



Getting Started

- [Activate IoT Service \(Wireless\)](#), on page 1
- [Enable IoT Service on Connector2](#), on page 5

Activate IoT Service (Wireless)

This task shows you how to activate IoT service (wireless) on some or all your devices, from the Cisco Spaces dashboard.

Before you begin

To activate IoT service (wireless), your network must meet the below prerequisites:

- Cisco Spaces: Connector
- Cisco Catalyst 9800 Series Wireless Controllers, installed with version 17.3.1 or higher
- Supported access points. See [Prerequisites of IoT Service \(Wireless\)](#)



Note

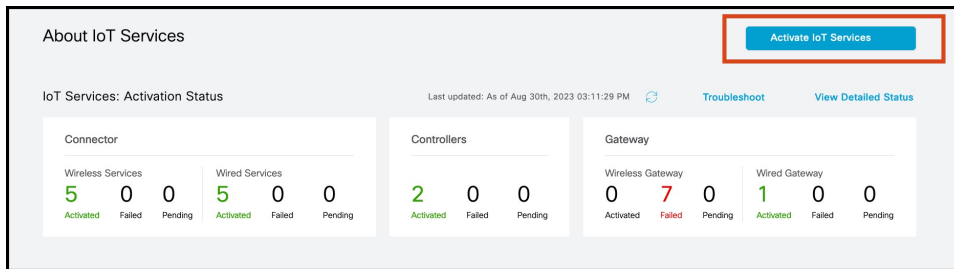
- This workflow is applicable only for Connector Release 3. We recommend you upgrade from Connector 2.x for smooth functioning of your services. If it is essential to enable IoT service (wireless) on Connector 2.x, see [Enable IoT Service on Connector2](#), on page 5.
- The workflow initiated by this procedure automatically checks for prerequisites necessary to complete this task.

Procedure

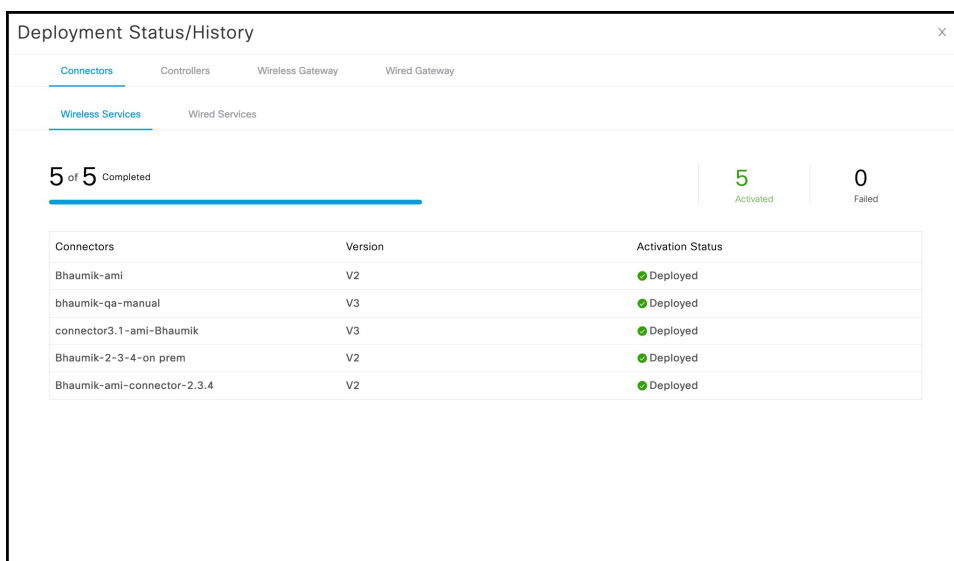
Step 1 Login to Cisco Spaces.

Step 2 From the left navigation pane, click **IoT Services > About IoT Services**.

You can see the number of connectors activated with the IoT service (wireless) service. You can also see the number of APs deployed as an IoT service (wireless) gateway.

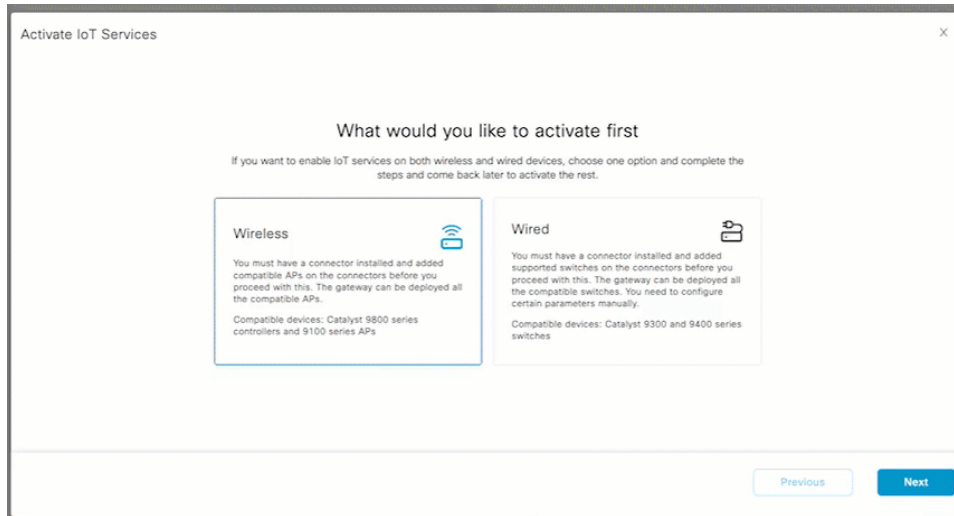
Figure 1: About IoT Services

Click **View Detailed Status** to see the breakdown of the activation status of various individual devices.

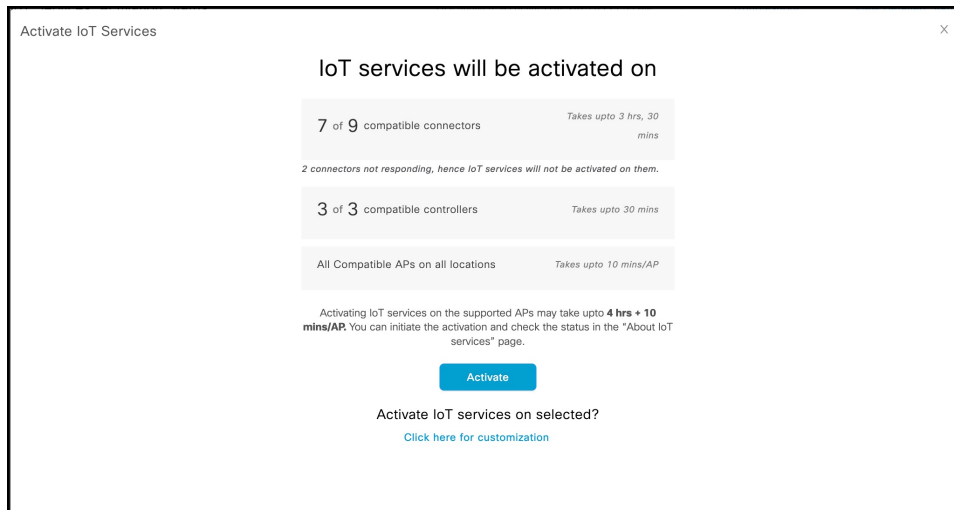
Figure 2: Detailed Status of Devices Activated With IoT Service (Wireless)

Step 3 In the **About IoT Services** window top-right corner, click **Activate IoT Services**.

Step 4 In the **Activate IoT Services** window that is displayed, choose **Wireless**.

Figure 3: Activate IoT Service (Wireless)

You can see the list of all devices on which IoT service (wireless) can be activated, along with the activation time.

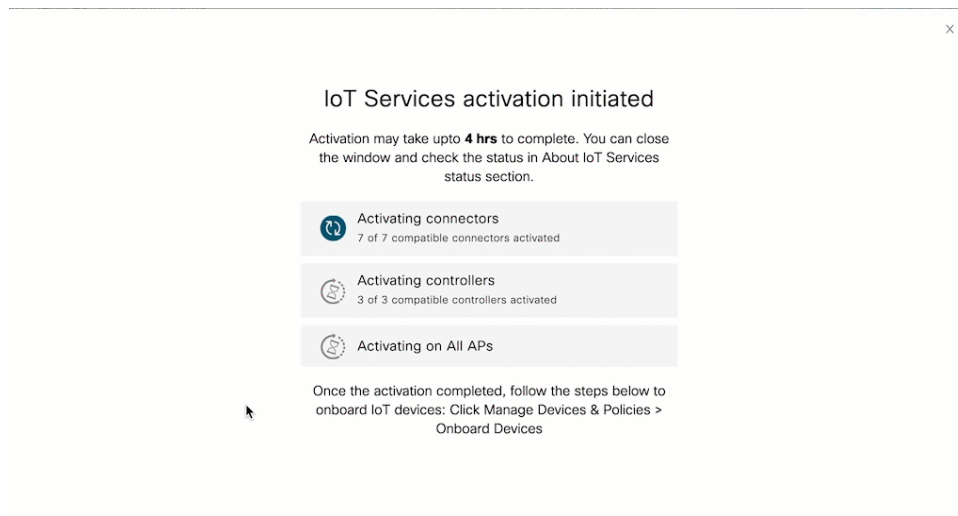
Figure 4: List of Supported Devices

Step 5 To activate IoT service (wireless) on all devices on your network, in the **IoT services will be activated on** window, click **Activate**.

This activation of IoT service (wireless) automates the following tasks:

- Enables IoT streams on the connector
- Enables the wireless controller stream
- Configures APs as a Bluetooth Low Energy (BLE) gateway (this includes turning on the BLE radio, BLE scanning, and deploying the BLE gateway app)

Figure 5: Activate IoT Service (Wireless) on All Devices



Step 6

To activate IoT service (wireless) only on specific devices of your network, do the following:

- Choose one or more connectors to activate IoT service (wireless).
- To activate the wireless gateway, click **Activate Wireless**.
- In the **Deploy Wireless Gateway** window, select the APs on which you want to activate IoT service (wireless).

Figure 6: Activate IoT Service (Wireless) on Preferred Devices

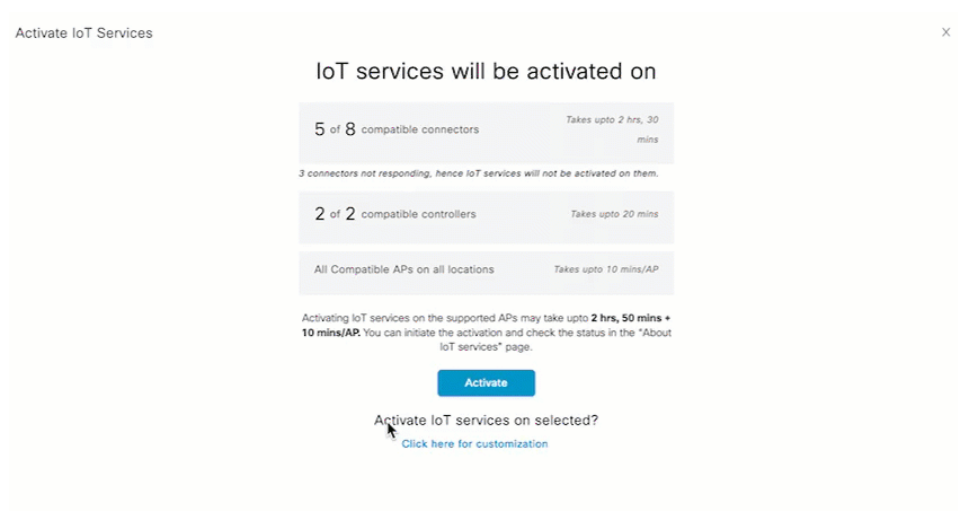


Figure 7: Activate IoT Service (Wireless) on Preferred Devices

Deploy Wireless Gateway

Choose the access points that you want to deploy gateway

<input type="checkbox"/> Select All Supported APs	Gateway Capability	Status
<input checked="" type="checkbox"/> RTB2-Russel-C9105	Gateway Not Supported	NA
<input checked="" type="checkbox"/> Russell-2CF8	Advanced Gateway	Not Activated
<input type="checkbox"/> RTB2_9115L_2	Advanced Gateway	Base Gateway Activated
<input type="checkbox"/> RTB3-9130AXE-Marlin4-22	Advanced Gateway	Not Activated
<input type="checkbox"/> RTB2-9117-2	Advanced Gateway	Not Activated
<input type="checkbox"/> RTB2-9117I	Advanced Gateway	Base Gateway Activated
<input type="checkbox"/> Sid-4800-1	Gateway Not Supported	NA
<input type="checkbox"/> CM64-2C60	Gateway Not Supported	NA
<input type="checkbox"/> RTB1-Cornwall-9130	Base Gateway	Advanced Gateway Activated
<input type="checkbox"/> RTB2-9124I	Gateway Not Supported	NA
<input type="checkbox"/> AP5CE1.7628.0D60	Gateway Not Supported	NA

SELECTED APs

2/23 APs

1 Ap with Advanced BLE Gateway support

Prev Next

What to do next

Once the activation completed, you can onboard the IoT Service (Wireless) devices. Click **Manage Devices & Policies > Onboard Devices**.

Enable IoT Service on Connector2

Verify Cisco Spaces: Connector is Added and Active

This procedure helps you verify if a Cisco Spaces: Connector is deployed and active.

Procedure

- Step 1** From the Cisco Spaces dashboard left-navigation pane, choose **Setup > Wireless Network**.
- Step 2** From the **Configure Spaces Connector** area, click **View Connectors**.

Figure 8: View Connectors

Connect your wireless network

Connect via Spaces Connector

Spaces Connector is an easy way to get your wireless network connected to Cisco Spaces. No need to upgrade Cisco Wireless Controllers or reconfig

- 1 Install Spaces Connector OVA**
Download and install Spaces Connector OVA as a virtual machine.
[Download Spaces Connector](#)
- 2 Configure Spaces Connector**
You will need a token to configure Spaces Connector. You need to connect to [https://<your connector IP>/](#) from a browser to get the token. You can optionally configure Spaces Connector to connect via HTTPS proxy.
2 / 2 connector(s) active [Create Connector](#) [View Connectors](#)
- 3 Add Controllers**
Add and associate controllers to your Cisco Spaces Connector(s)
2 / 3 controller(s) active [Add Controllers](#) [View Controllers](#)
- 4**

Connect via Spaces Connector

Spaces Connector is a way to get your wireless network connected to Cisco Spaces. No need to upgrade Cisco Wireless Controllers or reconfig

Wireless Networks ✓

Wired Network

Map Service

Locations & Maps

Camera

Sensors

Data Export

Webex

pxGrid Cloud

Device Placement

Setup

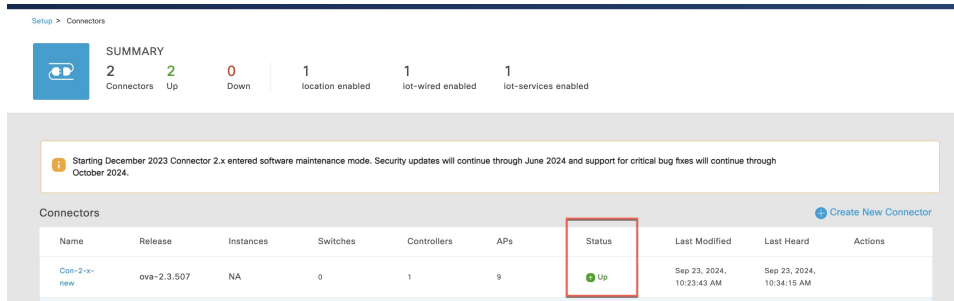
[Import/Sync Maps](#)

[Map Upload History](#)

[Manage Maps](#)

Click to view connector

Step 3 Ensure that a connector is listed and its status is Up.

Figure 9: Connector Status Up

Verify Cisco Catalyst 9800 Series Wireless Controllers is Added and Active

This procedure helps you verify if the Cisco Catalyst 9800 Series Wireless Controller is deployed and active.

Procedure

- Step 1** From the Cisco Spaces dashboard left-navigation pane, choose **Setup > Wireless Network**.
- Step 2** From the **Add Controllers** area, click **View Controllers**.

Figure 10: View Controllers

Connect your wireless network

Connect via Spaces Connector

Spaces Connector is an easy way to get your wireless network connected to Cisco DNA Spaces. No need to upgrade Wireless LAN Controllers or reconfigure your wireless network.

- 1 Install Spaces Connector OVA**
Download and install Spaces Connector OVA as a virtual machine.
[Download Spaces Connector](#)
- 2 Configure Spaces Connector**
You will need a token to configure Spaces Connector. You need to connect to `https://<your connector IP>/` from a browser to configure the token. You can optionally configure Spaces Connector to connect via HTTPS proxy.
0 / 3 connector(s) active
[Create a new token](#)
[View Connectors](#)
- 3 Add Controllers**
Add and associate controllers to your Cisco DNA Spaces Connector(s)
0 controller(s) active
[Add Controllers](#)
[View Controllers](#)
- 4 Import Maps**
Prime/DNAC map requires in order to work Locate & detect, Asset tracker, and IOT services, and proximity Report
Import/Sync Maps
Map Upload History
Manage Maps

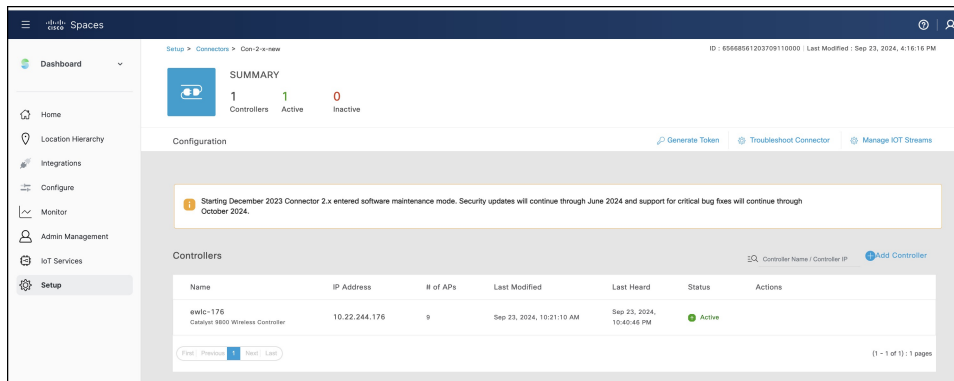
Setup

- Wireless Networks
- Wired Network
- Map Service
- Camera
- Sensors

Add Locations
Manage Location Hierarchy

Step 3 Ensure that a controller is listed here, and the corresponding status is **Active**.

Figure 11: Active Controller



Configure Connector for gRPC and Certificate Services

This procedure enables IoT streams. This procedure ensures that your APs visible on Cisco Spaces: IoT Service. In this procedure you:

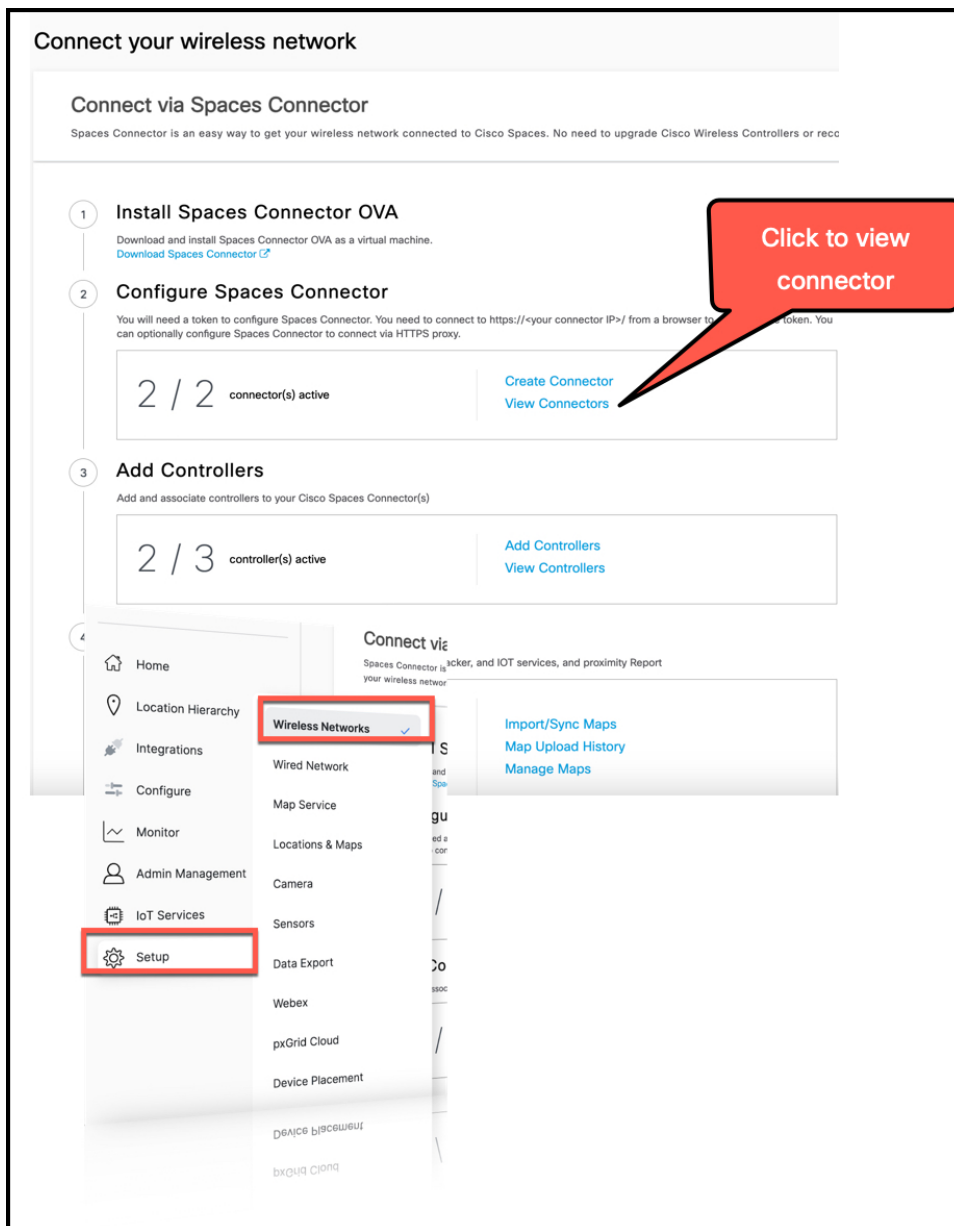
- Enable the Cisco Spaces: Connector to listen for gRPC Remote Procedure Call (gRPC) and certificate services.
- Activate these IoT streams on the wireless controller.

Procedure

Step 1 From the Cisco Spaces dashboard left-navigation pane, click **Setup > Wireless Network**.

Step 2 From the **Configure Spaces Connector** area, click **View Connectors**.

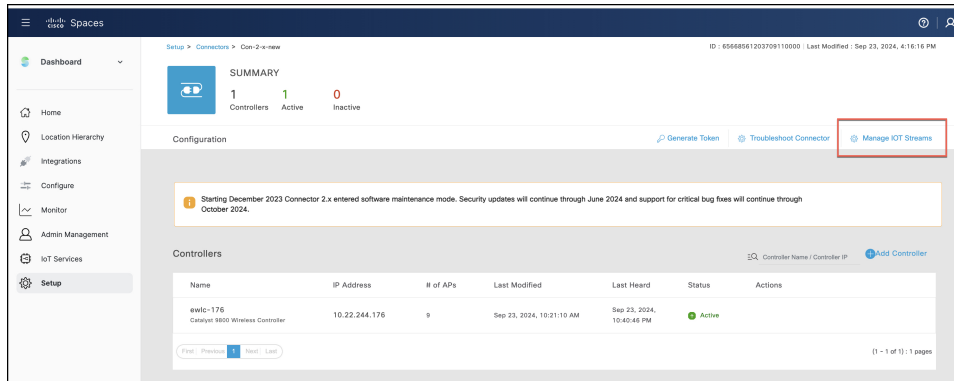
Figure 12: View Connectors



Step 3 From the list of connectors displayed, choose your connector, and then click **Manage IoT Streams**.

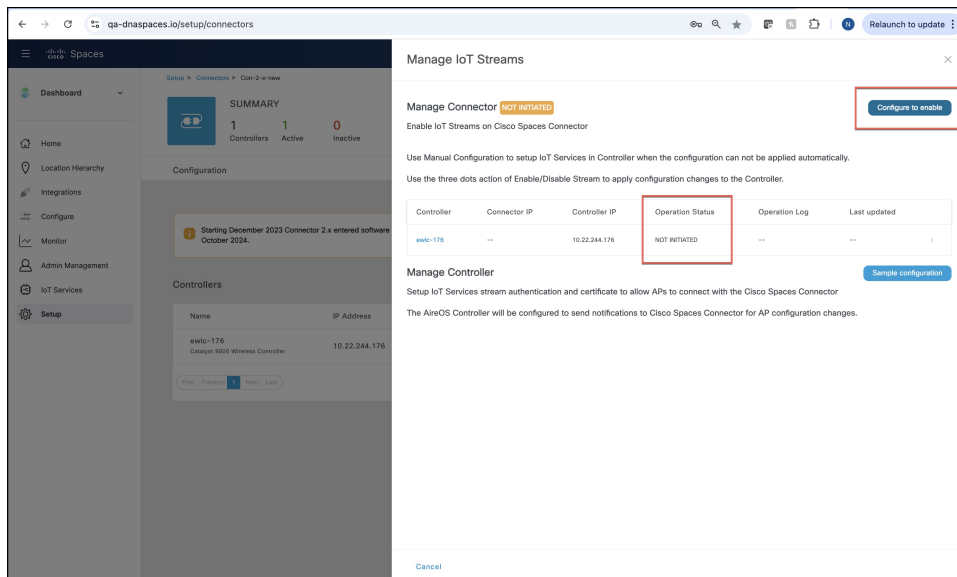
Step 4 In the **Manage IoT Streams** page that is displayed,

Figure 13: Manage IoT Streams



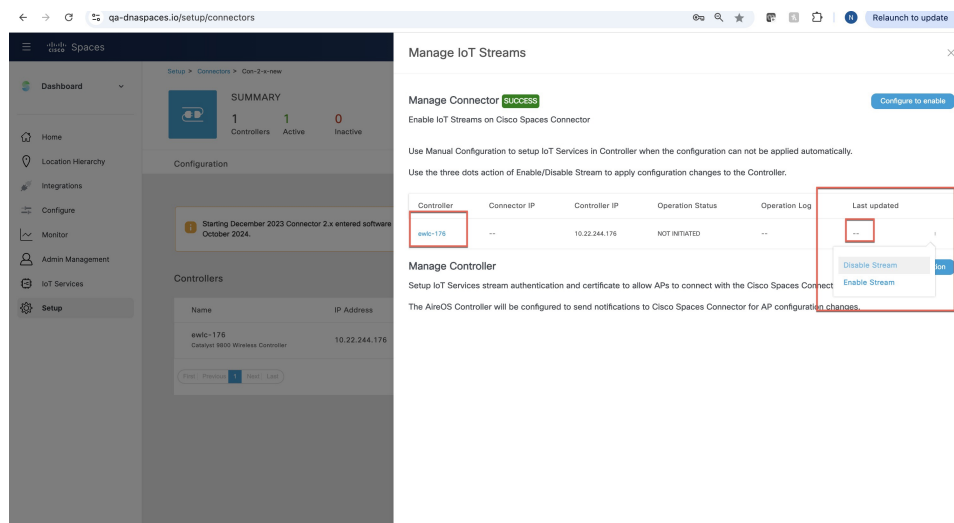
- a) Click **Configure to Enable** to enable the connector stream.

Figure 14: Configure to Enable



- b) For each wireless controller displayed, click the three-dot icon to display a menu. Choose **Enable Stream** to enable the wireless controller stream.

Figure 15: Enabling IoT Streams for the Connector and for each associated Wireless Controller



- c) Verify if the **Operation Status** of the connector is **SUCCESS**. Click the wireless controller in the list to check for any errors.

Figure 16: Operation Status of Wireless Controller is SUCCESS

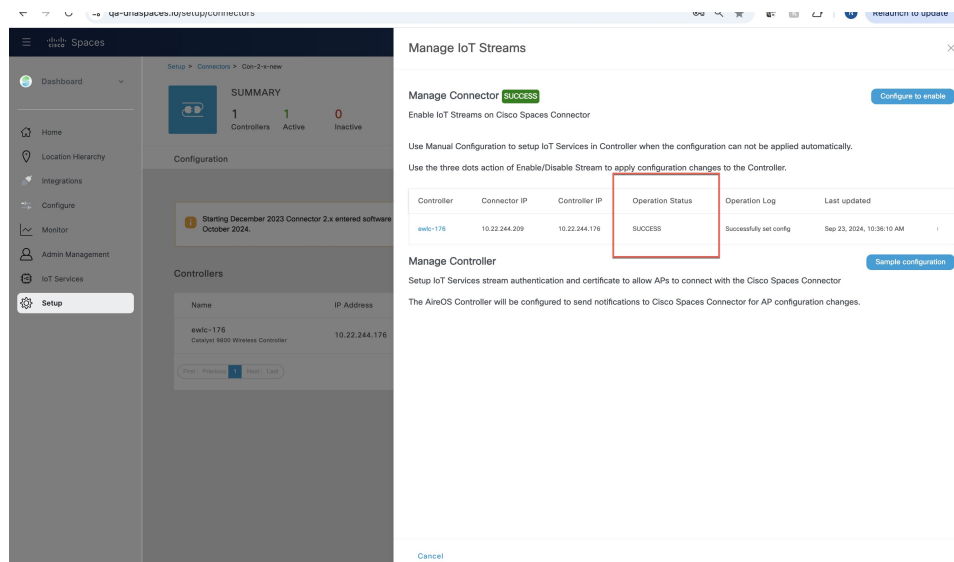
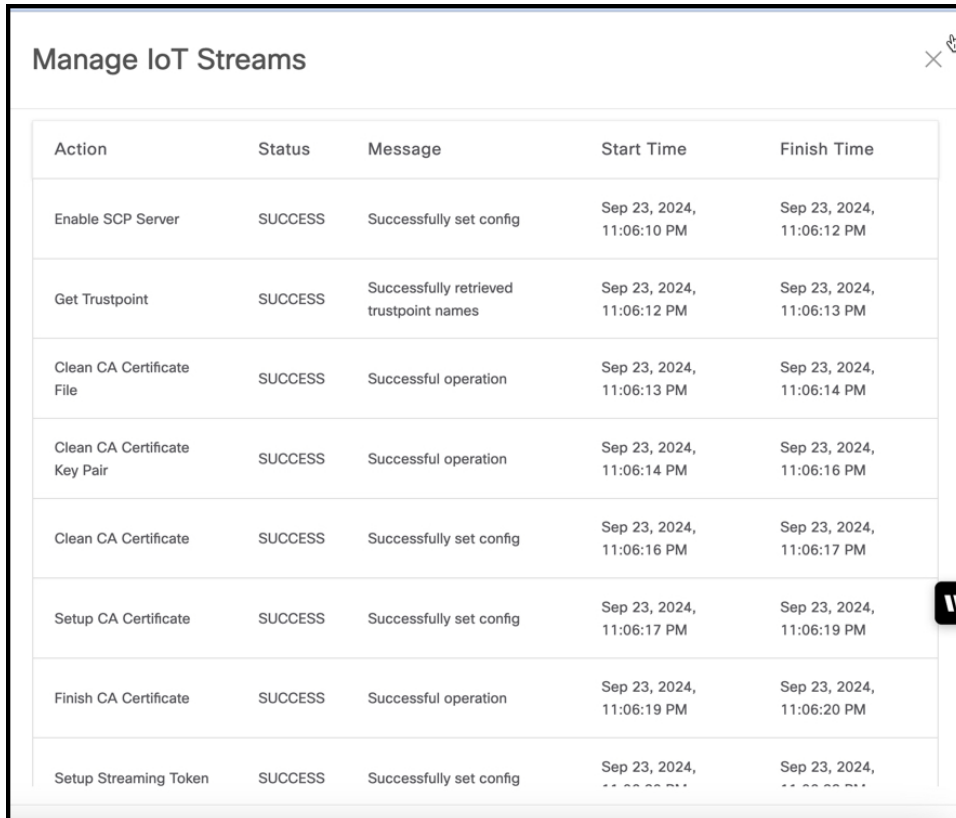


Figure 17: Check for Errors



The screenshot shows a window titled "Manage IoT Streams" with a close button (X) in the top right corner. Inside the window is a table with five columns: Action, Status, Message, Start Time, and Finish Time. The table contains eight rows of data, all with a status of "SUCCESS". A mouse cursor is pointing at the close button, and a small black box with two white quotation marks is visible on the right side of the table.

Action	Status	Message	Start Time	Finish Time
Enable SCP Server	SUCCESS	Successfully set config	Sep 23, 2024, 11:06:10 PM	Sep 23, 2024, 11:06:12 PM
Get Trustpoint	SUCCESS	Successfully retrieved trustpoint names	Sep 23, 2024, 11:06:12 PM	Sep 23, 2024, 11:06:13 PM
Clean CA Certificate File	SUCCESS	Successful operation	Sep 23, 2024, 11:06:13 PM	Sep 23, 2024, 11:06:14 PM
Clean CA Certificate Key Pair	SUCCESS	Successful operation	Sep 23, 2024, 11:06:14 PM	Sep 23, 2024, 11:06:16 PM
Clean CA Certificate	SUCCESS	Successfully set config	Sep 23, 2024, 11:06:16 PM	Sep 23, 2024, 11:06:17 PM
Setup CA Certificate	SUCCESS	Successfully set config	Sep 23, 2024, 11:06:17 PM	Sep 23, 2024, 11:06:19 PM
Finish CA Certificate	SUCCESS	Successful operation	Sep 23, 2024, 11:06:19 PM	Sep 23, 2024, 11:06:20 PM
Setup Streaming Token	SUCCESS	Successfully set config	Sep 23, 2024, 11:06:20 PM	Sep 23, 2024, 11:06:21 PM

Reconfigure this step if you move APs to a new AP profile.

- d) In the displayed popup, choose the AP profiles to push the IoT configuration. You can choose to push the IoT configuration to one or more default AP profiles on the wireless controller. Or you can also choose to push the IoT configuration to all the AP join profiles on the wireless controller.

Figure 18: Enabling IoT Streams for the Connector and for Each Associated Wireless



You are about to enable the stream

Please select the below option to continue

☒ Enable all profile(s) ☐ Enable only default profile(s)

Cancel

Confirm

Controller

Reconfigure this step if you move APs to a new AP profile.

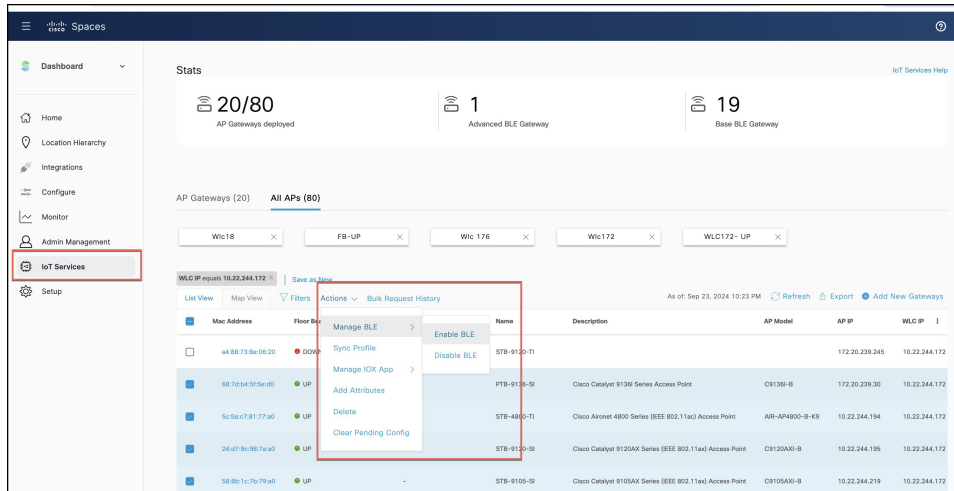
Enable BLE on AP

This procedure turns on Bluetooth Low Energy (BLE) on an AP, and puts selected APs in the Admin state and in the base scan mode.

Procedure

- Step 1** In the Cisco Spaces dashboard left-navigation pane, choose **IoT Services > IoT Gateways > AP Gateway > All APs**.
- Step 2** Check the boxes of specific APs, then hover over **Action**.
- Step 3** To turn on BLE Admin state and base scan mode, from the menu that opens, choose **Manage BLE > Enable BLE**.

Figure 19: Enable BLE



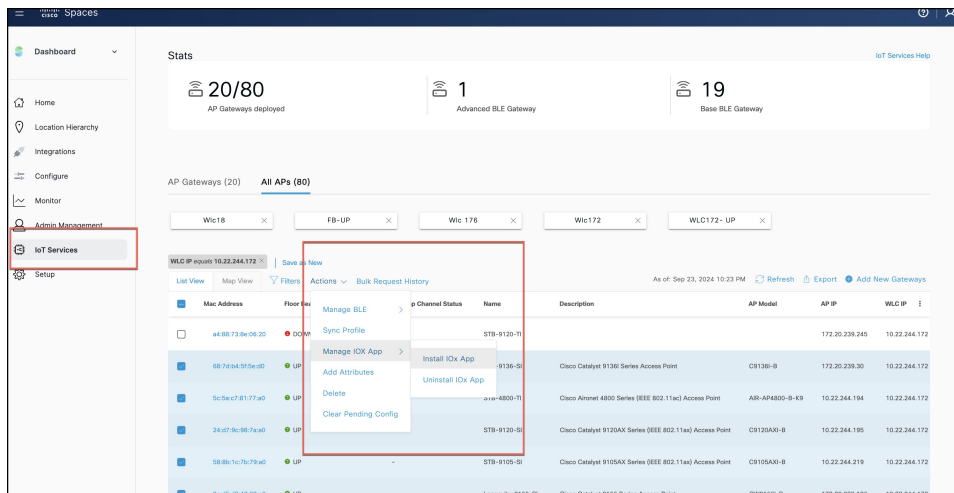
Set AP in Advanced Mode

This procedure sets an AP on the Bluetooth Low Energy (BLE) advanced mode.

Procedure

- Step 1** In the Cisco Spaces dashboard left-navigation pane, choose **IoT Services > IoT Gateways > AP Gateway > All APs**.
- Step 2** Check the boxes of specific APs, and then hover over **Action**.
- Step 3** To set the AP on BLE advanced mode, from the menu that opens, choose **Manage BLE > Install IOX App**.

Figure 20: Install IOX App



Verify Access Points

This procedure helps you verify if IoT service (wireless) has synchronized and listed the APs in your network on the GUI

Procedure

- Step 1** In the Cisco Spaces dashboard left-navigation pane, choose **IoT Services > IoT Gateways > AP Gateway**.
- Step 2** Click the **All APs** tab.

Figure 21: Verify APs

The screenshot displays the Cisco DNA Spaces interface. At the top, the header reads "Cisco DNA Spaces". Below this, a "Stats" section shows two metrics: "AP Gateways deployed" with a value of 3/3, and "Advanced BLE Gateway" with a value of 1. A red callout bubble points to the "All APs" link under the "AP Gateways deployed" metric. Below the stats, there is a section for "AP Gateways (3)" with a link for "All APs (3)" highlighted by a red box. Further down, there are "Filters" and "Actions" options, and a timestamp "As of: Sep 14, 2020 4:50 PM" with a "Refresh" button. A table lists the APs with columns for "Mac Address", "Name", and "Description". The table contains one entry: a checkbox, the Mac Address "c0:64:e4:22:ef:20", the Name "ap-9120-19", and the Description "Cisco Catalyst 9120AX Series (IEEE 802.11ac)". At the bottom left, there is a sidebar for "IoT Services" with a back arrow, containing links for "IoT Gateways", "Device Management", and "Device Monitoring".

Stats

AP Gateways deployed 3/3 | Advanced BLE Gateway 1

All APs

AP Gateways (3) | All APs (3)

Filters Actions As of: Sep 14, 2020 4:50 PM Refresh

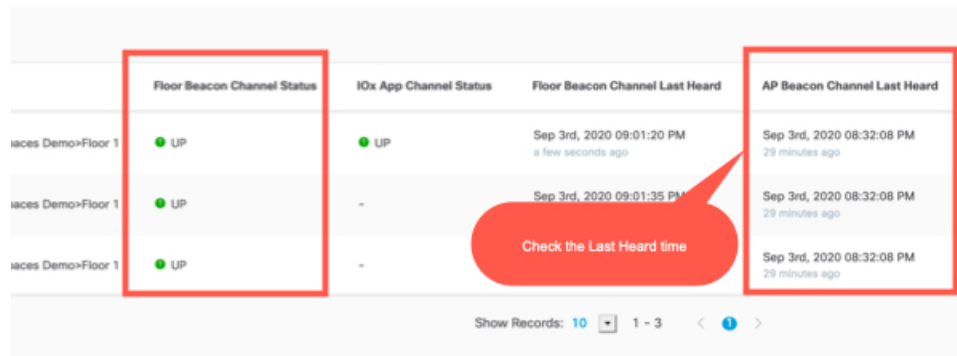
	Mac Address	Name	Description
<input type="checkbox"/>	c0:64:e4:22:ef:20	ap-9120-19	Cisco Catalyst 9120AX Series (IEEE 802.11ac)

IoT Services

- IoT Gateways
- Device Management
- Device Monitoring

Step 3 Verify if IoT service (wireless) has synchronized and listed the APs in your network. Check the **Floor Beacon Channel Status** and **AP Beacon Channel Last Heard** columns.

Figure 22: Verify APs



	Floor Beacon Channel Status	IOx App Channel Status	Floor Beacon Channel Last Heard	AP Beacon Channel Last Heard
aces Demo>Floor 1	● UP	● UP	Sep 3rd, 2020 09:01:20 PM a few seconds ago	Sep 3rd, 2020 08:32:08 PM 29 minutes ago
aces Demo>Floor 1	● UP	-	Sep 3rd, 2020 09:01:35 PM	Sep 3rd, 2020 08:32:08 PM 29 minutes ago
aces Demo>Floor 1	● UP	-		Sep 3rd, 2020 08:32:08 PM 29 minutes ago

Show Records: 10 1 - 3