



# Network Management Commands

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## monitor session

To create a new Ethernet Switched Port Analyzer (SPAN) or a Remote Switched Port Analyzer (RSPAN) session configuration for analyzing traffic between ports or add to an existing session configuration, use the **monitor session** global configuration command. To clear SPAN or RSPAN sessions, use the **no** form of this command.

**monitor session** *session-number* {**destination** | **filter** | **source**}

**no monitor session** {*session-number* [**destination** | **filter** | **source**] | **all** | **local** | **range** *session-range* | **remote**}

### Syntax Description

*session-number*

**all**

Clears all monitor sessions.

**local**

Clears all local monitor sessions.

**range** *session-range*

Clears monitor sessions in the specified range.

**remote**

Clears all remote monitor sessions.

### Command Default

No monitor sessions are configured.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

A private-VLAN port cannot be configured as a SPAN destination port.

You can verify your settings by entering the **show monitor** privileged EXEC command. You can display SPAN, RSPAN, FSPAN, and FRSPAN configuration on the switch by entering the **show running-config** privileged EXEC command. SPAN information appears near the end of the output.

### Examples

This example shows how to create a local SPAN session 1 to monitor traffic on Po13 (an Etherchannel port) and limit SPAN traffic in the session only to VLAN 1281. Egress traffic replicates the source; ingress forwarding is not enabled.

```
Switch(config)# monitor session 1 source interface Po13
Switch(config)# monitor session 1 filter vlan 1281
Switch(config)# monitor session 1 destination interface GigabitEthernet2/0/36 encapsulation
replicate
```

```
Switch(config)# monitor session 1 destination interface GigabitEthernet3/0/36 encapsulation replicate
```

The following is the output of a **show monitor session all** command after completing these setup instructions:

```
Switch# show monitor session all
```

```
Session 1
-----
Type                : Local Session
Source Ports        :
  Both              : Po13
Destination Ports   : Gi2/0/36,Gi3/0/36
Encapsulation       : Replicate
  Ingress           : Disabled
Filter VLANs        : 1281
...
```

## Related Commands

Command	Description
<a href="#">monitor session destination</a>	Configures a FSPAN or FRSPAN destination session.
<a href="#">monitor session filter</a>	Configures a FSPAN or FRSPAN session filter.
<a href="#">monitor session source</a>	Configures a FSPAN or FRSPAN source session.
<a href="#">show monitor</a>	Displays information about all SPAN and RSPAN sessions.

## monitor session destination

To start a new Switched Port Analyzer (SPAN) session or Remote SPAN (RSPAN) destination session, to enable ingress traffic on the destination port for a network security device (such as a Cisco IDS Sensor Appliance), and to add or delete interfaces or VLANs to or from an existing SPAN or RSPAN session, use the **monitor session destination** global configuration command. To remove the SPAN or RSPAN session or to remove destination interfaces from the SPAN or RSPAN session, use the **no** form of this command.

```
monitor session session-number destination {interface interface-id [, | -] [encapsulation {replicate | dot1q} ] {ingress [dot1q | untagged] } | remote} vlan vlan-id
```

```
no monitor session session-number destination {interface interface-id [, | -] [encapsulation {replicate | dot1q} ] {ingress [dot1q | untagged] } | remote} vlan vlan-id
```

### Syntax Description

<i>session-number</i>	The session number identified with the SPAN or RSPAN session. The range is 1 to 68. However if this switch is stacked with Catalyst 2960-S switches, the range is 1 to 66.
<b>interface</b> <i>interface-id</i>	Specifies the destination or source interface for a SPAN or RSPAN session. Valid interfaces are physical ports (including type, stack member, module, and port number). For <b>source interface</b> , <b>port channel</b> is also a valid interface type, and the valid range is 1 to 48.
,	(Optional) Specifies a series of interfaces or VLANs, or separate a range of interfaces or VLANs from a previous range. Enter a space before and after the comma.
-	(Optional) Specifies a range of interfaces or VLANs. Enter a space before and after the hyphen.
<b>encapsulation replicate</b>	(Optional) Specifies that the destination interface replicates the source interface encapsulation method. If not selected, the default is to send packets in native form (untagged).  These keywords are valid only for local SPAN. For RSPAN, the RSPAN VLAN ID overwrites the original VLAN ID; therefore, packets are always sent untagged. The <b>encapsulation</b> options are ignored with the <b>no</b> form of the command.
<b>encapsulation dot1q</b>	(Optional) Specifies that the destination interface accepts the source interface incoming packets with IEEE 802.1Q encapsulation.  These keywords are valid only for local SPAN. For RSPAN, the RSPAN VLAN ID overwrites the original VLAN ID; therefore, packets are always sent untagged. The <b>encapsulation</b> options are ignored with the <b>no</b> form of the command.

<b>ingress</b>	(Optional) Enables ingress traffic forwarding.
<b>dot1q vlan <i>vlan-id</i></b>	Accepts incoming packets with IEEE 802.1Q encapsulation with the specified VLAN as the default VLAN.
<b>isl</b>	Specifies ingress forwarding using ISL encapsulation.
<b>untagged vlan <i>vlan-id</i></b>	Accepts incoming packets with untagged encapsulation with the specified VLAN as the default VLAN.
<b>vlan <i>vlan-id</i></b>	When used with only the <b>ingress</b> keyword, sets the default VLAN for ingress traffic.
<b>remote vlan <i>vlan-id</i></b>	Specifies the remote VLAN for an RSPAN source or destination session. The range is 2 to 1001 and 1006 to 4094. The RSPAN VLAN cannot be VLAN 1 (the default VLAN) or VLAN IDs 1002 to 1005 (reserved for Token Ring and FDDI VLANs).
<b>all, local, range, and remote</b>	Specifies <b>all</b> , <b>local</b> , <b>range</b> <i>session-range</i> , or <b>remote</b> with the <b>no monitor session</b> command to clear all SPAN and RSPAN, all local SPAN, a range, or all RSPAN sessions.

**Command Default**

No monitor sessions are configured.

If **encapsulation replicate** is not specified on a local SPAN destination port, packets are sent in native form with no encapsulation tag.

Ingress forwarding is disabled on destination ports.

**Command Modes**

Global configuration

**Command History**

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

**Usage Guidelines**

You can set a combined maximum of four local SPAN sessions and RSPAN source sessions. You can have a total of 68 SPAN and RSPAN sessions on a switch or switch stack. However if this switch is stacked with Catalyst 2960-S switches, you are limited to a combined maximum of two local SPAN sessions and RSPAN source sessions, and the range is 1 to 66.

A SPAN or RSPAN destination must be a physical port.

You can have a maximum of 64 destination ports on a switch or a switch stack.

Each session can include multiple ingress or egress source ports or VLANs, but you cannot combine source ports and source VLANs in a single session. Each session can include multiple destination ports.

When you use VLAN-based SPAN (VSPAN) to analyze network traffic in a VLAN or set of VLANs, all active ports in the source VLANs become source ports for the SPAN or RSPAN session. Trunk ports are included as source ports for VSPAN, and only packets with the monitored VLAN ID are sent to the destination port.

You can monitor traffic on a single port or VLAN or on a series or range of ports or VLANs. You select a series or range of interfaces or VLANs by using the [, | -] options.

If you specify a series of VLANs or interfaces, you must enter a space before and after the comma. If you specify a range of VLANs or interfaces, you must enter a space before and after the hyphen (-).

EtherChannel ports cannot be configured as SPAN or RSPAN destination ports. A physical port that is a member of an EtherChannel group can be used as a destination port, but it cannot participate in the EtherChannel group while it is as a SPAN destination.

A private-VLAN port cannot be configured as a SPAN destination port.

A port used as a destination port cannot be a SPAN or RSPAN source, nor can a port be a destination port for more than one session at a time.

You can enable IEEE 802.1x authentication on a port that is a SPAN or RSPAN destination port; however, IEEE 802.1x authentication is disabled until the port is removed as a SPAN destination. If IEEE 802.1x authentication is not available on the port, the switch returns an error message. You can enable IEEE 802.1x authentication on a SPAN or RSPAN source port.

If ingress traffic forwarding is enabled for a network security device, the destination port forwards traffic at Layer 2.

Destination ports can be configured to act in these ways:

- When you enter **monitor session session\_number destination interface interface-id** with no other keywords, egress encapsulation is untagged, and ingress forwarding is not enabled.
- When you enter **monitor session session\_number destination interface interface-id ingress**, egress encapsulation is untagged; ingress encapsulation depends on the keywords that follow—**dot1q** or **untagged**.
- When you enter **monitor session session\_number destination interface interface-id encapsulation replicate** with no other keywords, egress encapsulation replicates the source interface encapsulation; ingress forwarding is not enabled. (This applies to local SPAN only; RSPAN does not support encapsulation replication.)
- When you enter **monitor session session\_number destination interface interface-id encapsulation replicate ingress**, egress encapsulation replicates the source interface encapsulation; ingress encapsulation depends on the keywords that follow—**dot1q** or **untagged**. (This applies to local SPAN only; RSPAN does not support encapsulation replication.)

You can verify your settings by entering the **show monitor** privileged EXEC command. You can display SPAN, RSPAN, FSPAN, and FRSPAN configuration on the switch by entering the **show running-config** privileged EXEC command. SPAN information appears near the end of the output.

## Examples

This example shows how to create a local SPAN session 1 to monitor both sent and received traffic on source port 1 on stack member 1 to destination port 2 on stack member 2:

```
Switch(config)# monitor session 1 source interface gigabitethernet1/0/1 both
Switch(config)# monitor session 1 destination interface gigabitethernet1/0/2
```

This example shows how to delete a destination port from an existing local SPAN session:

```
Switch(config)# no monitor session 2 destination interface gigabitethernet1/0/2
```

This example shows how to configure RSPAN source session 1 to monitor a source interface and to configure the destination RSPAN VLAN 900:

```
Switch(config)# monitor session 1 source interface gigabitethernet1/0/1
Switch(config)# monitor session 1 destination remote vlan 900
Switch(config)# end
```

This example shows how to configure an RSPAN destination session 10 in the switch receiving the monitored traffic:

```
Switch(config)# monitor session 10 source remote vlan 900
Switch(config)# monitor session 10 destination interface gigabitethernet1/0/2
```

This example shows how to configure the destination port for ingress traffic on VLAN 5 by using a security device that supports IEEE 802.1Q encapsulation. Egress traffic replicates the source; ingress traffic uses IEEE 802.1Q encapsulation.

```
Switch(config)# monitor session 2 destination interface gigabitethernet1/0/2 encapsulation
dot1q ingress dot1q vlan 5
```

This example shows how to configure the destination port for ingress traffic on VLAN 5 by using a security device that does not support encapsulation. Egress traffic and ingress traffic are untagged.

```
Switch(config)# monitor session 2 destination interface gigabitethernet1/0/2 ingress untagged
vlan 5
```

## Related Commands

Command	Description
<a href="#">monitor session</a>	Configures a new SPAN or RSPAN session.
<a href="#">monitor session filter</a>	Configures a FSPAN or FRSPAN session filter.
<a href="#">monitor session source</a>	Configures a FSPAN or FRSPAN source session.
<a href="#">show monitor</a>	Displays information about all SPAN and RSPAN sessions.



## monitor session filter

To start a new flow-based SPAN (FSPAN) session or flow-based RSPAN (FRSPAN) source or destination session, or to limit (filter) SPAN source traffic to specific VLANs, use the **monitor session filter** global configuration command. To remove filters from the SPAN or RSPAN session, use the **no** form of this command.

**monitor session** *session-number* **filter** {**vlan** *vlan-id* [, | -] }

**no monitor session** *session-number* **filter** {**vlan** *vlan-id* [, | -] }

### Syntax Description

<i>session-number</i>	The session number identified with the SPAN or RSPAN session. The range is 1 to 68. However if this switch is stacked with Catalyst 2960-S switches, the range is 1 to 66.
<b>vlan</b> <i>vlan-id</i>	Specifies a list of VLANs as filters on trunk source ports to limit SPAN source traffic to specific VLANs. The <i>vlan-id</i> range is 1 to 4094.
,	(Optional) Specifies a series of VLANs, or separate a range of VLANs from a previous range. Enter a space before and after the comma.
-	(Optional) Specifies a range of VLANs. Enter a space before and after the hyphen.

### Command Default

No monitor sessions are configured.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

You can set a combined maximum of four local SPAN sessions and RSPAN source sessions. You can have a total of 68 SPAN and RSPAN sessions on a switch or switch stack. However if this switch is stacked with Catalyst 2960-S switches, you are limited to a combined maximum of two local SPAN sessions and RSPAN source sessions, and the range is 1 to 66.

You can monitor traffic on a single VLAN or on a series or range of ports or VLANs. You select a series or range of VLANs by using the [, | -] options.

If you specify a series of VLANs, you must enter a space before and after the comma. If you specify a range of VLANs, you must enter a space before and after the hyphen (-).

VLAN filtering refers to analyzing network traffic on a selected set of VLANs on trunk source ports. By default, all VLANs are monitored on trunk source ports. You can use the **monitor session *session\_number* filter vlan *vlan-id*** command to limit SPAN traffic on trunk source ports to only the specified VLANs.

VLAN monitoring and VLAN filtering are mutually exclusive. If a VLAN is a source, VLAN filtering cannot be enabled. If VLAN filtering is configured, a VLAN cannot become a source.

You can verify your settings by entering the **show monitor** privileged EXEC command. You can display SPAN, RSPAN, FSPAN, and FRSPAN configuration on the switch by entering the **show running-config** privileged EXEC command. SPAN information appears near the end of the output.

## Examples

This example shows how to limit SPAN traffic in an existing session only to specific VLANs:

```
Switch(config)# monitor session 1 filter vlan 100 - 110
```

This example shows how to create a local SPAN session 1 to monitor both sent and received traffic on source port 1 on stack member 1 to destination port 2 on stack member 2 and to filter IPv4 traffic using access list number 122 in an FSPAN session:

```
Switch(config)# monitor session 1 source interface gigabitethernet1/0/1 both
Switch(config)# monitor session 1 destination interface gigabitethernet1/0/2
Switch(config)# monitor session 1 filter ip access-group 122
```

## Related Commands

Command	Description
<a href="#">monitor session</a>	Configures a new SPAN or RSPAN session.
<a href="#">monitor session destination</a>	Configures a FSPAN or FRSPAN destination session.
<a href="#">monitor session source</a>	Configures a FSPAN or FRSPAN source session.
<a href="#">show monitor</a>	Displays information about all SPAN and RSPAN sessions.

## monitor session source

To start a new Switched Port Analyzer (SPAN) session or Remote SPAN (RSPAN) source session, or to add or delete interfaces or VLANs to or from an existing SPAN or RSPAN session, use the **monitor session source** global configuration command. To remove the SPAN or RSPAN session or to remove source interfaces from the SPAN or RSPAN session use the **no** form of this command.

**monitor session** *session\_number* **source** {**interface** *interface-id* [, | -] [**both** | **rx** | **tx**] | [**remote**] **vlan** *vlan-id* [, | -] [**both** | **rx** | **tx**]}

**no monitor session** *session\_number* **source** {**interface** *interface-id* [, | -] [**both** | **rx** | **tx**] | [**remote**] **vlan** *vlan-id* [, | -] [**both** | **rx** | **tx**]}

### Syntax Description

<i>session_number</i>	The session number identified with the SPAN or RSPAN session. The range is 1 to 68. However if this switch is stacked with Catalyst 2960-S switches, the range is 1 to 66.
<b>interface</b> <i>interface-id</i>	Specifies the source interface for a SPAN or RSPAN session. Valid interfaces are physical ports (including type, stack member, module, and port number). For <b>source interface</b> , <b>port channel</b> is also a valid interface type, and the valid range is 1 to 48.
,	(Optional) Specifies a series of interfaces or VLANs, or separate a range of interfaces or VLANs from a previous range. Enter a space before and after the comma.
-	(Optional) Specifies a range of interfaces or VLANs. Enter a space before and after the hyphen.
<b>both, rx, tx</b>	(Optional) Specifies the traffic direction to monitor. If you do not specify a traffic direction, the source interface sends both transmitted and received traffic.
<b>remote vlan</b> <i>vlan-id</i>	Specifies the remote VLAN for an RSPAN source or destination session. The range is 2 to 1001 and 1006 to 4094.  The RSPAN VLAN cannot be VLAN 1 (the default VLAN) or VLAN IDs 1002 to 1005 (reserved for Token Ring and FDDI VLANs).
<b>vlan</b> <i>vlan-id</i>	When used with only the <b>ingress</b> keyword, sets default VLAN for ingress traffic.

### Command Default

No monitor sessions are configured.

On a source interface, the default is to monitor both received and transmitted traffic.

On a trunk interface used as a source port, all VLANs are monitored.

**Command Modes**

Global configuration

**Command History**

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

**Usage Guidelines**

Traffic that enters or leaves source ports or source VLANs can be monitored by using SPAN or RSPAN. Traffic routed to source ports or source VLANs cannot be monitored.

You can set a combined maximum of four local SPAN sessions and RSPAN source sessions. You can have a total of 68 SPAN and RSPAN sessions on a switch or switch stack. However if this switch is stacked with Catalyst 2960-S switches, you are limited to a combined maximum of two local SPAN sessions and RSPAN source sessions, and the range is 1 to 66.

A source can be a physical port, a port channel, or a VLAN.

Each session can include multiple ingress or egress source ports or VLANs, but you cannot combine source ports and source VLANs in a single session. Each session can include multiple destination ports.

When you use VLAN-based SPAN (VSPAN) to analyze network traffic in a VLAN or set of VLANs, all active ports in the source VLANs become source ports for the SPAN or RSPAN session. Trunk ports are included as source ports for VSPAN, and only packets with the monitored VLAN ID are sent to the destination port.

You can monitor traffic on a single port or VLAN or on a series or range of ports or VLANs. You select a series or range of interfaces or VLANs by using the [, | -] options.

If you specify a series of VLANs or interfaces, you must enter a space before and after the comma. If you specify a range of VLANs or interfaces, you must enter a space before and after the hyphen (-).

You can monitor individual ports while they participate in an EtherChannel, or you can monitor the entire EtherChannel bundle by specifying the **port-channel** number as the RSPAN source interface.

A port used as a destination port cannot be a SPAN or RSPAN source, nor can a port be a destination port for more than one session at a time.

You can enable IEEE 802.1x authentication on a SPAN or RSPAN source port.

You can verify your settings by entering the **show monitor** privileged EXEC command. You can display SPAN, RSPAN, FSPAN, and FRSPAN configuration on the switch by entering the **show running-config** privileged EXEC command. SPAN information appears near the end of the output.

**Examples**

This example shows how to create a local SPAN session 1 to monitor both sent and received traffic on source port 1 on stack member 1 to destination port 2 on stack member 2:

```
Switch(config)# monitor session 1 source interface gigabitethernet1/0/1 both
Switch(config)# monitor session 1 destination interface gigabitethernet1/0/2
```

This example shows how to configure RSPAN source session 1 to monitor multiple source interfaces and to configure the destination RSPAN VLAN 900.

```
Switch(config)# monitor session 1 source interface gigabitethernet1/0/1
```

```
Switch(config)# monitor session 1 source interface port-channel 2 tx
Switch(config)# monitor session 1 destination remote vlan 900
Switch(config)# end
```

**Related Commands**

Command	Description
<a href="#">monitor session</a>	Configures a new SPAN or RSPAN session.
<a href="#">monitor session destination</a>	Configures a FSPAN or FRSPAN destination session.
<a href="#">monitor session filter</a>	Configures a FSPAN or FRSPAN session filter.
<a href="#">show monitor</a>	Displays information about all SPAN and RSPAN sessions.

# show monitor

To display information about all Switched Port Analyzer (SPAN) and Remote SPAN (RSPAN) sessions, use the **show monitor** command in EXEC mode.

**show monitor** [**session** {*session\_number* | **all** | **local** | **range list** | **remote**} [**detail**]]

## Syntax Description

<b>session</b>	(Optional) Displays information about specified SPAN sessions.
<i>session_number</i>	The session number identified with the SPAN or RSPAN session. The range is 1 to 68. However if this switch is stacked with Catalyst 2960-S switches, you are limited to a combined maximum of two local SPAN sessions and RSPAN source sessions, and the range is 1 to 66.
<b>all</b>	(Optional) Displays all SPAN sessions.
<b>local</b>	(Optional) Displays only local SPAN sessions.
<b>range list</b>	(Optional) Displays a range of SPAN sessions, where <i>list</i> is the range of valid sessions. The range is either a single session or a range of sessions described by two numbers, the lower one first, separated by a hyphen. Do not enter any spaces between comma-separated parameters or in hyphen-specified ranges. <b>Note</b> This keyword is available only in privileged EXEC mode.
<b>remote</b>	(Optional) Displays only remote SPAN sessions.
<b>detail</b>	(Optional) Displays detailed information about the specified sessions.

## Command Modes

User EXEC  
Privileged EXEC

## Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

## Usage Guidelines

The output is the same for the **show monitor** command and the **show monitor session all** command.

Maximum number of SPAN source sessions: 4 (applies to source and local sessions) However if this switch is stacked with Catalyst 2960-S switches, you are limited to a combined maximum of two local SPAN sessions and RSPAN source sessions.

### Examples

This is an example of output for the **show monitor** user EXEC command:

```
Switch# show monitor
Session 1
-----
Type : Local Session
Source Ports :
RX Only : Gi4/0/1
Both : Gi4/0/2-3,Gi4/0/5-6
Destination Ports : Gi4/0/20
Encapsulation : Replicate
Ingress : Disabled
Session 2
-----
Type : Remote Source Session
Source VLANs :
TX Only : 10
Both : 1-9
Dest RSPAN VLAN : 105
```

This is an example of output for the **show monitor** user EXEC command for local SPAN source session 1:

```
Switch# show monitor session 1
Session 1
-----
Type : Local Session
Source Ports :
RX Only : Gi4/0/1
Both : Gi4/0/2-3,Gi4/0/5-6
Destination Ports : Gi4/0/20
Encapsulation : Replicate
Ingress : Disabled
```

This is an example of output for the **show monitor session all** user EXEC command when ingress traffic forwarding is enabled:

```
Switch# show monitor session all
Session 1
-----
Type : Local Session
Source Ports :
Both : Gi4/0/2
Destination Ports : Gi4/0/3
Encapsulation : Native
Ingress : Enabled, default VLAN = 5
Ingress encap : DOT1Q
Session 2
-----
Type : Local Session
Source Ports :
Both : Gi4/0/8
Destination Ports : Gi4/0/12
Encapsulation : Replicate
Ingress : Enabled, default VLAN = 4
Ingress encap : Untagged
```

**Related Commands**

<b>Command</b>	<b>Description</b>
<a href="#">monitor session</a>	Configures a new SPAN or RSPAN session.
<a href="#">monitor session destination</a>	Configures a FSPAN or FRSPAN destination session.
<a href="#">monitor session filter</a>	Configures a FSPAN or FRSPAN session filter.
<a href="#">monitor session source</a>	Configures a FSPAN or FRSPAN source session.



## snmp-server enable traps

To enable the switch to send Simple Network Management Protocol (SNMP) notifications for various traps or inform requests to the network management system (NMS), use the **snmp-server enable traps** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps** [auth-framework [sec-violation] | bridge | call-home | cluster | config | config-copy | config-ctid | copy-config | cpu | dot1x | energywise | entity | envmon | errdisable | event-manager | flash | fru-ctrl | license | mac-notification | port-security | power-ethernet | rep | snmp | stackwise | storm-control | stpx | syslog | transceiver | tty | vlan-membership | vlancreate | vlandelete | vstack | vtp ]

**no snmp-server enable traps** [auth-framework [sec-violation] | bridge | call-home | cluster | config | config-copy | config-ctid | copy-config | cpu | dot1x | energywise | entity | envmon | errdisable | event-manager | flash | fru-ctrl | license | mac-notification | port-security | power-ethernet | rep | snmp | stackwise | storm-control | stpx | syslog | transceiver | tty | vlan-membership | vlancreate | vlandelete | vstack | vtp ]

### Syntax Description

<b>auth-framework</b>	(Optional) Enables SNMP CISCO-AUTH-FRAMEWORK-MIB traps.
<b>sec-violation</b>	(Optional) Enables SNMP camSecurityViolationNotif notifications.
<b>bridge</b>	(Optional) Enables SNMP STP Bridge MIB traps.*
<b>call-home</b>	(Optional) Enables SNMP CISCO-CALLHOME-MIB traps.*
<b>cluster</b>	(Optional) Enables SNMP cluster traps.
<b>config</b>	(Optional) Enables SNMP configuration traps.
<b>config-copy</b>	(Optional) Enables SNMP configuration copy traps.
<b>config-ctid</b>	(Optional) Enables SNMP configuration CTID traps.
<b>copy-config</b>	(Optional) Enables SNMP copy-configuration traps.
<b>cpu</b>	(Optional) Enables CPU notification traps.*
<b>dot1x</b>	(Optional) Enables SNMP dot1x traps.*
<b>energywise</b>	(Optional) Enables SNMP energywise traps.*
<b>entity</b>	(Optional) Enables SNMP entity traps.
<b>envmon</b>	(Optional) Enables SNMP environmental monitor traps.*
<b>errdisable</b>	(Optional) Enables SNMP errdisable notification traps.*

<b>event-manager</b>	(Optional) Enables SNMP Embedded Event Manager traps.
<b>flash</b>	(Optional) Enables SNMP FLASH notification traps.*
<b>fru-ctrl</b>	(Optional) Generates entity field-replaceable unit (FRU) control traps. In a switch stack, this trap refers to the insertion or removal of a switch in the stack.
<b>license</b>	(Optional) Enables license traps.*
<b>mac-notification</b>	(Optional) Enables SNMP MAC Notification traps.*
<b>port-security</b>	(Optional) Enables SNMP port security traps.*
<b>power-ethernet</b>	(Optional) Enables SNMP power Ethernet traps.*
<b>rep</b>	(Optional) Enables SNMP Resilient Ethernet Protocol traps.
<b>snmp</b>	(Optional) Enables SNMP traps.*
<b>stackwise</b>	(Optional) Enables SNMP stackwise traps.*
<b>storm-control</b>	(Optional) Enables SNMP storm-control trap parameters.*
<b>stpx</b>	(Optional) Enables SNMP STPX MIB traps.*
<b>syslog</b>	(Optional) Enables SNMP syslog traps.
<b>transceiver</b>	(Optional) Enables SNMP transceiver traps.*
<b>tty</b>	(Optional) Sends TCP connection traps. This is enabled by default.
<b>vlan-membership</b>	(Optional) Enables SNMP VLAN membership traps.
<b>vlancreate</b>	(Optional) Enables SNMP VLAN-created traps.
<b>vlandelete</b>	(Optional) Enables SNMP VLAN-deleted traps.
<b>vstack</b>	(Optional) Enables SNMP Smart Install traps.*
<b>vtp</b>	(Optional) Enables VLAN Trunking Protocol (VTP) traps.

**Command Default** The sending of SNMP traps is disabled.

**Command Modes** Global configuration

**Command History**

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

**Usage Guidelines**

The command options marked with an asterisk in the table above have subcommands. For more information on these subcommands, see the Related Commands section below.

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.

When supported, use the **snmp-server enable traps** command to enable sending of traps or informs.

**Note**

Though visible in the command-line help strings, the **fru-ctrl**, **insertion**, and **removal** keywords are not supported on the switch. The **snmp-server enable informs** global configuration command is not supported. To enable the sending of SNMP inform notifications, use the **snmp-server enable traps** global configuration command combined with the **snmp-server host *host-addr* informs** global configuration command.

**Note**

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

**Examples**

This example shows how to enable more than one type of SNMP trap:

```
Switch(config)# snmp-server enable traps cluster
Switch(config)# snmp-server enable traps config
Switch(config)# snmp-server enable traps vtp
```

## snmp-server enable traps bridge

To generate STP bridge MIB traps, use the **snmp-server enable traps bridge** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps bridge** [**newroot**] [**topologychange**]

**no snmp-server enable traps bridge** [**newroot**] [**topologychange**]

### Syntax Description

<b>newroot</b>	(Optional) Enables SNMP STP bridge MIB new root traps.
<b>topologychange</b>	(Optional) Enables SNMP STP bridge MIB topology change traps.

### Command Default

The sending of bridge SNMP traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to send bridge new root traps to the NMS:

```
Switch(config)# snmp-server enable traps bridge newroot
```

### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

# snmp-server enable traps call-home

To enable SNMP CISCO-CALLHOME-MIB traps, use the **snmp-server enable traps call-home** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps call-home** [**message-send-fail** | **server-fail**]

**no snmp-server enable traps call-home** [**message-send-fail** | **server-fail**]

## Syntax Description

<b>message-send-fail</b>	(Optional) Enables SNMP message-send-fail traps.
<b>server-fail</b>	(Optional) Enables SNMP server-fail traps.

## Command Default

The sending of SNMP CISCO-CALLHOME-MIB traps is disabled.

## Command Modes

Global configuration

## Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

## Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

## Examples

This example shows how to generate SNMP message-send-fail traps:

```
Switch(config)# snmp-server enable traps call-home message-send-fail
```

## Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps cpu

To enable CPU notifications, use the **snmp-server enable traps cpu** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps cpu [threshold]**

**no snmp-server enable traps cpu [threshold]**

### Syntax Description

<b>threshold</b>	(Optional) Enables CPU threshold notification.
------------------	--

### Command Default

The sending of CPU notifications is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to generate CPU threshold notifications:

```
Switch(config)# snmp-server enable traps cpu threshold
```

### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps dot1x

To enable IEEE 802.1x traps, use the **snmp-server enable traps dot1x** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps dot1x** [auth-fail-vlan][guest-vlan][no-auth-fail-vlan][no-guest-vlan]

**no snmp-server enable traps dot1x** [auth-fail-vlan][guest-vlan][no-auth-fail-vlan][no-guest-vlan]

### Syntax Description

<b>auth-fail-vlan</b>	(Optional) Generates a trap when the port moves to the configured restricted VLAN.
<b>guest-vlan</b>	(Optional) Generates a trap when the port moves to the configured guest VLAN.
<b>no-auth-fail-vlan</b>	(Optional) Generates a trap when a port tries to enter the restricted VLAN, but cannot because the restricted VLAN is not configured.
<b>no-guest-vlan</b>	(Optional) Generates a trap when a port tries to enter the guest VLAN, but cannot because the guest VLAN is not configured.

### Command Default

The sending of IEEE 802.1x SNMP traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

When the **snmp-server enable traps dot1x** command is entered (without any other keywords specified), all the IEEE 802.1x traps are enabled.

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

**Examples**

This example shows how to generate a trap when the port moves to the configured restricted VLAN:

```
Switch(config)# snmp-server enable traps dot1x auth-fail-vlan
```

**Related Commands**

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.



## snmp-server enable traps energywise

To enable SNMP Energywise traps, use the **snmp-server enable traps energywise** command in global configuration mode. Use the **no** form of this command to return to the default setting.

```
snmp-server enable traps energywise [event-occured][level-change][neighbor-added][neighbor-deleted]
no snmp-server enable traps energywise [event-occured][level-change][neighbor-added][neighbor-deleted]
```

### Syntax Description

<b>event-occured</b>	(Optional) Enables Energywise event occurred traps.
<b>level-change</b>	(Optional) Enables Energywise entity level change traps.
<b>neighbor-added</b>	(Optional) Enables Energywise entity neighbor added traps.
<b>neighbor-deleted</b>	(Optional) Enables Energywise entity neighbor deleted traps.

### Command Default

The sending of SNMP Energywise traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

When the **snmp-server enable traps energywise** command is entered (without any other keywords specified), all the SNMP Energywise traps are enabled.

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to generate a trap when an Energywise event occurs:

```
Switch(config)# snmp-server enable traps energywise event-occured
```

**Related Commands**

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps envmon

To enable SNMP environmental traps, use the **snmp-server enable traps envmon** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps envmon** [**fan**][**shutdown**][**status**] [**supply**][**temperature**]

**no snmp-server enable traps envmon** [**fan**][**shutdown**][**status**] [**supply**][**temperature**]

### Syntax Description

<b>fan</b>	(Optional) Enables fan traps.
<b>shutdown</b>	(Optional) Enables environmental monitor shutdown traps.
<b>status</b>	(Optional) Enables SNMP environmental status-change traps.
<b>supply</b>	(Optional) Enables environmental monitor power-supply traps.
<b>temperature</b>	(Optional) Enables environmental monitor temperature traps.

### Command Default

The sending of environmental SNMP traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to generate fan traps:

```
Switch(config)# snmp-server enable traps envmon fan
```

**Related Commands**

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

# snmp-server enable traps errdisable

To enable SNMP notifications of error-disabling, use the **snmp-server enable traps errdisable** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps errdisable** [**notification-rate** *number-of-notifications*]

**no snmp-server enable traps errdisable** [**notification-rate** *number-of-notifications*]

## Syntax Description

<b>notification-rate</b> <i>number-of-notifications</i>	(Optional) Specifies number of notifications per minute as the notification rate. Accepted values are from 0 to 4294967295.
--	---

## Command Default

The sending of SNMP notifications of error-disabling is disabled.

## Command Modes

Global configuration

## Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

## Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

## Examples

This example shows how to set the number of SNMP notifications of error-disabling to 2:

```
Switch(config)# snmp-server enable traps errdisable notification-rate 2
```

## Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps flash

To enable SNMP flash notifications, use the **snmp-server enable traps flash** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps flash** [insertion][removal]

**no snmp-server enable traps flash** [insertion][removal]

### Syntax Description

<b>insertion</b>	(Optional) Enables SNMP flash insertion notifications.
<b>removal</b>	(Optional) Enables SNMP flash removal notifications.

### Command Default

The sending of SNMP flash notifications is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to generate SNMP flash insertion notifications:

```
Switch(config)# snmp-server enable traps flash insertion
```

### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

# snmp-server enable traps license

To enable license traps, use the **snmp-server enable traps license** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps license** [**deploy**][**error**][**usage**]

**no snmp-server enable traps license** [**deploy**][**error**][**usage**]

## Syntax Description

<b>deploy</b>	(Optional) Enables license deployment traps.
<b>error</b>	(Optional) Enables license error traps.
<b>usage</b>	(Optional) Enables license usage traps.

## Command Default

The sending of license traps is disabled.

## Command Modes

Global configuration

## Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

## Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

## Examples

This example shows how to generate license deployment traps:

```
Switch(config)# snmp-server enable traps license deploy
```

## Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps mac-notification

To enable SNMP MAC notification traps, use the **snmp-server enable traps mac-notification** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps mac-notification** [**change**][**move**][**threshold**]

**no snmp-server enable traps mac-notification** [**change**][**move**][**threshold**]

### Syntax Description

<b>change</b>	(Optional) Enables SNMP MAC change traps.
<b>move</b>	(Optional) Enables SNMP MAC move traps.
<b>threshold</b>	(Optional) Enables SNMP MAC threshold traps.

### Command Default

The sending of SNMP MAC notification traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to generate SNMP MAC notification change traps:

```
Switch(config)# snmp-server enable traps mac-notification change
```

### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.



## snmp-server enable traps port-security

To enable SNMP port security traps, use the **snmp-server enable traps port-security** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps port-security** [*trap-rate value*]

**no snmp-server enable traps port-security** [*trap-rate value*]

### Syntax Description

<b>trap-rate</b> <i>value</i>	(Optional) Sets the maximum number of port-security traps sent per second. The range is from 0 to 1000; the default is 0 (no limit imposed; a trap is sent at every occurrence).
-------------------------------	--

### Command Default

The sending of port security SNMP traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to enable port-security traps at a rate of 200 per second:

```
Switch(config)# snmp-server enable traps port-security trap-rate 200
```

### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps power-ethernet

To enable SNMP power-over-Ethernet (PoE) traps, use the **snmp-server enable traps power-ethernet** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps power-ethernet** {group *name* | police}

**no snmp-server enable traps power-ethernet** {group *name* | police}

### Syntax Description

<b>group</b> <i>name</i>	Enables inline power group-based traps for the specified group number or list.
<b>police</b>	Enables inline power policing traps.

### Command Default

The sending of power-over-Ethernet SNMP traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to enable power-over-Ethernet traps for group poe1:

```
Switch(config)# snmp-server enable traps power-over-ethernet group poe1
```

### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps snmp

To enable SNMP traps, use the **snmp-server enable traps snmp** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps snmp** [authentication ][coldstart ][linkdown ] [linkup ][warmstart]

**no snmp-server enable traps snmp** [authentication ][coldstart ][linkdown ] [linkup ][warmstart]

### Syntax Description

<b>authentication</b>	(Optional) Enables authentication traps.
<b>coldstart</b>	(Optional) Enables cold start traps.
<b>linkdown</b>	(Optional) Enables linkdown traps.
<b>linkup</b>	(Optional) Enables linkup traps.
<b>warmstart</b>	(Optional) Enables warmstart traps.

### Command Default

The sending of SNMP traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to enable a warmstart SNMP trap:

```
Switch(config)# snmp-server enable traps snmp warmstart
```

**Related Commands**

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps stackwise

To enable SNMP stackwise traps, use the **snmp-server enable traps stackwise** command in global configuration mode. Use the **no** form of this command to return to the default setting.

```
snmp-server enable traps stackwise [GLS][ILS][SRLS] [insufficient-power][invalid-input-current]
[invalid-output-current][member-removed][member-upgrade-notification] [new-master][new-member]
[port-change][power-budget-warning][power-invalid-topology]
[power-link-status-changed][power-oper-status-changed]
[power-priority-conflict][power-version-mismatch][ring-redundant]
[stack-mismatch][unbalanced-power-supplies][under-budget][under-voltage]
```

```
no snmp-server enable traps stackwise [GLS][ILS][SRLS] [insufficient-power][invalid-input-current]
[invalid-output-current][member-removed][member-upgrade-notification] [new-master][new-member]
[port-change][power-budget-warning][power-invalid-topology]
[power-link-status-changed][power-oper-status-changed]
[power-priority-conflict][power-version-mismatch][ring-redundant]
[stack-mismatch][unbalanced-power-supplies][under-budget][under-voltage]
```

### Syntax Description

<b>GLS</b>	(Optional) Enables stackwise stack power GLS trap.
<b>ILS</b>	(Optional) Enables stackwise stack power ILS trap.
<b>SRLS</b>	(Optional) Enables stackwise stack power SRLS trap.
<b>insufficient-power</b>	(Optional) Enables stackwise stack power unbalanced power supplies trap.
<b>invalid-input-current</b>	(Optional) Enables stackwise stack power invalid input current trap.
<b>invalid-output-current</b>	(Optional) Enables stackwise stack power invalid output current trap.
<b>member-removed</b>	(Optional) Enables stackwise stack member removed trap.
<b>member-upgrade-notification</b>	(Optional) Enables stackwise member to be reloaded for upgrade trap.
<b>new-master</b>	(Optional) Enables stackwise new master trap.
<b>new-memberport-change</b>	(Optional) Enables stackwise stack new memberport trap.
<b>power-budget-warning</b>	(Optional) Enables stackwise stack power budget warning trap.
<b>power-invalid-topology</b>	(Optional) Enables stackwise stack power invalid topology trap.
<b>power-link-status-changed</b>	(Optional) Enables stackwise stack power link status changed trap.
<b>power-oper-status-changed</b>	(Optional) Enables stackwise stack power port oper status changed trap.

<b>power-priority-conflict</b>	(Optional) Enables stackwise stack power priority conflict trap.
<b>power-version-mismatch</b>	(Optional) Enables stackwise stack power version mismatch discovered trap.
<b>ring-redundant</b>	(Optional) Enables stackwise stack ring redundant trap.
<b>stack-mismatch</b>	(Optional) Enables stackwise stack mismatch trap.
<b>unbalanced-power-supplies</b>	(Optional) Enables stackwise stack power unbalanced power supplies trap.
<b>under-budget</b>	(Optional) Enables stackwise stack power under budget trap.
<b>under-voltage</b>	(Optional) Enables stackwise stack power under voltage trap.

**Command Default** The sending of SNMP stackwise traps is disabled.

**Command Modes** Global configuration

#### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

#### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



**Note** Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

#### Examples

This example shows how to generate stackwise stack power GLS traps:

```
Switch(config)# snmp-server enable traps stackwise GLS
```

#### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

# snmp-server enable traps storm-control

To enable SNMP storm-control trap parameters, use the **snmp-server enable traps storm-control** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps storm-control** {*trap-rate number-of-minutes*}

**no snmp-server enable traps storm-control** {*trap-rate*}

## Syntax Description

<b>trap-rate</b> <i>number-of-minutes</i>	(Optional) Specifies the SNMP storm-control trap rate in minutes. Accepted values are from 0 to 1000.
---	---

## Command Default

The sending of SNMP storm-control trap parameters is disabled.

## Command Modes

Global configuration

## Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

## Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

## Examples

This example shows how to set the SNMP storm-control trap rate to 10 traps per minute:

```
Switch(config)# snmp-server enable traps storm-control trap-rate 10
```

## Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps stpx

To enable SNMP STPX MIB traps, use the **snmp-server enable traps stpx** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps stpx** [**inconsistency**][**loop-inconsistency**][**root-inconsistency**]

**no snmp-server enable traps stpx** [**inconsistency**][**loop-inconsistency**][**root-inconsistency**]

### Syntax Description

<b>inconsistency</b>	(Optional) Enables SNMP STPX MIB inconsistency update traps.
<b>loop-inconsistency</b>	(Optional) Enables SNMP STPX MIB loop inconsistency update traps.
<b>root-inconsistency</b>	(Optional) Enables SNMP STPX MIB root inconsistency update traps.

### Command Default

The sending of SNMP STPX MIB traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Informs are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to generate SNMP STPX MIB inconsistency update traps:

```
Switch(config)# snmp-server enable traps stpx inconsistency
```

### Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.



# snmp-server enable traps transceiver

To enable SNMP transceiver traps, use the **snmp-server enable traps transceiver** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps transceiver {all}**

**no snmp-server enable traps transceiver {all}**

## Syntax Description

**all** (Optional) Enables all SNMP transceiver traps.

## Command Default

The sending of SNMP transceiver traps is disabled.

## Command Modes

Global configuration

## Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

## Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

## Examples

This example shows how to set all SNMP transceiver traps:

```
Switch(config)# snmp-server enable traps transceiver all
```

## Related Commands

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server enable traps vstack

To enable SNMP smart install traps, use the **snmp-server enable traps vstack** command in global configuration mode. Use the **no** form of this command to return to the default setting.

**snmp-server enable traps vstack** [**addition**][**failure**][**lost**][**operation**]

**no snmp-server enable traps vstack** [**addition**][**failure**][**lost**][**operation**]

### Syntax Description

<b>addition</b>	(Optional) Enables client added traps.
<b>failure</b>	(Optional) Enables file upload and download failure traps.
<b>lost</b>	(Optional) Enables client lost trap.
<b>operation</b>	(Optional) Enables operation mode change traps.

### Command Default

The sending of SNMP smart install traps is disabled.

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

Specify the host (NMS) that receives the traps by using the **snmp-server host** global configuration command. If no trap types are specified, all trap types are sent.



#### Note

Inform traps are not supported in SNMPv1.

To enable more than one type of trap, you must enter a separate **snmp-server enable traps** command for each trap type.

### Examples

This example shows how to generate SNMP smart install client added traps:

```
Switch(config)# snmp-server enable traps vstack addition
```

**Related Commands**

Command	Description
<a href="#">snmp-server host</a>	Specifies the recipient (host) of a SNMP notification operation.

## snmp-server engineID

To configure a name for either the local or remote copy of SNMP, use the **snmp-server engineID** command in global configuration mode.

**snmp-server engineID** {**local** *engineid-string* | **remote** *ip-address* [**udp-port** *port-number*] *engineid-string*}

### Syntax Description

<b>local</b> <i>engineid-string</i>	Specifies a 24-character ID string with the name of the copy of SNMP. You need not specify the entire 24-character engine ID if it has trailing zeros. Specify only the portion of the engine ID up to the point where only zeros remain in the value.
<b>remote</b> <i>ip-address</i>	Specifies the remote SNMP copy. Specify the <i>ip-address</i> of the device that contains the remote copy of SNMP.
<b>udp-port</b> <i>port-number</i>	(Optional) Specifies the User Datagram Protocol (UDP) port on the remote device. The default is 162.

### Command Default

None

### Command Modes

Global configuration

### Command History

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

### Usage Guidelines

None

### Examples

The following example configures a local engine ID of 123400000000000000000000:

```
Switch(config)# snmp-server engineID local 1234
```

## snmp-server host

To specify the recipient (host) of a Simple Network Management Protocol (SNMP) notification operation, use the **snmp-server host** global configuration command on the switch. Use the **no** form of this command to remove the specified host.

```
snmp-server host {host-addr } [vrf vrf-instance ] [informs | traps] [version {1 | 2c | 3 {auth | noauth | priv} } ] {community-string [notification-type] }
```

```
no snmp-server host {host-addr } [vrf vrf-instance ] [informs | traps] [version {1 | 2c | 3 {auth | noauth | priv} } ] {community-string [notification-type] }
```

### Syntax Description

<i>host-addr</i>	Name or Internet address of the host (the targeted recipient).
<b>vrf</b> <i>vrf-instance</i>	(Optional) Specifies the virtual private network (VPN) routing instance and name for this host.
<b>informs</b>   <b>traps</b>	(Optional) Sends SNMP traps or informs to this host.
<b>version</b> <b>1</b>   <b>2c</b>   <b>3</b>	(Optional) Specifies the version of the SNMP used to send the traps. <b>1</b> —SNMPv1. This option is not available with informs. <b>2c</b> —SNMPv2C. <b>3</b> —SNMPv3. One of the authorization keywords (see next table row) must follow the Version 3 keyword.
<b>auth</b>   <b>noauth</b>   <b>priv</b>	<b>auth</b> (Optional)—Enables Message Digest 5 (MD5) and Secure Hash Algorithm (SHA) packet authentication. <b>noauth</b> (Default)—The noAuthNoPriv security level. This is the default if the <b>auth</b>   <b>noauth</b>   <b>priv</b> keyword choice is not specified. <b>priv</b> (Optional)—Enables Data Encryption Standard (DES) packet encryption (also called privacy).
<i>community-string</i>	Password-like community string sent with the notification operation. Though you can set this string by using the <b>snmp-server host</b> command, we recommend that you define this string by using the <b>snmp-server community</b> global configuration command before using the <b>snmp-server host</b> command.
<b>Note</b>	The @ symbol is used for delimiting the context information. Avoid using the @ symbol as part of the SNMP community string when configuring this command.

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*notification-type* (Optional) Type of notification to be sent to the host. If no type is specified, all notifications are sent. The notification type can be one or more of the these keywords:

- **auth-framework**—Sends SNMP CISCO-AUTH-FRAMEWORK-MIB traps.
  - **bridge**—Sends SNMP Spanning Tree Protocol (STP) bridge MIB traps.
  - **bulkstat**—Sends Data-Collection-MIB Collection notification traps.
  - **call-home**—Sends SNMP CISCO-CALLHOME-MIB traps.
  - **cef**—Sends SNMP CEF traps.
  - **config**—Sends SNMP configuration traps.
  - **config-copy**—Sends SNMP config-copy traps.
  - **config-ctid**—Sends SNMP config-ctid traps.
  - **copy-config**—Sends SNMP copy configuration traps.
  - **cpu**—Sends CPU notification traps.
  - **cpu threshold**—Sends CPU threshold notification traps.
  - **entity**—Sends SNMP entity traps.
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- **envmon**—Sends environmental monitor traps.
  - **errdisable**—Sends SNMP errdisable notification traps.
  - **event-manager**—Sends SNMP Embedded Event Manager traps.
  - **flash**—Sends SNMP FLASH notifications.
  - **flowmon**—Sends SNMP flowmon notification traps.
  - **ipmulticast**—Sends SNMP IP multicast routing traps.
  - **ipsla**—Sends SNMP IP SLA traps.
  - **license**—Sends license traps.
  - **local-auth**—Sends SNMP local auth traps.
  - **mac-notification**—Sends SNMP MAC notification traps.
  - **msdp**—Sends SNMP Multicast Source Discovery Protocol (MSDP) traps.
  - **pim**—Sends SNMP Protocol-Independent Multicast (PIM) traps.
  - **power-ethernet**—Sends SNMP power Ethernet traps.
  - **rtr**—Sends SNMP Response Time Reporter traps.
  - **snmp**—Sends SNMP-type traps.
  - **storm-control**—Sends SNMP storm-control traps.
  - **stpx**—Sends SNMP STP extended MIB traps.
  - **syslog**—Sends SNMP syslog traps.
  - **transceiver**—Sends SNMP transceiver traps.
  - **tty**—Sends TCP connection traps.
  - **vlan-membership**—Sends SNMP VLAN membership traps.
  - **vlancreate**—Sends SNMP VLAN-created traps.
  - **vlandelete**—Sends SNMP VLAN-deleted traps.
  - **vrfmib**—Sends SNMP vrfmib traps.
  - **vtp**—Sends SNMP VLAN Trunking Protocol (VTP) traps.
  - **wireless**—Sends wireless traps.
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**Command Default**

This command is disabled by default. No notifications are sent.

If you enter this command with no keywords, the default is to send all trap types to the host. No informs are sent to this host.

If no **version** keyword is present, the default is Version 1.

If Version 3 is selected and no authentication keyword is entered, the default is the **noauth** (noAuthNoPriv) security level.

**Note**

Though visible in the command-line help strings, the **fru-ctrl** keyword is not supported.

**Command Modes**

Global configuration

**Command History**

Release	Modification
Cisco IOS 15.0(2)EX	This command was introduced.

**Usage Guidelines**

SNMP notifications can be sent as traps or inform requests. Traps are unreliable because the receiver does not send acknowledgments when it receives traps. The sender cannot determine if the traps were received. However, an SNMP entity that receives an inform request acknowledges the message with an SNMP response PDU. If the sender never receives the response, the inform request can be sent again, so that informs are more likely to reach their intended destinations.

However, informs consume more resources in the agent and in the network. Unlike a trap, which is discarded as soon as it is sent, an inform request must be held in memory until a response is received or the request times out. Traps are also sent only once, but an inform might be retried several times. The retries increase traffic and contribute to a higher overhead on the network.

If you do not enter an **snmp-server host** command, no notifications are sent. To configure the switch to send SNMP notifications, you must enter at least one **snmp-server host** command. If you enter the command with no keywords, all trap types are enabled for the host. To enable multiple hosts, you must enter a separate **snmp-server host** command for each host. You can specify multiple notification types in the command for each host.

If a local user is not associated with a remote host, the switch does not send informs for the **auth** (authNoPriv) and the **priv** (authPriv) authentication levels.

When multiple **snmp-server host** commands are given for the same host and kind of notification (trap or inform), each succeeding command overwrites the previous command. Only the last **snmp-server host** command is in effect. For example, if you enter an **snmp-server host inform** command for a host and then enter another **snmp-server host inform** command for the same host, the second command replaces the first.

The **snmp-server host** command is used with the **snmp-server enable traps** global configuration command. Use the **snmp-server enable traps** command to specify which SNMP notifications are sent globally. For a host to receive most notifications, at least one **snmp-server enable traps** command and the **snmp-server host** command for that host must be enabled. Some notification types cannot be controlled with the **snmp-server enable traps** command. For example, some notification types are always enabled. Other notification types are enabled by a different command.

The **no snmp-server host** command with no keywords disables traps, but not informs, to the host. To disable informs, use the **no snmp-server host informs** command.



## Examples

This example shows how to configure a unique SNMP community string named comaccess for traps and prevent SNMP polling access with this string through access-list 10:

```
Switch(config)# snmp-server community comaccess ro 10
Switch(config)# snmp-server host 172.20.2.160 comaccess
Switch(config)# access-list 10 deny any
```

This example shows how to send the SNMP traps to the host specified by the name myhost.cisco.com. The community string is defined as comaccess:

```
Switch(config)# snmp-server enable traps
Switch(config)# snmp-server host myhost.cisco.com comaccess snmp
```

This example shows how to enable the switch to send all traps to the host myhost.cisco.com by using the community string public:

```
Switch(config)# snmp-server enable traps
Switch(config)# snmp-server host myhost.cisco.com public
```

You can verify your settings by entering the **show running-config** privileged EXEC command.

## Related Commands

Command	Description
snmp-server enable traps	Enables the switch to send SNMP notifications for various traps or inform requests to the NMS.

snmp-server host