AP4030DN

Quick Start Guide

FCC ID: QISAP4030DN

Issue	01
Date	2015-02-06

HUAWEI TECHNOLOGY CO., LTD

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About This Document

Intended Audience

This document describes hardware features of the AP7030DE and AP9330DN and provides basic installation methods.

This document is intended for::

- Network planning engineers
- Hardware installation engineers
- Commissioning engineers
- Onsite maintenance engineers
- System maintenance engineers

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
⚠ DANGER	Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
⚠ NOTICE	Indicates a potentially hazardous situation which, if not avoided, could result in equipment damage, data loss, performance deterioration, or unanticipated results. NOTICE is used to address practices not related to personal injury.
📖 NOTE	Calls attention to important information, best practices and tips.

Symbol	Description
	NOTE is used to address information not related to personal injury, equipment damage, and environment deterioration.

Change History

Changes between document issues are cumulative. The latest document issue contains all changes made in previous issues.

Issue 01 (2014-11-07)

Initial commercial release

Contents

1 Indoor AP Overview

About This Chapter

The cost-effective AP4030DN supports 2 x 2 MIMO and provides comprehensive service support capabilities. It is deployed indoors and features high reliability, high security, simple network deployment, automatic AC discovery and configuration, and real-time management and maintenance. Huawei AP4030DN complies with IEEE 802.11ac and can provide gigabit access for wireless users. This high capacity greatly improves user experience on wireless networks.

Huawei indoor APs are especially applicable to places with simple building structure, small size, dense users, and high capacity demands, such as small-size conference rooms, bars, and leisure centers. They can be flexibly deployed according to surrounding environment.

1.1 Device Structure

1.2 Indicator Description

1.3 Basic Specifications

1.1 Device Structure

Figure in Figure 1-1 shows the appearance of AP4030DN.

Figure 1-1 Appearance of AP4030DN.
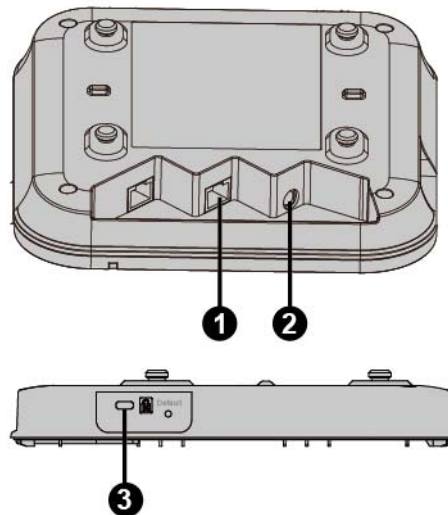
Table in Table 1-1 shows the interface of AP4030DN.

Table 1-1 Interfaces on AP4030DN

No.	Name	Description
1	GE/PoE	10/100/1000M bit/s interface: connects to the wired Ethernet. The interface can connect to a PoE power supply to provide power for the AP.
2	DC power adapter	The AP supports the PoE power supply and DC power supply. To connect the AP to a DC power source, use the power adapter delivered with the AP; otherwise, the AP maybe damaged.
3	Security slot	Fasten the cable of the security lock to an immovable object around, and insert the security lock into the security slot and lock it.

1.2 Indicator Description

The following information describes indicators on the AP4030DN.

📖 NOTE

● The actual indicator color may vary according to temperature.

● After an AP is powered on, you can run the **led off** command on the AC to turn off all AP indicators. To restore the indicators to normal working status, run the **led on** command.

● The AP4030DN has indicators located inside the panel. The indicators turn on after the AP is powered on.

Figure 1-2   Indicator on the AP4030DN
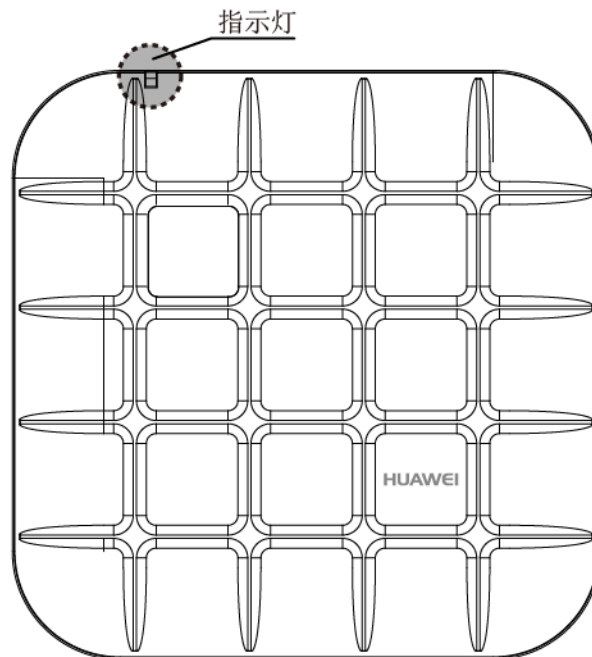
Table 1-2 Description of the indicator on the AP4030DN

Type	Color	Status	Description
Default status after power-on	Green	Steady on	The AP is just powered on and the software is not started yet.
Software startup status	Green	Steady on after blinking once	After the system is reset and starts uploading the software, the indicator blinks green once. Until the software is uploaded and started, the indicator remains steady green.
Running status	Green	Blinking once every 2s (0.5 Hz)	• The system is running properly, the Ethernet connection is normal, and STAs are associated with the AP. • The system enters the Uboot CLI.
		Blinking once every 5s (0.2 Hz)	The system is running properly, the Ethernet connection is normal, and no STA is associated with the AP. The system is in low power consumption state.
Alarm	Green	Blinking once every 0.25s (4 Hz)	• The software is being upgraded. • After the software is uploaded and started, the AP requests to go online on the AC and maintains this state until it goes online successfully on the AC (before the CAPWAP link is established). • The AP fails to go online on the AC (the

Type	Color	Status	Description
			CAPWAP link disconnects).
Fault	Red	Steady on	A fault that affects services has occurred, such as a DRAM detection failure or system software loading failure. The fault cannot be automatically rectified and must be rectified manually.

1.3 Basic Specifications

Table in Table 1-3 shows the specifications of AP4030DN.

Table 1-3 Basic specifications of the AP4030DN

Item		Description
Technical specifications	Dimensions (H x W x D)	180mm×180mm×54.5mm (not include mounting bracket)
	Weight	0.4kg (not include mounting bracket)
	System memory	• 256MB DDR2 • 32 MB Flash
Power specifications	Power input	12V±10%, 2A
	Maximum power consumption	10.2W
	PoE	-48V DC,0.35A
Environment specifications	Operating temperature	0℃～+45℃
	Storage temperature	-40℃～+70℃
	Operating humidity	5%～95%（(non-condensing）
	Ingress Protection Rating	IP41
	Atmospheric pressure	53kPa～106kPa

1.4 Global Environmental Compliance

This product has been tested and complies with the following certification:

- European Union RoHS: 2002/95/EC 2011/65/EU EN50581:2012
- REACH: 1907/2006

- WEEE: 2002/96/EC 2012/19/EU
- China RoHs: SJ/T 11363-2006

本信息适用于华为在中华人民共和国销售的电子信息产品 This information applies only to Huawei Electronic Information Products sold in the People's Republic of China.						
部件名称 （Parts）	有毒有害物质或元素（Hazardous Substance）					
	铅 （Pb）	汞 （Hg）	镉 （Cd）	六价铬 （Cr6+）	多溴联苯 （PBB）	多溴二苯醚 （PBDE）
电路模块 （circuit modules）	×	O	O	O	O	O
电缆及电缆组件 （Cables & Cable assemblies）	O	O	O	O	O	O
金属部件 （Metal Parts）	O	O	O	O	O	O
塑料和聚合物部件 （Plastic and Polymeric Parts）	O	O	O	O	O	O

O：

表示该有毒有害物质在该部件所有均质材料中的含量在 SJ/T11363 － 2006 标准规定的限量要求下。

Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X：

表示该有毒有害物质至少在该部件的某一均质材料中的含量超出 SJ/T11363-2006 标准规定的限量要求。

Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard.

对销售之日的所售产品，本表显示华为公司供应链的电子信息产品可能包含这些物质。注意：在所售产品中可能会也可能不会含有所有所列的部件。

This table shows where these substances may be found in the supply chain of Huawei products, as of the date of sale of the enclosed product. Note that some of the component types listed above may or may not be a part of the enclosed product.

2 AP Installation

About This Chapter

2.1 Preparing for Installation

This section describes safety precautions and tool preparations for AP installation.

Safety Precautions

- Take proper measures to prevent injuries and device damage.
- Place the device in a dry and flat position away from any liquid and prevent the device from slipping.
- Keep the device clean.
- Do not put the device and tools in the aisles.
- This device uses non-harmonized frequency and is intended for use in all European countries.
- The WLAN can be operated in the EU without restriction indoors, but cannot be operated outdoors.
- A 20cm separation distance needs to be maintained to ensure compliance with the European RF Exposure limits set by ICNIRP

⚠️ **CAUTION**
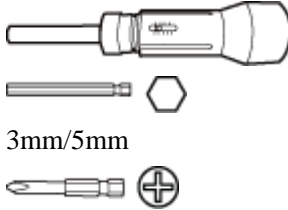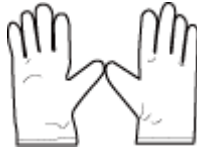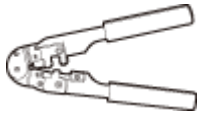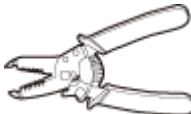
Only the qualified personnel are permitted to install and remove the device and its accessories. Before installation and operation, read the safety precautions carefully.

Tool Preparation

To install APs, prepare tools listed in Table 2-1。

Table 2-1 Tools

Phillips screwdriver (M4)	Torque screwdriver 3mm/5mm (M3-M6)	Marker
ESD gloves	Utility knife	Cable cutter
Diagonal pliers	RJ45 crimping tool	Wire stripper
Network cable tester	Multimeter	Level

2.2 Unpacking the Equipment

Before unpacking the carton, ensure that the packing carton is intact and not damaged or soaked. Stop unpacking if the equipment is rusted or soggy. Then, investigate causes and contact the supplier.

Usually, the packing list contains the following items.

- AP
- Mounting Bracket
- Power adapter (optional)
- Quick Start Guide
- Warranty card

2.3 Determining the Installation Position

When determining the AP installation position, comply with the following rules:

- Try to reduce the number of obstacles, such as walls, between the AP and user terminals.
- Install the AP away from electronic devices that can cause radio interference, such as the microwave oven.
- Install the AP in a hidden position that does not affect daily lives and work of residents.
- Install the AP in a site that is free from leaking or dripping water, heavy dew, and humidity, and take protective measures to prevent water from flowing into the equipment along the cable.

Indoor APs are usually mounted on a wall or ceiling using sheet metal mounting brackets. The installation position is determined by the site survey. There must be at least 200 mm clearance between the cabling end of the AP and the wall. Figure 2-1 shows dimension and Figure 2-2 shows space requirements.

Figure 2-1 Dimension of AP4030DN（Unit: mm）
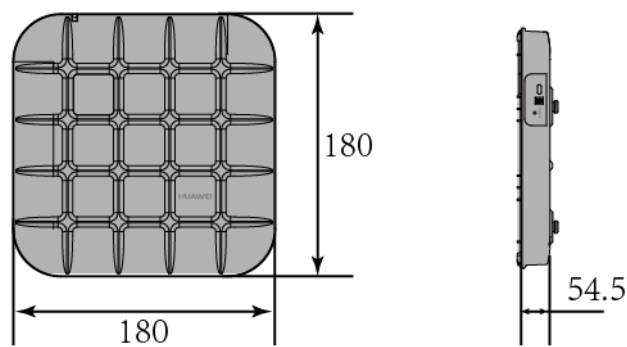
Figure 2-2 Mounting an AP（Unit: mm）
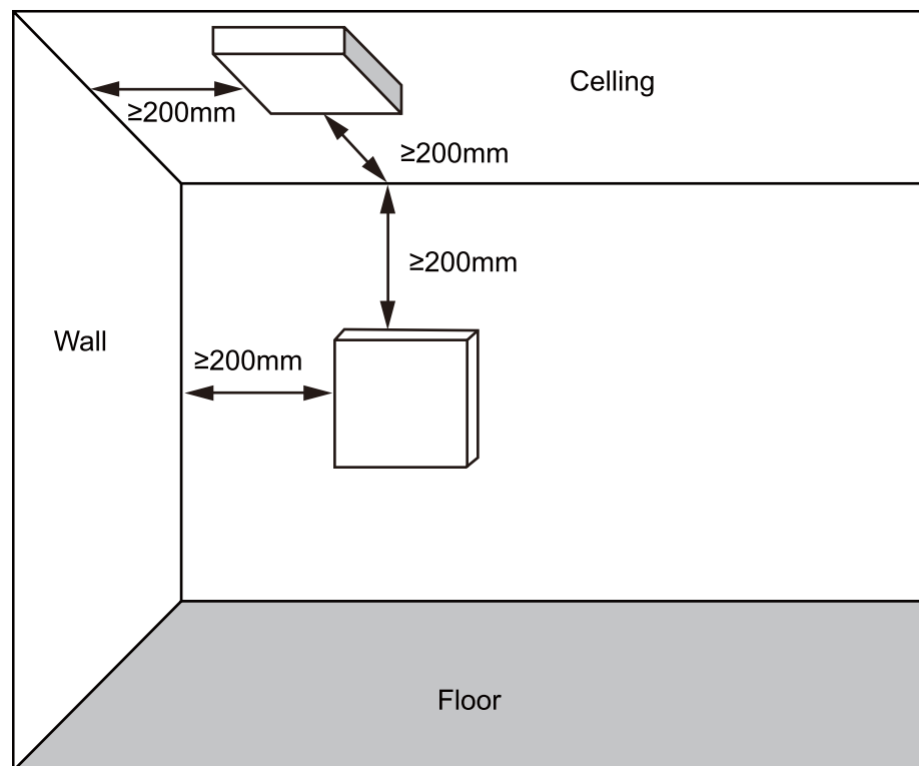
2.4 Installing the AP

2.4.1 Wall Mounting

1. Fix the mounting bracket to the wall, adjust the installation position, and use the marker to mark the drilling positions where expansion screws are installed.
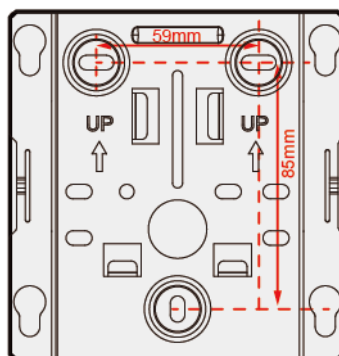
2. Use a 6 mm drill bit to drill 25 mm to 30 mm deep holes in the drilling positions. Hammer the expansion tubes into the holes until the expansion tubes are completely embedded into the wall.
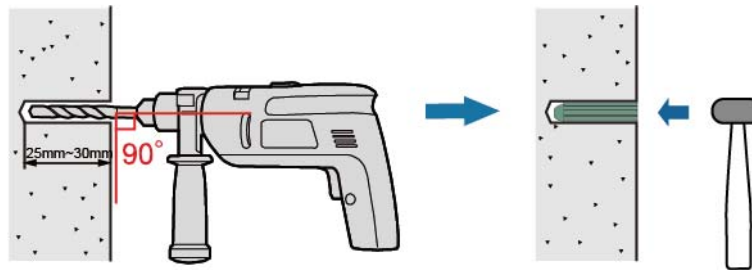
Fix the mounting bracket to the wall and use the Phillips screwdriver to fasten three expansion screws into the expansion.
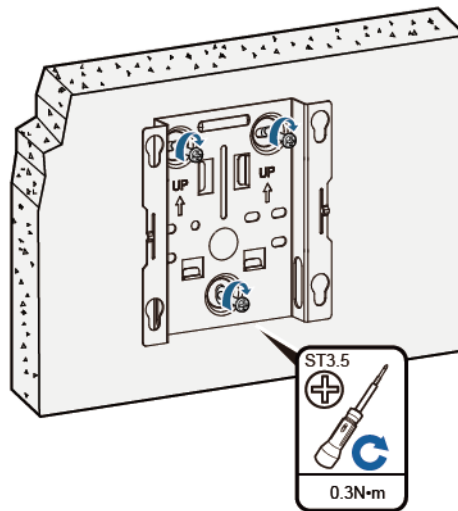
3.   Align the mounting screws at the rear of the AP with the mounting holes on the mounting bracket and hang the AP on the bracket. Press the AP downwards to secure the AP on the wall.
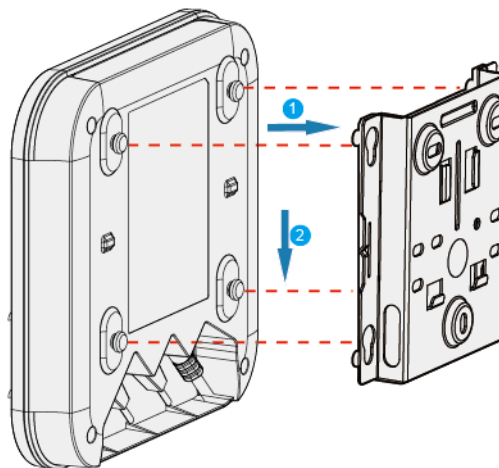
2.4.2 Ceiling Mounting

1. Remove a ceiling tile, determine locations of mounting holes based on the distance between two installation holes on the mounting bracket, use a hammer drill to drill hole on the ceiling tile, and fix the mounting bracket to the ceiling tile.
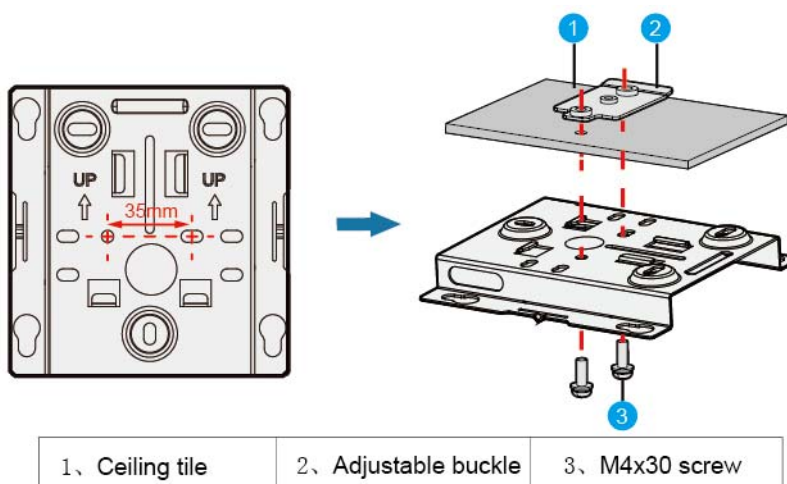
| 1、Ceiling tile | 2、Adjustable buckle | 3、M4x30 screw |

2. Hang the AP on the mounting holes by aligning the mounting screws at the rear of the AP with the mounting screws on the bracket and push the AP horizontally to secure the AP.
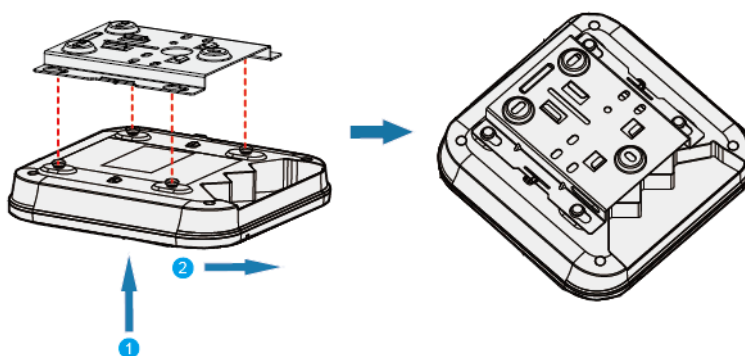
⚠ **CAUTION**

The screws provided for ceiling-mounting of APs are 30 mm long and can be used to fix an AP on a ceiling not thicker than 15 mm. To install APs on thicker ceilings, you need to purchase longer screws.

📖 **NOTE**

Ensure that the AP is correctly installed on the mounting bracket and there must be 200 mm space above and around the AP for maintenance.

2.4.3 T-rail Mounting

1. Remove two ceiling tiles around the T-rail (1), use screws (2) to fix the adjustable buckle (3) to the mounting bracket (4), hook the adjustable buckle to the T-rail, and secure the screw on the adjustable buckle to fasten the mounting bracket and T-rail. Remove two ceiling tiles around the T-rail, use screws to fix the adjustable buckle to the mounting

bracket, hook the adjustable buckle to the T-rail, and secure the screw on the adjustable buckle to fasten the mounting bracket and T-rail.
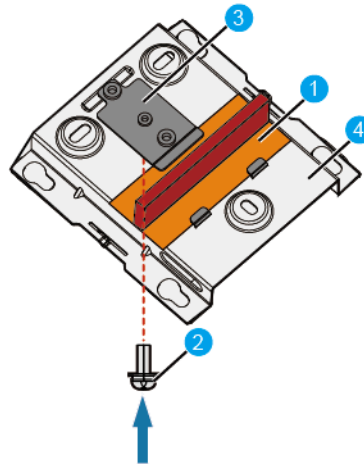
2. Hang the AP on the mounting holes by aligning the mounting screws at the rear of the AP with the mounting screws on the bracket and push the AP horizontally to secure the AP.
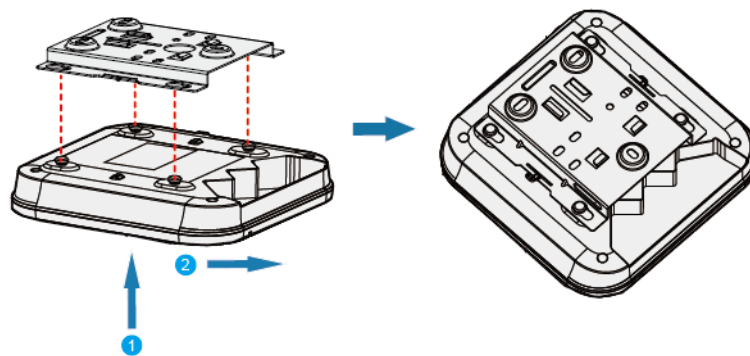
☐ NOTE

1. Before fixing the adjustable buckle with a screw, you need to adjust the buckle to a proper position based on the T-rail width.

2. Ensure that the AP is correctly installed on the mounting bracket and there must be 200 mm space above and around the AP for maintenance.

2.5 Installing the Security Lock

There is a security slot on the AP. You can lock the AP to an immovable object to prevent the AP against theft. The detailed procedures are as follows:

1. Fasten the cable of the security lock to an immovable object around.

2. Insert the security lock into the security slot and lock it.

Lock hole   Security lock
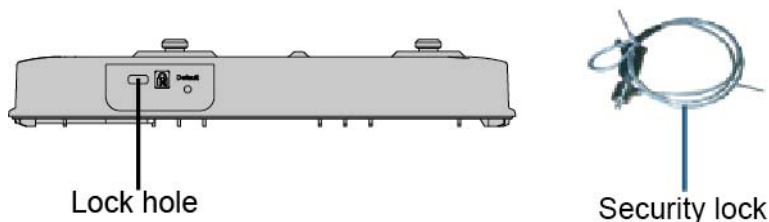
📖 **NOTE**

You need to purchase the security lock separately.

2.6 Connecting Cables

Figure 2-3 and Table 2-2 shows interface and cable connection of AP4030DN。

Figure 2-3 Interfaces of the AP4030DN
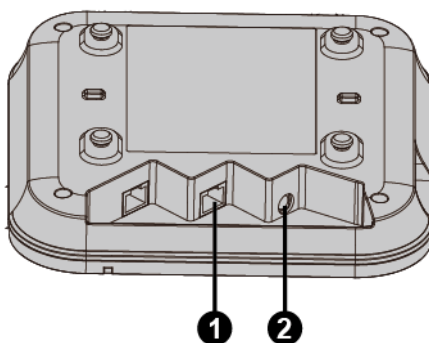
Table 2-2 Cable Connection

No.	Cable	Description
1	Ethernet cable	• The network cables used are category-5 enhanced or higher twisted pairs. • Ensure that the AP is connected to the Ethernet using the Ethernet cable that works properly. If the Ethernet cable is not working properly, for example, RJ45 connectors are short- circuited, the AP may fail to be powered on or fail to work. Before connecting an Ethernet cable to the AP, use the cable test tool to check whether the cable is qualified. If the cable is unqualified, replace it.
2	DC power adapter	• The AP supports the PoE power supply and DC power supply. • To connect the AP to a DC power source, use the power adapter delivered with the AP; otherwise, the AP maybe damaged.

Pay attention to the following points when installing network cables

- Before connecting an Ethernet cable to the AP, use the cable test tool to check whether the cable is qualified. If the cable is unqualified, replace it.

- Do not connect the service network cable to the console port. Otherwise, the AP may be damaged when the PoE power supply is used.

- Before removing network cables or power cables, remove the AP from the mounting bracket first to prevent damage to the network cables or power cables.

- The cable cannot exceed 100 meters.

2.7 Powering on the AP

You can check the power-on status by observing indicators on the AP. For details, see 1.2 Indicator Description

📖 **NOTE**

Do not frequently power on and off an AP.

3 Logging In to the AP

About This Chapter

3.1 Logging In to the AP Through the Console Port

This section describes how to log in to the AP through the console port. After logging in to the AP, you can configure the AP using commands.

Step 1 Connect a PC to the AP using a console cable. Connect the RJ45 connector to the console port of the AP and the DB9 connector to the serial port of a PC.

Step 2 Run the terminal emulation program on the PC. For example, to open the HyperTerminal of Windows XP on the PC, choose Start > Programs > Accessories >Communications > HyperTerminal. Enter a connection name and click OK.

Step 3 Select the serial port used on the PC and click OK.

Step 4 Set communication parameters, click Restore Defaults, and then click OK.

Step 5 Press Enter until the command line prompt of the user view, such as <Enterprise AP>, is displayed. Then, you enter the user configuration interface. (The following information is only for reference.)

```
FIT AP模式:                                      FAT AP模式:
Login authentication                            Login authentication

Username:                                       Password:
Password:
Info: You are advised to change the password to ensure
```

📖 **NOTE**

- The default user name and password are respectively admin and admin@huawei.com.
- The password entered in interactive mode is not displayed on the screen.

You can run commands to configure the AP. Enter a question mark (?) whenever you need help.

3.2 Logging In to the AP Using STelnet

This section describes how to log in to the AP using STelnet. After logging in to the AP, you can configure the AP using commands.

Before logging in to the device through STelnet, complete the following tasks:

- Starting the device properly
- Preparing network cables used to connect device interfaces.

☷ **NOTE**

Ensuring that the IP address 169.254.1.1 and subnet mask 255.255.0.0 have been configured on VLANIF 1 of the device before the delivery and GE0/0/0 has been added to VLAN 1 by default.

- Configuring the PC's IP address and subnet mask. The IP address must be on the network segment 169.254.0.0/16 but cannot be 169.254.1.1. 169.254.1.100 is recommended. The subnet mask is 255.255.0.0.

☷ **NOTE**

Before the device is delivered, the STelnet service has been configured on the device. The STelnet interface number is 22, and the default user name and password are respectively **admin** and **admin@huawei.com**.

Use the SSH client software to log in to the device through STelnet from a terminal. The third-party software PuTTY is used as an example here.

Step 1   After the device is powered on, connect the PC's network interface to GE0/0/0 of the device using network cables

☷ **NOTE**

Ping 169.254.1.1 from the PC to check whether the device can be pinged successfully. If the ping operation fails, check whether the PC's IP address is correct or replace the network cable.

Step 2   Use the PuTTY software to log in to the device, enter the device IP address, and select the SSH protocol type.

Figure 3-1 PuTTY Configuration page
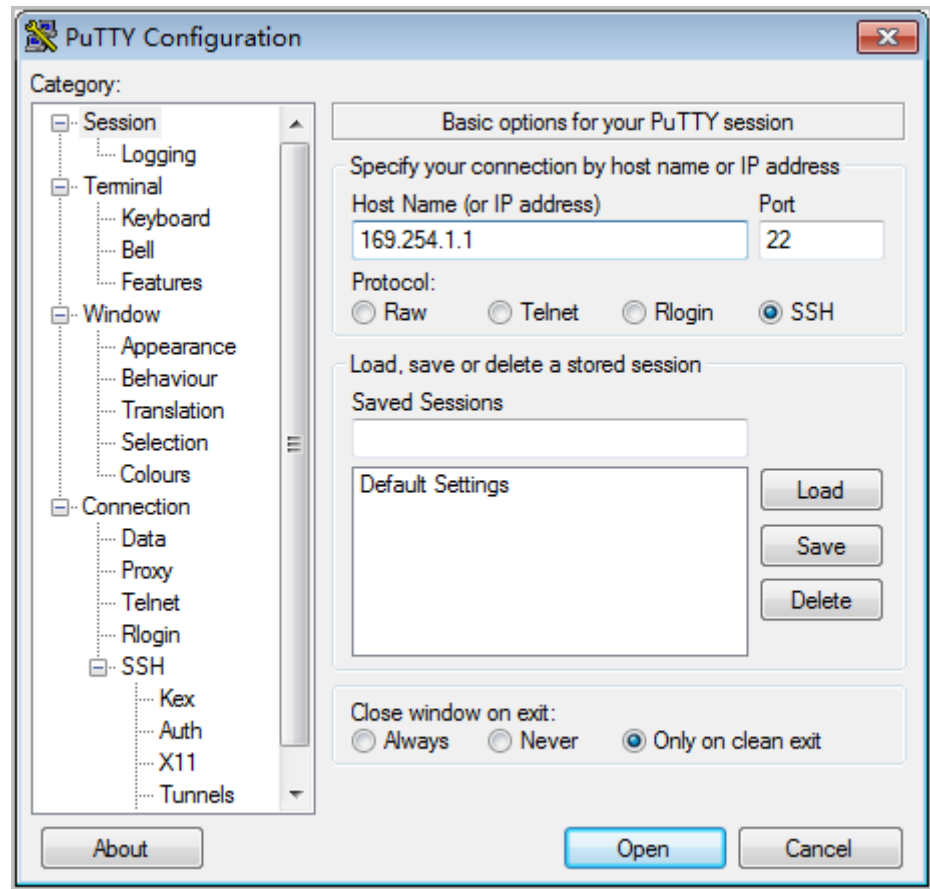
Step 3   Click Open. Enter the user name and password at the prompt, and press Enter. You have
        logged in to the device. (The following information is only for reference.)

```
login as: admin
Sent username "admin"

admin@169.254.1.1's password:

<Huawei>
```

NOTE

    It is recommended that you change the initial user name and password after login.

3.3 Logging In to the AP Using a Web Client

Pre-configuration Tasks

Before configuring users to log in to the AP using HTTP, complete the following task:

Configure reachable routes between the terminal and the AP.

> 📖 **NOTE**
> - The web management system is enabled on the AP before delivery. The default IP address of the web management system is 169.254.1.1 and the mask is 255.255.0.0. The web management system provides a default user account, with the user name **admin** and password **admin@huawei.com**. You are advised to change the user name and password on your first login. Assign your PC an IP address on the same network segment as the default IP address of the web management system, and connect the PC to the GE interface. Start the web browser on the PC and visit **http://*169.254.1.1*** to log in to the web management system.
> - You can only log in to the FAT AP using the web platform.

Procedure

Step 1 Open a web browser on a PC, and enter the management address in the format of http://169.254.1.1 in the address bar. Ensure that the PC and AC can communicate with each other.   Then press Enter.   Set the language, user name, and password.   The HTTPS login URL is displayed in the address box indicating that the system has gone to the HTTPS login page.

> 📖 **NOTE**
> You can also enter **https://***IP address* in the address box to log in to the AP using HTTPS. HTTPS ensures security of login information during login and security of data exchanged during subsequent operations.

Step 2 Click Login or press Enter. The web system home page is displayed. You can manage and maintain the equipment. For details, see the Huawei Wireless Access Points Web-based Configuration.

4 Caution

4.1 Caution

Federal Communication Commission Interference Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device does not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

· Reorient or relocate the receiving antenna.

· Increase the separation between the equipment and the receiver.

· Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

· Consult the dealer or an experienced radio/TV technician for help.

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

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

Operation within 2.412-2.4835GHz / 5.15-5.25GHz / 5.25-5.35GHz / 5.47-5.725GHz / 5.725-5.85GHz frequency range is restricted to indoor environment. This device meets all the other requirements specified in Part 15E, Section 15.407 and 15.247 of the FCC Rules.

Radiation Exposure Statement:
This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of **20cm** between the radiator & your body.