FS.COM

# FiberstoreOS

# Device Management Command Line Reference

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# 1 STM Commands

## 1.1 stm prefer

Use the stm prefer Global Configuration command to configure the profile used in Switch Table Management (STM) resource allocation. You can use profile to allocate system memory to best support the features being used in your application. Use profile to approximate the maximum number of unicast MAC addresses, quality of service (QoS) access control entries (ACEs) and unicast routes. Use the no form of this command to return to the default profile.

### Command Syntax

**stm prefer** *PROFILE*

**no stm prefe**r

| | |
|---|---|
| *PROFILE* | Profile mode, can be **default**, **ipv4**, **vlan** and **ipv6**<br>**default:** provide balance to all features<br>**vlan:** provide maximum system utilization for VLANs. This profile maximizes system memory for use as a Layer 2 switch<br>**ipv4:** provide maximum system utilization for unicast routing. You would typically use this profile for a router or aggregator in the middle of a network<br>**ipv6**: Unicast bias, supporting more IPv6 Ucast Routes. This profile is only existed when IPv6 feature is supported. |

### Command Mode

Global Configuration

### Default

System use the default profile when first boot up, this profile balance all the features.

### Usage

Users must reload the switch for the configuration to take effect.

### Examples

This example shows how to configure the ipv4 profile on the switch:

Switch(config)# stm prefer ipv4

Switch(config)# exit

Switch# reload

You can verify your settings by entering the show stm prefer in privileged EXEC mode.

### Related Commands

**show stm prefer**

## 1.2 show stm prefer

Use the show stm prefer privileged EXEC command to display information about the profiles that can be used to maximize system resources for a particular feature, or use the command without a keyword to display the profile in use.

### Command Syntax

**show stm prefer** *PROFILE*

| | |
|---|---|
| *PROFILE* | Profile mode, can be **default**, **ipv4**, **vlan** , **l2vpn and ipv6.**<br>**default:** provide balance to all features<br>**vlan:** provide maximum system utilization for VLANs. This profile maximizes system memory for use as a Layer 2 switch<br>**ipv4:** provide maximum system utilization for unicast routing. You would typically use this profile for a router or aggregator in the middle of a network<br>**l2vpn:** provide maximum system utilization for Layer2 VPN. This profile is only existed on metro advanced image<br>**ipv6**: Unicast bias, supporting more IPv6 Ucast Routes. This profile is only existed when IPv6 feature is supported. |

### Command Mode

Privileged EXEC

## Default

None

## Usage

If you did not reload the switch after entering the stm prefer Global Configuration command, the show stm prefer privileged EXEC command displays the profile currently in use and not the newly configured profile.

The numbers displayed for each profile represent an approximate maximum number for each feature resource.

## Examples

This is an example of output from the show stm prefer command, displaying the profile currently in use:

Switch# show stm prefer

```
Current profile is :default
The selected profile optimizes the resources in
the switch to make balance entry number among
route, mac, related tables.

number of Ethernet features:
   VLAN number                        : 4094
   VLAN forwarding instances           : 1024
   Ucast MAC addresses                : 24523
   Mcast MAC addresses                : 1024
   Blackhole MAC addresses             : 256
   Max applied VLAN mapping            : 959
   CFM local&remote MEPs              : 512
   G.8031 groups                      : 64
   G.8032 rings                       : 32
number of VLAN class rules:
   MAC based VLAN classification       : 255
   IPv4 based VLAN classification      : 255
number of Dot1x Mac entry:
   Mac based dot1x                    : 255
number of IP unicast routing:
   IPv4 host routes                   : 3072
   Indirect IPv4 routes               : 3032
   IPv4 ECMP groups                   : 128
   IPv4 policy based routes            : 255
number of IP multicast routing:
   IPv4 Mcast routes                  : 508
   IPv4 Mcast total members            : 4064
number of Security features:
   IPv4 source guard entries           : 255
   IPv4 ACL/QOS flow entries           : 1533

The profile stored for use after the next reload
```

```
is the ipv4 profile.
number of Ethernet features:
    VLAN number                          : 4094
    VLAN forwarding instances             : 1024
    Ucast MAC addresses                  : 12235
    Mcast MAC addresses                  : 1024
    Blackhole MAC addresses               : 64
    Max applied VLAN mapping             : 191
number of VLAN class rules:
    MAC based VLAN classification         : 511
    IPv4 based VLAN classification        : 255
number of IP unicast routing:
    IPv4 host routes                     : 6144
    Indirect IPv4 routes                 : 8152
    IPv4 ECMP groups                     : 256
    IPv4 policy based routes             : 511
number of IP multicast routing:
    IPv4 Mcast routes                    : 1020
    IPv4 Mcast total members             : 8160
number of Security features:
    IPv4 source guard entries            : 255
    IPv4 ACL/QOS flow entries            : 381
```

## Related Commands

### stm prefer

# 2 Syslog Commands

## 2.1 clear logging buffer

To clear messages from the logging buffer, use the clear logging buffer command in Privileged EXEC mode.

### Command Syntax

clear logging buffer

### Command Mode

### Privileged EXECDefault

None

### Usage

Clear log messages in logging buffer

### Examples

The following shows how to clear logging buffer:

Switch# clear logging buffer

### Related Commands

**show logging buffer**

## 2.2 logging alarm-trap

To limit messages logged to the syslog servers based on severity, use the logging alarm-trap command in Global Configuration mode. To restore the default level, use the no form of this command.

### Command Syntax

**logging alarm-trap (enable | disable | level (high | lower | middle | minor))**

**no logging alarm-trap level**

| | |
|---|---|
| **enable** | Enable logging traps |
| **disable** | Disable logging traps |
| **level high** | The high alarm level |
| **level lower** | The lower alarm level. |
| **level middle** | The middle alarm level |
| **level minor** | The minor alarm level |

### Command Mode

Global Configuration

### Default

Logging trap is disabled.

### Usage

A trap is an unsolicited message sent to a remote network management host. Logging traps should not be confused with SNMP traps.

### Examples

The following shows how to limit messages logged to the log servers based on severity.

Switch(config)# logging alarm-trap enable

Switch(config)# logging alarm-trap level high

### Related Commands

**logging alarm-trap level middle**

## 2.3 logging file

To enable writing logs into files, use the logging file command in Global Configuration mode.

### Command Syntax

**logging file (enable | disable)**

| | |
|---|---|
| **enable** | Enable writing logs to file |
| **disable** | Disable writing logs to file |

### Command Mode

Global Configuration

### Default

Logging file is enabled

### Usage

If logging file will enabled, the log will be saved to flash:/syslog every 10 minutes.

### Examples

The following shows how to enable logging file function.

Switch(config)# logging file enable

### Related Commands

**show logging**

## 2.4 logging level file

To set severity level while writing logs into files, use the logging level file command in Global Configuration mode. To return the logging to the default level, use the no form of this command.

### Command Syntax

**logging level file** (**alert | critical | debug | emergency | error | information | notice | warning |** *severity-level*)

**no logging level file**

| | |
|---|---|
| **0 | emergency** | System is unusable |

| | |
|---|---|
| **1 \| alert** | Immediate action needed |
| **2 \| critical** | Critical conditions |
| **3 \| error** | Error conditions |
| **4 \| warning** | Warning conditions |
| **5 \| notice** | Normal but significant conditions |
| **6 \| information** | Informational messages |
| **7 \| debug** | Debugging messages |
| *severity-level* | Severity level. The range is 0 to 7 |

### Command Mode

Global Configuration

### Default

Logging file level is warning.

### Usage

Specifying a severity-level causes messages only at that level and numerically lower levels to files.

### Examples

In the following example, the user specifies that only messages of the levels error, critical, alerts, and emergency be logged to files:

Switch(config)# logging level file 3

### Related Commands

**logging level module**

## 2.5 logging level module

To set severity level, use the logging level module command in Global Configuration mode. To return the logging to the default level, use the no form of this command.

### Command Syntax

**logging level module** (**alert** | **critical** | **debug** | **emergency** | **error** | **information** | **notice** | **warning** | *severity-level*)

**no logging level module**

| | |
|---|---|
| **0 \| emergency** | System is unusable |
| **1 \| alert** | Immediate action needed |
| **2 \| critical** | Critical conditions |
| **3 \| error** | Error conditions |
| **4 \| warning** | Warning conditions |
| **5 \| notice** | Normal but significant conditions |
| **6 \| information** | Informational messages |
| **7 \| debug** | Debugging messages |
| *severity-level* | Severity level. The range is 0 to 7 |

## Command Mode

Global Configuration

## Default

Logging file level is warning.

## Usage

Specifying a severity-level causes messages only at that level and numerically lower levels of the modules.

## Examples

In the following example, the user specifies that only messages of the levels error, critical, alerts, and emergency be logged:

Switch(config)# logging level module 3

## Related Commands

**logging level file**

# 2.6 logging merge

To enable the logging mergence, use the logging merge command in Global Configuration mode. To restore to default value, use the no form of this command.

## Command Syntax

**logging merge (enable | disable | fifo-size** *size* **| timeout** *seconds***)**

**no logging merge (fifo-size | timeout)**

| | |
|---|---|
| **enable** | Enable logging mergence |
| **disable** | Disable logging mergence |
| **fifo-size** *size* | Set fifo size. The range is 100 to 10240 |
| **timeout** *seconds* | Set timeout. The range is 1 to 300 seconds |

## Command Mode

Global Configuration

## Default

Logging mergence is enabled.

## Usage

The logging merge command merges all the same logs into one during a specified time range. During this time, the switch buffered these same logs. You can use the timeout keyword to set the time range, and use the fifo-size to set the buffer size.

## Examples

The following shows how to enable logging merge function.

Switch(config)# logging merge enable

## Related Commands

**logging merge timeout** *30*

## 2.7 logging sync

To sync log to logging buffer, use the logging sync command in privileged EXEC mode.

### Command Syntax

**logging sync**

### Command Mode

Privileged EXEC

### Default

None

### Usage

When enabled log merge, system will merge all the same logs into one during a specified time range. During this time log will not send to logging buffer. If user wants to sync log to logging buffer, use this command.

### Examples

The following shows how to enable logging sync function.

Switch# logging sync

### Related Commands

**logging merge enable**

## 2.8 logging operate

To log the operations, and use the logging operate command in Global Configuration mode.

### Command Syntax

**logging operate (enable | disable)**

| | |
|---|---|
| **enable** | Enable logging operations |
| **disable** | Disable logging operations |

### Command Mode

Global Configuration

### Default

Logging operations is disabled

### Usage

If logging operate is enabled, all the CLI in configure mode or higher will be save to logger buffer.

### Examples

The following shows how to enable logging operate function.

Switch(config)# logging operate enable

### Related Commands

**logging server**

## 2.9 logging server

To enable the logging to the remote logging servers, use the logging server command in Global Configuration mode.

### Command Syntax

**logging server** (**enable** | **disable**)

| | |
|---|---|
| **enable** | Enable logging server |
| **disable** | Disable logging server |

### Command Mode

Global Configuration

### Default

Logging operations is disabled.

### Usage

This command is used to send logger to a remote server.

### Examples

The following shows how to use logging server command.

Switch(config)# logging server enable

### Related Commands

**logging server severity**

## 2.10 logging server address

To log system messages and debug output to a remote server, use the logging server address command in Global Configuration mode. To remove a specified logging server from the configuration, use the no form of this command.

### Command Syntax

**logging server address** (**mgmt-if |** ) (*ipv4-address* | *ipv6-address*)

**no logging server address** (**mgmt-if |** ) **(***ipv4-address* | *ipv6-address*)

| | |
|---|---|
| **mgmt-if** | Management port |
| *ipv4-address* | IPv4 address of the server that will receive the system logging messages |
| *ipv6-address* | IPv6 address of the server that will receive the system logging messages |

### Command Mode

Global Configuration

### Default

System logging messages are not sent to any remote server.

### Usage

The logging server address command identifies a remote server (usually a device serving as a syslog server) to receive logging messages. By issuing this command more than once, you can build a list of servers that receive logging messages.

### Examples

In the following example, messages are logged to a server at 209.165.202.169:

Switch(config)# logging server address 209.165.202.169

### Related Commands

**logging server**

## 2.11 logging server facility

To configure the syslog facility in which error messages are sent, use the logging server facility command in Global Configuration mode. To revert to the default of local7, use the no form of this command.

### Command Syntax

**logging server facility** *facility-type*

**no logging server facility**

| | |
|---|---|
| *facility-type* | Syslog facility. See the “Usage” section of this command reference entry for descriptions of acceptable keywords |

### Command Mode

Global Configuration

### Default

Default is local7

### Usage

The following table describes the acceptable keywords for the facility-type argument.

| Facility-type keyword | Facility-id | Description |
|---|---|---|
| **auth** | 4 | Authorization system |
| **authpriv** | 10 | Authorization priv system |
| **cron** | 9 | Cron facility |

| Facility-type keyword | Facility-id | Description |
|---|---|---|
| **daemon** | 3 | System daemon |
| **ftp** | 11 | FTP sytem |
| **kern** | 0 | Kernel |
| **local0–7** | 16-23 | Reserved for locally defined messages |
| **lpr** | 6 | Line printer system |
| **mail** | 2 | Mail system |
| **news** | 7 | USENET news |
| **syslog** | 5 | System log |
| **user** | 1 | User |
| **uucp** | 8 | UNIX-to-UNIX |

### Examples

The following shows how to use logging file command:

Switch(config)# logging server facility local3

### Related Commands

**logging server**

## 2.12 logging server severity

To set severity level while writing logs into servers, use the logging server severity command in Global Configuration mode. To revert to the default severity level, use the no form of this command.

### Command Syntax

**logging server severity** (**alert** | **critical** | **debug** | **emergency** | **error** | **information** | **notice** | **warning** | *severity-level*)

**no logging server severity**

| | |
|---|---|
| **0** | **emergency** | System is unusable |
| **1** | **alert** | Immediate action needed |
| **2** | **critical** | Critical conditions |

| | |
|---|---|
| **3 | error** | Error conditions |
| **4 | warning** | Warning conditions |
| **5 | notice** | Normal but significant conditions |
| **6 | information** | Informational messages |
| **7 | debug** | Debugging messages |
| *severity-level* | Severity level. The range is 0 to 7 |

### Command Mode

Global Configuration

### Default

Logging server level is warning.

### Usage

This command is used to set severity level while writing logs into servers.

### Examples

In the following example, the user specifies that only messages of the levels error, critical, alerts, and emergency be logged to server.

Switch(config)# logging server severity 3

### Related Commands

**logging level module**

**logging level file**

## 2.13 logging timestamp

To configure the system to apply a time-stamp to debugging messages or system logging messages, use the logging timestamps command in Global Configuration mode. To restore the default timestamp format, use the no form of this command.

### Command Syntax

**logging timestamp (bsd | date | iso | none | rfc3164 | rfc3339)**

**no logging timestamp**

| | |
|---|---|
| **bsd** | BSD style (RFC 3164) |
| **date** | Date command style |
| **iso** | ISO style (RFC 3339) |
| **none** | No timestamp |
| **rfc3164** | RFC 3164 style (bsd) |
| **rfc3339** | RFC 3339 style (iso) |

### Command Mode

Global Configuration

### Default

Default timestamp format is BSD.

### Usage

This command is used to specify the timestamp in logger message.

### Examples

The following shows how to set the timestamp to iso.

Switch(config)# logging timestamp iso

### Related Commands

**show logging**

## 2.14 show logging

To display the state of system logging (syslog), use the show logging command in privileged EXEC mode.

### Command Syntax

**show logging**

### Command Mode

Privileged EXEC

### Default

None

### Usage

This command is used to display the configuration of the log.

### Examples

The following shows how to display the configuration of the log.

Switch# show logging

```
Current logging configuration:
============================================================
logging buffer 500
logging timestamp date
logging file enable
logging level file warning
logging level module debug
logging server disable
logging server severity warning
logging server facility local7
logging alarm-trap enable
logging alarm-trap level middle
logging merge disable
logging merge fifo-size 1024
logging merge timeout 10
logging operate disable
```

### Related Commands

**logging level**

## 2.15 show logging buffer

To display the contents of the standard system logging buffer, use the show logging buffer command in privileged EXEC mode.

### Command Syntax

**show logging buffer** (*number* | **statistics**)

| | |
|---|---|
| *number* | Specify the max number of logs |
| **statistics** | Display statistics of logging buffers |

## Command Mode

Privileged EXEC

## Default

None

## Usage

This command is used to display the contents in logging buffer.

## Examples

The following shows how to use show logging buffer command.

Switch# show logging buffer statistics

```
Logging buffer statistics:
============================================================
Total processed 153 entries
Total dropped 0 entries
Current have 153 entries
The latest message is:
Aug  6 16:06:44 Switch3 IMISH-6: ready to service
The oldest message is:
Aug  6 13:38:38 Switch LOGGING-5: logging starting up; version=\'2.0rc4\'
```

## Related Commands

**show logging**

# 3 Mirror Commands

## 3.1 monitor session destination interface

Use this command to set mirror destination interface.

To remove this setting, use the no form of this command.

### Command Syntax

**monitor session** *session* **destination interface** *interface*

**no monitor session** *session* **destination**

| | |
|---|---|
| *session* | <1-3> mirror session number |
| **destination interface** *interface* | mirror destination interface |

### Command Mode

Global Configuration

### Default

None

### Usage

The destination interface can only be physical port. It can be neither VLAN interface nor Aggregator interface.

Same session can't configure both local destination interface and remote destination VLAN.(About the remote destination VLAN, please refer to chapter "monitor session destination remote".)

### Examples

- This example shows how to set the mirror destination port to eth-0-1 in session 1.

Switch(config)# monitor session 1 destination interface eth-0-1

- This example shows how to remove this setting.

Switch(config)# no monitor session 1 destination

### Related Commands

**monitor session** *session-id* **source interface**

**monitor session** *session-id* **source vlan**

**show monitor**

## 3.2 monitor session source interface

Use this command to set mirror source interface.

To remove this setting, use the no form of this command.

### Command Syntax

**monitor session** *session* **source interface** *interface* (**both** | **tx** |**rx**)

**no monitor session** *session* **source interface** *interface* (**both** | **tx** |**rx**)

| | |
|---|---|
| *session* | <1-3> mirror session number |
| **destination interface** *interface* | mirror source interface |
| **both** | monitor received and transmitted traffic on that interface |
| **rx** | monitor received traffic only on that interface |
| **tx** | monitor transmitted traffic only on that interface |

### Command Mode

Global Configuration

### Default

None

### Usage

The mirror source interface can be either physical port or Aggregator interface. (e.g. eth-0-1, agg1).

If the parameter for direction [both|tx|rx] is not specified, the default value is both.

### Examples

This example shows how to set the mirror source port to eth-0-11 in session 1.

Switch(config)# monitor session 1 source interface eth-0-11

This example shows how to remove this setting.

Switch(config)# no monitor session 1 source interface eth-0-11

### Related Commands

**monitor session** *session-id* **destination**

**show monitor**

## 3.3 monitor session source vlan

Use this command to set mirror source vlan.

To remove this setting, use the no form of this command.

### Command Syntax

**monitor session** *session* **source vlan** *vlan* (**both** | **tx** |**rx**)

**no monitor session** *session* **source vlan** *vlan* (**both** | **tx** |**rx**)

| | |
|---|---|
| *session* | <1-3> mirror session number |
| *vlan* | <1-4094> the source vlan id to be mirrored |
| **both** | monitor received and transmitted traffic on that interface |
| **rx** | monitor received traffic only on that interface |
| **tx** | monitor transmitted traffic only on that interface |

## Command Mode

Global Configuration

## Default

None

## Usage

If the parameter for direction (both|tx|rx) is not specified, the default value is both.

Before configure the monitor session source vlan, User should create vlan by command “vlan database”, and create vlan interface by command “interface vlan” first.

## Examples

This example shows how to create vlan and vlan interface.

Switch (config)# vlan database

Switch (config-vlan)# vlan 2

Switch (config-vlan)# exit

Switch(config)#interface vlan2

Switch(config-if)#exit

This example shows how to set the mirror source to vlan2 in session 1.

Switch(config)# monitor session 1 source vlan 2 both

This example shows how to set the mirror source to vlan2 in session 1 to monitor received traffic only.

Switch(config)# monitor session 1 source vlan 2 rx

This example shows how to set the mirror source to vlan2 in session 1 to monitor transmitted traffic only.

Switch(config)# monitor session 1 source vlan 2 tx

This example shows how to remove this setting.

Switch(config)#no monitor session 1 source vlan 2 both

This example shows how to delete vlan and vlan interface.

Switch(config)#no interface vlan2

Switch (config)# vlan database

Switch (config-vlan)# no vlan 2

Switch (config-vlan)# exit

### Related Commands

**monitor session destination**

**show monitor**

**vlan database**

**vlan** *vlan*

**interface vlan** *vlan*

## 3.4 monitor session destination remote

Use this command to set mirror remote destination vlan and interface.

To remove this setting, use the no form of this command.

### Command Syntax

**monitor session** *session* **destination remote vlan** *vlan* **interface** *interface*

**no monitor session** *session* **destination remote vlan**

| | |
|---|---|
| *session* | <1-3> mirror session number |
| *vlan* | <2-4094> Remote mirror destination VLAN id |
| *interface* | the out-going interface for mirrored packets |

### Command Mode

Global Configuration

### Default

None

### Usage

The destination vlan should be created in vlan database.

The destination interface can only be physical port. The port should in the specified vlan.

To prevent another copy of packets flood out from the destination outgoing port, user can remove the port from default vlan by command “switchport trunk allowed vlan remove 1”.

### Examples

This example shows how to create the vlan:

Switch (config)# vlan database

Switch (config-vlan)# vlan 2

Switch (config-vlan)# exit

This example shows how to set the mirror remote destination vlan to 2 and out going port to eth-0-1 in session 1:

Switch(config)# monitor session 1 destination remote vlan 2 interface eth-0-1

This example shows how to remove this setting:

Switch(config)# no monitor session 1 destination remote vlan

This example shows how to delete the vlan:

Switch (config)# vlan database

Switch (config-vlan)# no vlan 2

Switch (config-vlan)# exit

### Related Commands

**monitor session session-id source interface**

**monitor session session-id source vlan**

**vlan database**

**vlan** *vlan*

## 3.5 monitor mac escape

Use this command to set remote mirror Mac escape feature. When this escape entries are set, the packets with specified MAC-DA will not be mirrored to the remote destination vlan when using Rspan(remote mirror) .

To remove this setting, use the no form of this command.

### Command Syntax

**monitor mac escape** *MAC MASK*

**no monitor mac escape** (*MAC MASK* | )

| | |
|---|---|
| *MAC* | mac address in HHHH. HHHH. HHHH format |
| *MASK* | mac address mask in HHHH. HHHH. HHHH format |

### Command Mode

Global Configuration

### Default

None

### Usage

Mac escape is used for remote mirror. It will not effect the result of local mirror..

If a Mac escape entry is set, the packet with this Mac destination can not be mirrored in remote mirror.

Command “no monitor mac escape <MAC> <MASK>” should delete the specified entry.

Command “no monitor mac escape” should delete all entries.

### Examples

This example shows how to set the mirror mac escape

Switch(config)# monitor mac escape 00cc.1122.3344 ffff.ffff.0000

This example shows how to remove this setting

Switch(config)# no monitor mac escape 00cc.1122.3344 ffff.ffff.0000

### Related Commands

**monitor session** *session-id* **destination remote**

## 3.6 show monitor

Use this command to show the information about monitor.

### Command Syntax

**show monitor** (**session** *session*)

| | |
|---|---|
| *session* | <1-3> mirror session number |

### Command Mode

Privileged EXEC

### Default

None

### Usage

If session id is not specified, any configured sessions should be shown.

### Examples

This example shows how to display the information about monitor:

DUT1# show monitor

```
Session  1
----------
Status             : Valid
Type               :  Local Session
Source Ports       :
  Receive Only     :
  Transmit Only    :
  Both             : eth-0-2 eth-0-3
Source VLANs       :
  Receive Only     :
  Transmit Only    :
  Both             :
Destination Port   : eth-0-1
```

### Related Commands

**monitor session** *session-id* **source interface**

**monitor session** *session-id* **source vlan**

**monitor session** *session-id* **destination interface**

**monitor session** *session-id* **destination remote**

## 3.7 show monitor mac escape

Use this command to show mac escape settings for remote mirror.

## Command Syntax

show monitor mac escape

## Command Mode

Privileged EXEC

## Default

None

## Usage

None

## Examples

This example shows how to display the information about monitor mac escape.

Switch# show monitor mac escape

```
-------------------------------------------------------------
          monitor rspan mac escape database
-------------------------------------------------------------
count   : 1
-------------------------------------------------------------
 Mac     : 00:cc:11:22:33:44
 Mask    : ff:ff:ff:ff:00:00
-------------------------------------------------------------
```

## Related Commands

**monitor mac escape** *MAC MASK*

# 4 Device Management Commands

## 4.1 temperature

To specify the system termperature monitor threshold.

### Command Syntax

**termperature** *low high critical*

**no termperature**

| | |
|---|---|
| *low* | Low alarm temperature degree Celsius <0-50> |
| *high* | High alarm temperature degree Celsius <50-85> |
| *critical* | Critical alarm temperature degree Celsius <55-90> |

### Command Mode

Global Configuration

### Default

The default threshold is low temperature 5, high temperature 75, critical temperature 90.

### Usage

The unit for temperature is centigrade.

The critical temperature must higher than high temperature 5 Celsiur degrees.

The high temperature must higher than low temperature 5 Celsiur degrees.

### Examples

This example shows how to specify the temperature thresholds:

Switch# configure terminal

Switch(config)# temperature 5 70 90

### Related Commands

**show environment**

## 4.2 show environment

Use this command to show the hardware environment information.

### Command Syntax

**show environment**

### Command Mode

Privileged EXEC

### Default

None

### Usage

None

### Examples

This example shows how to display hardware environment information.

Switch# show environment

```
Fan tray status:
Index     Status
1         PRESENT
FanIndex   Status SpeedRate Mode
1-1        OK      30%      Auto
1-2        FAIL     0%      Auto
1-3        OK      30%      Auto
1-4        OK      30%      Auto
-------------------------------------------------------
Power status:
Index     Status    Power     Type      Fans      Control
1         PRESENT   OK        AC        -         -
2         ABSENT    -         -         -         -
3         PRESENT   OK        DC(PoE)   -         -
-------------------------------------------------------
Sensor status (Degree Centigrade):
```

```
Index Temperature  Lower_alarm  Upper_alarm Critical_limit
1     51           5            75          90
```

### Related Commands

**temperature**

## 4.3 show system info

Print the lowest as environment temperature, the highest as chip temperature.

### Command Syntax

**show system info**

### Command Mode

Privileged EXEC

### Default

None

### Usage

None

### Examples

This example shows how to display system information.

Switch# show system info

```
SYSTEM INFO
Environment termperature          : 50 Degree Celsius
Chip termperature                 : 50 Degree Celsius
```

### Related Commands

None

## 4.4 boot system

Use this command to specify the system image that the switch loads at startup.

### Command Syntax

**boot system** (*file-name* | **tftp: mgmt-if** *ip-address file-name*)

| | |
|---|---|
| *file-name* | The file name that will be used to load at startup |
| *ip-address* | The tftp server IP address |
| *file-name* | The file name that will be used to load at startup |
| **tftp: mgmt-if** | Use management port |

### Command Mode

Privileged EXEC

### Default

None

### Usage

None

### Examples

This example shows how to boot system file_name command.

Switch# boot system tftp: mgmt-if 10.10.29.160 uImage.r

### Related Commands

None

## 4.5 show transceiver

Use this command to show the transceiver information.

### Command Syntax

**show transceiver** (*detail* | )

| | |
|---|---|
| *detail* | Show detail include DDM information |

## Command Mode

Privileged EXEC

## Default

None

## Usage

None

## Examples

This example shows how to display transceiver information.

Switch# show transceiver detail

```
Port eth-1-2 transceiver info:
Transceiver Type: 10G Base-SR
Transceiver Vendor Name : OEM
Transceiver PN          : SFP-10GB-SR
Transceiver S/N         : 201033PST1077C
Transceiver Output Wavelength: 850 nm
Supported Link Type and Length:
     Link Length for 50/125um multi-mode fiber: 80 m
     Link Length for 62.5/125um multi-mode fiber: 30 m
-------------------------------------------------------------------------------
Transceiver is internally calibrated.
mA: milliamperes, dBm: decibels (milliwatts), NA or N/A: not applicable.
++ : high alarm, +  : high warning, -  : low warning, -- : low alarm.
The threshold values are calibrated.
-------------------------------------------------------------------------------
           High Alarm   High Warn   Low Warn    Low Alarm
Temperature   Threshold    Threshold    Threshold     Threshold
Port  (Celsius)      (Celsius)     (Celsius)     (Celsius)      (Celsius)
--------- ------------------  ----------  ----------  ----------  ----------
eth-1-2  25.92       95.00        90.00      -20.00       -25.00
-------------------------------------------------------------------------------------------------
----
                High Alarm   High Warn   Low Warn    Low Alarm
      Voltage     Threshold     Threshold   Threshold     Threshold
Port     (Volts)      (Volts)       (Volts)      (Volts)       (Volts)
--------- ----------------- ----------------  ----------------  ---------------  ---------------
eth-1-2   3.32       3.80        3.70       2.90         2.80
-------------------------------------------------------------------------------------------------
-----
                 High Alarm   High Warn   Low Warn    Low Alarm
        Current     Threshold     Threshold   Threshold     Threshold
Port   (milliamperes)  (mA)         (mA)        (mA)        (mA)
--------- ------------------  ---------------  ----------------  -----------------
-------------
eth-1-2    6.41       20.00       18.00       1.00          0.50
```

```
-------------------------------------------------------------------------------------------------
-------
      Optical     High Alarm   High Warn   Low Warn    Low Alarm
    Transmit Power   Threshold    Threshold    Threshold     Threshold
Port   (dBm)         (dBm)       (dBm)        (dBm)       (dBm)
--------- ------------------  ---------------  ----------------  ----------------
---------------
eth-1-2    -2.41       2.01       1.00        -6.99        -7.96
-------------------------------------------------------------------------------------------------
---------
      Optical     High Alarm   High Warn    Low Warn    Low Alarm
    Receive Power    Threshold    Threshold     Threshold     Threshold
Port    (dBm)         (dBm)       (dBm)        (dBm)         (dBm)
--------- ------------------  ---------------  -----------------  ----------------
----------------
eth-1-2     -12      -     1.00       0.00       -19.00      -20.00
-------------------------------------------------------------------------------------------------
---------
```

### Related Commands

None

## 4.6 update bootrom

Use this command to update bootrom image.

### Command Syntax

**update bootrom** (*flash* | *udisk*)

| | |
|---|---|
| *flash* | Source file direction |
| *udisk* | Source file direction |

### Command Mode

Global Configuration

### Default

None

### Usage

None

### Examples

This example shows how to update bootrom image.

Switch(config)# update bootrom flash:/boot/ bootrom.bin

### Related Commands

None

## 4.7 update epld

Use this command to update epld.

### Command Syntax

**update epld** (*flash* | *udisk*)

| | |
|---|---|
| *flash* | Source file direction |
| *udisk* | Source file direction |

### Command Mode

Global Configuration

### Default

None

### Usage

None

### Examples

This example shows how to update epld.

Switch(config)# update epld flash:/boot/ vme_v1.0

### Related Commands

None

# 5 Bootrom Commands

## 5.1 version

Use the version command to show the Bootrom version information.

### Command Syntax

**version**

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to show the U-boot version.

bootrom:> version

```
Bootrom 3.0.0 (Development build) (Build time: Apr 13 2011 - 15:31:37)
```

### Related Commands

None

## 5.2 setenv

Use this command to set Bootrom environment variables.

### Command Syntax

**setenv** ( **ipaddr** | **serverip** *IPaddres* | **bootcmd** *boot arguments* )

| | |
|---|---|
| **serverip** *IPaddress* | Local device or tftp server IP address |
| *boot arguments* | Boot form flash or tftp server |

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to set Switch IP address as environment variables.

bootrom:> setenv ipaddr 10.10.29.48

This example shows how to set TFTP server IP address as environment variables.

bootrom:> setenv serverip 10.10.29.160

This example shows how to set boot command as environment variables.

bootrom:> setenv bootcmd boot_flash

bootrom:> setenv bootcmd boot_flash OS-ma-v3.0.1.it.r.bin

### Related Commands

saveenv

printenv

## 5.3 saveenv

Use the saveenv command to save the Bootrom environment variables to persistent storage.

### Command Syntax

**saveenv**

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to save the Bootrom environment variables.

bootrom:> saveenv

```
Saving Environment to EEPROM
```

### Related Commands

**printenv**

## 5.4 printenv

Use the printenv command to show the U-boot environment variables.

### Command Syntax

**printenv**

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to show the Bootrom environment variables.

bootrom:> printenv

```
stderr=serial
ipaddr=10.10.29.48
serverip=10.10.29.160
.
Environment size: 818/2044 bytes
```

### Related Commands

**setenv**

## 5.5 reset

Use the reset command to perform RESET of the CPU.

### Command Syntax

**reset**

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to RESET the CPU in Bootrom.

bootrom:> reset

### Related Commands

**saveenv**

## 5.6 ping

Use the ping command to send ICMP ECHO_REQUEST to network host.

### Command Syntax

**ping** *IPaddress*

| | |
|---|---|
| *IPaddress* | remote host IP address |

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to use ping command in Bootrom mode.

bootrom:> ping 10.10.29.160

```
Interface 0 has 2 ports (GMII)
Using octeth0 device
octeth0: Up 100 Mbps Full duplex (port  0)
host 10.10.29.160 is alive
```

### Related Commands

**saveenv**

## 5.7 ls

Use the ls command to list files in a directory (default is /).

### Command Syntax

**ls**

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to list files in a directory (default is /).

bootrom:> ls

```
Scanning JFFS2 FS: . done
drwxr-xr-x       0 Thu Jan 01 00:00:04 1970 log
drwxr-xr-x       0 Thu Jan 01 00:00:04 1970 boot
drwxr-xr-x       0 Thu Jan 01 00:00:04 1970 conf
-rw-------     144 Thu Jan 13 19:51:01 2000 dhcpsnooping
```

### Related Commands

None

## 5.8 boot_tftp

Use the boot_tftp command to boot system through the specified system image from TFTP server.

### Command Syntax

**boot_tftp** *image name*

| | |
|---|---|
| *image name* | Image name of tftp server |

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to boot system form TFTP server.

```
bootrom:> boot_tftp OS-ma-v3.0.1.it.r.bin
```

### Related Commands

None

## 5.9 boot_tftp_nopass

Use the boot_tftp_nopass command to boot system through the specified system image from TFTP server with default configuration.

### Command Syntax

**boot_tftp_nopass** *image name*

| | |
|---|---|
| *image name* | Image name of tftp server |

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to boot system form TFTP server.

bootrom:> boot_tftp_nopass OS-ma-v3.0.1.it.r.bin

### Related Commands

None

## 5.10 boot_flash

Use the boot_flash command to boot system through the specify image or default image in the flash

### Command Syntax

**boot_flash** *image name*

| | |
|---|---|
| *image nam* | Image name in flash |

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to boot system through the specify image in the flash.

bootrom:> boot_flash

### Related Commands

None

## 5.11 boot_flash_nopass

Use the boot_flash_nopass command to boot system through the specify image or default image in the flash with default configuration.

### Command Syntax

**boot_flash_nopass** *image name*

| | |
|---|---|
| *image name* | Image name in flash |

### Command Mode

Bootrom CLI

### Default

None

### Usage

None

### Examples

This example shows how to boot system through the specify image in the flash with default configuration.

bootrom:> boot_flash_nopass /boot/OS-ma-v3.0.1.it.r.bin

```
Do you want to  revert  to the default config file ? [Y|N|E]:Y
```

### Related Commands

None

## 5.12 upgrade_uboot

Use the upgrade_uboot command to upgrade the U-boot image from TFTP server.

### Command Syntax

**upgrade_uboot** *image name*

| | |
|---|---|
| *image name* | Image name form tftp server |

### Command Mode

Bootrom CLI

## Default

None

## Usage

None

## Examples

This example shows how to upgrade the Bootrom image from TFTP server.

bootrom:> upgrade_uboot u-boot.bin

## Related Commands

None

# 6 Hotfix Commands

## 6.1 hotfix activate

Activate the specified hotfix present on the local flash. The no version deactivates the specified hotfix or all currently active hotfixes. Deactivating a hotfix restores the router to the state that existed before the hotfix was activated.

### Command Syntax

**hotfix activate** *HFIXFILENAME*

**no hotfix activate** ( *HFIXFILENAME* | **all** )

| | |
|---|---|
| *HFIXFILENAME* | Name of a hotfix software file (.hfx) on the local file system |
| **all** | All currently active hotfixes |

### Command Mode

Global Configuration

### Default

None

### Usage

Use this command if you want to upgrade the image online to fix some critical bugs.

### Examples

This example shows how to activate the hf1100.hfx hotfix.

Switch(config)# hotfix activate flash:/hf1100.hfx

### Related Commands

**show hotfix**

## 6.2 boot hotfix

Use this command to arm the specified hotfix as a startup hotfix that is automatically activated during system initialization. The no version disarms the specified armed hotfix or all armed hotfixes.

### Command Syntax

**boot hotfix** *HFIXFILENAME*

**no boot hotfix** ( *HFIXFILENAME* | **all** )

| | |
|---|---|
| *HFIXFILENAME* | Name of a hotfix software file (.hfx) on the local file system |
| **all** | All currently active hotfixes |

### Command Mode

Global Configuration

### Default

None

### Usage

Use this command if you want to specified hotfix as a startup hotfix that is automatically activated during system initialization.

### Examples

This example shows how to specify the hf1100.hfx hotfix as a startup hotfix.

Switch(config)# boot hotfix flash:/hf1100.hfx

### Related Commands

**show hotfix**

# 6.3 show hotfix

Use this command to display information for any hotfix available on the local file system. The information includes name and ID of the hotfix, activation and arming status, and any other required hotfixes.

## Command Syntax

**show hotfix** ((*HFIXFILENAME* | (*HFIXFILENAME* **detail**) ) | )

| | |
|---|---|
| *HFIXFILENAME* | Name of a hotfix software file (.hfx) on the local file system |
| **detail** | Detail of the hotfix |

## Command Mode

Privileged EXEC

## Default

None

## Usage

Use this command to display information for any hotfix available on the local file system.

## Examples

This example shows how to display information for any hotfix available on the local file system.

Switch# show hotfix

```
   Name   ID  Active   Armed  Requires
-----------------------------------------------
hf1101.hfx 1101    Y       Y
```

## Related Commands

None

# 7 Bootup Diagnostic Commands

## 7.1 diagnostic bootup level

Use this command to set bootup diagnostic level of next Switch reboot.

### Command Syntax

**diagnostic bootup level (minimal | complete)**

**no diagnostic bootup level**

| | |
|---|---|
| **minimal** | Minimal bootup level test |
| **complete** | Complete bootup level test |

### Command Mode

Global Configuration

### Default

None

### Usage

None

### Examples

This example shows how to set bootup diagnostic level.

Switch# configure terminal

Switch(config)# diagnostic bootup level minimal

### Related Commands

None

## 7.2 show diagnostic bootup level

Use this command to show bootup diagnostic level.

### Command Syntax

**show diagnostic bootup level**

### Command Mode

Privileged EXEC

### Default

None

### Usage

None

### Examples

This example shows how to show bootup diagnostic level.

Switch# show diagnostic bootup level

```
The current running bootup diag level is complete
The next running bootup diag level is complete
```

### Related Commands

None

## 7.3 show diagnostic bootup result

Use this command to show bootup diagnostic result.

### Command Syntax

**show diagnostic bootup result (detail | )**

## Command Mode

Privileged EXEC

## Default

None

## Usage

None

## Examples

This example shows how to show bootup diagnostic level.

Switch# show diagnostic bootup result detail

```
############################################################
Item Name                   Attribute Result Time(usec)
1    EPLD TEST              C         Pass   57
2    EEPROM0 TEST           C         Pass   101262
3    PHY TEST               C         Pass   1161
4    FAN TEST               C         Pass   4668
5    SENSOR TEST            C         Pass   5472
6    PSU TEST               C         Pass   1370
7    L2 UCAST FUNC TEST     C         Pass   40126
```

## Related Commands

None

# 8 SmartConfig Commands

## 8.1 smart-config

To config smartconfig function, use the smart-config command in global configuration mode.

### Command Syntax

**smart-config** ( **initial-switch-deployment | hostname-prefix** )

**no smart-config** ( **initial-switch-deployment | hostname-prefix** )

| | |
|---|---|
| initial-switch-deployment | Enable initial switch automatically deployment |
| hostname-prefix | Enable hostname prefix feature |

### Command Mode

Global Configuration

### Default

Initial-switch-deployment and hostname-prefix is enabled.

### Usage

None

### Examples

The following example shows how to enable smartconfig function:

Switch(config)# smart-config initial-switch-deployment

The following example shows how to disable smartconfig function:

Switch(config)# no smart-config initial-switch-deployment

### Related Commands

**ip address dhcp**

**show smart-config config**

## 8.2 show smart-config config

To show configuration of smart-config, use the show smart-config configuration command in privileged EXEC mode.

### Command Syntax

**show smart-config config**

### Command Mode

Privileged EXEC

### Default

None

### Usage

None

### Examples

The following example shows how to display configuration of smart-config:

Switch# show smart-config config

```
Smart-Config config:
 initial-switch-deployment: on
 hostname-prefix: on

 Send log message to console: on
```

### Related Commands

**ip address dhcp**

**smart-config**