



Wireless APs

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AP Gateways

Depending on the type of Cisco access points (AP), you can configure an AP as one of these types of gateways:

- **Gateways deployed:** Gateways that are configured and actively deployed in your network. These gateways can connect to IoT sensors and transmit their data to the IoT Sensor Connect application.
- **Advanced BLE Gateway:** The advanced BLE gateway is an AP that is installed with an IoX Application. Using the installed IoX Application, you can configure floor beacons on the Cisco-partnered Device Manager website.
- **Base BLE Gateway:** The Base BLE gateway is a type of AP that you can configure in different modes such as Transmit, Scan, or Dual.
- **Gateways not deployed:** Gateways that are available in the application but have not yet been configured or deployed. Deploy these gateways to begin connecting and monitoring IoT sensors.

You can configure this AP which is now a base or advanced gateway in **Scan** mode, **Transmit** mode, or **Dual** mode. In the **Transmit** mode or **Dual**, mode the AP can broadcast iBeacon, Eddystone URL, and Eddystone UID profiles.

In the **Scan** mode, the AP can scan the vicinity for other BLE devices. Using gRPC on the AP, the AP sends the scanned data to Cisco Spaces: Connector. The AP can also receive telemetry data from floor beacons. The IoT Service dashboard decodes and displays this information.

To configure and add an AP as a BLE gateway, refer to [Activate IoT services \(Wireless\)](#).

Configure AP gateways

Set up and manage physical gateways on access points for IoT services, BLE functions, and application deployment.

In Cisco Spaces, configuring wireless AP gateways allows you to manage IoT services on access points, control BLE settings, deploy and maintain IOx applications, and upload diagnostic files for support.

Before you begin

Ensure that you have configured an AP as a base gateway or as an advanced gateway.

Procedure

Step 1 From the Cisco Spaces dashboard, navigate to **IoT Services > Manage > Wireless APs > AP Gateways**.

Step 2 Click the MAC address of the AP to open the detailed **AP** page. The **AP Configuration** tab appears.

Figure 1: AP Configuration tab

AP Configuration



AP - 94:0d:4b:8c:1c:60

As of: Jun 12th, 2026 02:44:35 PM [Refresh](#)

AP Information



Settings



App Management



Request History



Sensor Information



Step 3 Click the **AP Information** panel to view details such as **MAC Address**, **AP Name**, **Gateway Status**, **AP Status**, **Floor Beacon Channel Status**, **IOx App Channel Status** etc.

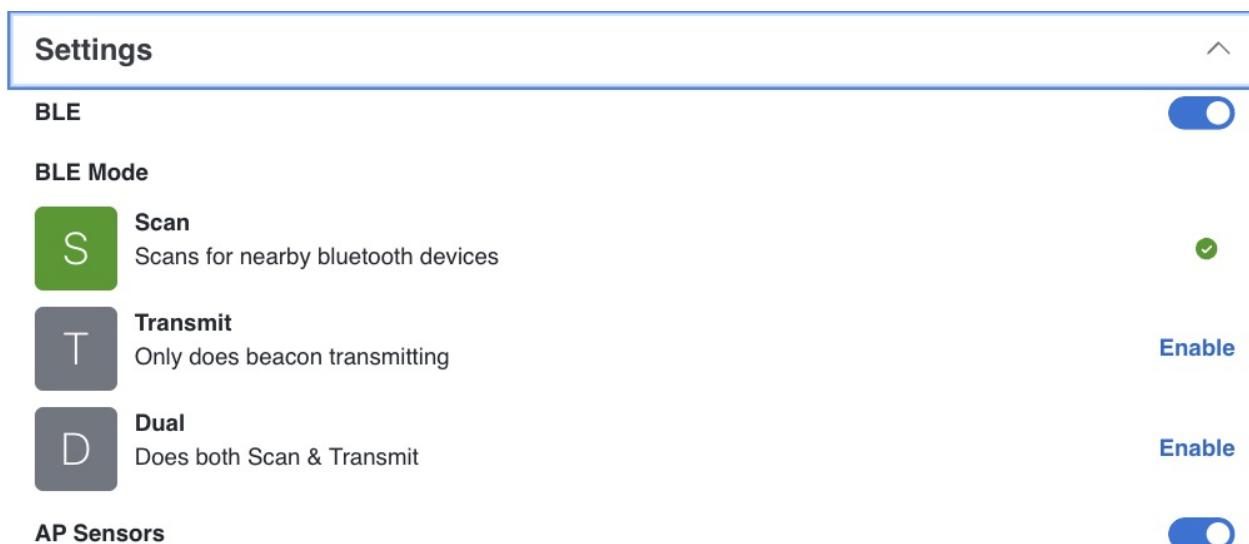
Figure 2: AP Information tab

AP Information					
Mac Address	94:0d:4b:8c:1c:60	SW Version	17.18.2.64		
AP Name	APC414.A2EF.CCB0	BLE MAC	fc:4d:6a:78:74:04		
Gateway Status	Enabled	BLE Mode	Scan		
AP Model	CW9166I-ROW	BLE Type	Advanced		
Floor Beacon Channel Status	UP	BLE Firmware version	3.1.2		
IOx App Channel Status	UP	Description	Cisco Catalyst 9166 Series Access Point		
AP IP	10.2.130.92	Floor Beacon Channel Last Heard	Jun 12th, 2026 02:40:55 PM 4 minutes ago		
WLC IP	10.2.128.11	AP Beacon Channel Last Heard	Jun 12th, 2026 02:10:58 PM 34 minutes ago		
AP IPv6	--	IOx App Channel Last Heard	Jun 12th, 2026 02:42:58 PM 2 minutes ago		
WLC IPv6	--	Zigbee Capable	Yes		
Ethernet Mac	c4:14:a2:ef:cc:b0	IOx Capable	Yes		
IOx App Name	cisco_dnas_ble_iox_app	BLE Capable	Yes		
IOx App Version	1.8.32	USB Capable	Yes		
Label	--	Connection Mode	Connector		
Location	[Demo] BGL18 CXC->Floor 0	IoT Orchestrator Last Heard	--		

Step 4 Click the **Settings** panel to configure the **BLE** details. Toggle the **BLE** option to turn on the different BLE modes such **Scan**, **Transmit** and **Dual**.

- a) Toggle the **AP Sensors** button to turn it on.

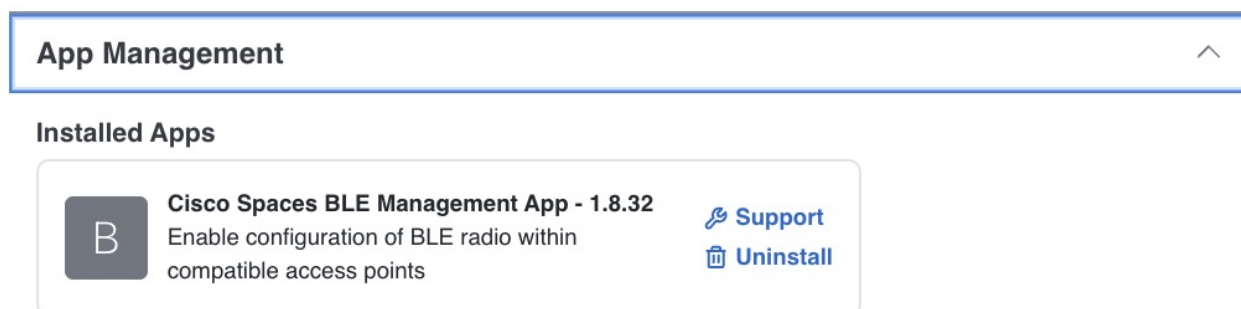
Figure 3: Settings tab



Step 5 Click the **AP Management** panel to install, uninstall or upgrade an IOx Application on a gateway. Do one of these:

- To uninstall, click the uninstall icon near Cisco Spaces: BLE Management App.
- To upgrade, check whether an upgrade version is available near Cisco Spaces: BLE Management App and click it.
- To upload tech-support files to the connector, click the gear icon.

Figure 4: App Management tab



- a) The support gear icon allows you to upload log files to connector. You can also download these files to assist a technical support team.

Figure 5: Techsupport window

Techsupport Cisco Spaces BLE Management App - 1.8.32

Are you sure you want to create tech support file?

Cancel

Confirm

- b) Enter the credentials needed for authentication on the AP.

Note

The authentication request to the APs includes these credentials. After authentication, IoT Service does not retain the credentials.

The AP designated as the advanced gateway receives these change requests. You can observe the progress on the displayed page.

- Step 6** Click on the **Request History** panel to check the status of deployment. The **Status** column shows the status of install, uninstall or upgrade on each AP.
- a) SUCCESS: The application was uninstalled or upgraded successfully on the AP.
 - b) FAILURE: The application uninstall or upgrade on the AP failed.
 - c) IN PROGRESS: The application is currently being uninstalled or upgraded on the AP.

Figure 6: Request History tab

Request History			
Operation	Status	Initiated At	Last Updated At
IOX INSTALL	✓ SUCCESS	Jun 11th, 2026 12:24:00 AM 2 days ago	Jun 11th, 2026 12:27:43 A 2 days ago
ENABLE BLE	✓ SUCCESS	Jun 11th, 2026 12:23:59 AM 2 days ago	Jun 11th, 2026 12:24:12 A 2 days ago

- Step 7** Click the MAC address of the AP and click on the **Action** drop down button to **Manage BLE**, **Manage IOx app**, **Manage Profiles**, **Delete** and **Clear Pending Config**. The options for the first three choices are:
- **Manage BLE**: Enable BLE and Disable BLE
 - **Manage IOx app**: Install IOx app and uninstall IOx app
 - **Manage Profiles**: Scan mode, dual mode profile and sync

Step 8 Click the MAC address of the desired AP in the tab and then click the **Export** button. The details are downloaded as a .csv file to your local system.

AP Beacons

You can configure your access point (AP) to act as a beacon (AP beacons) by enabling BLE on it.

IoT Service categorizes APs according to their configurations as these:

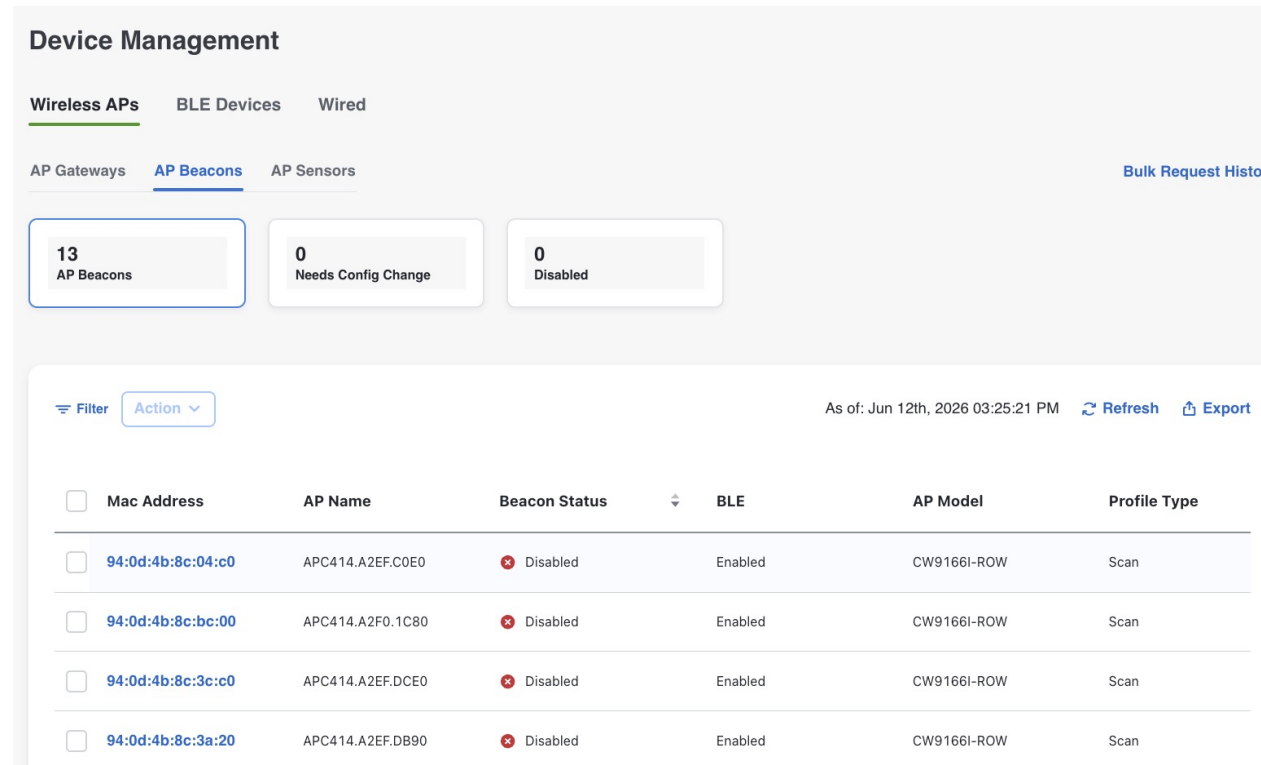
- **Disabled:** APs with BLE disabled. These APs are not scanning or transmitting.
- **Scan Mode:** AP beacons that are only scanning.
- **Transmit Mode:** AP beacons configured in one of the beacon transmit profiles. You can configure up to five iBeacons in this mode.
 - The MAC address advertised in the iBeacon payload is derived from the radio MAC address of the AP. (iBeacon MAC address).
- **Dual Mode:** AP beacons that are transmitting and scanning. You can configure only one iBeacon in this mode.
 - The MAC address advertised in this mode is the default MAC address of the AP's BLE chip, which is preset by the chip vendor (For both Eddystone and iBeacon single advertisement profiles)
- **Needs Config Change:** AP's that have an error in configuration. You can configure these APs in Scan Mode, Dual Mode, or the Transmit Mode.

You can configure an AP Beacon in one of these transmit modes.

- iBeacon

You can also see all the APs irrespective of their configurations under **All Profiles**.

Figure 7: Various Profiles of AP Beacons



You can also enable telemetry on the AP beacon and collect sensor information.

iBeacon transmit mode

A single AP can support up to five iBeacons in the transmit mode. Each iBeacon has a unique address derived from the base radio MAC address of the AP.

Use Cisco Spaces to configure an iBeacon's payload.

These are some terms related to iBeacons:

- **Transmit mode:** Mode that allows nearby devices to pick up an iBeacon's broadcasting or advertising signals.
- **Advertisement payload:** Data broadcast by an iBeacon. The advertisement payload contains information relevant to the iBeacon's purpose, such as the iBeacon's location. Use Cisco Spaces to configure this payload.
- **iBeacon MAC address:** Unique identifier of an iBeacon on the network that helps other devices recognize and differentiate one iBeacon from another. This address is part of the iBeacons' advertisement payload. The AP uses the AP's own base radio MAC address to derive this unique address. The address is derived by adding a predefined address block value to the last byte of the base radio MAC address and decrementing this value by the beacon ID.

Configure AP as a beacon in scan mode

You can configure an AP as a beacon in the scan mode.

Procedure

Step 1 In the Cisco Spaces dashboard left-navigation pane, click **IoT Services** > **Manage** > **AP Beacons**, and then click **AP Beacons**.

Figure 8: List of AP Beacons

Device Management

Wireless APs | BLE Devices | Wired

AP Gateways | **AP Beacons** | AP Sensors

13 AP Beacons | **0** Needs Config Change | **0** Disabled

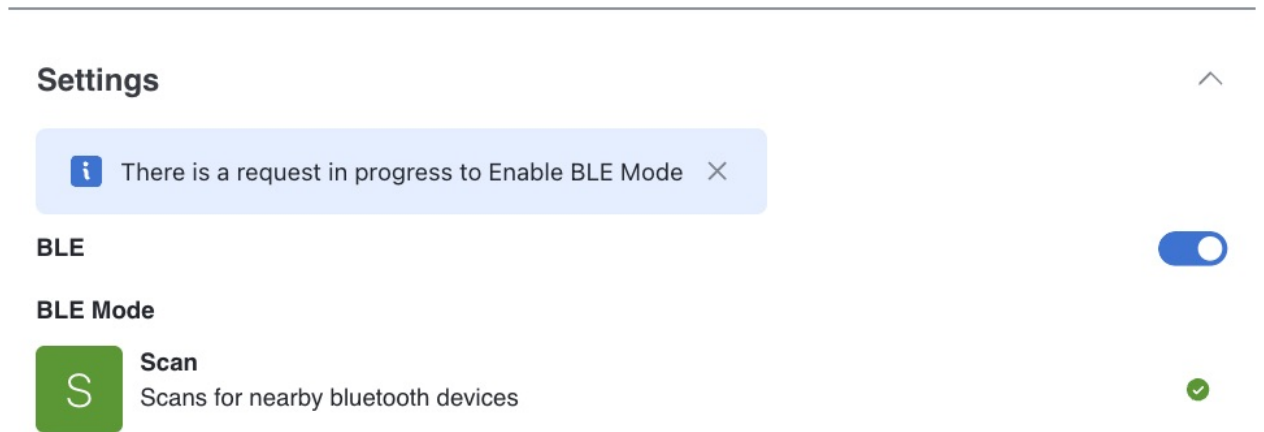
As of: Jun 12th, 2026 03:25:21 PM [Refresh](#) [Export](#)

☐	Mac Address	AP Name	Beacon Status	BLE	AP Model	Profile Type
☐	94:0d:4b:8c:04:c0	APC414.A2EF.C0E0	Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:bc:00	APC414.A2F0.1C80	Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:3c:c0	APC414.A2EF.DCE0	Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:3a:20	APC414.A2EF.DB90	Disabled	Enabled	CW9166I-ROW	Scan

Step 2 Click the **Disabled** tab, if the count is greater than zero. Click the MAC address of one of the listed APs to open a detailed view.

Step 3 Click **BLE** in the **Settings** panel.

Figure 9: Enable BLE panel



AP is enabled as a beacon in **Scan** mode. You can observe the AP under the **Scan** tab.

Step 4 From the **Request History** panel, observe the status of the configuration change you requested.

Figure 10: Request History panel

Request History			
Operation	Status	Initiated At	Last Updated At
IOX INSTALL	✓ SUCCESS	Jun 11th, 2026 12:24:00 AM 2 days ago	Jun 11th, 2026 12:24:00 AM 2 days ago
SCAN MODE	✓ SUCCESS	Jun 11th, 2026 12:23:59 AM 2 days ago	Jun 11th, 2026 12:23:59 AM 2 days ago
QUIET MODE CONFIG	✓ SUCCESS	Jun 11th, 2026 12:23:59 AM 2 days ago	Jun 11th, 2026 12:23:59 AM 2 days ago

Step 5 Click the **Refresh** button. The settings will update and display the configuration status.

Figure 11: Configuration Status

AP Configuration



AP - f0:d8:05:a4:1f:80

✓ BLE

✓ Scan

- Transmit

- Dual

As of: Jul 20th, 2026 12:11:23 AM

Refresh

Sync

AP Information



Settings



BLE



BLE Mode



Scan

Scans for nearby bluetooth devices



Transmit

Only does beacon transmitting

Enable



Dual

Does both Scan & Transmit

Enable

Request History



Configure AP as a beacon in transmit mode

You can configure an AP as a beacon in transmit mode.

Procedure

- Step 1** In the Cisco Spaces dashboard left-navigation pane, click **IoT Services** > **Manage** > **AP Beacons**, and then click **AP Beacons**.

Figure 12: List of AP Beacons

Device Management

Wireless APs BLE Devices Wired

AP Gateways **AP Beacons** AP Sensors

[Bulk Request History](#)

13
AP Beacons

0
Needs Config Change

0
Disabled

Filter Action ▾ As of: Jun 12th, 2026 03:25:21 PM Refresh Export

☐	Mac Address	AP Name	Beacon Status	BLE	AP Model	Profile Type
☐	94:0d:4b:8c:04:c0	APC414.A2EF.C0E0	✖ Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:bc:00	APC414.A2F0.1C80	✖ Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:3c:c0	APC414.A2EF.DCE0	✖ Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:3a:20	APC414.A2EF.DB90	✖ Disabled	Enabled	CW9166I-ROW	Scan

Step 2 Click the MAC address of one of the listed APs to open a detailed view.

Step 3 In the **BLE mode** area under the **BLE** panel, click **Enable** for the **Transmit** option.

Figure 13: Enable BLE

Settings

BLE ☑

BLE Mode

S

Scan
 Scans for nearby bluetooth devices

☑

T

Transmit
 Only does beacon transmitting

Enable

Step 4 Configure this beacon in the **Enable Transmit Profile** area. .

- Check the checkbox to enable **iBeacon**. From the **Profile Type** drop-down, select one of the beacons.

Figure 14: Configuring an AP as an iBeacon

BLE Mode

**Scan**

Scans for nearby bluetooth devices

**Transmit**

Only does beacon transmitting

Enable

Profile

☒ IBEACON

Profile Type

BEACON 1 ^

BEACON 1 ✓

BEACON 2

BEACON 3

BEACON 4

BEACON 5

Note

APs can support up to five iBeacons in the **Transmit** mode. For more information, refer to [iBeacon transmit mode, on page 7](#).

AP is enabled as a beacon in **Transmit** mode. You can observe the AP under the **Transmit** tab.

Step 5 Set the **Minor** and **Major** parameters. By default, it is zero. The valid range is between zero and 65535.

Figure 15: Minor and Major config

Minor *

0

Major *

0

Step 6 Set the **UUID** value and select a **Power** value from the drop-down list.

Figure 16: UUID and Power config

UUID *

Power *

Step 7 Set the **Adv. TxPower** and **Adv. Interval** by selecting the value.

Figure 17: Adv. TxPower and Adv. Interval

Adv. TxPower *

Adv. Interval *

Step 8 Click **Save**.

Step 9 From the **Request History** panel, observe the status of the configuration change you requested.

Figure 18: Request History panel

Request History			
Operation	Status	Initiated At	Last Updated At
IOX INSTALL	✓ SUCCESS	Jun 11th, 2026 12:24:00 AM 2 days ago	Jun 11th, 2026 12:24:00 AM 2 days ago
SCAN MODE	✓ SUCCESS	Jun 11th, 2026 12:23:59 AM 2 days ago	Jun 11th, 2026 12:23:59 AM 2 days ago
QUIET MODE CONFIG	✓ SUCCESS	Jun 11th, 2026 12:23:59 AM 2 days ago	Jun 11th, 2026 12:23:59 AM 2 days ago

Configure AP as a beacon in dual mode

You can configure an AP as a beacon in dual mode.

Procedure

Step 1 In the Cisco Spaces dashboard left-navigation pane, click **IoT Services > Manage > AP Beacons**, and then click **AP Beacons**.

Figure 19: List of AP Beacons

Device Management

Wireless APs | BLE Devices | Wired

AP Gateways | **AP Beacons** | AP Sensors

[Bulk Request History](#)

13 AP Beacons | 0 Needs Config Change | 0 Disabled

Filter Action As of: Jun 12th, 2026 03:25:21 PM Refresh Export

☐	Mac Address	AP Name	Beacon Status	BLE	AP Model	Profile Type
☐	94:0d:4b:8c:04:c0	APC414.A2EF.C0E0	Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:bc:00	APC414.A2F0.1C80	Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:3c:c0	APC414.A2EF.DCE0	Disabled	Enabled	CW9166I-ROW	Scan
☐	94:0d:4b:8c:3a:20	APC414.A2EF.DB90	Disabled	Enabled	CW9166I-ROW	Scan

Step 2 Click the MAC address of one of the listed APs to open a detailed view.

Step 3 In the **BLE mode** area under the **BLE** panel, click **Enable** for the **Dual** option.

Figure 20:

Settings

BLE Toggle On

BLE Mode

- Scan** ✓
Scans for nearby bluetooth devices
- Transmit** Enable
Only does beacon transmitting
- Dual** Enable
Does both Scan & Transmit

Step 4 Configure this beacon in the **Enable Transmit Profile** area.

- Check the checkbox to enable iBeacon.

Figure 21: Configuring an AP as an iBeacon

Settings

BLE Toggle On

BLE Mode

- Scan** ✓
Scans for nearby bluetooth devices
- Transmit** Enable
Only does beacon transmitting
- Dual** Enable
Does both Scan & Transmit

Profile ☒ IBEACON

Profile Type

BEACON ✓

Note

APs can support only one iBeacon in the **Dual** mode. For more information, refer to [iBeacon transmit mode, on page 7](#).

AP is enabled as a beacon in **Dual** mode. You can observe the AP under the **Dual** tab.

Step 5 Set the **Minor** and **Major** parameters. The valid range is between zero and 65535.

Figure 22: Minor and Major config

Minor *

Major *

Step 6 Set the **UUID** value and select a **Power** value from the drop-down list.

Figure 23: UUID and Power config

UUID *

Power *



Step 7 Set the **Adv. TxPower** and **Adv. Interval** by selecting the value.

Figure 24: Adv. TxPower and Adv. Interval

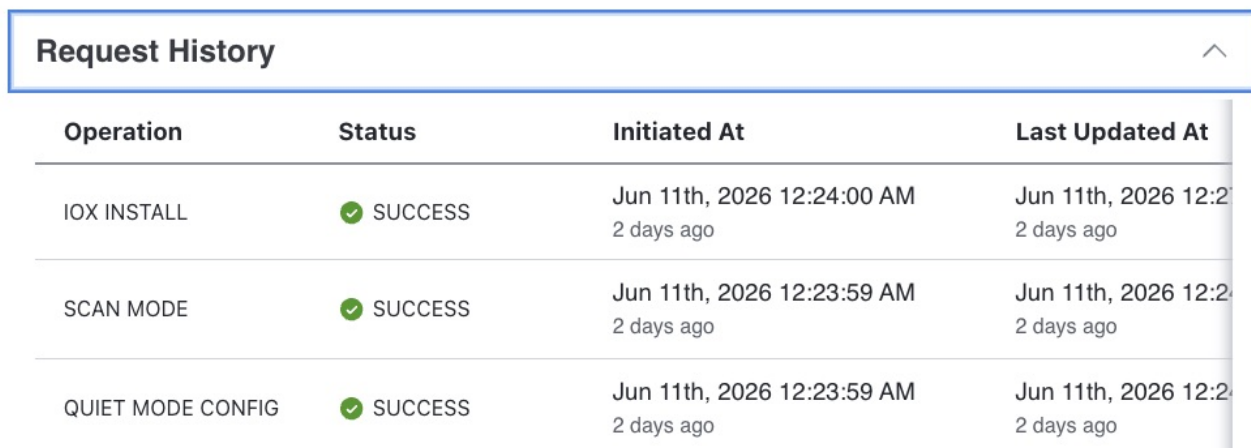


The image shows two configuration fields. The first field is labeled 'Adv. TxPower *' and contains the value '-65'. The second field is labeled 'Adv. Interval *' and contains the value '100'. Both fields have a red asterisk indicating they are required. The 'Adv. Interval' field has a blue border and a small up/down arrow icon on the right side.

Step 8 Click **Save**.

Step 9 From the **Request History** panel, observe the status of the configuration change you requested.

Figure 25: Request History panel



The image shows a 'Request History' panel with a table of configuration requests. The table has four columns: Operation, Status, Initiated At, and Last Updated At. There are three rows of data, all showing 'SUCCESS' status.

Operation	Status	Initiated At	Last Updated At
IOX INSTALL	✓ SUCCESS	Jun 11th, 2026 12:24:00 AM 2 days ago	Jun 11th, 2026 12:24:00 AM 2 days ago
SCAN MODE	✓ SUCCESS	Jun 11th, 2026 12:23:59 AM 2 days ago	Jun 11th, 2026 12:23:59 AM 2 days ago
QUIET MODE CONFIG	✓ SUCCESS	Jun 11th, 2026 12:23:59 AM 2 days ago	Jun 11th, 2026 12:23:59 AM 2 days ago

AP Sensors

You can now configure these access points as sensors:

- Cisco Catalyst 9136 Series Access Points
- Cisco Catalyst Wireless 9166I Series Access Points

Once configured as a sensor, you can collect telemetry data using this AP. These sensor values can be configured:

- Temperature

- Relative humidity
- Total volatile organic compound (TVOC), and
- Indoor air quality

Enable or disable an AP sensor

Procedure

Step 1 In the Cisco Spaces dashboard left-navigation pane, click **IoT Services** > **Manage** > **AP Beacons**, and then click **AP Beacons**.

Figure 26: List of AP Beacons

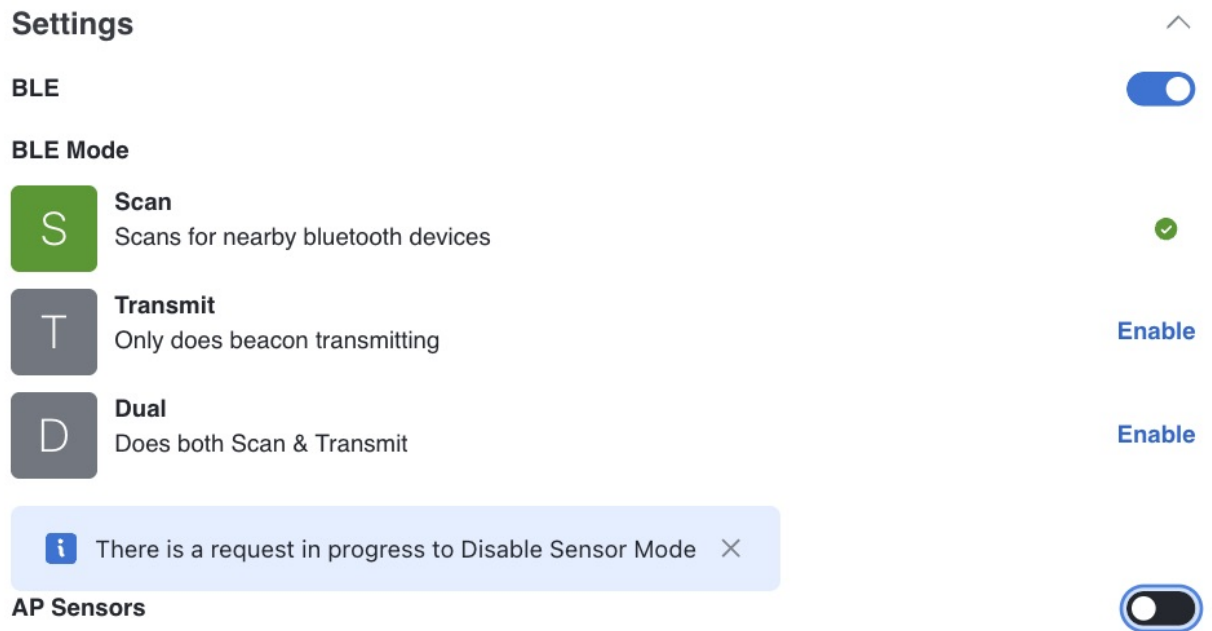
The screenshot shows the 'Device Management' section with tabs for 'Wireless APs', 'BLE Devices', and 'Wired'. Under 'Wireless APs', there are sub-tabs for 'AP Gateways', 'AP Beacons', and 'AP Sensors'. The 'AP Beacons' tab is selected, showing a summary of 13 AP Beacons, 0 needing config change, and 0 disabled. Below this is a table of AP Beacons with columns: Mac Address, AP Name, Beacon Status, BLE, AP Model, and Profile Type. The table lists five entries, all with 'Disabled' status and 'Scan' profile type.

Mac Address	AP Name	Beacon Status	BLE	AP Model	Profile Type
94:0d:4b:8c:04:c0	APC414.A2EF.C0E0	Disabled	Enabled	CW9166I-ROW	Scan
94:0d:4b:8c:bc:00	APC414.A2F0.1C80	Disabled	Enabled	CW9166I-ROW	Scan
94:0d:4b:8c:3c:c0	APC414.A2EF.DCE0	Disabled	Enabled	CW9166I-ROW	Scan
94:0d:4b:8c:3a:20	APC414.A2EF.DB90	Disabled	Enabled	CW9166I-ROW	Scan

Step 2 Click the AP that you want to configure as a sensor.
The AP Beacons details page opens.

Step 3 In the **Settings** panel, toggle **Sensor** to enable or disable the AP as a sensor.

Figure 27: Enable or disable AP as a sensor



Step 4 After you enable or disable the sensor, the request history shows success for **AQ ENV SENSOR** and **TEMP ENV SENSOR**.

Figure 28: Request History tab

AP Configuration

AP - 6c:8d:77:2e:10:e0

☒ BLE ☐ Scan ☐ Transmit ☐ Dual ☐ AP Sensors

As of: Jul 16th, 2026 11:39:27 PM [Refresh](#) [Sync](#)

AP Information

Settings

Request History

Operation	Status	Initiated At	Last Updated At
DISABLE AQ ENV SENSOR	☒ SUCCESS	Jul 16th, 2026 11:33:14 PM 6 minutes ago	Jul 16th, 2026 11:33:14 PM 6 minutes ago
DISABLE TEMP ENV SENSOR	☒ SUCCESS	Jul 16th, 2026 11:33:14 PM 6 minutes ago	Jul 16th, 2026 11:33:14 PM 6 minutes ago
EDDYSTONEUID	☒ SUCCESS	Apr 21st, 2026 08:06:49 AM	Apr 21st, 2026 08:06:49 AM

Step 5 The **AP sensor** tab displays whether the sensor column is enabled or disabled for each AP.

Figure 29: AP Sensor tab

The screenshot shows the 'Device Management' interface with the 'Wireless APs' tab selected. Under 'Wireless APs', the 'AP Sensors' sub-tab is active. A summary box on the left indicates '1 AP sensors'. The main area displays a table of sensor data. The table has columns for Mac Address, AP Name, Sensor status, BLE status, AP Model, and Profile. One row is visible, showing a sensor with Mac Address 6c:8d:77:2e:10:e0, AP Name zm-iot-9166-4th, Sensor status Disabled, BLE status Enabled, AP Model CW9166I-B, and Profile Scan. The interface includes a 'Filter' button, an 'Action' dropdown, a timestamp 'As of: Jul 16th, 2026 11:43:25 PM', and buttons for 'Refresh' and 'Export'. The pagination shows 'Rows per page' set to 100 and '1' page displayed.

Device Management

Wireless APs BLE Devices Wired

AP Gateways AP Beacons **AP Sensors** [Bulk Request History](#)

1
AP sensors

Filter Action As of: Jul 16th, 2026 11:43:25 PM Refresh Export

☐	Mac Address	AP Name	Sensor	BLE	AP Model	Profile
☐	6c:8d:77:2e:10:e0	zm-iot-9166-4th	Disabled	Enabled	CW9166I-B	Scan

Rows per page 100 < 1 >

View sensor information

You can view sensor information from the **Sensor Information** area.

Figure 30: View sensor information

