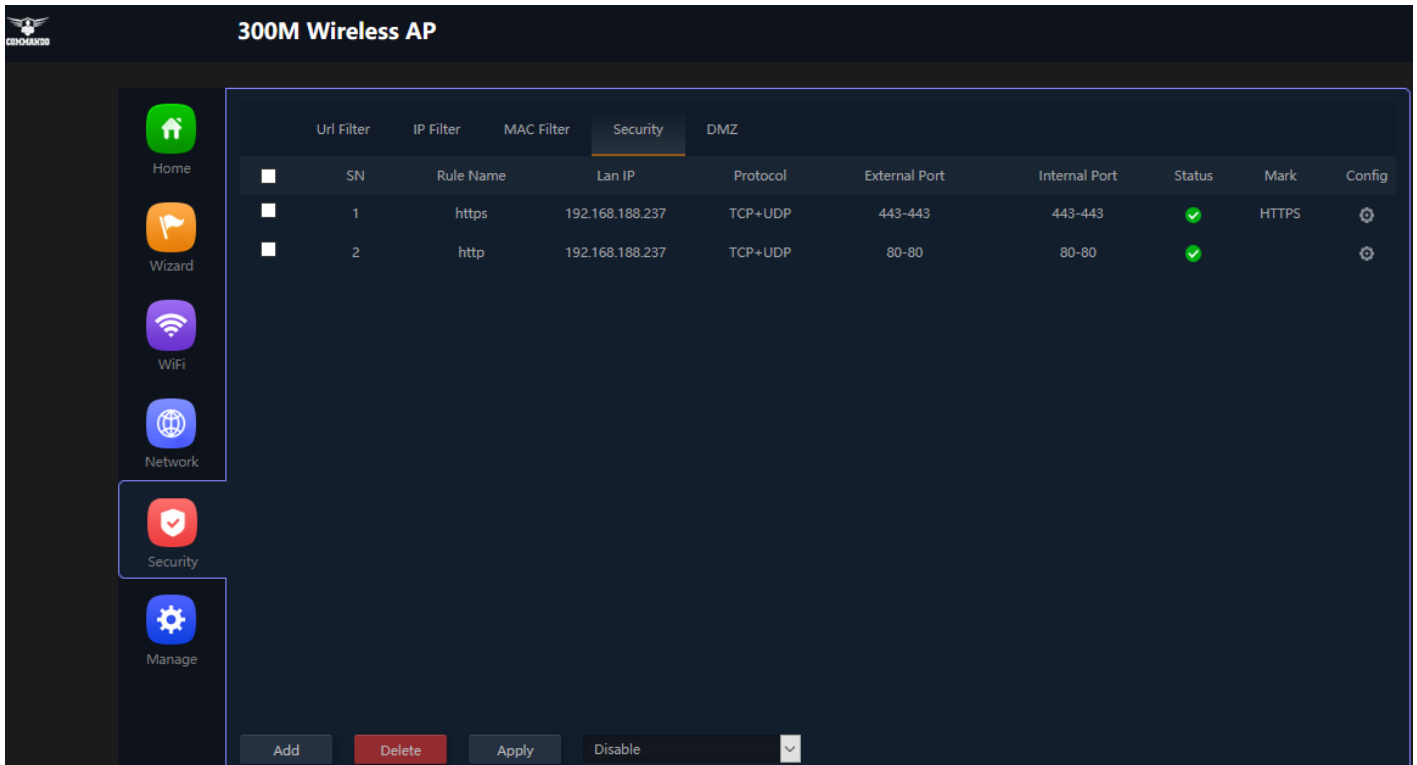


Fig 5.4.1 Default Security setting for AirONE AP300





**Fig 5.4.2 Security Rules setting for AirONE AP300**



**Fig 5.4.3 Security setting for AirONE AP300**

## 5.5 DMZ Settings

DMZ or demilitarized zone is a physical or logical subnetwork that contains portion of your network carved off and isolated from the rest of your network of an organization's external-facing services to an untrusted, usually larger, network such as the Internet.

The main benefit of a DMZ is to provide an internal network with an additional security layer by restricting access to sensitive data and servers. A DMZ enables website visitors to obtain certain services while providing a buffer between them and the organization's private network. The goal of a DMZ is to add an extra layer of security to an organization's local area network. A protected and monitored network node that faces outside the internal network can access what is exposed in the DMZ, while the rest of the organization's network is safe from attackers.

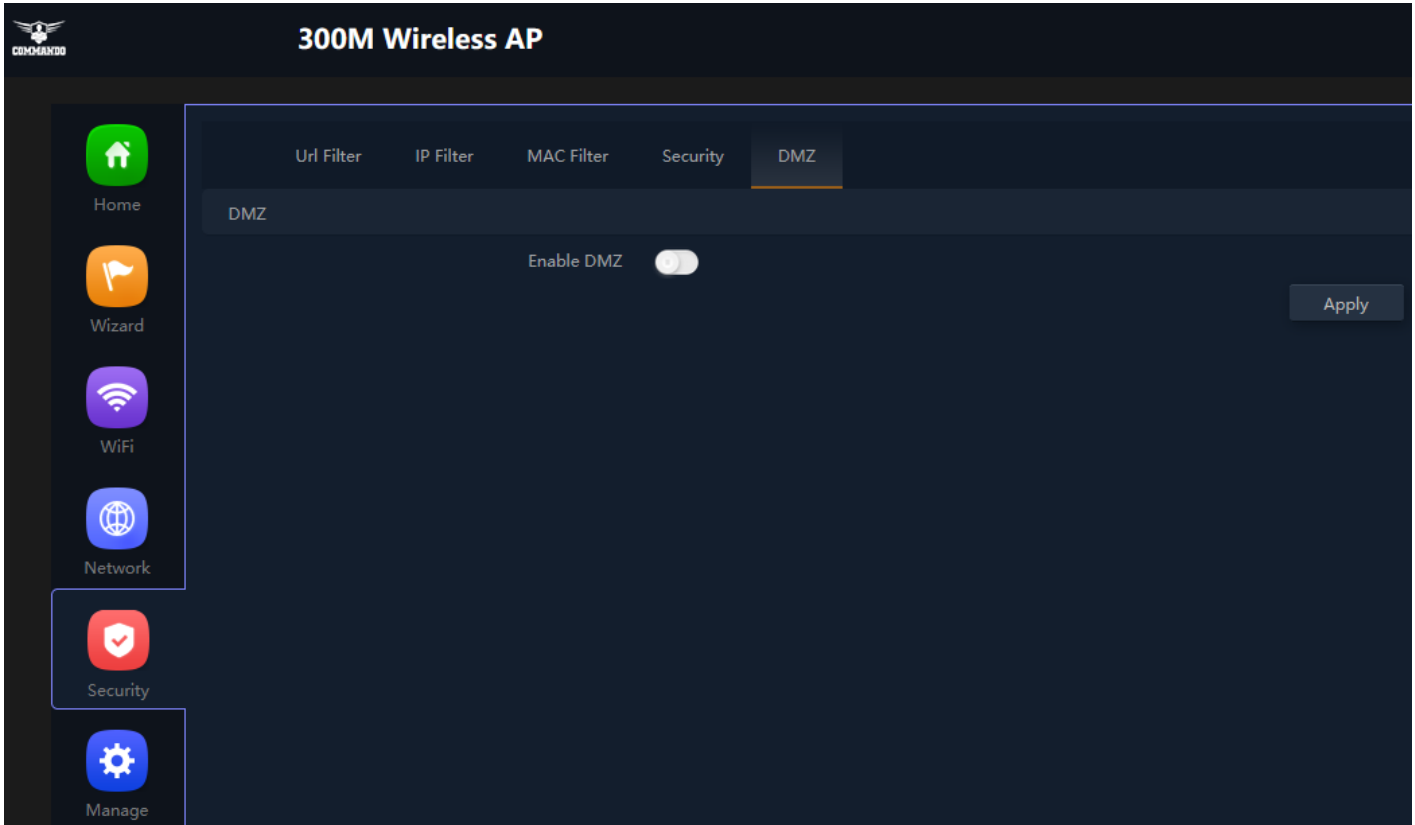


Fig 5.5.1 Default DMZ setting for AirONE AP300

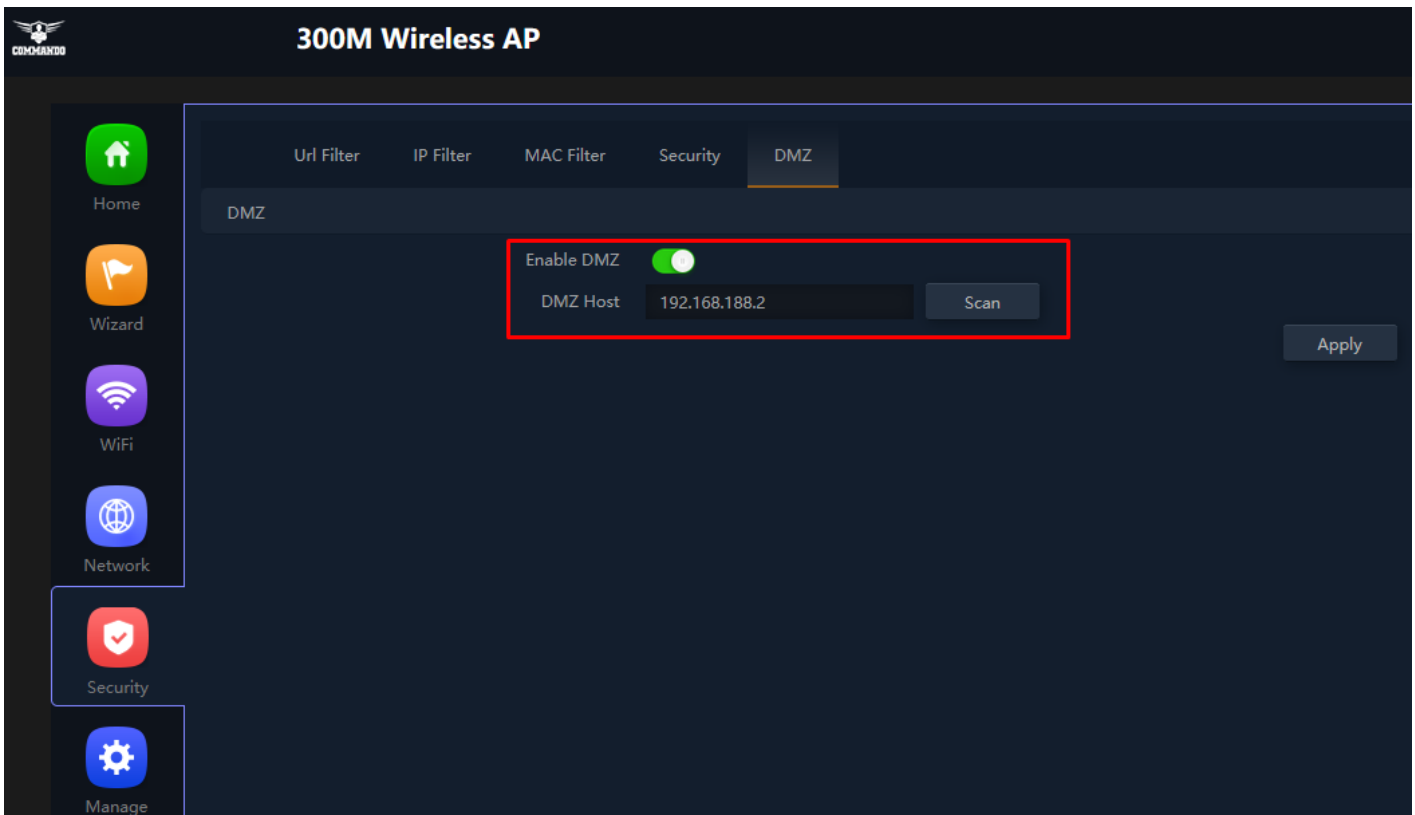


Fig 5.5.2 DMZ setting for AirONE AP300

## MANAGE

### **Configure:**

Back up to save the configuration file to PC connected. Restore AP to known configuration. Reset the factory default settings. Telnet can be Enabled or disabled.

### **Reboot:**

It possible to schedule an automatic reboot of AP.

### **Modify Password:**

You can create password as per your choice and even change the admin password for login to device.

### **Upgrade:**

This setting to upgrade the AP is to get more functions and better performance.

### **Time:**

System Time is the time displayed while the AP is running. On this page you can configure the system time.

### **Log:**

The Logs can record AP information effectively. You can enable and disable log and also can set Log server.

### ***Flow Control:***

*Enabling flow control can optimize the bandwidth and improve the network experience of important applications.*

### ***IP Group:***

*It can define IP group which tells AP what groups the users are defined.*

### ***Time Group:***

*It can create Time Group with time range and set frequency to operate time group.*

### ***DDNS Settings:***

*It provides a fixed domain name for DDNS client and maps its latest IP address to this domain name.*

### **Note:**

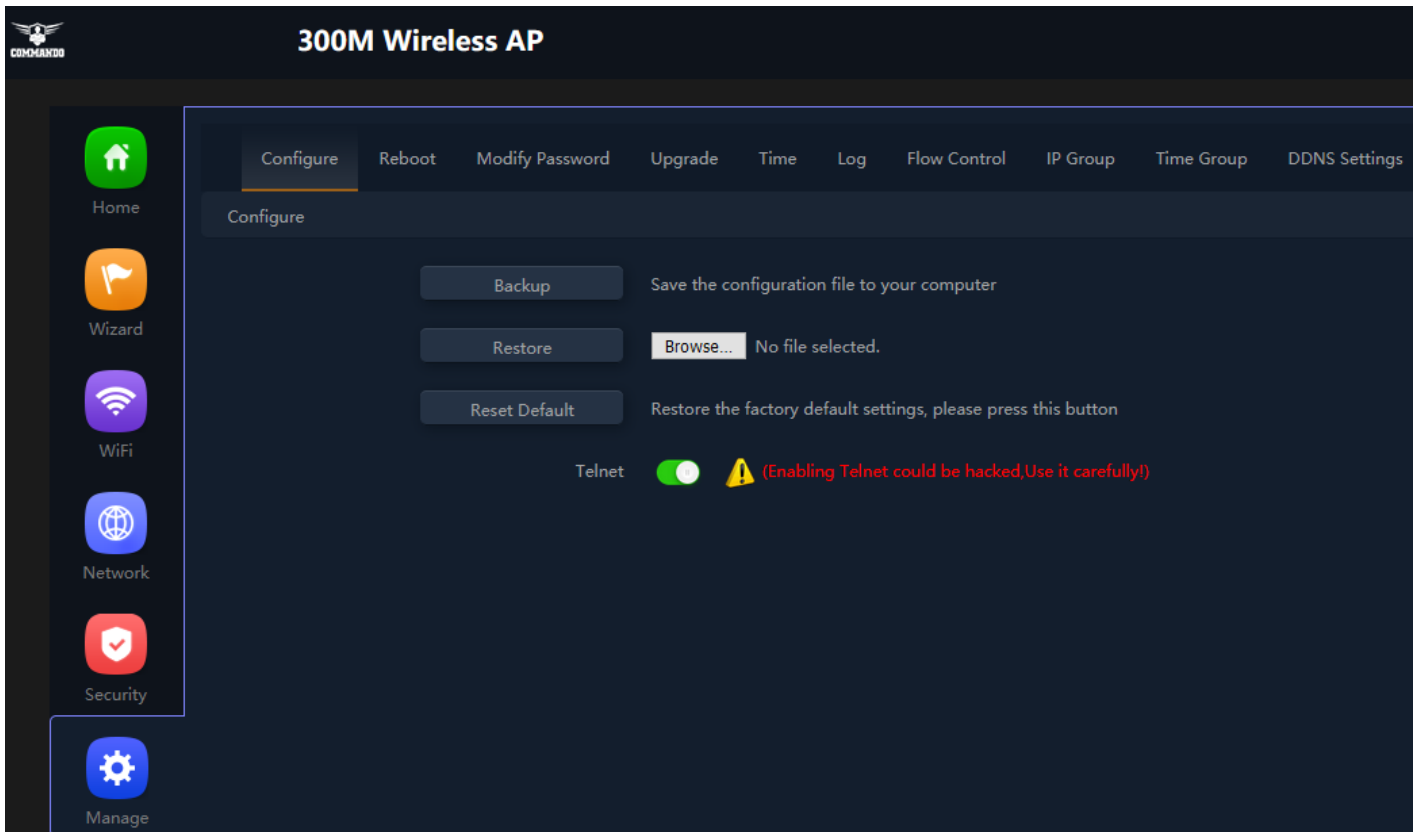
All *italic config* options are only available in WISP and Gateway mode only.

## 6.1 Configure Setting

The Backup and Restore configuration feature allow end users to backup all configurations made in AP. In cases when you need to reset the AP to factory default settings, you will be able to restore your previous configuration using the backup

configuration file. This will save you time by not going through the process of reconfigure the AP manually.

You can restore the AP to its factory default settings by the Reset button or by Reset Default option in this page. It must be noted that once the AP is reset, all the current configuration settings will be lost. If you want old configure files which is backup already then can use option upload backup. Use the page to restore the AP to the factory defaults or use the button to restore the AP to old configuration.



**Fig 6.1.1 Default Configure setting for AirONE AP300**

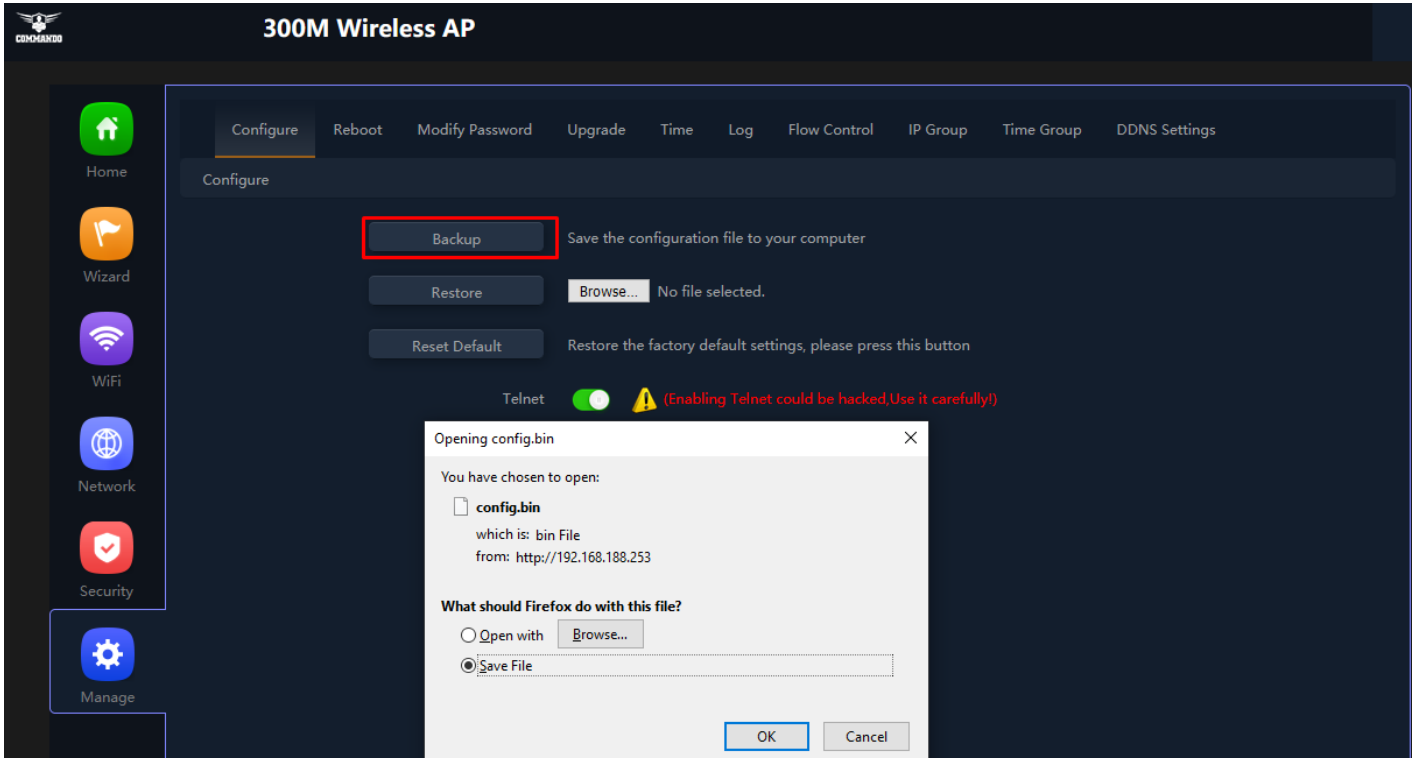


Fig 6.1.2 Taking backup of AirONE AP300

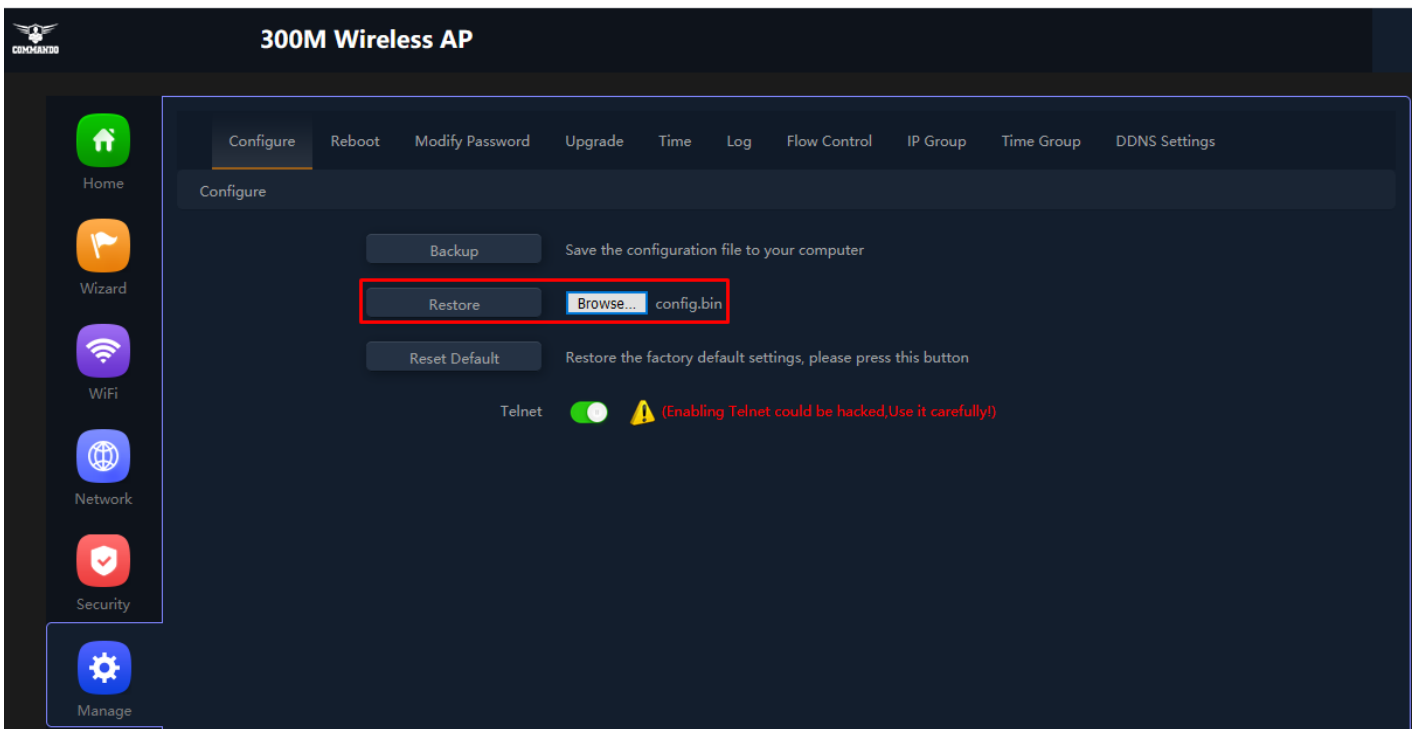


Fig 6.1.3 Restore to known Configure for AirONE AP300

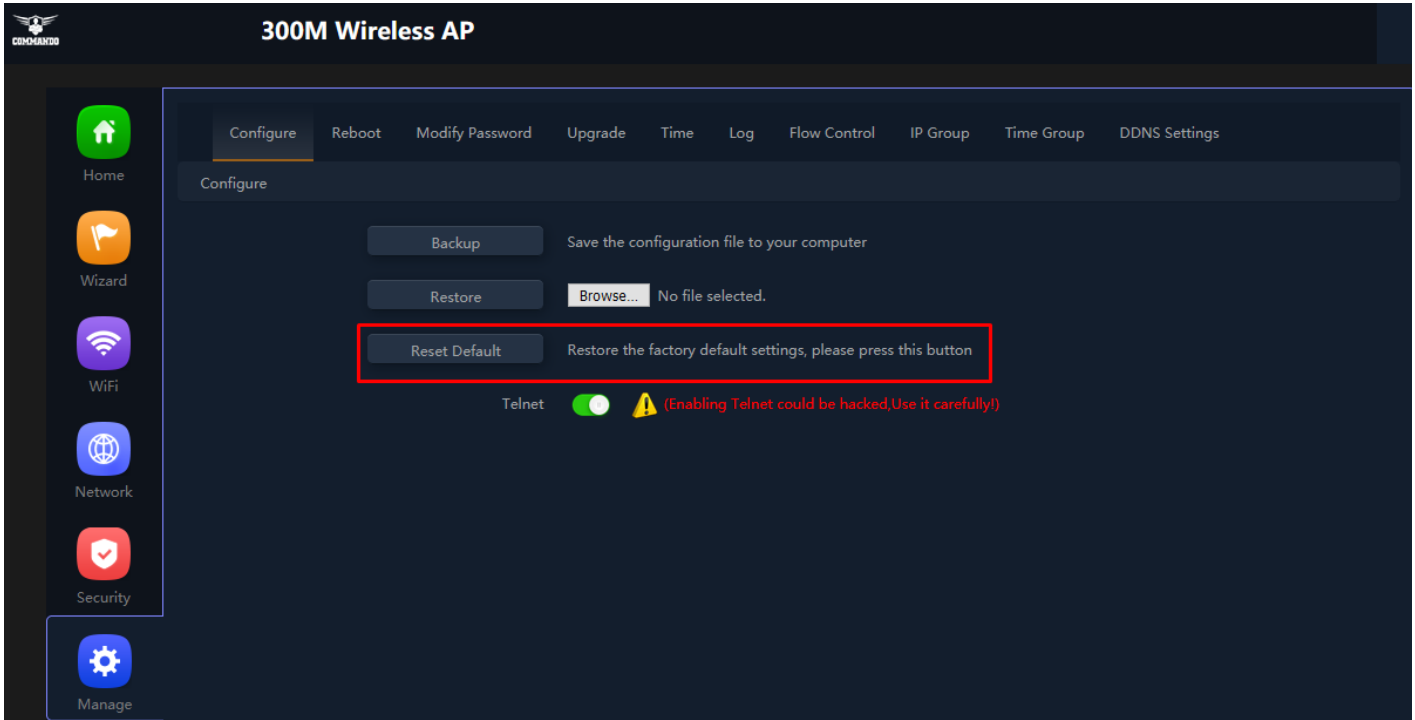


Fig 6.1.4 Reset to factory default for AirONE AP300

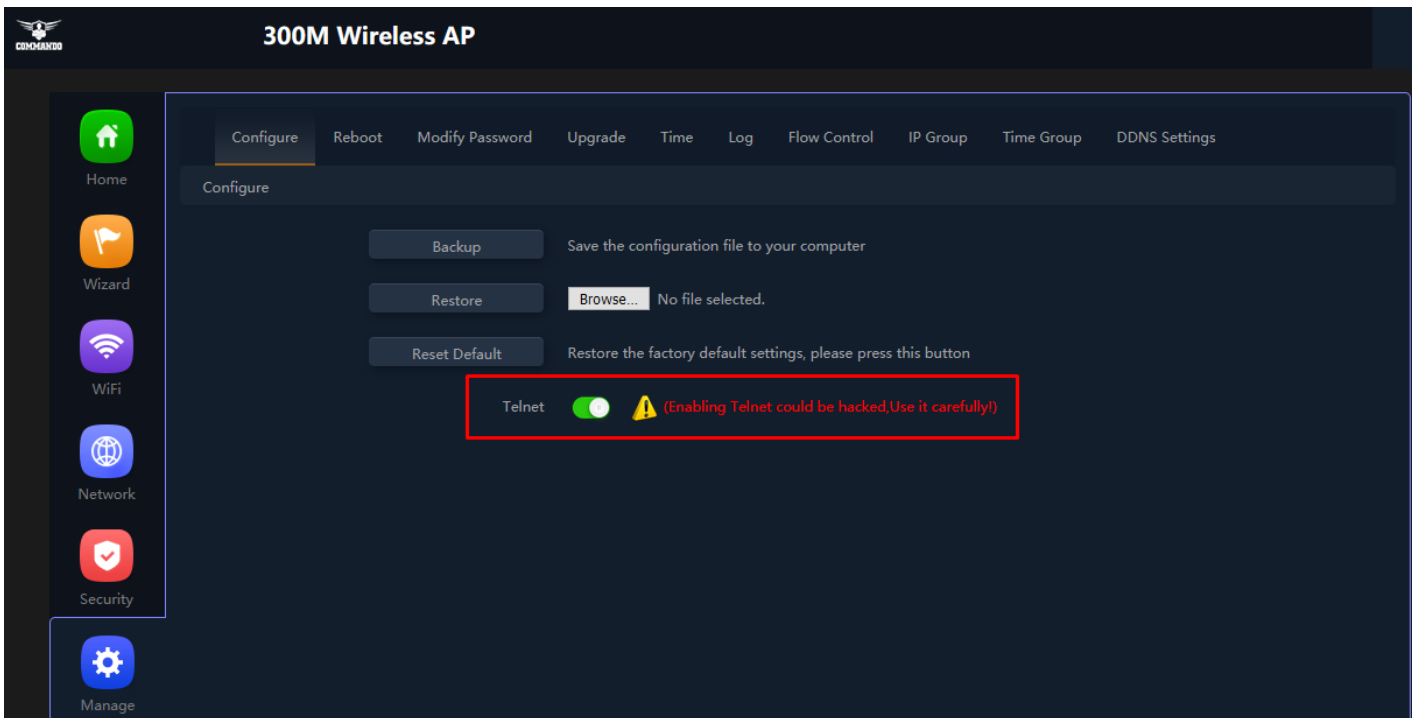
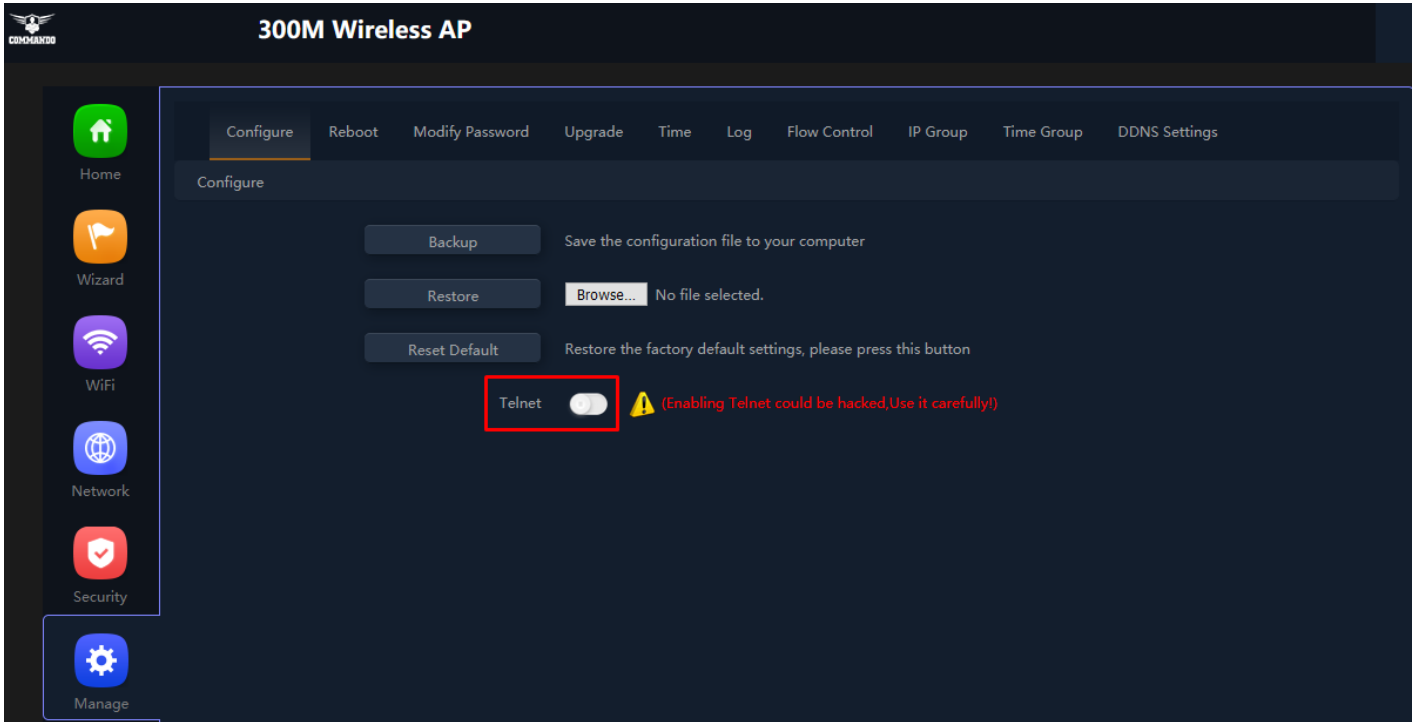


Fig 6.1.5 Reset to factory default for AirONE AP300



**Fig 6.1.6 Disable telnet for AirONE AP300**

**Recommendation:**

It is strongly recommended to disable telnet to avoid unauthorized remote access.

**6.2 Reboot Setting**

It possible to schedule an automatic reboot of AP. The configuration will not be lost after rebooting. The Internet connection will be temporarily interrupted while rebooting.

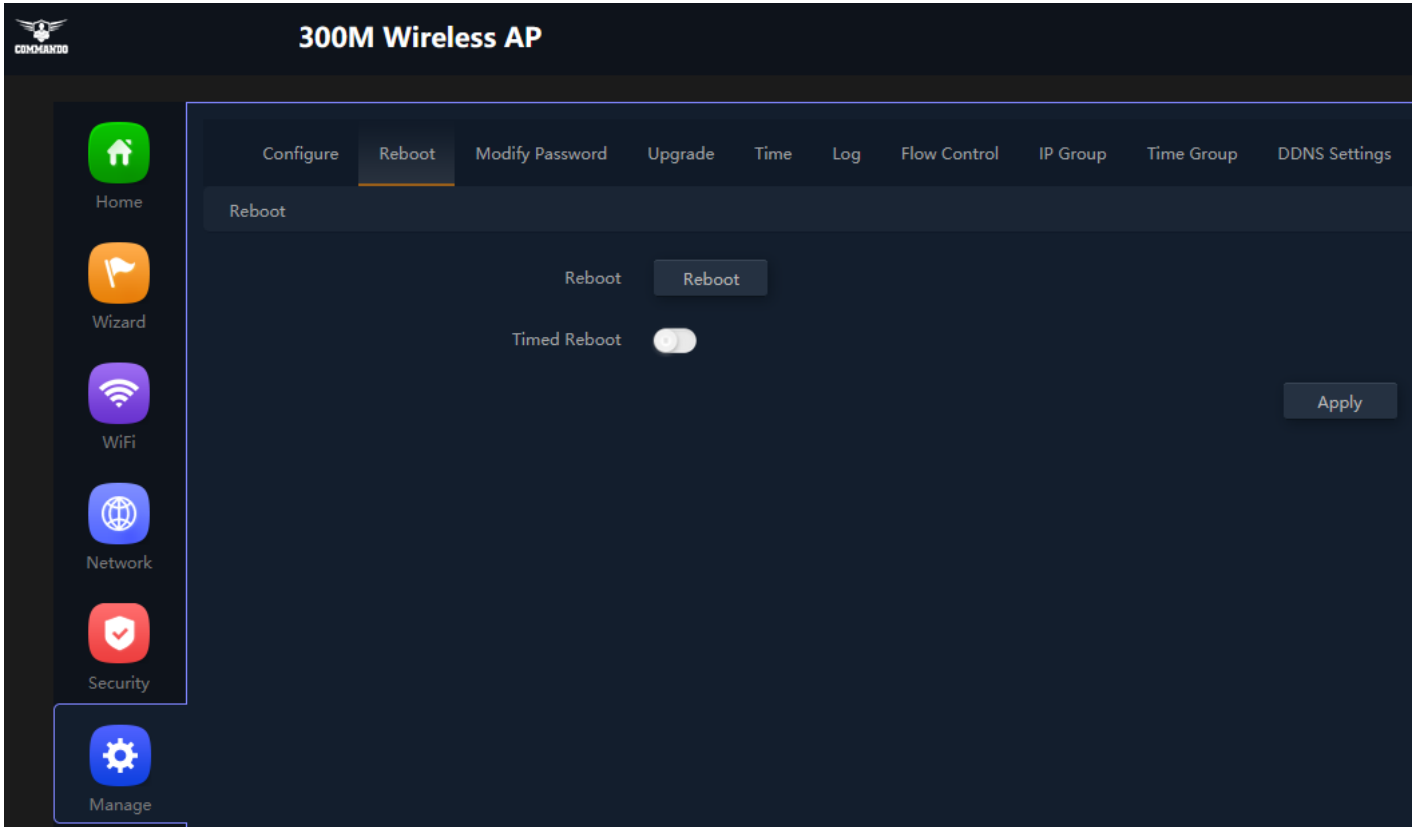


Fig 6.2.1 Default reboot setting for AirONE AP300

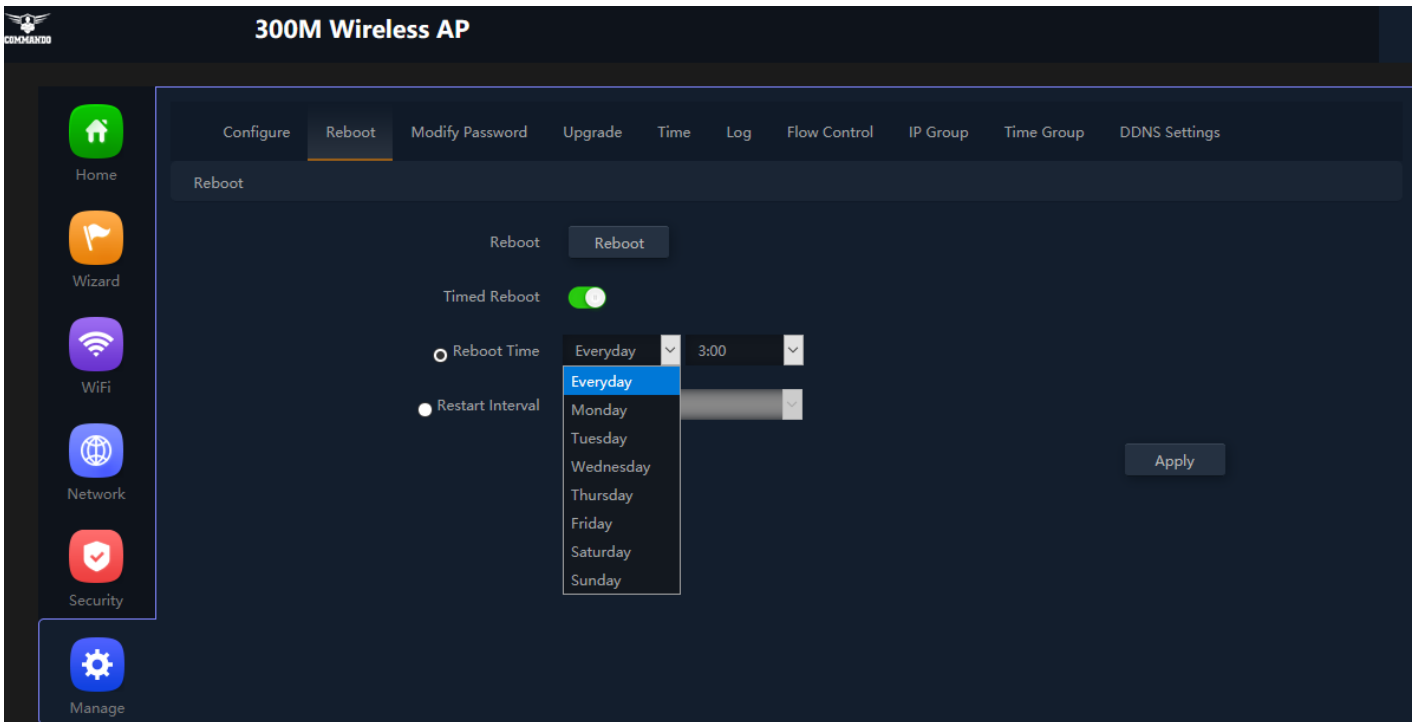
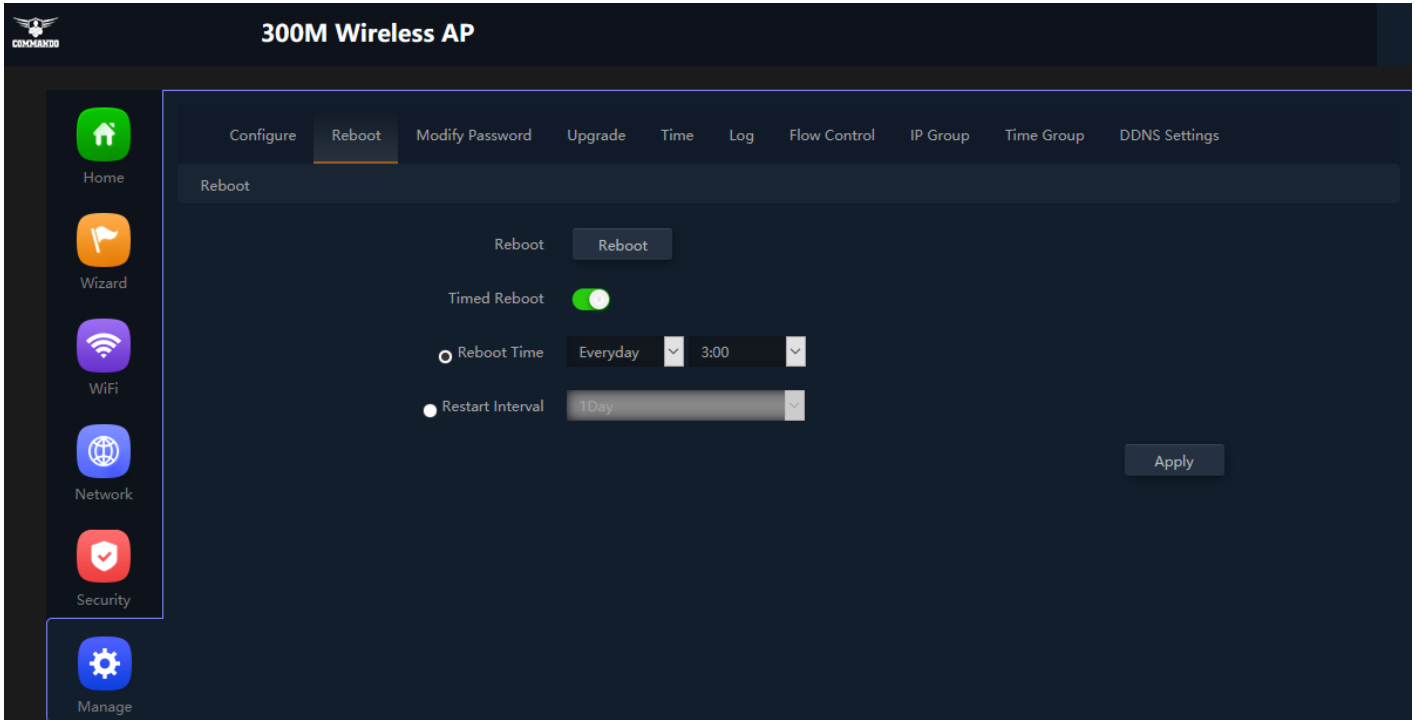
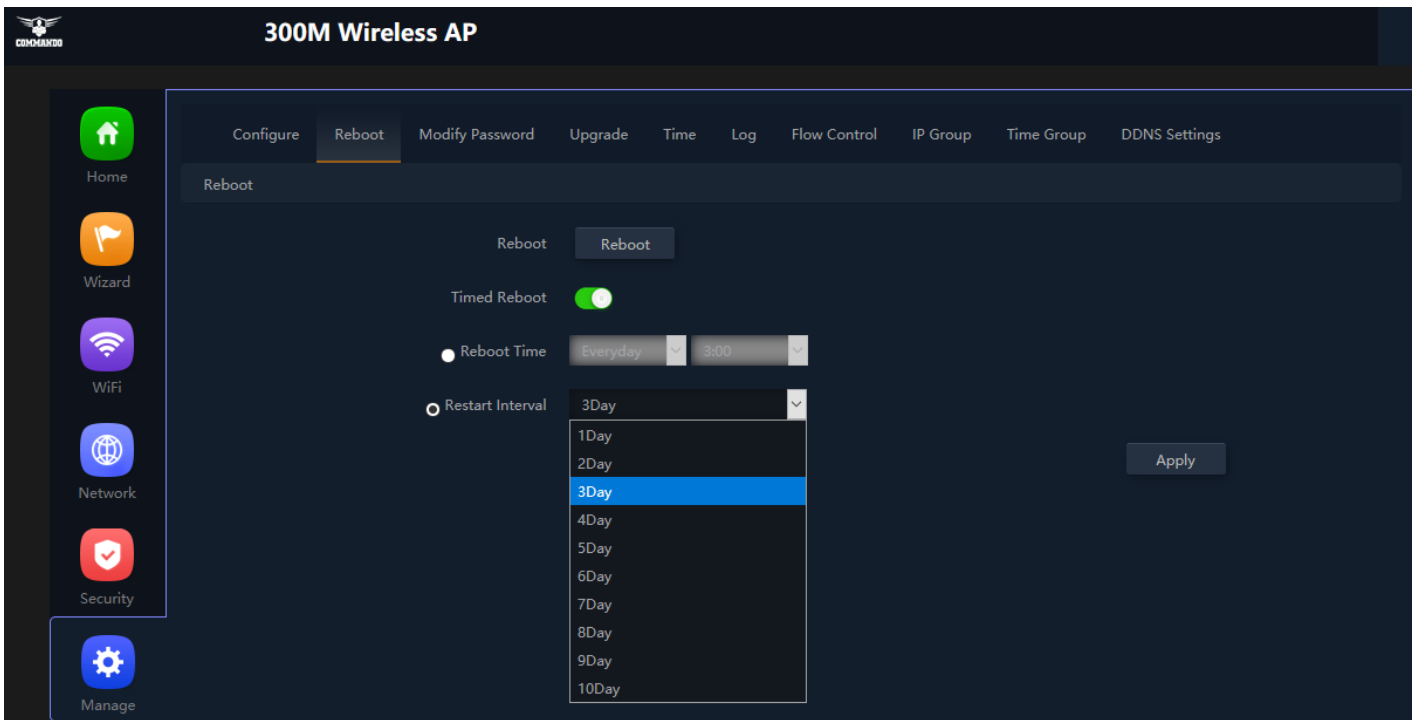


Fig 6.2.2 Enable timed reboot for AirONE AP300





**Fig 6.2.3 Enable daily reboot for AirONE AP300**



**Fig 6.2.4 Enable Restart interval for AirONE AP300**

**Recommendation:**

It is strongly recommended to disable reboot to avoid network disruption and outage.

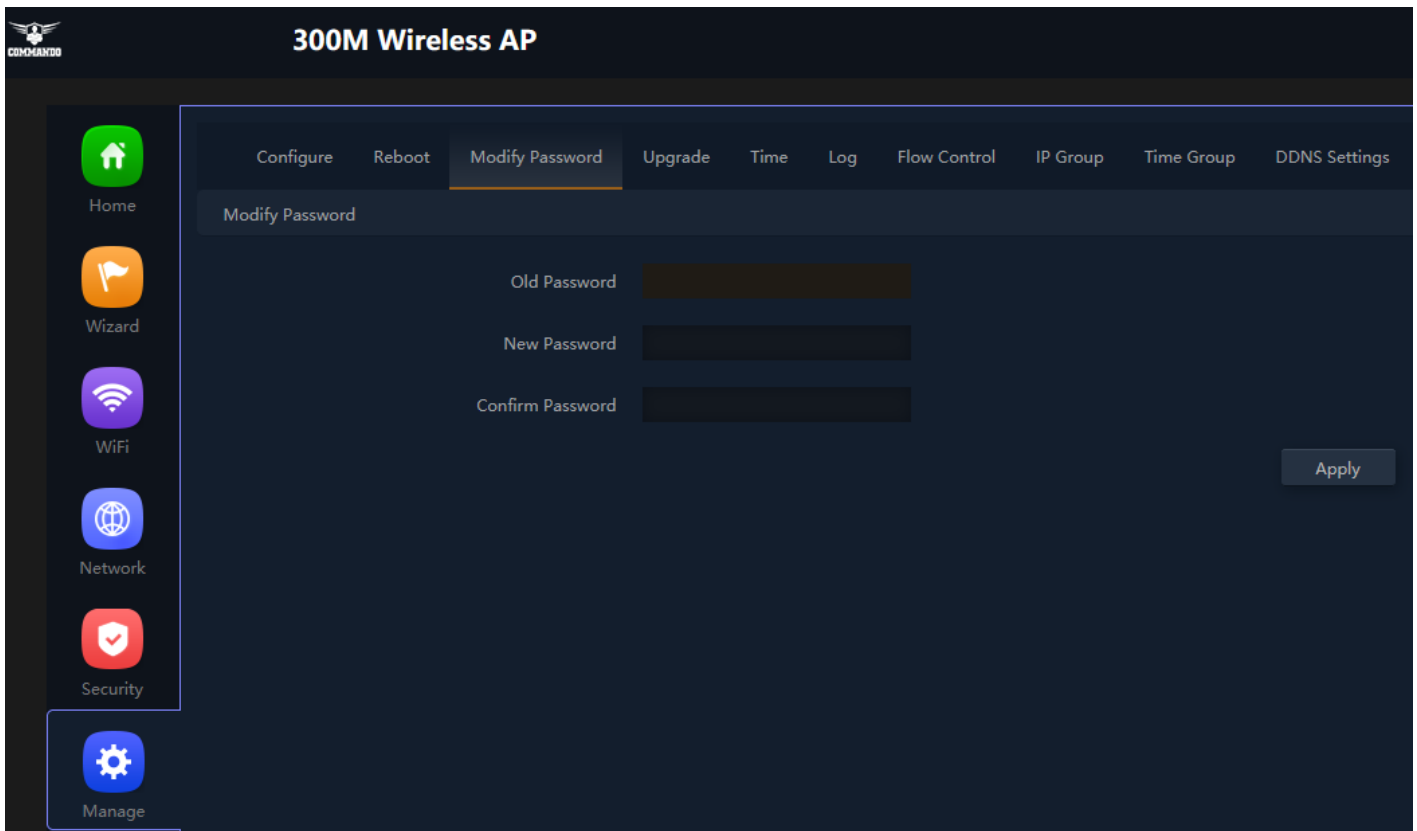
**6.3 Modify Password Setting**

On this page, you create password as per your choice and even change the admin password for login to device. You can modify the factory default password of the AP and

create new users password to manage the device.

**Note:**

The factory default password is admin is mentioned in backside of device.



**Fig 6.3.1 Modify password page for AirONE AP300**

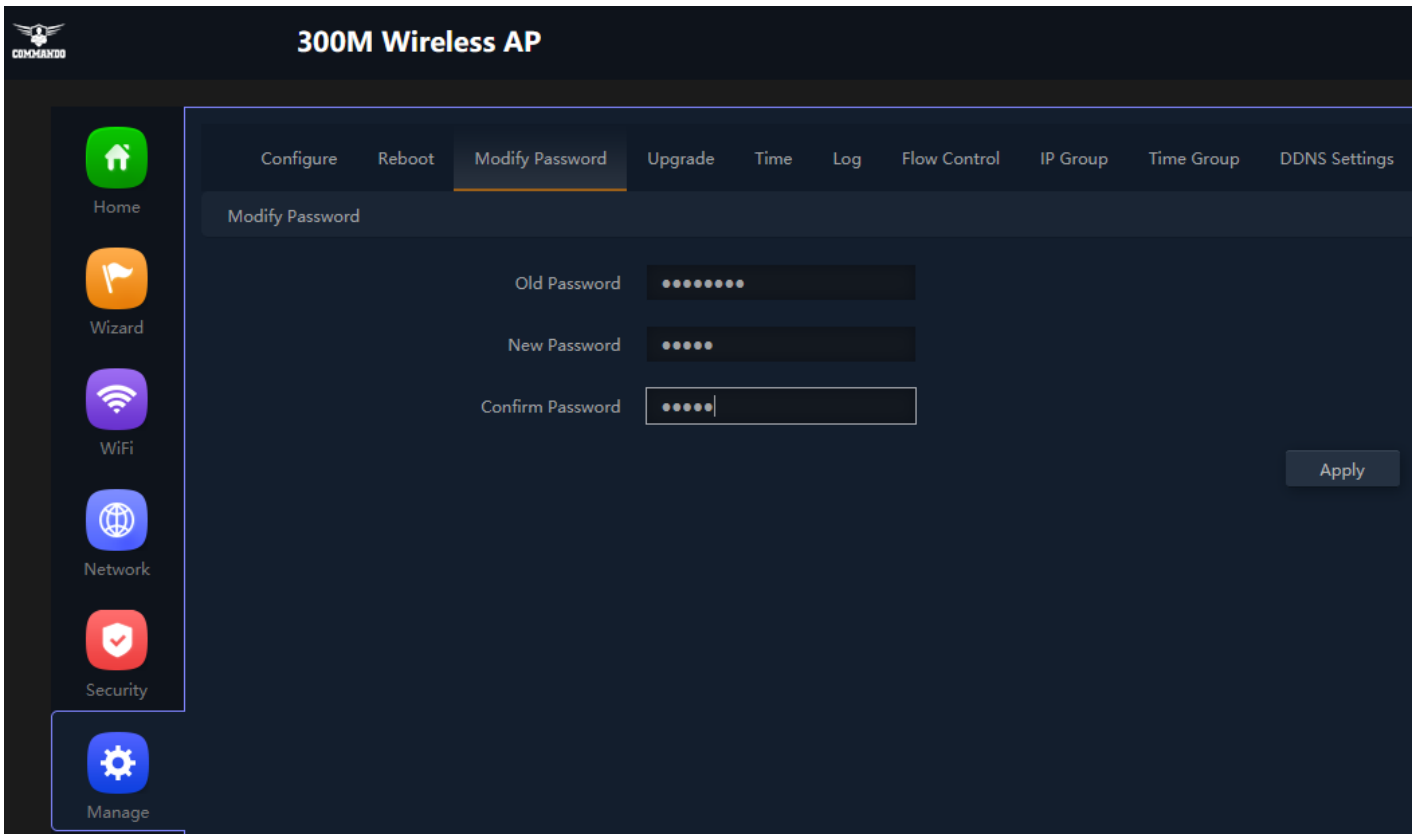


Fig 6.3.2 Setting New password for AirONE AP300

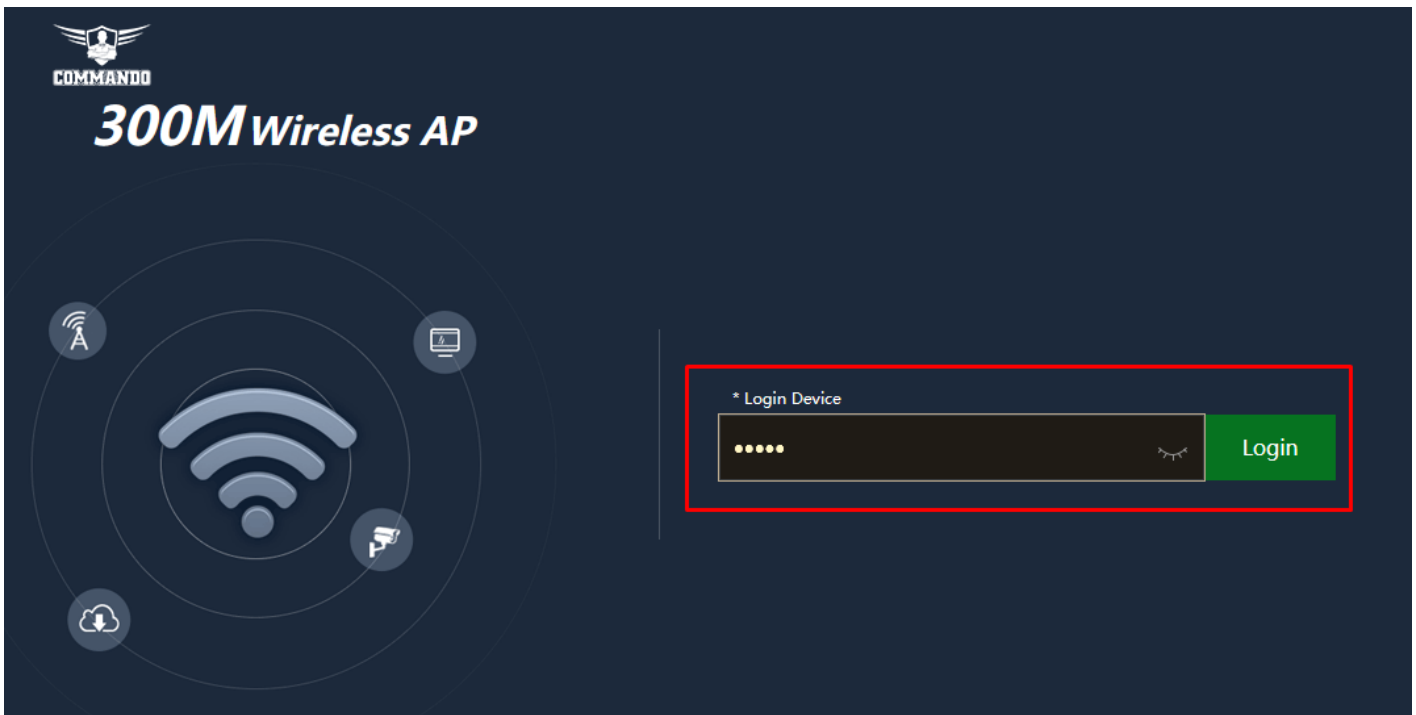


Fig 6.3.3 New password to be entered to login AirONE AP300

## Recommendation:

It is strongly recommended to change default password **admin** which is used to access device.

## 6.4 Upgrade Setting

Version displays the current Configuration version of the AP. To upgrade the AP is to get more functions and better performance.

### Note:

1. After upgrading, the AP will reboot automatically.
2. To avoid damage to device, please don't turn off the AP while upgrading.

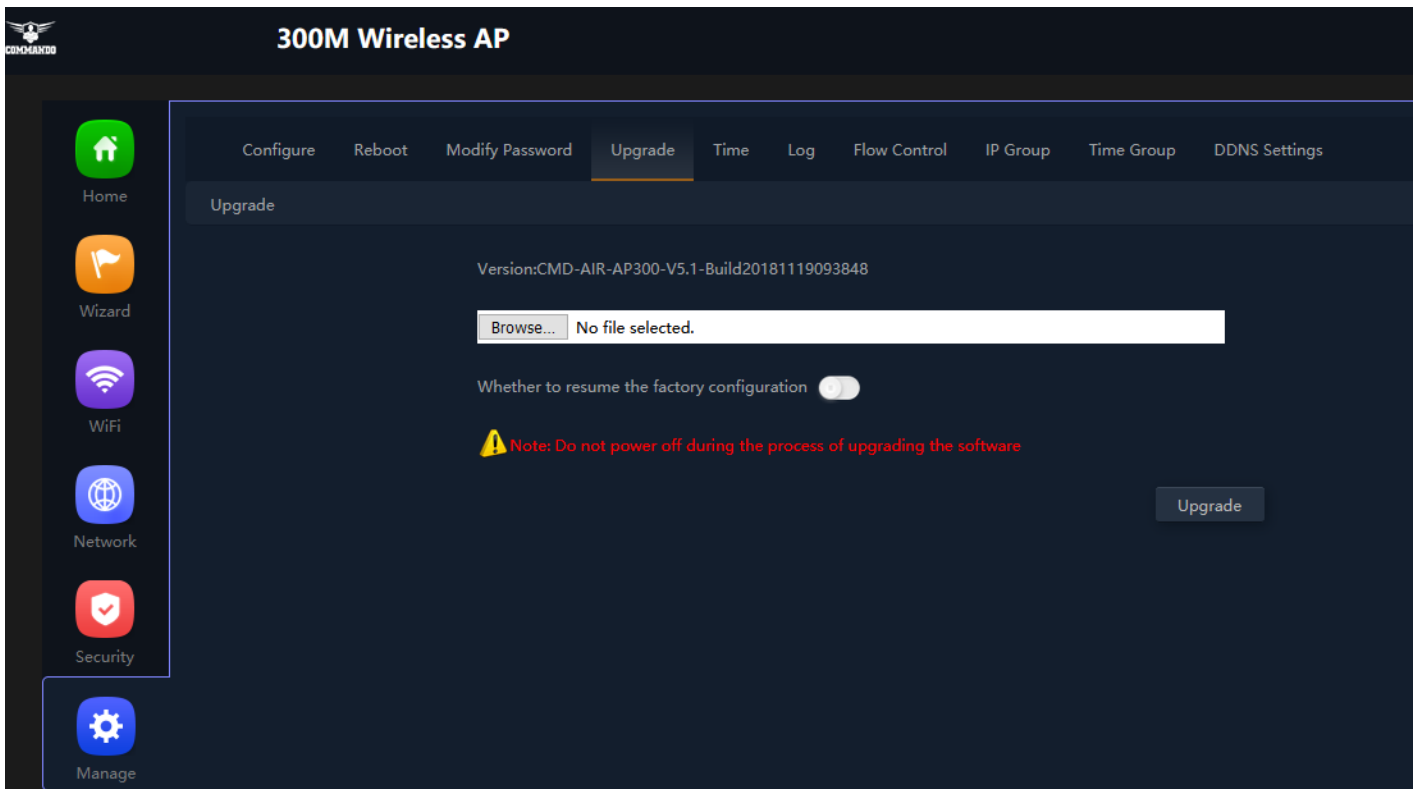


Fig 6.4.1 Default Upgrade page for AirONE AP300

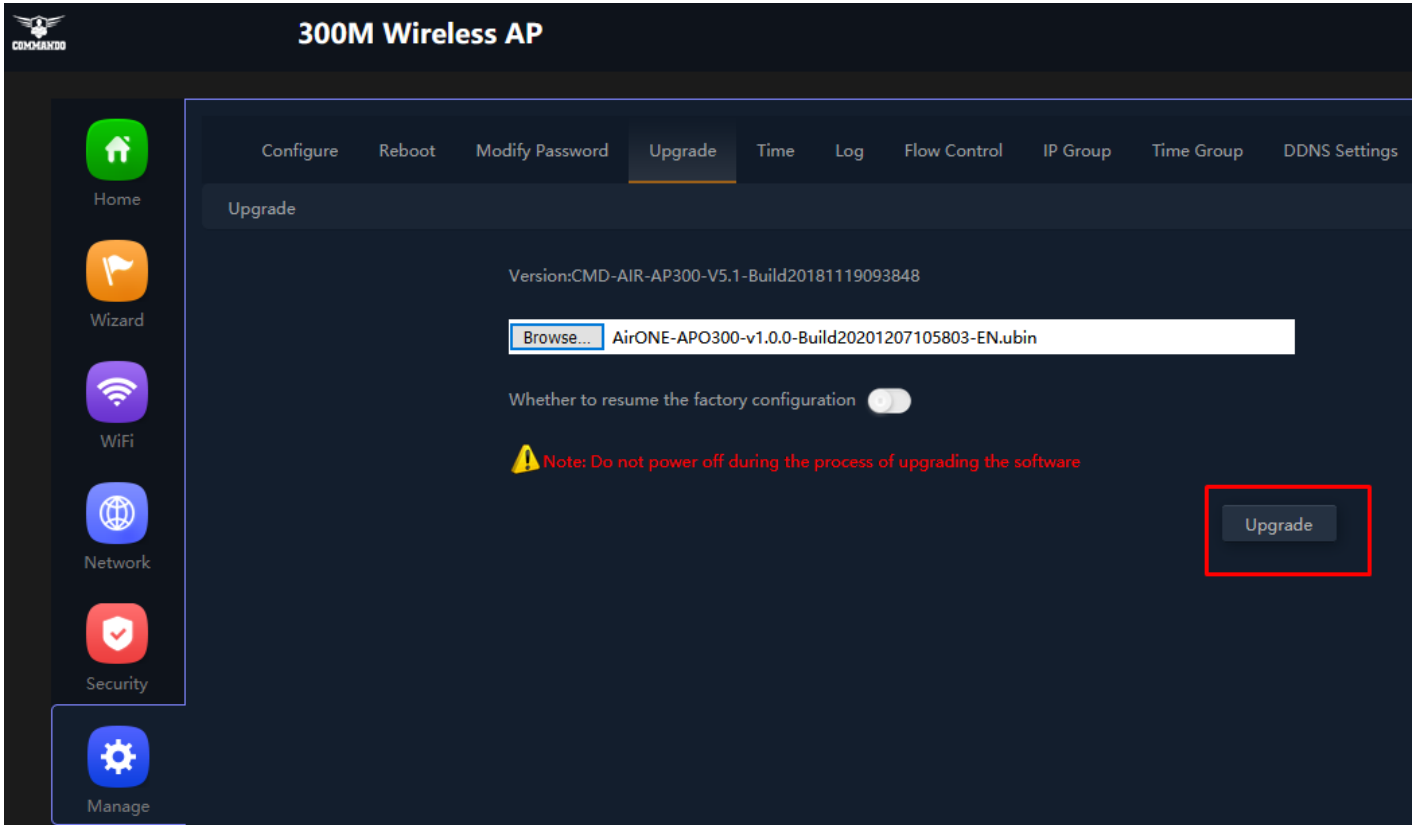


Fig 6.4.2 Browse for Upgrade file of connected PC for AirONE AP300

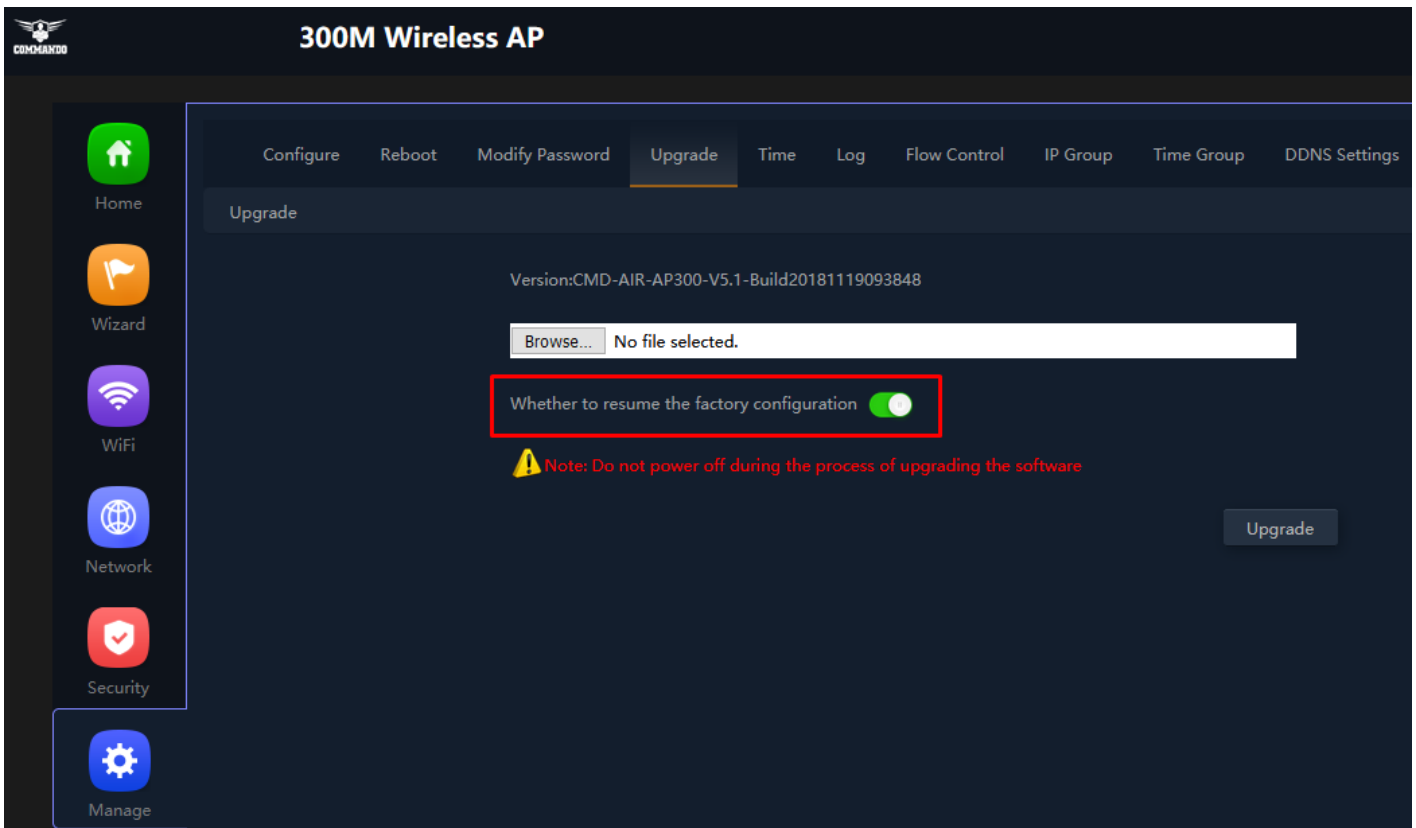


Fig 6.4.3 Upgrade with no previous configuration for AirONE AP300

**Note:**

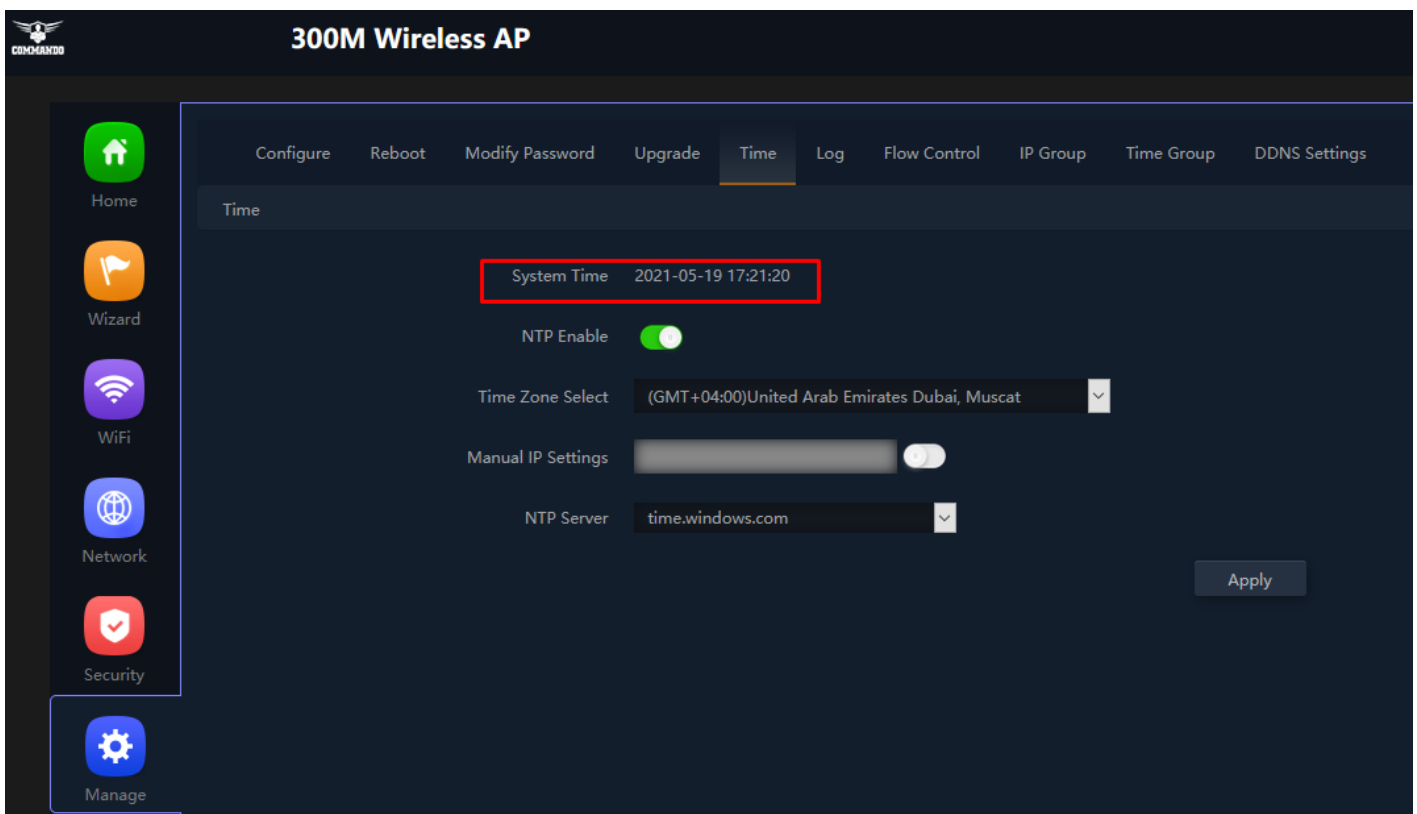
It is advised to take the backup the configuration before upgrading.

**6.5 Time Setting**

System Time is the time displayed while the AP is running. On this page you can configure the system time and the settings here will be used for other time-based functions like Logs.

In time setting you can set System Time, Time Zone, Set Time Automatically and with help of NTP service. System Time displays the current date and time of the AP. Time Zone displays the current time zone of the AP. You can configure the time zone and NTP Server. The AP will get GMT automatically if it has connected to a NTP Server. Manual time can also be set by feeding date and time manually.

**Synchronize with Host** to set system time is best and recommended option. It uses administrator PC's clock for setting time.



**Fig 6.5.1 System Time for AirONE AP300**

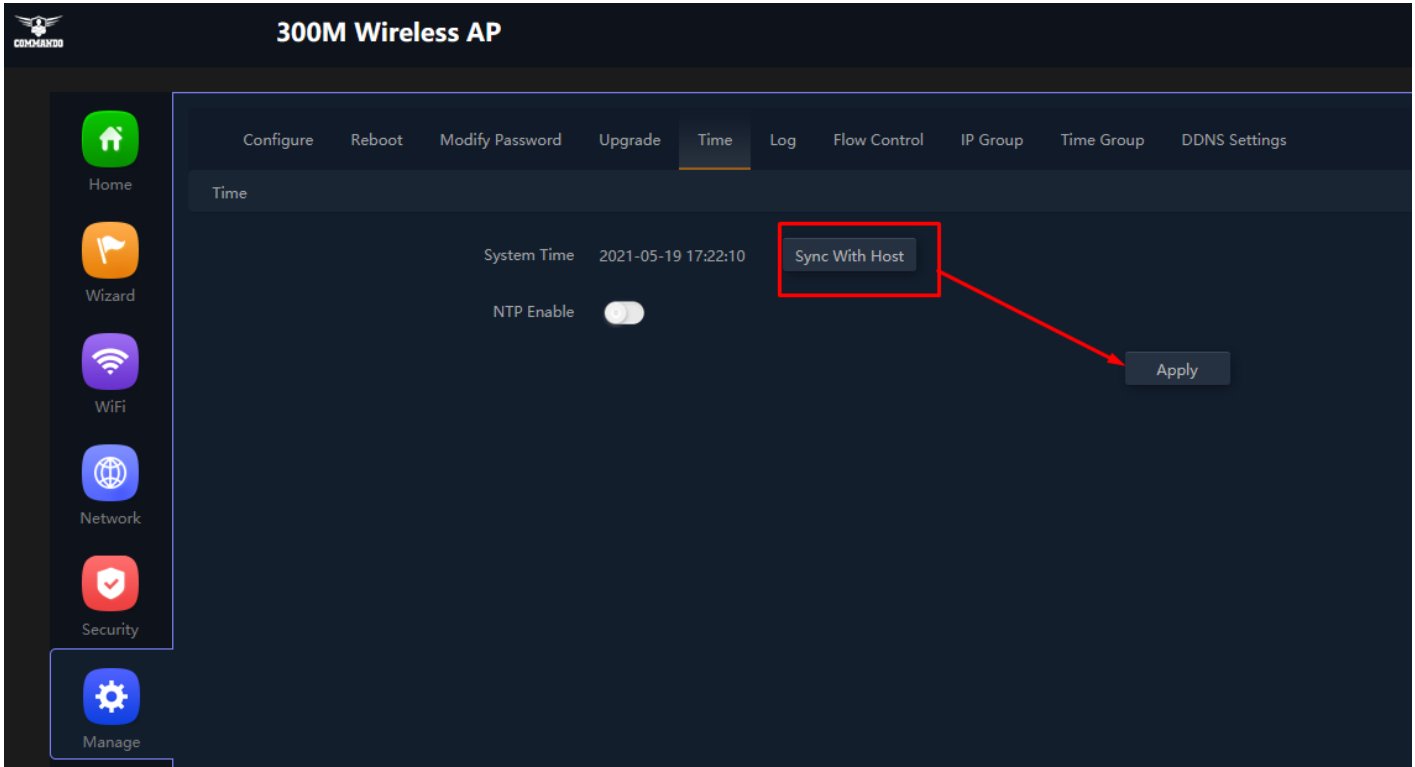


Fig 6.5.2 Disable NTP and Sync with host for AirONE AP300

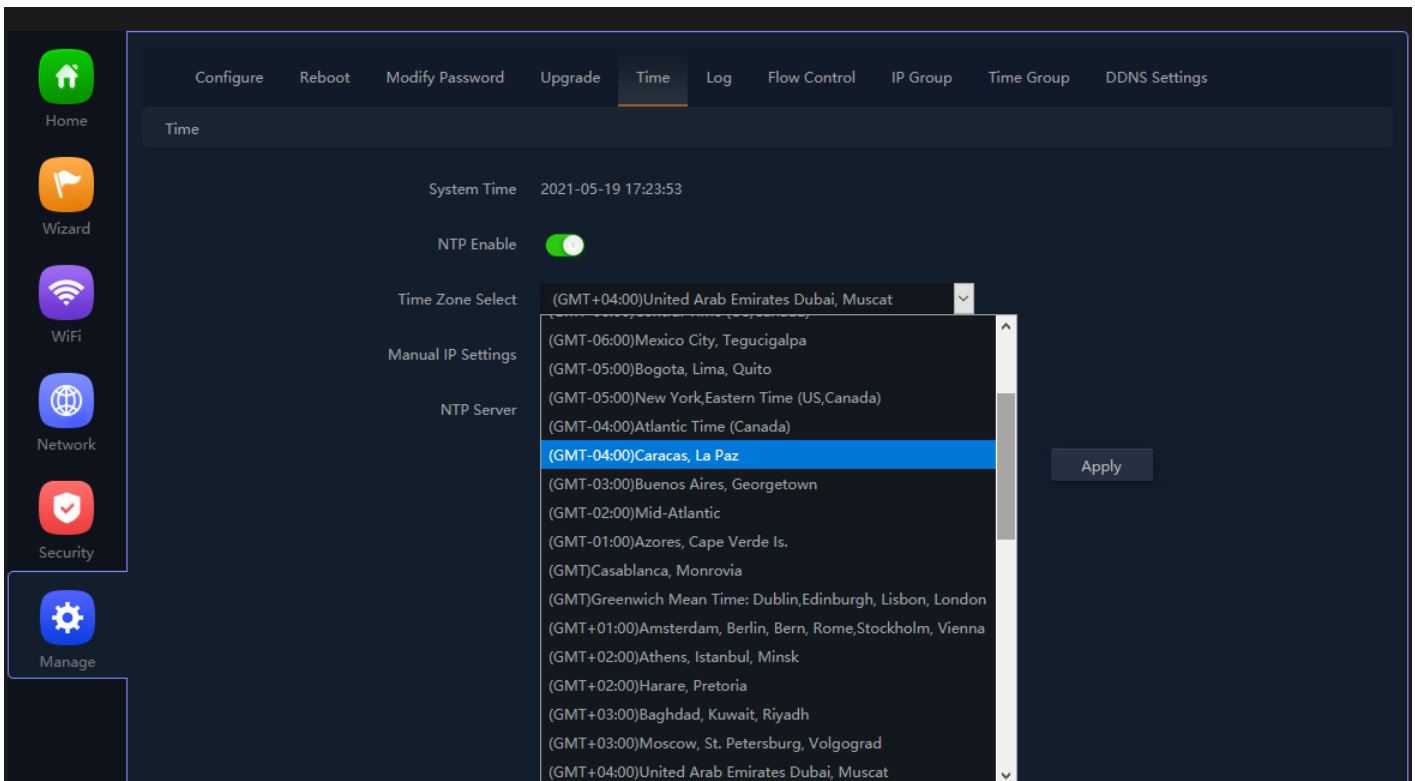


Fig 6.5.3 Enable NTP and select time zone for AirONE AP300

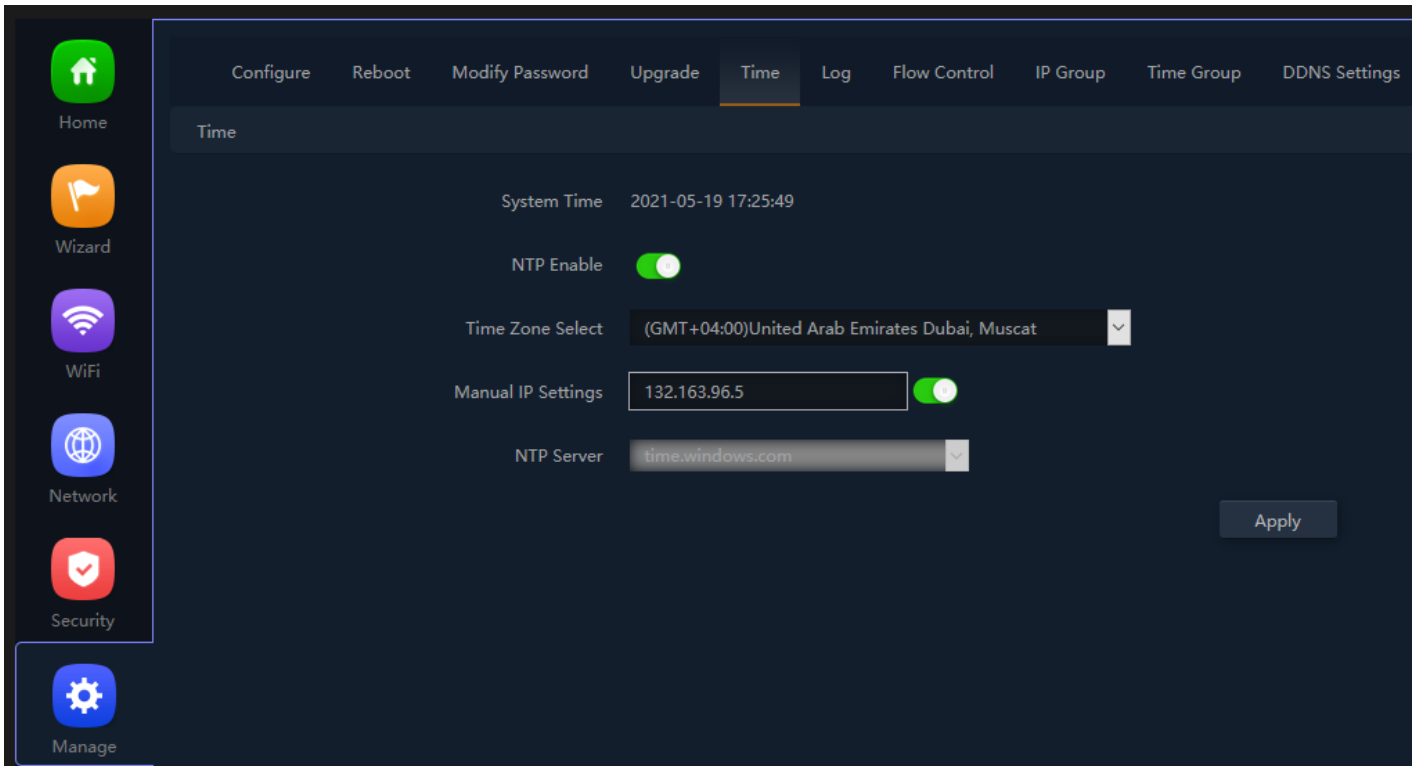


Fig 6.5.4 Enable NTP with Manual IP setting for AirONE AP300

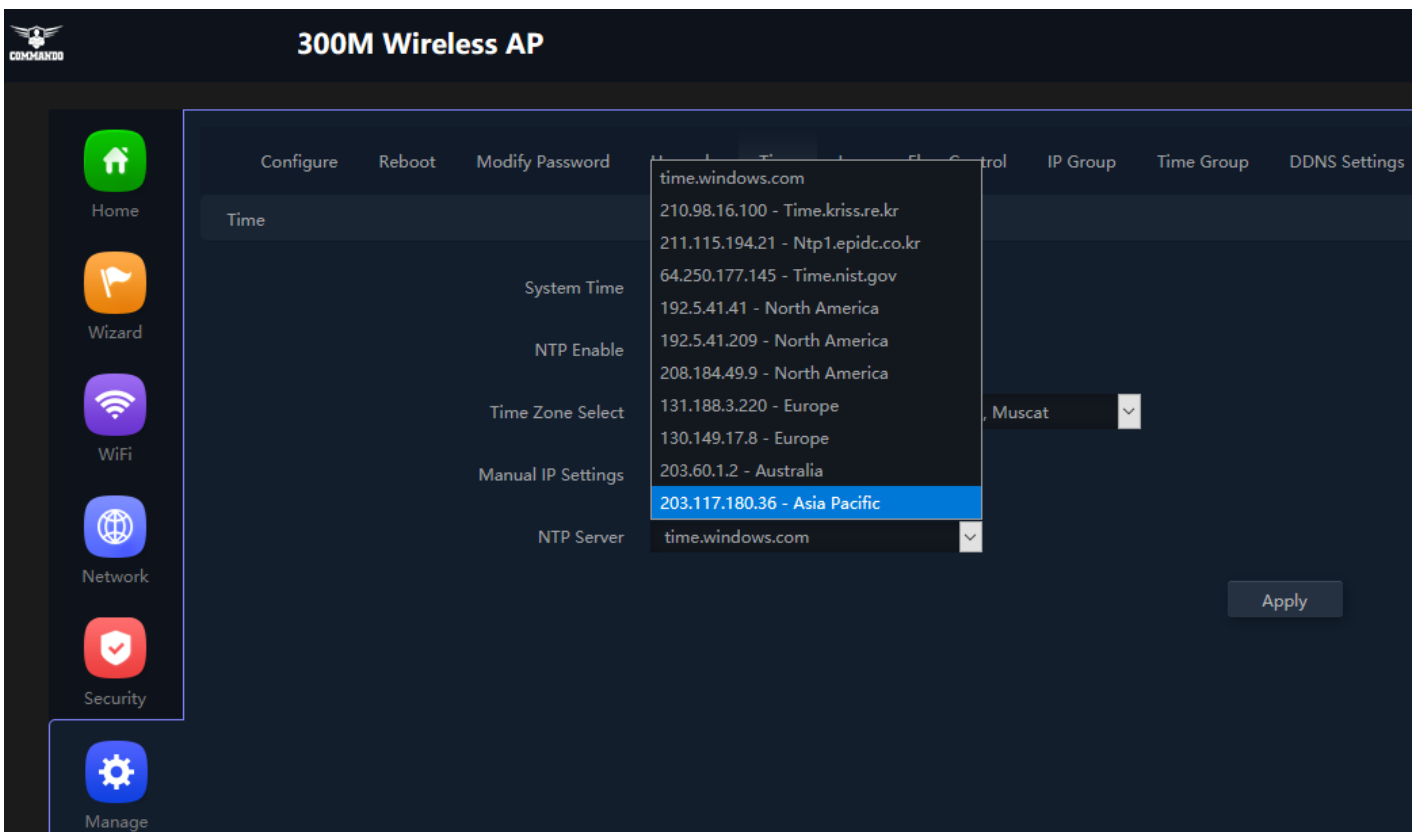
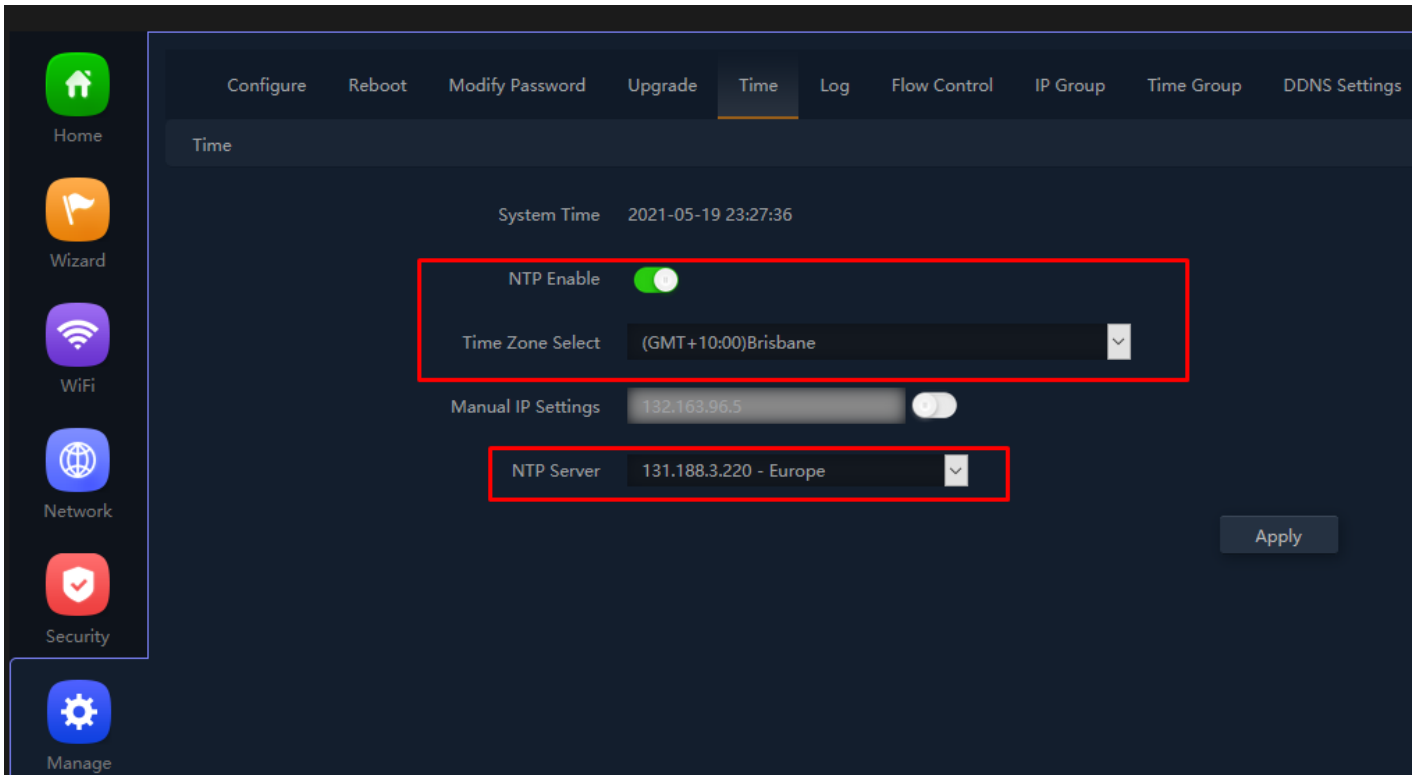


Fig 6.5.5 Selecting well know NTP server for AirONE AP300

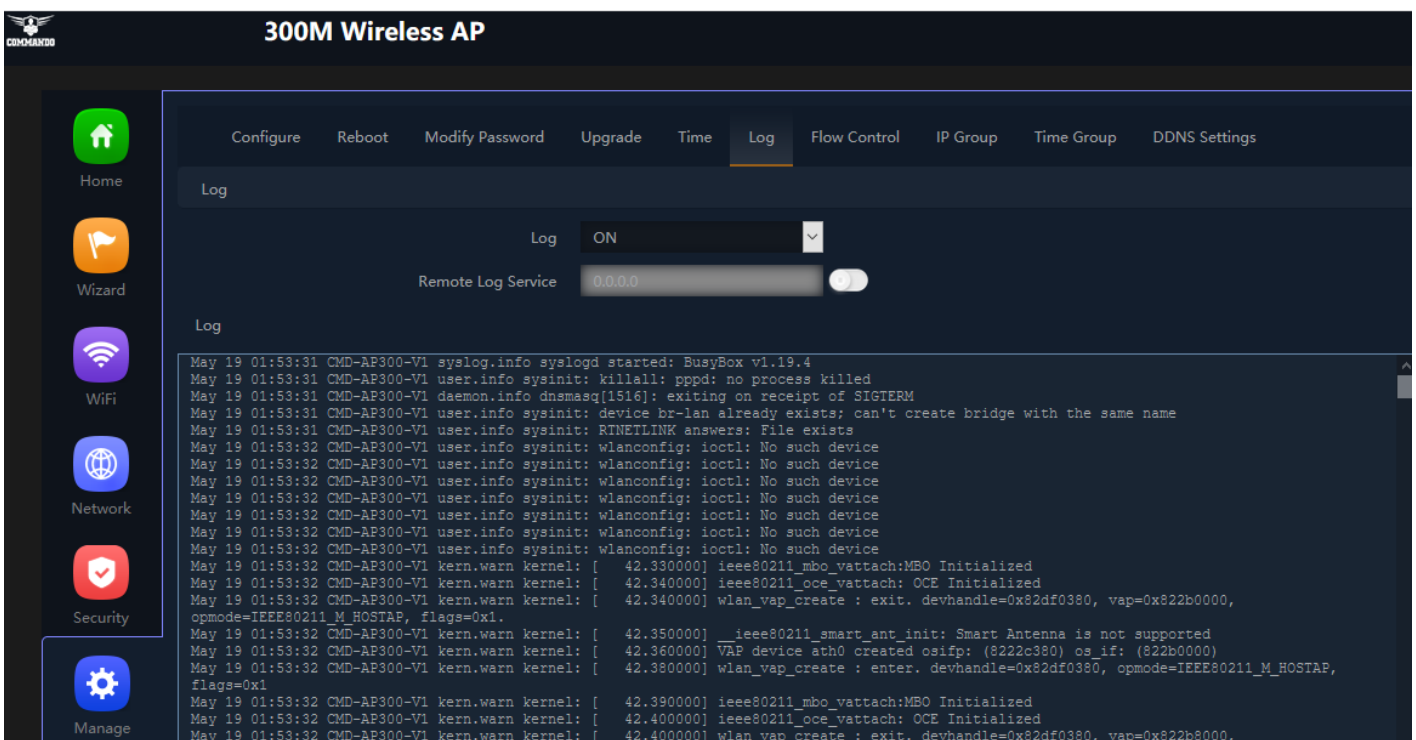




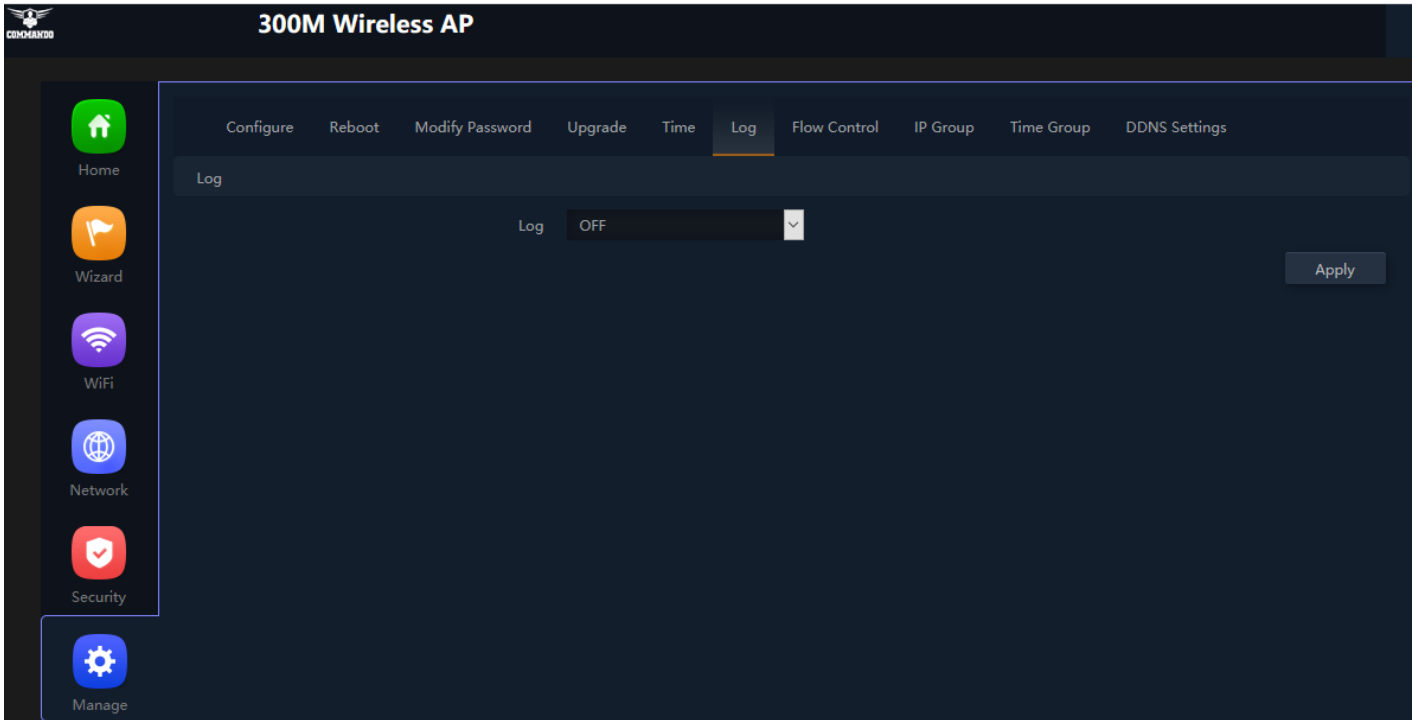
**Fig 6.5.6 NTP server for AirONE AP300**

## 6.6 Log Setting

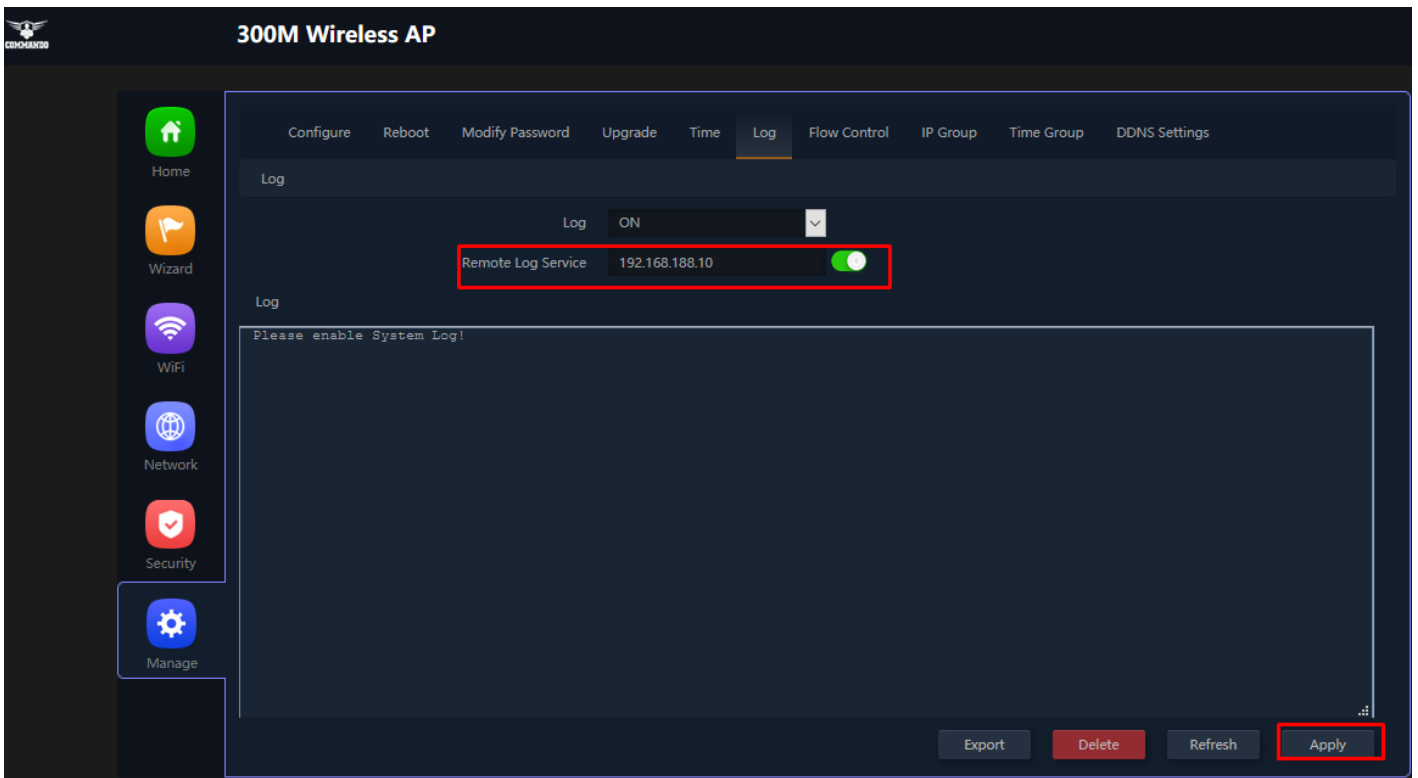
The Logs can record AP information effectively. The logs allow thorough tracking, alerting, and analysis when something does go wrong. It also determines the root cause of any issue.



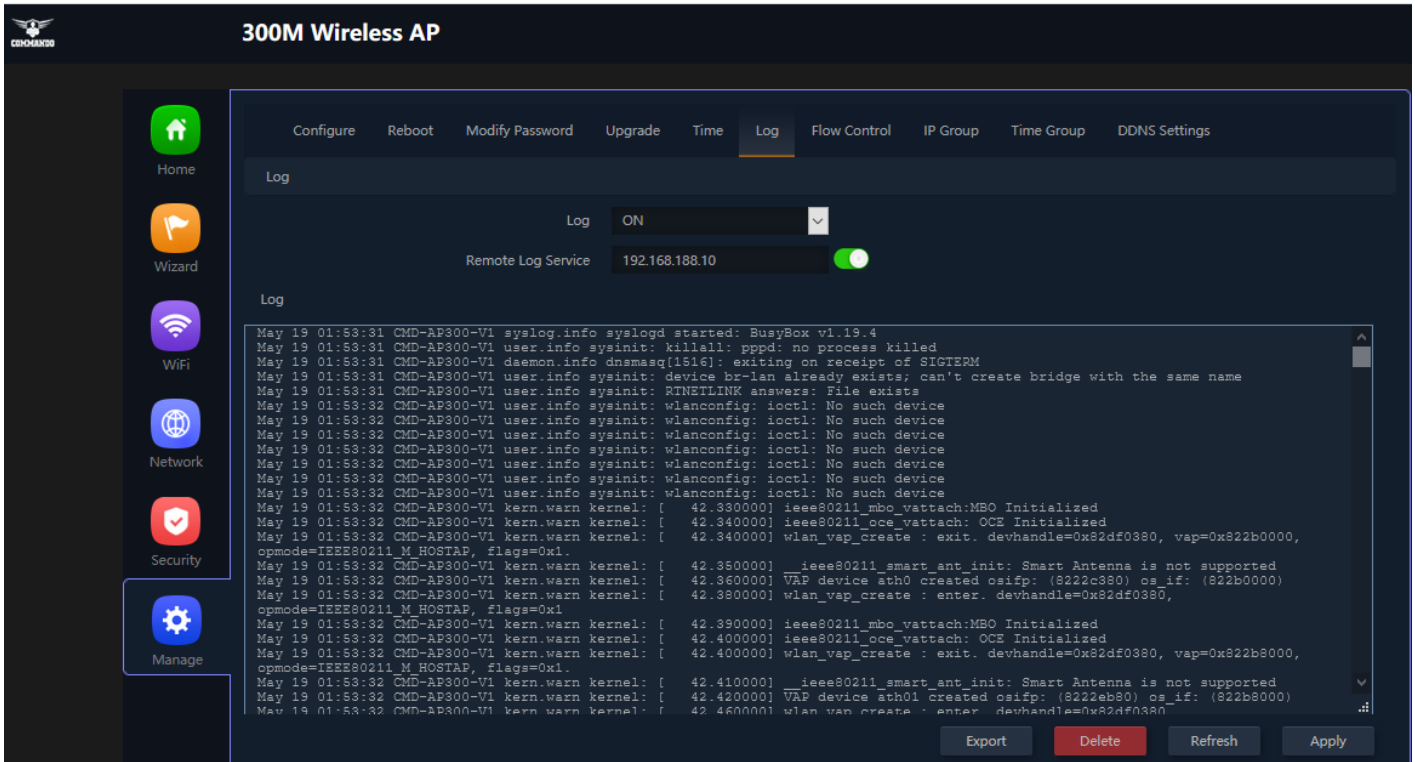
**Fig 6.6.1 Default Log setting for AirONE AP300**



**Fig 6.6.2 Turning OFF Log setting for AirONE AP300**



**Fig 6.6.3 Remote Log service setting IP for AirONE AP300**



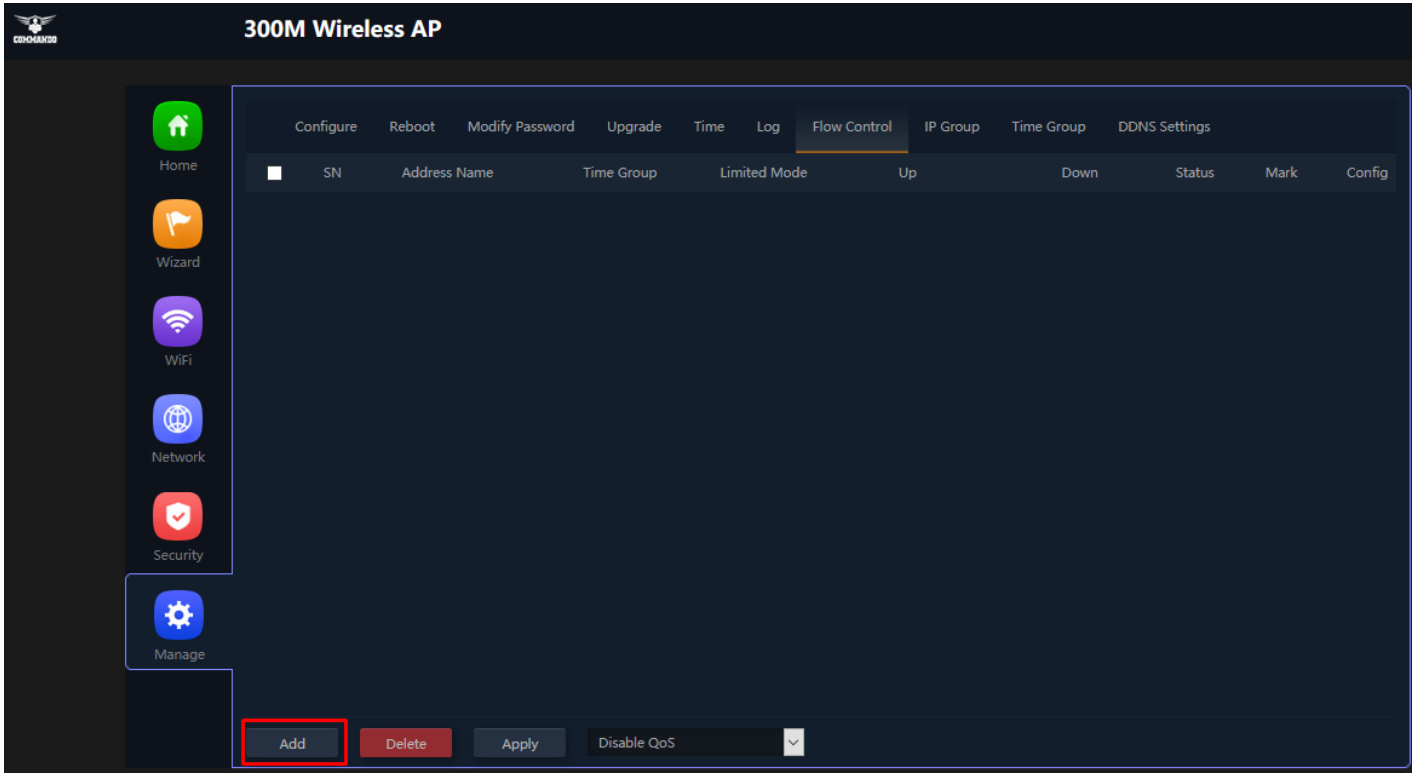
**Fig 6.6.4 Enabling Remote Log server setting IP for AirONE AP300**

**Recommendation:**

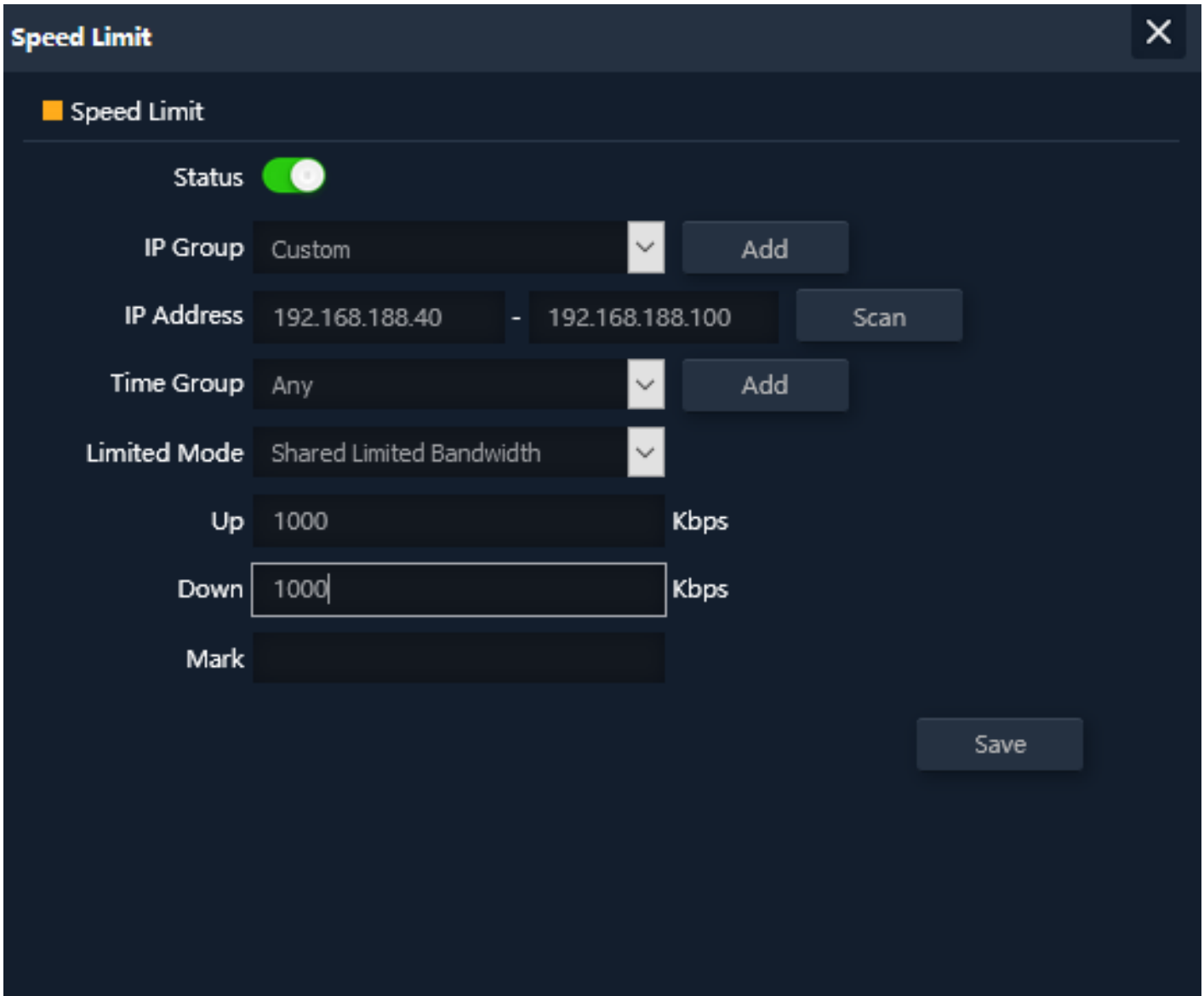
It is strongly recommended to turn OFF logs to avoid excessive CPU cycles, Memory usage and hanging of AP in long term.

**6.7 Flow Control**

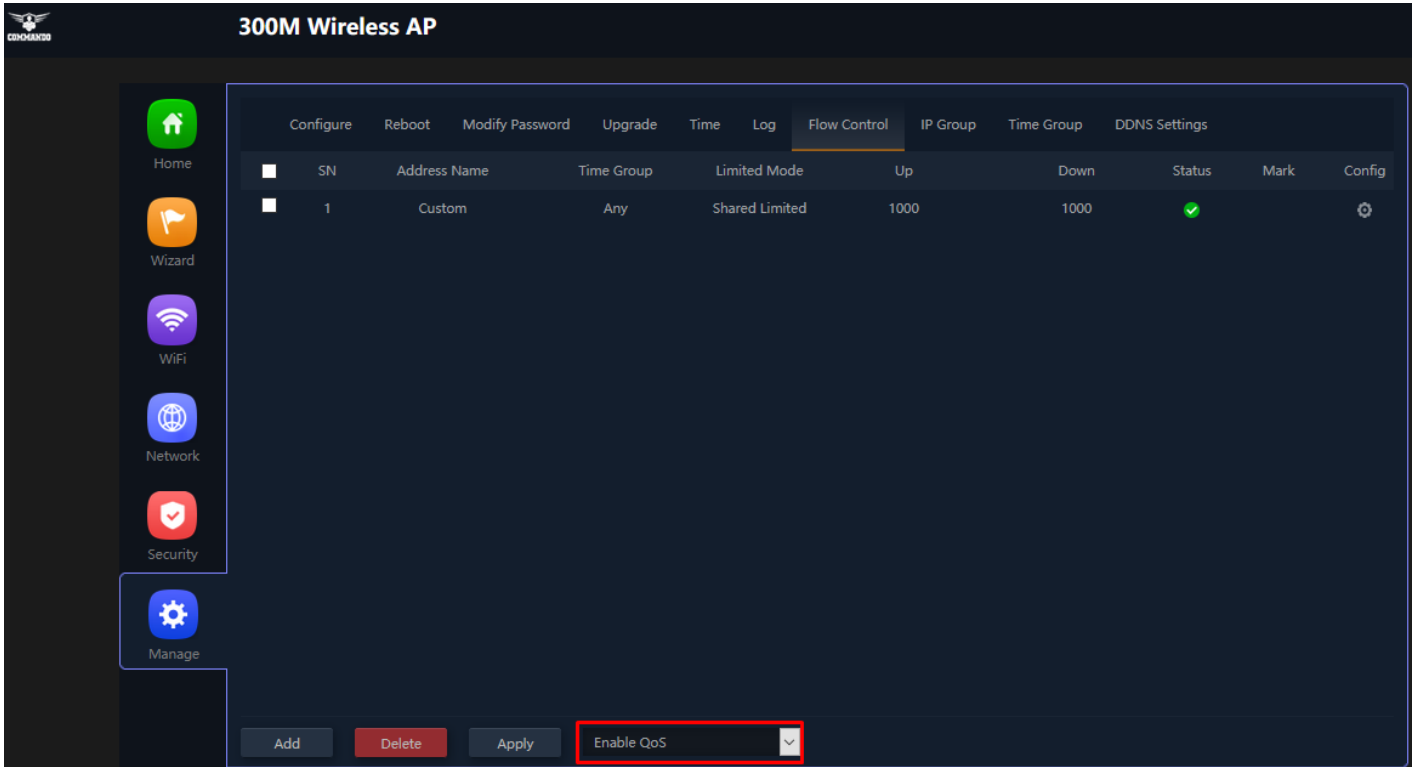
Enabling flow control can optimize the bandwidth requirement and improve the network experience for important applications, especially in the bandwidth hungry wireless clients' environment.



**Fig 6.7.1 Default Flow control page for AirONE AP300**



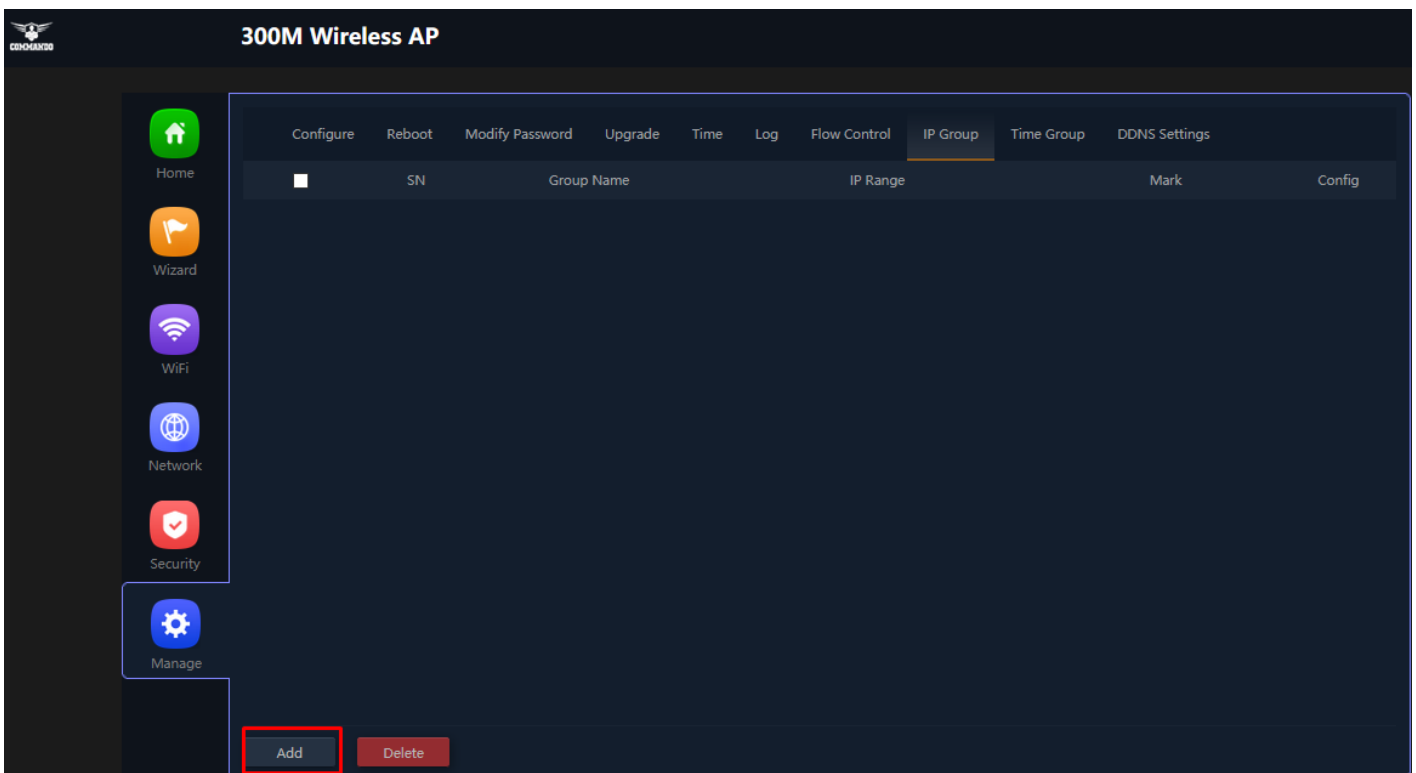
**Fig 6.7.2 Enabling Speed limit for AirONE AP300**



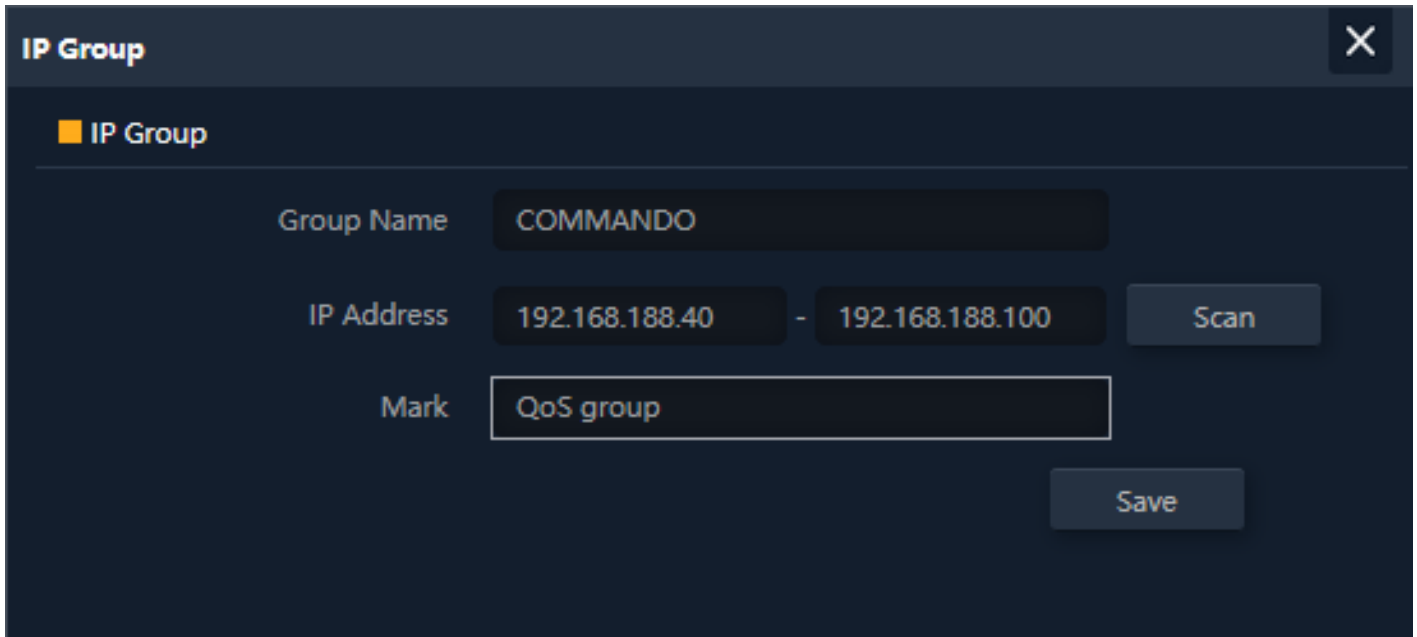
**Fig 6.7.3 Flow control page for AirONE AP300**

## 6.8 IP Group

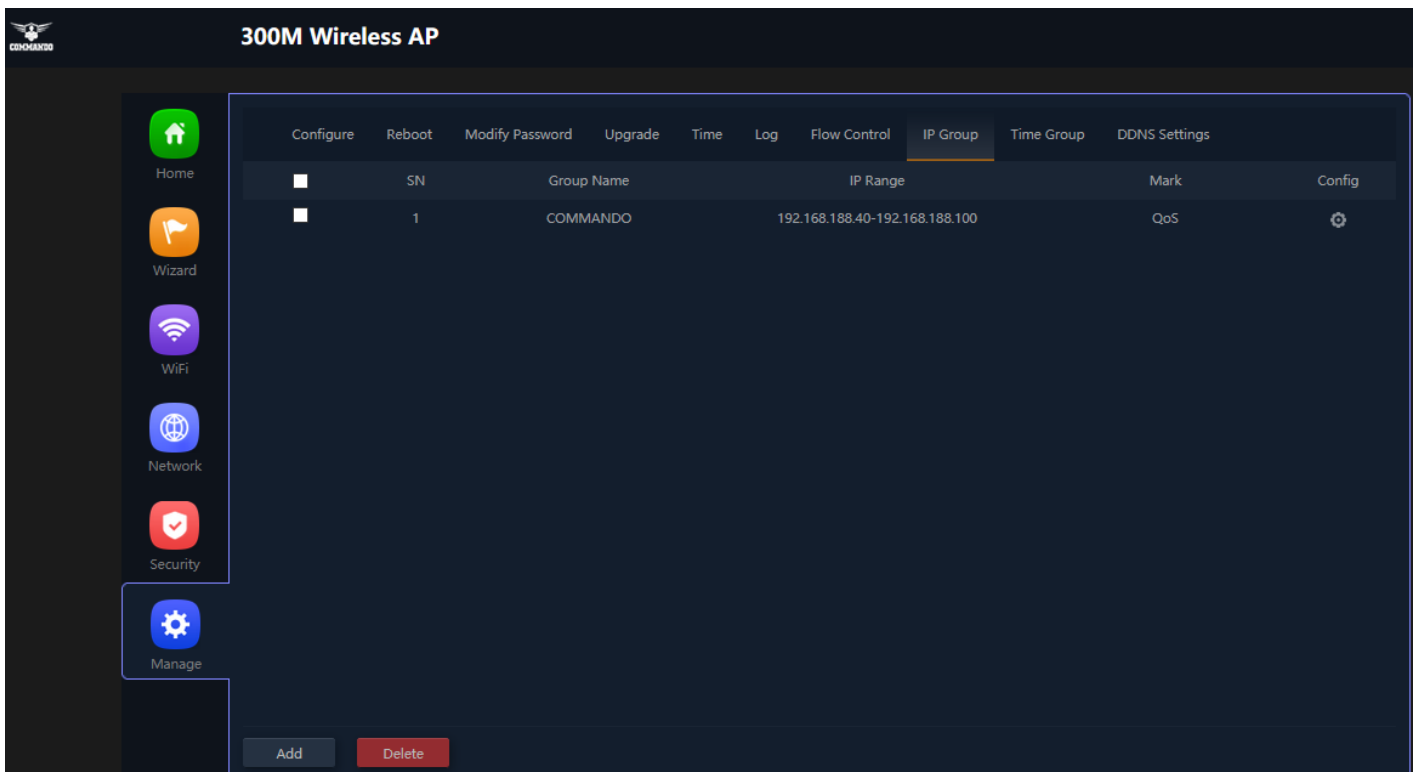
A single IP address divides into two sections: Network ID and Host ID. The Network ID defines the logical group where devices belong. Similarly, we can define IP group which tells AP what IP group name and associated IP address are available for wireless users.



**Fig 6.8.1 Default IP group page for AirONE AP300**



**Fig 6.8.2 IP group name and associated IP address for AirONE AP300**



**Fig 6.8.3 IP group page for AirONE AP300**

## 6.9 Time Group

It can create Time Group with time range and set frequency of operation for particular activity to operate in specified time. It can give automated effect to the network.

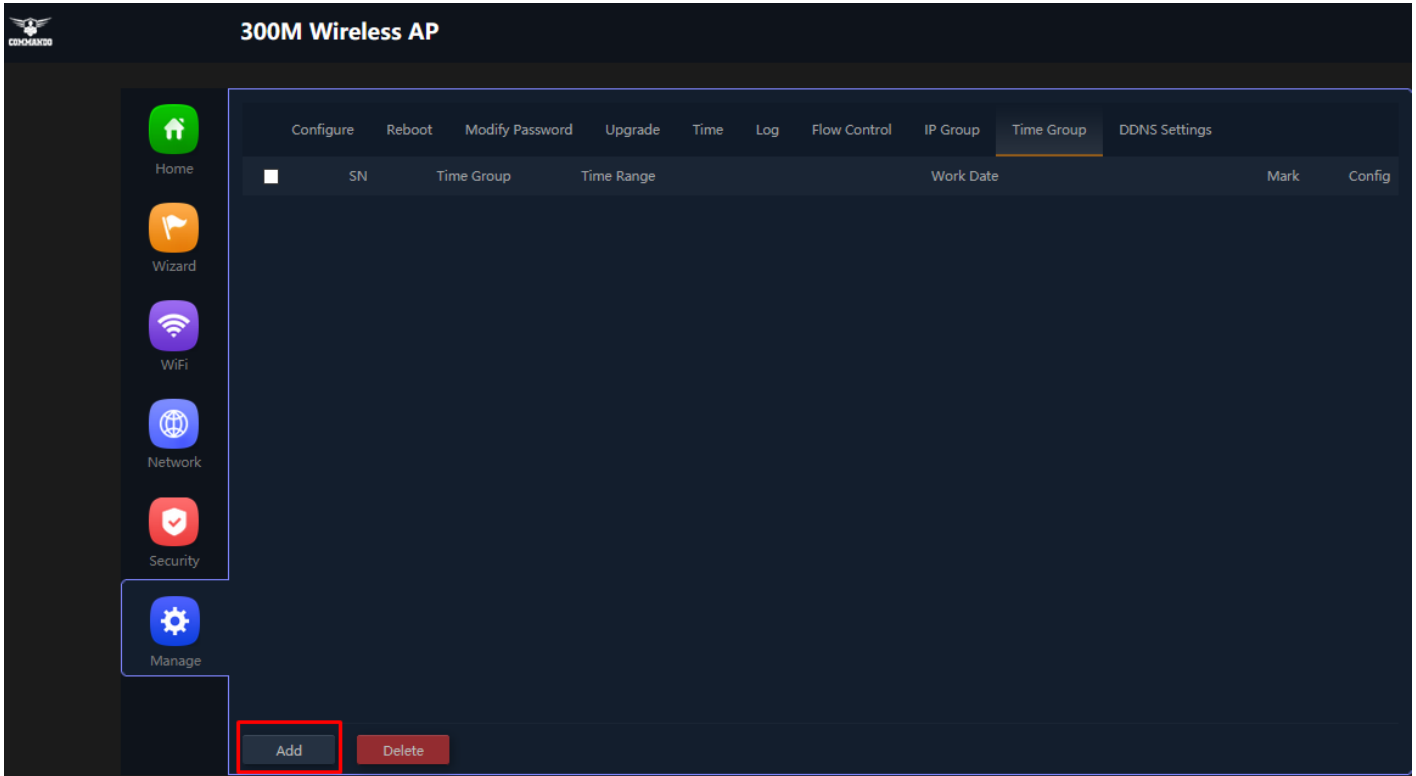


Fig 6.9.1 Default time group for AirONE AP300

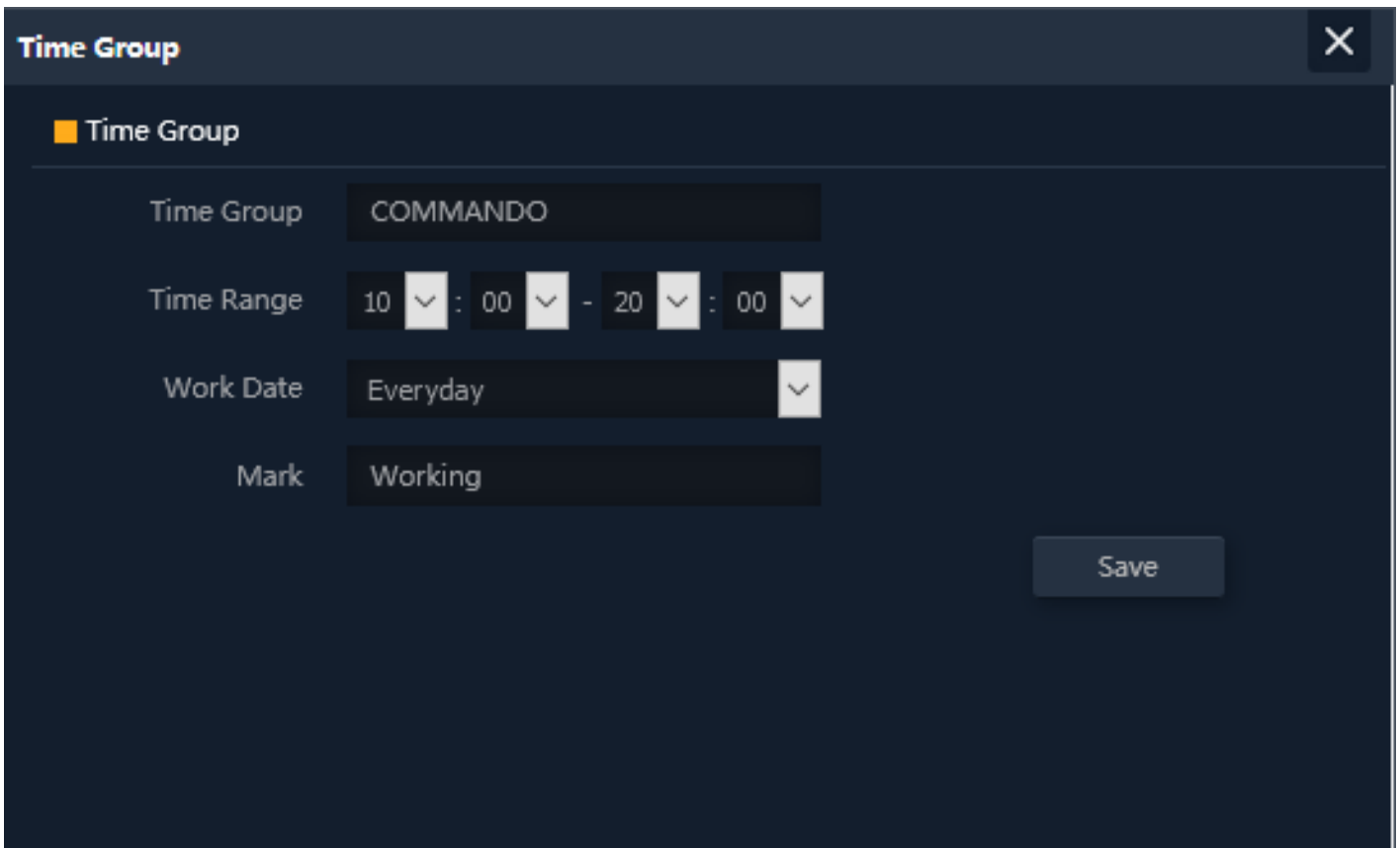
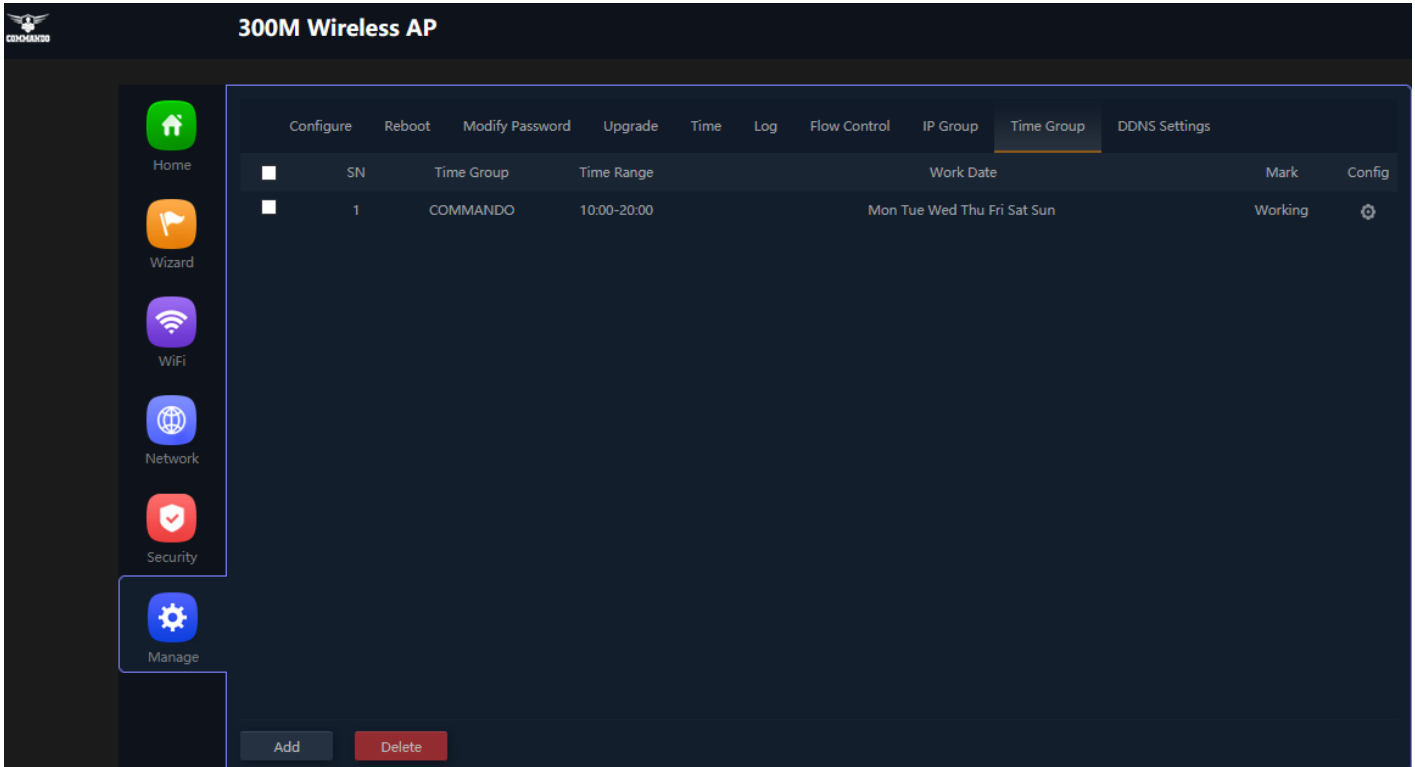


Fig 6.9.2 Setting Time group for AirONE AP300





**Fig 6.9.3 Time group for AirONE AP300**

## 6.10 DDNS Settings

DDNS (Dynamic DNS) server provides a fixed domain name for DDNS client and maps its latest IP address to this domain name. Dynamic DNS (DDNS) is an Internet service that allows controller with varying public IP addresses to be located using Internet domain names. To use DDNS, you must setup an account with a DDNS provider and set up an account with a DDNS service, the host & domain name, username, password detail will be provided by the account provider. It allows address, which enables the Internet hosts to access the router or the hosts in LAN using the domain names. As many ISPs use DHCP to assign public IP addresses in WAN, the public IP address assigned to the client is unfixed. In this way, it's very difficult for other clients to get the latest IP address of this client for access.

DDNS (Dynamic DNS) server provides a fixed domain name for DDNS client and maps its latest IP address to this domain name. When DDNS server works, DDNS client informs the DDNS server of the latest IP address, the server will update the mappings between the domain name and IP address in DNS database. Therefore, the wireless users can use the same domain name to access the DDNS client even if the IP address of the DDNS client has changed. DDNS is usually used for the Internet users to access the private website and FTP server, both of which are established based on Web server.

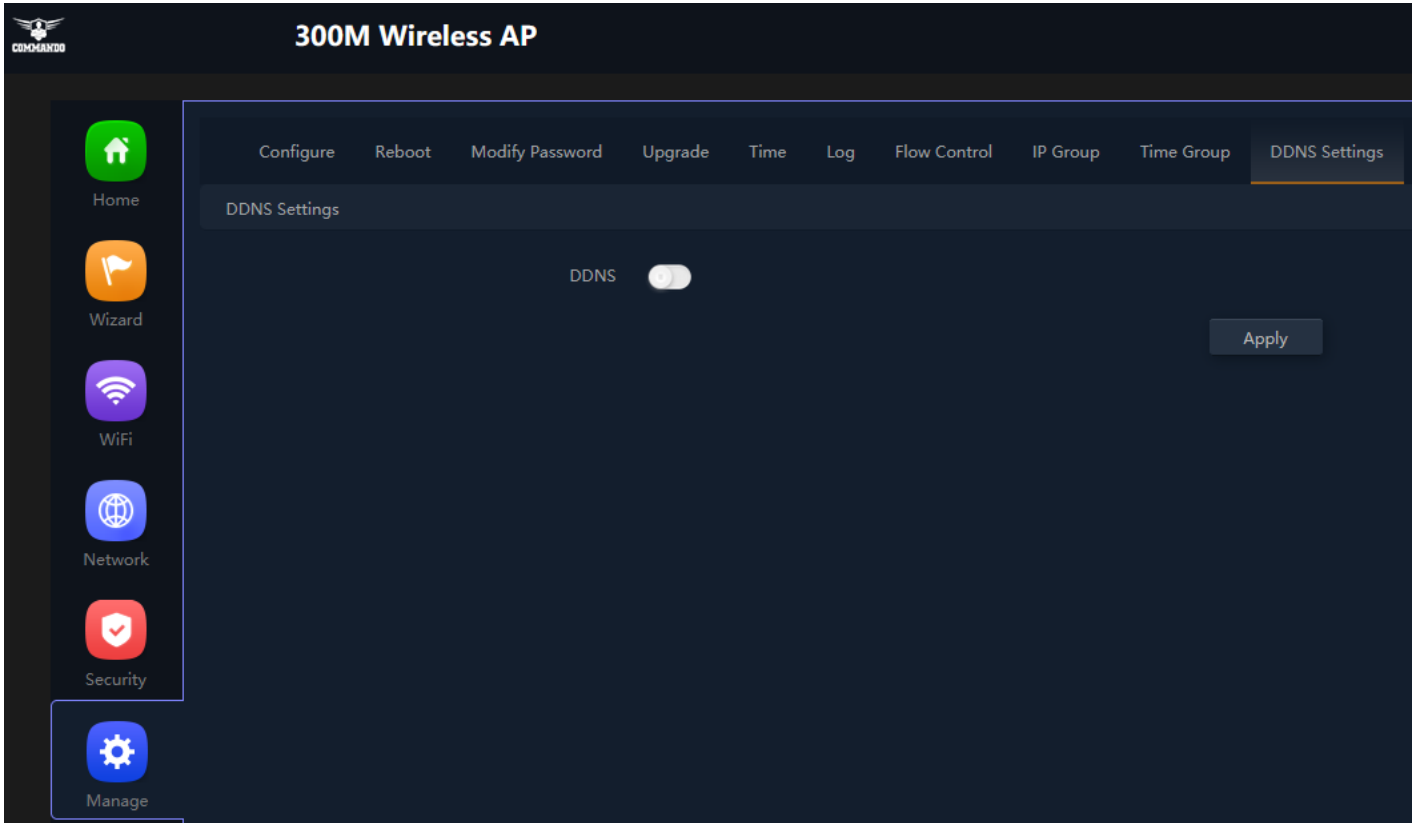


Fig 6.10.1 Default DDNS page for AirONE AP300

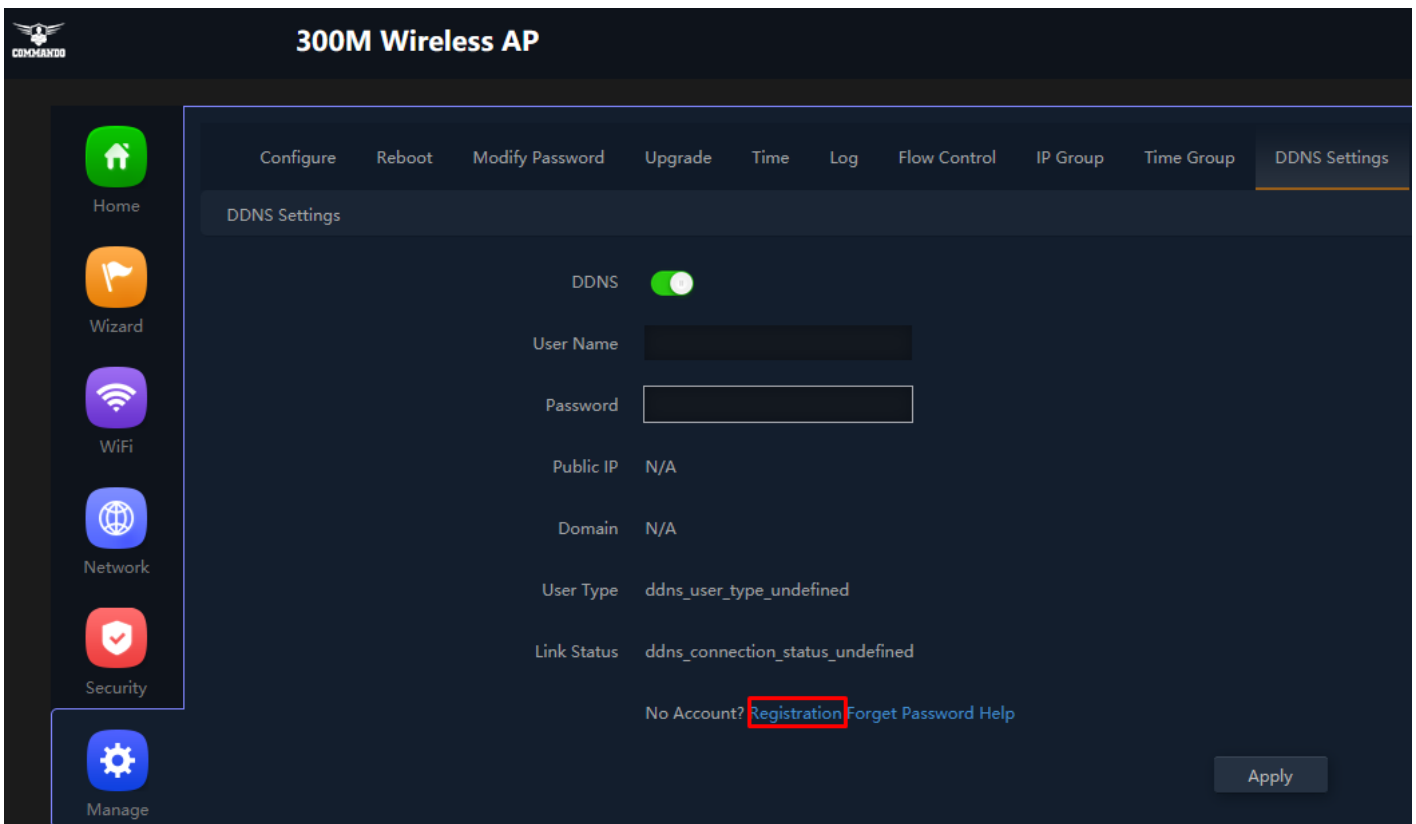


Fig 6.10.2 Enable DDNS page for AirONE AP300