



## Fault Monitoring

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The Faults tab displays information to help you monitor your devices. All the device information shown under this tab is polled from the devices in your network.

Following are the subtabs under Faults:



**Note**

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Some of the subtabs may not be visible to some users.

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- **Display Faults**—See [Displaying Fault Information](#), page 3-1
- **Manage Fault Settings**—See [Managing Fault Settings](#), page 3-10
- **Voice Summary**—See [Viewing the Status of the VoWLAN](#), page 3-53
- **Voice QoS Settings**—See [Assigning Voice QoS Fault Settings](#), page 3-54
- **Notification Settings**—See [Notification Settings](#), page 3-56



**Note**

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In this release, the Rogue, Ad-Hoc, and Interference network-wide settings have been moved from Faults > Manage Network-Wide Settings to IDS > Manage Network-Wide IDS Settings (see [Using the Manage IDS Settings Subtab](#), page 14-6).

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## Displaying Fault Information



**Note**

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For an explanation of the faults, in the online help click **Troubleshooting**, or on Cisco.com see the Fault Description Table in the *FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13*.

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The topics covered in this section are:

- [Understanding Fault and Security Policy Monitoring](#), page 3-2
- [Displaying Faults](#), page 3-4
- [Clearing Summary Table Faults](#), page 3-6
- [Acknowledging Faults](#), page 3-7
- [Viewing Fault Details](#), page 3-7

**Related Topics**

- [Setting Policies and Thresholds, page 3-14](#)

## Understanding Fault and Security Policy Monitoring

The fault monitoring feature interrogates managed devices for specific data, compares these data against thresholds, and declares faults when the thresholds have been crossed.

You can configure the WLSE to generate a notification as an SNMP trap and/or a syslog message after a fault has been declared. The data interrogated by the fault monitoring feature includes security configuration parameters (security policy monitoring) and SNMP parameters used for performance related faults.

The following topics are included in this section:

- [Understanding How Faults Are Generated, page 3-2](#)
- [Understanding Fault States, page 3-2](#)
- [Understanding Security Policy Monitoring Faults, page 3-3](#)
- [Understanding Threshold-Related Faults, page 3-3](#)

## Understanding How Faults Are Generated

The WLSE declares a fault condition for a managed device when an abnormal condition is detected. An abnormal condition for a managed device occurs when a system component is not configured or functioning properly, or when processed data related to system components exceed performance thresholds.

**Related Topics**

- [Understanding Fault States, page 3-2](#)

## Understanding Fault States

Faults can be in any of the following states:

- **Active**—This is a state in which at least one of the conditions contributing to the fault is broken. For example, the CPU utilization threshold has three states: OK, Degraded and Overloaded. In this case, OK is the ‘best’ state and Overloaded and Degraded are ‘broken’ states. Similarly, a port threshold might have an Up and a Down state, where Up is the ‘best’ state and Down is the ‘broken’ state.
- **Acknowledged**—This is a state in which you have selected an Active fault from the Fault Summary, and acknowledged it. The fault is removed from the Active list, but the conditions contributing to the fault still exist.

Faults can be acknowledged from the Summary Page. See [Acknowledging Faults, page 3-7](#)

- **Cleared**—This is a state in which all the conditions contributing to the fault no longer exist or when the administrator selects a fault and clears it.

Faults generated by polling are automatically cleared based on polled data. When the fault has not been generated by polling, or when polling has been disabled, the fault can be manually cleared from the following places:

- Summary Page—See [Clearing Summary Table Faults, page 3-6](#).

- Fault Details Window—See [Viewing Fault Details, page 3-7](#).
- Thresholds and Policies—See [Viewing Current Faults, page 3-51](#).

**Related Topics**

- [Managing Fault Settings, page 3-10](#)
- [Understanding Fault and Security Policy Monitoring, page 3-2](#)

## Understanding Security Policy Monitoring Faults

Many WLAN security vulnerabilities can be mitigated by correctly configuring the WLAN. You can use the WLSE to validate a critical set of configuration parameters and generate faults if improper configurations are detected.

The WLSE uses SNMP to periodically interrogate the configuration parameters of managed devices. If the configuration parameter is not correctly configured, a fault is generated. For example, you can use the WLSE to periodically verify that Publicly Secure Packet Forwarding (PSPF) is configured and enforced on wireless devices. If the WLSE determines that PSPF has been turned off on a wireless device, it will generate a fault for the security misconfiguration.

After you have established security policies in your network, you can use this feature to validate that the security policies are enforced on managed access points.

**Related Topics**

- [Setting Policies and Thresholds, page 3-14](#)
- [Understanding Fault and Security Policy Monitoring, page 3-2](#)

## Understanding Threshold-Related Faults

The WLSE compares data retrieved from managed devices against thresholds and can generate faults when the thresholds are exceeded. You can configure the priority of the fault condition and the threshold conditions for the fault (see [Setting Policies and Thresholds, page 3-14](#)).

Each WLSE fault is described by a finite state machine (FSM). A WLSE fault is described by either a two-state FSM or a three-state FSM. In each fault FSM, state transitions occur when polled and processed data exceed a configured threshold. These thresholds are defined by two parameters—a configured state transition condition and a number of polling intervals.

**Two-State Finite State Machines**

The RF Port Status for managed wireless bridges and/or access points is an example of a two-state fault FSM:

- The clear state for the RF port status FSM corresponds to when the RF port status is administratively and operationally up.
- The fault state for the RF port status FSM corresponds to when the RF port status is administratively up but operationally down.

Therefore, when the WLSE polls a managed wireless bridge or access point and determines that its RF port is administratively up but operationally down, and this condition has existed for the configured number of polling intervals, the WLSE will generate a fault for the device, indicating that RF port status is down. If during subsequent polling, the WLSE determines the RF port status is both administratively and operationally up for the required number of polling intervals, the WLSE will clear the RF port status down fault for the device.

### Three-State Finite State Machines

The RF port utilization for managed wireless bridges and access points is an example of the three-state fault FSM. RF port utilization is measured as a percent of available bandwidth on the wireless device's RF port. For this example, we will make the following assumptions:

- The threshold for the degraded state for RF port utilization is fifty percent utilization for three polling cycles.
- The threshold for the overloaded state is eighty percent utilization for three polling cycles.
- The RF port utilization for each managed device is considered in the OK state when the utilization is below fifty percent for any two consecutive polling cycles.

Using these threshold values, the WLSE will generate faults for:

- The degraded state if the RF port utilization is between fifty and eighty percent for three consecutive polling intervals.
- The overloaded state if the RF port utilization moves above 80% for three consecutive polling intervals.

In both cases, if subsequent polling indicates the RF port utilization has moved below fifty percent for two consecutive polling cycles, the fault condition will clear.

#### Related Topics

- [Setting Policies and Thresholds, page 3-14.](#)
- [Understanding Fault and Security Policy Monitoring, page 3-2.](#)

## Displaying Faults



**Note**

For an explanation of the faults, in the online help click **Troubleshooting**, or on Cisco.com see the Fault Description Table in the *FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13*.

This window displays device fault information.



**Note**

Your login determines whether you can use this option.

#### Procedure

- Step 1** Select **Faults > Display Faults**. The Fault window appears.
- Step 2** Use the Filter: bar to display the faults you want to view:

**Table 3-1 Display Faults Filter Bar**

Field	Description
Products	From the list, select the device type whose fault summary you want to display. <b>Note</b> If you select APs, bridges will also be displayed. If you want to display bridges only, select them from the list specifically.

**Table 3-1** *Display Faults Filter Bar (continued)*

Field	Description
Severity	<p>From the list, select the severity from P1, which is the highest severity level to P5, which is the lowest severity level, to display:</p> <ul style="list-style-type: none"> <li>• P1—Severity P1 faults.</li> <li>• P1-P2—Severity P1 and P2 faults.</li> <li>• P1-P3—Severity P1 through P3 faults.</li> <li>• P1-P4—Severity P1 through P4 faults.</li> <li>• P1-P5—Severity P1 through P5 faults.</li> <li>• All—Severity P1 through P5 faults, and faults that have been cleared.</li> </ul> <p><b>Note</b> When more than one fault is reported against a device, the fault priorities are aggregated, and the maximum priority of all the active faults for that device is displayed. For example, if the device has a P1, a P2, and a P3 fault against it, only the P1 is displayed in the Severity column. However, when you click on the Description for that fault, all three priorities are displayed with an explanation for each.</p>
State	<p>From the list, select a state to display.</p> <p>See <a href="#">Understanding Fault States, page 3-2</a> for a description of each state.</p>
Name/IP	Enter a complete or partial device name or IP address.
Refresh (Sec)	<p>Enter the number of seconds (30 seconds or higher) to indicate how often you want the screen to refresh.</p> <p>The default is 300 seconds (5 minutes). You cannot enter a value under 30 seconds.</p>

**Step 3** Click **Apply**. The following table appears:



**Note** If no data is displayed in the table, there are no faults for your filtering selection to report.

**Table 3-2** *Display Faults Table*

Column	Description
Address	<p>The device address.</p> <p>Click to see various reports about the device. For information on the reports, see <a href="#">Using the Device Center, page 10-7</a>.</p>
Name	<p>The device for which the fault is reported.</p> <p>Click to see various reports about the device. For information on the reports, see <a href="#">Using the Device Center, page 10-7</a>.</p>
Family	The product family.
Product	The product name.
Type	The device or the sub-device component.

**Table 3-2** *Display Faults Table (continued)*

Column	Description
Description	<p>A description of the fault.</p> <p>Click to see fault details. See <a href="#">Viewing Fault Details, page 3-7</a>.</p> <p><b>Note</b> For an explanation of the faults, in the online help click <b>Troubleshooting</b>, or on Cisco.com see the Fault Description Table in the <i>FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13</i>.</p>
Severity	The fault severity level.
State	The operational state of the device.
Timestamp	<p>Indicates the time, based on the client browser, that the state of the device last changed. See <a href="#">Understanding WLSE Time Displays, page 1-10</a>.</p> <p>Click to see fault details. See <a href="#">Viewing Fault Details, page 3-7</a>.</p>

- To sort table data, click on the column heading you want to use to sort the data:
  - A triangle indicates ascending order.
  - An upside-down triangle indicates descending order.
  - No triangle indicates that the data is not sorted.

## Clearing Summary Table Faults

There are two ways in which you can clear faults:

- Select **Faults > Display Faults**. The Summary Table appears with the faults that meet the filtering criteria you selected.
  - To clear an individual fault, select it, then click **Clear**.
  - To clear more than one fault, select them, then click **Clear**.
  - To clear all the faults, click **Select All**, then click **Clear**.
- Click the Description or Timestamp fields in the Summary Table for a particular fault, and the Fault Details page appears. Click the Clear button in the Conditions table.



**Note** It may be a few seconds before the faults clear.

### Related Topics

- [Viewing Fault Details, page 3-7](#)
- [Understanding Fault States, page 3-2](#)

## Acknowledging Faults

When you select **Faults > Display Faults** the Summary Table appears with the faults that meet the filtering criteria you selected.

- To acknowledge an individual fault, select it, then click **Acknowledge**.
- To acknowledge more than one fault, select them, then click **Acknowledge**.
- To acknowledge all the faults, click **Select All**, then click **Acknowledge**.

### Related Topics

[Understanding Fault States, page 3-2](#)

## Viewing Fault Details

There are several types of fault detail windows:

- [Device Fault Details, page 3-7](#)—Displays details about the device, its fault conditions and history.
- Rogue Access Point Details (see [Table 14-1 on page 14-20](#))—Displays details about the unknown access point, beacon and location information, switch port tracing, reporting access points, and fault history.
- Auto Re-Site Survey Details (see [Table 12-2 on page 12-11](#))—Displays details about performance degradations.
- Self Healing Fault Details (see [Table 12-3 on page 12-18](#))—Displays details about self healing faults.



### Note

For an explanation of the faults, in the online help click **Troubleshooting**, or on Cisco.com see the Fault Description Table in the *FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13*.

## Device Fault Details

When you click the link in the Description or Timestamp fields in the Fault Summary Table for an device, the following tables are displayed in the Fault Details window:

- [Fault details](#)
- [Conditions](#)
- [Fault History](#)



### Note

You can clear one or more faults from the Conditions table by selecting them, then clicking **Clear**. It may be a few seconds before the faults clear.

**Fault details**

**Table 3-3** *Fault Details Table*

Column	Description
IP	The device IP address.
Name	The device hostname.
Family	The device family.
Product	The product name.
Type	The device or the device sub-entity (which could include a logical entity, such as software or a service) in which the fault is found.  <b>Note</b> If the Type is a sub-entity, additional columns appear with keys and values to help identify the precise sub-entity. These additional keys and values are MIB variables.
ifIndex	A unique number that identifies the interface.  <b>Note</b> This value only displays when you are viewing fault details for ports.

**Conditions**

**Table 3-4** *Conditions Table*

Column	Description
Name	The fault condition.
State	The state of the device.  See <a href="#">Understanding Fault States</a> for a description of the states.
Severity	The fault severity level.
Description	A description of the fault.  <b>Note</b> For an explanation of the faults, in the online help click <b>Troubleshooting</b> , or on Cisco.com see the Fault Description Table in the <i>FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13</i> .
Product	The product name for the device.
Timestamp	Indicates the time, based on the client browser, that the state of the device last changed.  See <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
Clear	Click <b>Clear</b> , then refresh your browser window to view the updated fault display.  <b>Note</b> It may be a few seconds before the fault clears.

**Fault History****Table 3-5** *Fault History Table*

<b>Column</b>	<b>Description</b>
State	The state of the device. See <a href="#">Understanding Fault States, page 3-2</a> for a description of the states.
Severity	The fault severity level.
Description	A description of the fault.  <b>Note</b> For an explanation of the faults, in the online help click <b>Troubleshooting</b> , or on Cisco.com see the Fault Description Table in the <i>FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13</i> .
Change	A description of the state change.
Timestamp	Indicates the time, based on the client browser, that the state of the device last changed.  See <a href="#">Understanding WLSE Time Displays, page 1-10</a> .
By	Displays the username of the person who changed the fault state.  If the fault state has not been cleared or acknowledged, nothing is displayed in this column.

# Managing Fault Settings

Every device managed by the WLSE has a fault setting (also called a fault policy profile) assigned to it. Fault settings include threshold values and security policies.

If you have not assigned a specific setting to a device, it uses the system Default setting. Default settings can be edited, but cannot be deleted.

The topics covered in this section are:

- [Understanding Fault Settings, page 3-10](#)
- [Creating a Setting, page 3-11](#)
- [Copying a Setting, page 3-11](#)
- [Renaming a Setting, page 3-12](#)
- [Editing a Setting, page 3-12](#)
- [Deleting a Setting, page 3-13](#)
- [Viewing a Summary, page 3-13](#)
- [Assigning a Default Setting to a Device, page 3-14](#)
- [Setting Policies and Thresholds, page 3-14](#)

## Understanding Fault Settings

A fault policy profile (or fault setting) is a set of security policy settings and fault thresholds that is assigned to one or more managed devices. Multiple profiles can be created for devices, but a managed device can only be assigned one profile at a time. If a device is not explicitly assigned a profile, it will be assigned the default profile.

Fault policy profiles allows you to engineer security policies and fault polling to the needs of their network(s). You can create a profile to customize:

- Thresholds and security configurations that generate fault events
- Fault priority
- Polling interval frequency

Note that the WLSE is also able to receive some link up and link down SNMP traps related to interface port status and admin status from access points. (For more detailed information, see [Setting RF Port Status Threshold, page 3-34](#) and [Setting RF Port AdminStatus Threshold, page 3-35](#).) This means that the polling interval for these policies can be increased, which reduces the load on the WLSE, and allows faster processing of the faults when they do occur. In this instance, traps are sent immediately to set or clear a fault, compared with waiting for the polling interval to see if a fault has changed state.

For example, Site A is connected via high-speed LAN connections, and remote Sites Band C are connected via slow WAN links. It might be appropriate to configure a fault policy profile for each site, where many of the parameters are checked more frequently for Site A than for Sites B and C.

Here is another example. Suppose access points in Site A with IP addresses 10.1.5.5 and 10.1.5.6 are intended to provide public network access, but the other Site A access points are for private use. In this case, there are different security misconfiguration policies appropriate for the public access points than for the private access points. This means that the fault policy profile for the public access points will check for different SSIDs than the profile for the private access points:

- The public profile may check that PSPF is enforced on the access points, which is usually not appropriate for private networks where all clients are trusted.
- The private profile may confirm that EAP is enforced on the private access points, but the public profile will probably not check for EAP enforcement.

#### Related Topics

- [Setting Policies and Thresholds, page 3-14](#)

## Creating a Setting

Use this option to create a setting.



#### Tip

If some managed access points are enabled to send traps to the WLSE and some are not, it is recommended that you create two separate groups: one for enabled traps, which can have higher polling intervals, and the other using shorter polling intervals. For information about enabling traps sent to the WLSE, see **Configure > Templates > IOS > Services > SNMP**.



#### Note

Your login determines whether you can use this option.

#### Procedure

- Step 1** Select **Faults > Manage Fault Settings**. The Fault Settings dialog box appears.
- Step 2** Enter a unique name. See [Naming Guidelines, page B-1](#) for details.
- Step 3** Click **Create New**. The new name appears in the Existing Fault Settings list and the The Editing Profile window appears. See [Editing a Setting, page 3-12](#).



#### Note

The new setting is a copy of the Default setting.

#### Related Topics

[Understanding Fault Settings, page 3-10](#)

## Copying a Setting

Use this option to copy an existing setting to use as a base for a new setting.



#### Note

Your login determines whether you can use this option.

#### Procedure

- Step 1** Select **Faults > Manage Fault Settings**. The Fault Settings dialog box appears.

- Step 2** Select the setting you want to copy from the Existing Fault Settings box, then click **Create Copy**. A dialog box appears asking you to enter a name for the copy.
  - Step 3** Enter a unique name. See [Naming Guidelines, page B-1](#) for details.
  - Step 4** Click **OK**. The new name appears in the Existing Fault Settings list.
  - Step 5** Select the name, then click **Edit**. The Editing Profile window appears. See [Editing a Setting, page 3-12](#).
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**Related Topics**

[Understanding Fault Settings, page 3-10](#)

## Renaming a Setting

Use this option to rename a setting.

**Note**

Your login determines whether you can use this option.

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**Procedure**

- Step 1** Select **Faults > Manage Fault Settings**. The Fault Settings dialog box appears.
  - Step 2** Select the profile you want to rename from the Existing Fault Settings box, then click **Rename**. A dialog box appears asking you to enter a new name.
  - Step 3** Enter a unique name. See [Naming Guidelines, page B-1](#) for details.
  - Step 4** Click **OK**. The new name appears in the Existing Fault Settings list.
- 

**Related Topics**

[Understanding Fault Settings, page 3-10](#)

## Editing a Setting

Use this option to edit a setting.

**Note**

Your login determines whether you can use this option.

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**Procedure**

- Step 1** Select **Faults > Manage Fault Settings**. The Fault Settings dialog box appears.
- Step 2** Select the setting you want to edit from the Existing Fault Settings box, then click **Edit**. The Editing Settings window appears.

- Step 3** Select the policies and thresholds in the left pane that you want to assign to the setting. For a description, see [Setting Policies and Thresholds, page 3-14](#).
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#### Related Topics

[Understanding Fault Settings, page 3-10](#)

## Deleting a Setting

Use this option to delete a setting.



**Note** Your login determines whether you can use this option.

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#### Procedure

- Step 1** Select **Faults > Manage Fault Settings**. The Fault Settings dialog box appears.
- Step 2** Select the profile you want to delete from the Existing Fault Settings box, then click **Delete**. A window appears asking if you want to delete the setting.



**Note** Any devices that were assigned the deleted setting will be automatically assigned the Default setting.

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- Step 3** Click **OK** to delete it.
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## Viewing a Summary

Use this option to view a summary of the current selections for a particular fault setting.



**Note** Your login determines whether you can use this option.

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#### Procedure

- Step 1** Select **Faults > Manage Fault Settings**. The Fault Settings dialog box appears.
- Step 2** Select the setting you want to view from the Existing Fault Settings box, then click **View Summary**. A window displays the current fault settings.
- Step 3** Click **OK** to close the window.
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## Assigning a Default Setting to a Device

Use this option to assign a setting to a single device or a group of devices. Devices can only have one setting assigned to them at a time.

**Note**

Your login determines whether you can use this option.

**Procedure**

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- Step 1** Select **Faults > Manage Fault Settings**.
  - Step 2** Assign a setting to devices either of the following ways:
    - From the Editing Settings window, click **Assign Devices**.
    - From the Fault Settings window, select a setting from the **Existing Fault Settings** list, then click **Assign Devices**.
  - Step 3** If you want to search for devices, use the dialog box in the left pane above the device selector. For information on how to search or use the device selector, see [Using the Device Selector, page 1-12](#).
  - Step 4** If you know which device you want, use the device selector to select the devices. They are added to the list of Available Devices.
  - Step 5** From the list of Available Devices, select the device to which you want to apply the profile and click **>>**. The devices are moved to the Selected Devices list.
  - Step 6** Click **Continue**. A confirmation dialog box appears for the device assignment.
  - Step 7** Click **OK** to accept the device assignment or **Cancel** to cancel the device assignment.
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**Related Topics**

[Understanding Fault Settings, page 3-10](#)

## Setting Policies and Thresholds

Use the policy settings to activate or deactivate a set of predefined policies for access points and radio interfaces.

Use the threshold settings to set polling and [exception](#) threshold values collected from the devices you are monitoring.

The policies and threshold values you set in this window will determine how the faults are displayed in the **Faults > Display Faults** subtab.

This section includes procedures for setting the following:

- **Access Point/Bridge Policies**—[Setting Access Point/Bridge Policies, page 3-15](#).
- **Radio-802.11x Policies**—[Setting Radio-802.11x Policies, page 3-24](#)
- **Access Point/Bridge Thresholds**—See [Setting Access Point/Bridge Thresholds, page 3-30](#).
- **Radio-802.11x Thresholds**—See [Setting Radio-802.11x Thresholds, page 3-34](#)
- **Switch Settings**—See [Setting Switch Fault Thresholds, page 3-42](#).

- **WLSM**—See [Setting WLSM Fault Thresholds](#), page 3-46
- **Router Settings**—See [Setting Router Fault Thresholds](#), page 3-48.
- **AAA Server**—See [Setting AAA Server Response Time](#), page 3-49.
- **WLSE**—See [Setting WLSE Policies](#), page 3-49.
- **WDS**—See [Setting WDS Thresholds](#), page 3-50.

**Note**

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Policies are disabled by default unless otherwise noted.

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You can also view the current faults for each setting. See [Viewing Current Faults](#), page 3-51.

## Setting Access Point/Bridge Policies

When you set access point policies, the policies are applicable to the access point; they are not set per radio interface type and are not reported by interface type on the faults page.

Following are the access point policies:

- **HTTP Disabled**—See [Setting the HTTP Disabled Policy](#), page 3-15.
- **Telnet Disabled**— See [Setting the Telnet Disabled Policy](#), page 3-16.
- **Firmware Version**—See [Setting the Firmware Version Policy](#), page 3-17.
- **HotStandBy Status**—See [Setting the HotStandBy Status Policy](#), page 3-17.
- **Registration Error**—See [Setting the Registration Error Policy](#), page 3-18.
- **EAP Per SSID Enforced for Cisco-Supplicant**—See [Setting EAP Per SSID Enforced for Cisco-Supplicant Policy](#), page 3-18.
- **EAP Per SSID Enforced for Non-Cisco-Supplicant**—See [Setting EAP Per SSID Enforced for Non-Cisco-Supplicant Policy](#), page 3-19.
- **EAP Per SSID Enforced for Mixed-Cisco-Supplicant**—See [Setting EAP Per SSID Enforced for Mixed-Cisco-Supplicant Policy](#), page 3-20.
- **MIC per VLAN**—See [Setting the MIC per VLAN Policy](#), page 3-20.
- **WEP per VLAN**—See [Setting the WEP per VLAN Policy](#), page 3-21.
- **Key Rotation per VLAN**—See [Setting Key Rotation per VLAN Policy](#), page 3-22.
- **WEP Encryption per VLAN**—See [Setting WEP Encryption per VLAN Policy](#), page 3-23.
- **PSPF per VLAN**—See [Setting PSPF per VLAN Policy](#), page 3-23.

### Related Topics

[Understanding Security Policy Monitoring Faults](#), page 3-3

### Setting the HTTP Disabled Policy

When HTTP is enabled on the access point, a fault is generated.

This setting is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

**Setting the Telnet Disabled Policy**

When Telnet is enabled on the access point, a fault is generated.

This setting is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Firmware Version Policy

Use this setting to verify that the access point is running the correct and authorized firmware version. This policy is disabled by default.

#### Procedure

**Step 1** To activate the policy, do the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
Firmware Version	Enter the firmware version.

**Step 2** Click >> to add the firmware version to the list.

**Step 3** To remove a firmware version from the list, select it, then click <<.

**Step 4** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 5** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 6** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the HotStandBy Status Policy

Use this setting to indicate when the access point that is configured for hot standby has become active. This policy is disabled by default.

#### Procedure

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Registration Error Policy

Use this setting to verify that the managed access point is registered with a WDS.



**Note** For Radio Manager functionality to work, all access points must register with a WDS. If an access point is not registered, it will be excluded from all the Radio Manager procedures, which will provide incorrect results.

This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting EAP Per SSID Enforced for Cisco-Supplicant Policy

Use this setting to check for the Network EAP setting on the access point. If the Network EAP is disabled, then this policy generates a fault.

You should not add an SSID to this policy that is already being used in another EAP per SSID policy.

This policy is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
Available SSID	Lists the SSIDs that are available. To move an SSID to the Selected SSID list, select it, then click >>.
Selected SSID	Lists the SSIDs to which this policy is applied. To remove an SSID from the Selected list, select it, then click <<.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

**Setting EAP Per SSID Enforced for Non-Cisco-Supplicant Policy**

Use this setting to check for the Open with EAP setting on the access point. If this setting is not enabled, then this policy generates a fault.

You should not add an SSID to this policy that is already being used in another EAP per SSID policy.

This policy is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
Available SSID	Lists the SSIDs that are available. To move an SSID to the Selected SSID list, select it, then click >>.
Selected SSID	Lists the SSIDs to which this policy is applied. To remove an SSID from the Selected list, select it, then click <<.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting EAP Per SSID Enforced for Mixed-Cisco-Supplicant Policy

Use this setting to check for both the Network EAP and the Open with EAP settings on the access point. You should not add an SSID to this policy that is already being used in another EAP per SSID policy. This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
Available SSID	Lists the SSIDs that are available. To move an SSID to the Selected SSID list, select it, then click >>.
Selected SSID	Lists the SSIDs to which this policy is applied. To remove an SSID from the Selected list, select it, then click <<.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the MIC per VLAN Policy

Use this setting when a VLAN is defined on the access point to verify that **MIC** is enabled on the selected VLAN. If it is disabled, it will generate a fault.

This policy is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
Available Vlans	Lists all the VLAN ID numbers that are available. To apply the policy to one of the available VLANs, select it, then click >> to move it to the Selected VLANs list.
Selected Vlans	Lists the VLAN identification numbers to which this policy is applied. To remove a VLAN ID from the list, select it, then click << to move it to the Available VLANs list.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

**Setting the WEP per VLAN Policy**

Use this setting when a VLAN is defined on the access point to verify that WEP for the selected VLAN is enabled. If it is disabled, it will generate a fault.

This policy is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
Available Vlans	Lists all the VLAN ID numbers that are available. To apply the policy to one of the available VLANs, select it, then click >> to move it to the Selected VLANs list.
Selected Vlans	Lists the VLAN identification numbers to which this policy is applied. To remove a VLAN ID from the list, select it, then click << to move it to the Available VLANs list.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting Key Rotation per VLAN Policy

Use this setting when a VLAN is defined on the access point to verify that the key broadcast rotation is enabled on the selected VLAN. If it is not enabled, it will generate a fault.

When broadcast key rotations is enabled, only wireless client devices using 802.11x authentication (such as LEAP, EAP-TLS, or PEAP) can use the access point.

This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
Available Vlans	Lists all the VLAN ID numbers that are available. To apply the policy to one of the available VLANs, select it, then click >> to move it to the Selected VLANs list.
Selected Vlans	Lists the VLAN identification numbers to which this policy is applied. To remove a VLAN ID from the list, select it, then click << to move it to the Available VLANs list.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting WEP Encryption per VLAN Policy

Use this setting when a VLAN is defined on the access point to verify that WEP key length for the selected VLAN, which is used by the clients to associate to the access point, is correct.

This policy is disabled by default.

#### Procedure

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
WEP Key Length	Select to indicate the bit length.
Available Vlans	Lists all the VLAN ID numbers that are available. To apply the policy to one of the available VLANs, select it, then click >> to move it to the Selected VLANs list.
Selected Vlans	Lists the VLAN identification numbers to which this policy is applied. To remove a VLAN ID from the list, select it, then click << to move it to the Available VLANs list.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting PSPF per VLAN Policy

Use this setting when a VLAN is defined on the access point to verify that PSPF is enforced.

This policy is disabled by default.

#### Procedure

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

Field	Description
Available Vlans	Lists all the VLAN ID numbers that are available. To apply the policy to one of the available VLANs, select it, then click >> to move it to the Selected VLANs list.
Selected Vlans	Lists the VLAN identification numbers to which this policy is applied. To remove a VLAN ID from the list, select it, then click << to move it to the Available VLANs list.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device](#), page 3-14.
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults](#), page 3-51 for details.

## Setting Radio-802.11x Policies

When you set radio interface type policies, the policies are applicable only to the radio interface type (11a, 11b, or 11g) on which they are set. They are not set on the access point and are not reported by access point on the faults page.

Following are the radio-802.11x policies

- Broadcast SSID—See [Setting the Broadcast SSID Policy](#), page 3-24
- Infrastructure SSID—See [Setting the Infrastructure SSID Policy](#), page 3-25
- Broadcast Disabled—[Setting the Broadcast Disabled Policy](#), page 3-26
- PSPF Enabled—See [Setting the PSPF Enabled Policy](#), page 3-26
- WEP Key Length—See [Setting WEP Key Length Policy](#), page 3-27.
- EAP Enforced-Cisco Supplicant—See [Setting the EAP Enforced—Cisco Supplicant Policy](#), page 3-27.
- EAP Enforced-Other Supplicant—See [Setting the EAP Enforced—Other Supplicant Policy](#), page 3-28.
- EAP Enforced-Mixed Supplicant—See [Setting the EAP Enforced—Mixed Supplicant Policy](#), page 3-28.
- Dynamic Frequency Selection (DFS)—See [Setting the Dynamic Frequency Selection \(DFS\)](#), page 3-29. Used for Radio-802.11a only.

### Setting the Broadcast SSID Policy

Use this setting to check when an SSID that you do not want broadcast is being broadcast. If it is, a fault is generated. This policy is disabled by default.

**Procedure**

**Step 1** To activate the policy, complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
All Available SSIDs	Lists all the available SSIDs per interface for this profile. From the list, select the SSIDs that you do not want broadcast, then click >>.
Do Not Broadcast SSIDs	Lists all the SSIDs that you do not want broadcast. To remove an SSID from the list, click <<.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

**Setting the Infrastructure SSID Policy**

Use this setting to make sure the infrastructure SSID matches the infrastructure SSID set on the access point. A fault is generated if they do not match.



**Note** This policy is only applicable to access points with firmware release 12.2(15)JA or later.

This policy is disabled by default.

**Procedure**

**Step 1** To activate the policy, do the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
SSID	Enter the infrastructure SSID that is set on the access point, then click >>. The SSID appears in a list with all the infrastructure SSIDs per interface for this profile.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Broadcast Disabled Policy

Use this setting to check whether the broadcast mode for the SSID on the interface type is enabled. Entering an SSID in the Guest Mode field on the access point enables the broadcast SSID.

This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the PSPF Enabled Policy

Use this setting to check whether client devices associated to a bridge or access point have inadvertently shared files with other client devices on the wireless network.

This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting WEP Key Length Policy

Use this setting if you want to verify that the WEP key length that has been entered into the WLSE matches the WEP key length specified on the radio interface type.

This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.
WEP Key Length	Select to indicate the bit length.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the EAP Enforced—Cisco Supplicant Policy

Use this setting to make sure that client devices associating to the radio interface are using a Cisco authentication server.

If you set this policy on the interface, you cannot set the EAP Enforced- Other Supplicant or EAP Enforced-Mixed Supplicant policies on the interface. They are mutually exclusive.

This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.

Field	Description
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the EAP Enforced—Other Supplicant Policy

Use this setting to make sure that client devices associating to the radio interface are using a non-Cisco authentication server.

If you set this policy on the interface, you cannot set the EAP Enforced-Cisco Supplicant or EAP Enforced-Mixed Supplicant policies on the interface. They are mutually exclusive.

This policy is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the EAP Enforced—Mixed Supplicant Policy

Use this setting to make sure that client devices associating to the radio interface are using a Cisco authentication server.

If you set this policy on the interface, you cannot set the EAP Enforced-Cisco Supplicant or EAP Enforced-Other Supplicant policies on the interface. They are mutually exclusive.

This policy is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

**Setting the Dynamic Frequency Selection (DFS)**

Use this setting to make sure radar detection is enabled on the interface.



**Note** This policy applies only to 802.11a radios.

This policy is enabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.
Severity	From the list, select a severity level to associate with this policy.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

## Setting Access Point/Bridge Thresholds

Using this option, you can set up thresholds for access point faults. When the thresholds are exceeded, faults are generated and can be viewed under **Faults > Display Faults**.

Following are the access point thresholds:

- SNMP Reachable—See [Setting the SNMP Reachable Threshold, page 3-30](#).
- CPU Utilization—See [Setting the CPU Utilization Threshold, page 3-31](#)
- Memory Utilization—See [Setting the Memory Utilization Threshold, page 3-31](#)
- Ethernet Port Status—See [Setting the Ethernet Port Status Threshold, page 3-32](#)
- Ethernet Port Utilization—See [Setting the Ethernet Port Utilization Threshold, page 3-33](#)
- Ethernet Port Packet Errors—See [Setting the Ethernet Port Packet Errors Threshold, page 3-33](#)

### Setting the SNMP Reachable Threshold

Use this setting to make sure that the access point is reachable using SNMP.

This threshold is enabled by default.



**Note**

It is highly recommended that this threshold not be disabled. If it is disabled, and a device becomes unreachable, the SNMP-based faults cannot be detected, and there will be no SNMP unreachable faults displayed to alert you.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Enabled by default. Select to disable.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the CPU Utilization Threshold

Use this setting to monitor CPU utilization on your access point.

This threshold is disabled by default.

#### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable the threshold.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Memory Utilization Threshold

Use this setting to monitor memory utilization on your access point.

This threshold is disabled by default.

#### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.

Field	Description
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Ethernet Port Status Threshold

Use this setting to monitor the Ethernet port to make sure it is up.

This setting is enabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Ethernet Port Utilization Threshold

Use this setting to monitor the Ethernet port utilization in your access point.

This setting is disabled by default.

#### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable the threshold.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Ethernet Port Packet Errors Threshold

Use this setting to monitor the Ethernet port packet errors in your access point.

This setting is disabled by default.

#### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable the threshold.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.

Field	Description
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting Radio-802.11x Thresholds

Using this option, you can set up thresholds for Radio-802.11a, Radio-802.11b, and Radio-802.11g. When the thresholds are exceeded, faults are generated and can be viewed under **Faults > Display Faults**.

Following are the radio interface thresholds:

- RF Port Status—See [Setting RF Port Status Threshold, page 3-34](#)
- RF Port Admin Status—See [Setting RF Port AdminStatus Threshold, page 3-35](#)
- RF Port Utilization—See [Setting RF Port Utilization Threshold, page 3-36](#)
- RF Port Packet Errors—See [Setting Port Packet Errors Threshold, page 3-37](#)
- RF Port WEP Errors—See [Setting RF Port WEP Errors Threshold, page 3-38](#)
- Max Retry Count—See [Setting Max Retry Count Threshold, page 3-39](#)
- Associated Clients—See [Setting Associated Clients Threshold, page 3-38](#)
- Association Rate—See [Setting Association Rate Threshold, page 3-40](#)
- Voice Bandwidth—See [Setting Voice Bandwidth Threshold, page 3-41](#)
- Voice QoS Status—See [Setting Voice QoS Status Threshold, page 3-42](#)

### Setting RF Port Status Threshold

Use this setting to determine the threshold for the radio interface's port to make sure that it is up and operating properly.

This threshold is enabled by default.



#### Tip

The WLSE is able to receive SNMP traps about this policy from access points rather than having to poll the access point for the information. If the WLSE is enabled to receive the traps, the poll interval can be increased, which reduces the load on the WLSE, and allows faster processing of the faults when they do occur. To enable traps sent to the WLSE, apply a configuration template to the access point with **Send all traps to this WLSE** enabled under **Configure > Templates > IOS > Services > SNMP**.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval. If you have enabled traps to be sent o the WLSE from the access point ( <b>Configure &gt; Templates &gt; IOS &gt; Services &gt; SNMP</b> ), then set this value to no less than 60 minutes.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

**Setting RF Port AdminStatus Threshold**

Use this setting to determine the threshold for the radio interface port's administrative status. This status indicates if the port has been set up or down by an administrator.

This threshold is disabled by default.

**Tip**

The WLSE is able to receive SNMP traps about this policy from access points rather than having to poll the access point for the information. If the WLSE is enabled to receive the traps, the poll interval can be increased, which reduces the load on the WLSE, and allows faster processing of the faults when they do occur. To enable traps sent to the WLSE, apply a configuration template to the access point with **Send all traps to this WLSE** enabled under **Configure > Templates > IOS > Services > SNMP**.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.  If you have enabled traps to be sent to the WLSE from the access point ( <b>Configure &gt; Templates &gt; IOS &gt; Services &gt; SNMP</b> ), then should be no less than 60 minutes.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

**Setting RF Port Utilization Threshold**

Use this setting to determine the threshold for the radio interface's port utilization.

This threshold is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting Port Packet Errors Threshold

Use this setting to determine the threshold for the radio interface's port packet errors.

This threshold is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting RF Port WEP Errors Threshold

Use this setting to determine the threshold for radio interface’s port WEP errors.  
 This threshold is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting Associated Clients Threshold

Use this setting to determine the threshold for the associated clients.  
 This threshold is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.

Field	Description
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting Max Retry Count Threshold

Use this setting to determine the threshold for the maximum number of retries for the radio interface's request to send (RTS).

This threshold is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting Associated Clients Threshold

Use this setting to determine the threshold for the radio interface’s associated clients.  
 This threshold is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting Association Rate Threshold

Use this setting to check for the total number of successful 802.11 association request operations to this radio interface.  
 This threshold is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.

Field	Description
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting Voice Bandwidth Threshold

Use this setting to enable voice bandwidth faults on a device or group of devices. When the specified bandwidth is exceeded, a fault is generated and can be viewed under **Faults > Display Faults** or **Faults > Voice Summary**.

This threshold is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a voice bandwidth threshold for this component.
Settings	
Priority Fault	From the list, select a severity level to associate with this policy.
Voice Bandwidth in Use	From the list, select the maximum percentage of bandwidth allowed before a fault is generated.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Devices to <fault setting>** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

#### Related Topics

- [Understanding Radio Management for VoWLAN, page 15-1](#)

## Setting Voice QoS Status Threshold

Use this setting to enable voice quality of service (QoS) status faults on a device or group of devices. When the QoS status is Red or Yellow, a fault is generated and can be viewed under **Faults > Display Faults** or **Faults > Voice Summary**. The fault will be cleared automatically when the QoS status returns to Green.

This threshold is disabled by default.

### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable QoS status thresholds for this component.
Settings	
Degraded	From the list, select the severity level to be displayed when the QoS status is Red.
Fair	From the list, select the severity level to be displayed when the QoS status is Yellow.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Devices to <fault setting>** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Related Topics

- [Understanding Radio Management for VoWLAN, page 15-1](#)

## Setting Switch Fault Thresholds

Using this option, you can set up thresholds for switch faults. When the thresholds are exceeded, faults are generated and can be viewed under **Faults > Display Faults**.

### Procedure

**Step 1** In the left pane, select one of the following thresholds to apply to the setting:

- SNMP Reachable—See [Setting the SNMP Reachable Threshold, page 3-43](#)
- CPU Utilization—See [Setting the CPU Utilization Threshold, page 3-43](#)
- Memory Utilization—See [Setting the Memory Utilization Threshold, page 3-44](#)
- Port Status—See [Setting the Port Status Threshold, page 3-45](#)
- Port Utilization—See [Setting the Port Utilization Threshold, page 3-45](#)
- Module Status—See [Setting the Module Status Threshold, page 3-46](#)

## Setting the SNMP Reachable Threshold

Use this setting to make sure that the switch is reachable using SNMP.

This threshold is enabled by default.



### Note

It is highly recommended that this threshold not be disabled. If it is disabled, and a device becomes unreachable, the SNMP-based faults cannot be detected, and there will be no SNMP unreachable faults displayed to alert you.

### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting the CPU Utilization Threshold

Use this setting to monitor CPU utilization in the switch.

This threshold is disabled by default.

### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.

Field	Description
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the Memory Utilization Threshold

Use this setting to monitor memory utilization in the switch.

This threshold is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting the Port Status Threshold

Use this setting to monitor the port to make sure it is up.

This setting is enabled by default.

### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting the Port Utilization Threshold

Use this setting to monitor the port utilization in the switch.

This setting is disabled by default.

### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Overloaded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the percentage, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the percentage, and the number of polling cycles before the status is OK.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting the Module Status Threshold

Use this setting to make sure the switch module is up.

This setting is disabled by default.

### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting WLSM Fault Thresholds

Using this option, you can set up thresholds for WLSM faults. When the thresholds are exceeded, faults are generated and can be viewed under **Faults > Display Faults**.

### Procedure

- Step 1** In the left pane, select one of the following thresholds to apply to the setting:
- SNMP Reachable—See [Setting the SNMP Reachable Threshold, page 3-47](#)
  - HSRP Standby to Active—See [Setting the HSRP Standby to Active Policy, page 3-47](#)

## Setting the SNMP Reachable Threshold

Use this setting to make sure that the WLSM is reachable using SNMP.

This threshold is enabled by default.



### Note

It is highly recommended that this threshold not be disabled. If it is disabled, and a device becomes unreachable, the SNMP-based faults cannot be detected, and there will be no SNMP unreachable faults displayed to alert you.

### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting the HSRP Standby to Active Policy

Use this setting to indicate when the WLSM that is configured for hot standby has become active.

This policy is enabled by default. When this policy is enabled, the WLSE monitors the WLSMs configured in hot standby mode. Whenever the WLSE detects a change in the HSRP state, it generates a "Standby WLSM has changed to Active" fault. This fault can be cleared manually and it will not reappear.

### Procedure

**Step 1** Complete the following:

Field	Description
Verify	Select to enable the policy.

Field	Description
Poll Interval	From the list, select the polling interval.
Severity	From the list, select a severity level to associate with this policy.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this policy. See [Viewing Current Faults, page 3-51](#) for details.

## Setting Router Fault Thresholds

Using this option, you can set up the router's SNMP reachable threshold. When the threshold is exceeded, a fault is generated and can be viewed under **Faults > Display Faults**.

This setting is enabled by default.



### Note

It is highly recommended that this threshold not be disabled. If it is disabled, and a device becomes unreachable, the SNMP-based faults cannot be detected, and there will be no SNMP unreachable faults displayed to alert you.

### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Down	From the list, select the severity level and the number of polling cycles before the status is Down.
Up	From the list, select the number of polling cycles before the fault is cleared and the status is Up.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting AAA Server Response Time

Using this option, you can set up a threshold for LEAP, PEAP, RADIUS, EAP-MD5, and EAP-FAST server response time. When the threshold is exceeded, a fault is generated and can be viewed under **Faults > Display Faults**.

This threshold is disabled by default.

### Procedure

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Poll Interval	From the list, select the polling interval.
Settings	
Unavailable	From the list, select the severity level and the number of polling cycles before the status is Unavailable.
Authentication Failure	From the list, select the severity level and the number of polling cycles before the status indicates an Authentication Failure.
Overloaded	From the list, select the severity level, the response time, and the number of polling cycles before the status is Overloaded.
Degraded	From the list, select the severity level, the response time, and the number of polling cycles before the status is Degraded.
OK	From the list, select the severity level, the response time, and the number of polling cycles before the status is OK.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting WLSE Policies

### Setting WLSE Duplicate IP Detection

Using this option, you can make sure that there are no duplicate or conflicting IP addresses in the network. Duplicate IPs are found during discovery only, and the AP with the duplicate IP address is placed in the Duplicate IP folder under **Devices > Managed > Manage/Unmanage**. For more information, see [Handling Duplicate IP Addresses on Access Points, page 4-61](#).

When the policy is enabled and a duplicate IP is detected, a fault is generated and can be viewed under **Faults > Display Faults**.



**Note** This policy is enabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Verify	Select to enable a threshold for this component.
Severity	From the list, select a severity level to associate with this setting.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

**Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).

**Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

## Setting WDS Thresholds

Using this option, you can set the following thresholds for the access point providing wireless domain services (WDS) on the wireless LAN:

- Authentication Failures—See [Setting the Authentication Failures Threshold, page 3-50](#)
- WLSE-WDS Link Status—See [Setting the WLSE-WDS Link Status Threshold, page 3-51](#)

When a threshold is exceeded, a fault is generated and can be viewed under **Faults > Display Faults**.

### Setting the Authentication Failures Threshold

Use this setting to make sure that authentication is used to open a WLCCP channel between the WLSE and the WDS.

This threshold is disabled by default.

**Procedure**

**Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Settings	
Down	From the list, select the severity level before the status is Down.
Up	The fault is cleared and the status is Up.

**Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Setting the WLSE-WDS Link Status Threshold

Use this setting to make sure that the WDS is up and communicating with the WLSE.

This threshold is disabled by default.

#### Procedure

- Step 1** Complete the following:

Field	Description
Enable	Select to enable a threshold for this component.
Settings	
Down	From the list, select the severity level before the status is Down.
Up	The fault is cleared and the status is Up.

- Step 2** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.
- Step 3** Click **Assign Default to Devices** to assign this setting to a device or group of devices. For information on assigning devices, see [Assigning a Default Setting to a Device, page 3-14](#).
- Step 4** Click **View current faults for this setting** to see the faults associated with this threshold. See [Viewing Current Faults, page 3-51](#) for details.

### Viewing Current Faults

When you click the link at the bottom of any policy or threshold, a window appears that allows you to view all the faults associated with it.

Using this window, you can view the faults and clear them.

#### Procedure

- Step 1** To view the faults associated with each threshold or policy, click the **View current faults for this setting** link at the bottom of the screen.

The following table appears:

Field	Description
IP Address	The device IP address. Click to see various reports about the device. For information on the reports, see <a href="#">Using the Device Center, page 10-7</a> .
Hostname	The device for which the fault is reported. Click to see various reports about the device. For information on the reports, see <a href="#">Using the Device Center, page 10-7</a> .
Family	The product family.
Product	The product name.
Type	The device or the sub-device component.
Description	A description of the fault. Click to see fault details. See <a href="#">Viewing Fault Details, page 3-7</a> . <b>Note</b> For an explanation of the faults, in the online help click <b>Troubleshooting</b> , or on Cisco.com see the Fault Description Table in the <i>FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13</i> .
Severity	The fault severity level.
State	The operational state of the device.
Timestamp	Indicates the time, based on the client browser, that the state of the device last changed. See <a href="#">Understanding WLSE Time Displays, page 1-10</a> . Click to see fault details. See <a href="#">Viewing Fault Details, page 3-7</a> .

- To clear an individual fault, select it, then click **Clear**.
- To clear more than one fault, select them, then click **Clear**.
- To clear all the faults, click **Select All**, then click **Clear**.



**Note** It may be a few seconds before the faults clear.

# Viewing the Status of the VoWLAN

The **Faults > Voice Summary** feature allows you to view a summary of the current voice status of the WLAN.

**Note**

Your login determines whether you can use this option.

**Procedure**

- 
- Step 1** Select **Faults > Voice Summary**. The Voice Summary window appears.
- Step 2** This window displays the following information:
- The number of occurrences of the following voice fault types:
    - Excessive Voice Bandwidth (CAC)
    - Degraded Voice QoS (TSM)
- Click on either fault type to display a table that contains the faults for that type (see [Viewing the Voice Fault Tables, page 3-53](#)).
- The quality of service status levels—see [Viewing the QoS Status Summaries, page 3-54](#)
- Step 3** To change how often you want the screen to refresh, enter the number of seconds (30 seconds or higher) in the Refresh (Sec) field. The default is 90 seconds.
- 

## Viewing the Voice Fault Tables

The Voice Fault Type links in the **Faults > Voice Summary** window display fault tables for the following voice fault types:

- Excessive Voice Bandwidth (CAC)
- Degraded Voice QoS (TSM)

You can use these fault tables to acknowledge, unacknowledge, or clear selected faults or to view the details of a selected fault. For information about the data reported by fault tables, see [Display Faults Table, Table 3-2 on page 3-5](#).

**Note**

For an explanation of the faults, in the online help click **Troubleshooting**, or on Cisco.com see the Fault Description Table in the *FAQ and Troubleshooting Guide for the Wireless LAN Solution Engine, Release 2.13*.

**Related Topics**

[Viewing the Status of the VoWLAN, page 3-53](#)

## Viewing the QoS Status Summaries

The QoS Status links in the **Faults > Voice Summary** window display the metrics for the group of APs assigned to one of the following quality of service (QoS) status levels:

- Calls (APs) with Degraded QoS
- Calls (APs) with Fair QoS
- Calls (APs) with Normal QoS

For more information about this report, see [AP Group Metrics Summary: Current](#), page 10-25.

---

### Related Topics

- [Assigning Voice QoS Fault Settings](#), page 3-54
- [Viewing the Status of the VoWLAN](#), page 3-53

## Assigning Voice QoS Fault Settings

Use **Faults > Voice QoS Settings** to enable Voice QoS fault detection and to assign a severity levels to the faults that are generated. Voice faults can be viewed under **Faults > Voice Summary** or **Faults > Display Faults**.

You can assign the following Voice QoS settings:

- Downstream Delay with U-ASPD not used
- Downstream Delay with U-ASPD used
- Upstream Delay
- Downstream Packet Loss Rate
- Upstream Packet Loss Rate
- Roaming Time



### Note

Your login determines whether you can use this option.

---

### Procedure

---

- Step 1** Select **Faults > Voice QoS Settings**. The Voice QoS Settings window appears.

**Step 2** Define the following QoS settings:

	Description
Downstream Delay with U-ASPD not used	Assign the QoS status to Green when this percentage or more of the packets have a delay of less than 20 milliseconds.
	Assign the QoS status to Yellow when this percentage (or more) of the packets have a delay of greater than or equal to 20 milliseconds and less than 40 milliseconds delay per cell. <b>Note</b> The Red QoS status is automatically set to 100% minus the Yellow value.
Downstream Delay with U-ASPD used	Assign the QoS status to Green when this percentage or more of the packets have a delay of less than 20 milliseconds.
	Assign the QoS status to Yellow when this percentage (or more) of the packets have a delay of greater than or equal to 20 milliseconds and less than 40 milliseconds delay per cell. <b>Note</b> The Red QoS status is automatically set to 100% minus the Yellow value.
Upstream Delay	Assign the QoS status to Green when this percentage or more of the packets have a delay of less than 20 milliseconds.
	Assign the QoS status to Yellow when this percentage (or more) of the packets have a delay of greater than or equal to 20 milliseconds and less than 40 milliseconds delay per cell. <b>Note</b> The Red QoS status is automatically set to 100% minus the Yellow value.
Downstream Packet Loss Rate	Assign the QoS status to Green when the packet loss rate is less than this value (must be less than or equal to the Yellow value).
	Assign the QoS status to Yellow when the packet loss rate is less than this value (must be greater than or equal to the Green value). <b>Note</b> The Red QoS status is automatically assigned the Yellow value.
Upstream Packet Loss Rate	Assign the QoS status to Green when the packet loss rate is less than this value (must be less than or equal to the Yellow value).
	Assign the QoS status to Yellow when the packet loss rate is less than this value (must be greater than or equal to the Green value). <b>Note</b> The Red QoS status is automatically assigned the Yellow value.
Roaming Time	Assign the QoS status to Green when the roaming time is less than this number of milliseconds (must be less than or equal to the Yellow value).
	Assign the QoS status to Yellow when the roaming time is less than this number of milliseconds (must be greater than or equal to the Green value). <b>Note</b> The Red QoS status is automatically assigned the Yellow value.

**Step 3** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to set the new entries.

---

**Related Topics**

- [Assigning Voice QoS Fault Settings, page 3-54](#)
- [Displaying Voice Reports, page 10-24](#)

## Notification Settings

When a fault is detected, the WLSE can send automated notifications in the form of SNMP traps, syslog messages, and email alerts. You can specify multiple recipients for each notification type, and choose to deliver the message using either a plain text or XML format.

This section has the following options:

- [Setting Trap Notification](#)
- [Setting Syslog Notification](#)
- [Emailing Faults](#)

**Note**

Your login determines whether you can use this option.

---

**Related Topics**

- [Displaying Fault Information, page 3-1](#)
- [Setting Policies and Thresholds, page 3-14](#)

## Setting Trap Notification

This option allows you to enable the WLSE to send north-bound exception notification to one or more SNMP trap receivers. The exception notification contains information such as device name and IP, fault number, timestamp, exception severity, and a message describing the problem.

The following MIB defines the trap and the varbinds:

CISCO-DEVICE-EXCEPTION-REPORTING-MIB.my. It can be downloaded from the Cisco.com download site and loaded into the trap receiver.

The WLSE supports only SNMP v2c traps. Solaris 2.8-based NetView 7.1 receives and displays the SNMP v2c fault notification traps from WLSE. Windows-based NetView 7.1 supports only v1 traps and cannot receive and display any v2c traps from the WLSE.

**Before You Begin**

Make sure your SNMP trap receiver's trap receiving daemon is set to the correct port. The default port is set to 162.

**Procedure**

---

**Step 1** Select **Faults > Notification Settings**. The Fault Notification Settings dialog box appears.

- Step 2** Select the message format for the notification: Plain Text or XML. See [Trap Notification Message Format, page 3-57](#) for an example.



**Note** The plain text SNMP trap messages sent by the WLSE for fault notifications contain newlines (line feeds) as delimiters between the fields in the cderExcepData varbind.

- Step 3** Complete the following:

Field	Description
Trap	Select to enable trap notification.
Host	Enter the hostname/IP of the SNMP trap receiver to which you want to send SNMP trap notification.
Port	Enter the port number if different from the default of 162.
Community	Enter the community string.

- Step 4** If you want a different host to receive trap notification, click **Add Trap Receiver Host**. There is no limit to the number you can enter.

To a row, click **Delete**, next to the row you want to remove.

- Step 5** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to save your settings.

## Trap Notification Message Format

The WLSE can report device alerts in the form of SNMP traps. The information can be formatted in either plain text or XML format. (See [Plain Text Trap Notification Message, page 3-59](#) and [XML Trap Notification message, page 3-60](#) for examples.



**Note** The plain text SNMP trap messages sent by the WLSE for fault notifications contain newlines (line feeds) as delimiters between the fields in the cderExcepData varbind.

The following information is reported:

Field	Description
cderExcepId	The unique fault ID associated with the alert being reported.
cderExcepHostAddressType	The type of device address stored in cderExcepHostAddress. Possible values include: unknown (0); ipv4 (1); ipv6 (2); and dns(16).
cderExcepHostAddress	The address of the device for which this alert is being reported.
cderExcepPriorityDescription	The severity of the alert. Possible values include: P1 through P5 and OK.
cderExcepIpTime	The time the alert was generated.

Field	Description
cderExcepData	<p>The alarm information in name value pairs.</p> <p>Alarm information is formatted into either plain text or XML. For plain text messages, each name value pair is terminated by a newline; for XML, the value is enclosed by XML tags (for example, &lt;name&gt;value&lt;/name&gt;).</p> <p>The information includes:</p> <ul style="list-style-type: none"> <li>• FaultId—The unique fault ID associated with the alert.</li> <li>• DeviceId—The unique device ID associated with the device.</li> <li>• DeviceIP—The IP address of the device for which the alert is being reported.</li> <li>• DeviceName—The name of the device for which the alert is being reported. The device name corresponds to the Name Format you defined under <b>Devices &gt; Discover &gt; Discover &gt; Advanced Options</b>. By default, the format is %hostname%. In addition, the AP hostname is sent in the outgoing notification. If you change the Name Format to be, for example, %dns%, the fully qualified DNS name of the AP is sent.</li> <li>• MO—The managed object.</li> <li>• Change—the description of the alert prior to the state change.</li> <li>• ChangeSeverity—The severity of the alert prior to the state change.</li> <li>• StateChange—The description of the alert after the state change.</li> <li>• AlarmState—The state of the alarm: active or cleared.</li> <li>• OverallSeverity—The severity of the alert.</li> <li>• DeviceType—The device type. For example, AccessPoint.</li> </ul>
cderExcepReprtdBy	The name of the WLSE that is reporting the alert.

## Plain Text Trap Notification Message

An example of a trap notification message using plain text will appear as follows. Note the newline (linefeed, '\n', or 0x0a) characters at the end of each name-value pair in the cderExcepData field.)

```
community: public
bindings: sysUpTime => 3 days, 19:13:58
snmpTrapOID => 1.3.6.1.4.1.9.9.224.2.0.1
cderExcepId.2 => 1
cderExcepHostAddressType.2 => 1
cderExcepHostAddress.2 => 192.148.58.24
cderExcepPriorityDescription.2 => P1
cderExcepIpTime.2 => 3 days, 19:13:57
cderExcepData.2 =>
    FaultId: 1\n
    DeviceId: 100\n
    DeviceIP: 192.148.58.24\n
    DeviceName: 192.148.58.24\n
    MO: Device\n
    Change: HTTP access is enabled\n
    ChangeSeverity: P1\n
    StateChange: HTTPAccess is ViolatingPolicy\n
    AlarmState: Active\n
    OverallSeverity: P1\n
    DeviceType: AccessPoint\n
cderExcepReportedBy.2 => FaultNotifier@wlse-appliance2.cisco.com
```

## XML Trap Notification message

An example of a trap notification message using XML will appear as follows:

```
community: public
  bindings: sysUpTime          => 3 days, 19:20:46
            snmpTrapOID        => 1.3.6.1.4.1.9.9.224.2.0.1
            cderExcepId.11 => 1
            cderExcepHostAddressType.11 => 1
            cderExcepHostAddress.11 => 192.148.48.24
            cderExcepPriorityDescription.11 => P1
            cderExcepIpTime.11 => 3 days, 19:20:46
            cderExcepData.11 =>
<Msg> <FaultId>1</FaultId> <DeviceId>100</DeviceId> <DeviceIP>192.168.98.24</DeviceIP>
<DeviceName>192.148.48.24</DeviceName> <MO>Device</MO>
<Change>HTTP access is enabled</Change> <ChangeSeverity>P1</ChangeSeverity>
<StateChange>HTTPAccess is ViolatingPolicy</StateChange> <AlarmState>Active</AlarmState>
<OverallSeverity>P1</OverallSeverity> <DeviceType>AccessPoint</DeviceType> </Msg>
cderExcepReportedBy.11 => FaultNotifier@wlse-appliance2.cisco.com
```

## Setting Syslog Notification

This option allows you to send syslog messages to selected syslog servers. The messages contain information such as device name and IP, fault number, date and time, exception severity, and a message about what is wrong.



### Note

The device name used in the notifications is the name entered in the NameFormat field under **Devices > Discover > Discover > Advanced Options**. By default, it is set to %hostname%.

### Before You Begin

Make sure your syslog server is turned on to be able to receive messages from the Wireless LAN Solution Engine. Also make sure that the receiving process is configured to receive messages from remote hosts (for example, start syslogd with -r option on some UNIX versions).

### Procedure

- Step 1** Select **Faults > Notification Settings**. The Fault Notification Settings dialog box appears.
- Step 2** Select the message format for the notification: Plain Text or XML. See [Syslog Notification Message Format, page 3-61](#) for an example.



### Note

The plain text Syslog messages sent by the WLSE for fault notifications contain newlines (line feeds) as delimiters between the message fields

**Step 3** Complete the following:

Field	Description
Syslog	Select to send syslog messages to designated syslog servers.
Enter Syslog host names	Enter the hostname/IP for the syslog servers. Names must be separated by a space, a comma, a semicolon, or a new line.

**Step 4** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to save your settings.

## Syslog Notification Message Format

You have the option of sending the fault notification as plain text or in an XML format.



### Note

The plain text Syslog messages sent by the WLSE for fault notifications contain newlines (line feeds) as delimiters between the message fields.

In these notifications, a P1 severity notification corresponds to %FLT-1-MSG, a P2 severity notification corresponds to %FLT-2-MSG, and so on. A cleared fault (OK) notification corresponds to %FLT-6-MSG.

- An example of a syslog fault notification message using plain text will appear as follows:

```
<189> Jun 03 01:26:59 samuraiwhat FaultNotifier:%FLT-6-MSG:FaultId 48\nDeviceId
1784\nDeviceIP 10.10.10.31\nDeviceName 10.10.10.31\nMO RF Port awc0\nChange Cleared by
user admin\nChangeSeverity OK\nStateChange SSID is OK\nAlarmState
Cleared\nOverallSeverity OK
```

- An example of a syslog fault notification message using XML will appear as follows:

```
<189> Jun 03 00:57:15 samuraiwhat FaultNotifier:%FLT-6-MSG:<Msg><FaultId>48</FaultId>
<DeviceId>1784</DeviceId> <DeviceIP>10.10.10.31</DeviceIP>
<DeviceName>10.10.10.31</DeviceName> <MO>RF Port awc0</MO> <Change>Cleared by user
admin</Change> <ChangeSeverity>OK</ChangeSeverity>
<StateChange>SSID is OK</StateChange> <AlarmState>Cleared</AlarmState>
<OverallSeverity>OK</OverallSeverity></Msg>
```

## Emailing Faults

E-mail recipients can be configured to receive fault notifications based on fault priority.

### Before You Begin

Configure the mailroute so that the WLSE knows where to send the e-mails. Enter the mail server hostname or IP address by selecting **Administration > Appliance > Configure Mailroute**.

### Procedure

**Step 1** Select **Faults > Notification Settings**. The Fault Notification Settings dialog box appears.

**Step 2** Select the message format for the notification: Plain Text or XML. See [Email Notification Message Format, page 3-62](#).

**Step 3** Complete the following:

Field	Description
Email	Select to enable email notification of exception information.
Enter email addresses	Enter the email addresses of users you want to receive exception notification.  Addresses must be separated by a space, a comma, a semicolon, or a new line.  <b>Note</b> The following characters are not allowed in email addresses: &, ?, ^, *, <, /, \, and > .
IDS Faults	Click to select the priority of the IDS exceptions you want emailed. After an exception is cleared, a corresponding OK email is sent.  <b>Note</b> When you select or deselect any of these IDS priority settings, the changes are reflected under both the <b>IDS &gt; Notification Settings</b> and <b>Fault &gt; Notification Settings</b> tabs.
Non-IDS Faults	Click to select the priority of the non-IDS exceptions you want emailed. After an exception is cleared, a corresponding OK email is sent.  <b>Note</b> When you select or deselect any of these non-IDS priority settings, the changes are reflected under both the <b>IDS &gt; Notification Settings</b> and <b>Fault &gt; Notification Settings</b> tabs.



**Tip** If email notification is not working, you might need to configure the mailroute by selecting **Administration > Appliance > Configure Mailroute**.

**Step 4** If you want a different group of users to receive different priority level exceptions, click **Add Group** to add another set of email addresses. There is no limit to the number of email addresses you can enter.

To delete a row, click **Delete**, next to the row you want to remove.

**Step 5** Click **Reset** to refresh any fields you have changed but want to restore, or **Apply** to save your settings.

## Email Notification Message Format

The emailed exception notification contains the following information:

Attribute	Description
FaultId	A unique identifier for the fault.
DeviceId	A unique identifier used by the WLSE for the device with the fault.
DeviceIp	The IP address of the device with the fault.

Attribute	Description
DeviceName	The name of the device with the fault. The device name used in the notification is the name entered in the NameFormat field under <b>Devices &gt; Discover &gt; Discover &gt; Advanced Options</b> . By default, it is set to %hostname%.
MOId	The identifier used by the WLSE for the subcomponent of the device with the fault.
AlarmState	The state of the Alarm (Active or Cleared).
Description	A description of the last updated to the fault.
Severity	The severity of the fault. <b>Note</b> OK indicates a cleared (fixed) fault.

You have the option of sending the fault notification as plain text or in an XML format.

- An example of an email notification message using plain text will appear as follows:

```
Subject:10.10.10.31[10.10.10.31] OK notification. FaultId 48. RF Port awc0 SSID is OK.
Cleared by user admin
From:FaultNotifier@samuraiwhat.cisco.com
Date:Tue, 3 Jun 2006 01:26:59 GMT
To:user@cisco.com
FaultId 48
DeviceId 1784
DeviceIP 10.10.10.31
DeviceName 10.10.10.31
MO RF Port awc0
Change Cleared by user admin
ChangeSeverity OK
StateChange SSID is OK
AlarmState Cleared
OverallSeverity OK
```

- An example of an email notification message using XML will appear as follows:

```
Subject:10.10.10.31[10.10.10.31] P1 notification. FaultId 48. RF Port awc0 SSID is
ViolatingPolicy. SSID policy violation tracyv
From:FaultNotifier@samuraiwhat.cisco.com
Date:Tue, 3 Jun 2006 00:57:55 GMT
To:user@cisco.com
<Msg><FaultId>48</FaultId><DeviceId>1784</DeviceId><DeviceIP>10.10.10.31</DeviceIP><De
viceName>10.10.10.31</DeviceName><MO>RF Port awc0</MO><Change>Cleared by user
admin</Change><ChangeSeverity>OK</ChangeSeverity><StateChange>SSID is
OK</StateChange><AlarmState>Cleared</AlarmState><OverallSeverity>OK</OverallSeverity><
/Msg>
```