Cisco Small Business

AP541N Dual-band Single-radio Access Point Quick Start Guide

Package Contents

- Cisco AP541N Dual-band Single-radio Access Point that includes an IEEE 802.11a/b/g/n radio.
- Three antennas (These might be black or black-and-silver. This does not affect performance.)
- Screws and wallboard anchors
- Cat 5e Ethernet cable
- Power supply
- This quick start guide
- Product CD-ROM

Welcome

Thank you for choosing the Cisco Small Business AP541N. The Cisco AP541N, part of the Cisco Smart Business Communications System (SBCS), is an 802.11n wireless access point purposely built for the Small Business.

This guide is designed to familiarize you with the general layout of the access point, how to deploy the device in your network, and access the configuration interface. Your access point has more features or functionality than what is described in this guide. For additional configuration information, see the Cisco AP541N Administration Guide available at http://www.cisco.com/en/US/products/ps10492/prod_maintenance_guides_list.html.

1 Getting to Know the Cisco AP541N

This section describes the exterior of the access point.

Front Panel LEDs

⚠️

CAUTION Before you connect your access point to the network or power it on, read the **"Getting Started with the Configuration"** section.

Label	Activity	Description
PWR	green	Powered on.
	flash green	Firmware upgrade.
PoE	green	Power-over-Ethernet (PoE) is powering the access point.
Diag	red	Power-on-self-test (POST).
Speed	off	Data speed is zero or 10 Mbps.
	amber	Data speed is 100 Mbps.
	green	Data speed is 1000 Mbps.
LAN	solid green	A wired network link is established.
	flash green	Passing traffic.
WLAN 2.4G	solid green	A 2.4 GHz wireless network link is established.
	flash green	Passing traffic.
	off	The 2.4 GHz radio is off.
WLAN 5.0G	solid green	A 5.0 GHz wireless network link is established.
	flash green	Passing traffic.
	off	The 5.0 GHz radio is off.

Back Panel Ports

Ethernet Port—An auto-sensing, Gigabit Ethernet (802.3) port that supports Power-over-Ethernet (PoE).

⚡

NOTE We recommend using Cat5e or better cable. Also, do not exceed the maximum cabling distance of 328 feet (100 meters) per segment.

ANT01, ANT02, ANT03—RP-SMA connectors that accept the antennas provided with the access point.

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2 Getting Started with the Configuration

This procedure describes how to access the *Access Point Configuration Utility*:

- By using the default IP address of the access point., follow the instructions in the **"Display the Configuration Utility By Using the Default IP Address"** section if you are not using Cisco Configuration Assistant (CCA).

- If you are using the Cisco AP541N in the DHCP client mode in a network supported by CCA, follow the instructions in **Display the Configuration Utility by Using CCA**.

⚠️
CAUTION   If the access point IP address is changed, either by a DHCP server or manually, your link to the access point will be lost and you must enter the new IP address to use the *Access Point Configuration Utility*.

Before You Begin

1. Verify that you have a power source for the Cisco AP541N. If you are deploying the Cisco AP541N by using PoE, it is necessary to temporarily power the device by using the provided power supply.

2. Verify that a PC with Microsoft Internet Explorer (version 6 and higher), Firefox (version 3 or higher), or Safari (for Mac) is available.

Display the Configuration Utility By Using the Default IP Address

This section describes how to display the *Access Point Configuration Utility* by using a PC connected directly to the access point.

192.168.10.10
255.255.255.0

192.168.10.250
255.255.255.0

195057

The Cisco AP541N default IP address is required. If the IP address is of the device is unknown, you can reset the device to factory default parameters by using the **"Returning the Cisco Small Business Pro AP 541N to the Factory Default Settings"** procedure.

To configure the access point by using a PC directly connected to the Cisco AP541N:

STEP 1 Power on the PC and if you have not already done so, configure the **PC IP address** to an IP address in the same subnetwork. To change the PC IP address, do the following:

a. From the Windows **Start** menu, choose **Settings** > **Control Panel**.

b. On the Control Panel dialog box, click **Network**.

c. In the Network dialog box select **TCP/IP** for your PC Ethernet card, then click **Properties**.

d. In the IP Address window, click **Specify an IP address**.

e. In the IP Address field, enter an IP address that is in the same subnet as the access point IP address. (The default access point IP address is **192.168.10.10**.) For example, you can set the:

PC IP address to *192.168.10.250*

PC IP subnet mask to *255.255.255.0*

f. In the Subnet Mask field, type **255.255.255.0**.

g. Click **OK**. Your changes are applied to the PC configuration.

h. If you are prompted to restart your PC, click **Yes**.

STEP 2 Connect an Ethernet cable to the Ethernet port on the PC.

STEP 3 Connect the other end of the Ethernet cable to the Cisco AP541N **Ethernet** port.

STEP 4 Power on the access point.

STEP 5 Open a Web browser window. If you are prompted to install an Active-X plug-in when connecting to the device, follow the prompts to accept the plug-in.

STEP 6 Enter the Cisco AP541N IP address in the address bar and press Enter. For example, **http://192.168.10.10**.

The *Access Point Configuration Utility* displays.

STEP 7 Enter the default login information:

Username is **cisco**

Default password is **cisco** (passwords are case sensitive)

The **Getting Started** window displays. You can now configure the device for you specific needs.

Next, we recommend that you:

- Click **Change Administrator Password** on the Getting Started page to change the password.

- Click **SSID, Guess Access, and Security Configuration** to configure the SSID and enable wireless security.

- Click **Radio Settings** to turn on the Radio Interface. (The radio is disabled by default to prevent unauthorized users from accessing the network before you have enabled wireless security on the Cisco AP541N.)

- If you are not using DHCP on your network, click **Change IP Address** to set the Connection Type on the access point to **Static** and change the Static IP Address and Subnet Mask to an IP address and subnet mask that matches the IP addressing scheme in your network, so an unknown IP address is not assigned to the access point.

  When you click **Apply**, you will lose connectivity. You can reconnect by using the new IP address and password.

- Click **Upgrade Software** to update the Cisco AP541N with the latest version of the software.

These tasks can be accomplished by using the procedures in the *Cisco Small Business AP541N Access Point Administration Guide*.

⚠️
CAUTION If the access point is connected to the network, the Cisco AP541N has not been set to use a static IP address, and there is a DHCP server on the network, a new IP address will be assigned to the access point. To modify the configuration you must discover the IP address assigned to the Cisco AP541N by using the DHCP server.

⚠️
NOTE We recommend that you return your PC to its original settings.

3 Display the Configuration Utility by Using CCA

Use Cisco Configuration Assistant 2.1 or higher (CCA) to configure the access point when it is deployed in a Cisco Smart Business Communications System (SBCS) network with a UC520 or SR520.

This procedure assumes you are familiar with CCA. You can find additional information about CCA at **http://www.cisco.com/en/US/products/ps7287/tsd_products_support_series_home.html**
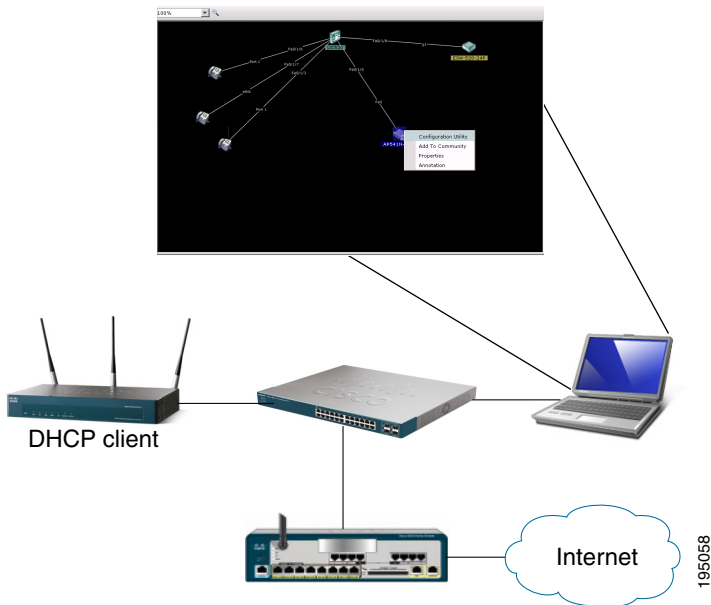
To configure the access point by using CCA:

STEP 1 Connect the Ethernet port on the access point to a switch port on a SBCS device and power on the Cisco AP541N.

STEP 2 Connect a PC with CCA installed to any access switch port on the UC520 or SR520.

STEP 3 Create a new CCA site by entering a name and the IP address of the UC520 or SR520.

STEP 4 Connect to the CCA site by using the appropriate login credentials.

STEP 5 Click **Window** > **Topology View**.

When you have connected to the CCA site and the devices have been discovered, the Topology map includes the Cisco AP541N.

NOTE Any non-SBCS devices connected to the switch are not shown in the Topology map.

STEP 6 **Right-click** the access point to display the options: Configuration Utility, Properties, and Annotation.

STEP 7 Click **Configuration Utility.**

The *Access Point Configuration Utility* displays in a new window.

STEP 8 Enter the login information:

> Username = **cisco**
>
> Default password = **cisco** (Passwords are case sensitive.)
>
> The **Getting Started** window displays.

Next, we recommend that you:

- Change the password.

- Configure the SSID and enable wireless security.

- Enable the radio. (The radio is disabled by default to prevent unauthorized users from accessing the network before you have enabled wireless security on the Cisco AP541N.)

- Update the Cisco AP541N software with the latest version by using the **Software Upgrade** link on the Getting Started page.

These tasks can be accomplished by using the procedures in the *Cisco Small Business AP541N Access Point Administration Guide*.

Default Wireless Network Parameters

The factory default parameters for the radio are:

Parameter	Default Value
data VLAN	1
voice VLAN	100
data SSID	cisco–data (VLAN 1)
voice SSID	cisco-voice (VLAN 100)
scanner SSID	cisco-scan (VLAN 1) WPA Personal security w/AES. The passphrase is **intermec**.
wireless security	None (We strongly recommend that you set wireless security.)

⚠ **CAUTION** We recommend that you change the password on the access point and enable security on the device and your wireless network.

Troubleshoot Your Connection

If you cannot display the configuration utility, you can test the ability of the PC to communicate with the access point by using **ping**. To use **ping** on a PC running Windows:

STEP 1 Verify that the Cisco AP541N is powered on and the LEDs indicate the appropriate links.

STEP 2 Open a command window by using **Start** > **Run** and enter **cmd**.

STEP 3 At the **Command** window prompt enter **ping** and the *access point IP address*. For example **ping** *192.168.10.10* (the default static IP address of the access point).

If successful, you should get a reply similar to the following:

```
Pinging 192.168.10.10 with 32 bytes of data:
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128
Reply from 192.168.10.10: bytes=32 time<1ms TTL=128
```

If it fails, you should get a reply similar to the following:

```
Pinging 192.168.10.10 with 32 bytes of data:
Request timed out.
```

Possible Cause of Failure

The most likely cause of connectivity failure is an incorrect IP address.

The Web browser is pointed to the wrong IP address. Or, your PC might be configured with an IP address that is not in the same subnet as the access point.

DHCP is enabled on the Cisco AP541N by default. When a DHCP server is enabled on your network and the access point is connected to the network, the DHCP server replaces the default static IP address with a DHCP server–assigned IP address. If this happens before you display the *Access Point Configuration Utility* window, you must use the assigned IP address to display the utility. If this happens during configuration, the *Access Point Configuration Utility* will lose connectivity.

You can query the DHCP server for the new IP address or disconnect the access point from the network and reset the device to use the static default access point IP address by using the **"Returning the Cisco Small Business Pro AP 541N to the Factory Default Settings"** procedure.

4 Returning the Cisco Small Business AP541N to the Factory Default Settings

To use the **Reset** button to reboot or reset the access point, do the following:

- To **reboot** the access point, press the **Reset** button for less than 10 seconds.

- To **restore** the access point to the factory default settings:

  1. Disconnect the access point from the network or disable all DHCP servers on your network.

  2. With the power on, press-and-hold the **Reset** button for more than 10 seconds.

5 Installing the Cisco AP541N

The access point can be placed on a wall, a flat surface, or a ceiling. A ceiling mount kit is available for this device (AP540N-CMK). Do not deploy the device in a location where any of the following conditions exist:

High Ambient Temperature—The ambient temperature must not exceed 104 degrees Fahrenheit (40C).

Reduced Air Flow—The air flow must be adequate to prevent overheating.

Mechanical Overloading—The device should be level, stable, and secure to avoid it sliding or shifting out of position.

Circuit Overloading—Adding the device to the power outlet or a PoE port must not overload that circuit or PoE device.

NOTE We recommend using Cat5e or better cable. Also, do not exceed the maximum cabling distance of 328 feet (100 meters).

Prepare the Device

To prepare the device, do the following:

STEP 1 Attach the antennas to the RP-SMA connectors labeled ANT101, ANT102, and ANT103. The antennas are all the same, so which antenna is attached to what connector is of no consequence.

STEP 2 Determine where you want to locate the access point. If you are using AC power, make sure the location is within reach of an AC power outlet.

STEP 3 Keep enough ventilation space for the access point and check for any other environmental restrictions.

Wall Mounting

Before you begin, you need 2 wallboard screws (included) to mount the access point. We recommend using screws with a minimum of 4mm width at the head and a shaft diameter of at least 1.5mm.

⚠ WARNING Insecure mounting might damage the device or cause injury. Cisco is not responsible for damages incurred by insecure wall-mounting.

To mount the access point to the wall:

STEP 1 Determine where you want to mount the access point. Verify that the surface is smooth, flat, dry, and sturdy.

STEP 2 Drill two pilot holes into the surface 5.75 inches (146 mm) apart, and with a minimum of 4.0 inches (101 mm) of clearance.

STEP 3 Insert a screw into each hole, leaving a gap between the surface and the base of the screw head of at least 0.1 inches (3 mm).

STEP 4 Place the access point wall-mount slots over the screws and slide the access point down until the screws fit snugly into the wall-mount slots.

15 cm

17 mm

235432
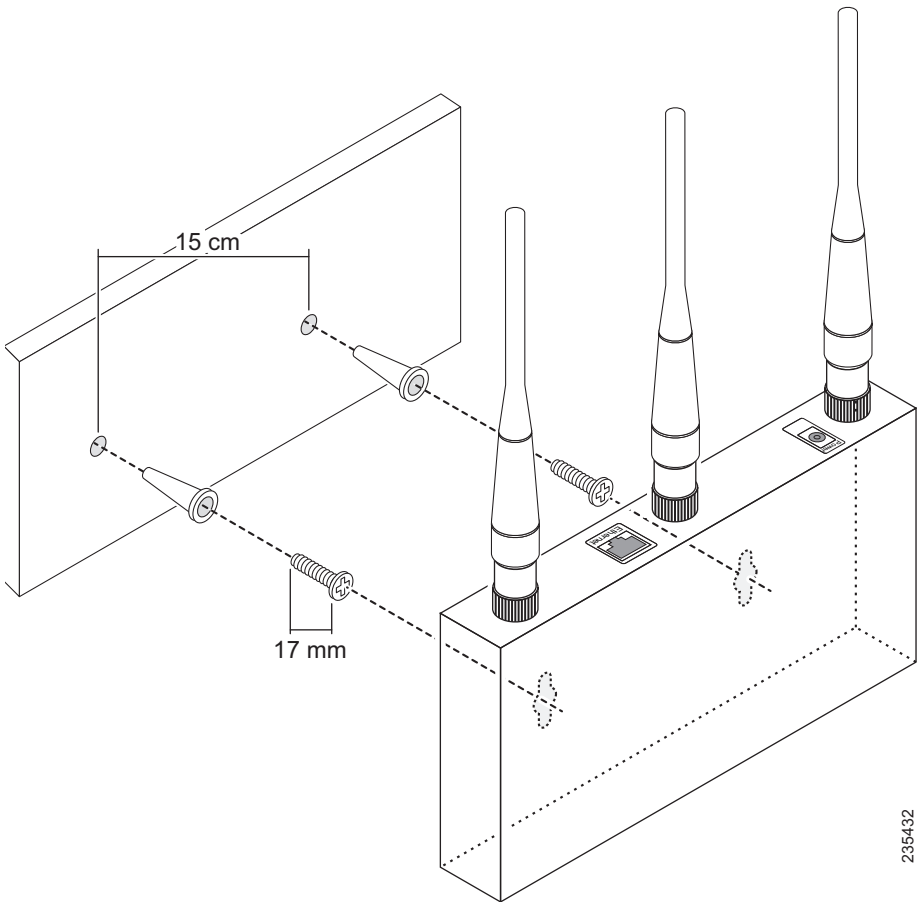
Flat Surface Installation

To prepare the device for placement the device on a flat surface, do the following:

STEP 1 Install the four rubber feet (included) on the bottom of the device.

STEP 2 Place the access point on a desktop near an AC power source, unless you are using PoE.

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6 Connecting the Equipment

This section describes the process for connecting the device to power and the network.

STEP 1 Attach the power cord to the power connector and outlet (if used).

STEP 2 Connect a network Ethernet cable to the access point Ethernet port.

STEP 3 Connect the other end of the Ethernet cable to your network or the Ethernet port of the PC you are using to configure the access point.

⚠️ **CAUTION** DHCP is enabled by default. If a DHCP server is running on your network and you have not turned DHCP off, the device will accept a new IP address when it is connected to your network. You must use this IP address to configure the device.

7 Verifying the Hardware Installation

To verify the hardware installation, complete the following tasks:

- Check the cable connections.

- Check the LED states, as described in the **"Getting to Know the Cisco AP 541N"** section.

✎ **NOTE** If you need help resolving a problem, visit the Cisco Small Business Support Community at www.cisco.com/go/smallbizsupport. For technical documentation and other links, see **Where to Go From Here, page 14**.

8   **Where to Go From Here**

Support	
Cisco Small Business Support Community	www.cisco.com/go/smallbizsupport
Online Technical Support and Documentation (Login Required)	www.cisco.com/support
Phone Support Contacts	www.cisco.com/en/US/support/tsd_cisco_small_business_support_center_contacts.html
Software Downloads (Login Required)	Go to tools.cisco.com/support/downloads, and enter the model number in the Software Search box.
Cisco Configuration Assistant	www.cisco.com/en/US/products/ps7287/index.html
Product Documentation	
Cisco AP541N Dual-band Single-radio Access Point Quick Start Guide (the latest version)	http://www.cisco.com/en/US/products/ps10492/prod_installation_guides_list.html
Cisco Small Business Pro AP 541N Dual-band Single-radio Access Point Administration Guide	http://www.cisco.com/en/US/products/ps10492/prod_maintenance_guides_list.html
Cisco AP 541N Ceiling Mount	www.cisco.com/en/US/docs/wireless/access_point/csbap/AP541N/ceiling_mount/AP541NCeilingMount.pdf
Cisco AP 541N Wall Mount Template	http://www.cisco.com/en/US/docs/wireless/access_point/csbap/AP541N/release_notes/78-19205.pdf
Cisco Small Business	
Cisco Partner Central for Small Business (Partner Login Required)	www.cisco.com/web/partners/sell/smb
Cisco Small Business Home	www.cisco.com/smb
Marketplace	www.cisco.com/go/marketplace

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