

E Commands

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egress-sa

To configure the Security Association (SA) to the egress hardware, use the **engress-sa** command. To delete the SA from the egress hardware, use the no form of the command.

engress-sa *spi-number*
no engress-sa *spi-number*

Syntax Description

spi-number	The range is from 256 to 4294967295.

Command Default

None.

Command Modes

Configuration submode.

Command History

Release	Modification
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to configure the SA to the egress hardware:

```
switch# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface fc 2/1 - 3
switch(config-if)# fcsp esp manual
switch(config-if-esp)# egress-sa 258
switch(config-if-esp)#
```

Related Commands

Command	Description
show fcsp interface	Displays FC-SP-related information for a specific interface.

email-contact

To configure an e-mail contact with the Call Home function, use the **email-addr** command in Call Home configuration submode. To disable this feature, use the **no** form of the command.

email-addr *email-address*
no email-addr *email-address*

Syntax Description

email-address	Configures an e-mail address. Uses a standard e-mail address that does not have any text size restrictions.

Command Default

None.

Command Modes

Call Home configuration submode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to configure e-mail contact in the Call Home configuration:

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# callhome
switch(config-callhome)# email-contact username@company.com
```

Related Commands

Command	Description
callhome	Configures the Call Home function.
callhome test	Sends a dummy test message to the configured destination(s).
show callhome	Displays configured Call Home information.

empty

To remove all steps of the user-configured algorithm, use the **empty** command in configuration mode.

empty

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

Configuration Secure Erase algorithm submode

Command History

Release	Modification
6.2(1)	This command was deprecated.
3.3(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to remove all steps of the user-configured algorithm:

```
switch# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# secure-erase module 2 algorithm 0
switch (config-se-algo)# empty
```

Related Commands

Command	Description
add-step dynamic	Adds a dynamic pattern step to a specific algorithm.
add-step static	Adds static pattern step to a specific algorithm.

enable

To turn on the privileged commands, use the **enable** command. To disable this feature, use the **disable** command.

enable *privilege-level*

Syntax Description

privilege-level	Specifies privilege level. Default value is 15.

Command Default

Enabled.

Command Modes

EXEC mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to turn on the privileged commands:

```
switch# enable 15
switch#
```

Related Commands

Command	Description
enable secret	Displays the secret for privilege escalation.

enable (Call Home configuration submode)

To enable the Call Home function, use the **enable** command in Call Home configuration submode. To disable this feature, use the **disable** command.

enable

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

Call Home configuration submode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

To disable the Call Home function, use the **disable** command:

Examples

The following example shows how to enable the Call Home function.

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# callhome
switch(config-callhome)# enable
```

Related Commands

Command	Description
callhome	Configures the Call Home function.
callhome test	Sends a dummy test message to the configured destination(s).
show callhome	Displays configured Call Home information.

enable user-server-group

To enable or disable group validation, use the **enable user-server-group** command. To disable this feature, use the **no** form of the command.

enable user-server-group
no enable user-server-group

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

Configuration submode.

Command History

Release	Modification
NX-OS 5.0	This command was introduced.

Usage Guidelines

None.

Examples

```
The following example shows how to enable group validation:
switch(config-ldap)# enable user-server-group
switch(config-ldap)#
```

Related Commands

Command	Description
show ldap-server groups	Displays the configured LDAP server groups.

enable secret

To create secret for privilege escalation, use the **enable secret** command. To disable this feature, use the no form of the command.

enable secret {**0** | **5**} *password* [**priv-lvl** *privilege-level*]
no enable secret {**0** | **5**} *password* [**priv-lvl** *privilege-level*]

Syntax Description

0	Specifies that the secret that follows should be in clear text.
5	Specifies that the secret that follows should be encrypted.
password	Specifies that the secret for user privilege escalation.
priv-lvl	(Optional) Specifies the privilege level to which the secret belongs.
privilege-level	(Optional) Specifies the privilege level. Default value is 15.

Command Default

Enabled.

Command Modes

Global Configuration mode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to specify the secret that follows should be in clear text:

```
switch(config)# enable secret 0 admin priv-lvl 4
switch(config)#
```

The following example shows how to specify the secret that follows should be encrypted:

```
switch(config)# enable secret 5 admin priv-lvl 4
switch(config)#
```

enable cert-DN-match

To enable or disable cert DN matching, use the **enable cert-DN-match** command. To disable this feature, use the **no** form of the command.

enable cert-DN-match
no enable cert-DN-match

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

Configuration submode.

Command History

Release	Modification
NX-OS 5.0(1a)	This command was introduced.

Usage Guidelines

If Cert-DN match is configured, user will be allowed to login only if the user profile lists the subject-DN of the user certificate as authorized for logging in.

Examples

```
The following example shows how to enable cert DN match:
switch(config-ldap)# enable cert-dn-match
switch(config-ldap)#
```

Related Commands

Command	Description
show ldap-server groups	Displays the configured LDAP server groups.

encryption

To change the ESP encryption type, use the **encryption** command. To revert to the default, use the **no** form of the command.

encryption *aes*

Syntax Description

aes	**aes-128**: Sets the ESP encrytion type to a key size of 128 bits. **aes-256**: Sets the ESP encrytion type to a key size of 256 bits.

Command Default

MDS 9700 with Supervisor-1: AES with 128 bit key.

MDS 9700 with Supervisor-4: AES with 256 bit key.

16 Gbps and 32 Gbps only capable fabric switches: AES with 128 bit key.

64 Gbps capable fabric switches: AES with 256 bit key.

Command Modes

Configuration mode

Command History

Release	Modification
9.4(3)	This command was introduced.

Usage Guidelines

If you change the encryption type from 256 bits to 128 bits or vice-versa, the key is reset to 0. You must re-enter the key value after the encryption type is updated.

If the ESP encryption type is set as 256 bits and the key size is smaller than 256 bits, the key is padded with leading zeros to 256 bits.

If you need to downgrade from a release that supports 256 bit key size to one that does not, either explicitly set the encryption to **aes-128** or remove the Security Association (SA) configuration from the interface.

Examples

The following example shows how to configure the encryption type as for SA 1234 as AES with a 128 bit key:

```
switch# configure terminal
switch(config)# fcsp esp sa 1234
switch(config-sa)# encryption aes-128
```

Related Commands

Command	Description
fcsp esp sa	Configure the parameters for the Security Association (SA).

end

To exit any of the configuration modes and return to EXEC mode, use the **end** command in configuration mode.

end

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
4.1(1b)	Modified the command output.
1.0(2)	This command was introduced.

Usage Guidelines

You can also press **Ctrl-Z** to exit configuration mode.

Examples

The following example shows how to exit from configure mode:

```
switch(config-port-monitor)# end
switch#
```

Related Commands

Command	Description
exit	Exits configuration mode, or any of the configuration modes.

enrollment

Use the **enrollment** command to enable the certificate enrollment functionality for a specific trustpoint using the Enrollment over Secure Transport (EST) protocol. Use the **no** form of the command to disable certificate enrollment.

enrollment

no enrollment

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

trustpoint-est configuration mode.

Command History

Release	Modification
9.4(5)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to enable certificate enrollment:

```
switch(config-trustpoint-est)# enrollment
switch(config-trustpoint-est)#
```

Related Commands

Command	Description
client-trustpoint	Specifies the trustpoint containing the switch client certificates.
management-method est	Enters EST configuration submode
renew lifetime	Configures when to start certificate renewal.
show crypto ca certificates	Displays installed switch identity certificates.

enrollment terminal

To enable manual cut-and-paste certificate enrollment through the switch console, use the **enrollment terminal** command in trust point configuration submode. To revert to the default certificate enrollment process, use the **no** form of the command.

enrollment terminal
no enrollment terminal

Syntax Description

This command has no arguments or keywords.

Command Default

The default enrollment method is manual cut-and-paste, which is the only enrollment method that the MDS switch currently supports.

Command Modes

Trust point configuration submode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to configure trust point enrollment through the switch console:

```
switch# config terminal
switch(config)# crypto ca trustpoint admin-ca
switch(config-trustpoint)# enrollment terminal
```

The following example shows how to discard a trust point enrollment through the switch console:

```
switch(config)# crypto ca trustpoint admin-ca
switch(config-trustpoint)# no enrollment terminal
```

Related Commands

Command	Description
crypto ca authenticate	Authenticates the certificate of the certificate authority.

errdisable detect cause link-down

To error-disable and bring down a port on a link failure, use the **errdisable detect cause link-down** command in the interface configuration submode. To disable this feature, use the **no** form of the command.

errdisable detect cause link-down num-times *count* **duration** *sec*
no errdisable detect cause link-down num-times *count* **duration** *sec*

Syntax Description

num-times	Specifies the flap number.
count	Specifies the count. The range is from 1 to 1023.
duration	Specifies the time in seconds.
sec	The range is from 45 to 2000000. The duration must be equal to or greater than **num-times** multiplied by 45. For example, to configure a port to move to the error disabled state when five bit-errors were detected, the duration must be set to 225 or more seconds.

Command Default

None.

Command Modes

Interface Configuration submode.

Command History

Release	Modification
NX-OS 4.1(3)	This command was introduced.

Usage Guidelines

The port guard feature is used in environments where the system and application does not adapt quickly and efficiently to a port going down and back up or to a port rapidly cycling up and down which can happen in some failure modes. For example, if the port is going up and down once a second, and the system takes five seconds to stabilize after the port goes down, this situation might cause a more severe failure in the fabric.

The port guard feature gives the SAN administrator the ability to prevent this issue from occurring in environments that are vulnerable to these problems. The port can be configured to stay down after the first failure, or after a specified number of failures in a specified time period. This allows the SAN administration to intervene and control the recovery and avoiding any problems caused by the cycling.

Examples

The following example shows how to configure the port as down when the link flaps once:

```
Switch# configure terminal
Switch (config)# interface fc1/1
Switch (config-if)# errdisable detect cause link-down
```

The following example shows how to configure the port as down when the link flaps 5 times in 225 seconds:

```
Switch# configure terminal
Switch (config)# interface fc1/1
Switch (config-if)# errdisable detect cause link-down num-times 5 duration 225
```

The following example shows how to remove the port guard feature on the interface:

```
Switch# config t
Switch (config)# interface fc1/1
Switch (config-if)# no errdisable detect cause link-down
switch(config)#
```

Related Commands

Command	Description
show interface	Displays the interface status information.
show running-config interface	Displays the running configuration on the interface.
show interface status err-disabled	Displays the Ethernet interface error status information.

errdisable detect cause bit-errors

To enable error-disable detection on bit errors, use the **errdisable detect cause bit-errors** command in the interface configuration submode. To disable this feature, use the **no** form of the command.

errdisable detect cause bit-errors num-times *count* **duration** *seconds*
no errdisable detect cause bit-errors num-times *count* **duration** *seconds*

Syntax Description

num-times	Specifies the number of flaps.
count	Specifies the count. The range is from 1 to 1023.
duration	Specifies the time in seconds.
seconds	The range is from 45 to 2000000. The duration must be equal to or greater than **num-times** multiplied by 45. For example, to configure a port to move to the error disabled state when five bit-errors were detected, the duration must be set to 225 or more seconds.

Command Default

None.

Command Modes

Interface Configuration submode.

Command History

Release	Modification
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

The port guard feature is used in environments where the system and application does not adapt quickly and efficiently to a port going down and backup or to a port rapidly cycling up and down which can happen in some failure modes. For example, if the port is going up and down once a second, and the system takes five seconds to stabilize after the port goes down, this situation might cause a more severe failure in the fabric.

The port guard feature gives the SAN administrator the ability to prevent this issue from occurring in environments that are vulnerable to these problems. The port can be configured to stay down after the first failure, or after a specified number of failures in a specified time period. This allows the SAN administration to intervene and control the recovery and avoiding any problems caused by the cycling.

Examples

The following example shows how to enable error-disable detection on bit errors:

```
switch# configure terminal
switch(config)# interface fc1/1
switch(config-if)# errdisable detect cause bit-errors num-times 5 duration 225
```

Related Commands

Command	Description
show interface	Displays the interface status information.
show running-config interface	Displays the running configuration on the interface.
show interface status err-disabled	Displays the Ethernet interface error status information.

errdisable detect cause credit-loss

To enable error-disable detection on a credit loss, use the **errdisable detect cause credit-loss** command in the interface configuration submode. To disable this feature, use the **no** form of the command.

errdisable detect cause credit-loss num-times *count* **duration** *sec*
no errdisable detect cause credit-loss num-times *count* **duration** *sec*

Syntax Description

num-times	Specifies the flap number.
count	Specifies the count. The range is from 1 to 1023.
duration	Specifies the time in seconds.
sec	The range is from 45 to 2000000. The duration must be equal to or greater than **num-times** multiplied by 45. For example, to configure a port to move to the error disabled state when five bit-errors were detected, the duration must be set to 225 or more seconds.

Command Default

None.

Command Modes

Interface Configuration submode.

Command History

Release	Modification
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

The port guard feature is used in the environments where the system and application does not adapt quickly and efficiently to a port going down and back up or to a port rapidly cycling up and down which can happen in some failure modes. For example, if the port is going up and down once a second, and the system takes five seconds to stabilize after the port goes down, this situation might cause a more severe failure in the fabric.

The port guard feature gives the SAN administrator the ability to prevent this issue from occurring in environments that are vulnerable to these problems. The port can be configured to stay down after the first failure, or after a specified number of failures in a specified time period. This allows the SAN administration to intervene and control the recovery and avoiding any problems caused by the cycling.

Examples

The following example shows how to enable error-disable detection on a credit loss:

```
Switch# configure terminal
Switch (config)# interface fc1/1
Switch (config-if)# errdisable detect cause credit-loss num-times 5 duration 225
Switch (config-if)#
```

Related Commands

Command	Description
show interface	Displays the interface status information.
show running-config interface	Displays the running configuration on the interface.

Command	Description
show interface status err-disabled	Displays the Ethernet interface error status information.

errdisable detect cause link-reset

To enable error-disable detection on a link reset, use the **errdisable detect cause link-reset** command in the interface configuration submode. To disable this feature, use the **no** form of the command.

errdisable detect cause link-reset num-times *count* **duration** *sec*
no errdisable detect cause link-reset num-times *count* **duration** *sec*

Syntax Description

num-times	Specifies the flap number.
count	Specifies the count. The range is from 1 to 1023.
duration	Specifies the time in seconds.
sec	The range is from 1 to 2000000.

Command Default

None.

Command Modes

Interface Configuration submode.

Command History

Release	Modification
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

The port guard feature is used in environments where the system and application does not adapt quickly and efficiently to a port going down and back up or to a port rapidly cycling up and down which can happen in some failure modes. For example, if the port is going up and down once a second, and the system takes five seconds to stabilize after the port goes down, this situation might cause a more severe failure in the fabric.

The port guard feature gives the SAN administrator the ability to prevent this issue from occurring in environments that are vulnerable to these problems. The port can be configured to stay down after the first failure, or after a specified number of failures in a specified time period. This allows the SAN administration to intervene and control the recovery and avoiding any problems caused by the cycling.

Examples

The following example shows how to enable error-disable detection on a link reset:

```
Switch# configure terminal
Switch (config)# interface fc1/1
Switch (config-if)# errdisable detect cause link-reset num-times 5 duration 30
Switch (config-if)#
```

Related Commands

Command	Description
show interface	Displays the interface status information.
show running-config interface	Displays the running configuration on the interface.
show interface status err-disabled	Displays the Ethernet interface error status information.

errdisable detect cause signal-loss

To enable error-disable detection on a signal loss, use the **errdiable detect cause signal-loss** command in the interface configuration submode. To disable this feature, use the **no** form of the command.

errdisable detect cause signal-loss num-times *count* **duration** *sec*
no errdisable detect cause signal-loss num-times *count* **duration** *sec*

Syntax Description

num-times	Specifies the flap number.
count	Specifies the count. The range is from 1 to 1023.
duration	Specifies the time in seconds.
sec	The range is from 1 to 2000000.

Command Default

None.

Command Modes

Interface Configuration submode.

Command History

Release	Modification
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

The port guard feature is used in the environments where the system and application does not adapt quickly and efficiently to a port going down and back up or to a port rapidly cycling up and down which can happen in some failure modes. For example, if the port is going up and down once a second, and the system takes five seconds to stabilize after the port goes down, this situation might cause a more severe failure in the fabric.

The port guard feature gives the SAN administrator the ability to prevent this issue from occurring in environments that are vulnerable to these problems. The port can be configured to stay down after the first failure, or after a specified number of failures in a specified time period. This allows the SAN administration to intervene and control the recovery and avoiding any problems caused by the cycling.

Examples

The following example shows how to enable error-disable on a signal loss:

```
Switch# configure terminal
Switch (config)# interface fc1/1
Switch (config-if)# errdisable detect cause signal-loss num-times 5 duration 30
Switch (config-if)#
```

Related Commands

Command	Description
show interface	Displays the interface status information.
show running-config interface	Displays the running configuration on the interface.
show interface status err-disabled	Displays the Ethernet interface error status information.

errdisable detect cause sync-loss

To enable error-disable detection on a sync loss, use the **errdisable detect cause sync-loss** command in the interface configuration submode. To disable this feature, use the **no** form of the command.

errdisable detect cause sync-loss num-times *count* **duration** *sec*
no errdisable detect cause sync-loss num-times *count* **duration** *sec*

Syntax Description

num-times	Specifies the flap number.
count	Specifies the count. The range is from 1 to 1023.
duration	Specifies the time in seconds.
sec	The range is from 1 to 2000000.

Command Default

None.

Command Modes

Interface Configuration submode.

Command History

Release	Modification
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

The port guard feature is used in environments where the system and application does not adapt quickly and efficiently to a port going down and back up or to a port rapidly cycling up and down which can happen in some failure modes. For example, if the port is going up and down once a second, and the system takes five seconds to stabilize after the port goes down, this situation might cause a more severe failure in the fabric.

The port guard feature gives the SAN administrator the ability to prevent this issue from occurring in environments that are vulnerable to these problems. The port can be configured to stay down after the first failure, or after a specified number of failures in a specified time period. This allows the SAN administration to intervene and control the recovery and avoiding any problems caused by the cycling.

Examples

The following example shows how to enable error-disable detection on a synchronized loss:

```
Switch# configure terminal
Switch (config)# interface fc1/1
Switch (config-if)# errdisable detect cause sync-loss num-times 5 duration 30
Switch (config-if)#
```

Related Commands

Command	Description
show interface	Displays the interface status information.
show running-config interface	Displays the running configuration on the interface.
show interface status err-disabled	Displays the Ethernet interface error status information.

errdisable detect cause trustsec-violation

To enable error-disable detection on a trustsec violation, use the **errdisable detect cause trustsec-violation** command in the interface configuration submode. To disable this feature, use the **no** form of the command.

errdisable detect cause trustsec-violation num-times *count* **duration** *sec*
no errdisable detect cause trustsec-violation num-times *count* **duration** *sec*

Syntax Description

num-times	Specifies the flap number.
count	Specifies the count. The range is from 1 to 1023.
duration	Specifies the time in seconds.
sec	The range is from 1 to 2000000.

Command Default

None.

Command Modes

Interface Configuration submode.

Command History

Release	Modification
NX-OS 4.2(1)	This command was introduced.

Usage Guidelines

The port guard feature is used in environments where the system and application does not adapt quickly and efficiently to a port going down and back up or to a port rapidly cycling up and down which can happen in some failure modes. For example, if the port is going up and down once a second, and the system takes five seconds to stabilize after the port goes down, this situation might cause a more severe failure in the fabric.

The port guard feature gives the SAN administrator the ability to prevent this issue from occurring in environments that are vulnerable to these problems. The port can be configured to stay down after the first failure, or after a specified number of failures in a specified time period. This allows the SAN administration to intervene and control the recovery and avoiding any problems caused by the cycling.

Examples

The following example shows how to enable error-disable detection on a trustsec violation:

```
switch#(config-if)# errdisable detect cause trustsec-violation num-times 1 duration 1
switch#(config-if)#
```

Related Commands

Command	Description
show interface	Displays the interface status information.
show running-config interface	Displays the running configuration on the interface.
show interface status err-disabled	Displays the Ethernet interface error status information.

event cli

To configure a CLI command as an EEM applet trigger, use the **event cli** command. To delete the applet trigger, use the **no** form of the command.

event cli [**tag** *tagname*] **match** *expression* [**count** *countnum* [**time** *seconds*]]
no event cli [**tag** *tagname*] **match** *expression* [**count** *countnum* [**time** *seconds*]]

Syntax Description

tag *tagname*	(Optional) Configures an event tag identifier. *tagname* specifies a handle for combining multiple events and this handle can be any string value of 1 to 29 characters.
match *expression*	Specifies the regular expression (regexp) used to match the CLI command. The command must have been successfully parsed before a match is attempted. The expression is compared to the fully expanded command and must match exactly, not just part of the command. When the expression contains embedded spaces enclose it in double quotes.
count *countnum*	(Optional) Specifies the number of matching occurrences before an Embedded Event Manager event is triggered. When a number is not specified, an Embedded Event Manager event is triggered after the first match. This number must be an integer greater than 0.
time *seconds*	(Optional) Specifies the time interval during which one or more occurrences must take place. When the keyword is not specified, no time period check is applied.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

A cli event trigger allows control over CLI commands. By default, the triggering command is not executed. This allows an applet to take action before or after a command runs, or even prevent it from running. To run the triggering command, configure an event-default action at the stage in the applet where the command should run.

Examples

The following example shows how to match the **shutdown** command as an applet trigger:

```
switch# configure terminal
switch(config)# event manager applet blockShutdownCmd
switch(config-applet)# event cli match "shutdown"
switch(config-applet)# end
```

The following example shows how to use spaces and regular expressions. Action 10 logs a syslog message and action 20 allows the matching command to complete normally.

```
switch# configure terminal
switch(config)# event manager applet fcanalyserCheck
switch(config-applet)# event cli match "fcanalyzer * mgmt*"
switch(config-applet)# action 10 syslog priority emergencies msg fcanalyser command used
for mgmt interface
switch(config-applet)# action 20 event-default
switch(config-applet)# end
```

Related Commands

Command	Description
action	Configure EEM applet actions.
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.
tag	Correlate multiple events in an EEM applet. Correlate multiple events in an EEM applet.

event counter

To configure a counter as an EEM applet trigger, use the **event counter** command. To delete the applet trigger, use the **no** form of the command.

event counter [**tag** *tagname*] **name** *name* **entry-val** *value* **entry-op** *operator* [**exit-val** *value* **exit-op** *operator*]
no event counter [**tag** *tagname*] **name** *name* **entry-val** *value* **entry-op** *operator* [**exit-val** *value* **exit-op** *operator*]

Syntax Description

tag *tagname*	(Optional) Configures an event tag identifier. *tagname* specifies a handle for combining multiple events and this handle can be any string value of 1 to 29 characters.
name *name*	Configures the name of the counter to monitor. *name* can be any string value of 1 to 28 characters.
entry-val *value*	Configures a value to compare the named counter against. The event resets immediately unless an exit-val is specified. *value* is an integer in the range from 0 to 2147483647.
entry-op *operator*	Specifies how to compare the current value of the named counter with the specified value. The operator can be one of the following: • **eq**—Equal to • **ge**—Greater than or equal to • **gt**—Greater than • **le**—Less than or equal to • **lt**—Less than • **ne**—Not equal to
exit-val *value*	(Optional) Configures a value that the named counter must reach before resetting the event. *value* is an integer in the range from 0 to 2147483647.
exit-op *operator*	(Optional) Specifies how to compare the current value of the named counter with the specified value. The operator can be one of the following: • **eq** —Equal to • **ge**—Greater than or equal to • **gt**—Greater than • **le**—Less than or equal to • **lt**—Less than • **ne**—Not equal to

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to trigger an EEM applet when a counter named 'test' has a value of 0:

```
switch# configure terminal
switch(config)# event manager applet testCtrIsZero
switch(config-applet)# event counter name test entry-val 0 entry-op eq
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.
tag	Correlate multiple events in an EEM applet. Correlate multiple events in an EEM applet.

event fanabsent

To configure a fan absence as an EEM applet trigger, use the **event fanabsent** command. To delete the applet trigger, use the **no** form of the command.

fanabsent [**fan** *fannumber*] **time** *seconds*
no fanabsent [**fan** *fannumber*] **time** *seconds*

Syntax Description

fan *number*	(Optional) Configures a chassis fan. *fannumber* range is platform specific.
time *seconds*	Configures a time period. *seconds* range is 10 to 64000.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

This event specification monitors if a fan is removed from the chassis for a particular period of time. Embedded Event Manager takes an action based on the actions configured on the applet.

Examples

This example shows how to configure a an EEM applet to trigger after a fan absence of 300 seconds (5 minutes):

```
switch# configure terminal
switch(config)# event manager applet fanGoneForFiveMins
switch(config-applet)# event fanabsent fan 300
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event fanbad

To configure fanbad event specification, use the **event fanbad** command. To remove the fanbad event, use the **no** form of the command.

event fanbad [**fan** *fannumber*] **time** *seconds*
no event fanbad [**fan** *fannumber*] **time** *seconds*

Syntax Description

fan *fannumber*	(Optional) Configures a chassis fan. *fannumber* range is platform specific.
time *seconds*	Configures a time period. *seconds* range is 10 to 64000.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

This event specification monitors for the failure of any chassis cooling fan and Embedded Event Manager takes an action based on the actions configured on the applet.

Examples

This example shows how to configure an EEM applet to trigger after a fan failure of 10 seconds:

```
switch# configure terminal
switch(config)# event manager applet applet1
switch(config-applet)# event fanbad time 10
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event fcns

To change the maximum number of FC Name Server (FCNS) entries allowed on a switch, use the **event fcns** command. You must override the default system policy **__fcns_entries_max_per_switch** with a new policy to do this. To remove the FCNS event, use the **no** form of the command.

event fcns entries max-per-switch *count*
no event fcns entries max-per-switch *count*

Syntax Description

entries	Specifies FCNS Database entries.
max-per-switch *count*	Specifies an event to configure maximum FCNS database count per switch. *count* specifies the maximum number of FCNS entries the switch will register. *count* range is platform specific.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 6.2(11)	This command was introduced.

Usage Guidelines

The maximum number of name server entries that a switch can support is dependent on the platform. Refer to the *Cisco MDS NX-OS Release 6.2(13) Configuration Limits* document for platform specific limits.

Examples

This example shows how to configure an Embedded Event Manager event when the FCNS database count per switch reaches a maximum:

```
switch# configure terminal
switch(config)# event manager applet fcns_policy override __fcns_entries_max_per_switch
switch(config-applet)# event fcns entries max-per-switch 9000
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event flogi

To trigger an Embedded Event Manager (EEM) policy when certain fabric login (FLOGI) thresholds are exceeded, use the **event flogi** command. To remove the FLOGI event detection from the EEM policy, use the **no** form of this command.

event flogi {**intf-max** | **module-max** | **switch-max**} *count*
no event flogi {**intf-max** | **module-max** | **switch-max**} *count*

Syntax Description

intf-max	Triggers an event when the number of successful and pending FLOGIs for any Fibre Channel interface exceeds the specified threshold.
module-max	Triggers an event when the number of successful and pending FLOGIs for any module exceeds the specified threshold.
switch-max	Triggers an event when the number of successful and pending FLOGIs for the switch exceeds the specified threshold.
count	Specifies the threshold value. The threshold value must be a positive integer. The FLOGI limit range per interface, module, and switch is platform specific. For more information on FLOGI limits for different platforms, see the Cisco MDS NX-OS Configuration Limits document.

Command Default

None.

Command Modes

EEM applet configuration (config-applet)

Command History

Release	Modification
Cisco NX-OS 6.2(11)	This command was introduced.

Usage Guidelines

To use these FLOGI event triggers you must override the corresponding default system policies with a new policy. The default system policies are:

event flogi	corresponding system policy
intf-max	**__flogi_fcid_max_per_intf**
module-max	**__flogi_fcid_max_per_module**
switch-max	**__flogi_fcid_max_per_switch**

Examples

This example shows an event trigger that occurs when the number of FLOGIs per interface exceeds the threshold value of 156:

```
switch# configure terminal
switch(config)# event manager applet flogiint override __flogi_fcids_max_per_intf
switch(config-applet)# event flogi intf-max 156
switch(config-applet)# end
```

This example shows an event trigger that occurs when the number of FLOGIs per module exceeds the threshold value of 1024:

```
switch# configure terminal
switch(config)# event manager applet flogimod override __flogi_fcids_max_per_module
switch(config-applet)# event flogi module-max 1024
switch(config-applet)# end
```

This example shows an event trigger that occurs when the number of FLOGIs per switch exceeds the threshold value of 2000:

```
switch# configure terminal
switch(config)# event manager applet flogiswitch override __flogi_fcids_max_per_switch
switch(config-applet)# event flogi switch-max 2000
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show event manager system-policy	Displays default system policies.
show running-config eem	Displays all EEM applets.

event gold

To create an online diagnostic test failure related event, use the **event gold** command. To remove the online diagnostic test failure related event, use the **no** form of the command.

event gold module {*number* | **all**} **test** *name* [**severity** {**minor** | **moderate** | **major**}] **testing-type** {**scheduled** | **monitoring**} **consecutive-failure** *count*
no event gold module {*number* | **all**} **test** *name* [**severity** {**minor** | **moderate** | **major**}] **testing-type** {**scheduled** | **monitoring**} **consecutive-failure** *count*

Syntax Description

number	Specifies the module number.
all	Selects all the module IDs.
test *name*	Selects the diagnostic test. *name* specifies the test name.
severity	Specifies the severity of the failure. It has the following values: • **minor**—Minor failure • **moderate**—Moderate failure • **major**—Major failure
testing-type	Specifies the type of testing. It has the following values: • **scheduled**—(Deprecated) Scheduled test • **monitoring**—Monitoring test
consecutive-failure *count*	Specifies the consecutive number of times the failure has occurred. *count* specifies the failure count and the value is between 1 to 1000.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 6.2	This command was introduced.

Usage Guidelines

None.

Examples

This example shows how to configure an EEM event when the GOLD ASICRegisterCheck test fails on all modules 10 consecutive times.

```
switch# configure terminal
switch(config)# event manager applet gold
```

```
switch(config-applet)# event gold module all test ASICRegisterCheck testing-type monitoring
 consecutive-failure 10
```

This example shows how to configure an EEM event when the GOLD PwrMgmtBus test fails on module 5 only 20 consecutive times.

```
switch# configure terminal
switch(config)# event manager applet gold
switch(config-applet)# event gold module 5 test PwrMgmtBus testing-type monitoring
consecutive-failure 20
```

Related Commands

Command	Description
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event memory

To configure memory thresholds event specification, use the **event memory** command. To remove the memory threshold event, use the **no** form of the command.

event memory {**minor** | **severe** | **critical**}
no event memory {**minor** | **severe** | **critical**}

Syntax Description

minor	Specifies minor alert.
severe	Specifies severe alert.
critical	Specifies critical alert.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

The event specification monitors the memory threshold specified in the applet and Embedded Event Manager takes an action based on the actions configured on the applet.

Examples

This example shows how to configure memory threshold event specification:

```
switch# configure terminal
switch(config)# event manager applet bad-applet
switch(config-applet)# event memory critical
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.
show system internal memory-alerts-log	Displays the log of memory alerts.

event module

To configure the module event specification, use the **event module** command. To remove the module event specification, use the **no** form of the command.

event module [**tag** *tagname*] **status** {**online** | **offline** | **any**} **module** {**all** *slot*}
no event module [**tag** *tagname*] **status** {**online** | **offline** | **any**} **module** {**all** *slot*}

Syntax Description

tag *tagname*	(Optional) Configures an event tag identifier. *tagname* specifies a handle for combining multiple events and this handle can be any string value of 1 to 29 characters.
status	Configures the status condition.
online	Specifies module status changed to online.
offline	Specifies module status changed to offline.
any	Specifies module status changed to online or offline.
module	Configures which modules to monitor.
all	Specifies all modules.
slot	Specifies a module number. The range is platform specific.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

This event specification monitors the module status change. Embedded Event Manager takes an action based on the actions configured on the applet.

Examples

This example shows how to configure the module event specification in the device:

```
switch# configure terminal
switch(config)# event manager applet bad-applet
switch(config-applet)# event module status any module all
switch(config-applet)# action 1.0 syslog priority informational msg "module status changed"
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.

Command	Description
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event module-failure

To create a module failure event specification, use the **event module-failure** command. To remove the module failure event, use the **no** form of the command.

event module-failure [**tag** *tagname*] **type** *failure-type* **module** {**all** *slot*} **count** *count* [**time** *seconds*]
no event module-failure [**tag** *tagname*] **type** *failure-type* **module** {**all** *slot*} **count** *count* [**time** *seconds*]

Syntax Description

tag *tagname*	(Optional) Configures an event tag identifier. *tagname* specifies a handle for combining multiple events and this handle can be any string value of 1 to 29 characters.

type *failure-type*	Configures the failure type to monitor. *failure-type* specifies whether one or all modules must be monitored. *failure-type* specifies the type of failure conditions listed below: • addon-sequence-failure—Addon sequence failure • any • hitless-upgrade-diag-failure—Runtime diag failure after hitless upgrade • hitless-upgrade-failure—Hitless upgrade failure • hitless-upgrade-procmgr-notif—LC software failure after hitless upgrade • hitless-upgrade-reg-failure—Registration failure after hitless upgrade • hitless-upgrade-seq-timeout—Hitless upgrade sequence timeout • image-download-failed—Image download failure • image-upgrade-failed—Image upgrade failed • insertion-seq-failure—Insertion sequence failure • lc-failed—LC failed • lc-not-responding—LC not responding • lc-ready-timeout—LC ready timeout • lc-sw-failure—LC software failure • registration-failure—Registration failure • registration-timeout—Registration timeout • runtime-diag-failure—Runtime diag failure • runtime-diag-timeout—Runtime diag timeout • sequence-timeout—Sequence timeout • srg-info-resp-timeout—SRG info response timeout • unexpected-registration—Unexpected registration received • upgrade-srg-not-compatible—Upgrade SRG not compatible
module	Configures which modules to monitor.
all	Specifies all modules.
slot	Specifies a module number. The range is platform specific.
count *count*	Configures the number of matching occurrences before an Embedded Event Manager event is triggered. *count* specifies the number of repeated occurrences and this number must be an integer in the range 0 to 4294967295.

time *seconds*	(Optional) Configures a time period. *seconds* is the period of module in failure state in seconds and this number must be an integer in the range 0 to 10000000.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

None.

Examples

This example shows how to configure a module failure event specification:

```
switch# configure terminal
switch(config)# event manager applet modfailed
switch(config-applet)# event module-failure type lc-failed module all count 1
switch(config-applet)# action 1.0 syslog priority critical msg module failure detected
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.
tag	Correlate multiple events in an EEM applet. Correlate multiple events in an EEM applet.

event oir

To configure an Online Insertion Removal event specification, use the **event oir** command. To remove the Online Insertion Removal event, use the **no** form of the command.

event oir [**tag** *tagname*] {**fan** | **module** | **powersupply**} {**insert** | **remove** | **anyoir**} [*number*]
no event oir [**tag** *tagname*] {**fan** | **module** | **powersupply**} {**insert** | **remove** | **anyoir**} [*number*]

Syntax Description

tag *tagname*	(Optional) Configures an event tag identifier. *tagname* specifies a handle for combining multiple events and this handle can be any string value of 1 to 29 characters.
fan	Specifies the system fans. Optionally, specifies an individual fan.
module	Specifies the system modules. Optionally, specifies an individual module.
powersupply	Specifies the system power supplies. Optionally, specifies an individual power supply.
insert | **remove** | **anyoir**	Specify the OIR event that triggers the Embedded Event Manager applet. • **insert**—OIR insert • **remove**—OIR remove • **anyoir**—Either OIR insert or OIR remove
number	(Optional) If you select fan, enter a fan number to monitor for an OIR event. The range is platform specific. If you select module, enter a module number to monitor an OIR event. The range is platform specific. If you select power supply, enter a power supply number to monitor an OIR event. The range is platform specific.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

This event specification monitors whenever there is insertion or removal of the following components: fan, module, and power supply. Embedded Event Manager takes an action based on the actions configured on the applet.

Examples

This example shows how to configure the Online Insertion Removal event specification:

```
switch# configure terminal
switch(config)# event manager applet moduleOir
switch(config-applet)# event oir module anyoir
```

```
switch(config-applet)# action 1.0 syslog priority informational msg a module was oir-ed
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.
tag	Correlate multiple events in an EEM applet. Correlate multiple events in an EEM applet.

event policy-default

To configure the event specification when the system policy is overridden, use the **event policy-default** command. To remove the configuration, use the **no** form of the command.

event policy-default count *count* [**time** *seconds*]
no event policy-default count *count* [**time** *seconds*]

Syntax Description

count *count*	Configures the number of matching occurrences before an event is triggered. *count* specifies the number of repeated occurrences and this number must be an integer in the range 0 to 65000.
time *seconds*	(Optional) Configures the time interval during which one or more occurrences must take place. When this option is not specified no time limit is applied. *seconds* specifies the number of seconds and this number must be an integer in the range 0 to 4294967295.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

None.

Examples

This example shows how to configure an event configuration when the system policy is overridden:

```
switch# configure terminal
switch(config)# event manager applet applet1
switch(config-applet)# event policy-default count 1
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event poweroverbudget

The power over-budget policy gets triggered when the available power capacity drops below zero and the device is no longer able to keep the previously powered-up modules in the powered-up state. The default action is to print a syslog to notify the user of the occurrence of power over budget. To change the power over budget behavior, use the **event poweroverbudget** command. You must override the default system policy **__pfm_power_over_budget** with a new policy to do this. To remove the power over-budget event specification, use the **no** form of the command.

event poweroverbudget
no event poweroverbudget

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

None.

Examples

This example shows how to shut down modules starting from module 1 when the available power drops below zero:

```
switch# configure terminal
switch(config)# event manager applet pobOverride override __pfm_power_over_budget
switch(config-applet)# event poweroverbudget
switch(config-applet)# event 4 overbudgetshut
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event snmp

To configure an SNMP event, use the **event snmp** command. To remove the SNMP event, use the **no** form of the command.

event snmp [**tag** *tagname*] **oid** *oid* **get-type** {**exact** | **next**} **entry-op** {**gt** | **ge** | **eq** | **ne** | **lt** | **le**} **entry-val** *value* [**exit-comb** {**or** | **and**} **exit-op** {**gt** | **ge** | **eq** | **ne** | **lt** | **le**} **exit-val** *value* **exit-time** *time* | **exit-op** {**gt** | **ge** | **eq** | **ne** | **lt** | **le**} **exit-val** *value*] **poll-interval** *time*
no event snmp [**tag** *tagname*] **oid** *oid* **get-type** {**exact** | **next**} **entry-op** {**gt** | **ge** | **eq** | **ne** | **lt** | **le**} **entry-val** *value* [**exit-comb** {**or** | **and**} **exit-op** {**gt** | **ge** | **eq** | **ne** | **lt** | **le**} **exit-val** *value* **exit-time** *time* | **exit-op** {**gt** | **ge** | **eq** | **ne** | **lt** | **le**} **exit-val** *value*] **poll-interval** *time*

Syntax Description

tag *tagname*	(Optional) Configures an event tag identifier. *tagname* specifies a handle for combining multiple events and this handle can be any string value of 1 to 29 characters.
oid *oid*	Configures the OID to monitor. *oid* in dot notation.
get-type	Retrieve the OID exactly as specified.
exact	Retrieves the object ID specified by the OID value argument.
next	Retrieve the OID that is the alphanumeric successor to the named OID.
entry-op	Configures how to compare the value of the current OID with the specified value.
Operator	A logical operator with the following meanings: • **eq**—Equal to • **ge**—Greater than or equal to • **gt**—Greater than • **le**—Less than or equal to • **lt**—Less than • **ne**—Not equal to
entry-val *value*	Configures a value to compare against the current OID. *value* specifies a value and this number is an integer in the range from 0 to 2147483647.
exit-comb	(Optional) Configures a combination of exit conditions that must be met before event monitor is re-enabled.
and	(Optional) Specifies that an exit OID value and an exit time value must be reached.
or	(Optional) Specifies that an exit OID value or an exit time value must be reached.
exit-op	Configures how to compare the value of the current OID with the exit value. If there is a match an event is triggered and event monitoring is reenabled.

exit-val *value*	Configures the value with which the contents of the current OID are compared to decide whether the exit criteria are met. *value* specifies a value and this number is an integer in the range from 0 to 2147483647.
exit-time *time*	(Optional) Configures the time period after which the event monitoring is reenabled. The timing starts after the event is triggered. *time* is an integer in the range from 1 to 2147483647.
poll-interval	Configures the time interval between consecutive polls.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

An Embedded Event Manager event is triggered when one of the fields specified by an SNMP object ID crosses a defined threshold. If multiple conditions exist, the SNMP event is triggered when all the conditions are met.

Exit criteria are optional. If exit criteria are not specified, event monitoring will be re-enabled immediately. If exit criteria are specified on the basis of values or time periods, the event monitoring is not re-enabled until the criteria are met.

When the **entry-op** keyword is used and there is a match, an event is triggered and event monitoring is disabled until the exit criteria are met.

When the **exit-op** keyword is used and there is a match, an event is triggered and event monitoring is re-enabled.

The **entry-type** keyword triggers one of the following actions:

- If the **value** keyword is specified, the entry-value is an actual value and an SNMP event is raised whenever the absolute value occurs.
- If the **increment** keyword is specified, the entry-value is an increment and an SNMP event is raised whenever the incremental value is reached.
- If the **rate** keyword is specified, the entry-value is a rate of change and an SNMP event is raised whenever the rate of change value is reached.

When the optional **exit-type** keyword is used, the following conditions occur:

- If the **value** keyword is specified, the exit value is an actual value and the event monitoring is re-enabled whenever the absolute value occurs. This is the default.
- If the **increment** keyword is specified, the exit value is an increment and the event monitoring is re-enabled whenever the incremental value is reached.
- If the **rate** keyword is specified, the exit value is a rate of change and the event monitoring is re-enabled whenever the rate of change value is reached.

Examples

The following example shows how to monitor the CPU free memory OID and log a corresponding syslog:

```
switch# configure terminal
switch(config)# event manager applet snmp-applet
switch(config-applet)# event snmp oid 1.3.6.1.4.1.9.9.109.1.1.1.1.13.1 get-type exact
entry-op lt entry-val 100000 poll-interval 60
switch(config-applet)# action 1.0 syslog priority warnings msg free memory fell below 100
Mb
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.
tag	Correlate multiple events in an EEM applet. Correlate multiple events in an EEM applet.

event storm-control

By default, the packet storm feature takes limited action. The packet storm feature can be augmented with further actions, such as disabling the affected interface or sending SNMP traps, by using an EEM applet. To configure a packet storm event as an EEM applet trigger, use the **event storm-control** command. To delete the applet trigger, use the **no** form of the command.

event storm-control
no event storm-control

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

This command is only available on platforms that support the packet storm feature.

Examples

The following example show how to shutdown an interface that exceeds the packet storm feature thresholds:

```
switch# configure terminal
switch(config)# event manager applet stormControlOverride
switch(config-applet)# event storm-control
switch(config-applet)# action 10 cli command "configure terminal"
switch(config-applet)# action 20 cli command "interface $interface"
switch(config-applet)# action 30 cli command "shutdown"
switch(config-applet)# action 40 cli command "end"
switch(config-applet)# action 50 syslog priority notifications msg Storm control: $interface
 shutdown due to $cause
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.
storm-control	Configure packet storm thresholds on an interface.

event syslog

To specify event criteria for an Embeded Event Manager applet that is run by matching syslog messages, use the **event syslog** command in the applet configuration mode. To remove the syslog message event criteria, use the **no** form of the command.

event syslog [**tag** *tagname*] [**occurs** *count* | **period** *interval* | **priority** {**0-7** | **alerts** | **critical** | **debugging** | **emergencies** | **errors** | **informational** | **notifications** | **warnings**}] **pattern** *expression*
no event syslog [**tag** *tagname*] [**occurs** *count* | **period** *interval* | **priority** {**0-7** | **alerts** | **critical** | **debugging** | **emergencies** | **errors** | **informational** | **notifications** | **warnings**}] **pattern** *expression*

Syntax Description

tag *tagname*	(Optional) Configures an event tag identifier. *tagname* specifies a handle for combining multiple events and this handle can be any string value of 1 to 29 characters.
occurs *count*	(Optional) Specifies the number of occurrences of the matched syslog messages to count before triggering the policy event. *count* range is platform specific.
period *interval*	(Optional) Specifies the maximum time within which the timestamps of the triggering messages must fall. *interval* range is platform specific.
priority	(Optional) Specifies the number or name of the desired priority level at which syslog messages are matched. Messages at or numerically lower than the specified level are matched. The parameter for priority must be one of the following: • **0** | **emergencies**— Specifies syslog messages of emergency level (the system is unusable). • **1** | **alerts**— Specifies syslog messages of alert level (immediate action is needed). • **2** | **critical**— Specifies syslog messages of critical level (critical conditions). • **3** | **errors**— Specifies syslog messages of error level (error conditions). • **4** | **warnings**— Specifies syslog messages of warning level (warning conditions). • **5** | **notifications**— Specifies syslog messages of notification level (normal but significant conditions). • **6** | **informational**— Specifies syslog messages of informational level (informational messages). • **7** | **debugging**— Specifies syslog messages of debugging level (debugging messages).
pattern *expression*	Specifies a regular expression to match against syslog messages. The pattern must be quoted with " " quotes. *expression* maximum size is 256 characters.

Command Default

If the **occurs** parameter is not specified, the default value of 1 is used.

If the **period** parameter is not specified, the default value of 0 is used.

If the **priority** parameter is not specified, the default value of informational is used.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

The syslog and Embedded Event Manager client processes run on each supervisor module in a system. Therefore, in dual supervisor systems, an **event syslog** command will be matched on both the active and standby supervisors. Both Embedded Event Manager clients will notify the Embedded Event Manager primary process on the active supervisor causing the applet to be triggered twice. Be sure to take this potential double triggering in to account in the applet.

This command does not require a license.

Examples

This example shows how to configure an applet to trigger after 10 "authentication failed" syslog events:

```
switch# configure terminal
switch(config)# event manager applet auth-fails-applet
switch(config-applet)# event syslog occurs 10 pattern "authentication failed"
Configuration accepted successfully
```

This example shows how to configure an applet to tag module power up and standby online syslog events:

```
switch# configure terminal
switch(config)# event manager applet mod-event-applet
switch(config-applet)# event syslog tag moduleEvent pattern "(powered up|is standby)"
Configuration accepted successfully
```

Related Commands

Command	Description
action syslog	Configures a syslog message to generate when an EEM applet is triggered.
show event manager history events	Displays the history of EEM events.
tag	Correlate multiple events in an EEM applet. Correlate multiple events in an EEM applet.

event sysmgr

To override default system EEM policies, use the **event sysmgr** command. To remove the system manager-related event specification, use the **no** form of the command.

event sysmgr {**memory** [**module** *mod-number*] **major** *value* **minor** *value* **clear** *value* | **switchover count** *count* **time** *seconds*}
no event sysmgr {**memory** [**module** *mod-number*] **major** *value* **minor** *value* **clear** *value* | **switchover count** *count* **time** *seconds*}

Syntax Description

memory	Configures memory alert thresholds.
module *mod-number*	(Optional) Configures for a module. Default is all modules. *mod-number* specifies a module number and the range is platform specific.
major *value*	Configures the major memory alert threshold. *value* specifies the amount of used memory as a percentage.
minor *value*	Configures the minor memory alert threshold. *value* specifies the amount of used memory as a percentage.
clear *value*	Configures the threshold memory usage must fall below to exit memory alert condition. *value* specifies the amount of used memory as a percentage.
switchover count *count*	Configures switchover rate alert threshold. Configures the number of switchovers. *count* range is from 1 to 65000.
time *seconds*	Configures the time interval during which the switchovers must take place to trigger the event. *seconds* specifies the time period and the range is from 1 to 4294967295 seconds.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(2)	This command was introduced.

Usage Guidelines

None.

Examples

The following examples show the default system switchover EEM policy and override the default triggering values with user defined values. The default action is retained.

```
switch# show event manager system-policy __sysmgr_swover_count_alert
```

```
 Name : __sysmgr_swover_count_alert
 Description : Switchover count exceeded event. Default value: 20 switchovers within
 1200 seconds. Default action: All linecards will be powered down.
 Overridable : Yes
```

```
switch# configure terminal
switch(config)# event manager applet sup-so-override override __sysmgr_swover_count_alert
switch(config-applet)# event sysmgr switchover count 3 time 300
switch(config-applet)# action 1.0 policy-default
```

```
switch# show event manager system-policy __sysmgr_policy_mem_alert
 Name : __sysmgr_policy_mem_alert
 Description : service memory usage event
 Overridable : Yes
```

```
switch# configure terminal
switch(config)# event manager applet sup-mem-override override __sysmgr_policy_mem_alert
switch(config-applet)# event sysmgr memory major 90 minor 80 clear 70
switch(config-applet)# action 1.0 policy-default
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager system-policy	Displays the default system EEM policies.
show event manager history events	Displays the history of EEM events.
show running-config eem	Displays all EEM applets.

event temperature

To specify an event criteria for an Embedded Event Manager (EEM) applet that is run on the basis of a temperature event, use the **event temperature** command in the applet configuration mode. To remove the temperature event criteria, use the **no** form of this command.

event temperature [**module** *slot*] [**sensor** *number*] **threshold** {**major** | **minor** | **any**}
no event temperature [**module** *slot*] [**sensor** *number*] **threshold** {**major** | **minor** | **any**}

Syntax Description

module *slot*	(Optional) Configures for particular modules. *slot* specifies a '-' and ',' delimited range of modules. The values are platform specific.
sensor *number*	(Optional) Configures for particular sensors. *number* specifies a '-' and ',' delimited range of sensors and the values are module specific.
threshold	Specifies the threshold event that triggers the Embedded Event Manager applet.
major	Specifies a major event.
minor	Specifies a minor event.
any	Specifies any event.

Command Default

None.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
NX-OS 4.1(3)	This command was introduced.

Usage Guidelines

None.

Examples

This example shows the default system major temperature EEM policy and only performs the default action for a major temperature alert for sensor #8 only.

```
switch# show event manager system __pfm_tempev_major
 Name : __pfm_tempev_major
 Description : TempSensor Major Threshold. Action: Shutdown
 Overridable : Yes


switch# configure terminal
switch(config)# event manager applet majortemp_override override __pfm_tempev_major
switch(config-applet)# event temperature module 1-3 sensor 8 threshold major
switch(config-applet)# action 1.0 policy-default
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show event manager policy	Displays the register EEM applets.
show event manager system-policy	Displays the default system EEM applets.

event zone

The zone server database is constantly monitored by NX-OS. When the threshold of any of the monitored zone database parameters is exceeded an Embedded Event Manager (EEM) event is triggered. This is used to generate an EEM action for the event. To override the system default thresholds at which each parameter triggers an EEM event, use the **event zone** command.

event zone {**zones max-per-switch** | **zonesets max-per-switch** | **zonemembers max-per-switch** | **dbsize max-per-vsan** | **zone-member-ratio** } *count*
no event zone {**zones max-per-switch** | **zonesets max-per-switch** | **zonemembers max-per-switch** | **dbsize max-per-vsan** | **zone-member-ratio** } *count*

Syntax Description

zones	Specifies the total number of configured zones at which to trigger an Embedded Event Manager event.
zonesets	Specifies the threshold zoneset count at which to trigger an Embedded Event Manager event.
zonemembers	Specifies the total number of zone members at which to trigger an Embedded Event Manager event.
dbsize	Specifies the threshold zone database size in bytes at which to trigger an Embedded Event Manager event.
max-per-switch	Configures the number of allowed zones on the switch.
max-per-vsan	Configures the value for each VSAN.
zone-member-ratio	Specifies the threshold zone member ratio of a device at which to trigger an Embedded Event Manager event. The range is 2 to 2000.
count	Specifies the threshold value.

Command Default

This feature is not configured by default.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
8.5(1)	Added the **zone-member-ratio** keyword.
6.2(11)	This command was introduced.

Usage Guidelines

By default, zoning resource alert thresholds are controlled by system EEM policies. These are:

Policy Name	Default Value	Default Action
__zone_zones_max_per_sw	16000 for the switch	syslog
__zone_zonesets_max_per_sw	1000 for the switch	syslog

Policy Name	Default Value	Default Action
__zone_members_max_per_sw	32000 for the switch	syslog
__zone_dbsize_max_per_vsan	4000000 bytes per VSAN	syslog
__zone_member_ratio	8 peers per device	syslog

Fan-out ratio is the number of target ports zoned to a single initiator. Fan-in ratio is the number of initiators zoned to a single target port. Zone member ratio is a superset of fan-out and fan-in ratios.

These policies log syslog messages when preconfigured thresholds are reached to alert the user of high resource usage by the zone service. The thresholds and actions may be over ridden by the user or the actions augmented by further actions (such as sending an SNMP trap).

Examples

This example shows the default system per VSAN maximum zone database size EEM policy and, overrides the database size alert threshold and shows the new policy information.. The default action is retained.

```
switch# show event manager system-policy __zone_dbsize_max_per_vsan

           Name : __zone_dbsize_max_per_vsan
    Description : Syslog warning when Zone database size exceeds the max limit of 4000000
bytes for a vsan.
    Overridable : Yes


switch# configure terminal
switch(config)# event manager applet newzonedb override __zone_dbsize_max_per_vsan
switch(config-applet)# event zone dbsize max-per-vsan 1000000
switch(config-applet)# action 1.0 policy-default
switch(config-applet)# end
switch# show ev man policy internal newzonedb
                        Name : newzonedb    (overrides  __zone_dbsize_max_per_vsan)
                 Policy Type : applet
           Event Specification : event zone dbsize max-per-vsan 1000000
        action 1.0 policy-default
Event Specification active on : Active
```

This example shows how to configure and activate an EEM applet to override the maximum zone count on a system. The default action is overridden by an action to generate a syslog message.

```
switch# configure terminal
switch(config)# event manager applet zonemaxsw override __zone_zones_max_per_sw
switch(config-applet)# action 1.0 syslog priority informational msg "zone zonemaxswitch
override"
switch(config-applet)# end
```

This example shows how to configure and activate an EEM applet to override the maximum zoneset count on a system. The default action is overridden by an action to generate a syslog message.

```
switch# configure terminal
switch(config)# event manager applet zonesetmaxsw override __zone_zonesets_max_per_sw
switch(config-applet)# action 1.0 syslog priority informational msg "zone zonesetmaxswitch
```

```
 override"
switch(config-applet)# end
```

This example shows how to configure and activate an EEM applet called *zoneratio* to override the default system policy and configure the zone member ratio limit to 20. The default action, syslog, is retained.

```
switch# configure terminal
switch(config)# event manager applet zoneratio override __zone_member_ratio
switch(config-applet)# event zone zone-member-ratio 20
switch(config-applet)# action 1.0 policy-default
switch(config-applet)# end
```

Related Commands

Command	Description
action	Configures an action in an EEM applet.
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show event manager policy internal	Displays user policies that override system policies.
show event manager system-policy	Displays the default system EEM applets.
show zone analysis	Display detailed analysis and statistical information about the zoning database including information about the zone member ratio if configured.

event manager applet

To register an applet with the Embedded Event Manager (EEM) and to enter applet configuration mode, use the **event manager applet** command. To unregister the applet, use the **no** form of the command.

event manager applet *applet-name* [**override** *system-policy*]
no event manager applet *applet-name*

Syntax Description

applet-name	The applet name can be any case-sensitive alphanumeric string up to 29 characters.
override *system-policy*	(Optional) Configures the applet to override an existing system policy. *system-policy* specifies the name of the system policy to override.

Command Default

None.

Command Modes

Global configuration.

Command History

Release	Modification
NX-OS 4.1(3)	This command was introduced.

Usage Guidelines

None.

Examples

This example shows how to register an applet with EEM and to enter applet configuration mode:

```
switch# configure terminal
switch(config)# event manager applet eem-applet
switch(config-applet)# end
```

Related Commands

Command	Description
show event manager history events	Displays the history of EEM events.

event manager applet maxrun

To configure the maximum runtime of the applet with the Embedded Event Manager (EEM) use the **event manager applet maxrun** command. To remove the maximum runtime of the applet, use the **no** form of the command.

`event manager applet` *applet-name* `maxrun` *max-runtime*

`no event manager applet` *applet-name*

Syntax Description

applet-name	The applet name can be any case-sensitive alphanumeric string up to 29 characters.
maxrun	(Optional) Specifies the maximum runtime of the applet. If the maxrun keyword is specified, the maxruntime-number value must be specified. If the maxrun keyword is not specified, the default applet run time is 20 seconds.
max-runtime	Specifies the maximum runtime of applet in seconds. The range is from 0 to 2147483647 seconds.

Command Default

None.

Command Modes

Applet configuration (config-applet)

Command History

Release	Modification
NX-OS 4.1(3)	This command was introduced.

Usage Guidelines

None.

This example shows how to register an applet with EEM and to enter applet configuration mode:

```
switch# configure terminal
switch(config)# event manager applet eem-applet
switch(config-applet)# maxrun 26253
```

Related Commands

Command	Description
show event manager history events	Displays the history of EEM events.

event manager environment

To configure an Embedded Event Manager (EEM) environment variable, use the **event manager environment** command. To disable an Embedded Event Manager environment variable, use the **no** form of the command.

event manager environment *environment-name environment-value*
no event manager environment *environment-name*

Syntax Description

environment-name	Specifies the name of the EEM environment variable. The variable name can be any case-sensitive alphanumeric string up to 29 characters.
environment-value	Specifies the value of the EEM environment. The variable name can be any case-sensitive alphanumeric string up to 39 characters.

Command Default

None.

Command Modes

Global configuration.

Command History

Release	Modification
NX-OS 4.1(3)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to set an EEM environment variable:

```
switch# configure terminal
switch(config)# event manager environment emailto "admin@anyplace.com"
switch(config)# end
```

Related Commands

Command	Description
show event manager environment	Displays the name and value of the EEM.
show event manager history events	Displays the history of EEM events.
show event manager policy	Displays the register EEM applets.

event manager policy

To register and activate an Embedded Event Manager (EEM) script policy, use the **event manager policy** command in the global configuration mode. To deactivate the script policy, use the **no** form of the command.

event manager policy *policy-script*
no event manager policy *policy-script*

Syntax Description

policy-script	Specifies the Embedded Event Manager policy script. This name becomes the name of the Embedded Event Manager policy. The maximum size of the name is 29 characters.

Command Default

None.

Command Modes

Global Configuration.

Command History

Release	Modification
NX-OS 4.1(3)	This command was introduced.

Usage Guidelines

User policy scripts must be installed in the bootflash://eem/user_script_policies directory before they can be used. If this directory does not exist, create this directory before the first use of this command and install the policy scripts in it.

The Embedded Event Manager schedules and runs policies on the basis of an event specification that is contained within the policy itself. When the **event manager policy** command is invoked, the Embedded Event Manager examines the policy and registers it to be run when the specified event occurs.

Examples

The following example shows how to register a policy:

```
switch# configure terminal
switch(config)# event manager policy modulescript
switch(config)# end
```

Related Commands

Command	Description
show event manager history events	Displays the history of EEM events.
event manager applet	Displays an applet with the EEM.

event zone

The zone server database is constantly monitored by NX-OS. When the threshold of any of the monitored zone database parameters is exceeded an Embedded Event Manager (EEM) event is triggered. This is used to generate an EEM action for the event. To override the system default thresholds at which each parameter triggers an EEM event, use the **event zone** command.

event zone {**zones max-per-switch** | **zonesets max-per-switch** | **zonemembers max-per-switch** | **dbsize max-per-vsan** | **zone-member-ratio** } *count*
no event zone {**zones max-per-switch** | **zonesets max-per-switch** | **zonemembers max-per-switch** | **dbsize max-per-vsan** | **zone-member-ratio** } *count*

Syntax Description

zones	Specifies the total number of configured zones at which to trigger an Embedded Event Manager event.
zonesets	Specifies the threshold zoneset count at which to trigger an Embedded Event Manager event.
zonemembers	Specifies the total number of zone members at which to trigger an Embedded Event Manager event.
dbsize	Specifies the threshold zone database size in bytes at which to trigger an Embedded Event Manager event.
max-per-switch	Configures the number of allowed zones on the switch.
max-per-vsan	Configures the value for each VSAN.
zone-member-ratio	Specifies the threshold zone member ratio of a device at which to trigger an Embedded Event Manager event. The range is 2 to 2000.
count	Specifies the threshold value.

Command Default

This feature is not configured by default.

Command Modes

EEM applet configuration (config-applet).

Command History

Release	Modification
8.5(1)	Added the **zone-member-ratio** keyword.
6.2(11)	This command was introduced.

Usage Guidelines

By default, zoning resource alert thresholds are controlled by system EEM policies. These are:

Policy Name	Default Value	Default Action
__zone_zones_max_per_sw	16000 for the switch	syslog
__zone_zonesets_max_per_sw	1000 for the switch	syslog

Policy Name	Default Value	Default Action
__zone_members_max_per_sw	32000 for the switch	syslog
__zone_dbsize_max_per_vsan	4000000 bytes per VSAN	syslog
__zone_member_ratio	8 peers per device	syslog

Fan-out ratio is the number of target ports zoned to a single initiator. Fan-in ratio is the number of initiators zoned to a single target port. Zone member ratio is a superset of fan-out and fan-in ratios.

These policies log syslog messages when preconfigured thresholds are reached to alert the user of high resource usage by the zone service. The thresholds and actions may be over ridden by the user or the actions augmented by further actions (such as sending an SNMP trap).

Examples

This example shows the default system per VSAN maximum zone database size EEM policy and, overrides the database size alert threshold and shows the new policy information.. The default action is retained.

```
switch# show event manager system-policy __zone_dbsize_max_per_vsan

          Name : __zone_dbsize_max_per_vsan
    Description : Syslog warning when Zone database size exceeds the max limit of 4000000
bytes for a vsan.
    Overridable : Yes


switch# configure terminal
switch(config)# event manager applet newzonedb override __zone_dbsize_max_per_vsan
switch(config-applet)# event zone dbsize max-per-vsan 1000000
switch(config-applet)# action 1.0 policy-default
switch(config-applet)# end
switch# show ev man policy internal newzonedb
                        Name : newzonedb    (overrides  __zone_dbsize_max_per_vsan)
                 Policy Type : applet
           Event Specification : event zone dbsize max-per-vsan 1000000
        action 1.0 policy-default
Event Specification active on : Active
```

This example shows how to configure and activate an EEM applet to override the maximum zone count on a system. The default action is overridden by an action to generate a syslog message.

```
switch# configure terminal
switch(config)# event manager applet zonemaxsw override __zone_zones_max_per_sw
switch(config-applet)# action 1.0 syslog priority informational msg "zone zonemaxswitch
override"
switch(config-applet)# end
```

This example shows how to configure and activate an EEM applet to override the maximum zoneset count on a system. The default action is overridden by an action to generate a syslog message.

```
switch# configure terminal
switch(config)# event manager applet zonesetmaxsw override __zone_zonesets_max_per_sw
switch(config-applet)# action 1.0 syslog priority informational msg "zone zonesetmaxswitch
```

```
 override"
switch(config-applet)# end
```

This example shows how to configure and activate an EEM applet called *zoneratio* to override the default system policy and configure the zone member ratio limit to 20. The default action, syslog, is retained.

```
switch# configure terminal
switch(config)# event manager applet zoneratio override __zone_member_ratio
switch(config-applet)# event zone zone-member-ratio 20
switch(config-applet)# action 1.0 policy-default
switch(config-applet)# end
```

Related Commands

Command	Description
action	Configures an action in an EEM applet.
show event manager event-types	Displays information about EEM event triggers.
show event manager history events	Displays the history of EEM events.
show event manager policy internal	Displays user policies that override system policies.
show event manager system-policy	Displays the default system EEM applets.
show zone analysis	Display detailed analysis and statistical information about the zoning database including information about the zone member ratio if configured.

exit

To exit any configuration mode or close an active terminal session and terminate the EXEC, use the **exit** command at the system prompt.

exit

Syntax Description

This command has no arguments or keywords.

Command Default

None.

Command Modes

EXEC and configuration modes.

Command History

Release	Modification
4.1(1b)	Modified the command output.
1.0(2)	This command was introduced.

Usage Guidelines

Use the **exit** command at the EXEC levels to exit the EXEC mode. Use the **exit** command at the configuration level to return to privileged EXEC mode. Use the **exit** command in interface configuration mode to return to configuration mode. You also can press **Ctrl-Z**, or use the **end** command, from any configuration mode to return to EXEC mode.



Note The **exit** command is associated with privilege level 0. If you configure AAA authorization for a privilege level greater than 0, this command will not be included in the command set for that privilege level.

Examples

The following example displays an exit from the submode:

```
switch(config-port-monitor)# exit
switch(config)#
```

The following example displays an exit from the interface configuration mode for VRRP to return to the interface configuration mode:

```
switch(config-if-vrrp)# exit
switch(config-if)#
```

The following example displays an exit from the interface configuration mode to return to the configuration mode:

```
switch(config-if)# exit
switch(config)#
```

The following example shows how to exit an active session (log-out):

```
switch# exit
```

Related Commands

Command	Description
end	Returns you to EXEC mode.