

Set Up Wireless Network

This chapter provides instructions on how to set up Cisco Spaces to work with various wireless networks and how to configure these networks using different methods.

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Setting Up Cisco Spaces to Work with Various Wireless Networks

You can set up Cisco Spaces with wireless networks that are based on the following options:

- Cisco AireOS wireless controllers
- Cisco Catalyst 9800 wireless controllers
- Cisco Meraki

Procedure

Step 1 Log in to Cisco Spaces.

Step 2 In the **Home** page, from the left navigation pane, choose **Setup** > **Wireless Networks**.

Step 3 In the **Connect your wireless network** window, click **Add New**.

The **Connect your wireless network** window is displayed with the options **AireOS Controller/Catalyst 9800 Wireless Controller** and **Cisco Meraki**.

- For **AireOS Controller/Catalyst 9800 Wireless Controller**, these configurations are available:
  - **Via Spaces Connector**: To connect Cisco Spaces to Cisco Wireless Controller using Cisco Spaces: Connector.
  - **Connect Cisco Wireless Controllers directly**: To connect Cisco Spaces to Cisco Wireless Controller using a Cisco Wireless Controller Direct Connect.
  - **Connect via CMX Tethering**: To connect Cisco Spaces Cisco Wireless Controller using Cisco CMX.

Note This option is available only for supported legacy customers who already use **CMX Tethering**. It is deprecated for new deployments.

- For **Cisco Meraki**, these configurations are available:
  - **Connect via API Key**: To connect Cisco Spaces to Cisco Meraki using a Cisco Meraki API Key.

    You can login to the **Meraki** dashboard, choose **Account Name** > **My Profile** > **API Access**, and click **Generate** to generate an API Key. Enter this key in the **Connect via API key** field in the Cisco Spaces dashboard to add your network to Cisco Spaces. For more information, see Set Up Meraki API Key Method, on page 6.

Note For new Cisco Spaces accounts, click **Get Started**.

Step 4 Click **Select** to choose your preferred method through which you want to connect to Cisco Spaces.

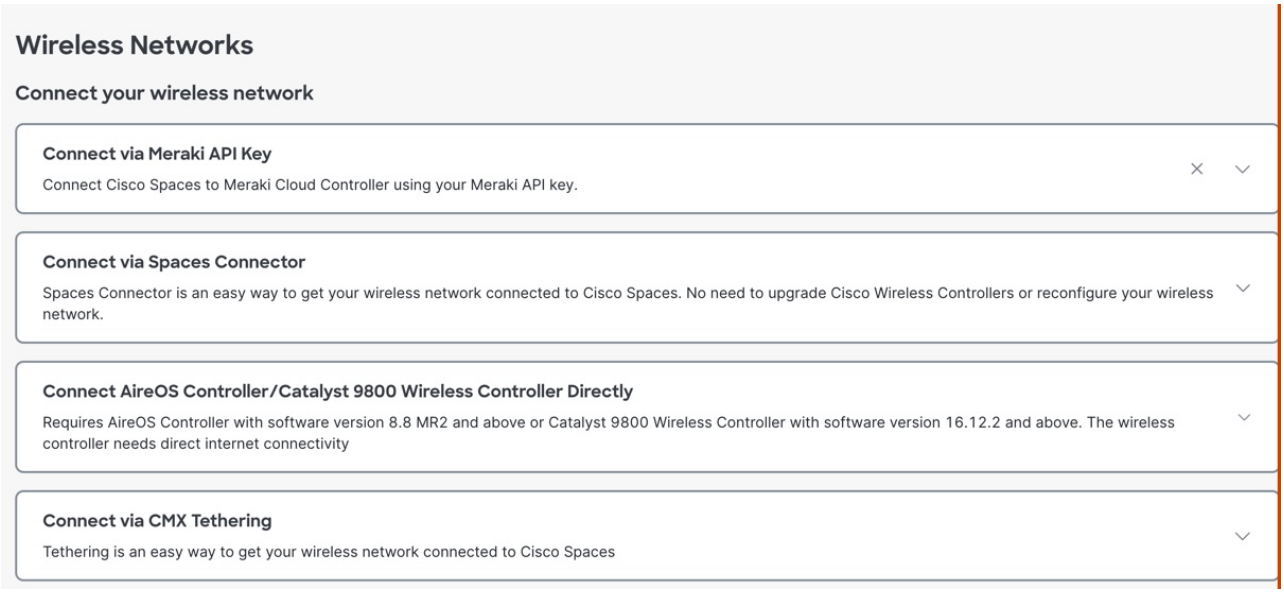
The prerequisites for connecting to the wireless network using the selected method are displayed.

Step 5 Click **Continue Setup**.

The following message is displayed: `Successfully saved the configuration`.

Step 6 A bar corresponding to the wireless network configuration method selected is displayed in the **Connect your wireless network** window. For example, if **Via Spaces Connector** is selected, a bar with the label **Connect via Spaces Connector** displays.

Figure 1: Connected wireless networks



Step 7 To view the instructions and configure the wireless network, click the drop-down button at the far right of the bar.

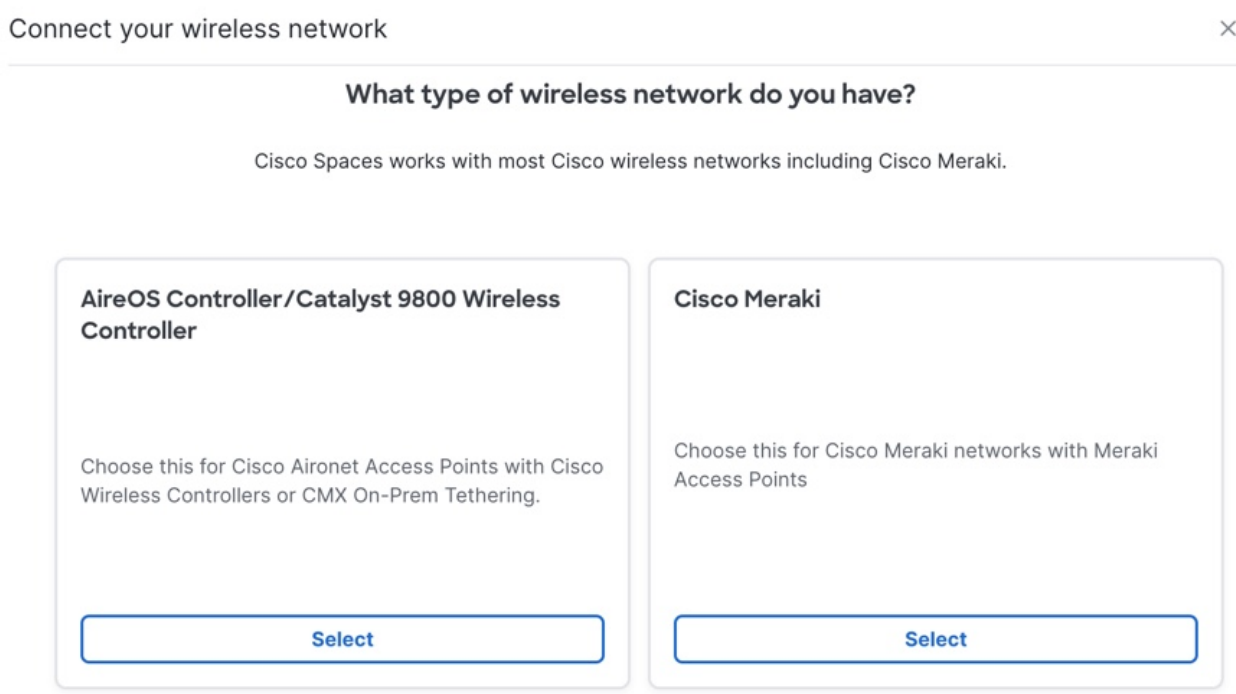
The instructions and the features to connect to preferred wireless network are displayed.

Step 8 Follow the on-screen instructions to add the wireless network.

Wireless Network Bars

To connect your wireless network with Cisco Spaces, use any available options in the **Setup** > **Wireless Networks** > **Connect your wireless network** window.

Figure 2: Wireless Network



The following tabs are displayed for Cisco Meraki based on your selection:

- **Connect via Meraki API Key**: Use this option to connect Cisco Spaces to Cisco Meraki Cloud Controller using your Cisco Meraki API key. Follow the on-screen instructions to import a Cisco Meraki organization and the related child locations to the location hierarchy using the **Import Networks** option.

Note We recommend using **Connect via API Key** to connect Cisco Meraki with Cisco Spaces.

Perform the following:

1. **Connect your Meraki**: Connect Cisco Meraki with Cisco Spaces using the API key.

2. **Configure Meraki scanning API**: Cisco Meraki scanning APIs are automatically configured after importing the networks into the location hierarchy.

Note To configure manually, use the **Post URL** with URL validator and **Secret Key** and validate manually in the Cisco Meraki dashboard to establish a connection with Cisco Spaces.

3. **Import Meraki Networks into Location Hierarchy**: Click **Import Networks** to import the Cisco Meraki networks.

Note The user count that is getting synchronized with Cisco Meraki is displayed under the **Connect your Meraki** option: **Connect via Meraki API Key**.

The following bars are displayed for Cisco AireOS based on the connection method selected:

- **Connect via Spaces Connector**: Use 'to connect Cisco Spaces to Cisco Wireless Controller'

Note You need not upgrade your Cisco Wireless Controllers or reconfigure your wireless network when you use **Connect via Spaces Connector** option.

Perform the following:

1. **Install Spaces Connector OVA**: Download and install Cisco Spaces: Connector OVA as a virtual machine.

   Click the **Download Spaces Connector** link to download the Spaces Connector.

2. **Configure Spaces Connector**: Click **Create Connector** to create a new connector. You need a token to configure Cisco Spaces: Connector. Connect to `https://<your connector IP>/` from a browser to configure the token. You can optionally configure Cisco Spaces: Connector to connect via HTTPS proxy.

   Click **View Connectors** to view the available connectors.

3. **Add Controllers**: Click **Add Controllers** to add Cisco Wireless Controllers. Click **View Controllers** to view the available controllers.

4. **Import Maps**: Click **Import/Sync Maps** to import or synchronize the maps. You must upload a Cisco Prime Infrastructure or Catalyst Center (version 1.3.1 and above) map to work with Cisco Spaces: Detect and Locate, Asset Tracker, and IoT Services.

5. **Setup location hierarchy**: Click **Add Locations** to add the imported maps to Location Hierarchy.

Note

- You can view the location hierarchy using the **View Location Hierarchy** option.
- For the OpenRoaming app, you can configure the hotspots through the **Add OpenRoaming Hotspot** option. You can also view the configurations for the OpenRoaming app for various controllers separately using the **OpenRoaming Controller Configuration** option.
- The Network Configuration Protocol (NETCONF) support is available from Hotspot client version v2.2.95 and on Cisco Catalyst 9800 Series Wireless Controllers version 17.12.

For more information, refer to Cisco Spaces: Connector Configuration Guide.

- **Connect AireOS Controller/Catalyst 9800 Wireless Controller Directly**: Use 'to connect Cisco Spaces to Cisco Wireless Controller (**Connect AireOS Controller/Catalyst 9800 Wireless Controller**)'.

Note To connect to this wireless network, you need either an AireOS Controller with software version 8.8 MR2 or later, or a Catalyst 9800 Wireless Controller with software version 16.12.2 or later. The wireless controller needs direct internet connectivity.

Perform the following:

1. **Install Root Certificate**: You can install the certificate from AireOS Controller CLI with View root certificate.
2. **Configure Token in AireOS Controller**: You can view token and contollers using the View Token and View Controllers options
3. **Import Maps**: You can now manage maps from the **Setup** window under Connect WLC/Catalyst 9800 Directly and Connect Via Spaces Connector
   - **Import/Sync Maps**: Upload a Cisco Prime Infrastructure or the Catalyst Center map in order to work with Detect & Locate, Asset Tracker, and IoT Services seamlessly.
   - **Map Upload History**: View the list of uploaded maps. You can view the filename, source type, status and other related information.
   - **Manage Maps**: Navigate to the **Map Service** application to manage maps.
4. **Setup location hierarchy**

- **Connect via CMX Tethering**: Use 'to connect Cisco Spaces to Cisco Wireless Controller'. Displays step-by-step instructions to configure location updates for a Cisco CMX node using CMX tethering with token. You can create the token using the **Create New Token** option in Step 2, and configure it in Cisco CMX.

Note **CMX Tethering** is supported only for legacy customers who already use this connection method. New customers must use the currently supported wireless network onboarding methods. **CMX Tethering** is deprecated for new deployments.

For legacy customers, use **CMX Tethering** only to manage an existing CMX-based deployment. The **CMX Tethering** option may not be displayed for new customers or accounts that are not enabled for this legacy workflow.

The other options available on the **Connect your wireless network** window are:

Table 1: Connect your wireless network Options

Cisco AireOS Controller/Catalyst 9800 Wireless Controller	Displays instructions to import a Cisco CMX Node (CMX On-Prem) to the **Location Hierarchy** window.
Cisco Meraki	Displays instructions to import a Meraki Organization to the **Location Hierarchy** window.

Set Up Meraki API Key Method

Use the **Cisco Meraki** option to integrate Cisco Spaces with Meraki. Use the Meraki account credentials to connect to Cisco Meraki cloud, import locations into Cisco Spaces and activate or synchronize the Meraki networks.

Procedure

Step 1 In the Cisco Spaces dashboard, click the **Menu** icon ( ) and choose **Setup** > **Wireless Networks** > **Add New** > **Cisco Meraki** > **Connect via API key**.

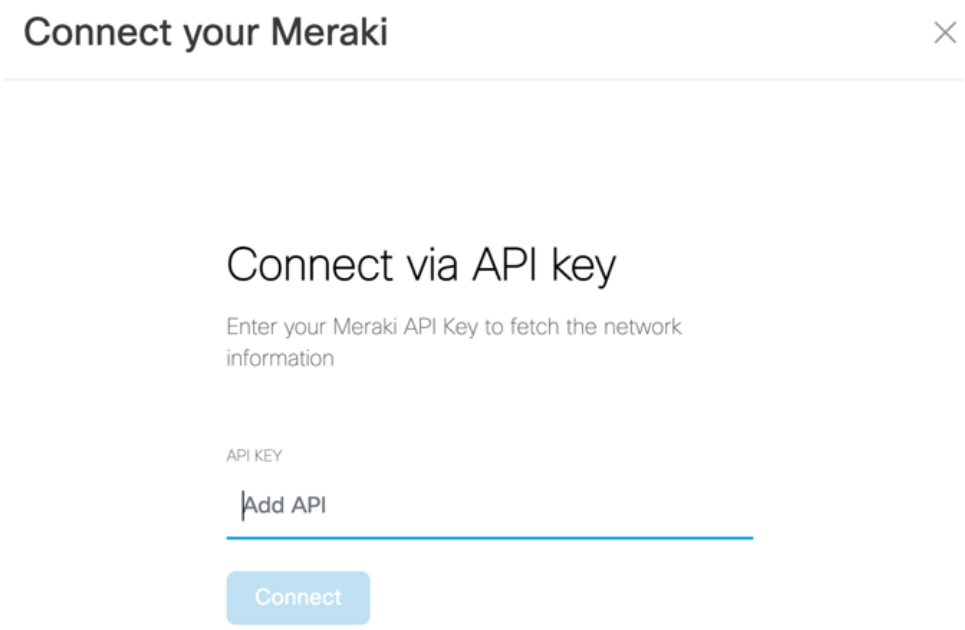
Step 2 In the Meraki dashboard, navigate to **Organization** > **Configure** > **Settings** and enable **Dashboard API Access**.

Step 3 In the Meraki dashboard, navigate to **Username** > **My Profile** > **API Access** and generate the API token. The generated API token is an alphanumeric value.

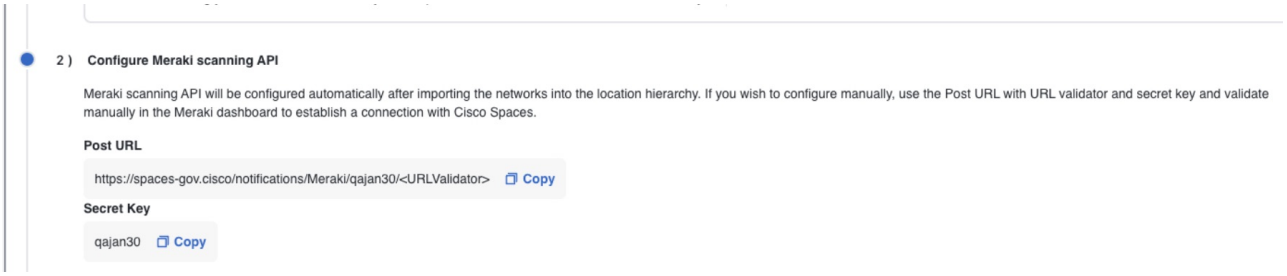
Step 4 Copy the generated API token to enter it in the Cisco Spaces dashboard.

Step 5 In the Cisco Spaces dashboard, perform the following:

a) In the **Connect your Meraki** pop-up window, paste the copied API token in the **API KEY** field.



b) Click **Connect**. After a successful synchronization with Meraki, the connection status displays as active.
c) From the **Configure Meraki scanning API** area, copy the values for **Post URL** and **Secret Key**.



Step 6 In the Meraki dashboard, navigate to your specific network and choose **Network-wide** > **Configure** > **General**.

Step 7 Scroll down to **Location and Scanning** and enable **Analytics and Scanning API**.

Step 8 In the **Post URLs** field, paste the post URL and secret key.

Step 9 From the **Location and Scanning** field, copy the **`validator ID`**.

Step 10 Edit the post URL **`<URLValidator>`** with the validator.

Step 11 Click **Validate** to validate the post URL functions.

Step 12 The dashboard opens an Import Networks wizard, select **Meraki Organization > Next > Choose Networks > Import Locations**.

After successful synchronization, verify if the networks are displayed in the **Location Hierarchy**.



Note If IP address restriction is enabled on the Cisco Meraki dashboard, reach out to Cisco Spaces support to add Cisco Spaces IP addresses to the allowed list.

Wireless Network Status

The **Wireless Network Status** option enables you to view the synchronization status of your wireless network. You can view the time at which the last synchronization happened.