



# Configuring Adaptive Wireless Intrusion Prevention System

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## Finding Feature Information

Your software release may not support all of the features documented in this module. For the latest feature information and caveats, see the release notes for your platform and software release.

Use Cisco Feature Navigator to find information about platform support and Cisco software image support. To access Cisco Feature Navigator, go to <http://www.cisco.com/go/cfn>. An account on Cisco.com is not required.

## Prerequisites for Configuring wIPS

- The regular local mode access point has been extended with a subset of Wireless Intrusion Prevention System (wIPS) capabilities. This feature enables you to deploy your access points to provide protection without needing a separate overlay network.

## How to Configure wIPS on Access Points

### Configuring wIPS on an Access Point (CLI)

#### SUMMARY STEPS

1. `ap name Cisco_AP mode local`
2. `ap name Cisco_AP dot11 5ghz shutdown`

3. **ap name Cisco\_AP dot11 24ghz shutdown**
4. **ap name Cisco\_AP mode monitor submode wips**
5. **ap name Cisco\_AP monitor-mode wips-optimized**
6. **show ap dot11 24ghz monitor**
7. **ap name Cisco\_AP no dot11 5ghz shutdown**
8. **ap name Cisco\_AP no dot11 24ghz shutdown**

## DETAILED STEPS

	Command or Action	Purpose
<b>Step 1</b>	<b>ap name Cisco_AP mode local</b> <b>Example:</b> <pre>Switch# ap name AP01 mode local</pre>	Configures an access point for monitor mode.  A message appears that indicates that changing the AP's mode causes the access point to reboot. This message also displays a prompt that enables you to specify whether or not you want to continue with changing the AP mode. Enter <b>y</b> at the prompt to continue.
<b>Step 2</b>	<b>ap name Cisco_AP dot11 5ghz shutdown</b> <b>Example:</b> <pre>Switch# ap name AP01 dot11 5ghz shutdown</pre>	Disables the 802.11a radio on the access point.
<b>Step 3</b>	<b>ap name Cisco_AP dot11 24ghz shutdown</b> <b>Example:</b> <pre>Switch# ap name AP02 dot11 24ghz shutdown</pre>	Disables the 802.11b radio on the access point.
<b>Step 4</b>	<b>ap name Cisco_AP mode monitor submode wips</b> <b>Example:</b> <pre>Switch# ap name AP01 mode monitor submode wips</pre>	Configures the wIPS submode on the access point.  <b>Note</b> To disable wIPS on the access point, enter the <b>ap name Cisco_AP modemonitor submode none</b> command.
<b>Step 5</b>	<b>ap name Cisco_AP monitor-mode wips-optimized</b> <b>Example:</b> <pre>Switch# ap name AP01 monitor-mode wips-optimized</pre>	Enables wIPS optimized channel scanning for the access point.  The access point scans each channel for 250 milliseconds. It derives the list of channels to be scanned from the monitor configuration. You can choose the following options: <ul style="list-style-type: none"> <li>• <b>All</b>—All channels supported by the access point's radio.</li> <li>• <b>Country</b>—Only the channels supported by the access point's country of operation.</li> <li>• <b>DCA</b>—Only the channel set used by the dynamic channel assignment (DCA) algorithm, which by default includes all of the nonoverlapping channels allowed in the access point's country of operation.</li> </ul>

	Command or Action	Purpose
<b>Step 6</b>	<b>show ap dot11 24ghz monitor</b> <b>Example:</b> <pre>Switch# show ap dot11 24ghz monitor</pre>	Displays the monitor configuration channel set. <b>Note</b> The 802.11b Monitor Channels value in the output of the command indicates the monitor configuration channel set.
<b>Step 7</b>	<b>ap name Cisco_AP no dot11 5ghz shutdown</b> <b>Example:</b> <pre>Switch# ap name AP01 no dot11 5ghz shutdown</pre>	Enables the 802.11a radio on the access point.
<b>Step 8</b>	<b>ap name Cisco_AP no dot11 24ghz shutdown</b> <b>Example:</b> <pre>Switch# ap name AP01 no dot11 24ghz shutdown</pre>	Enables the 802.11b radio on the access point.

## Configuring wIPS on an Access Point (GUI)

- Step 1** Choose **Configuration > Wireless > Access Points > All APs**  
The **All APs** page is displayed.
- Step 2** Click the access point name.  
The **AP > Edit** page is displayed.
- Step 3** From the **AP Mode** drop-down list, choose one of the following options to configure the AP mode parameters:
- **Local**
  - **Monitor**
- Step 4** From the **AP Sub Mode** drop-down list, choose **WIPS**.
- Step 5** Click **Apply**.
- Step 6** Click **Save Configuration**.

## Monitoring wIPS Information



**Note** The procedure to perform this task using the switch GUI is not currently available.

### SUMMARY STEPS

1. **show ap name Cisco\_AP config general**

2. `show ap monitor-mode summary`
3. `show wireless wps wips summary`
4. `show wireless wps wips statistics`
5. `clear wireless wips statistics`

## DETAILED STEPS

	Command or Action	Purpose
Step 1	<b>show ap name <i>Cisco_AP</i> config general</b> <b>Example:</b> Switch# show ap name AP01 config general	Displays information on the wIPS submode on the access point.
Step 2	<b>show ap monitor-mode summary</b> <b>Example:</b> Switch# show ap monitor-mode summary	Displays the wIPS optimized channel scanning configuration on the access point.
Step 3	<b>show wireless wps wips summary</b> <b>Example:</b> Switch# show wireless wps wips summary	Displays the wIPS configuration forwarded by NCS or Prime to the switch.
Step 4	<b>show wireless wps wips statistics</b> <b>Example:</b> Switch# show wireless wps wips statistics	Displays the current state of wIPS operation on the switch.
Step 5	<b>clear wireless wips statistics</b> <b>Example:</b> Switch# clear wireless wips statistics	Clears the wIPS statistics on the switch.

### Related Topics

[Displaying the Monitor Configuration Channel Set: Example](#), on page 4

[Displaying wIPS Information: Examples](#), on page 5

# Configuration Examples for Configuring wIPS on Access Points

## Displaying the Monitor Configuration Channel Set: Example

This example shows how to display the monitor configuration channel set:

```
Switch# show ap dot11 24ghz monitor
Default 802.11b AP monitoring
802.11b Monitor Mode..... enable
802.11b Monitor Channels..... Country channels
802.11b AP Coverage Interval..... 180 seconds
802.11b AP Load Interval..... 60 seconds
802.11b AP Noise Interval..... 180 seconds
802.11b AP Signal Strength Interval..... 60 seconds
```

## Displaying wIPS Information: Examples

This example shows how to display information on the wIPS submode on the access point:

```
Switch# show ap name AP01 config general
Cisco AP Identifier..... 3
Cisco AP Name..... AP1131:46f2.98ac
...
AP Mode ..... Monitor
Public Safety ..... Disabled Disabled
AP SubMode ..... WIPS
```

This example shows how to display the wIPS optimized channel scanning configuration on the access point:

```
Switch# show ap monitor-mode summary
AP Name      Ethernet MAC   Status   Scanning
              Channel
              List
-----
AP1131:4f2.9a 00:16:4:f2:9:a WIPS     1, 6, NA, NA
```

This example shows how to display the wIPS configuration forwarded by WCS to the switch:

```
Switch# show wireless wps wips summary
Policy Name..... Default
Policy Version..... 3
```

This example shows how to display the current state of wIPS operation on the switch:

```
Switch# show wireless wps wips statistics
Policy Assignment Requests..... 1
Policy Assignment Responses..... 1
Policy Update Requests..... 0
Policy Update Responses..... 0
Policy Delete Requests..... 0
Policy Delete Responses..... 0
Alarm Updates..... 13572
Device Updates..... 8376
Device Update Requests..... 0
Device Update Responses..... 0
Forensic Updates..... 1001
Invalid WIPS Payloads..... 0
Invalid Messages Received..... 0
CAPWAP Enqueue Failed..... 0
NMSP Enqueue Failed..... 0
NMSP Transmitted Packets..... 22950
NMSP Transmit Packets Dropped..... 0
NMSP Largest Packet..... 1377
```

