

# 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.

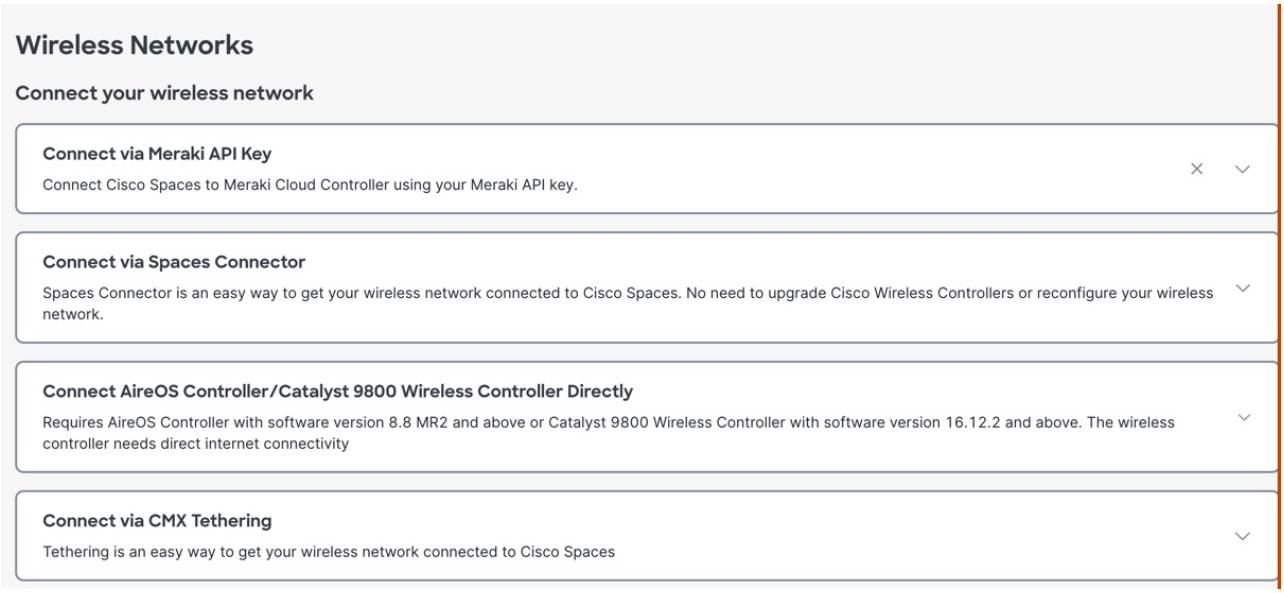
The prerequisites for connecting to the wireless network using the selected method are displayed.

**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.

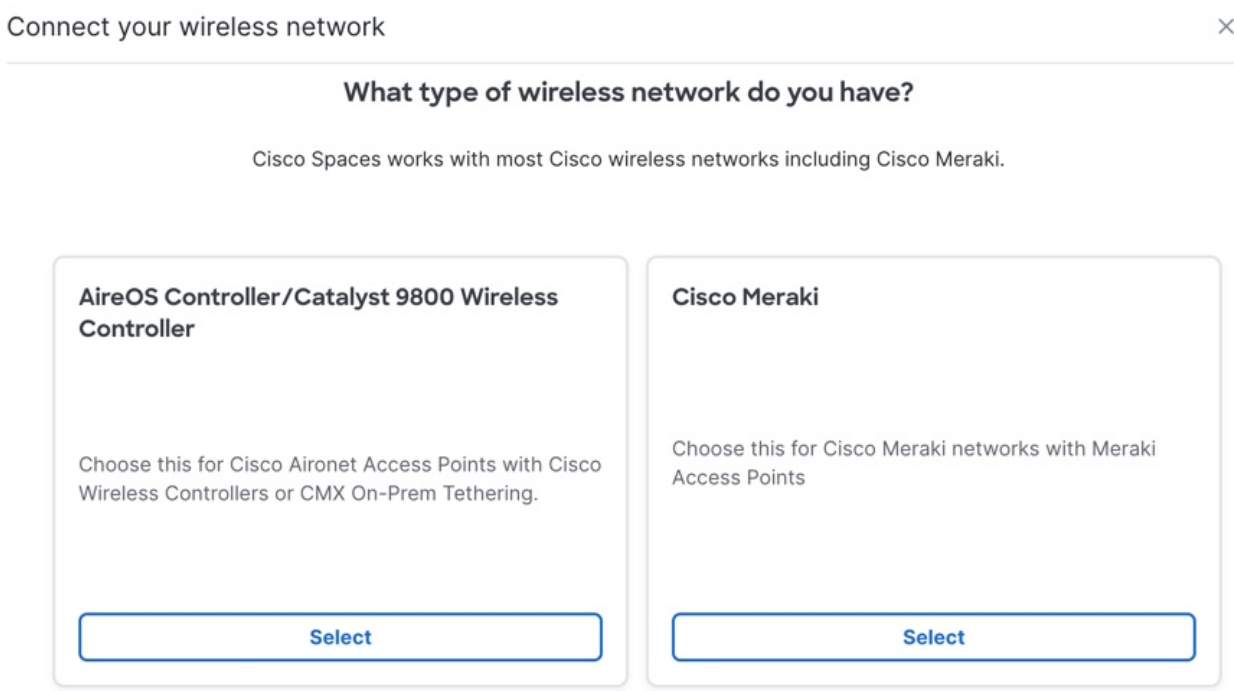
The instructions and the features to connect to preferred wireless network are displayed.

**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**.

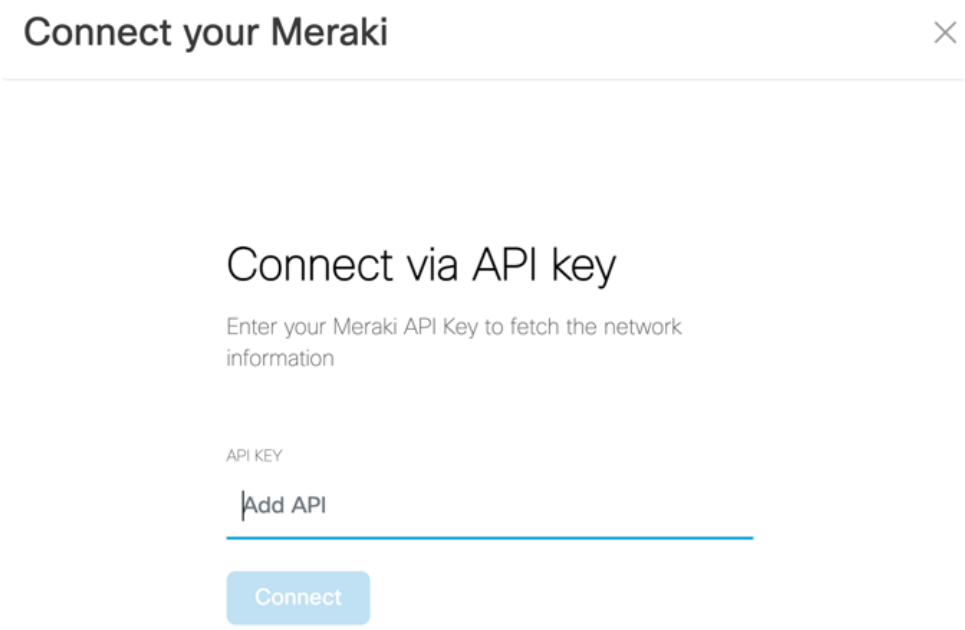
**Step 2** In the Meraki dashboard, navigate to **Organization** > **Configure** > **Settings** and enable **Dashboard API Access**.

**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.

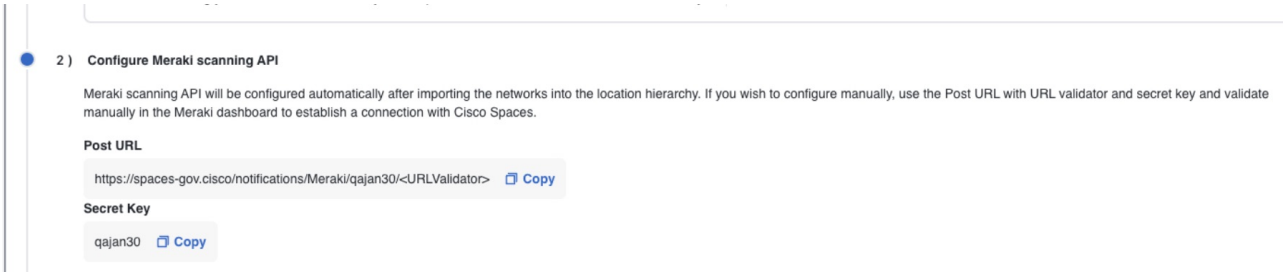
**Step 4** Copy the generated API token to enter it in the Cisco Spaces dashboard.

**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.