



Configuring Tags

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Configuring Tags Through the CLI

Configuring a Site Tag (CLI)

Follow the procedure given below to configure a site tag:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **wireless tag site** *site-name*
4. **flex-profile** *flex-profile-name*
5. **description** *site-tag-name*
6. **end**
7. **show wireless tag site summary**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	wireless tag site <i>site-name</i> Example:	Configures a site tag and enters site tag configuration mode.

	Command or Action	Purpose
	<code>Device(config)# wireless tag site rr-xyz-site</code>	
Step 4	<p>flex-profile <i>flex-profile-name</i></p> <p>Example:</p> <pre>Device(config-site-tag)# flex-profile rr-xyz-flex-profile</pre>	<p>Configures a flex profile.</p> <p>Note You cannot remove the flex profile configuration from a site tag if local site is configured on the site tag.</p> <p>Note The no local-site command needs to be used to configure the Site Tag as Flexconnect, otherwise the Flex profile configuration does not take effect.</p>
Step 5	<p>description <i>site-tag-name</i></p> <p>Example:</p> <pre>Device(config-site-tag)# description "default site tag"</pre>	<p>Adds a description for the site tag.</p>
Step 6	<p>end</p> <p>Example:</p> <pre>Device(config-site-tag)# end</pre>	<p>Exits site tag configuration mode and returns to privileged EXEC mode.</p>
Step 7	<p>show wireless tag site summary</p> <p>Example:</p> <pre>Device# show wireless tag site summary</pre>	<p>(Optional) Displays the number of site tags.</p> <p>Note To view detailed information about a site, use the show wireless tag site detailed site-tag-name command.</p> <p>Note The output of the show wireless loadbalance tag affinity wncd wncd-instance-number command displays default tag (site-tag) type, if both site tag and policy tag are not configured.</p>

Configuring a Policy Tag (CLI)

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **wireless tag policy** *policy-tag-name*
4. **description** *description*
5. **remote-lan** *name* **policy** *profile-policy-name* {**ext-module** | **port-id** *name*}
6. **wlan** *wlan-name* **policy** *profile-policy-name*
7. **end**
8. **show wireless tag policy summary**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	wireless tag policy <i>policy-tag-name</i> Example: Device(config-policy-tag)# wireless tag policy default-policy-tag	Configures a policy tag, and enters policy tag configuration mode. <p>Note When performing LWA, the clients connected to a controller gets disconnected intermittently before session timeout.</p> <p>As a workaround it is recommended to include all policy profiles with central association or no central association under a given policy tag.</p>
Step 4	description <i>description</i> Example: Device(config-policy-tag)# description default-policy-tag	Adds a description to the policy tag.
Step 5	remote-lan <i>name</i> policy profile-policy-name { ext-module port-id <i>name</i> } Example: Device(config-policy-tag)# remote-lan rr-xyz-rlan-aa policy rr-xyz-rlan1 port-id 2	Maps a remote-LAN profile to a policy profile.
Step 6	wlan <i>wlan-name</i> policy profile-policy-name Example: Device(config-policy-tag)# wlan rr-xyz-wlan-aa policy rr-xyz-policy-1	Maps a policy profile to a WLAN profile.
Step 7	end Example: Device(config-policy-tag)# end	Saves the configuration, exits configuration mode, and returns to privileged EXEC mode.
Step 8	show wireless tag policy summary Example: Device# show wireless tag policy summary	(Optional) Displays the configured policy tags. <p>Note To view detailed information about a policy tag, use the show wireless tag policy detailed <i>policy-tag-name</i> command.</p>

Configuring Wireless RF Tag (CLI)

Follow the procedure given below to configure a wireless RF tag:

Before you begin

- You can use only two profiles (IEEE 802.11a and IEEE 802.11b) in an RF tag .
- Ensure that you use the same AP tag name that you created when configuring the AP tag task too.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **wireless tag rf *rf-tag***
4. **24ghz-rf-policy *rf-policy***
5. **5ghz-rf-policy *rf-policy***
6. **description *policy-description***
7. **end**
8. **show wireless tag rf summary**
9. **show wireless tag rf detailed *rf-tag***

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	wireless tag rf <i>rf-tag</i> Example: Device(config)# wireless tag rf rftag1	Creates an RF tag and enters wireless RF tag configuration mode.
Step 4	24ghz-rf-policy <i>rf-policy</i> Example: Device(config-wireless-rf-tag)# 24ghz-rf-policy rfprof24_1	Attaches an IEEE 802.11b RF policy to the RF tag.
Step 5	5ghz-rf-policy <i>rf-policy</i> Example: Device(config-wireless-rf-tag)# 5ghz-rf-policy rfprof5_1	Attaches an IEEE 802.11a RF policy to the RF tag.

	Command or Action	Purpose
Step 6	description <i>policy-description</i> Example: Device(config-wireless-rf-tag)# description Test	Adds a description for the RF tag.
Step 7	end Example: Device(config-wireless-rf-tag)# end	Exits configuration mode and returns to privileged EXEC mode.
Step 8	show wireless tag rf summary Example: Device# show wireless tag rf summary	Displays the available RF tags.
Step 9	show wireless tag rf detailed <i>rf-tag</i> Example: Device# show wireless tag rf detailed rftag1	Displays detailed information of a particular RF tag.

Configuring an AP Tag (CLI)

Before you begin

Ensure that you use the same AP tag that is configured here in the Wireless RF tag.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ap** *mac-address*
4. **policy-tag** *policy-tag*
5. **rf-tag** *rf-tag*
6. **site-tag** *site-tag*
7. **end**
8. **show ap tag summary**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. <ul style="list-style-type: none"> • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters the global configuration mode.

	Command or Action	Purpose
Step 3	ap <i>mac-address</i> Example: Device(config)# ap 188b.9dbe.6eac	Enters the AP tag configuration mode. Important Use the AP MAC address. Do not use the Ethernet MAC address.
Step 4	policy-tag <i>policy-tag</i> Example: Device(config-ap-tag)# policy-tag policytag1	Maps a policy tag to the AP.
Step 5	rf-tag <i>rf-tag</i> Example: Device(config-ap-tag)# rf-tag rftag1	Configures a named RF tag and adds the AP mac-address to the tag.
Step 6	site-tag <i>site-tag</i> Example: Device(config-ap-tag)# site-tag sitetag1	Maps a site tag to the AP.
Step 7	end Example: Device(config-ap-tag)# end	Exits AP tag configuration mode and returns to privileged EXEC mode.
Step 8	show ap tag summary Example: Device# show ap tag summary	Displays the tag summary of available APs.

What to do next

Configure Wireless RF tag.

Configuring Wireless RF Tag (CLI)

Follow the procedure given below to configure a wireless RF tag:

Before you begin

- You can use only two profiles (IEEE 802.11a and IEEE 802.11b) in an RF tag .
- Ensure that you use the same AP tag name that you created when configuring the AP tag task too.

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **wireless tag rf** *rf-tag*
4. **24ghz-rf-policy** *rf-policy*
5. **5ghz-rf-policy** *rf-policy*

6. **description** *policy-description*
7. **end**
8. **show wireless tag rf summary**
9. **show wireless tag rf detailed** *rf-tag*

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	wireless tag rf <i>rf-tag</i> Example: Device(config)# wireless tag rf rftag1	Creates an RF tag and enters wireless RF tag configuration mode.
Step 4	24ghz-rf-policy <i>rf-policy</i> Example: Device(config-wireless-rf-tag)# 24ghz-rf-policy rfprof24_1	Attaches an IEEE 802.11b RF policy to the RF tag.
Step 5	5ghz-rf-policy <i>rf-policy</i> Example: Device(config-wireless-rf-tag)# 5ghz-rf-policy rfprof5_1	Attaches an IEEE 802.11a RF policy to the RF tag.
Step 6	description <i>policy-description</i> Example: Device(config-wireless-rf-tag)# description Test	Adds a description for the RF tag.
Step 7	end Example: Device(config-wireless-rf-tag)# end	Exits configuration mode and returns to privileged EXEC mode.
Step 8	show wireless tag rf summary Example: Device# show wireless tag rf summary	Displays the available RF tags.
Step 9	show wireless tag rf detailed <i>rf-tag</i> Example: Device# show wireless tag rf detailed rftag1	Displays detailed information of a particular RF tag.

Attaching Policy Tag and Site Tag to an AP (CLI)

Follow the procedure given below to attach a policy tag and a site tag to an AP:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ap mac-address**
4. **policy-tag policy-tag-name**
5. **site-tag site-tag-name**
6. **rf-tag rf-tag-name**
7. **end**
8. **show ap tag summary**
9. **show ap name ap-name tag info**
10. **show ap name ap-name tag detail**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.
Step 3	ap mac-address Example: Device(config)# ap F866.F267.7DFB	Configures a Cisco AP and enters AP profile configuration mode. Note The <i>mac-address</i> should be a wired MAC address.
Step 4	policy-tag policy-tag-name Example: Device(config-ap-tag)# policy-tag rr-xyz-policy-tag	Maps a policy tag to the AP.
Step 5	site-tag site-tag-name Example: Device(config-ap-tag)# site-tag rr-xyz-site	Maps a site tag to the AP.
Step 6	rf-tag rf-tag-name Example: Device(config-ap-tag)# rf-tag rf-tag1	Associates the RF tag.

	Command or Action	Purpose
Step 7	end Example: Device(config-ap-tag)# end	Exits AP profile configuration mode and returns to privileged EXEC mode.
Step 8	show ap tag summary Example: Device# show ap tag summary	(Optional) Displays AP details and the tags associated to it.
Step 9	show ap name <i>ap-name</i> tag info Example: Device# show ap name <i>ap-name</i> tag info	(Optional) Displays the AP name with tag information.
Step 10	show ap name <i>ap-name</i> tag detail Example: Device# show ap name <i>ap-name</i> tag detail	(Optional) Displays the AP name with tag details.

Setting the Tag Priority (CLI)

Multiple tag sources might result in ambiguity for network administrators. To address this, you can define priority for tags. When an AP joins the controller, the tags are selected based on the priority. If precedence is not set, the default is used.

Use the following procedure to set the tag priority:

SUMMARY STEPS

1. **enable**
2. **configure terminal**
3. **ap tag-source-priority *source-priority* source {ap | filter}**
4. **ap tag-source-priority *source-priority* source {ap | filter}**
5. **end**
6. **ap tag-sources revalidate**

DETAILED STEPS

	Command or Action	Purpose
Step 1	enable Example: Device> enable	Enables privileged EXEC mode. • Enter your password if prompted.
Step 2	configure terminal Example: Device# configure terminal	Enters global configuration mode.

	Command or Action	Purpose
Step 3	ap tag-source-priority <i>source-priority</i> source { ap filter } Example: Device(config)# ap tag-source-priority 2 source ap	Configures AP tag source priority.
Step 4	ap tag-source-priority <i>source-priority</i> source { ap filter } Example: Device(config)# ap tag-source-priority 1 source filter	Configures source priority for the filter. <ul style="list-style-type: none">• Use the filter that was configured by using the ap filter name command. Note It is not mandatory to configure an AP filter, it comes with default priorities.
Step 5	end Example: Device(config)# end	Exits global configuration mode and returns to privileged EXEC mode.
Step 6	ap tag-sources revalidate Example: Device# ap tag-sources revalidate	Revalidates the AP tag sources. The AP tag priority become active only after this command is configured. Note When you change the priority for the AP and filter, run the ap tag-sources revalidate command to evaluate the priority.

Configuring Tags Through the GUI

Configuring a Site Tag (GUI)

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- Step 1** Choose **Configuration > Tags & Profiles > Tags**.
- Step 2** On the **Manage Tags** page, click the **Site** tab.
- Step 3** Click **Add** to view the **Add Site Tag** window.
- Step 4** Enter a name and description for the site tag. The name can be ASCII characters from 32 to 126, without leading and trailing spaces.
- Step 5** Choose the required **AP Join Profile** to be attached to the site tag.
- Step 6** Choose the required **Control Plane Name**.
- Step 7** If required, enable the **Local Site**.
Disabling Local Site means that the site is remote and the deployment is FlexConnect mode.
- Step 8** Click **Save & Apply to Device**.
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Configuring Policy Tag (GUI)

- Step 1** Choose **Configuration** > **Tags & Profiles** > **Tags** > **Policy**.
 - Step 2** Click **Add** to view the **Add Policy Tag** window.
 - Step 3** Enter a name and description for the policy tag. The name can be ASCII characters from 32 to 126, without leading and trailing spaces.
 - Step 4** Click **Add** to map WLAN and policy.
 - Step 5** Choose the WLAN profile to map with the appropriate policy profile, and click the tick icon.
 - Step 6** Click **Save & Apply to Device**.
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Configuring Wireless RF Tag (GUI)

- Step 1** a) Choose **Configuration** > **Tags & Profiles** > **Tags** > **RF**.
 - Step 2** Click **Add** to view the **Add RF Tag** window.
 - Step 3** Enter a name and description for the RF tag. The name can be ASCII characters from 32 to 126, without leading and trailing spaces.
 - Step 4** Choose the required **5 GHz Band RF Profile** and **2.4 GHz Band RF Profile** to be associated with the RF tag.
 - Step 5** Click **Update & Apply to Device**.
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Configuring an AP Tag (GUI)

Before you begin

Ensure that you have configured an AP Join Profile prior to configuring the primary and backup controllers.

- Step 1** Choose **Configuration** > **Tags & Profiles** > **Tags**.
- Step 2** On the **Manage Tags** page, click the AP tab.
- Step 3** In the **Tag Source** tab, drag and drop the tag sources to change priorities.
- Step 4** Check the **Revalidate Tag Sources on APs** check box, if required.
- Step 5** Click **Apply**.
- Step 6** In the **Static** tab, click **Add**.
- Step 7** In the **Associate Tags to AP** window, enter a MAC address.
- Step 8** Choose the appropriate **Policy Tag Name**, **Site Tag Name**, and **RF Tag Name**.
- Step 9** Click **Save & Apply to Device**.
- Step 10** In the **Filter** tab, click **Add**.
- Step 11** In the **Associate Tags to AP** window, enter a rule and AP name regex.
- Step 12** Use the slider to enable **Active**.

- Step 13** Enter the **Priority**. The valid range is from 0 to 127.
- Step 14** Choose the appropriate **Policy Tag Name**, **Site Tag Name**, and **RF Tag Name**.
- Step 15** Click **Save & Apply to Device**.
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Configuring RF Profile (GUI)

- Step 1** Choose **Configuration > Tags & Profiles > RF**.
- Step 2** On the **RF Profile** page, click **Add** to configure the following:
- General
 - 802.11
 - RRM
 - Advanced
- Step 3** In the **General** tab, proceed as follows:
- a) Enter a name and description for the RF profile.
 - b) Choose the appropriate radio band.
 - c) To enable the profile, set the status as *Enable*.
 - d) Click **Save & Apply to Device**.
- Step 4** In the **802.11** tab, proceed as follows:
- a) Choose the required operational rates.
 - b) Select the required 802.11n MCS Rates by checking the corresponding check boxes.
 - c) Click **Save & Apply to Device**.
- Step 5** In the **RRM > General** tab, proceed as follows:
- a) Enter the foreign interference threshold between 0 and 100 percent in the Interference field. The default is 10.
 - b) In the **Clients** field, enter the client threshold between 1 and 75 clients. The default is 12.
 - c) In the **Noise** field, enter the foreign noise threshold between -127 and 0 dBm. The default is -70.
 - d) In the **Utilization** percentage field, enter the RF utilization threshold between 0 and 100 percent. The default is 80.
- Step 6** In the **RRM > Coverage** tab, proceed as follows:
- a) Enter the client level in the Minimum Client Level field.
 - b) In the **Data RSSI Threshold** field, enter the actual value in dBm. Value ranges from -60 to -90 dBm and the default value is -80 dBm.
 - c) In the **Voice RSSI Threshold** field, enter the actual value in dBm. Value ranges from -60 to -90 dBm and the default value is -75.
 - d) In the **Exception Level** field, enter the maximum desired percentage of clients on an AP's radio operating below the desired coverage threshold. Value ranges from 0 to 100% and the default value is 25%.
- Step 7** In the **RRM > TPC** tab, proceed as follows:
- a) Enter the power level assignment on this radio in the **Maximum Power Level** field. If you configure maximum transmit power, RRM does not allow any access point attached to the device to exceed this transmit power level (whether the power is set by RRM TPC or by coverage hole detection).
 - b) In the **Minimum Power Level** field, enter the minimum power level assignment on this radio.

- c) In the **Power Threshold V1** field, enter the cutoff signal level used by RRM when determining whether to reduce an access point's power.

Step 8 In the **RRM > DCA** tab, proceed as follows:

- a) Check the **Avoid AP Foreign AP Interference** check box to cause the controller's RRM algorithms to consider 802.11 traffic from foreign access points (those not included in your wireless network) when assigning channels to lightweight access points, or unselect it to disable this feature. For example, RRM may adjust the channel assignment to have access points avoid channels close to foreign access points. The default value is selected.
- b) Choose the appropriate channel width.
- c) In the **DCA Channels** section, the DCA Channels field shows the channels that are currently selected. To choose a channel, select the appropriate check box. Extended UNII-2 channels in the 802.11a/n/ac band do not appear in the channel list: 100, 104, 108, 112, 116, 132, 136, and 140. To include these channels in the channel list, select the Extended UNII-2 Channels check box.
- d) Click **Save & Apply to Device**.

Step 9 In the **Advanced** tab, enter the following information in the **High Density Parameters** section:

- a) In the **Max Clients** field, set the maximum number of clients allowed globally.
- b) Use the **Multicast Data Rate** drop-down to choose the data rate for multicast traffic.
Choose auto to configure the device to use the radio's default data rate.
- c) Use the **Rx SOP Threshold** drop-down to set the Receiver Start of Packet Detection Threshold (Rx SOP) to determine the Wi-Fi signal level in dBm at which AP radios will demodulate and decode a packet. The higher the RXSOP level, the less sensitive the radio is and the smaller the receiver cell size will be. Reducing the cell size ensures that clients connect to the nearest access point using highest possible data rates. Choose auto to configure the device to use the radio's default threshold.

Step 10 In the **Client Distribution** section, enter the following:

- **Load Balancing Window**—Enter a value between 1 and 20 to specify the load-balancing window and the number of client associations on the AP with the lightest load.
- **Load Balancing Denial Count**—Enter a value between 0 and 10 to specify the number of times the client associations will be rejected for a particular AP.

Step 11 In the **High Speed Roam** section, check the **Mode Enable** check box to enable the mode.

Step 12 In the **Neighbor Timeout** field, enter the neighbor timeout value.

Step 13 From the **Client Network Preference** drop-down list, choose the client network preference.

Step 14 In the **ATF Configuration** section, use the slider to enable or disable **Status** and **Bridge Client Access**.

Step 15 Click **Save & Apply to Device**.

Configuring Wireless RF Tag (GUI)

Step 1 a) Choose **Configuration > Tags & Profiles > Tags > RF**.

Step 2 Click **Add** to view the **Add RF Tag** window.

Step 3 Enter a name and description for the RF tag. The name can be ASCII characters from 32 to 126, without leading and trailing spaces.

Step 4 Choose the required **5 GHz Band RF Profile** and **2.4 GHz Band RF Profile** to be associated with the RF tag.

Step 5 Click **Update & Apply to Device**.

Set Tag Priority (GUI)

Step 1 Choose **Configuration > Tags & Profiles > Tags > AP > Tag Source**.

Step 2 Drag and Drop the Tag Sources to change priorities.
