

Wi-Fi 6 Access Points

Operating Mode Switching Guide

Contents

About AP operating modes	1
Introduction	1
Operating mode switching methods	1
Operating mode switching procedure	1
Determining the current operating mode of the AP	1
Operating mode switching methods	3
Switching the operating mode for an AP	5
General restrictions and guidelines	5
Switching the operating mode from the Cloudnet platform	5
Restrictions and guidelines	5
Prerequisites	5
Procedure	6
Switching the operating mode for an AP from the CLI of the AC	8
Restrictions and guidelines	8
Prerequisites	8
Procedure	8
Switching the operating mode for an AP from the CLI of the AP	9
Switching the operating mode from the BootWare menu of an AP	10
Pressing the Reset button to switch the operating mode	12
FAQ	12

About AP operating modes

Introduction

Wi-Fi 6 APs can operate in fit, cloud, or anchor AC mode. The images for all the operating modes packaged in one .ipe file. You can switch the operating mode for an AP without the need to obtain the image file for each operating mode.

The following are the supported operating modes:

- **Fit**—The AP is managed and controlled by an AC.
- **Cloud**—The AP can be managed without an AC, means FAT mode.
- **Anchor AC**—The AP acts an AC to manage fit APs.

Operating mode switching methods

Operating mode switching procedure

1. Determine the target operating mode of the AP.
2. Determine the current operating mode of the AP.
3. Select the operating mode switching method and complete networking.
4. Perform an operating mode switching.

Determining the current operating mode of the AP

From the CLI of the AP

```
# Log in to the AP from the console port, and then execute the display wlan device role command in any view.
```

```
<AP> display wlan device role
Current device role: Cloud AP
```

Table 1 Command output

Field	Description
Current device role	<ul style="list-style-type: none">• Anchor AC—AC in an AC hierarchy network.• FIT AP.• Cloud AP.

From the BootWare menu of the AP

Press **Ctrl + B** when “Press Ctrl+B to access EXTENDED-BOOTWARE MENU...” is displayed during the power-on and restart process of the AP.

```
===== <EXTENDED-BOOTWARE MENU> =====
|<1> Boot System
|<2> Enter Serial SubMenu
|<3> Enter Ethernet SubMenu
|<4> File Control
|<5> Restore to Factory Default Configuration
```

```

|<6> Skip Current System Configuration
|<7> BootWare Operation Menu
|<8> Skip Authentication for Console Login
|<9> Storage Device Operation
|<0> Reboot
=====
Ctrl+Z: Access EXTENDED ASSISTANT MENU
Ctrl+F: Format File System
Ctrl+C: Display Copyright
Ctrl+Y: Change AP Mode
Enter your choice(0-9):
# Press Ctrl + Y at the main menu.

Please select the new mode
Current mode is Cloud Mode
=====
|NO.  Mode
|1    Fit Mode
|2    Anchor-AC  (Virtual AC Mode)
|3    Cloud Mode
|0    Exit
=====
```

From the CLI of the AC

Use this method if the AP is managed by an AC. This mode is applicable to APs operating in fit or cloud mode.

Execute the **display wlan ap verbose** command in any view from the CLI of the AC and check the AP type field for the operating mode of the AP.

```

<AC> display wlan ap name ap1 verbose
AP name          : ap1
AP ID           : 1
AP group name   : default-group
State           : Run
Backup type     : Master
Omitted
AP type         : Normal AP
Radio 1:
    BSSID        : N/A
    State        : Down
    Type         : 802.11ax
    Antenna type : internal
Omitted
```

Table 2 Command output

Field	Description
AP type	<ul style="list-style-type: none"> • Normal AP—Fit AP in an AC + fit AP network. • Cloud AP.

Field	Description
	<ul style="list-style-type: none"> Unknown—Unknown AP type. This field is displayed before the AP comes online from the AC.

Pressing the Reset button

Use this method if you cannot log in to the AP from the console port. Press the **Reset** button for 20 to 30 seconds, and then determine the operating mode of the AP by observing the status LED or power LED on the AP.

Table 3 Determining the operating mode by LEDs

LED	Status	Description
Yellow	Flashes once every two seconds	Fit mode
	Flashes twice every one second	Anchor AC mode
	Flashes four times every one second	Cloud mode

Operating mode switching methods

The operating mode switching methods vary depending on the operating mode of an AP.

Table 4 Operating mode switching methods

Current operating mode	Available operating modes	Operating mode switching method
FIT	Cloud	Switching the operating mode for an AP from the CLI of the AC
		Switching the operating mode for an AP from the CLI of the AP
		Switching the operating mode from the BootWare menu of an AP
	Anchor-AC	Pressing the Reset button to switch the operating mode
		Switching the operating mode for an AP from the CLI of the AP
		Switching the operating mode from the BootWare menu of an AP
Cloud	FIT	Switching the operating mode for an AP from the CLI of the AC
		BootWare menu of an AP
		Switching the operating mode for an AP from the CLI of the AC

Switching the operating mode for an AP

General restrictions and guidelines

- For operating mode switching to take effect on an AP, you must restart the AP.
- For the first operating mode switching, the AP starts with the factory default setting if you have not used the `save` command to save the configuration. If you have saved the configuration, the AP starts with the saved configuration.
- For the operating mode of an AP, see the release notes.
- An AP operating in anchor AC mode will switch to fit mode and associate with an AC if it does not have persistent mode configured and discovers another AC in the network.

Switching the operating mode from the Cloudnet platform

This method enables you switch the operating mode for an AP only from fit to cloud.

Restrictions and guidelines

Both APs operating in cloud mode and fit mode can come online from the Cloudnet platform. You can manage APs operating in cloud mode from the Cloudnet platform. You cannot manage fit APs from the Cloudnet platform, but you can switch the operating mode and upgrade the software for an AP operating in fit mode from the Cloudnet platform.

Prerequisites

- The AP will search for an AC and Cloudnet platform after startup. The AP can come online from the Cloudnet platform it has not registered to an AC. If it has registered to an AC, it will come online from the AC. Make sure the AP is not registered to an AC.
- Register the AP to the Cloudnet platform by its model and serial number.
- Connect the AP to the network and enable it to obtain an IP address through DHCP. Make sure the obtained IP address and public network are reachable to each other.
- Make sure the DNS server can translate the Cloudnet server address correctly.

Switching the operating mode for an AP from the CLI of the AC

This method enables you to switch the operating mode of an AP from fit to cloud or from cloud to fit.

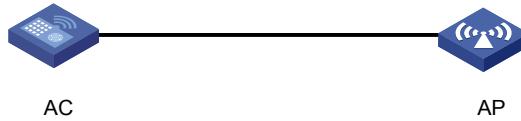
Restrictions and guidelines

- Both APs operating in cloud mode and fit mode can come online from the AC. You can manage APs operating in fit mode from the AC. You cannot manage APs operating in cloud mode from the AC, but you can switch the operating mode and upgrade the software for an AP operating in cloud mode from the AC.
- If the AP is operating in fit mode, the `ap-mode fit` command does not take effect.
- If the AP has gone offline after you execute the `ap-mode fit` command, you must save the configuration on the AC. After the AP comes online again, the AP will automatically restart and switch to fit mode.

Prerequisites

Configure the AP to come on line from the AC, and access the CLI of the AC through the configuration console.

Figure 5 Network diagram



Procedure

Switching the operating mode from fit to cloud

```
# Execute the wlan mode-switch ap cloud command in system view of the AC.
```

```

<AC> system-view
[AC] wlan mode-switch ap ap1 cloud
# Enter Y when the following prompt is displayed:
The operation will change the working mode to cloud. Continue? [Y/N] :
# Return to user view, and then execute the reset wlan ap command to restart the AP for the
mode switching to take effect.
[AC] quit
<AC> reset wlan ap name ap1
# Enter Y when the following prompt is displayed and wait several minutes for the AP to come online
in cloud mode.
Resetting the APs will terminate the CAPWAP tunnels with the AC. Continue? [Y/N] :

```

Switching the operating mode from cloud to fit

Execute the **ap-mode** command in AP view of the AC.

```

<AC> system-view
[AC] wlan ap ap1
[AC-wlan-ap-ap1] ap-mode fit

```

Enter Y when the following prompt is displayed and wait several minutes for the AP to come online in fit mode.

Changing the working mode will reboot the AP. For the operation to succeed, make sure the corresponding AP image exists on the AC or AP. Continue? [Y/N] :

Switching the operating mode for an AP from the CLI of the AP

You can switch the an AP to any one of the three operating modes from the CLI of the AP.

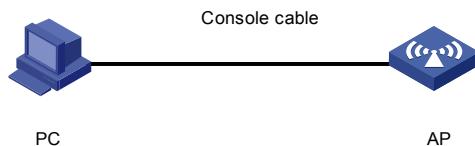
Restrictions and guidelines

- In probe view, the **ap-mode** supports keywords **fit**, **cloud**, and **Anchor-AC**. You cannot use a question mark (?) to display help information for a command or use the **Tab** key to complete a command.
- If the new operating mode is the same as the current operating mode, the command does not take effect and no output is displayed.
- You cannot log in to an AP in fit mode through Telnet after the AP associates with an AC.

Perquisites

This section uses cloud-to-fit switching as an example. Before mode switching, connect your PC to the console port of an AP by using a console cable or log in to an AP through Telnet.

Figure 6 Network diagram



Procedure

Execute the **ap-mode** command in probe view of the AP.

```
<AP> system-view
```

```

[AP] probe
[AP-probe] ap-mode fit
# Enter Y when the following prompt is displayed and wait several minutes for the AP to come online
in cloud mode.
Changing working mode will reboot system. Continue? [Y/N]:
```

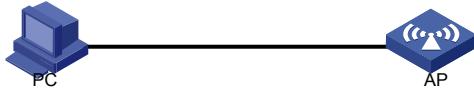
Switching the operating mode from the BootWare menu of an AP

You can switch the an AP to any one of the three operating modes from the BootWare menu of the AP.

Prerequisites

This section uses cloud-to-fit switching as an example. Before mode switching, connect your PC to the console port of an AP by using a console cable.

Figure 7 Network diagram



You cannot log in to an AP in fit mode from the console port after the AP associates with an AC.

Procedure

Execute the **reboot** command to restart the AP. The following output will be displayed.

```

<AP>reboot
Start to check configuration with next startup configuration file, please wait..
.....DONE!
This command will reboot the device. Continue? [Y/N]:y
Now rebooting, please wait...
%Apr 11 23:36:57:760 2021 DEV/5/SYSTEM_REBOOT: System is rebooting now.

System is starting...
Press Ctrl+D to access BASIC-BOOTWARE MENU...
Booting Normal Extended BootWare
The Extended BootWare is self-decompressing.....Done.

*****
*                                     *
*          NWA6GG€ BootWare, Version 7.12          *
*                                     *
*****
```

Compiled Date : Jan 28 2021

```
CPU L1 Cache      : 32KB
CPU L2 Cache      : 256KB
CPU Clock Speed   : 2200MHz
Memory Type       : DDR3 SDRAM
Memory Size       : 1024MB
Memory Speed      : 933MHz
Flash Size        : 256MB
PCB Version       : Ver.A
```

BootWare Validating...

Press Ctrl+B to access EXTENDED-BOOTWARE MENU...

Press Ctrl + B when “Press Ctrl+B to access EXTENDED-BOOTWARE MENU...” is displayed.

Password recovery capability is enabled.

Note: The current operating device is flash

Enter < Storage Device Operation > to select device.

===== <EXTENDED-BOOTWARE MENU> =====

<1> Boot System	
<2> Enter Serial SubMenu	
<3> Enter Ethernet SubMenu	
<4> File Control	
<5> Restore to Factory Default Configuration	
<6> Skip Current System Configuration	
<7> BootWare Operation Menu	
<8> Skip Authentication for Console Login	
<9> Storage Device Operation	
<0> Reboot	

=====

Ctrl+Z: Access EXTENDED ASSISTANT MENU

Ctrl+F: Format File System

Ctrl+C: Display Copyright

Ctrl+Y: Change AP Mode

Enter your choice(0-9) :

Press Ctrl + Y at the main menu.

Please select the new mode

Current mode is Cloud Mode

NO.	Mode	
1	Fit Mode	
2	Anchor-AC (Virtual AC Mode)	
3	Cloud Mode	
0	Exit	

=====