



Embedded Wireless on Cisco Catalyst 9000 Series Switches for Single Secure Site Deployment (Non-SDA)

- [Introduction to Embedded Wireless, on page 1](#)
- [Configuring the Embedded Wireless Setup \(GUI\), on page 2](#)
- [AP Onboarding Information \(GUI\), on page 3](#)
- [AP Provisioning \(GUI\), on page 4](#)

Introduction to Embedded Wireless

The Cisco Integrated Wireless on Cisco Catalyst 9000 Series Switches is the next-generation Wi-Fi solution, combining the most advanced features of the Cisco Catalyst 9800 Series Wireless controller with the Catalyst 9000 series switches, creating a best-in-class wireless experience that provides enterprise-class resiliency, security, and IT simplicity for single site deployments.

Embedded wireless is supported only on the following switches:

- Cisco Catalyst 9300 Series Switches
- Cisco Catalyst 9400 Series Switches
- Cisco Catalyst 9500 Series Switches

Prerequisites

- Wireless sub-package must be preinstalled on the switch. For information on Installing Wireless Sub-Package, see: [Wireless Sub-Package for Switch](#)
- Management IP must be configured on the switch
- Loopback IP address must be configured on the switch



Note For stack based High Availability information for Cisco Catalyst 9300 Switches, see the *Stack Manager and High Availability Configuration Guide* at: <https://www.cisco.com/c/en/us/support/switches/catalyst-9300-series-switches/products-installation-and-configuration-guides-list.html>

For dual RP information for Cisco Catalyst 9400 Switches, see the *High Availability Configuration Guide* at: <https://www.cisco.com/c/en/us/support/switches/catalyst-9400-series-switches/products-installation-and-configuration-guides-list.html>.

Restrictions

- Supports only single site deployments.
- Stateful Switch Over (SSO) is not supported with Cisco Catalyst 9500 Series Switches.
- Security Group Tag (SGT) based segmentation is not supported.
- StackWise Virtual Link (SVL) is not supported on the Cisco Catalyst 9500 Series Switches.

Configuring the Embedded Wireless Setup (GUI)

Before you begin

- Login to the management IP address of the switch. Enable the wireless controller configuration by clicking on the controller icon on the top menu bar. The controller icon is grey in color and it turns green after you enable it, indicating that wireless controller configuration has been enabled.
- Ensure that Loopback interface is created for the configuration to work. You can go to Configuration > Interface > Logical > Loopback to check whether a loopback interface is created.



Note All the wireless-related configuration has to be done using web UI. The switching configuration can be done using either web UI or CLI.

Procedure

- Step 1** Choose **Configuration > Embedded Wireless Setup**.
- Step 2** Toggle the **Embedded Wireless Setup** button to **Enabled**. (Toggling to **Disabled** cleans up the fabric-related configurations.)
- Step 3** Click **Apply**.
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AP Onboarding Information (GUI)

Procedure

- Step 1** Choose **Configuration > Embedded Wireless Setup**.
- Step 2** Click **Add**.
The **Location Configuration** window is displayed.
- Step 3** Click the **General** tab.
- Step 4** In the **Location Name** field, enter the location name.
- Step 5** In the **Description** field, enter a description for the location.
- Step 6** In the **Client Density** area, use the slider to select the client density for the AP.
- Step 7** Go to the **AP Onboarding** section.
- Step 8** In the **VLAN** field, enter the VLAN number.
- Step 9** In the **IP Address** field, enter the IP address.
- Step 10** In the **Subnet Mask** field, enter the subnet address.
- Step 11** In the **DHCP Server** field, enter the name of the DHCP server.
- Note** The DHCP Server IP address is pushed to the ip helper address.
- You can use a DHCP server that is residing outside of the Cisco Catalyst 9300 device, if the helper address is reachable. For DHCP discover packets to reach the DHCP server, configure the helper address on the SVI.
- Step 12** Click **Apply**.
This completes the basic wireless setup.
- Step 13** Click the **Wireless Networks** tab.
The Wireless Network page creates WLAN/SSID for the AP to broadcast.
- Note**
- You can use an existing WLAN or create a new one. However, you cannot edit the WLAN attributes of an existing WLAN. You can delete the WLAN and re-create it on the location.
 - Deleting a WLAN does not remove it from the device, it is removed only from the Location (policy-tag).
- Step 14** Click **Add**, to create a new WLAN. The **Add Location Setup** window is displayed.
- Step 15** From the **WLAN** drop-down list, choose the WLAN. (You can also create a new WLAN by clicking the **Define New** link, which will take you to **Add WLAN** window.)
This solution supports up to 4 VRFs. A VRF is created to keep the guest SSIDs network separated from employee SSID networks.
- Step 16** Go to the **Policy Details** section.
- Step 17** From the **VRF** drop-down list, choose a VRF. (You can also create a VRF by clicking the **Click here to add VRF**.)
- Step 18** From the **VLAN** drop-down list, choose a VLAN.

If you enter a VLAN that is not predefined, the system prompts you to enter details such as **IP Address**, **Subnet Mask**, and **DHCP** server.

Step 19 From the **QoS** drop-down list, choose the optional QoS policy.

Step 20 Click **Add**.

All the SSIDs that have been created for this location will be listed in the **Wireless Networks** page.

What to do next

AP Provisioning (GUI)

Procedure

Step 1 Choose **Configuration > Embedded Wireless Setup > AP Provisioning**.

Step 2 From the **Available AP List**, choose the required APs and use the right arrow to move them to the **Associated AP List**.

Step 3 Click **Apply**.

This moves the APs to the newly added location. All the ports connected to the AP should be in the same VLAN as the wireless profile VLAN.

To select the country code for the APs, go to **Configuration > Access Points > Country** and select the country where APs are located and click **Apply**. For information on selecting a country code to set the AP location, see *Country Codes*.
