FS Network TAP Series
Command Line Reference

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1 INTERFACE Commands

1.1 show management interface

Use this command to display the status and configurations on management interface.

Command Syntax

show management interface

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the states and configurations on management interface.

Examples

The following example displays the states, configurations and statistics on management interface:

```
Switch# show management interface
Management Interface current state: UP
Description:
Link encap: Ethernet      HWaddr: 00:1E:08:0B:E6:C1
net addr: 10.10.39.104    Mask: 255.255.254.0
Bcast: 10.10.39.255       MTU: 1500
Speed: 1000Mb/s           Duplex: Full
Auto-negotiation: Enable

Received:        1030834 Packets,      79596824 Bytes (75.9 MiB)
Transmitted:      110758 Packets,      16209745 Bytes (15.4 MiB)
```

Related Commands

show interface status

1.2 show interface

Use this command to display the configurations and statistics on all interfaces or one interface.

Command Syntax

show interface (*IF_NAME* |)

IF_NAME	Specify the interface name to show.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the configurations and statistics on all interfaces or one interface.

If the parameter “IF_NAME” is not specified, the command indicates that all interfaces on this device should be displayed; otherwise only the specified interface should be displayed.

Examples

This example shows how to display the configurations and statistics of interface eth-0-1:

```
Switch# show interface eth-0-1
Interface eth-0-1
 Interface current state: DOWN
 Hardware is Port, address is 001e.0809.78a3
 Bandwidth 1000000 kbits
 Index 1 , Metric 1
 Speed - auto , Duplex - auto , Media type is 1000BASE_T
 Link speed type is autonegotiation,   Link duplex type is autonegotiation
```

```
Admin input flow-control is off, output flow-control is off
Oper input flow-control is off, output flow-control is off
The Maximum Frame Size is 1632 bytes
 5 minute input rate 0 bits/sec, 0 packets/sec
 5 minute output rate 0 bits/sec, 0 packets/sec
 0 packets input, 0 bytes
 Received 0 unicast, 0 broadcast, 0 multicast
 0 runs, 0 giants, 0 input errors, 0 CRC
 0 frame, 0 overrun, 0 pause input
 0 packets output, 0 bytes
 Transmitted 0 unicast, 0 broadcast, 0 multicast
 0 underruns, 0 output errors, 0 pause output
```

Related Commands

show interface status

1.3 show interface summary

Use this command to display the statistics on all interfaces or one interface.

Command Syntax

show interface summary (*IF_NAME* |)

IF_NAME	Specify the interface name to show. This command supports physical or link aggregation interfaces.

Command Mode

Privileged EXEC

Default

none

Usage

Use this command to display the statistics on all interfaces or one interface.

If the parameter “IF_NAME” is not specified, the command indicates that all interfaces on this device should be displayed; otherwise only the specified interface should be displayed.

Examples

The following example shows how to display the statistic of interface eth-0-1：

```
Switch# show interface summary eth-0-1
RXBS: rx rate (bits/sec)       RXPS: rx rate (pkts/sec)
TXBS: tx rate (bits/sec)       TXPS: tx rate (pkts/sec)

Interface  Link   RXBS        RXPS        TXBS        TXPS
----------+------+-----------+-----------+-----------+-----------
eth-0-1    DOWN  0           0           0           0
```

The following example shows how to display the statistic of interfaces:

```
Switch# show interface summary eth-0-1
Switch# show interface summary
RXBS: rx rate (bits/sec)       RXPS: rx rate (pkts/sec)
TXBS: tx rate (bits/sec)       TXPS: tx rate (pkts/sec)

Interface  Link   RXBS        RXPS        TXBS        TXPS
----------+------+-----------+-----------+-----------+-----------
eth-0-1    UP    0           0           0           0
eth-0-2    UP    0           0           0           0
eth-0-3    UP    0           0           0           0
eth-0-4    UP    0           0           0           0
eth-0-5    UP    0           0           0           0
eth-0-6    UP    0           0           0           0
eth-0-7    UP    0           0           0           0
eth-0-8    UP    0           0           0           0
eth-0-9    UP    0           0           0           0
eth-0-10   UP    0           0           0           0
eth-0-11   UP    0           0           0           0
eth-0-12   UP    0           0           0           0
eth-0-13   UP    0           0           0           0
eth-0-14   UP    0           0           0           0
eth-0-15   UP    0           0           0           0
eth-0-16   UP    0           0           0           0
eth-0-17   UP    0           0           0           0
eth-0-18   UP    0           0           0           0
eth-0-19   UP    0           0           0           0
eth-0-20   UP    0           0           0           0
eth-0-21   UP    0           0           0           0
eth-0-22   UP    0           0           0           0
eth-0-23   UP    0           0           0           0
eth-0-24   UP    0           0           0           0
```

Related Commands

show interface

1.4 show interface status

Use this command to display the brief information on all physical and link aggregation interfaces.

Command Syntax

show interface status

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the brief information on all physical and link aggregation interfaces.

Examples

This example shows how to display the brief information on all physical and link aggregation interfaces:

```
Switch# show interface status
Name     Status     Duplex  Speed    Mode    Type       Description
---------+----------+--------+--------+-------+----------+----------------
eth-0-1    down      auto    auto    trunk   UNKNOWN
eth-0-2    down      auto    auto    trunk   UNKNOWN
eth-0-3    down      auto    auto    trunk   UNKNOWN
eth-0-4    down      auto    auto    trunk   UNKNOWN
eth-0-5    down      auto    auto    trunk   UNKNOWN
eth-0-6    down      auto    auto    trunk   UNKNOWN
eth-0-7    down      auto    auto    trunk   UNKNOWN
eth-0-8    down      auto    auto    trunk   UNKNOWN
eth-0-9    down      auto    auto    trunk   UNKNOWN
eth-0-10   down      auto    auto    trunk   UNKNOWN
eth-0-11   down      auto    auto    trunk   UNKNOWN
eth-0-12   down      auto    auto    trunk   UNKNOWN
eth-0-13   down      auto    auto    trunk   UNKNOWN
eth-0-14   down      auto    auto    trunk   UNKNOWN
eth-0-15   down      auto    auto    trunk   UNKNOWN
```

```
eth-0-16   down      auto    auto    trunk   UNKNOWN
eth-0-17   down      auto    auto    trunk   UNKNOWN
eth-0-18   down      auto    auto    trunk   UNKNOWN
eth-0-19   down      auto    auto    trunk   UNKNOWN
eth-0-20   down      auto    auto    trunk   UNKNOWN
eth-0-21   down      auto    auto    trunk   UNKNOWN
eth-0-22   down      auto    auto    trunk   UNKNOWN
eth-0-23   down      auto    auto    trunk   UNKNOWN
eth-0-24   down      auto    auto    trunk   UNKNOWN
eth-0-25   down      auto    auto    trunk   UNKNOWN
eth-0-26   down      auto    auto    trunk   UNKNOWN
eth-0-27   down      auto    auto    trunk   UNKNOWN
eth-0-28   down      auto    auto    trunk   UNKNOWN
eth-0-29   down      auto    auto    trunk   UNKNOWN
eth-0-30   down      auto    auto    trunk   UNKNOWN
eth-0-31   down      auto    auto    trunk   UNKNOWN
eth-0-32   down      auto    auto    trunk   UNKNOWN
FGE0/33    down      full    40000   trunk   UNKNOWN
FGE0/34    down      full    40000   trunk   UNKNOWN
agg5       down      auto    auto    trunk   LAG
```

Related Commands

show interface

1.5 show interface description

Use this command to display the description information on all interfaces.

Command Syntax

show interface description

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the description information on all interfaces.

Examples

The following example shows how to display the description information of all interfaces:

```
Switch# show interface description
Name      Status     Description
----------+----------+------------------------------------------------------
eth-0-1    down       TenGigabitEthernet
eth-0-2    down
eth-0-3    down
eth-0-4    down
eth-0-5    down
eth-0-6    down
eth-0-7    down
eth-0-8    down
eth-0-9    down
eth-0-10   down
eth-0-11   down
eth-0-12   down
eth-0-13   down
eth-0-14   down
eth-0-15   down
eth-0-16   down
eth-0-17   down
eth-0-18   down
eth-0-19   down
eth-0-20   down
eth-0-21   down
eth-0-22   down
eth-0-23   down
eth-0-24   down
eth-0-25   down
eth-0-26   down
eth-0-27   down
eth-0-28   down
eth-0-29   down
eth-0-30   down
eth-0-31   down
eth-0-32   down
FGE0/33    down
FGE0/34    down
agg5       down       LinkAgg5
```

Related Commands

Show interface

1.6 clear counters

Use this command to clear the counters on the interfaces.

Command Syntax

clear counters (*IF_NAME* |)

IF_NAME	Specify the interface name to clear the statistics counters. This command supports physical or link aggregation interfaces.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to clear the counters on the interfaces.

If the parameter “IF_NAME” is not specified, the command indicates that all interfaces’ statistics counters information on this device should be cleared; otherwise only the specified interface should be cleared.

Examples

This example shows how to clear the counters on all interfaces:

```
Switch# clear counters
```

This example shows how to clear the counters on the interface eth-0-1:

```
Switch# clear counters eth-0-1
```

This example shows how to clear the counters on the agg10:

```
Switch# clear counters agg10
```

Related Commands

show interface

1.7 interface range

Use this command to operate a list of interfaces.

Command Syntax

interface range *KLINE*

KLINE	Specify a range of interfaces to operate. The interfaces' names are joined by '-' or ',' e.g.: "eth-0-1 – 8" or "eth-0-1, eth-0-2"

Command Mode

Global Configuration

Default

None

Usage

Use this command to operate a list of interfaces. Physical or link aggregation interfaces are supported.

Examples

The following example shows how to enter interface eth-0-1 ~ eth-0-10 and shutdown these 10 interfaces:

```
Switch(config)# interface range eth-0-1 - 10
Switch(config-if-range)# shutdown
```

The following example shows how to enter interface eth-0-8 and eth-0-10, and shutdown these 2 interfaces:

```
Switch(config)# interface range eth-0-8， eth-0-10
Switch(config-if-range)# shutdown
```

Related Commands

interface

1.8 interface

Use this command to enter interface mode.

Command Syntax

interface *IF_NAME*

IF_NAME	Specify the interface name to enter the mode. This command supports physical or link aggregation interfaces.

Command Mode

Global Configuration

Default

None

Usage

The interface name can be either a port name (i.e. eth-0-1) or link-agg name (i.e. agg1).

Examples

This example shows how to enter the interface mode for eth-0-1:

```
Switch(config)# interface eth-0-1
```

This example shows how to enter the interface mode for agg1:

```
Switch(config)# interface agg1
```

Related Commands

interface range

1.9 shutdown

Use this command to shutdown an interface administratively.

Use the no form of this command to turn on an interface administratively.

Command Syntax

shutdown

no shutdown

Command Mode

Interface Configuration

Default

The interfaces are turned on by default.

Usage

Use the command to shutdown a port.

Examples

The following example shows how to shutdown a port:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# shutdown
```

Related Commands

show interface status

1.10 description

Use this command to set the description on the interface.

Use the no form of this command to delete the description.

Command Syntax

description *LINE*

no description

LINE	Interface description string, which should begin with a-z/A-Z, valid characters are 0-9A-

	Za-z.-, and maximum length is 64 characters.

Command Mode

Interface Configuration

Default

The interface has no description by default.

Usage

Use this command to set the description on the interface.

Examples

The following example sets the description on the interface:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# description Ethernet
```

The following example deletes the description on the interface:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# no description
```

Related Commands

show interface description

1.11 speed

Use this command to specify the speed of a port.

Use the no form of this command to restore the default configuration.

Command Syntax

speed (auto| **10**| **100**| **1000**| **2.5G**| **5G**| **10G**| **40G**| **100G**)

no speed

auto	Enable auto negotiation for the speed of a port.

10	Force 10Mb/s
100	Force 100Mb/s
1000	Force 1000Mb/s
2.5G	Force 2.5Gb/s
5G	Force 5Gb/s
10G	Force 10Gb/s
40G	Force 40Gb/s
100G	Force 100Gb/s

Command Mode

Interface Configuration

Default

Auto

Usage

The command is used to set the speed on port.

Examples

This example shows how to set the speed on a port to 1000 Mb/s:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# speed 1000
```

This example shows how to reset default value of the speed on a port:

```
Switch(config-if-eth-0-1)# no speed
```

Related Commands

show interface status

show interface

1.12 duplex

Use this command to specify the duplex mode of operation for a port.

Use the no form of this command to restore the default configuration.

Command Syntax

duplex (**auto**| **full**| **half**)

no duplex

auto	Enable auto negotiation for the duplex of a port. The duplex mode should depend on both local and remote device, the port should get the mode automatically.
full	Full mode.
half	Half mode is only supported on 10M/100M link.

Command Mode

Interface Configuration

Default

Auto

Usage

Use this command to specify the duplex mode of operation for a port.

Use the no form of this command to restore the default configuration.

Half mode is only supported on 10M/100M link.

Examples

The following example shows how to set interface eth-0-1 to duplex mode auto:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# duplex auto
```

The following example shows how to set interface eth-0-1 to duplex mode full:

```
Switch(config-if-eth-0-1)# duplex full
```

The following example shows how to set interface eth-0-1 to default duplex:

```
Switch(config-if-eth-0-1)# no duplex
```

Related Commands

show interface status

show interface

1.13 unidirectional

Use the command to set unidirectional function for a port.

Command Syntax

unidirectional (**enable** | **disable** | **rx-only**)

enable	Enable unidirectional
disable	Disable unidirectional
rx-only	Receive only

Command Mode

Interface Configuration

Default

Disable

Usage

Use the command to set unidirectional function for a port.

Examples

The following example shows how enable unidirectional on interface eth-0-1:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# unidirectional enable
```

The following example shows how disable unidirectional on interface eth-0-1:

```
Switch(config-if-eth-0-1)# unidirectional disable
```

Related Commands

show interface status

show interface

1.14 fec

Use the command to set fec function for a port.

Command Syntax

fec (**enable**| **disable**)

enable	Enable fec
disable	Disable fec

Command Mode

Interface Configuration

Default

Disable

Usage

Use the command to set fec function for a port.

Examples

This example shows how to enable fec function:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# fec enable
```

Related Commands

show interface status

show interface

1.15 static-channel-group

Use this command to assign a port to a static channel group.

Use the no form of this command to remove it from the channel group.

Command Syntax

static-channel-group *AGG_GID*

no static-channel-group

AGG_GID	Channel group id. Valid minimum id is 1. Valid maximum id is defined as blow: for CTC5160(GreatBelt) based system: 31. for CTC8096(GoldenGate) based system: 55

Command Mode

Interface Configuration

Default

None

Usage

Use this command to assign a port to a static channel group.

Use the no form of this command to remove it from the channel group.

The valid range of channel group id is limited by hardware and is different for each model. Using the id which is out of range is forbidden.

Examples

This example shows how to assign interface eth-0-1 to static channel group 2:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# static-channel-group 2
```

This example shows how to remove interface eth-0-1 from static channel group:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# no static-channel-group
```

Related Commands

show interface

1.16 media-type

Use this command to set media type of combo port.

Command Syntax

media-type (auto| **rj45**| **sfp**)

auto	Automatically select media type of combo port
rj45	Set media type as rj45
sfp	Set media type as sfp

Command Mode

Interface Configuration

Default

auto

Usage

Use this command to set media type of combo port. Different media type of the combo port cannot be active at the same time.

Examples

This example shows how to set media type of combo port:

```
Switch(config-if-eth-0-1) media-type auto
Switch(config-if-eth-0-1) media-type rj45
Switch(config-if-eth-0-1) media-type sfp
```

Related Commands

show interface

2 FLOW Commands

2.1 show interface flow statistics

Use this command to show statistics information which matched the flow on the interface.

Command Syntax

show interface flow statistics *IF_NAME* (*FLOW_SEQ_NUM*|)

IF_NAME	Specify an interface name to show flow statistics. This command supports physical or link aggregation interfaces.
FLOW_SEQ_NUM	Specify sequence-number to show flow statistics. If the sequence-number is not specified, this command indicates that all rules on this interface should be shown.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show statistics information which matched the flow on the interface.

Interface name must be specified.

Examples

The following example shows how to display the flow statistic on interface eth-0-1:

```
Switch# show interface flow statistics eth-0-1
TAP group name: g1
flow name: f1
sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any ( bytes 100 packets 1 )
sequence-num 20 deny any src-ip any dst-ip any ( bytes 86 packets 1 )
(total bytes 186 total packets 2 )
```

Related Commands

show flow

clear interface flow statistics

2.2 clear interface flow statistics

Use this command to clear statistics information which matched the flow on the interface.

Command Syntax

clear interface flow statistics *IF_NAME*

IF_NAME	Specify an interface name to clear flow statistics. This command supports physical or link aggregation interfaces.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to clear statistics information which matched the flow on the interface.

Interface name must be specified.

Examples

The following example shows how to clear statistics information which matched the flow on the interface:

```
Switch# clear interface flow statistics eth-0-1
```

The following example shows the result after using the command in the example above:

```
Switch# show interface flow statistics eth-0-1
TAP group name: g1
flow name: f1
sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any ( bytes 0 packets 0 )
sequence-num 20 deny any src-ip any dst-ip any ( bytes 0 packets 0 )
(total bytes 0 total packets 0 )
```

Related Commands

show interface flow statistics

2.3 show flow

Use this command to show the configuration of flow.

Command Syntax

show flow (*NAME_STRING*|)

NAME_STRING	Flow name, up to 20 characters. If the flow name is not specified, this command indicates that all flows should be shown.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the configuration of flow.

If the flow name is not specified, this command indicates that all flows should be shown.

Examples

This example shows the configuration of flow:

```
Switch# show flow
flow f1
remark flow1ipdeny
sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any
sequence-num 20 deny any src-ip any dst-ip any
flow f2
sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any
```

Related Commands

flow

2.4 flow

Use this command to create Flow and then enter Flow configuration mode.

Use the no form of this command to delete the flow.

Command Syntax

flow *NAME_STRING* (**type decap**|)

no flow *NAME_STRING*

NAME_STRING	Flow name, up to 20 characters
type decap	Set the flow type as tunnel decap. Flow with “type decap” parameter can use “inner-match” fields.

Command Mode

Global Configuration

Default

None

Usage

Use this command to create Flow and then enter Flow configuration mode.

Use the no form of this command to delete the flow.

If the system already has a flow with the same name, this command will enter the flow configuration mode.
When the name is not used by any flow, this command is to create the flow and then enter the flow configuration mode. When configured with parameter ”type decap” means this flow match tunnel decap, which flow entries can configure “inner-match” fields.

Notice: Decap only supported at CTC8096 (GoldenGate) based switch.

Examples

This example shows how to create a flow named f1 and then enter the flow configuration mode.

```
Switch(config)# flow f1
Switch(config-flow-f1)#
```

The following example shows how to delete the flow

```
Switch(config)# no flow f1
```

Related Commands

show flow

2.5 remark

Use this command to add remarks for the flow.

Use the no form of this command to delete the remarks.

Command Syntax

remark *NAME_STRING*

no remark

NAME_STRING	Remark string for the flow, which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 100 characters.

Command Mode

Flow Configuration

Default

There is no remark of flow by default.

Usage

Use this command to add remarks for the flow.

Use the no form of this command to delete the remarks.

The remark string length is up to 100 characters. The exceed parts will not be stored and will be truncated.

Examples

This example shows how to add a remark to describe the flow:

```
Switch(config-flow-f1)# remark flow1ipdeny
```

This example shows how to delete the remark of the flow.

```
Switch(config-flow-f1)# no remark
```

Related Commands

show flow

2.6 no sequence-num

Use this command to delete a filter from flow.

Command Syntax

no sequence-num *FLOW_SEQ_NUM*

FLOW_SEQ_NUM	Sequence-number with the valid range 1 – 65535.

Command Mode

Flow Configuration.

Default

None

Usage

Use this command to delete a filter from flow or ip access-list.

Examples

This example shows how to delete a flow filter with sequence number 10 from flow f1:

```
Switch(config-flow-f1)# no sequence-num 10
```

Related Commands

show flow

sequence-num

2.7 sequence-num

Use this command to add a rule in a flow filter.

Command Syntax

(sequence-num *FLOW_SEQ_NUM***|) (permit| deny) (** *PROTOCOL_NUM***| any | tcp (src-port (range** *L4_PORT_NUM L4_PORT_NUM* **| eq** *L4_PORT_NUM* **| gt** *L4_PORT_NUM* **| lt** *L4_PORT_NUM* **| any) | dst-port (range** *L4_PORT_NUM L4_PORT_NUM* **| eq** *L4_PORT_NUM* **| gt** *L4_PORT_NUM* **| lt** *L4_PORT_NUM* **| any) |) (tcp-code (match-all | match any) (ack | fin**

| psh | rst | syn | urg |) |) | udp (src-port (range *L4_PORT_NUM1 L4_PORT_NUM2* **| eq** *L4_PORT_NUM* **| gt** *L4_PORT_NUM* **| lt** *L4_PORT_NUM* **| any) | dst-port (range** *L4_PORT_NUM1 L4_PORT_NUM2* **| eq** *L4_PORT_NUM* **| gt** *L4_PORT_NUM* **| lt** *L4_PORT_NUM* **| any) | vxlan-vni (** *VNI_VALUE VNI_VALUE_WILD* **| any)|) | icmp | igmp | gre (gre-key (** *GRE_KEY_VALUE GRE_KEY_WILD* **| any)| (erspan (** *ERSPAN_KEY_VALUE ERSPAN_KEY_WILD* **| any))|) | nvgre (nvgre-vsid (** *NVGRE_VSID_VALUE NVGRE_ VSID _WILD* **| any)|)) (src-ip (** *IP_ADDR IP_ADDR_WILD* **| host** *IP_ADDR* **|any) | src-ipv6 (** *IPv6_ADDR IPv6_ADDR_WILD* **| host** *IPv6_ADDR* **|any)) (dst-ip (** *IP_ADDR IP_ADDR_WILD* **| host** *IP_ADDR* **|any) | dst-ipv6 (** *IPv6_ADDR IPv6_ADDR_WILD* **| host** *IPv6_ADDR* **|any)) (flow-label (** *FLOW_LABEL LABEL_WILD* **|any)) (dscp** *DSCP_VALUE* **| ip-precedence** *PRECEDENCE_VALUE***|) (first-fragment| non-first-fragment| non-fragment| non-or-first-fragment| small-fragment | any-fragment |) (options|) (truncation|) (vlan (***VLAN_ID VLAN_WILD* **| any)|) (inner-vlan (***VLAN_ID VLAN_WILD* **|any)|) (cos** *COS_ID***|) (inner-cos** *COS_ID***|) (ether-type (** *ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* **|any)|) (src-mac (** *FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD* **|any| host** *FLOW_MAC_ADDR***)|) (dest-mac (** *FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD* **|any| host** *FLOW_MAC_ADDR***)|) (edit-macda** *MAC_ADDRESS***|) (edit-macsa** *MAC_ADDRESS***|) (edit-ipsa** *IP_ADDRESS***|) (edit-ipda** *IP_ADDRESS***|) (edit-ipv6sa** *IPv6_ADDRESS***|) (edit-ipv6da** *IPv6_ADDRESS***|) (edit-vlan** *VLAN_ID***|) (un-tag|un-tag-outer-vlan|un-tag-inner-vlan) (mark-source** *VLAN_ID***|) (strip-header (strip-position (l2 | l3 | l4)|) (strip-offset** *OFFSET_VALUE* **|)|) ((ipv4-head | l4-head)** *UDF_VALUE UDF_VALUE_WILD UDF_OFFSET***|) (strip-inner-vxlan-header) (inner-match** *MATCH_NAME***|)**

sequence-num *FLOW_SEQ_NUM*	Specify a sequence number to create the flow rule. The valid range for sequence number is 1-65535. If the sequence number is not specified, system should automatically assign one number according to the base number and the step length. The base number is the maximum number in the flow (0 for empty flow), the step length is 10.
permit	Specify the action of the flow rule. Use the

	parameter “permit” to indicate packets match this rule is allowed to forward.
deny	Specify the action of the flow rule. Use the parameter “deny” to indicate packets match this rule is not allowed to forward.
PROTOCOL_NUM **| any | tcp | udp | icmp | igmp | gre | nvgre**	Specify the IP protocol number of the flow rule. The valid range for IP protocol number is 0-255. Well known IP protocols can also be specified by name. e.g. IP protocol 1 = icmp, 2 = igmp, 6 = tcp, 17 = udp, 47 = gre/nvgre (gre protocol 0x0800 = gre, 0x6558 = nvgre). Parameter “any” indicates packets with any IP protocol can match this rule.
src-port (range *L4_PORT_NUM L4_PORT_NUM* **| eq** *L4_PORT_NUM* **| gt** *L4_PORT_NUM* **| lt** *L4_PORT_NUM* **| any)**	Specify the layer 4 source port of the flow rule. The valid range for L4 source port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter “any” indicates packets with any L4 port can match this rule.
dst-port (range L4_*PORT_NUM*	Specify the layer 4 destination port of the

L4_PORT_NUM **|** **eq** *L4_PORT_NUM* **|** **gt** *L4_PORT_NUM* **|** **lt** *L4_PORT_NUM* **|** **any)**	flow rule. The valid range for L4 destination port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter "any" indicates packets with any L4 port can match this rule.
vxlan-vni (*VNI_VALUE VNI_VALUE_WILD* **|** **any)**	Specify the vxlan vni number of the flow rule. This filed is valid only if the IP protocol is UDP and L4 destination port 4789. VNI (VXLAN Network Identifier) is the identifier on the VXLAN network, which is similar to the traditional VLAN. Terminals in different VXLANs cannot connect with each other based on L2 network. One tenant uses one VNI (even if several terminals are in same VNI, they are regarding as one tenant). The valid range for VNI value is 0-16777215. The valid range for VNI wildcard bits is range 0x0-0xFFFFFF. VNI value and VNI wildcard bits both have 24bits. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter "any" indicates packets with any

	VNI value can match this rule.
gre-key (*GRE_KEY_VALUE GRE_KEY_WILD* **| any)**	Specify the gre key of the flow rule. This filed is valid only if the IP protocol is gre (Generic Routing Encapsulation). The valid range for gre key value is 0-4294967295. The valid range for gre key wildcard bits is range 0x0- 0xFFFFFFFF. Gre key value and wildcard bits both have 32bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any gre key value can match this rule.
erspan (*ERSPAN_KEY_VALUE ERSPAN_KEY_WILD* **| any)**	Specify the erspan key value of the flow rule. ERSPAN = Enhanced Remote SPAN. Valid range for ERSPAM key value is 0-1023 Valid range for ERSPAM key wildcard bits is 0x0-0x3FF ERSPAN key value and wildcard bits both have 10bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any erspan key value can match this rule.
nvgre-vsid (*NVGRE_VSID_VALUE NVGRE_VSID_WILD* **| any)**	Specify the nvgre vsid value of the flow rule. Nvgre = Network Virtualization using Generic Routing Encapsulation. Valid range for NVGRE VSID value is 0-16777215. Valid range for NVGRE VSID

	wildcard bits is 0x0-0xFFFFFF VSID is located in the low 24 bit of GRE head. VSID value and wildcard bits both have 24 bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any nvgre vsid value can match this rule.
src ip (*IP_ADDR IP_ADDR_WILD* **| any | host** *IP_ADDR* **)**	Specify the source IPv4 address of the flow rule. Use an IPv4 address and an IPv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an IPv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any source IPv4 address value can match this rule.
dst ip (*IP_ADDR IP_ADDR_WILD* **| any | host** *IP_ADDR* **)**	Specify the destination IPv4 address of the flow rule. Use an IPv4 address and an IPv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an IPv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination IPv4 address value can

	match this rule.
src ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* **| any | host** *IPv6_ADDR* **)**	Specify the source IPv6 address of the flow rule. Use an IPv6 address and an IPv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and an IPv6 address to specify an exactly address. Use the parameter "any" to indicate packets with any source IPv6 address value can match this rule.
dst ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* **| any | host** *IPv6_ADDR* **)**	Specify the destination IPv6 address of the flow rule. Use an IPv6 address and an IPv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and an IPv6 address to specify an exactly address. Use the parameter "any" to indicate packets with any destination IPv6 address value can match this rule.
flow-label (*FLOW_LABEL LABEL_WILD* **| any)**	Specify the IPv6 Flow label of the flow rule. Valid range for flow label is 0-1048575. Valid range for flow-label wildcard bits is 0x0-0xFFFFF Flow label value and wildcard bits both have 20bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.

	Parameter “any” indicates ipv6 packets with any flow label value can match this rule.
dscp *DSCP_VALUE*	Specify the DSCP in IPv4 packets value of the flow rule. DSCP = Differentiated Services Code Point. Valid range of DSCP value is 0 – 63.
ip-precedence *PRECEDENCE_VALUE*	Specify the IP precedence in IPv4 packets of the flow rule. Valid range of IP precedence value is 0 – 7. DSCP & ip precedence configurations are exclusive
first-fragment	Match packets with first fragment
non-first-fragment	Match packets with non first fragment
non-fragment	Match packets with non fragment
non-or-first-fragment	Match packets with non first fragment
small-fragment	Match packets with small fragment
any-fragment	Match packets with any fragment
options	Match packets with IP options
truncation	Use this parameter to truncate the packets matched this rule. The length of truncation is configured by the “truncation” command in global configuration mode.
vlan (*VLAN_ID VLAN_WILD* **| any)**	Specify the outer vlan id of the flow rule. The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xFFF. Vlan id and wildcard bits both have 12bits, if

	a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any outer vlan id can match this rule.
inner-vlan (*VLAN_ID VLAN_WILD* **| any)**	Specify the inner vlan id of the flow rule. The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xFFF. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any inner vlan id can match this rule.
cos *COS_ID*	Specify the outer CoS value of the flow rule. CoS = Class of Service. The valid range of Cos is 0 to 7.
inner-cos *COS_ID*	Specify the inner CoS value of the flow rule. CoS = Class of Service. The valid range of Cos is 0 to 7.
ether-type (*ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* **| any)**	Specify the ether-type of the flow rule. The valid range for ether-type is 0x600-0xFFFF. The valid range for wildcard bits is 0x600-0xFFFF. Ether-type value and wildcard bits both have 16bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any ethertype value can match this rule.

src-mac (*FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD* **| any | host** *FLOW_MAC_ADDR* **)**	Specify the source mac address in HHHH.HHHH.HHHH format. Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and a mac address to specify an exactly mac address. Use the parameter "any" to indicate packets with any source mac address value can match this rule.
dest-mac (*FLOW_MAC_ADDR FLOW_MAC_ADDR_WILD* **| any| host** *FLOW_MAC_ADDR* **)**	Specify the destination mac address in HHHH.HHHH.HHHH format. Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and a mac address to specify an exactly mac address. Use the parameter "any" to indicate packets with any destination mac address value can match this rule.
edit-macda *MAC_ADDRESS*	Specify the destination mac address of the outgoing packets in HHHH.HHHH.HHHH format.
edit-macsa *MAC_ADDRESS*	Specify the source mac address of the outgoing packets in HHHH.HHHH.HHHH format.。
edit-ipsa *IP_ADDRESS*	Specify the source IP address of the outgoing packets in A.B.C.D format.。

edit-ipda *IP_ADDRESS*	Specify the destination IP address of the outgoing packets in A.B.C.D format.。
edit-ipv6sa *IPv6_ADDRESS*	Specify the source IPv6 address of the outgoing packets.
edit-ipv6da *IPv6_ADDRESS*	Specify the destination IPv6 address of the outgoing packets.
edit-vlan *VLAN_ID*	Specify the vlan id of the outgoing packets. The valid range for vlan id is 1 – 4094.
un-tag	Remove vlan tags of the packets.
un-tag-outer-vlan	Remove outer vlan tag of the packets.
un-tag-inner-vlan	Remove inner vlan tag of the packets.
mark-source *VLAN_ID*	Specify additional outer vlan id of the outgoing packets. The valid range for vlan id is 1 – 4094.
strip-header [strip-position (l2 | l3 | l4)] [strip-offset *OFFSET_VALUE* **]**	Remove the outer header of the tunnel packets. This parameter is only valid when the packet is gre/nvgre/vxlan. The parameter “strip-position” specifies the begging of the outer header. “l2” means begin with the layer 2 tunnel header. “l3” means begin with the layer 3 tunnel header. “l4” means begin with the layer 4 tunnel header. The parameter “strip-offset” specifies the user- defined offset to strip the tunnel outer header. The valid range for strip-offset is 0-30.
strip-inner-vxlan-header	Remove the inner vxlan header in the erspan

	packets. This parameter is only valid when the packet is ERSPAN + VXLAN.
(ipv4-head | l4-head) *UDF_VALUE UDF_VALUE_WILD UDF_OFFSET*	UDF = User Define Format. The parameter "**ipv4-head**" indicates the packet is parsed at the beginning with the IPv4 header. The parameter "**l4-head**" indicates the packet is parsed at the beginning with the layer4 header. Udf value and wildcard bits both have 32 bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. The parameter "*UDF_OFFSET*" specifies the offset bits from the beginning. The valid range of the offset is 0 -60.
inner-match MATCH_NAME	Specify the inner match profile of the flow rule. The inner-match profile is created by "inner-match" command in global configuration mode.

Command Mode

Flow Configuration Mode

Default

None

Usage

Wildcard bits in this command are used as reversed. That means value and wildcard bits have same length, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.

E.g. IP address 10.10.10.0 wildcard 0.0.0.255 means 256 ip addresses from 10.10.10.0 to 10.10.10.255.

Layer 4 information （e.g. tcp/udp port）and fragment information are exclusive.

Notice:

The parameters “gre, gre-key, nvgre, nvgre-vsid, vxlan-vni, truncation, strip-header, edit-ipsa, ipv4-head, l4-head, inner-match” are not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to add a flow filter with sequence number 10 to flow f1:

```
Switch(config)# flow f1
Switch(config-flow-f1)# sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any
```

Related Commands

no sequence-num

3 INNER-MATCH Commands

3.1 show inner-match

Use this command to show the configuration of inner-match.

Command Syntax

show inner-match (*INNER_MATCH_NAME* |)

INNER_MATCH_NAME	Specify an inner-match name to display. The inner match name should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 20 characters. If the parameter " *INNER_MATCH_NAME*" is not specified, the command indicates that all inner-matches on this device should be displayed; otherwise only the specified one should be displayed

Command Mode

Privileged EXEC

Default

None

Usage

The inner-match name can be specified or not.

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows the configuration of all inner-match:

```
Switch# show inner-match
inner-match im1
 sequence-num 1 match icmp src-ip any dst-ip any vlan any
inner-match im2
 sequence-num 1 match udp dst-port eq 4758 src-ip any dst-ip host 2.2.2.2
```

Related Commands

inner-match

3.2 inner-match

Use this command to create inner-match and then enter Inner-match configuration mode.

Use the no form of this command to delete the inner-match.

Command Syntax

inner-match *INNER_MATCH_NAME*

no inner-match *INNER_MATCH_NAME*

NAME_STRING	Specify an inner-match name to create and enter the mode. The inner match name should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 20 characters.

Command Mode

Global Configuration

Default

None

Usage

If the system already has an inner-match with the same name, this command will enter the inner-match configuration mode.

When the name is not used by any inner-match, this command is to create the inner-match firstly and then enter the inner-match configuration mode.

This command dose not supported on CTC5160 (GreatBelt) based switch.

Examples

```
This example shows how to create a inner-match named im1 and then enter the inner-match configuration mode.
Switch(config)# inner-match im1
Switch(config-inner-match-im1)#
```

Related Commands

show inner-match

3.3 remark

Use this command to add remarks for the inner-match.

Command Syntax

remark *NAME_STRING*

no remark

NAME_STRING	Remark string for the inner-match, which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, maximum length is 100 characters.

Command Mode

Inner-match Configuration

Default

Default is no remarks of inner-match.

Usage

The remarks are up to 100 characters.

This command does not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to add a remark to describe the inner-match:

```
Switch(config-inner-match-im1)# remark inner-match-1
```

This example shows how to delete the remark of the inner-match.

```
Switch(config-inner-match-im1)# no remark
```

Related Commands

show inner-match

3.4 no sequence-num

Use this command to delete a filter from inner-match.

Command Syntax

no sequence-num *MATCH_SEQ_NUM*

MATCH_SEQ_NUM	Sequence-number with the valid range 1 – 65535.

Command Mode

Inner-match Configuration

Default

None

Usage

Use this command to delete a filter from inner-match.

This command does not supported on CTC5160(GreatBelt) based switch.

Examples

This example shows how to delete an inner-match filter with sequence number 10 from im1:

```
Switch(config-inner-match-im1)# no sequence-num 10
```

Related Commands

show inner-match

match

3.5 sequence-num

Use this command to set matching rules for the inner-match filter.

Command Syntax

(**sequence-num** *MATCH_SEQ_NUM*|) **match** (*PROTOCOL_NUM*| **any** | **tcp** (**src-port** (**range** *L4_PORT_NUM L4_PORT_NUM* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) | **dst-port** (**range** *L4_PORT_NUM L4_PORT_NUM* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) |) (**tcp-code** (**match-all** | **match any**) (**ack** | **fin** | **psh** | **rst** | **syn** | **urg** |) |) | **udp** (**src-port** (**range** *L4_PORT_NUM1 L4_PORT_NUM2* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) | **dst-port** (**range** *L4_PORT_NUM1 L4_PORT_NUM2* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) | **icmp** | **igmp**) (**src-ip** (*IP_ADDR IP_ADDR_WILD* | **host** *IP_ADDR* |**any**) | **src-ipv6** (*IPv6_ADDR IPv6_ADDR_WILD* | **host** *IPv6_ADDR* |**any**)) (**dst-ip** (*IP_ADDR IP_ADDR_WILD* | **host** *IP_ADDR* |**any**) | **dst-ipv6** (*IPv6_ADDR IPv6_ADDR_WILD* | **host** *IPv6_ADDR* |**any**)) (**flow-label** (*FLOW_LABEL LABEL_WILD* |**any**)) (**dscp** *DSCP_VALUE* | **ip-precedence** *PRECEDENCE_VALUE*|) (**first-fragment**| **non-first-fragment**| **non-fragment**| **non-or-first-fragment**| **small-fragment** | **any-fragment**|) (**options**|) (**vlan** (*VLAN_ID VLAN_ID_WILD* | **any**)|) (**inner-vlan** (*VLAN_ID VLAN_ID_WILD* |**any**)|) (**cos** *COS_ID*|) (**inner-cos** *COS_ID*|) (**ether-type** (*ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* |**any**)|) (**src-mac** (*MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD* |**any**| **host** *MATCH_MAC_ADDR*)|) (**dest-mac** (*MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD* |**any**| **host** *MATCH_MAC_ADDR*)|)

sequence-num *MATCH_SEQ_NUM*	Specify a sequence number to create the inner-match rule. The valid range for sequence number is 1-

	65535. If the sequence number is not specified, system should automatically assign one number according to the base number and the step length. The base number is the maximum number in the inner-match (0 for empty inner-match), the step length is 10.
match	Match the packets according to the rule
PROTOCOL_NUM | any | tcp | udp | icmp | igmp	Specify the IP protocol number of the inner-match rule. The valid range for IP protocol number is 0-255. Well known IP protocols can also be specified by name. e.g. IP protocol 1 = icmp, 2 = igmp, 6 = tcp, 17 = udp. Parameter "any" indicates packets with any IP protocol can match this rule.
src-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 source port of the inner-match rule. The valid range for L4 source port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter "any" indicates packets with any L4 port can match this rule.
dst-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt L4_PORT_NUM | lt L4_PORT_NUM | any)	Specify the layer 4 destination port of the inner-match rule. The valid range for L4 destination port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter "any" indicates packets with any L4 port can match this rule.
src-ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR)	Specify the source IPv4 address of the inner-match rule.

	Use an IPv4 address and an IPv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an IPv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any source IPv4 address value can match this rule.
dst-ip (IP_ADDR IP_ADDR_WILD | any | host IP_ADDR)	Specify the destination IPv4 address of the inner-match rule. Use an IPv4 address and an IPv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an IPv4 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination IPv4 address value can match this rule.
src-ipv6 (IPv6_ADDR IPv6_ADDR_WILD | any | host IPv6_ADDR)	Specify the source IPv6 address of the inner-match rule. Use an IPv6 address and an IPv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an IPv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any source IPv6 address value can match this rule.
dst-ipv6 (IPv6_ADDR IPv6_ADDR_WILD | any | host IPv6_ADDR)	Specify the destination IPv6 address of the inner-match rule. Use an IPv6 address and an IPv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and an IPv6 address to specify an exactly address. Use the parameter “any” to indicate packets with any destination IPv6 address value can match this rule.
flow-label (FLOW_LABEL LABEL_WILD | any)	Specify the IPv6 Flow label of the inner-match rule. Valid range for flow label is 0-1048575. Valid range for flow-label wildcard bits is 0x0-0xFFFFF

	Flow label value and wildcard bits both have 20bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates ipv6 packets with any flow label value can match this rule.
dscp DSCP_VALUE	Specify the DSCP in IPv4 packets value of the inner-match rule. DSCP = Differentiated Services Code Point. Valid range of DSCP value is 0 – 63.
ip-precedence PRECEDENCE_VALUE	Specify the IP precedence in IPv4 packets of the inner-match rule. Valid range of IP precedence value is 0 – 7. DSCP & ip precedence configurations are exclusive
first-fragment	Match packets with first fragment
non-first-fragment	Match packets with non first fragment
non-fragment	Match packets with non fragment
non-or-first-fragment	Match packets with non first fragment
small-fragment	Match packets with small fragment
any-fragment	Match packets with any fragment
options	Match packets with IP options
vlan (VLAN_ID VLAN_WILD | any)	Specify the outer vlan id of the inner-match rule. The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xFFF. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any outer vlan id can match this rule.
inner-vlan (VLAN_ID VLAN_WILD | any)	Specify the inner vlan id of the inner-match rule. The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xFFF. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any inner vlan id can match this rule.
cos COS_ID	Specify the outer CoS value of the inner-match rule.

	CoS = Class of Service. The valid range of Cos is 0 to 7.
inner-cos COS_ID	Specify the inner CoS value of the inner-match rule. CoS = Class of Service. The valid range of Cos is 0 to 7.
ether-type (ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE | any)	Specify the ether-type of the inner-match rule. The valid range for ether-type is 0x600-0xFFFF. The valid range for wildcard bits is 0x600-0xFFFF. Ether-type value and wildcard bits both have 16bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter “any” indicates packets with any ethertype value can match this rule.
src-mac (MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD | any | host MATCH_MAC_ADDR)	Specify the source mac address in HHHH.HHHH.HHHH format. Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate packets with any source mac address value can match this rule.
dest-mac (MATCH_MAC_ADDR MATCH_MAC_ADDR_WILD | any| host MATCH_MAC_ADDR)	Specify the destination mac address in HHHH.HHHH.HHHH format. Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter “host” and a mac address to specify an exactly mac address. Use the parameter “any” to indicate packets with any destination mac address value can match this rule.

Command Mode

Inner-match Configuration

Default

None

Usage

Wildcard bits in this command are used as reversed. That means value and wildcard bits have same length, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.

E.g.: ip address 10.10.10.0 wildcard 0.0.0.255 means 256 ip addresses from 10.10.10.0 to 10.10.10.255.

Layer 4 information （e.g. tcp/udp port）and fragment information are exclusive.

Notice:

This command does not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to add an inner-match filter with sequence number 10 to im1:

```
Switch(config)# inner-match im1
Switch(config-inner-match-im1)# sequence-num 10 match icmp src-ip 10.10.10.0 0.0.0.255 dst-ip any
```

Related Commands

no sequence-num

4 ACL Commands

4.1 show interface egress ip access-list

Use this command to show egress statistics of ip access-list on an interface.

Command Syntax

show interface egress ip access-list statistics *IF_NAME*

IF_NAME	Specify the interface name to show IP ACL statistics. This command supports physical or link aggregation interfaces.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show egress statistics of ip access-list. The interface name must be specified.

Examples

This example shows the egress ip access-list statistic of interface eth-0-1:

```
Switch# show interface egress ip access-list statistics eth-0-1
egress flow f2
sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any ( bytes 124 packets 1 )
(total bytes 124 total packets 1 )
```

Related Commands

clear interface egress ip access-list

4.2 clear interface egress ip access-list

Use this command to clear egress statistics of ip access-list on an interface.

Command Syntax

clear interface egress ip access-list statistics *IF_NAME*

IF_NAME	Specify the interface name to clear IP ACL statistics. This command supports physical or link aggregation interfaces.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to clear egress statistics of ip access-list. The interface name must be specified.

Examples

This example shows how to clear the egress ip access-list statistic of interface eth-0-1:

```
Switch# clear interface egress ip access-list statistics eth-0-1
```

This example shows the egress ip access-list statistic of interface eth-0-1:

```
Switch# show interface egress ip access-list statistics eth-0-1
egress flow f2
sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any ( bytes 0 packets 0 )
(total bytes 0 total packets 0 )
```

Related Commands

show interface egress ip access-list

4.3 show ip access-list

Use this command to show the configuration of ip access-list.

Command Syntax

show ip access-list (*NAME_STRING*|)

NAME_STRING	Ip access-list name, up to 20 characters

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the configuration of ip access-list.

If the parameter “NAME_STRING” is not specified, the command indicates that all ip access-list on this device should be displayed; otherwise only the specified one should be displayed.

Examples

This example shows the configuration of ip access-list:

```
Switch# show ip access-list
ip access-list f2
 sequence-num 10 permit tcp src-port range 10 200 src-ip any dst-ip any
```

Related Commands

ip access-list

4.4 ip access-list

Use this command to create IP ACL and then enter IP ACL configuration mode.

Use the no form of this command to delete the IP ACL.

Command Syntax

ip access-list *NAME_STRING*

NAME_STRING	IP access-list name string, which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, and maximum length is 20 characters.

Command Mode

Global Configuration

Default

None

Usage

If the system already has an IP ACL with the same name, this command will enter the IP ACL configuration mode

When the name is not used by any ACL, this command is to create the IP ACL firstly and then enter the IP ACL configuration mode.

Examples

This example shows how to create an IP ACL named f1 and then enter the IP ACL configuration mode:

```
Switch(config)# ip access-list f1
Switch(config-acl-f1)#
```

Related Commands

show ip access-list

4.5 remark

Use this command to add remarks for the flow or ip access-list.

Command Syntax

remark *NAME_STRING*

NAME_STRING	Remark string for the IP ACL which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, maximum length is 100 characters.

Command Mode

ACL Configuration

Default

Default is no remarks of flow or ip access-list.

Usage

The remarks are up to 100 characters. The exceed parts will not be stored and will be truncated.

Examples

This example shows how to add a remark to describe the IP ACL:

```
Switch(config-acl-acl1)# remark acl1ipdeny
```

This example shows how to remove the remark:

```
Switch(config-acl-acl1)# no remark
```

Related Commands

show ip access-list

4.6 no sequence-num

Use this command to delete a filter from ip access-list.

Command Syntax

no sequence-num *ACL_SEQ_NUM*

ACL_SEQ_NUM	Sequence-number with the valid range 1 – 65535.

Command Mode

ACL Configuration

Default

None

Usage

Use this command to delete a filter from ip access-list.

Examples

This example shows how to delete a flow filter with sequence number 10 from ip acl acl1:

```
Switch(config-acl-acl1)# no sequence-num 10
```

Related Commands

show ip access-list

sequence-num

4.7 sequence-num acl_seq

Use this command to permit or deny packets matching the ip access-list filter.

Command Syntax

(**sequence-num** *ACL_SEQ_NUM*|) (**permit**| **deny**) (*PROTOCOL_NUM*| **any** | **tcp** (**src-port** (**range** *L4_PORT_NUM L4_PORT_NUM* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) | **dst-port** (**range** *L4_PORT_NUM L4_PORT_NUM* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) |) (**tcp-code** (**match-all** | **match any**) (**ack** | **fin** | **psh** | **rst** | **syn** | **urg** |) |) | **udp** (**src-port** (**range** *L4_PORT_NUM1 L4_PORT_NUM2* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) | **dst-port** (**range** *L4_PORT_NUM1 L4_PORT_NUM2* | **eq** *L4_PORT_NUM* | **gt** *L4_PORT_NUM* | **lt** *L4_PORT_NUM* | **any**) | **icmp** | **igmp**) (**src-ip** (*IP_ADDR IP_ADDR_WILD* | **host** *IP_ADDR* |**any**) | **src-ipv6** (*IPv6_ADDR IPv6_ADDR_WILD* | **host** *IPv6_ADDR* |**any**)) (**dst-ip** (*IP_ADDR IP_ADDR_WILD* | **host** *IP_ADDR* |**any**) | **dst-ipv6** (*IPv6_ADDR IPv6_ADDR_WILD* | **host** *IPv6_ADDR* |**any**)) (**flow-label** (*FLOW_LABEL LABEL_WILD* |**any**)) (**dscp** *DSCP_VALUE* | **ip-precedence** *PRECEDENCE_VALUE*|) (**first-fragment**| **non-first-fragment**| **non-fragment**| **non-or-first-fragment**| **small-fragment** | **any-fragment**|) (**options**|) (**vlan** (*VLAN_ID VLAN_WILD* | **any**)|) (**inner-vlan** (*VLAN_ID VLAN_WILD* |**any**)|) (**cos** *COS_ID*|) (**inner-cos** *COS_ID*|) (**ether-type** (*ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* |**any**)|) (**src-mac** (*ACL_MAC_ADDR ACL_MAC_ADDR_WILD* |**any**| **host** *ACL_MAC_ADDR*)|) (**dest-mac** (*ACL_MAC_ADDR ACL_MAC_ADDR_WILD*|**any**| **host** *ACL_MAC_ADDR*)|) ((**ipv4-head** | **l4-head**) *UDF_VALUE UDF_VALUE_WILD UDF_OFFSET*|)

sequence-num *ACL_SEQ_NUM*	Specify a sequence number to create the acl rule. The valid range for sequence number is 1-65535. If the sequence number is not specified, system should automatically assign one number according to the base number and the step length. The base number is the maximum number in the flow (0 for empty flow), the step length is 10.
permit	Specify the action of the acl rule. Use the parameter "permit" to indicate packets match this rule is allowed to forward.
deny	Specify the action of the acl rule. Use the parameter "deny" to indicate packets match this rule is not allowed to forward.
PROTOCOL_NUM | **any** | **tcp** | **udp** | **icmp** | **igmp** | **gre** | **nvgre**	Specify the IP protocol number of the acl rule. The valid range for IP protocol number is 0-255. Well known IP protocols can also be specified

	by name. e.g. IP protocol 1 = icmp, 2 = igmp, 6 = tcp, 17 = udp, 47 = gre/nvgre (gre protocol 0x0800 = gre, 0x6558 = nvgre). Parameter "any" indicates packets with any IP protocol can match this rule.
src-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any)	Specify the layer 4 source port of the acl rule. The valid range for L4 source port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter "any" indicates packets with any L4 port can match this rule.
dst-port (range *L4_PORT_NUM L4_PORT_NUM* | eq *L4_PORT_NUM* | gt *L4_PORT_NUM* | lt *L4_PORT_NUM* | any)	Specify the layer 4 destination port of the acl rule. The valid range for L4 destination port number is 0 – 65535. This filed is valid only if the IP protocol is TCP or UDP. There are 4 methods to specify the L4 port: 1, eq (equal to) 2, lt (less than) 3, gt (greater than) 4, range Parameter "any" indicates packets with any L4 port can match this rule.
src-ip (*IP_ADDR IP_ADDR_WILD* | **any** | **host** *IP_ADDR*)	Specify the source IPv4 address of the acl rule. Use an IPv4 address and an IPv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and an IPv4 address to specify an exactly address. Use the parameter "any" to indicate packets with any source IPv4 address value can match this rule.
dst-ip (*IP_ADDR IP_ADDR_WILD* | **any** | **host** *IP_ADDR*)	Specify the destination IPv4 address of the acl rule. Use an IPv4 address and an IPv4 address wildcard to specify a network (e.g. 192.168.1.1 0.0.0.255). If a bit in wildcard is 0 means this

	bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and an IPv4 address to specify an exactly address. Use the parameter "any" to indicate packets with any destination IPv4 address value can match this rule.
src-ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* | **any** | **host** *IPv6_ADDR*)	Specify the source IPv6 address of the acl rule. Use an IPv6 address and an IPv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and an IPv6 address to specify an exactly address. Use the parameter "any" to indicate packets with any source IPv6 address value can match this rule.
dst-ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* | **any** | **host** *IPv6_ADDR*)	Specify the destination IPv6 address of the acl rule. Use an IPv6 address and an IPv6 address wildcard to specify a network. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and an IPv6 address to specify an exactly address. Use the parameter "any" to indicate packets with any destination IPv6 address value can match this rule.
flow-label (*FLOW_LABEL LABEL_WILD* | **any**)	Specify the IPv6 Flow label of the acl rule. Valid range for flow label is 0-1048575. Valid range for flow-label wildcard bits is 0x0-0xFFFFF Flow label value and wildcard bits both have 20bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter "any" indicates ipv6 packets with any flow label value can match this rule.
dscp *DSCP_VALUE*	Specify the DSCP in IPv4 packets value of the acl rule. DSCP = Differentiated Services Code Point. Valid range of DSCP value is 0 – 63.
ip-precedence *PRECEDENCE_VALUE*	Specify the IP precedence in IPv4 packets of the acl rule. Valid range of IP precedence value is 0 – 7. DSCP & ip precedence configurations are exclusive

first-fragment	Match packets with first fragment
non-first-fragment	Match packets with non first fragment
non-fragment	Match packets with non fragment
non-or-first-fragment	Match packets with non first fragment
small-fragment	Match packets with small fragment
any-fragment	Match packets with any fragment
options	Match packets with IP options
vlan (*VLAN_ID VLAN_WILD* | **any**)	Specify the outer vlan id of the acl rule. The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xFFF. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter "any" indicates packets with any outer vlan id can match this rule.
inner-vlan (*VLAN_ID VLAN_WILD* | **any**)	Specify the inner vlan id of the acl rule. The valid range for vlan id is 0-4095. The valid range for vlan id wildcard bits is 0x0-0xFFF. Vlan id and wildcard bits both have 12bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter "any" indicates packets with any inner vlan id can match this rule.
cos *COS_ID*	Specify the outer CoS value of the acl rule. CoS = Class of Service. The valid range of Cos is 0 to 7.
inner-cos *COS_ID*	Specify the inner CoS value of the acl rule. CoS = Class of Service. The valid range of Cos is 0 to 7.
ether-type (*ETHER_TYPE_VALUE ETHER_TYPE_WILD_VALUE* | **any**)	Specify the ether-type of the acl rule. The valid range for ether-type is 0x600-0xFFFF. The valid range for wildcard bits is 0x600-0xFFFF. Ether-type value and wildcard bits both have 16bits, if a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Parameter "any" indicates packets with any ethertype value can match this rule.
src-mac (*ACL_MAC_ADDR ACL_MAC_ADDR_WILD* | **any** | **host**	Specify the source mac address in HHHH.HHHH.HHHH format.

ACL_MAC_ADDR)	Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and a mac address to specify an exactly mac address. Use the parameter "any" to indicate packets with any source mac address value can match this rule.
dest-mac (*ACL_MAC_ADDR ACL_MAC_ADDR_WILD* | **any**| **host** *ACL_MAC_ADDR*)	Specify the destination mac address in HHHH.HHHH.HHHH format. Use a mac address and wildcard bits to specify a batch of mac addresses. If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. Use the parameter "host" and a mac address to specify an exactly mac address. Use the parameter "any" to indicate packets with any destination mac address value can match this rule.
(**ipv4-head** | **l4-head**) *UDF_VALUE UDF_VALUE_WILD UDF_OFFSET*	UDF = User Define Format. The parameter "**ipv4-head**" indicates the packet is parsed at the beginning with the IPv4 header. The parameter "**l4-head**" indicates the packet is parsed at the beginning with the layer4 header. Udf value and wildcard bits both have 32 bits, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored. The parameter "*UDF_OFFSET*" specifies the offset bits from the beginning. The valid range of the offset is 0 -60.

Command Mode

ACL Configuration Mode

Default

None

Usage

Wildcard bits in this command are used as reversed. That means value and wildcard bits have same length, If a bit in wildcard is 0 means this bit needs to check, otherwise this bit should be ignored.

E.g.: ip address 10.10.10.0 wildcard 0.0.0.255 means 256 ip addresses from 10.10.10.0 to 10.10.10.255.

Layer 4 information （e.g. tcp/udp port）and fragment information are exclusive.

Notice:

The parameters “ipv4-head, l4-head” are not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to add an acl filter with sequence number 10 to acl test1:

```
Switch(config)# ip access-list test1
Switch(config-acl-test1)# sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255 dst-ip any
```

Related Commands

no sequence-num

show ip access-list

4.8 egress

Use this command to apply IPv4 access list on the outbound direction of an interface

Use the no form of this command to remove the IPv4 access list.

Command Syntax

egress *NAME_STRING*

no egress

NAME_STRING	IP access-list name string, which should begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-

	z.-, maximum length is 20 characters.

Command Mode

Interface Configuration

Default

None.

Usage

Use this command to apply IPv4 access list on the outbound direction of an interface

Use the no form of this command to remove the IPv4 access list.

This command supports physical or link aggregation interfaces.

Examples

The example shows how to apply the access list f1 to egress direction eth-0-9

```
Switch(config)# interface eth-0-19
Switch(config-if-eth-0-19)# egress f1
```

Related Commands

ip access-list

5 TAP Commands

5.1 tap-group

Use this command to create a TAP group and enter the tap configuration mode.

Use the no form of this command to delete the TAP group.

Command Syntax

tap-group *TAPNAME* (*NUM* |)

no tap-group *TAPNAME*

TAPNAME	Tap Group Name string, which should begin with a-z/A-Z, valid characters are 0-9A-Za-z.-, maximum length is 20 characters.
NUM	Tap Group ID, range 1-512

Command Mode

Global Configuration

Default

None

Usage

Use this command to create a TAP group and enter the tap configuration mode.

Use the no form of this command to delete the TAP group.

This device supports at most 512 TAP groups.

Examples

The following example shows how to create a tap-group:

```
Switch(config)# tap-group tap1
Switch(config-tap-tap1)#
```

The following example shows how to delete a tap-group:

```
Switch(config)# no tap-group tap1
Switch(config)#
```

Related Commands

show tap-group

5.2 description

Use this command to set the description of the TAP group.

Use the no form of this command to delete the description.

Command Syntax

description *LINE*

no description

LINE	TAP group description string, which should begin with a-z/A-Z, valid characters are 0-9A-Za-z.-, maximum length is 80 characters.

Command Mode

configure-tap-view

Default

The TAP group has no description by default.

Usage

Use this command to set the description of the TAP group.

Use the no form of this command to delete the description.

Examples

The following example shows how to config description:

```
Switch(config)# tap-group test001
Switch(config-tap-test001)# description test
Switch(config-tap-test001)#
```

Related Commands

tap-group

show tap-group

5.3 ingress

Use this command to add a physical or link aggregation interface to the ingress direction of the TAP group.

This command can specify Vlan id and edit actions to the packets.

Use the no form of this command to remove the interface.

Command Syntax

ingress *IF_NAME* (**un-tag | un-tag-outer-vlan | un-tag-inner-vlan** | **mark-source** *VLAN_ID* |) (**truncation** |) (**edit-macda** *MAC_ADDRESS*|) (**edit-macsa** *MAC_ADDRESS* |) (**edit-ipsa** *IP_ADDRESS* |) (**edit-ipda** *IP_ADDRESS* |)(**edit-ipv6sa** *IPv6_ADDRESS* |)(**edit-ipv6da** *IPv6_ADDRESS* |)(**edit-vlan** *VLAN_ID* |)

no ingress *IF_NAME*

ingress *IF_NAME* **flow** *FLOW_NAME* (**un-tag** | **un-tag-outer-vlan | un-tag-inner-vlan** |**mark-source** *VLAN_ID*)

no ingress *IF_NAME* **flow** *FLOW_NAME*

IF_NAME	Specify the interface name. This command supports physical or link aggregation interfaces.
un-tag	Remove vlan tags of the packets.

un-tag-outer-vlan	Remove outer vlan tag of the packets.
un-tag-inner-vlan	Remove inner vlan tag of the packets.
mark-source *VLAN_ID*	Specify additional outer vlan id of the outgoing packets. The valid range for vlan id is 1 – 4094.
truncation	To truncate the packet.
edit-macda *MAC_ADDRESS*	Specify the destination mac address of the outgoing packets in HHHH.HHHH.HHHH format.
edit-macsa *MAC_ADDRESS*	Specify the source mac address of the outgoing packets in HHHH.HHHH.HHHH format.。
edit-ipsa *IP_ADDRESS*	Specify the source IP address of the outgoing packets in A.B.C.D format.。
edit-ipda *IP_ADDRESS*	Specify the destination IP address of the outgoing packets in A.B.C.D format.。
edit-vlan *VLAN_ID*	Specify the vlan id of the outgoing packets. The valid range for vlan id is 1 – 4094.
edit-ipv6sa *IPv6_ADDRESS*	Specify the source IPv6 address of the outgoing packets.
edit-ipv6da *IPv6_ADDRESS*	Specify the destination IPv6 address of the outgoing packets.
flow FLOW_NAME	Specify the name of flow to apply to tap group's ingress direction.

Command Mode

configure-tap-view

Default

None

Usage

One interface without configuring a flow can only add to one TAP group.

Same interface with and without configuring a flow cannot exist in one TAP group.

Parameters "truncation edit-ipsa" are not supported on CTC5160 (GreatBelt) based switch.

Examples

The following example shows how to add an ingress-interface with mark-source 100:

```
Switch(config)# tap-group test001
Switch(config-tap-test001)# ingress eth-0-1 mark-source 100
Switch(config-tap-test001)#
```

The following example shows how to add an ingress-interface with un-tag:

```
Switch(config)# tap-group test001
Switch(config-tap-test001)# ingress eth-0-1 un-tag
Switch(config-tap-test001)#
```

The following example shows how to add an ingress-interface with flow flow001:

```
Switch(config)# tap-group test001
Switch(config-tap-test001)# ingress eth-0-1 flow flow001
Switch(config-tap-test001)#
```

The following example shows how to add an ingress interface eth-0-1:

```
Switch(config)# tap-group tap1
Switch(config-tap-tap1)# ingress eth-0-1
```

The following example shows how to add an ingress interface agg1:

```
Switch(config)# interface eth-0-2
Switch(config-if-eth-0-2)# static-channel-group 1
Switch(config-if-eth-0-2)# exit
Switch(config)# tap-group tap1
Switch(config-tap-tap1)# ingress agg1
```

The following example shows how to add an ingress interface eth-0-1 and remark source vlan id as 300:

```
Switch(config)# tap-group tap1
Switch(config-tap-tap1)# ingress eth-0-1 mark-source 300
```

Related Commands

tap-group

egress

5.4 egress

Use this command to add a physical or link aggregation interface to the egress direction of the TAP group.

Use the no form of this command to remove the interface.

Command Syntax

egress *IF_NAME* (**timestamp**|)

no egress *IF_NAME*

IF_NAME	Specify the interface name. This command supports physical or link aggregation interfaces.

Command Mode

configure-tap-view

Default

None

Usage

None

Examples

The following example shows how to add an egress-interface eth-0-9:

```
Switch(config)# tap-group tap1
Switch(config-tap-tap1)# egress eth-0-9
```

The following example shows how to add an egress-interface agg1:

```
Switch(config)# interface eth-0-10
Switch(config-if-eth-0-10)# static-channel-group 1
Switch(config)# interface eth-0-11
Switch(config-if-eth-0-11)# static-channel-group 1
Switch(config)# tap-group tap1
Switch(config-tap-tap1)# egress agg1
```

Related Commands

tap-group

5.5 show tap-group

This command displays the TAP group configurations.

Command Syntax

show tap-group (*TAPNAME* |)

TAPNAME	Specify a TAP group name to display. If the parameter "*TAPNAME*" is not specified, the command indicates that all TAP groups on this device should be displayed.

Command Mode

Privileged EXEC

Default

None

Usage

This command displays the TAP group configurations.

Examples

The following example shows the configuration of tap-group:

```
Switch# show tap-group
truncation          : 144
timestamp-over-ether : 0000.0000.0000 0000.0000.0000 0x0000

TAP-group tap1
 ID: 1
 Ingress:
     eth-0-1      flow f1
 Egress:
     eth-0-9
TAP-group tap2
```

```
ID: 2
Ingress:
    eth-0-21
Egress:
    eth-0-22
```

Related Commands

tap-group

ingress

egress

6 TIMESTAMP Commands

6.1 timestamp-over-ether

Use this command to configure the TAP timestamp outer header information.

Use the no form of this command to remove the TAP timestamp configuration.

Command Syntax

timestamp-over-ether *MAC_ADDR_DA MAC_ADDR_SA ETHTYPE_ID*

no timestamp-over-ether

MAC_ADDR_DA	Ethernet destination MAC address
MAC_ADDR_SA	Ethernet source MAC address
ETHTYPE_ID	Ethertype in hexadecimal, range is [0x0-0xffff]

Command Mode

Global Configuration

Default

None

Usage

TAP timestamp is global configuration. TAP timestamp MUST be configured before using the TAP groups.

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

The following example shows how to configure timestamp-over-ether

```
Switch# configure terminal
Switch(config)# timestamp-over-ether 1.1.1 2.2.2 0xff12
```

The following example shows how add timestamp for packets going out from tap1/interface eth-0-10:

```
Switch(config)# tap-group tap1
Switch(config-tap-tap1)# ingress eth-0-1
Switch(config-tap-tap1)# egress eth-0-10 timestamp
Switch(config-tap-tap1)# exit
```

Related Commands

tap-group

egress

6.2 show timestamp sync

Use this command configure to display timestamp sync information.

Command Syntax

show timestamp sync

Command Mode

Privileged EXEC

Default

None

Usage

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

The following example shows how to display timestamp information:

```
DUT1# show timestamp sync
Sync Type       : Disabled
```

```
Sync Count      : 0
Last Sync Time  : Fri Mar 10 09:02:11 2017
```

Related Commands

timestamp sync

6.3 timestamp sync

Use this command configure to timestamp sync.

Use the no form of this command to restore the default value.

Command Syntax

timestamp sync (**systime** | **none**)

no timestamp sync

systime	Use the system time as time source.
none	Use the chip time as time source.

Command Mode

Global Configuration

Default

The default value is “none”.

Usage

When configured systime means sync from system time.

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

The following example shows how to config timestamp sync:

```
DUT1(config)# timestamp sync systime
```

Related Commands

show timestamp sync

7 TRUNCATION Commands

7.1 truncation

Use this command to configure the truncation length information.

Use the no form of this command to restore the default value.

Command Syntax

truncation *TRUNCATION_LEN*

TRUNCATION_LEN	Truncation length. Valid range is 64-144.

Command Mode

Global Configuration

Default

Truncation length is 144 by default.

Usage

CRC should be re-calculating after packet is truncated. The truncation length include CRC field.

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

The following example shows how to set truncation length as 64:

```
Switch(config)# truncation 64
Enable truncation for TAP group tap1:
Switch(config)# tap-group tap1
```

```
Switch(config-tap-tap1)# ingress eth-0-1 truncation
Switch(config-tap-tap1)# egress eth-0-10
```

Related Commands

tap-group

ingress

8 SSH Commands

8.1 show ip ssh server status

To display the version and configuration data for Secure Shell (SSH), use the show ip ssh server status command in Privileged EXEC mode.

Command Syntax

show ip ssh server status

Command Mode

Privileged EXEC

Default

None

Usage

Use the show ip ssh server status command to view the version and configuration data.

Examples

The following example shows the current SSH configurations:

```
Switch# show ip ssh server status
 SSH server enabled
 Version: v2
 Authentication timeout: 33 second(s)
 Authentication retries: 6 time(s)
 Server key lifetime: 60 minute(s)
 Authentication type: password, public-key
```

Related Commands

ssh

8.2 ssh

To connect to the remote SSH server, use the ssh command in Privileged EXEC mode.

Command Syntax

ssh -l *NAME_STRING*(**-i** *RSAKEYNAME*|) (**-p** *L4_PORT_NUM*|) (**-v** (**1**| **2**) |) (**-c** (**3des**|) (**des**|) (**3des-cbc**|) (**aes128-cbc**|) (**aes192-cbc**|) **aes256-cbc**|) (**-m** (**hmac-md5-128**|) (**hmac-md5-96**|) (**hmac-sha1-160**|) **hmac-sha1-96**|) (**-o number-of-password-prompts** *SSHPINPROMPTS* |) (**mgmt-if**|) (*IP_ADDR*| *STRING*)

NAME_STRING	Login name
RSAKEYNAME	Specify key name
L4_PORT_NUM	Port of remote system
SSHPINPROMPTS	Number of password prompts
IP_ADDR	Specify *IP* address of remote system
STRING	Specify hostname of remote system

Command Mode

Privileged EXEC

Default

None

Usage

To connect to the remote SSH server, use this command in Privileged EXEC mode.

Examples

The following example displays the usage of this command:

```
Switch# ssh -l aaa 1.1.1.1
aaa@1.1.1.1's password:
```

```
Switch#
```

Related Commands

ip ssh server enable

8.3 ip ssh server enable

To enable SSH service, use ip ssh server enable command in global configuration mode.

Command Syntax

ip ssh server enable

Command Mode

Global Configuration

Default

SSH service is enabled.

Usage

To enable SSH service, use ip ssh server enable command in global configuration mode.

Examples

The following example enables the SSH service on your switch:

```
Switch(config)# ip ssh server enable
```

Related Commands

ip ssh server disable

8.4 ip ssh server disable

To disable SSH service, use ip ssh server disable command.

Command Syntax

ip ssh server disable

Command Mode

Global Configuration

Default

SSH service is enabled.

Usage

None

Examples

The following example disable the SSH service on your switch:

```
Switch(config)# ip ssh server disable
```

Related Commands

ip ssh server enable

8.5 ip ssh server version

To configure Secure Shell (SSH) version on your switch, use the ip ssh server version command in global configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

ip ssh server version (**v1** | **v2** | **all**)

no ip ssh server version

v1	*Support SSH* version 1

v2	*Support SSH* version 2
all	*Support SSH* version 1 and 2

Command Mode

Global Configuration

Default

The default SSH version is v2.

Usage

SSH server and client will negotiate about the version when connecting. Server and client should select a higher version both supported.

Examples

The following example shows that only SSH Version 1 support is configured:

```
Switch(config)# ip ssh server version v1
```

The following example shows that only SSH Version 2 support is configured:

```
Switch(config)# ip ssh server version v2
```

The following example shows that restore the default configuration:

```
Switch(config)# no ip ssh server version
```

Related Commands

show ip ssh server status

8.6 ip ssh server authentication-retries

To configure Secure Shell (SSH) authentication retry times on your switch, use the ip ssh server authentication-retries command in global configuration mode.

Uses the no form of this command to restore the default value of Secure Shell (SSH) authentication retry times on your switch

Command Syntax

ip ssh server authentication-retries *SSHAUTHRETRIES*

no ip ssh server authentication-retries

SSHAUTHRETRIES	Retry times(default: 6)

Command Mode

Global Configuration

Default

The default retry time is 6.

Usage

To configure Secure Shell (SSH) authentication retry times on your switch, use the ip ssh server authentication-retries command in global configuration mode.

Uses the no form of this command to restore the default value of Secure Shell (SSH) authentication retry times on your switch

Examples

The following examples configure SSH authentication retry times on your switch:

```
Switch(config)# ip ssh server authentication-retries 3
```

The following examples restore SSH authentication retry times to the default value:

```
Switch(config)# no ip ssh server authentication-retries
```

Related Commands

show ip ssh server status

8.7 ip ssh server authentication-timeout

To configure Secure Shell (SSH) authentication timeout on your switch, use the ip ssh server authentication-timeout command in global configuration mode.

Use the no form of this command to restore the default value of Secure Shell (SSH) authentication timeout on your switch

Command Syntax

ip ssh server authentication-timeout *SSHAUTHTIMEOUT*

no ip ssh server authentication-timeout

SSHAUTHTIMEOUT	Timeout seconds(default: 120)

Command Mode

Global Configuration

Default

The default value is 120 seconds.

Usage

None

Examples

The following examples configure SSH authentication timeout on your switch:

```
Switch(config)# ip ssh server authentication-timeout 100
```

The following examples restore SSH authentication timeout to default value on your switch:

```
Switch(config)# no ip ssh server authentication-timeout
```

Related Commands

show ip ssh server status

8.8 ip ssh server authentication-type

To configure Secure Shell (SSH) authentication type on your switch, use the ip ssh server authentication-type command in global configuration mode.

Use the no form of this command to restore the default value of Secure Shell (SSH) authentication type on your switch.

Command Syntax

ip ssh server authentication-type (**all** | (**password** | **public-key** | **rsa**))

no ip ssh server authentication-type

all	Enable all authentication type
password	Enable password
public-key	Enable public key
rsa	Enable rsa

Command Mode

Global Configuration

Default

The default authentication type is public-key and password.

Usage

To configure Secure Shell (SSH) authentication type on your switch, use the ip ssh server authentication-type command in global configuration mode.

Use the no form of this command to restore the default value of Secure Shell (SSH) authentication type on your switch.

Examples

The following examples configure SSH authentication type on your switch:

```
Switch(config)# ip ssh server authentication-type password
```

The following examples restore SSH authentication type to default value:

```
Switch(config)# no ip ssh server authentication-type
```

Related Commands

show ip ssh server status

8.9 ip ssh server rekey-interval

To configure Secure Shell (SSH) rekey interval on your switch, use the ip ssh server rekey-interval command in global configuration mode.

Use the no form of this command to restore the default value of Secure Shell (SSH) rekey interval on your switch.

Command Syntax

ip ssh server rekey-interval *SSHREKEYINTVL*

no ip ssh server rekey-interval

SSHREKEYINTVL	Rekey interval(minute(s), default 60)

Command Mode

Global Configuration

Default

The default interval is 60 minutes.

Usage

To configure Secure Shell (SSH) rekey interval on your switch, use the ip ssh server rekey-interval command in global configuration mode.

Use the no form of this command to restore the default value of Secure Shell (SSH) rekey interval on your switch.

Examples

The following examples configure SSH rekey interval on your switch:

```
Switch(config)# ip ssh server rekey-interval 30
```

The following examples restore SSH rekey interval to default value:

```
Switch(config)# no ip ssh server rekey-interval
```

Related Commands

show ip ssh server status

8.10 ip ssh server host-key

To configure Secure Shell (SSH) host-key on your switch, use the ip ssh server host-key rsa key command in global configuration mode.

Use the no form of this command to restore the default value of Secure Shell (SSH) host-key on your switch.

Command Syntax

ip ssh server host-key rsa key *RSAKEYNAME*

no ip ssh server host-key

RSAKEYNAME	Key Name

Command Mode

Global Configuration

Default

There is no host-key by default.

Usage

To configure Secure Shell (SSH) host-key on your switch, use the ip ssh server host-key rsa key command in global configuration mode.

Use the no form of this command to restore the default value of Secure Shell (SSH) host-key on your switch.

Examples

The following example shows how to configure SSH host key on the switch:

```
Switch(config)# ip ssh server host-key rsa key KEY1
```

The following example shows how to remove SSH host key on the switch:

```
Switch(config)# no ip ssh server host-key
```

Related Commands

show ip ssh server status

9 LACP Commands

9.1 show channel-group

Use show channel-group summary command to display a summary of all of the channel groups, or a specified channel group. Use show channel-group detail command to display detailed information of all of the channel groups, or a specified channel group. Use show channel-group port command to display port information of all of the channel groups, or a specified channel group.

Command Syntax

show channel-group (*AGG_GID*|) (**summary**| **detail**| **port**)

AGG_GID	Channel group id. Valid minimum ID is 1. Valid maximum id is defined as blow: for CTC5160 (GreatBelt) based system: 31. for CTC8096(GoldenGate) based system: 55

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the channel group information.

If the AGG_GID is not specified, this command indicates that all channel groups on this device should be shown.

Examples

This example shows how to display detailed information of the channel group 10:

```
Switch# show channel-group 10 detail

Group: 10
----------------------------
 Mode         : switch
 Ports        : 2         Maxports : 16
 Bundle Ports  : 0
 Protocol     : static

 Port         : eth-0-3
 ----------------------------
  State       : Down Out-Bundle
  Channel group : 10
  Protocol     : static
  Port index    : 3

 Port         : eth-0-4
 ----------------------------
  State       : Down Out-Bundle
  Channel group : 10
  Protocol     : static
  Port index    : 4
```

This example shows how to display information of all channel groups:

```
Switch# show channel-group summary
port-channel load-balance hash-arithmetic: xor
port-channel load-balance tunnel-hash-mode: both
Port-channel load-balance hash-field-select:
   src-ip dst-ip src-port-l4 dst-port-l4
Flags:  s - suspend          T - standby
       w - wait             B - in Bundle
       R - Layer3           S - Layer2
       D - down/admin down    U - in use

Mode:  SLB   - static load balance
      DLB   - dynamic load balance
      RR    - round robin load balance

Aggregator Mode Protocol Ports
----------+----+--------+-----------------------------------------------------
agg5(SD)   SLB  Static   eth-0-5(D)
agg10(SD)  SLB  Static   eth-0-3(D)     eth-0-4(D)
This example shows how to display summary information of the channel group 10:
Switch# show channel-group 10 summary
port-channel load-balance hash-arithmetic: xor
port-channel load-balance tunnel-hash-mode: both
Port-channel load-balance hash-field-select:
   src-ip dst-ip src-port-l4 dst-port-l4
```

```
Flags:  s - suspend         T - standby
        w - wait            B - in Bundle
        R - Layer3          S - Layer2
        D - down/admin down   U - in use

Mode:  SLB   - static load balance
       DLB   - dynamic load balance
       RR    - round robin load balance

Aggregator Mode Protocol Ports
----------+----+--------+-----------------------------------------------------
agg10(SD)  SLB  Static   eth-0-3(D)    eth-0-4(D)
```

Related Commands

static-channel-group

9.2 show channel-group interface

Use this command to display interface link stats of the channel groups.

Command Syntax

show channel-group interface *IF_NAME*

IF_NAME	Specify the interface name to show. This command supports physical interfaces.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display interface link stats of the channel groups.

Examples

This example shows how to display interface link stats of the channel groups:

```
Switch# show channel-group interface eth-0-3
Port        : eth-0-3
----------------------------
 State       : Down Out-Bundle
 Channel group : 10
 Protocol     : static
 Port index    : 3
```

Related Commands

static-channel-group

9.3 show port-channel load-balance

Use this command to show the load balance type for the Link Aggregation Control Protocol (LACP).

Command Syntax

show port-channel load-balance

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the load balance type for the Link Aggregation Control Protocol (LACP)

Examples

This example shows the load balance type for the Link Aggregation:

```
Switch# show port-channel load-balance
Port-channel load-balance hash fields:
-------------------------------------
src-ip
dst-ip
```

```
src-port-l4
dst-port-l4
```

Related Commands

port-channel load-balance set

9.4 no port-channel

Use this command to set port-channel load balance mode to default static mode which is supported at CTC8096 (GoldenGate) based switch.

Command Syntax

no port-channel *AGG_GID* **load-balance-mode**

AGG_GID	Channel group id. Valid minimum ID is 1. Valid maximum id is defined as blow: for CTC5160 (GreatBelt) based system: 31. for CTC8096(GoldenGate) based system: 55

Command Mode

Global Configuration

Default

Static mode

Usage

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to set port-channel load balance mode to the default setting:

```
Switch(config)# no port-channel 9 load-balance-mode
```

Related Commands

port-channel load-balance-mode

9.5 port-channel load-balance-mode

Use this command to set port-channel load balance mode from static to round-robin 。

Command Syntax

port-channel *AGG_GID* **load-balance-mode round-robin**

AGG_GID	Channel group id. Valid minimum ID is 1. Valid maximum id is 55.

Command Mode

Global Configuration

Default

Round-robin is disabled by default.

Usage

Set port-channel load balance mode to round-robin.

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to set port-channel load balance mode to round-robin:

```
Switch(config)# port-channel 9 load-balance-mode round-robin
```

Related Commands

no port-channel

9.6 port-channel load-balance hash-arithmetic

Use this command to configure the load balance hash algorithm for the Link Aggregation Control Protocol (LACP).

Use the no form of this command to restore the default value.

Command Syntax

port-channel load-balance hash-arithmetic (**crc**| **xor**)

no port-channel load-balance hash-arithmetic

crc	Use algorithm of crc to compute hash value
xor	Use algorithm of exclusive or to compute hash value

Command Mode

Global Configuration

Default

xor

Usage

Use this command to configure the load balance hash algorithm for the Link Aggregation Control Protocol (LACP).

Use the no form of this command to restore the default value.

Examples

This example shows how to configure the load balance hash algorithm for Link Aggregation Control Protocol (LACP):

```
Switch(config)# port-channel load-balance hash-arithmetic xor
```

Related Commands

port-channel load-balance

9.7 port-channel load-balance set

Use this command to configure the load balance type for the Link Aggregation Control Protocol (LACP).

Use the no form of this command to delete a load balance type or restore the default value.

Command Syntax

port-channel load-balance set (src-**mac** | **dst-mac** | **src-ip** | **dst-ip** | **ip-protocol** | **src-port-l4** | **dst-port-l4** | **inner-dst-mac** | **inner-src-mac** | **inner-src-ip** | **inner-dst-ip** | **vxlan-vni** | **gre-key** | **nvgre-vsid** | **nvgre-flow-id**)

no port-channel load-balance set (**src-mac** | **dst-mac** | **src-ip** | **dst-ip** | **ip-protocol** | **src-port-l4** | **dst-port-l4** | **inner-dst-mac** | **inner-src-mac** | **inner-src-ip** | **inner-dst-ip** | **vxlan-vni** | **gre-key** | **nvgre-vsid** | **nvgre-flow-id**)

no port-channel load-balance

src-mac	Load balance by source MAC address
dst-mac	Load balance by destination MAC address
src-ip	Load balance by source IP address
dst-ip	Load balance by destination IP address
ip-protocol	Load balance by ip-protocol
src-port-l4	Load balance by source port
dst-port-l4	Load balance by destination port
inner-src-mac	Inner Source MAC address based load balancing
inner-dst-mac	Inner Destination MAC address based load balancing
inner-src-ip	Inner Source IP address based load balancing
inner-dst-ip	Inner Destination IP address based load balancing
vxlan-vni	Vni of vxlan
gre-key	Key of GRE
nvgre-vsid	Vsid of nvgre
nvgre-flow-id	Flow ID of GRE

Command Mode

Global Configuration

Default

src-ip, dst-ip, src-port-l4, dst-port-l4 are enabled by default.

Usage

The no form of this command with the hash field means delete the load balance type.

The no form of this command without the hash field means restore the default value.

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to configure the load balance type for Link Aggregation Control Protocol (LACP):

```
Switch(config)# port-channel load-balance set src-mac
```

Related Commands

show port-channel load-balance

9.8 port-channel load-balance tunnel-hash-mode

Use this command to configure the load balance tunnel hash algorithm for the Link Aggregation Control Protocol (LACP).

Command Syntax

port-channel load-balance tunnel-hash-mode (both | outer | inner)

both	Use both field for tunnel packet load balance.
outer	Use outer field for tunnel packet load balance.
inner	Use inner field for tunnel packet load balance.

Command Mode

Global Configuration

Default

both

Usage

Use this command to configure the tunnel hash load balance.

This command is not supported on CTC5160 (GreatBelt) based switch.

Examples

This example shows how to set inner-filed hash load balance:

```
Switch(config)# port-channel tunnel-hash-mode inner
```

Related Commands

port-channel load-balance set

9.9 port-channel load-balance

Use this command to set load balance type for the Link Aggregation Control Protocol (LACP).

Use the no form of this command to set the load balance type for the Link Aggregation Control Protocol (LACP) return to the default setting.

Command Syntax

port-channel load-balance (**src-mac** | **dst-mac** | **src-ip** | **dst-ip** | **src-port** | **dst-port** | **src-dst-ip** | **src-dst-mac** | **src-dst-port** | **src-dst-ip- src-dst-port**)

no port-channel load-balance

src-mac	Load balance by source MAC address
dst-mac	Load balance by destination MAC address
src-ip	Load balance by source IP address
dst-ip	Load balance by destination IP address
src-port	Load balance by source port
dst-port	Load balance by destination port
src-dst-mac	Load balance by MAC address.
src-dst-ip	Load balance by IP address
src-dst-port	Load balance by port
src-dst-ip- src-dst-port	Load balance by ip and port

Command Mode

Global Configuration

Default

src-ip, dst-ip, src-port, dst-port are enabled by default.

Usage

This command is only supported on CTC5160 (GreatBelt) switch.

Examples

This example shows how to set port-channel load-balance to dst-port:

```
Switch(config)# port-channel load-balance dst-port
```

Related Commands

show port-channel load-balance

10 NTP Commands

10.1 show ntp

This command displays the NTP configurations.

Command Syntax

show ntp

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the NTP configurations.

Examples

The following example shows the configuration of NTP:

```
Switch# show ntp
Unicast peer or server:
1.1.1.1 server
10.1.1.23 key 43 version 2 prefer server
10.10.25.8 server
172.16.22.44 version 2 server
192.16.22.44 version 2 server
Authentication: enabled
Local reference clock:
```

Related Commands

ntp server

ntp authentication

10.2 show ntp status

This command displays the status of the Network Time Protocol (NTP).

Command Syntax

show ntp status

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the status of the Network Time Protocol (NTP).

Examples

The following is sample output from the show ntp status command:

```
Switch# show ntp status
statistics status
Switch# show ntp status
system peer        : 10.10.25.8
system peer mode    : client
leap indicator      : 00
stratum           : 5
precision         : -19
root distance       : 0.30511 s
minimum distance    : 0.00099 s
selection threshold  : 1.50000 s
root dispersion     : 0.28767 s
reference ID       : [10.10.25.8]
reference time      : dd6e331f.6a9c7b92  Thu, Sep 21 2017 20:46:23.416
```

```
system flags       : auth monitor ntp kernel stats
jitter             : 0.000000 s
stability          : 18.062 ppm
broadcastdelay     : 3.000000 s
authdelay          : 0.000000 s
```

Related Commands

ntp minimum-distance

10.3 show ntp statistics

This command displays the statistics of the Network Time Protocol (NTP).

Command Syntax

show ntp statistics

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the statistics of the Network Time Protocol (NTP).

Examples

The following is sample output from the show ntp statistics command:

```
Switch# show ntp statistics
time since reset    :18748
receive buffers     :10
free receive buffers :9
used receive buffers :0
low water refills   :1
dropped packets     :0
ignored packets     :0
received packets    :333
packets sent        :545
```

```
packets not sent     :0
interrupts handled   :19081
received by int      :333
```

Related Commands

ntp server

clear ntp statistics

10.4 show ntp associations

This command displays the status of Network Time Protocol (NTP) associations.

Command Syntax

show ntp associations

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the status of Network Time Protocol (NTP) associations.

Examples

The following example shows the status of NTP associations:

```
Switch# show ntp associations
* synced,     + symmetric active mode, - symmetric passive mode,
= client mode, ^ broadcast mode,       ~ broadcast client mode

   remote         local     st poll reach  delay   offset    disp
==============================================================================
=172.16.22.44    169.254.2.1     16 1024    0 0.00000  0.000000 3.99217
=10.1.1.23       169.254.2.1     16 1024    0 0.00000  0.000000 3.99217
=192.16.22.44    169.254.2.1     16 1024    0 0.00000  0.000000 3.99217
*10.10.25.8      169.254.2.1      4  128  377 0.00031  0.067999 0.09810
```

```
=1.1.1.1        169.254.2.1     16 1024    0 0.00000  0.000000 3.99217
```

Related Commands

ntp server

10.5 show ntp key

This command displays the NTP keys.

Command Syntax

show ntp key

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the NTP keys.

Examples

The following example shows the keys of NTP:

```
Switch# show ntp key
Current NTP key configuration:
-+-----+---------+----------------------------------------
    43     key43
   123    key123
```

Related Commands

ntp key

10.6 clear ntp statistics

This command clears the statistics of the Network Time Protocol (NTP).

Command Syntax

clear ntp statistics

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to clear the statistics of the Network Time Protocol (NTP).

Examples

The following is the example that clears ntp statistics:

```
Switch# clear ntp statistics
```

Related Commands

show ntp statistics

10.7 ntp minimum-distance

Use this command to configure the change the minimum distance between the switch and the NTP server.

Use the no form of this command to restore default ntp minimum distance configures.

Command Syntax

ntp minimum-distance *NTP_MIN_DISP*

no ntp minimum-distance

NTP_MIN_DISP	Distance value time interval in milliseconds, default is 1

Command Mode

Global Configuration

Default

The default value should be 1 millisecond.

Usage

Use this command to configure the change the minimum distance between the switch and the NTP server.

Examples

The following example shows how to change minimum distance to 1000ms:

```
Switch(config)# ntp minimum-distance 1000
```

The following example shows how to change minimum distance to default:

```
Switch(config-if)# no ntp minimum-distance
```

Related Commands

show ntp status

10.8 ntp server

Use this command to allow the software clock to be synchronized by a Network Time Protocol (NTP) time server.

Use the no form of this command to delete the NTP server

Command Syntax

ntp server mgmt-if *IP_ADDR* (**key** *NTP_KEYID* |) (**version** *NTP_VERSION* |) (**prefer** |)

no ntp server *IP_ADDR*

IP_ADDR	IP address of the time server or peer
key *NTP_KEYID*	Authentication key to use when sending packets to this peer (1 to 64000)
version *NTP_VERSION*	Defines the Network Time Protocol (NTP) version number
prefer	Makes this peer the preferred peer that provides synchronization

Command Mode

Global Configuration

Default

The server will not synchronize to this machine

Usage

Use this command to allow the software clock to be synchronized by a Network Time Protocol (NTP) time server.

Use the no form of this command to delete the NTP server

Examples

The following example shows how to configure a switch to allow its software clock to be synchronized with the clock by the device at IP address 172.16.22.44 using NTP version 2:

```
Switch(config)# ntp server mgmt-if 172.16.22.44 version 2
The following example shows how to restore default ntp server configure:
Switch(config)# no ntp server 172.16.22.44
```

Related Commands

show ntp status

10.9 ntp authentication

Use this command to enable NTP authentication, use the ntp authentication enable command.

Command Syntax

ntp authentication (**enable**| **disable**)

Command Mode

Global Configuration

Default

Authentication is disabled by default.

Usage

When NTP authentication is enabled, the switch will synchronize the time with NTP servers with trusted key only.

For more information about trusted key, please see the “ntp trustedkey” command.

Examples

The following example shows how to enables NTP authentication:

```
Switch(config)# ntp authentication enable
```

Related Commands

show ntp

10.10 ntp key

Use this command to configure value of the NTP key.

Use the no form of this command to delete the NTP key.

Command Syntax

ntp key *NTP_KEYID KEY_STRING*

NTP_KEYID	Authentication key (1 to 64000)
KEY_STRING	The value of the key

Command Mode

Global Configuration

Default

There is no ntp key by default

Usage

Use this command to create a value for a NTP key.

Examples

In the following example, the value 321 is given to the NTP key 123:

```
Switch(config)# ntp key 123 key123
```

Related Commands

show ntp key

10.11 ntp trustedkey

Use this command to authenticate the identity of a system to which Network Time Protocol (NTP) will synchronize.

Use the no form of this command to disable authentication of the identity of the system.

Command Syntax

ntp trustedkey *NTP_KEYID*

no ntp trustedkey *NTP_KEYID*

NTP_KEYID	Authentication key to use when sending packets to this peer (1 to 64000)

Command Mode

Global Configuration

Default

There is no ntp key is trusted by default.

Usage

If authentication is enabled, use this command to define one or more key numbers (corresponding to the keys defined with the ntp key command) that a peer NTP system must provide in its NTP packets, in order for this system to synchronize to it. This function provides protection against accidentally synchronizing the system to a system that is not trusted, because the other system must know the correct authentication key.

Examples

The following example shows how to configure the system to synchronize only to systems providing authentication key 123

```
Switch(config)# ntp trustedkey 123
```

The following example shows how to disable authentication of the identity of the system.

```
Switch(config)# no ntp trustedkey 123
```

Related Commands

ntp key

11 NETWORK DIAGNOSIS Commands

11.1 ping

This command is used to ping a specific IPv4 address with management interface.

Command Syntax

ping mgmt-if (**-b**|) *WORD*

mgmt-if	Send packet from management interface
-b	To check a broadcast address.
WORD	Ping destination address

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to ping a specific IPv4 address with management interface.

Ping returns one of these responses:

Normal response- The normal response (hostname is alive) occurs in 1 to 10 seconds, depending on network traffic.

Destination does not respond- If the host does not respond, a no-answer message is returned.

Unknown host- If the host does not exist, an unknown host message is returned.

Destination unreachable- If the default gateway cannot reach the specified network, a destination-unreachable message is returned.

Network or host unreachable- If there is no entry in the route table for the host or network, a network or host unreachable message is return.

Examples

This example shows how to check whether 10.10.38.160 is available:

```
Switch# ping mgmt-if 10.10.38.160
PING 10.10.38.160 (10.10.38.160) 56(84) bytes of data.
64 bytes from 10.10.38.160: icmp_seq=1 ttl=64 time=0.513 ms
64 bytes from 10.10.38.160: icmp_seq=2 ttl=64 time=0.229 ms
64 bytes from 10.10.38.160: icmp_seq=3 ttl=64 time=0.261 ms
64 bytes from 10.10.38.160: icmp_seq=4 ttl=64 time=0.265 ms
64 bytes from 10.10.38.160: icmp_seq=5 ttl=64 time=0.387 ms

--- 10.10.38.160 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 3999ms
rtt min/avg/max/mdev = 0.229/0.331/0.513/0.105 ms
```

Related Commands

traceroute

11.2 traceroute

This command is used to identify the path that packets take through the network on a hop-by-hop basis.

Command Syntax

traceroute mgmt-if *NAME_STRING*

mgmt-if	Send packet from management interface
NAME_STRING	Traceroute destination address

Command Mode

Privileged EXEC

Default

None

Usage

You can use IP traceroute to identify the path that packets take through the network on a hop-by-hop basis. The command output displays all network layer (Layer 3) devices, such as routers, that the traffic passes through on the way to the destination.

Your switches can participate as the source or destination of the traceroute privileged EXEC command and might or might not appear as a hop in the traceroute command output. If the switch is the destination of the traceroute, it is displayed as the final destination in the traceroute output. Intermediate switches do not show up in the traceroute output if they are only bridging the packet from one port to another within the same VLAN. However, if the intermediate switch is a multilayer switch that is routing a particular packet, this switch shows up as a hop in the traceroute output.

The traceroute privileged EXEC command uses the Time To Live (TTL) field in the IP header to cause routers and servers to generate specific return messages. Traceroute starts by sending a User Datagram Protocol (UDP) datagram to the destination host with the TTL field set to 1. If a router finds a TTL value of 1 or 0, it drops the datagram and sends back an Internet Control Message Protocol (ICMP) time-to-live-exceeded message to the sender. Traceroute determines the address of the first hop by examining the source address field of the ICMP time-to-live-exceeded message.

Examples

The following example is sample dialog from the traceroute command using default values.

```
Switch# traceroute 10.108.1.29
traceroute to 10.108.1.29 (10.108.1.29), 30 hops max, 38 byte packets
 1  10.108.1.27 (10.108.1.27)  2998.076 ms !H  3000.361 ms !H  3007.748 ms !H
```

Related Commands

ping

12 SYSLOG Commands

12.1 show logging

Use this command to show configuration of logging.

Command Syntax

show logging

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show configuration of logging.

Examples

The following is sample output from the show logging command:

```
Switch# show logging
Current logging configuration:
============================================================
logging buffer 500
logging timestamp bsd
logging file enable
logging level file warning
logging level module debug
logging server disable
logging server severity warning
logging server facility local4
logging merge disable
logging merge fifo-size 1024
```

```
logging merge timeout 10
```

Related Commands

logging buff

logging timestamp

logging file

logging level file

logging level module

logging server

logging server severity

logging server facility

logging merge

12.2 show logging buffer

Use this command to show logging buffer messages.

Command Syntax

show logging buffer (*SYSLOGLINES*|)

SYSLOGLINES	Specify the number of message(s) (-1000..+1000)

Command Mode

Privileged EXEC

Default

None

Usage

Syslog lines are displayed in chronological order when minus added; By default, syslog lines are sorted in reverse chronological order, which means the newest syslog is on top.

Examples

The following is sample output from the show logging buffer command:

```
Switch# show logging buffer
Sep 14 08:59:16 Switch init-6: starting pid 27391, tty \'/dev/ttyS0\': \'/usr/sbin/klish\'
Sep 14 08:59:16 Switch init-6: process \'/usr/sbin/klish\' (pid 27327) exited. Scheduling for restart.
Sep 14 08:49:40 Switch APP-1: logout, vty 1, location 169.254.1.2, by telnet
Sep 14 08:49:16 Switch init-6: starting pid 27327, tty \'/dev/ttyS0\': \'/usr/sbin/klish\'
Sep 14 08:49:16 Switch init-6: process \'/usr/sbin/klish\' (pid 27259) exited. Scheduling for restart.
Sep 14 08:39:15 Switch init-6: starting pid 27259, tty \'/dev/ttyS0\': \'/usr/sbin/klish\'
Sep 14 08:39:15 Switch init-6: process \'/usr/sbin/klish\' (pid 27167) exited. Scheduling for restart.
Sep 14 08:37:48 Switch APP-6: ready to service
```

Related Commands

clear logging buffer

12.3 show logging buffer statistics

Use this command to show the statistics of logging buffer.

Command Syntax

show logging buffer statistics

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the statistics of logging buffer.

Examples

The following is sample output from the show logging buffer statistics command:

```
Switch# show logging buffer statistics
Logging buffer statistics:
------------------------------------------------------------
Total processed 314 entries
Total dropped 0 entries
Current have 50 entries
```

Related Commands

clear logging buffer

12.4 show logging levels

Use this command to show the severity level information of logging.

Command Syntax

show logging levels

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the severity level information of logging.

Examples

The following is sample output from the show logging levels command

```
Switch# show logging levels
Severity  Name       Note
============================================================
0       emergency    system is unusable
1       alert        action must be taken immediately
```

```
2       critical    critical conditions
3       error       error conditions
4       warning     warning conditions
5       notice      normal but significant condition
6       information  informational
7       debug       debug-level messages
```

Related Commands

logging level file

12.5 show logging facilities

Use this command to show the facility information of logging.

Command Syntax

show logging facilities

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the facility information of logging.

Examples

The following is sample output from the show logging facilities command:

```
Switch# show logging facilities
Logging facility information:
Facility  Name       Note
============================================================
0       kern       kernel messages
1       user       random user-level messages
2       mail       mail system
3       daemon     system daemons
4       auth       security/authorization messages
```

```
5       syslog     messages generated internally by syslogd
6       lpr        line printer subsystem
7       news       network news subsystem
8       uucp       UUCP subsystem
9       cron       clock daemon
10      authpriv   security/authorization messages (private)
11      ftp        ftp daemon
16      local0     reserved for local use 0
17      local1     reserved for local use 1
18      local2     reserved for local use 2
19      local3     reserved for local use 3
20      local4     reserved for local use 4
21      local5     reserved for local use 5
22      local6     reserved for local use 6
23      local7     reserved for local use 7
```

Related Commands

logging server facility

12.6 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 EXEC

Default

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

12.7 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

show logging buffer

12.8 logging buffer

Use this command to specify logging buffer line number. Use the no form of this command to set logging buffer line number to default value.

Command Syntax

logging buffer *CFGLOGLINES*

CFGLOGLINES	Line number value

Command Mode

Global Configuration

Default

default is 500, range is 10 to 1000.

Usage

None

Examples

The following shows how to set logging buffer line number to 10:

```
Switch(config)# logging buffer 10
```

The following shows how to set logging buffer line number to default value:

```
Switch(config)# no logging buffer
```

Related Commands

show logging buffer

12.9 logging file

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

Command Syntax

logging file (**enable**| **disable**)

enable	Write the logs into log file
disable	Do not write the logs into log 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

12.10 logging level file

To set severity level while writing logs into files, use the logging level file command in Global Configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

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

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
LOGSEVERITY	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 error
In the following example, the user specifies messages of logging levels to   default be logged to files:
Switch(config)# no logging level file
```

Related Commands

logging level module

12.11 logging level module

To set severity level, use the logging level module command in Global Configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

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

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
LOGSEVERITY	Severity level. The range is 0 to 7

Command Mode

Global Configuration

Default

Default logging level module is debug.

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 should be logged:

```
Switch(config)# logging level module error
```

In the following example shows set the logging level module to default value:

```
Switch(config)# no logging level module
```

Related Commands

logging level file

12.12 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.

Use the no form of this command to restore the default value.

Command Syntax

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

no logging timestamp

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

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 logging timestamp to iso:

```
Switch(config)# logging timestamp iso
```

The following shows how to set the logging timestamp to default value:

```
Switch(config)# no logging timestamp
```

Related Commands

show logging

12.13 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

show logging

12.14 logging server severity

To set severity level while writing logs into servers, use the logging server severity command in Global Configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

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

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
LOGSEVERITY	Severity level. The range is 0 to 7

Command Mode

Global Configuration

Default

Logging server default 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 error
```

In the following example, set the logging server severity to default level:

```
Switch(config)# no logging server severity
```

Related Commands

show logging

12.15 logging server facility

To configure the syslog facility in which error messages are sent, use the logging server facility command in Global Configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

logging server facility (*LOGFAC*| **auth**| **authpriv**| **cron**| **daemon**| **ftp**| **kern**| **local0**| **local1**| **local2**| **local3**| **local4**| **local5**| **local6**| **local7**| **lpr**| **mail**| **news**| **syslog**| **user**| **uucp**)

LOGFAC	Log facility-type
4|auth	Authorization system
10|authpriv	Authorization private system
9|cron	Cron facility

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

Command Mode

Global Configuration

Default

Default is local4.

Usage

To configure the syslog facility in which error messages are sent, use the logging server facility command in Global Configuration mode.

Use the no form of this command to restore the default value.

Examples

The following shows how to set logging server facility command:

```
Switch(config)# logging server facility local3
```

The following shows how to set logging server facility to default command:

```
Switch(config)# no logging server facility
```

Related Commands

None

12.16 logging server address

To log system messages and debug output to a remote server, use the logging server address command in Global Configuration mode.

Use the no form of this command to delete the address.

Command Syntax

logging server address mgmt-if *IP_ADDR*

no logging server address mgmt-if *IP_ADDR*

IP_ADDR	Remote server *IP* address

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 10.10.38.236:

```
Switch(config)# logging server address mgmt-if 10.10.38.236
```

In the following example shows how to remove a specified logging server from the configuration:

```
Switch(config)# no logging server address mgmt-if 10.10.38.236
```

Related Commands

logging server

12.17 logging merge

To enable the logging mergence, use the logging merge command in Global Configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

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

enable	Enable logging mergence
disable	Disable logging mergence
fifo-size *MERGEFSIZE*	Set fifo size. The range is 100 to 10240, default value is 1024
timeout *MERGETIMEOUT*	Set timeout. The range is 1 to 300 seconds, default value is 10 seconds

Command Mode

Global Configuration

Default

Logging mergence is enabled. Default timeout is 10, range is 1 to 300, default fifo-size is 1024, and range is 100 to 10240.

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
```

The following shows how to set logging merge timeout to default value:

```
Switch(config)# no logging merge timeout
```

Related Commands

None

13 SNMP Commands

13.1 show snmp

To display the services information of SNMP, use the show snmp command in privileged EXEC mode.

Command Syntax

show snmp

Command Mode

Privileged EXEC

Default

Disable

Usage

This command is used to display the service information of SNMP (enable or disable).

Examples

The following example shows how to display the information of SNMP:

```
Switch# show snmp
SNMP services: enable
```

Related Commands

snmp server enable

13.2 show snmp-server version

To display the supported version of SNMP, use the show snmp-server version command in privileged EXEC mode.

Command Syntax

show snmp-server version

Command Mode

Privileged EXEC

Default

SNMPv1 and SNMPv2c

Usage

This command is used to display snmp version information configured by command snmp-server version.

Examples

The following example shows how to display the information of snmp-server version:

```
Switch# show snmp-server version
SNMP services: SNMPv1/SNMPv2c
```

Related Commands

snmp-server version

13.3 show snmp-server community

To display the SNMP community information, use the show snmp-server community command in privileged EXEC mode.

Command Syntax

show snmp-server community

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display the community information configured by command snmp-server community.

Examples

The following example shows how to display the information of snmp-server community:

```
Switch # show snmp-server community
Community-Access   Community-String    Security-name
============================================================
read-write         sysname            comm1
```

Related Commands

snmp-server community

13.4 show snmp-server engineID

To display the identification of the local Simple Network Management Protocol (SNMP) engine and all remote engines that have been configured on the router, use the show snmp-server engineID command in EXEC mode.

Command Syntax

show snmp-server engineID

Command Mode

Privileged EXEC

Default

None

Usage

An SNMP engine is a copy of SNMP that can reside on a local or remote device.

Examples

The following example shows how to display the information of engineID:

```
Switch# show snmp-server engineID
Engine ID  : 000000090200000000c025808
```

Related Commands

snmp-server engineID

13.5 show snmp-server sys-info

To display the system information of SNMP, use the show snmp-server sys-info command in privileged EXEC mode.

Command Syntax

show snmp-server sys-info

Command Mode

Privileged EXEC

Default

None

Usage

The system contact can be set by using the snmp-server system-contact command. The system location can be set by using the snmp-server system-location command.

Examples

The following example shows how to display the information of snmp-server sys-info:

```
Switch# show snmp-server sys-info
Contact: admin@exampledomain.com
Location: Sample Place
```

Related Commands

snmp-server system-contact

snmp-server system-location

13.6 show snmp-server trap-receiver

To display the SNMP traps receiver, use the show snmp-server trap-receiver command in privileged EXEC mode.

Command Syntax

show snmp-server trap-receiver

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display traps receiver information configured by command snmp-server trap target-address.

Examples

The following example shows how to display the information of snmp-server trap-receiver:

```
Switch# show snmp-server trap-receiver
Target-ipaddress  mgmt-if udpport  version  pdu-type  community
```

```
============================================================
10.10.27.232    yes   162    v1     trap    sysname
10.10.27.232    yes   162    v2c    trap    sysname
```

Related Commands

snmp-server trap target-address

13.7 show snmp-server inform-receiver

To display the SNMP informs receiver, use the show snmp-server inform-receiver command in privileged EXEC mode.

Command Syntax

show snmp-server inform-receiver

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to display inform receiver information configured by command snmp-server inform target-address.

Examples

The following example shows how to display the information of snmp-server inform-receiver:

```
Switch# show snmp-server inform-receiver
Target-ipaddress  mgmt-if udpport  version  pdu-type  community
============================================================
10.10.27.233    yes   162    v2c    inform   sysname
```

Related Commands

snmp-server inform target-address

13.8 show snmp-server view

To display the family name, storage types, and status of a Simple Network Management Protocol (SNMP) configuration and associated MIB, use the show snmp-server view command in privileged EXEC mode.

Command Syntax

show snmp-server view (*USERNAME*|)

USERNAME	Specify a view name that want to show, WORD

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the SNMP view configuration.

Examples

The following example shows how to display the information of snmp-server view:

```
Switch# show snmp-server view
View-name                View-type       Subtree
============================================================
a                      excluded        .1
a2                      included        .1.2
abc                     excluded        .1.3.6.2
_all_                   included        .0
_all_                   included        .1
_all_                   included        .2
_none_                    excluded        .0
_none_                    excluded        .1
_none_                    excluded        .2
```

Related Commands

snmp-server view

13.9 snmp-server enable

To enable the SNMP function, use the snmp-server enable command in global configuration mode.

Use the no form of this command to disable the SNMP-server.

Command Syntax

snmp-server enable

no snmp-server enable

Command Mode

Global Configuration

Default

SNMP function is disabled.

Usage

The command is used to enable snmp global.

Examples

The following example shows how to set the snmp-server enable:

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

The following example shows how to set the snmp-server disable:

```
Switch(config)# no snmp-server enable
```

Related Commands

show snmp

13.10 snmp-server engineID

To specify the Simple Network Management Protocol (SNMP) engine ID on the local device, use the snmp-server engineID command in global configuration mode.

Use the no form of this command to restore the default value

Command Syntax

snmp-server engineID *ENGINEID*

no snmp-server engineID

ENGINEID	octet string of hexadecimal characters

Command Mode

Global Configuration

Default

An SNMP engine ID is generated automatically but is not displayed or stored in the running configuration. Default engine ID is 30383038303830383038. You can display the default or configured engine ID by using the show snmp-server engineID command.

Usage

The SNMP engine ID is a unique string used to identify the device for administration purposes. You do not need to specify an engine ID for the device. For further details on the SNMP engine ID, see RFC 2571.

Examples

The following example shows how to set the snmp-server engineID:

```
Switch(config)# snmp-server engineID 1234567890
```

The following example shows how to delete the snmp-server engineID:

```
Switch(config)# no snmp-server engineID
```

Related Commands

show snmp-server engineID

13.11 snmp-server system-contact

To set the system contact string, use the snmp-server system-contact command in global configuration mode.

Use the no form of this command to delete the contact string.

Command Syntax

snmp-server system-contact *KLINE*

no snmp-server system-contact

KLINE	Specify SNMP system contact parameter

Command Mode

Global Configuration

Default

No system contact string is set

Usage

This command is used to set the system contact of the SNMP agent so that these descriptions can be accessed through the configuration file.

Examples

The following example shows how to set the system contact string:

```
Switch(config)# snmp-server system-contact admin@example.com
```

The following example shows how to delete the system contact string:

```
Switch(config)# no snmp-server system-contact
```

Related Commands

show snmp-server sys-info

13.12 snmp-server system-location

To set the system location string, use the snmp-server system-location command in global configuration mode.

Use the no form of this command to delete the location string.

Command Syntax

snmp-server system-location *KLINE*

no snmp-server system-location

KLINE	Specify *SNMP* system location parameter

Command Mode

Global Configuration

Default

No system location string is set.

Usage

This command is used to set the system location of the SNMP agent so that these descriptions can be accessed through the configuration file.

Examples

The following example shows how to set the system location string:

```
Switch(config)# snmp-server system-location Sample Place
```

The following example shows how to remove the system location string:

```
Switch(config)# no snmp-server system-location
```

Related Commands

show snmp-server sys-info

13.13 snmp-server version

To specify the support of SNMP version, use the snmp-server version command in global configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

snmp-server version (**all**| **v1**| **v2c**)

no snmp-server version

all	Support all versions (v1, v2c, and v3)
v1	Support only v1 version
v2c	Support only v2c version

Command Mode

Global Configuration

Default

Support v1 and v2c SNMP versions.

Usage

This command is used to set the SNMP version the switch supported.

Examples

The following example shows how to set SNMP –server to support all versions

```
Switch(config)# snmp-server version all
```

The following example shows how to restore the SNMP –server to support default versions:

```
Switch(config)# no snmp-server version
```

Related Commands

show snmp-server version

13.14 snmp-server view

To create or update a view entry, use the snmp-server view command in global configuration mode.

Use the no form of this command to delete the view.

Command Syntax

snmp-server view *SNMPNAME* (**excluded**| **included**) *SNMPSUBTREE* (**mask** *SNMPMASK*|)

no snmp-server view *SNMPNAME* (**excluded** | **included**) *SNMPSUBTREE*

SNMPNAME	Label for the view record that you are updating or creating. The name is used to reference the record
excluded	Configures the OID (and subtree OIDs) specified in sub-tree argument to be included in the SNMP view
included	Configures the OID (and subtree OIDs) specified in sub-tree argument to be explicitly excluded from the SNMP view
SNMPSUBTREE	Object identifier of the ASN.1 subtree to be included or excluded from the view
SNMPMASK	Define the subtree mask

Command Mode

Global Configuration

Default

No view entry exists.

Usage

Other SNMP commands require an SNMP view as an argument. You use this command to create a view to be used as arguments for other commands.

Examples

The following example shows how to create a snmp-server view:

```
Switch(config)# snmp-server view abc excluded 1.3.6.2
```

The following example shows how to delete a snmp-server view:

```
Switch(config)# no snmp-server view abc excluded 1.3.6.2
```

Related Commands

show snmp-server view

13.15 snmp-server community

To set up the community access string to permit access to the Simple Network Management Protocol (SNMP), use the snmp-server community command in global configuration mode.

Use the no form of this command to delete the community.

Command Syntax

snmp-server community *CONM_NAME* (**read-only**| **read-write**) (**view** *VIEW_NAME* |)

no snmp-server community *CONM_NAME*

CONM_NAME	Specify a SNMP community name
read-only	Specifies read-only access. Authorized management stations can retrieve only MIB objects
read-write	Specifies read-write access. Authorized management stations can both retrieve and modify MIB objects
VIEW_NAME	MIB view to which this community has access

Command Mode

Global Configuration

Default

No SNMP community string is defined.

Usage

The command is used to set up the community access string to permit access to the Simple Network Management Protocol (SNMP).

Examples

The following example shows how to create a community named test:

```
Switch(config)# snmp-server community test read-write
```

The following example shows how to delete the community:

```
Switch(config)# no snmp-server community test
```

Related Commands

show snmp-server community

13.16 snmp-server trap enable

To enable all Simple Network Management Protocol (SNMP) notification types that are available on your system, use the snmp-server trap enable command in global configuration mode.

Use the no form of this command to disable the trap.

Command Syntax

snmp-server trap enable (**all**| **coldstart**| **warmstart**| **linkdown**| **linkup**)

no snmp-server trap enable (**all** | **coldstart** | **warmstart** | **linkdown** | **linkup**)

all	Enable all traps
coldstart	Cold start traps
warmstart	Warm start traps
linkdown	Link down traps
linkup	Link up traps

Command Mode

Global Configuration

Default

No notifications controlled by this command are sent.

Usage

The snmp-server trap enable command is used in conjunction with the snmp-server trap target-address command. Use the snmp-server trap target-address command to specify which host or hosts receive SNMP notifications. To send notifications, you must configure at least one snmp-server trap target-address command.

Examples

The following example shows how to set all traps enable:

```
Switch(config)# snmp-server trap enable all
```

The following example shows how to set all traps disable:

```
Switch(config)# no snmp-server trap enable all
```

Related Commands

snmp-server trap target-address

13.17 snmp-server trap target-address

To configure a remote trap management IP address, use the snmp-server target-address command in global configuration mode.

Use the no form of this command to delete the target address.

Command Syntax

snmp-server trap target-address mgmt-if *IP_ADDR* **community** *COMNAME* (**udpport** *UDP_PORT*)

no snmp-server trap target-address *IP_ADDR* **community** *COMNAME* (**udpport** *UDP_PORT*)

IP_ADDR	Specify a *SNMP IPV4* address
COMNAME	Specify a *SNMP* community name
UDP_PORT	The port number which area is 0 to 65535, the default is 162

Command Mode

Global Configuration

Default

The router does not send any trap messages.

Usage

This command is used to specify the server target address to send the trap.

Examples

The following example shows how to set the trap target address to 169.254.2.2 and set the udp port to 13

```
Switch(config)# snmp-server trap target-address mgmt-if 169.254.2.2 community test udpport 13
```

The following example shows how to delete the trap target address:

```
Switch(config)# no snmp-server trap target-address mgmt-if 169.254.2.2 community test udp 13
```

Related Commands

show snmp-server trap-receiver

13.18 snmp-server trap delay linkup

To configure the trap delay linkup time, use the snmp-server trap delay linkup command in global configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

snmp-server trap delay linkup *TRAP_DELAY_TIME*

no snmp-server trap delay linkup

TRAP_DELAY_TIME	Linkup trap delay time

Command Mode

Global Configuration

Default

0

Usage

This command is used to set the trap delay time for link up interface.

Examples

The following example shows how to set the delay time to 10 seconds:

```
Switch(config)# snmp-server trap delay linkup 10
```

The following example shows how to restore the delay time to default value:

```
Switch(config)# no snmp-server trap delay linkup
```

Related Commands

snmp-server trap enable

13.19 snmp-server trap delay linkdown

To configure the trap delay linkdown time, use the snmp-server trap delay linkdown command in global configuration mode.

Use the no form of this command to restore the default value.

Command Syntax

snmp-server trap delay linkdown *TRAP_DELAY_TIME*

no snmp-server trap delay linkdown

TRAP_DELAY_TIME	Linkdown trap delay time

Command Mode

Global Configuration

Default

0

Usage

This command is used to set the trap delay time for link down interface.

Examples

The following example shows how to set the delay time to 10 seconds:

```
Switch(config)# snmp-server trap delay linkdown 10
```

The following example shows how to restore the delay time to default value:

```
Switch(config)# no snmp-server trap delay linkdown
```

Related Commands

snmp-server trap enable

13.20 snmp-server inform target-address

To specify the recipient of a Simple Network Management Protocol (SNMP) inform message, use the snmp-server inform target-address command in global configuration mode.

Use the no form of this command to delete the configuration.

Command Syntax

snmp-server inform target-address mgmt-if *IP_ADDR* **community** *COMNAME* (udpport *UDP_PORT*|)

no snmp-server inform target-address *IP_ADDR* **community** *COMNAME* (**udpport** *UDP_PORT* |)

IP_ADDR	Specify a *SNMP IPV4* address
COMNAME	Specify a *SNMP* community name
UDP_PROT	The port number which area is 0 to 65535, the default is 162

Command Mode

Global Configuration

Default

The router does not send any inform messages.

Usage

This command is used to specify the server target address to send the inform message.

Examples

The following example shows how to set the target address for inform messages:

```
Switch(config)# snmp-server inform target-address 169.254.2.2 community test udpport 100
```

The following example shows how to delete the target address for inform messages:

```
Switch(config)# no snmp-server inform target-address 169.254.2.2 community test udpport 100
```

Related Commands

show snmp-server inform-receiver

14 AUTH Commands

14.1 show usernames

Use this command to show local user account names on the switch.

Command Syntax

show usernames

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show local user account names on the switch.

Examples

The following is sample output from the show usernames command:

```
Switch# show usernames
Number   User name                  Privilege   Password   Rsa Key
--------+----------------------------------+-----------+----------+-------
1       admin                      4         *
2       test                     4         *
Switch#
```

Related Commands

username

14.2 show users

Use this command to display information about terminal lines.

Command Syntax

show users

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display information about terminal lines.

Examples

The following is sample output from the show users command:

```
Switch# show users
Line         Host(s)   Idle      Location       User
---------------+----------+----------+---------------+----------
 130 vty  0    idle      2d20h16m   Local
 131 vty  1    idle      20:42:32   10.10.25.25
*132 vty  2    idle       00:00:00   10.10.25.25
```

Related Commands

show usernames

14.3 show web users

Use this command to display information of the web users。

Command Syntax

show web users

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display information of the web users。

Examples

The following is sample to show web users:

```
Switch# show web users
Session Id                Expire Time       Client IP      User Name
--------------------------------+-------------------+---------------+-----------
320570bf7624e99f9c01912e82c4515b 2017-01-05 00:53:15 10.10.22.236    admin
```

Related Commands

username

14.4 show privilege

Use this command to display the current privilege.

Command Syntax

show privilege

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the current privilege.

Examples

The following example shows how to display current privilege:

```
Switch# show privilege
Current privilege level is 4
```

Related Commands

username

14.5 clear line console 0

Use this command to clear primary console terminal line login.

Command Syntax

clear line console 0

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample to clear line console 0:

```
Switch# clear line console 0
[OK]
```

Related Commands

line console

14.6 clear line vty

Use this command to clear virtual terminal line login. Line number range is 0 to 7.

Command Syntax

clear line vty *VTYID* (*VTYID*|)

VTYID	First Line number
VTYID	Last Line number

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to clear virtual terminal line login. Line number range is 0 to 7.

Examples

The following is sample to clear virtual terminal line from 4 to 7:

```
Switch# clear line vty 4 7
[OK]
```

Related Commands

show users

14.7 clear web session

Use this command to clear web sessions.

Command Syntax

clear web session (**all**| *WEBSESSION*)

all	Clear all sessions
WEBSESSION	Session *ID*

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to clear web sessions.

Examples

The following is sample to clear all web sessions

```
Switch# clear web session all
[OK]
```

Related Commands

show web users

14.8 show console

Use this command to show the current console configuration.

Command Syntax

show console

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the current console configuration.

Examples

The following is sample output from the show console command:

```
Switch# show console
Current console configuration:
-------------------------------------------------------------
line console 0
 speed 115200
 parity none
 databits 8
 stopbits 1
 exec-timeout 10 0
 privilege level 4
 no line-password
 no login
```

Related Commands

line console

14.9 show vty

Use this command to show the current vty configuration.

Command Syntax

show vty

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the current vty configuration.

Examples

The following is sample output from the show vty command:

```
Switch# show vty
line vty maximum 8
line vty 0 7
 exec-timeout 35791 0
 privilege level 4
 no line-password
 no login
```

Related Commands

line vty

14.10 show rsa keys

Use this command to show RSA key information.

Command Syntax

show rsa keys

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show RSA key information.

Examples

The following is sample to show RSA key:

```
Switch# show rsa keys
Current RSA key configuration:
Name                          Type    Usage   Modulus
--------------------------------+--------+-------+---------
abc                         private 0      1024
importkey                     public  1      1024
```

Related Commands

rsa key

14.11 show rsa key

Use this command to show RSA key information.

Command Syntax

show rsa key *RSAKEYNAME* (**der**| **pem** (**3des** *RSAPASSWORD*| **aes128** *RSAPASSWORD*| **aes192** *RSAPASSWORD*| **aes256** *RSAPASSWORD*| **des** *RSAPASSWORD*|)|)

RSAKEYNAME	Key name
der	Certificate of der
pem	Certificate of pem
3des	Treble encryption standard
des	Data encryption standard
Aes128	Advanced encryption standard 128 bit
Aes192	Advanced encryption standard 192 bit
Aes256	Advanced encryption standard 256 bit
RSAPASSWORD	Passphrase used to protect the private key (length should >= 6)

Command Mode

Privileged EXEC

Default

None

Usage

Use the “rsa key generate” command to generate a key.

Examples

The following is sample to show RSA key:

```
Switch# show rsa key abc
RSA key information:
-------------------------------------------------------------
Name: abc
Type: private
Modulus: 1024 bit
Usage count: 0
Private key DER code:
 30820258
  0201
   00
  028180
   D4E93929 20C1014D D9C64EF3 A8AB905D FDCF2D08 6DEFAC26 691D3168 E4C2F812
   394390A1 A1D648BF 50DE534D 718FF606 69DDC302 F005FBC6 A3A3E616 4A9EEF47
   9093AD9B 42F436A8 71C3C8D2 ECF14DD1 EEEC83AF 9EC5DF87 832A072F 5C02D463
   515753C2 EC610B25 4228B7F0 D9E99DF7 9AD011B5 7BA49B7F 1B838AA9 D92003CB
  0203
   010001
  028180
   2B45DBA0 484FF1FB E8AF2D8C C853565C 4421BF7D 5F1ABF5A 6F32C7C0 11FEAE7C
   C5B6BDC6 9C25F953 291486C9 CEB2FBC6 01EE589C 583C5F17 D85A8F81 28597538
   2F710C05 E9E4CAF9 A1639486 DF19DF70 69246C57 09570697 14C283EE 50786669
   99483E8B A35129CC 61655216 859740C7 7D5E0610 460A265B BB97F546 9C6ED981
  0240
   F06C6D70 F348C0F8 5A6CFB99 215A04FB 9C9E295E 93BE6D9F 5FCBFF93 1EE3C6E8
   B85B2E5C 98F51B66 74B35957 38896051 CCBD6875 A34AF5B7 71BC4FA1 6E448303
  0240
   E2B47BD7 7A5C7D8F 41FB8311 BFE43080 0DF24D7D 0FADCECF 7921975A A7B28623
   1E19AB8D 57F12487 B284D4EA AA2EC370 06DB170F F2E72B96 1DF1F51A 38523D99
  0240
   098D855B B38EF47B E9BBE2D3 56CBE8DE C67E524E 7BB8594A B7D7B733 F54A3FA1
   079237E9 5DFA7F38 36F2D95D E9D52B8A 9484021E 8A7A7400 F1F7F582 088B9859
  0240
```

```
    9FD333F7 CE990420 0A1981E6 F28CB230 A5246CC2 BD5A0092 3E489346 E33135E5
    EE2394D1 39ED949E 6219C96D 82FB22E7 88BDCEBD 7CB6C300 BB2DC869 6AC97809
  0240
    BEFEFE99 CDBB2AAB BA1EB81B 7B189124 B73700BD 3F40B23A AAE648A4 CF07E99E
    58261516 C58A1468 5603B90B 24CFD0FC 2609C215 E30375CA 0764FF71 1BF434FF
Public key DER code:
 308188
  028180
    D4E93929 20C1014D D9C64EF3 A8AB905D FDCF2D08 6DEFAC26 691D3168 E4C2F812
    394390A1 A1D648BF 50DE534D 718FF606 69DDC302 F005FBC6 A3A3E616 4A9EEF47
    9093AD9B 42F436A8 71C3C8D2 ECF14DD1 EEEC83AF 9EC5DF87 832A072F 5C02D463
    515753C2 EC610B25 4228B7F0 D9E99DF7 9AD011B5 7BA49B7F 1B838AA9 D92003CB
  0203
    010001
```

Related Commands

rsa key

14.12 show key config

Use this command to display the details of the current key configuration.

Command Syntax

show key config

Command Mode

RSA-key

Default

None

Usage

Use this command to display the details of the current key configuration.

Examples

The following example shows how to display the current key configuration:

```
Switch(config-rsa-key)# show key config
```

```
Current key configuration:
 key type: private
 key format: pem
 key password: unspecified
```

Related Commands

rsa key

14.13 show key string

Use this command to display the details of the current key string.

Command Syntax

show key string

Command Mode

RSA-key

Default

None

Usage

Use this command to display the details of the current key string.

Examples

The following example shows how to display the current key string:

```
Switch(config)# rsa key a
Modify private key a
Switch(config-rsa-key)# show key string
Current key string:
 30820258
  0201
   00
  028180
   AD4F1364 4F46C9F9 25D7BA98 B7F266A4 F3448E83 71D51F84 EF225E90 7D0117F0
   CD81012F 50944BF3 17A5CA56 7A2DC3D2 6A33CD52 6FD2DBE3 442C6546 DC3DD48A
   D8A4020C 2333F039 53FD39DE 01E5038B F1B59E7A 5B355FA2 26148F58 48C16D89
```

```
  36828C61 00A518CD F7EEBFBF 68CDB456 DC08BF5F 550A1273 28EF8E7C 0469634F
0203
  010001
028180
  9321ACDE DE06C4F5 45D14DD2 D5676F08 DE95F73F 546690E9 B472C341 7B3E706A
  B8ACAAAA D687EFAA A30AD72A 6F7366E9 BDCBD8A6 01D54B64 37BE5104 C579A074
  1206CD3C 70BA5E26 D22F0049 EABBCAA3 8AAAA932 C28DF32B 1C75EF5C 0052751C
  A5BA0D06 B0F9E6D2 9FE9281D FE2976C9 6C1A3288 590EB014 311AE5E2 0514AE41
0240
  D8F10ACD BA5EA745 A5C52F61 19498B76 C181D0A0 F1CA197B C3E5204A 09206E1E
  B5217249 B595CA01 EBF82649 B272511C 8AD5138C 553717CD 4120D026 5D8CAE51
0240
  CC82FA9D 866C95FA AE967B81 C343F9E0 2D41B59F 45C41197 28F37B3B 0C09D7B6
  4867858D 73876AEF 7692CCC6 A7A51A6C 8A1C62E6 FF75E209 75D02A51 E2346F9F
0240
  943B3F52 8B0199F1 F0EEE70C C5A686F0 C20FDD69 DB4C6855 34E91E42 F8317C8C
  E6DECFA4 A5BA8FA8 F87F3A4A 28F00B94 2118AE9E B8AB484C 2B302C89 CA6A11C1
0240
  3F15C828 FF664F7D 5C8D9EDB 90584FA4 0F51CDAC ABE0A76C 717D69ED F4F0B451
  CE53E0A6 9994942F F9EB9EAF 48D76D27 3E13338E FE0E6703 740C1A81 D7BD4511
0240
  90D784A0 EBF913CE 82A19E91 4A0C5437 120C758F F9C94932 919A36B5 5BB01C76
  7460665E 6A1E8227 1BF592D3 650FCE6A DE22C1CB FCCA9433 A2FA142C D9D75CC9
Switch(config-rsa-key)#
```

Related Commands

rsa key

14.14 show tacacs

Use this command to display information about TACACS+ server's configurations.

Command Syntax

show tacacs

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to show TACACS+ servers configurations.

Examples

The following is sample output from the show tacacs command:

```
Switch# show tacacs
============================================================
Host         Port  Timeout Retries Dead Secret
============================================================
2.1.1.1       49   5     3     0    mykey
```

Related Commands

tacacs-server host

14.15 show aaa status

Use this command to show authentication, authorization, accounting (AAA) status.

Command Syntax

show aaa status

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to show authentication, authorization, accounting (AAA) status.

Examples

The following example shows how to show authentication, authorization, accounting status:

```
Switch# show aaa status
AAA status:
   Authentication enable
```

Related Commands

aaa new-model

14.16 show aaa privilege mapping

Use this command to show privilege mapping relationship with server privilege.

Command Syntax

show aaa privilege mapping

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to show privilege mapping relationship with server privilege.

Examples

The following example shows how to show privilege mapping relationship:

```
Switch# show aaa privilege mapping
  Server    Switch    Server
==================================
     0       1        0
     1       2        1
   2~10       3       10
  11~15       4       15
```

Related Commands

aaa privilege mapping

14.17 show aaa method-lists

Use this command to show authentication, authorization, accounting (AAA) authentication method lists.

Command Syntax

show aaa method-lists authentication (accounting | all | authentication | authorization)

accounting	Accounting information
all	All information
authentication	Authentication information
authorization	Authorization information

Command Mode

Privileged EXEC

Default

None

Usage

This command is used to show authentication, authorization, accounting (AAA) authentication method lists.

Examples

The following example shows how to show authentication method lists:

```
Switch# show aaa method-lists all
Authen queue = AAA_ML_AUTHEN_LOGIN
  Name = default   state = ALIVE: local radius none
Author queue = AAA_ML_AUTHOR_SHELL
  Name = default   state = ALIVE: tacplus none
Account queue = AAA_ML_ACCT_SHELL
  Name = default   state = ALIVE: none
Account queue = AAA_ML_ACCT_COMMAND
  Name = default   state = ALIVE: none
```

Related Commands

aaa authentication login

aaa authentication exec

aaa accounting exec

14.18 line console

Use this command to set console configuration.

Command Syntax

line console 0

Command Mode

Global Configuration

Default

None

Usage

Use this command to set console configuration.

Examples

The following is an example of configure to line console 0:

```
Switch(config)# line console 0
Switch(config-line)#
```

Related Commands

show console

14.19 line vty

Use line vty command to set virtual terminal line configuration.

Command Syntax

line vty *VTYID* (*VTYID*|)

VTYID	First Line number
VTYID	Last Line number

Command Mode

Global Configuration

Default

None

Usage

Use line vty command to set virtual terminal line configuration.

Examples

The following is an example of configure to virtual terminal line 4 to 7:

```
Switch(config)# line vty 4 7
Switch(config-line)#
```

Related Commands

show vty

14.20 line vty maximum

Use line vty maximum command to set maximum vty users.

Use the no form of this command to set maximum vty users to it default value.

Command Syntax

line vty maximum *VTYMAX*

no line vty maximum

VTYMAX	Max Line number

Command Mode

Global Configuration

Default

None

Usage

Use line vty maximum command to set maximum vty users.

Use the no form of this command to set maximum vty users to it default value.

Examples

The following is an example of configure to three vty users.

```
Switch(config)# line vty maximum 3
```

The following is an example to reset maximum vty users.

```
Switch(config)# no line vty maximum
```

Related Commands

show line vty

14.21 rsa key generate

Use this command to create a key.

Use the no form of this command to delete the key.

Command Syntax

rsa key *RSAKEYNAME* **generate** (*RSAKEYBITS* |)

no rsa key *RSAKEYNAME*

RSAKEYNAME	Key name

RSAKEYBITS	*RSA* key bits number

Command Mode

Global Configuration

Default

None

Usage

Use this command to create a key.

Use the no form of this command to delete the key.

Examples

The following example creates a key named test， length is 768:

```
Switch(config)# rsa key test generate 768
Generating RSA private key, 768 bit long modulus
Please waiting for a moment: done!
Public exponent is 65537 (0x10001)
Generate RSA key successfully
The following example deletes the key:
Switch(config)# no rsa key test
```

Related Commands

show rsa key

rsa key

14.22 rsa key import

Use this command to import a key.

Command Syntax

rsa key *RSAKEYNAME* **import mgmt-if url** *STRING* (**private** | **public**) (**der** | **der-hex** | **pem** (*PASSPHRASE* |)| **ssh1** (*PASSPHRASE* |) | **ssh2** (*PASSPHRASE* |))

RSAKEYNAME	Key name
STRING	The url to save the key file
private	*Import from private key*
public	*Import from public key*
der | **der-hex** | **pem** | **ssh1** | **ssh2**	*The format of the key to import*
PASSPHRASE	*Encrypt the key string*

Command Mode

Global Configuration

Default

None

Usage

Use this command to import a key.

Examples

The following example imports a key:

```
Switch(config)# rsa key importnewk import mgmt-if url tftp://10.10.38.160/newk.pub public ssh2
Download from URL to temporary file.
Get file from tftp://10.10.38.160/newk.pub
.
Received 212 bytes in 0.1 seconds
Copy the temporary file to its destination.
.
File system synchronization. Please waiting...
212 bytes in 0.1 seconds, 2 kbytes/second
% Import RSA key successed
```

Related Commands

rsa key generate

rsa key export show rsa key

14.23 rsa key export

Use this command to export a key.

Command Syntax

rsa key *RSAKEYNAME* **export mgmt-if url** *STRING* (**private** | **public**) (**der** | **der-hex** | **pem** ((**3des** / **aes128** / **aes192** / **aes256** / **des**) *PASSPHRASE* |) | **ssh1** (**3des** *PASSPHRASE* |) | **ssh2** (**3des** *PASSPHRASE* |))

RSAKEYNAME	Key name
STRING	The url to save the key file
private	*Export to private key*
public	*Export to public key*
der | **der-hex** | **pem** | **ssh1** | **ssh2**	*The format of the key to export*
3des / **aes128** / **aes192** / **aes256** / **des**	*The encryption transmission algorithm of the exported key file.*
PASSPHRASE	*Encrypt the key string*

Command Mode

Global Configuration

Default

None

Usage

Use this command to export a key.

Examples

The following example exports a key:

```
Switch(config)# rsa key newk export mgmt-if url tftp://10.10.38.160/newk.pub public ssh2
Send file to tftp://10.10.38.160/newk.pub
.
Sent 212 bytes in 0.0 seconds
% Export RSA key success
```

Related Commands

rsa key generate

rsa key export show rsa key

14.24 rsa key

Use this command to create a key and enter key configuration mode.

Use the no form of this command to delete the key.

Command Syntax

rsa key *RSAKEYNAME*

no rsa key *RSAKEYNAME*

RSAKEYNAME	Key name

Command Mode

Global Configuration

Default

None

Usage

Use this command to create a key and enter key configuration mode.

Use the no form of this command to delete the key.

Examples

The following example creates a key named test:

```
Switch(config)# rsa key test
Switch(config-rsa-key)#
```

The following example deletes a key named test:

```
Switch(config)# no rsa key test
```

Related Commands

rsa key generate

14.25 reset

To clear all key configurations, use the reset command in RSA key configuration mode.

Command Syntax

reset

Command Mode

RSA-key

Default

None

Usage

Use the reset command to clear all key configurations.

Examples

The following example shows to clear all configurations for the key KEY1:

```
Switch(config)# rsa key KEY1
Switch(config-rsa-key)# reset
```

Related Commands

rsa key

14.26 key type

To specify the key type, use the key type command in RSA key configuration mode.

Command Syntax

key type (**private**| **public**)

private	Private key
public	**Public key**

Command Mode

RSA-key

Default

public

Usage

Use the key type command to specify the type of the key.

Examples

The following example specifies the key type of KEY1 as public key:

```
Switch(config)# rsa key KEY1
Switch(config-rsa-key)# key type public
```

Related Commands

rsa key

14.27 key format

To specify the key format, use the key format command in RSA key configuration mode.

Command Syntax

key format (**der**| **pem**)

der	Der format
pem	Pem format

Command Mode

RSA-key

Default

The default key format is DER.

Usage

Use the key format command to specify the key format.

Examples

The following example specifies the key format of KEY1 as pem:

```
switch(config)# rsa key KEY1
Switch(config-rsa-key)# key format pem
```

Related Commands

rsa key

14.28 key string end

Use this command to exit the rsa key configuration mode and apply all rsa key configurations.

After using this command, the current command mode should be global configuration mode.

Command Syntax

key string end

Command Mode

RSA-key

Default

None

Usage

Use the key string end command to exit the rsa key configuration mode.

Examples

The following example shows exit the rsa key configuration mode:

```
Switch(config)# rsa key KEY1
Switch(config-rsa-key)# key string end
Switch(config)#
```

Related Commands

rsa key

14.29 validate

To check the validation of the key strings, use the validate command in RSA key configuration mode.

Command Syntax

validate

Command Mode

RSA-key

Default

None

Usage

Use the validate command to clear all key configurations.

Examples

The following example shows to validate key strings of the key KEY1:

```
Switch(config)# rsa key a
```

```
Modify private key a
Switch(config-rsa-key)# 00302017 4A7D385B 1234EF29 335FC973
Switch(config-rsa-key)# 2DD50A37 C4F4B0FD 9DADE748 429618D5
Switch(config-rsa-key)# validate
% Validated Ok
```

Related Commands

rsa key

14.30 KEYLINE

To add key strings from the screen directly, type any strings in RSA key configuration mode except the keywords in this mode.

Command Syntax

KEYLINE

Command Mode

RSA-key

Default

None

Usage

To add key strings from the screen directly, type any strings in RSA key configuration mode except the keywords in this mode.

Examples

The following example shows to type a key string of the key KEY1:

```
Switch(config)# rsa key KEY1
Switch(config-rsa-key)# 00302017 4A7D385B 1234EF29 335FC973
Switch(config-rsa-key)# 2DD50A37 C4F4B0FD 9DADE748 429618D5
```

Related Commands

rsa key

validate None

14.31 re-activate radius-server

Use this command to re-activate the specified radius servers.

Command Syntax

re-activate radius-server (**all** | **host** *IP_ADDR* (**auth-port** *AUTHDPORT* |)|)

all	Re-active all radius-servers
host *IP_ADDR*	Re-active the radius-server by server ip
auth-port *AUTHDPORT*	Re-active the radius-server by server ip and udp port

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to re-activate the radius server. It's unnecessary for users to wait for the radius-server dead time with this command.

Examples

This example shows how to re-activate radius-server:

```
Switch# re-activate radius-server all
```

Related Commands

radius-server host

14.32 show radius-server

Use this command to display radius server states of each IEEE 802.1 x sessions.

Command Syntax

show radius-server

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the current radius-server and dead radius-servers of each IEEE 802.1x sessions.

Examples

This example shows how to show radius-server:

```
Switch# show radius-server
====================================
radius servers in dead list:
 server address    : 10.0.0.1:1812
 dead timer        : 4
====================================
```

Related Commands

radius-server host

14.33 radius-server host

Use this command to specify a RADIUS server host.

Use the no form of this command to delete the host.

Command Syntax

radius-server host mgmt-if *IP_ADDR* (**auth-port** *AUTHDPORT* |) (**key** (**8** |) *AUTHDKEY* |) (**retransmit** *AUTHDRETRIES* |) (**timeout** *AUTHDTIMEOUT* |)

no radius-server host mgmt-if *IP_ADDR* (**auth-port** *AUTHDPORT* |)

mgmt-if	*Use management interface*
IP_ADDR	*IP* address of radius server
auth-port *AUTHDPORT*	*RADIUS* server port number (default 1812)
8	Specifies a hidden password will follow
AUTHDKEY	*RADIUS* server key-string
retransmit *AUTHDRETRIES*	*RADIUS* server retries (default 3)
timeout *AUTHDTIMEOUT*	*RADIUS* server timeout in seconds (default 5)

Command Mode

Global Configuration

Default

None

Usage

You can use multiple radius-server host commands to specify multiple hosts. The software searches for hosts in the order in which you specify them. If no host-specific timeout, retransmit, or key values are specified, the global values apply to each host.

Examples

This example shows how to set the radius-server key:

```
Switch(config)# radius-server host 10.0.0.1
This example shows how to delete radius-server key:
```

```
Switch(config)# no radius-server host 10.0.0.1
```

Related Commands

show radius-server

14.34 radius-server deadtime

Use this command to improve RADIUS response times when some servers might be unavailable and cause the unavailable servers to be skipped immediately.

Use the no form of this command to restore the default value.

Command Syntax

radius-server deadtime *DEAD_TIME*

no radius-server deadtime

DEAD_TIME	*RADIUS* server deadtime in minutes (default 5)

Command Mode

Global Configuration

Default

5 minutes

Usage

Use this command to cause the switch to mark as "dead" any RADIUS servers that fail to respond to authentication requests, thus avoiding the wait for the request to time out before trying the next configured server. A RADIUS server marked as "dead" is skipped by additional requests for the duration of minutes, unless there are no servers not marked "dead".

Examples

This example shows how to set radius-server dead time:

```
Switch(config)# radius-server deadtime 10
```

This example shows how to set default radius-server dead time:

```
Switch(config-if)# no radius-server deadtime
```

Related Commands

show radius-server

14.35 radius-server retransmit

Use this command to specify the number of times the switch searches the list of RADIUS server hosts before giving up.

Use the no form of this command to restore the default value.

Command Syntax

radius-server retransmit *RETRANSMIT*

RETRANSMIT	*RADIUS* server retries (default 3)

Command Mode

Global Configuration

Default

3 attempts

Usage

The switch tries all servers, allowing each one to time out before increasing the retransmit count. If the RADIUS server is only a few hops from the switch, we recommend that you configure the RADIUS server retransmit rate to 5.

Examples

This example shows how to set radius-server retransmit:

```
Switch(config)# radius-server retransmit 10
```

This example shows how to set default radius-server retransmit:

```
Switch(config-if)# no radius-server retransmit
```

Related Commands

show radius-server

14.36 radius-server timeout

Use this command to set the interval for which a switch waits for a server host to reply.

Use the no form of this command to restore the default value.

Command Syntax

radius-server timeout *TIMEOUT*

TIMEOUT	*RADIUS* server timeout in seconds (default 5)

Command Mode

Global Configuration

Default

5 seconds

Usage

Use this command to set the number of seconds a switch waits for a server host to reply before timing out. If the RADIUS server is only a few hops from the switch, we recommend that you configure the RADIUS server timeout to 15 seconds.

Examples

This example shows how to set radius-server timeout:

```
Switch(config)# radius-server timeout 10
```

This example shows how to set default radius-server timeout:

```
Switch(config-if)# no radius-server timeout
```

Related Commands

show radius-server

14.37 radius-server key

Use this command to set the shared encryption key of RADIUS server.

Use the no form of this command to delete the configuration.

Command Syntax

radius-server key (8 |) *STRING*

no radius-server timeout

8	Specifies a hidden password will follow
STRING	*RADIUS* server key-string

Command Mode

Global Configuration

Default

None

Usage

Use this command to set the shared encryption key in a switch. Shared encryption key is the foundation of communicate between switch and server. You need set a same shared encryption string in authentication server and switch.

Examples

This example shows how to set the radius-server key:

```
Switch(config)# radius-server key 123456
```

This example shows how to unset radius-server key:

```
Switch(config-if)# no radius-server key
```

Related Commands

show radius-server

14.38 re-activate tacacs-server host

Use this command to re-activate the specified tacacs servers.

Command Syntax

re-activate tacacs-server (**all** | **host** *IP_ADDR* (**auth-port** *AUTHDPORT* |) |)

all	Re-active all tacacs-servers
IP_ADDR	Set *TACACS* server *IP* address
AUTHDPORT	*TACACS* server port number (default 49)

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to re-activate the tacacs server. It's unnecessary for users to wait for the tacacs-server dead time with this command.

Examples

This example shows how to re-activate tacacs-server:

```
Switch# re-activate tacacs-server host 10.0.0.1 auth-port 49
```

Related Commands

tacacs-server host

14.39 tacacs-server host

Use this command to set tacacs-server parameters.

Use the no form of this command to delete the tacacs server.

Command Syntax

tacacs-server host mgmt-if *IP_ADDR* (**auth-port** *AUTHDPORT* |) (**key** (**8** |) *AUTHDKEY* |) (**retransmit** *AUTHDRETRIES* |) (**timeout** *AUTHDTIMEOUT* |)

no tacacs-server host mgmt-if *IP_ADDR* (**auth-port** *AUTHDPORT* |)

mgmt-if	*Use management interface*
IP_ADDR	*IP* address of *TACACS* server
AUTHDPORT	*TACACS* server port number (default 49)
8	Specifies a hidden password will follow
AUTHDKEY	*TACACS* server key-string
retransmit *AUTHDRETRIES*	*TACACS* server retries (default 3)
timeout *AUTHDTIMEOUT*	*TACACS* server timeout in seconds (default 5)

Command Mode

Global Configuration

Default

None

Usage

Use this command to set tacacs-server parameters.

Use the no form of this command to delete the tacacs server.

Examples

The following example set tacacs-server 2.1.1.1

```
Switch(config)# tacacs-server host 2.1.1.1 key mykey
```

The following example deletes tacacs-server 2.1.1.1

```
Switch(config)# no tacacs-server host 2.1.1.1
```

Related Commands

show tacacs

14.40 username

Use this command to create a local user account on the switch.

Use the no form of this command to delete the account.

Command Syntax

username *NAME_STRING*

no username *NAME_STRING*

NAME_STRING	User name

Command Mode

Global Configuration

Default

None

Usage

Use this command to create a local user account on the switch.

Use the no form of this command to delete the account.

Examples

This is a sample output from this command displaying how to add a user named testName and with the password of 123456.

```
Switch(config)# username testName password 123456
```

This is a sample output from this command displaying how to delete a user named testName:

```
Switch(config)# no username testName
```

Related Commands

show usernames

14.41 username password

Use this command to add username and password.

Command Syntax

username *NAME_STRING* **password** (**8** |) *PASSWORD* (**privilege** *PRIVILEGE* |)

NAME_STRING	User name
8	Specifies a hidden password will follow
PASSWORD	User password string
privilege *PRIVILEGE*	Set user privilege level

Command Mode

Global Configuration

Default

None

Usage

Use this command to add username and password.

Examples

This is a sample output from this command displaying how to add a user named testName and with the password of 123456.

```
Switch(config)# username testName password 123456
```

Related Commands

show usernames

14.42 username assign

Use this command to assign a public key to a user.

Use the no form of this command to remove the configuration.

Command Syntax

username *NAME_STRING* **assign rsa key** *RSAKEYNAME*

no username *USERNAME* **assign rsa key**

NAME_STRING	User name
RSAKEYNAME	Key Name

Command Mode

Global Configuration

Default

None

Usage

Use this command to assign a public key to a user.

Use the no form of this command to remove the configuration.

Examples

This is a sample output from this command displaying how to add a user named testName and with the password of 123456.

```
Switch(config)# username testName password 123456
```

This is a sample output from this command displaying how to delete the assigned key:

```
Switch(config)# no username abc assign rsa key
```

Related Commands

username

rsa key

14.43 username privilege

Use this command to set user privilege level.

Command Syntax

username *NAME_STRING* **privilege** *PRIVILEGE* (**password** (8 |) *PASSWORD* | **secret** *PASSWORD* |)

NAME_STRING	User name
PRIVILEGE	Set user privilege level
8	Specifies a hidden password will follow
PASSWORD	User password string
secret PASSWORD	User secret string

Command Mode

Global Configuration

Default

None

Usage

Use this command to set user privilege level.

Examples

This is a sample output from this command displaying how to add a user named testName and with the password of 123456.

```
Switch(config)# username testName password 123456
```

Related Commands

show usernames

14.44 username secret

Use username command to create a local user account with secret password.

Command Syntax

username *NAME_STRING* **secret** *PASSWORD*

NAME_STRING	User name
secret PASSWORD	User secret string

Command Mode

Global Configuration

Default

None

Usage

Use username command to create a local user account with secret password.

Examples

This is a sample output from this command displaying how to add a user named testName and with the password of 123456.

```
Switch(config)# username testName password 123456
```

Related Commands

show usernames

14.45 re-username

Use re-username command to modify local user account on the switch.

Command Syntax

re-username *OLD_NAME NEW_NAME*

OLD_NAME	Old user name
NEW_NAME	New user name

Command Mode

Global Configuration

Default

None

Usage

Use re-username command to modify local user account on the switch.

Examples

The following example shows how to change user account's name:

```
Switch(config)# re-username jack mike
```

Related Commands

show usernames

14.46 enable password

Use this command to set the password which is needed when user enter Privileged EXEC mode.

Command Syntax

enable password (**8** |) *PASSWORD*

no enable password

8	Specifies a hidden password will follow
PASSWORD	Enable password string

Command Mode

Global Configuration

Default

None

Usage

If this command is set, user need to provide the password when enter Privileged EXEC mode.

Examples

The following example shows how to set the password:

```
Switch(config)# enable password 654321
Switch(config)# exit
Switch# disable
Switch> enable
Password:
Switch#
```

The following example shows how to unset the password:

```
Switch(config)# no enable password
```

Related Commands

enable

disable

14.47 enable password privilege

Use this command to set the password which is needed when user enter Privileged EXEC mode.

Use the no form of this command to unset the password when user enter Privileged EXEC mode.

Command Syntax

enable password privilege *PRIVILEGE* (**8** |) *PASSWORD*

no enable password privilege *PRIVILEGE*

PRIVILEGE	Set user privilege level
8	Specifies a hidden password will follow
PASSWORD	Enable password string

Command Mode

Global Configuration

Default

None

Usage

If this command is set, user need to provide the password when enter Privileged EXEC mode.

Examples

The following example shows how to set the password:

```
Switch(config)# enable password privilege 2 abc123
Switch(config)# exit
Switch# disable
Switch> enable 2
Password:
Switch#
```

The following example shows how to unset the password:

```
Switch(config)# no enable password privilege 2
```

Related Commands

enable

disable

14.48 service password-encryption

Use this command to set up the miscellaneous service encrypt system passwords.

Use the no form of this command to unset service encrypt system passwords.

Command Syntax

service password-encryption

no service password-encryption

Command Mode

Global Configuration

Default

None

Usage

After use this command, the password in the display result of "show current-configuration" should be encrypted.

After use the no form of this command, the newly added password in the display result of "show current-configuration" should be plain text and the existing password should still be encrypted.

Examples

The following example shows how to set service password-encryption:

```
Switch(config)# service password-encryption
```

The following example shows how to unset service password-encryption:

```
Switch(config)# no service password-encryption
```

Related Commands

show current-configuration

14.49 aaa new-model

Use this command to enable the authentication, authorization, accounting (AAA) access control model.

Use the no form of this command to disable the authentication, authorization, accounting (AAA) access control model.

Command Syntax

aaa new-model

no aaa new-model

Command Mode

Global Configuration

Default

AAA access model is disabled

Usage

Use this command to enable the authentication, authorization, accounting (AAA) access control model.

Use the no form of this command to disable the authentication, authorization, accounting (AAA) access control model.

Examples

The following example shows how to enable AAA access control model:

```
Switch(config)# aaa new-model
```

The following example shows how to disable AAA access control model:

```
Switch(config)# no aaa new-model
```

Related Commands

show aaa status

14.50 aaa authentication login

Use the aaa authentication login configuration command to set authentication, authorization, accounting (AAA) authentication at login.

Use the no form of this command to delete the configuration.

Command Syntax

aaa authentication login (**default |** *AUTHLISTNAME*) (**enable** |) (**line** |) (**radius** |) (**tacplus** |) (**local** |) (**none** |)

no aaa authentication login (**default |** *AUTHLISTNAME*)

default	Default method list
AUTHLISTNAME	Named authentication list (a-zA-Z0-9._-)
enable	Enable password
line	Line password
radius	RADIUS server
tacplus	TACACS+
local	Local username
none	No authentication

Command Mode

Global Configuration

Default

None

Usage

Use the aaa authentication login configuration command to specify one or more AAA methods.

Examples

The following example shows how to set authentication at login:

```
Switch(config)# aaa authentication login default local radius none
```

The following example shows how to delete authentication:

```
Switch(config)# no aaa authentication login default
```

Related Commands

show aaa method-lists authentication

14.51 aaa authorization exec

Use the aaa authorization exec configuration command to set authentication, authorization, accounting (AAA) authorization at login.

Command Syntax

aaa authorization exec (**default** | *AUTHLISTNAME*) (**none** |) (**radius** |) (**local** |) (**tacplus** |)

no aaa authorization exec (**default** | *AUTHLISTNAME*)

default	Default method list
AUTHLISTNAME	Named authentication list (a-zA-Z0-9._-)
none	No authentication
radius	RADIUS server
local	Local username
tacplus	TACACS+

Command Mode

Global Configuration

Default

None

Usage

Use the aaa authorization exec configuration command to Set authentication, authorization, accounting (AAA) authorization at login

Examples

The following example shows how to set authorization exec:

```
Switch# configure terminal
Switch(config)# aaa authorization exec default tacplus none
```

Related Commands

show aaa method-lists authorization

14.52 aaa accounting exec

Use this command to set authentication, authorization, accounting (AAA) accounting at login.

Use the no form of this command to delete the configuration.

Command Syntax

aaa accounting exec (**default** | *AUTHLISTNAME*) (**start-stop** (**radius** | **tacplus** | **none**) | **stop-only** (**radius** | **tacplus** | **none**)| **none**)

no aaa accounting exec (**default** | *AUTHLISTNAME*)

default	Default method list
AUTHLISTNAME	Named authentication list (a-zA-Z0-9._-)
start-stop	Send accounting request when user login and logout
stop-only	Send accounting request when user logout
radius	RADIUS server
tacplus	TACACS+
none	No authentication

Command Mode

Global Configuration

Default

None

Usage

Use this command to set authentication, authorization, accounting (AAA) accounting at login.

Examples

The following example shows how to set accounting exec:

```
Switch# configure terminal
Switch(config)# aaa accounting exec default start-stop tacplus
```

The following example shows how to delete accounting:

```
Switch# configure terminal
Switch(config)# no aaa accounting exec default
```

Related Commands

show aaa method-lists accounting

14.53 aaa accounting commands

Use this command to set authentication, authorization, accounting (AAA) accounting for commands.

Use the no form of this command to delete the configuration.

Command Syntax

aaa accounting commands (**default |** *AUTHLISTNAME*) (**tacplus** | **none**)

no aaa accounting commands (**default |** *AUTHLISTNAME*)

default	Default method list
AUTHLISTNAME	Named authentication list (a-zA-Z0-9._-)
tacplus	TACACS+
none	No authentication

Command Mode

Global Configuration

Default

None

Usage

Use this command to set authentication, authorization, accounting (AAA) accounting for commands.

Examples

The following example shows how to set accounting commands:

```
Switch# configure terminal
Switch(config)# aaa accounting commands default tacplus
```

The following example shows how to delete accounting for commands:

```
Switch# configure terminal
Switch(config)# no aaa accounting commands default
```

Related Commands

show aaa method-lists accounting

14.54 aaa privilege mapping

Use this command to set the mapping range in AAA server and switch.

Use the no form of this command to restore the default mapping.

Command Syntax

aaa privilege mapping *AAA_PRIVILEGE1 AAA_PRIVILEGE2 AAA_PRIVILEGE3*

no aaa privilege mapping

AAA_PRIVILEGE1	Max server privilege mapping to switch privilege 1(default is 0)
AAA_PRIVILEGE2	Max server privilege mapping to switch privilege 2(default is 1)
AAA_PRIVILEGE3	Max server privilege mapping to switch privilege 3(default is 10)

Command Mode

Global Configuration

Default

0, 1, 10

Usage

0: The server privilege 0 mapping to switch level 1

1: The server privilege 1 mapping to switch level 2

9: The server privilege 2~9 mapping to switch level 3

Other: The server privilege 10~15 mapping to switch level 4

Examples

The following example shows how to set the mapping range:

```
Switch# configure terminal
Switch(config)# aaa privilege mapping 1 2 3
```

The following example shows how to set default mapping range:

```
Switch# configure terminal
Switch(config)# no aaa privilege mapping
```

Related Commands

None

14.55 debug aaa

Use this command to enable debugging aaa.

Use the no form of this command to disable debugging aaa.

Command Syntax

debug aaa (**all** | **packet** | **event** | **protocol** | **timer**)

no debug aaa (**all** | **packet** | **event** | **protocol** | **timer**)

all	**Enable to report all aaa debug messages**
packet	**Enable to report aaa debug messages for sending and receiving packets**
event	**Enable to report aaa debug messages for events**
protocol	**Enable to report aaa debug messages for protocol states**
timer	**Enable to report aaa debug messages for timer**

Command Mode

Privileged EXEC

Default

debugging aaa is disabled by default.

Usage

None

Examples

In the following example shows how to enable debugging aaa all:

```
Switch# debug aaa all
```

In the following example shows how to disable debugging aaa all:

```
Switch# no debug aaa all
```

Related Commands

show debugging

14.56 exec-timeout

Use this command to set console timeout value.

Use the no form of this command to restore the default value.

Command Syntax

exec-timeout *ETIMEOUTMIN* (*ETIMEOUTSEC*|)

no exec-timeout

ETIMEOUTMIN	Timeout value in minute. Minute range is from 0 to 35791
ETIMEOUTSEC	Timeout value in second, and range is from 0 to 2147483

Command Mode

Line-CON

Default

Default timeout is 10 minutes.

Usage

None

Examples

The following example shows how to set console exec-timeout to 2 minutes 30 seconds:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# exec-timeout 2 30
```

The following example shows how to set console exec-timeout to default value:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# no exec-timeout
```

Related Commands

show console

14.57 login

Use this command to enable console password checking, you can choose local password checking.

Use the no form of this command to disable console password checking.

Command Syntax

login (**local** |)

no login (**local** |)

local	Local username

Command Mode

Line-CON

Default

no password checking

Usage

Use this command to enable console password checking, you can choose local password checking.

Use the no form of this command to disable console password checking.

Examples

The following example shows how to set console local password checking enable:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# login local
```

The following example shows how to set console local password checking disable:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# no login local
```

Related Commands

show console

14.58 privilege level

Use this command to set console privilege level for line.

Use the no form of this command to restore the default value.

Command Syntax

privilege level *PRIVILEGE*

no privilege level

PRIVILEGE	Default privilege level for line

Command Mode

Line-CON

Default

Default value is 1, range is from 1 to 4.

Usage

Use this command to set console privilege level for line.

Use the no form of this command to restore the default value.

Examples

The following example shows how to set console privilege level for line to 2:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# privilege level 2
```

The following example shows how to set console privilege level for line to default value:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# no privilege level
```

Related Commands

show console

14.59 line-password

Use this command to set console line-password specifies a hidden password will follow or user password string.

Use the no form of this command to unset console line-password.

Command Syntax

line-password (**8** |) *NAME_STRING*

no line-password

8	Specifies a hidden password will follow
NAME_STRING	User password string

Command Mode

Line-CON

Default

No console line-password.

Usage

Use this command to set console line-password specifies a hidden password will follow or user password string.

Use the no form of this command to unset console line-password.

Examples

The following example shows how to set console line-password specifies a hidden password will follow:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# line-password 8 test
```

The following example shows how to unset console line-password:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# no line-password
```

Related Commands

show console

14.60 stopbits

Use this command to set console sync line stop bits.

Use no form of this command to set console sync line stop bits to default value.

Command Syntax

stopbits (**1** | **2**)

no stopbits

1	Set 1 bit stop bit
2	Set 2 bits stop bits

Command Mode

Line-CON

Default

Default is one-bit stop.

Usage

None

Examples

The following example shows how to set console sync line stop bits one-bit stop:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# stopbits 1
```

The following example shows how to set console sync line stop bits to default value:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# no stopbits
```

Related Commands

show console

14.61 databits

Use this command to set console number of data bits.

Use the no form of this command to set console number of data bits per character to default value.

Command Syntax

databits (**7** | **8**)

no databits

7	7-bit databits.
8	8-bit databits.

Command Mode

Line-CON

Default

Default value is 8-bit databits.

Usage

Use this command to set console number of data bits.

Use the no form of this command to set console number of data bits per character to default value.

Examples

The following example shows how to set console number of data bits per character to 7-bit databits:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# databits 7
```

The following example shows how to set console number of data bits per character to 7-bit databits:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# no databits
```

Related Commands

line console

show console

14.62 parity

Use this command to set console terminal parity.

Use the no form of this command to restore the default value.

Command Syntax

parity (**even** | **odd** | **none**)

no parity

even	Parity mode even
odd	Parity mode odd
none	No parity

Command Mode

Line-CON

Default

Default parity type is none.

Usage

Use this command to set console terminal parity.

Use the no form of this command to restore the default value

Examples

The following example shows how to set console terminal parity type odd:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# parity odd
```

The following example shows how to set console terminal parity type to default value:

```
Switch# configure terminal
Switch(config)# line console 0
Switch(config-line)# no parity
```

Related Commands

show console

14.63 speed

Use this command to set the transmit and receive speeds of console terminal.

Use the no form of this command to restore the default value.

Command Syntax

speed (**115200**| **57600**| **38400**| **19200**| **9600**| **4800**| **2400**| **1200**| **600**)

no speed

Command Mode

Line-CON

Default

115200 for T5800_TAP

9600 for T5850 & T8050_TAP

Usage

Use this command to set the transmit and receive speeds of console terminal.

Use the no form of this command to restore the default value.

Examples

The following is an example of set console terminal speed to 115200:

```
Switch(config)# line console 0
Switch(config-line)# speed 115200
```

The following is an example of set console terminal speed to default value

```
Switch(config)# line console 0
Switch(config-line)# no speed
```

Related Commands

show console

14.64 authorization exec

Use this command to enable authentication, authorization, accounting (AAA) authorization for logins.

Use the no form of this command to restore the default value.

Command Syntax

authorization exec (**default** | *LISTNAME*)

no authorization exec

default	Default authorization list
LISTNAME	An authorization list with this name (a-zA-Z0-9._-)

Command Mode

Line-VTY

Default

None

Usage

Use this command to enable authentication, authorization, accounting (AAA) authorization for logins.

Use the no form of this command to restore the default value.

Examples

The following example shows how to enable authorization for logins:

```
Switch# configure terminal
Switch(config)# line vty 0 7
Switch(config-line)# authorization exec default
```

The following example shows how to set authorization to default method list:

```
Switch# configure terminal
Switch(config)# line vty 0 7
Switch(config-line)# no authorization exec
```

Related Commands

show vty

14.65 accounting exec

Use this command to enable authentication, authorization, accounting (AAA) accounting for logins.

Use the no form of this command to restore the default value.

Command Syntax

accounting exec (**default** | *LISTNAME*)

no accounting exec

default	Default accounting list
LISTNAME	An accounting list with this name (a-zA-Z0-9._-)

Command Mode

Line-VTY

Default

None

Usage

Use this command to enable authentication, authorization, accounting (AAA) accounting for logins.

Use the no form of this command to restore the default value.

Examples

The following example shows how to enable accounting for logins:

```
Switch# configure terminal
Switch(config)# line vty 0 7
Switch(config-line)# accounting exec default
```

The following example shows how to set accounting exec to default method list:

```
Switch# configure terminal
Switch(config)# line vty 0 7
Switch(config-line)# no accounting exec
```

Related Commands

show vty

14.66 end

To end the current configuration session and return to Privileged EXEC mode, use the end command in global configuration mode.

Command Syntax

end

Command Mode

Any mode

Default

None

Usage

This command will bring you back to Privileged EXEC mode regardless of what configuration mode or configuration sub-mode you are in.

This global configuration command can be used in any configuration mode.

Use this command when you are done configuring the system and you want to return to EXEC mode to perform verification steps.

Examples

In the following example, the end command is used to exit from interface configuration mode and return to Privileged EXEC mode.

```
Switch(config)# interface eth-0-1
Switch(config-if)# end
Switch# show interface eth-0-1
```

Related Commands

None

15 SFLOW Commands

15.1 sflow enable

Use this command to enable sFlow globally.

Use the no form of this command to disable sFlow.

Command Syntax

sflow enable

no sflow enable

Command Mode

Global Configuration

Default

Disabled

Usage

Before any other sFlow command can be configured, sFlow services must be enabled globally.

Use the no parameter with this command to remove all sFlow configurations and disable sFlow globally.

Examples

This example shows how to enable sFlow services globally:

```
Switch(config)# sflow enable
```

This example shows how to enable sFlow services globally:

```
Switch(config)# no sflow enable
```

Related Commands

show sflow

15.2 sflow agent

Use this command to configure sFlow agent.

Use the no form of this command to delete the sFlow agent.

Command Syntax

sflow agent ip *IP_ADDR*

no sflow agent ip

IP_ADDR	IPv4 address

Command Mode

Global Configuration

Default

0.0.0.0

Usage

Use this command to configure IP address for sflow agent. If not configured, sflow agent IP address will be 0.0.0.0.

Examples

```
This example shows how to configure agent with IP address 10.0.0.254.
Switch(config)# sflow agent ip 10.0.0.254
This example shows how to configure agent with IP address 0.0.0.0.
Switch(config)# no sflow agent ip
```

Related Commands

show sflow

15.3 sflow collector

Use this command to configure sFlow collector.

Use the no form of this command to delete the sFlow collector.

Command Syntax

sflow collector mgmt-if *IP_ADDR* (*UDP_PORT* |)

no sflow collector *IP_ADDR*

IP_ADDR	Collector IPv4 address
UDP_PORT	Collector *UDP* port number, default is 6343

Command Mode

Global Configuration

Default

Default source ip is the ip address of interface which is connected with sflow collector

Usage

Use this command to add a collector by specifying the combination of IP address and UDP port and source IP address. Only up to two unique combinations can be allowed to add.

Examples

This example shows how to add a collector:

```
Switch# configure terminal
Switch(config)# sflow collector mgmt-if 10.0.0.254 3000
```

This example shows how to remove a collector:

```
Switch# configure terminal
Switch(config)# no sflow collector 10.0.0.254 3000
```

Related Commands

show sflow

15.4 sflow counter interval

Use this command to configure sFlow polling-interval for counter sample.

Use the no form of this command to restore the default value.

Command Syntax

sflow counter interval *INTERVAL_VAL*

no sflow counter interval

INTERVAL_VAL	Interval value in second

Command Mode

Global Configuration

Default

20 seconds

Usage

Use this command to set sFlow polling-interval for counter sample. Use the no parameter with this command to restore to the default value. Default interval value is 20 seconds.

Examples

This example shows how to set sFlow polling-interval to 10 second:

```
Switch(config)# sflow counter interval 10
```

This example shows how to set sFlow polling-interval to default value:

```
Switch(config)# no sflow counter interval
```

Related Commands

show sflow

15.5 sflow counter-sampling enable

Use this command to enable counter sampling on specified port.

Use the no form of this command to disable counter sampling.

Command Syntax

sflow counter-sampling enable

no sflow counter-sampling enable

Command Mode

Interface Configuration

Default

Disabled

Usage

Use this command to enable counter sampling on specified port. This command can only be configured on a port which is not a link-agg group member. The port can be either a physical port or a link-agg port.

Examples

This example shows how to enable sFlow counter sampling on interface eth-0-1

```
Switch(config)# interface eth-0-1
Switch(config-if)# sflow counter-sampling enable
```

This example shows how to disable sFlow counter sampling on interface eth-0-1

```
Switch(config)# interface eth-0-1
Switch(config-if)# no sflow counter-sampling enable
```

Related Commands

show sflow

15.6 sflow flow-sampling rate

Use this command to configure flow sampling rate.

Use the no form of this command to restore the default value.

Command Syntax

sflow flow-sampling rate *RATE*

no sflow flow-sampling rate

RATE	Sample rate value, must be a power of 2

Command Mode

Interface Configuration

Default

32768

Usage

Use this command to set sFlow packet sampling rate. The rate value is packet number. When the value is 32768, one packet will be sampled when 32768 packets are passed, sFlow uses CPU resources to collect samples and send samples to the collector. If a low sampling rate is set, CPU utilization can become high. To protect CPU from overwhelming, exceeded flow samples would be dropped. If a sampling rate less than default value is configured, a prompt will be given to info the potential of involving a high CPU utilization. This command can only be configured on a port which is not a link-agg group member. The port can be either a physical port or a link-agg port.

Examples

This example shows how to set the sFlow sampling rate to 2048 on eth-0-1:

```
Switch(config)# interface eth-0-1
Switch(config-if)# sflow flow-sampling rate 2048
% Warning: sFlow sampling requires high CPU usage, especially with a low rate.
 Suggested rate not less than 32768.
```

This example shows how to disable sFlow counter sampling on interface eth-0-1

```
Switch(config)# interface eth-0-1
Switch(config-if)# no sflow flow-sampling rate
```

Related Commands

show sflow

15.7 sflow flow-sampling enable

Use this command to enable packet sampling on individual port.

Use the no form of this command to disable packet sampling.

Command Syntax

sflow flow-sampling enable (**input | output | both**)

no sflow flow-sampling enable (**input | output | both**)

input	Sampling for input packets
output	Sampling for output packets
both	Sampling for packets on both direction

Command Mode

Interface Configuration

Default

Disabled

Usage

Use this command to enable packet sampling on individual port. This command can only be configured on a port which is not a link-agg group member. The port can be either a physical port or a link-agg port.

Examples

This example shows how to enable input packet sampling on route port eth-0-1:

```
Switch# configure terminal
Switch(config)# interface eth-0-1
Switch(config-if)# sflow flow-sampling enable input
```

This example shows how to enable input packet sampling on route port eth-0-1:

```
Switch# configure terminal
Switch(config)# interface eth-0-1
Switch(config-if)# no sflow flow-sampling enable input
```

Related Commands

show sflow

15.8 debug sflow

Use this command to turn on the debug switches of sflow module.

Use the no form of this command to turn off the debug switches of sflow module.

Command Syntax

debug sflow (**all** | **counter** | **packet** | **sample**)

no debug sflow (**all** | **packet** | **counter** | **sample**)

all	**Enable to report all debug messages**
counter	**Enable to report sflow debug messages for counters**
packet	**Enable to report sflow debug messages for sending and receiving packets**
sample	**Enable to report sflow debug messages for sampling**

Command Mode

Privileged EXEC

Default

Debugging sflow is disabled by default.

Usage

Use this command to turn on the debug switches of sflow module.

Examples

In the following example shows how to enable debugging sflow all:

```
Switch# debug sflow all
```

In the following example shows how to enable debugging sflow all:

```
Switch# no debug sflow all
```

Related Commands

show debugging

15.9 show sflow

Use this command to show the running information of sflow.

Command Syntax

show sflow

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the running information of sflow.

Examples

This example shows how to show the sflow running information:

```
Switch# show sflow
sFlow Version: 4
sFlow Global Information:
 Agent IPv4 address          : 10.0.0.254
 Counter Sampling Interval    : 10 seconds
 Collector 1:
  IPv4 Address: 10.0.0.254
  Port: 3000

sFlow Port Information:
                      Flow-Sample   Flow-Sample
 Port      Counter   Flow     Direction    Rate
 ---------------------------------------------------------
 eth-0-7    Enable    Enable    Input       2048
```

Related Commands

sflow enable

sflow agent

sflow collector

sflow counter interval

sflow counter-sampling enable

sflow flow-sampling rate

sflow flow-sampling enable

16 GLOBAL Commands

16.1 show debugging

To display the debugging status, use the show debugging command in EXEC mode.

Command Syntax

show debugging (**aaa** | **sflow** |) (**detail** |)

aaa	Display the states of aaa debugging
sflow	Display the states of sflow debugging
detail	Display the detailed information of debugging

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the debugging status.

Examples

The following is sample output from the show debugging aaa command:

```
Switch# show debugging aaa detail
Module     Feature       Type             Status
-----------+---------------+-------------------+------
auth       aaa           event            on
           aaa           packet           on
           aaa           protocol         off
           aaa           timer            on
```

Related Commands

debug aaa

debug sflow

16.2 no debug all

Use this command to turn off all debugging switches.

Command Syntax

no debug all

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to turn off all debugging switches.

Examples

In the following example shows how to disable all debugging:

```
Switch# no debug all
```

Related Commands

show debugging

16.3 show history

To display the history command lines, use the show history command in EXEC mode.

Command Syntax

show history

Command Mode

Privileged EXEC

Default

none

Usage

Use this command to display the history command lines.

Examples

This example shows how to display history commands information of device.

```
Switch# show history
  1  show version
  2  debug sflow all
  3  no debug sflow all
  4  show history 1  show history
```

Related Commands

None

16.4 show running-config

To display the current operating configuration, use the show running-config command in EXEC mode.

Command Syntax

show running-config

Command Mode

Privileged EXEC

Default

none

Usage

Use this command to display the current operating configuration.

Examples

This example shows how to display current operating configuration of device.

```
Switch# show running-config
Switch# show current-configuration
hostname Switch
timestamp sync systime
username admin privilege 4 password admin
username test privilege 4 password test
!
!
logging server enable
logging merge disable
logging merge timeout 23
!
ntp authentication enable
!
ntp server mgmt-if 1.1.1.1
ntp server mgmt-if 10.10.25.8
ntp server mgmt-if 192.16.22.44 version 2
!
snmp-server enable
snmp-server system-contact admin@example.com
!
snmp-server view view1 included .1.2.3.4 mask f
!
snmp-server community sysname read-write
!
snmp-server trap target-address mgmt-if 10.10.27.232 community sysname
!
management ip address 10.10.39.104/23
management route add gateway 10.10.39.254
!
port-channel load-balance hash-arithmetic crc
port-channel load-balance set vxlan-vni
port-channel load-balance set inner-dst-mac
!
flow f1
!
flow f2
!
sflow enable
```

```
sflow agent ip 10.0.0.254
sflow counter interval 10
!
interface eth-0-1
 description TenGigabitEthernet
 speed 1000
 shutdown
!
interface eth-0-2
 shutdown
!
interface eth-0-3
 shutdown
 static-channel-group 10
!
interface eth-0-4
 shutdown
 static-channel-group 10
!
interface eth-0-5
 shutdown
 static-channel-group 5
!
interface eth-0-6
 shutdown
!
interface eth-0-7
 shutdown
 sflow counter-sampling enable
 sflow flow-sampling enable input
 sflow flow-sampling rate 2048
!
interface eth-0-8
 shutdown
!
interface eth-0-9
 shutdown
!
interface eth-0-10
 shutdown
!
interface eth-0-11
!
interface eth-0-12
!
interface eth-0-13
!
interface eth-0-14
!
interface eth-0-15
!
interface eth-0-16
!
interface eth-0-17
```

```
!
interface eth-0-18
!
interface eth-0-19
!
interface eth-0-20
!
interface eth-0-21
!
interface eth-0-22
!
interface eth-0-23
!
interface eth-0-24
!
interface eth-0-25
!
interface eth-0-26
!
interface eth-0-27
!
interface eth-0-28
!
interface eth-0-29
!
interface eth-0-30
!
interface eth-0-31
!
interface eth-0-32
!
interface eth-0-33
!
interface eth-0-34
!
interface agg5
 description LinkAgg5
!
interface agg10
!
tap-group tap1 1
 ingress eth-0-1 flow f1
 egress eth-0-9
!
tap-group tap2 2
 ingress eth-0-21
 egress eth-0-22
!
tap-group g1 3
 ingress eth-0-33
!
line console 0
 privilege level 4
 no line-password
```

```
no login
line vty 0 7
exec-timeout 35791 0
privilege level 4
no line-password
no login
```

Related Commands

None

17 MANAGEMENT Commands

17.1 show diagnostic-information

Use this command to display the diagnostic information of the system.

Command Syntax

show diagnostic-information

Command Mode

Privileged EXEC

Default

None

Usage

Diagnostic information includes “show version” information, “show clock” information, etc.

The result is usually very long and user can print the result into a file on the flash.

Examples

The following example shows how to display the diagnostic information

```
Switch# show diagnostic-information

------------------ show version ------------------

FS i-Ware Software, Version 1.10, ESS 6601 01
Copyright(C) 2004-2017 New FS Technologies Co., Ltd. All rights Reserved
FS SecPath FW uptime is 0 weeks, 0 day, 14 hours, 4 minutes

Boot image: flash:/boot/SecPathTAP2000A-IMW110-E6601.BIN.03
Boot image version: 1.10, ESS 6601 01
Next running image : flash:/boot/SecPathTAP2000A-IMW110-E6601.BIN.03
```

```
SLOT 1
Hardware Type       : CTC5160(GreatBelt) based switch
SDRAM size          : 1024M
Flash size          : 2048M
Hardware Version    : 2.0
EPLD Version        : 1.2
BootRom Version     : 8.1.3
System serial number : E142GD16107A

------------------ show clock ------------------

13:54:15 Beijing Wed Sep 27 2017
Time Zone(Beijing) : UTC+08:00:00

------------------ show current-configuration ------------------

hostname Switch
timestamp-over-ether 000A.000B.000C 000A.000B.000C 0x5555
!
timestamp sync systime
enable password 8 785acb98f85baa7f
!
username admin privilege 4 password 8 56ab359baafb02a3
username test privilege 4 password 8 13f74103eea3d4f5
!
split interface eth-0-34 10giga
!
!
logging buffer 11
logging server enable
!
radius-server host mgmt-if 1.1.1.1 key 8 0670c8c1aa325246
!
tacacs-server host mgmt-if 1.1.1.2
!
tacacs-server host mgmt-if 2.1.1.1 key 8 ba5b94fd90261361
!
!
ntp authentication enable
!
ntp key 43 aNickKey
ntp trustedkey 43
ntp key 123 ntpkty123
!
ntp server mgmt-if 1.1.1.1
ntp server mgmt-if 10.10.25.8
ntp server mgmt-if 192.16.22.44 version 2
!
snmp-server enable
snmp-server system-contact admin@example.com
!
snmp-server view view1 included .1.2.3.4 mask f
!
```

```
snmp-server community a1 read-write
snmp-server community a12345678901234567890123456789012345678 read-write
!
snmp-server trap target-address mgmt-if 3.3.3.3 community public
!
snmp-server inform target-address mgmt-if 10.10.27.233 community sysname
!
management ip address 10.10.39.104/23
management route add gateway 10.10.39.254
!
port-channel load-balance hash-arithmetic crc
port-channel load-balance set vxlan-vni
port-channel load-balance set inner-dst-mac
!
ip access-list a
!
ip access-list e1
!
ip access-list aaaa
!
inner-match imf1
 remark vxlan-inner-match
!
inner-match inner-vxlan
 sequence-num 1 match any src-ip host 1.1.1.1 dst-ip any
!
flow vxlan
 sequence-num 10 permit udp dst-port eq 4789 src-ip host 1.2.3.4 dst-ip any strip-header
!
flow outer-vxlan type decap
 sequence-num 10 permit udp dst-port eq 4789 vxlan-vni 10 0x0 src-ip host 1.2.3.4 dst-ip any
inner-match inner-vxlan strip-header
!
sflow enable
sflow agent ip 10.0.0.254
sflow counter interval 10
!
sflow collector mgmt-if 10.10.39.106
!
interface eth-0-1
 description TenGigabitEthernet
 speed 1000
 shutdown
!
interface eth-0-2
 shutdown
!
interface eth-0-3
 shutdown
 static-channel-group 10
!
interface eth-0-4
 shutdown
 static-channel-group 10
```

```
!
interface eth-0-5
 shutdown
 static-channel-group 5
!
interface eth-0-6
 shutdown
!
interface eth-0-7
 shutdown
 sflow counter-sampling enable
 sflow flow-sampling enable input
 sflow flow-sampling rate 2048
!
interface eth-0-8
 shutdown
!
interface eth-0-9
 shutdown
!
interface eth-0-10
 shutdown
!
interface eth-0-11
!
interface eth-0-12
!
interface eth-0-13
!
interface eth-0-14
!
interface eth-0-15
!
interface eth-0-16
!
interface eth-0-17
!
interface eth-0-18
!
interface eth-0-19
!
interface eth-0-20
!
interface eth-0-21
!
interface eth-0-22
!
interface eth-0-23
!
interface eth-0-24
!
interface eth-0-25
!
interface eth-0-26
```

```
!
interface eth-0-27
!
interface eth-0-28
!
interface eth-0-29
!
interface eth-0-30
!
interface eth-0-31
!
interface eth-0-32
!
interface eth-0-33
!
interface eth-0-34
!
interface agg5
 description LinkAgg5
!
interface agg10
!
tap-group tap1 1
 ingress eth-0-11 mark-source 100
 ingress eth-0-12 un-tag edit-macda 000A.000B.000C edit-ipda 2.3.4.5 edit-ipsa 1.2.3.4
 egress eth-0-1 timestamp
 egress eth-0-21 timestamp
!
line console 0
 privilege level 4
 no line-password
 no login
line vty 0 7
 exec-timeout 35791 0
 privilege level 4
 no line-password
 no login

------------------ show startup-config ------------------

hostname Switch
timestamp-over-ether 000A.000B.000C 000A.000B.000C 0x5555
!
timestamp sync systime
enable password 8 785acb98f85baa7f
!
username admin privilege 4 password 8 56ab359baafb02a3
username test privilege 4 password 8 13f74103eea3d4f5
!
!
logging buffer 11
logging server enable
!
radius-server host mgmt-if 1.1.1.1 key 8 0670c8c1aa325246
```

```
!
tacacs-server host mgmt-if 1.1.1.2
!
tacacs-server host mgmt-if 2.1.1.1 key 8 ba5b94fd90261361
!
!
ntp authentication enable
!
ntp key 43 aNickKey
ntp trustedkey 43
ntp key 123 ntpkty123
!
ntp server mgmt-if 1.1.1.1
ntp server mgmt-if 10.10.25.8
ntp server mgmt-if 192.16.22.44 version 2
!
snmp-server enable
snmp-server system-contact admin@example.com
!
snmp-server view view1 included .1.2.3.4 mask f
!
snmp-server community a1 read-write
snmp-server community a12345678901234567890123456789012345678 read-write
!
snmp-server trap target-address mgmt-if 10.10.27.232 community sysname
!
snmp-server inform target-address mgmt-if 10.10.27.233 community sysname
!
management ip address 10.10.39.104/23
management route add gateway 10.10.39.254
!
port-channel load-balance hash-arithmetic crc
port-channel load-balance set vxlan-vni
port-channel load-balance set inner-dst-mac
!
ip access-list a
!
ip access-list e1
!
ip access-list aaaa
!
inner-match imf1
 remark vxlan-inner-match
!
inner-match inner-vxlan
 sequence-num 1 match any src-ip host 1.1.1.1 dst-ip any
!
flow vxlan
 sequence-num 10 permit udp dst-port eq 4789 src-ip host 1.2.3.4 dst-ip any strip-header
!
flow outer-vxlan type decap
 sequence-num 10 permit udp dst-port eq 4789 vxlan-vni 10 0x0 src-ip host 1.2.3.4 dst-ip any
inner-match inner-vxlan strip-header
!
```

```
radius-server key 8 0670c8c1aa325246
!
sflow enable
sflow agent ip 10.0.0.254
sflow counter interval 10
!
sflow collector mgmt-if 10.10.39.106
!
interface eth-0-1
 description TenGigabitEthernet
 speed 1000
 shutdown
!
interface eth-0-2
 shutdown
!
interface eth-0-3
 shutdown
 static-channel-group 10
!
interface eth-0-4
 shutdown
 static-channel-group 10
!
interface eth-0-5
 shutdown
 static-channel-group 5
!
interface eth-0-6
 shutdown
!
interface eth-0-7
 shutdown
 sflow counter-sampling enable
 sflow flow-sampling enable input
 sflow flow-sampling rate 2048
!
interface eth-0-8
 shutdown
!
interface eth-0-9
 shutdown
!
interface eth-0-10
 shutdown
!
interface eth-0-11
!
interface eth-0-12
!
interface eth-0-13
!
interface eth-0-14
!
```

```
interface eth-0-15
!
interface eth-0-16
!
interface eth-0-17
!
interface eth-0-18
!
interface eth-0-19
!
interface eth-0-20
!
interface eth-0-21
!
interface eth-0-22
!
interface eth-0-23
!
interface eth-0-24
!
interface eth-0-25
!
interface eth-0-26
!
interface eth-0-27
!
interface eth-0-28
!
interface eth-0-29
!
interface eth-0-30
!
interface eth-0-31
!
interface eth-0-32
!
interface eth-0-33
!
interface eth-0-34
!
interface agg5
 description LinkAgg5
!
interface agg10
!
tap-group tap1 1
 ingress eth-0-11 mark-source 100
 ingress eth-0-12 un-tag edit-macda 000A.000B.000C edit-ipda 2.3.4.5 edit-ipsa 1.2.3.4
 egress eth-0-1 timestamp
 egress eth-0-21 timestamp
!
line console 0
 privilege level 4
 no line-password
```

```
 no login
line vty 0 7
 exec-timeout 35791 0
 privilege level 4
 no line-password
 no login

------------------ show memory summary total ------------------

Total memory     : 940428 KB
Used memory      : 265456 KB
Freed memory     : 674972 KB
Buffer memory    : 0 KB
Cached memory    : 126024 KB
Memory utilization: 28.23%

------------------ show memory all ------------------

CCS Memory Information:
Type   Description                  Alloc Count  Alloc Size
-------------------------------------------------------------------------
0     MEM_TEMP                  : 1          8188
2     MEM_LIB_HASH              : 81         1620
3     MEM_LIB_HASH_BACKET_LIST  : 81         663228
4     MEM_LIB_HASH_BACKET       : 444        5328
9     MEM_LIB_SOCK_MASTER       : 1          192
10    MEM_LIB_SOCK              : 3          768
11    MEM_LIB_SOCK_SESSION      : 12         393168
12    MEM_LIB_SOCK_DATA         : 1          12
16    MEM_LIB_SLIST             : 171        3420
17    MEM_LIB_SLISTNODE         : 433        5196
22    MEM_TBL_MASTER            : 141        115932
23    MEM_TBL_INTERFACE         : 37         28416
24    MEM_TBL_FEA_PORT_IF       : 36         2304
26    MEM_TBL_CPU_TRAFFIC       : 13         312
27    MEM_TBL_CPU_TRAFFIC_GROUP : 4          64
28    MEM_TBL_CPU_UTILIZATION   : 9          864
38    MEM_TBL_BRG_GLOBAL        : 1          128
39    MEM_TBL_LAG_GLOBAL        : 1          96
40    MEM_TBL_MSTP_PORT         : 2          768
43    MEM_TBL_MSTP_GLOBAL       : 1          256
44    MEM_TBL_LLDP_GLOBAL       : 1          768
46    MEM_TBL_MLAG              : 1          1536
47    MEM_TBL_MLAG_PEER         : 1          256
50    MEM_TBL_ROUTE_GLOBAL      : 1          128
55    MEM_TBL_KERNEL_IF         : 36         1728
67    MEM_TBL_SYS_GLOBAL        : 1          384
68    MEM_TBL_VERSION           : 1          768
69    MEM_TBL_MANAGE_IF         : 1          28
71    MEM_TBL_BOOTIMAGE         : 1          1024
72    MEM_TBL_CHASSIS           : 1          64
73    MEM_TBL_IFNAME_INFO       : 1          768
74    MEM_TBL_CARD              : 1          4092
75    MEM_TBL_PORT              : 34         4352
```

```
76   MEM_TBL_FIBER              : 2        1536
77   MEM_TBL_SYS_SPEC           : 8        3072
78   MEM_TBL_FAN                : 4        6144
79   MEM_TBL_PSU                : 2        3072
81   MEM_TBL_SENSOR             : 4        4096
82   MEM_TBL_REBOOT_INFO        : 1        96
84   MEM_TBL_MEM_SUMMARY        : 1        28
85   MEM_TBL_CHSM_DEBUG         : 1        4
86   MEM_TBL_SWITCH_DEBUG       : 1        24
87   MEM_TBL_ROUTE_DEBUG        : 1        12
88   MEM_TBL_QUAGGA_DEBUG       : 1        8
89   MEM_TBL_LSRV_DEBUG         : 1        4
90   MEM_TBL_HSRV_DEBUG         : 1        96
93   MEM_TBL_FEA_LAG            : 2        32
94   MEM_TBL_FEA_GLOBAL         : 1        8
95   MEM_TBL_FEA_ACL_TABLE      : 2        128
98   MEM_TBL_FEA_BRG_IF         : 36       6912
100  MEM_TBL_ACL_CONFIG         : 7        1344
101  MEM_TBL_ACE_CONFIG         : 3        1536
112  MEM_TBL_SSH_CFG            : 1        48
113  MEM_TBL_SNMP_CFG           : 1        768
114  MEM_TBL_SNMP_VIEW          : 1        256
115  MEM_TBL_SNMP_COMMUNITY     : 2        768
116  MEM_TBL_SNMP_TRAP          : 1        384
117  MEM_TBL_SNMP_INFORM        : 1        384
118  MEM_TBL_SYSLOG_CFG         : 1        384
119  MEM_TBL_NTP_SERVER         : 3        288
121  MEM_TBL_NTP_KEY            : 2        80
122  MEM_TBL_NTP_CFG            : 1        64
123  MEM_TBL_NTP_IF             : 1        8
124  MEM_TBL_NTP_IF             : 1        256
125  MEM_TBL_USER               : 2        1536
126  MEM_TBL_VTY                : 8        32736
127  MEM_TBL_CONSOLE            : 1        768
128  MEM_TBL_AUTHEN             : 1        192
129  MEM_TBL_LOGIN              : 3        1152
131  MEM_TBL_QOS_DOMAIN         : 1        8188
133  MEM_TBL_QOS_DROP_PROFILE   : 1        96
134  MEM_TBL_QOS_QUEUE_SHAPE_PROFILE : 1        64
135  MEM_TBL_QOS_PORT_SHAPE_PROFILE  : 1        40
136  MEM_TBL_QOS_GLOBAL         : 1        64
137  MEM_TBL_OPENFLOW           : 1        512
143  MEM_TBL_TAP_GROUP_INGRESS  : 2        384
145  MEM_TBL_TAP_GROUP_EGRESS   : 2        192
150  MEM_TBL_DHCRELAY           : 1        8
152  MEM_TBL_DHCP_DEBUG         : 1        4
153  MEM_TBL_DHCLIENT           : 1        4
154  MEM_TBL_DHCSNOOPING        : 1        1536
156  MEM_TBL_IPTABLES_PREVENT   : 1        96
157  MEM_TBL_ERRDISABLE         : 13       104
159  MEM_TBL_TAP_GROUP          : 1        128
160  MEM_TBL_NS_PORT_FORWARDING : 4        80
161  MEM_TBL_LOG_GLOBAL         : 1        12
163  MEM_TBL_SYS_LOAD           : 1        32
```

```
165   MEM_TBL_CLOCK              : 1         40
166   MEM_TBL_PORT_STATS         : 36        9216
167   MEM_TBL_PORT_STATS_RATE    : 36        1440
168   MEM_TBL_ACLQOS_IF          : 34        26112
169   MEM_TBL_L2_ACTION          : 1         4
170   MEM_TBL_FEA_QOS_DROP_PROFILE   : 1         16
171   MEM_TBL_FEA_QOS_DOMAIN     : 1         40
172   MEM_TBL_FEA_QOS_QUEUE_SHAPE_PROFILE: 1         16
173   MEM_TBL_FEA_QOS_PORT_SHAPE_PROFILE: 1         16
176   MEM_TBL_ERRDISABLE_FLAP    : 1         20
177   MEM_TBL_OPM_GLOBAL         : 1         4
180   MEM_TBL_OPM_DEBUG          : 1         4
187   MEM_TBL_IGSP_INTF          : 1         96
190   MEM_TBL_AUTH_SERVER        : 1         384
191   MEM_TBL_AUTH_SESSION       : 3         49140
193   MEM_TBL_FEA_ACL_POLICY_ACTION  : 1         4
194   MEM_TBL_DOT1X_GLOBAL       : 1         768
196   MEM_TBL_DOT1X_RADIUS       : 1         2048
198   MEM_TBL_ENABLE             : 4         3072
199   MEM_TBL_CHIP               : 1         4
200   MEM_TBL_CLEAR_ACL_POLICY   : 1         16
201   MEM_TBL_AUTHOR             : 1         192
202   MEM_TBL_ACCOUNT            : 1         192
203   MEM_TBL_ACCOUNTCMD         : 1         192
208   MEM_TBL_FEA_PCAP           : 1         12
210   MEM_TBL_CPU_PACKETS        : 1         256
211   MEM_TBL_NS_ROUTE           : 9         576
212   MEM_TBL_NS_ROUTE_IP        : 8         96
213   MEM_TBL_OPENFLOW_INTERFACE     : 97        74496
216   MEM_TBL_PTP_GLOBAL         : 1         4
217   MEM_TBL_PTP_PORT           : 34        1360
219   MEM_TBL_FEA_TIME           : 1         12
220   MEM_TBL_BHM_GLOBAL         : 1         40
228   MEM_TBL_COPP_CFG           : 1         32
229   MEM_TBL_SFLOW_GLOBAL       : 1         48
230   MEM_TBL_SFLOW_COLLECTOR    : 1         1536
231   MEM_TBL_SFLOW_COUNTER_PORT     : 1         12
234   MEM_DS_BRGIF               : 36        27648
235   MEM_DS_LAG                 : 5         80
245   MEM_DS_ACLQOS_IF           : 3         3072
247   MEM_DS_DHCLIENT_IF         : 36        9216
254   MEM_DS_FLUSH_FDB           : 1         24
263   MEM_PM_LIB_MASTER          : 1         1024
281   MEM_PM_OPENFLOW_GROUP      : 1         384

CDS Memory Information:
Type   Description                 Alloc Count  Alloc Size
-------------------------------------------------------------------------
0     MEM_TEMP                 : 1         8188
2     MEM_LIB_HASH             : 81        1620
3     MEM_LIB_HASH_BACKET_LIST     : 81        663228
4     MEM_LIB_HASH_BACKET          : 444       5328
9     MEM_LIB_SOCK_MASTER          : 1         192
10    MEM_LIB_SOCK             : 2         512
```

```
11   MEM_LIB_SOCK_SESSION         : 10        327640
12   MEM_LIB_SOCK_DATA            : 1         12
16   MEM_LIB_SLIST                : 170       3400
17   MEM_LIB_SLISTNODE            : 432       5184
22   MEM_TBL_MASTER               : 141       115932
23   MEM_TBL_INTERFACE            : 37        28416
24   MEM_TBL_FEA_PORT_IF          : 36        2304
26   MEM_TBL_CPU_TRAFFIC          : 13        312
27   MEM_TBL_CPU_TRAFFIC_GROUP    : 4         64
28   MEM_TBL_CPU_UTILIZATION      : 9         864
38   MEM_TBL_BRG_GLOBAL           : 1         128
39   MEM_TBL_LAG_GLOBAL           : 1         96
40   MEM_TBL_MSTP_PORT            : 2         768
43   MEM_TBL_MSTP_GLOBAL          : 1         256
44   MEM_TBL_LLDP_GLOBAL          : 1         768
46   MEM_TBL_MLAG                 : 1         1536
47   MEM_TBL_MLAG_PEER            : 1         256
50   MEM_TBL_ROUTE_GLOBAL         : 1         128
55   MEM_TBL_KERNEL_IF            : 36        1728
67   MEM_TBL_SYS_GLOBAL           : 1         384
68   MEM_TBL_VERSION              : 1         768
69   MEM_TBL_MANAGE_IF            : 1         28
71   MEM_TBL_BOOTIMAGE            : 1         1024
72   MEM_TBL_CHASSIS              : 1         64
73   MEM_TBL_IFNAME_INFO          : 1         768
74   MEM_TBL_CARD                 : 1         4092
75   MEM_TBL_PORT                 : 34        4352
76   MEM_TBL_FIBER                : 2         1536
77   MEM_TBL_SYS_SPEC             : 8         3072
78   MEM_TBL_FAN                  : 4         6144
79   MEM_TBL_PSU                  : 2         3072
81   MEM_TBL_SENSOR               : 4         4096
82   MEM_TBL_REBOOT_INFO          : 1         96
84   MEM_TBL_MEM_SUMMARY          : 1         28
85   MEM_TBL_CHSM_DEBUG           : 1         4
86   MEM_TBL_SWITCH_DEBUG         : 1         24
87   MEM_TBL_ROUTE_DEBUG          : 1         12
88   MEM_TBL_QUAGGA_DEBUG         : 1         8
89   MEM_TBL_LSRV_DEBUG           : 1         4
90   MEM_TBL_HSRV_DEBUG           : 1         96
93   MEM_TBL_FEA_LAG              : 2         32
94   MEM_TBL_FEA_GLOBAL           : 1         8
95   MEM_TBL_FEA_ACL_TABLE        : 2         128
98   MEM_TBL_FEA_BRG_IF           : 36        6912
100  MEM_TBL_ACL_CONFIG           : 7         1344
101  MEM_TBL_ACE_CONFIG           : 3         1536
112  MEM_TBL_SSH_CFG              : 1         48
113  MEM_TBL_SNMP_CFG             : 1         768
114  MEM_TBL_SNMP_VIEW            : 1         256
115  MEM_TBL_SNMP_COMMUNITY       : 2         768
116  MEM_TBL_SNMP_TRAP            : 1         384
117  MEM_TBL_SNMP_INFORM          : 1         384
118  MEM_TBL_SYSLOG_CFG           : 1         384
119  MEM_TBL_NTP_SERVER           : 3         288
```

```
121  MEM_TBL_NTP_KEY            : 2         80
122  MEM_TBL_NTP_CFG            : 1         64
123  MEM_TBL_NTP_IF             : 1         8
124  MEM_TBL_NTP_IF             : 1         256
125  MEM_TBL_USER               : 2         1536
126  MEM_TBL_VTY                : 8         32736
127  MEM_TBL_CONSOLE            : 1         768
128  MEM_TBL_AUTHEN             : 1         192
129  MEM_TBL_LOGIN              : 3         1152
131  MEM_TBL_QOS_DOMAIN         : 1         8188
133  MEM_TBL_QOS_DROP_PROFILE   : 1         96
134  MEM_TBL_QOS_QUEUE_SHAPE_PROFILE : 1         64
135  MEM_TBL_QOS_PORT_SHAPE_PROFILE  : 1         40
136  MEM_TBL_QOS_GLOBAL         : 1         64
137  MEM_TBL_OPENFLOW           : 1         512
143  MEM_TBL_TAP_GROUP_INGRESS  : 2         384
145  MEM_TBL_TAP_GROUP_EGRESS   : 2         192
150  MEM_TBL_DHCRELAY           : 1         8
152  MEM_TBL_DHCP_DEBUG         : 1         4
153  MEM_TBL_DHCLIENT           : 1         4
154  MEM_TBL_DHCSNOOPING        : 1         1536
156  MEM_TBL_IPTABLES_PREVENT   : 1         96
157  MEM_TBL_ERRDISABLE         : 13        104
159  MEM_TBL_TAP_GROUP          : 1         128
160  MEM_TBL_NS_PORT_FORWARDING : 4         80
161  MEM_TBL_LOG_GLOBAL         : 1         12
163  MEM_TBL_SYS_LOAD           : 1         32
165  MEM_TBL_CLOCK              : 1         40
166  MEM_TBL_PORT_STATS         : 36        9216
167  MEM_TBL_PORT_STATS_RATE    : 36        1440
168  MEM_TBL_ACLQOS_IF          : 34        26112
169  MEM_TBL_L2_ACTION          : 1         4
170  MEM_TBL_FEA_QOS_DROP_PROFILE  : 1         16
171  MEM_TBL_FEA_QOS_DOMAIN     : 1         40
172  MEM_TBL_FEA_QOS_QUEUE_SHAPE_PROFILE: 1         16
173  MEM_TBL_FEA_QOS_PORT_SHAPE_PROFILE: 1         16
176  MEM_TBL_ERRDISABLE_FLAP    : 1         20
177  MEM_TBL_OPM_GLOBAL         : 1         4
180  MEM_TBL_OPM_DEBUG          : 1         4
187  MEM_TBL_IGSP_INTF          : 1         96
190  MEM_TBL_AUTH_SERVER        : 1         384
191  MEM_TBL_AUTH_SESSION       : 3         49140
193  MEM_TBL_FEA_ACL_POLICY_ACTION  : 1         4
194  MEM_TBL_DOT1X_GLOBAL       : 1         768
196  MEM_TBL_DOT1X_RADIUS       : 1         2048
198  MEM_TBL_ENABLE             : 4         3072
199  MEM_TBL_CHIP               : 1         4
200  MEM_TBL_CLEAR_ACL_POLICY   : 1         16
201  MEM_TBL_AUTHOR             : 1         192
202  MEM_TBL_ACCOUNT            : 1         192
203  MEM_TBL_ACCOUNTCMD         : 1         192
208  MEM_TBL_FEA_PCAP           : 1         12
210  MEM_TBL_CPU_PACKETS        : 1         256
211  MEM_TBL_NS_ROUTE           : 9         576
```

```
212   MEM_TBL_NS_ROUTE_IP          : 8         96
213   MEM_TBL_OPENFLOW_INTERFACE   : 97        74496
216   MEM_TBL_PTP_GLOBAL           : 1         4
217   MEM_TBL_PTP_PORT             : 34        1360
219   MEM_TBL_FEA_TIME             : 1         12
220   MEM_TBL_BHM_GLOBAL           : 1         40
228   MEM_TBL_COPP_CFG             : 1         32
229   MEM_TBL_SFLOW_GLOBAL         : 1         48
230   MEM_TBL_SFLOW_COLLECTOR      : 1         1536
231   MEM_TBL_SFLOW_COUNTER_PORT   : 1         12
234   MEM_DS_BRGIF                 : 36        27648
235   MEM_DS_LAG                   : 5         80
245   MEM_DS_ACLQOS_IF             : 3         3072
247   MEM_DS_DHCLIENT_IF           : 36        9216
254   MEM_DS_FLUSH_FDB             : 1         24
263   MEM_PM_LIB_MASTER            : 1         1024
268   MEM_PM_CDS_MASTER            : 1         40

Switch Memory Information:
Type   Description                  Alloc Count  Alloc Size
-------------------------------------------------------------------------
0     MEM_TEMP                    : 1         8188
2     MEM_LIB_HASH                : 54        1080
3     MEM_LIB_HASH_BACKET_LIST    : 54        442152
4     MEM_LIB_HASH_BACKET         : 351       4212
9     MEM_LIB_SOCK_MASTER         : 1         192
10    MEM_LIB_SOCK                : 6         1536
11    MEM_LIB_SOCK_SESSION        : 6         196584
12    MEM_LIB_SOCK_DATA           : 1         16
14    MEM_LIB_OPF                 : 9         84
15    MEM_LIB_OPB                 : 1         96
16    MEM_LIB_SLIST               : 130       2600
17    MEM_LIB_SLISTNODE           : 320       3840
22    MEM_TBL_MASTER              : 86        111336
23    MEM_TBL_INTERFACE           : 37        28416
26    MEM_TBL_CPU_TRAFFIC         : 13        312
27    MEM_TBL_CPU_TRAFFIC_GROUP   : 4         64
38    MEM_TBL_BRG_GLOBAL          : 1         128
39    MEM_TBL_LAG_GLOBAL          : 1         96
40    MEM_TBL_MSTP_PORT           : 2         768
43    MEM_TBL_MSTP_GLOBAL         : 1         256
44    MEM_TBL_LLDP_GLOBAL         : 1         768
46    MEM_TBL_MLAG                : 1         1536
47    MEM_TBL_MLAG_PEER           : 1         256
55    MEM_TBL_KERNEL_IF           : 36        1728
67    MEM_TBL_SYS_GLOBAL          : 1         384
68    MEM_TBL_VERSION             : 1         768
69    MEM_TBL_MANAGE_IF           : 1         28
72    MEM_TBL_CHASSIS             : 1         64
74    MEM_TBL_CARD                : 1         4092
77    MEM_TBL_SYS_SPEC            : 8         3072
82    MEM_TBL_REBOOT_INFO         : 1         96
86    MEM_TBL_SWITCH_DEBUG        : 1         24
100   MEM_TBL_ACL_CONFIG          : 7         1344
```

```
101   MEM_TBL_ACE_CONFIG          : 3         1536
113   MEM_TBL_SNMP_CFG            : 1         768
126   MEM_TBL_VTY                 : 8         32736
131   MEM_TBL_QOS_DOMAIN          : 1         8188
133   MEM_TBL_QOS_DROP_PROFILE    : 1         96
134   MEM_TBL_QOS_QUEUE_SHAPE_PROFILE : 1         64
135   MEM_TBL_QOS_PORT_SHAPE_PROFILE  : 1         40
136   MEM_TBL_QOS_GLOBAL          : 1         64
143   MEM_TBL_TAP_GROUP_INGRESS   : 2         384
145   MEM_TBL_TAP_GROUP_EGRESS    : 2         192
154   MEM_TBL_DHCSNOOPING         : 1         1536
156   MEM_TBL_IPTABLES_PREVENT    : 1         96
157   MEM_TBL_ERRDISABLE          : 13        104
159   MEM_TBL_TAP_GROUP           : 1         128
160   MEM_TBL_NS_PORT_FORWARDING  : 4         80
161   MEM_TBL_LOG_GLOBAL          : 1         12
163   MEM_TBL_SYS_LOAD            : 1         32
165   MEM_TBL_CLOCK               : 1         40
166   MEM_TBL_PORT_STATS          : 36        9216
167   MEM_TBL_PORT_STATS_RATE     : 72        10656
168   MEM_TBL_ACLQOS_IF           : 34        26112
169   MEM_TBL_L2_ACTION           : 1         4
176   MEM_TBL_ERRDISABLE_FLAP     : 1         20
177   MEM_TBL_OPM_GLOBAL          : 1         4
180   MEM_TBL_OPM_DEBUG           : 1         4
187   MEM_TBL_IGSP_INTF           : 1         96
194   MEM_TBL_DOT1X_GLOBAL        : 1         768
199   MEM_TBL_CHIP                : 1         4
200   MEM_TBL_CLEAR_ACL_POLICY    : 1         16
211   MEM_TBL_NS_ROUTE            : 9         576
212   MEM_TBL_NS_ROUTE_IP         : 8         96
213   MEM_TBL_OPENFLOW_INTERFACE  : 97        74496
228   MEM_TBL_COPP_CFG            : 1         32
229   MEM_TBL_SFLOW_GLOBAL        : 1         48
230   MEM_TBL_SFLOW_COLLECTOR     : 1         1536
231   MEM_TBL_SFLOW_COUNTER_PORT  : 1         12
234   MEM_DS_BRGIF                : 36        27648
235   MEM_DS_LAG                  : 5         80
245   MEM_DS_ACLQOS_IF            : 3         3072
247   MEM_DS_DHCLIENT_IF          : 36        9216
254   MEM_DS_FLUSH_FDB            : 1         24
259   MEM_MSTP_PDU                : 2         8184
263   MEM_PM_LIB_MASTER           : 1         1024
269   MEM_PM_SWITCH_MASTER        : 1         40

CHSM Memory Information:
Type   Description                 Alloc Count  Alloc Size
-------------------------------------------------------------------
0     MEM_TEMP                  : 1         8188
2     MEM_LIB_HASH              : 19        380
3     MEM_LIB_HASH_BACKET_LIST  : 19        155572
4     MEM_LIB_HASH_BACKET       : 48        576
9     MEM_LIB_SOCK_MASTER       : 1         192
10    MEM_LIB_SOCK              : 3         768
```

```
11    MEM_LIB_SOCK_SESSION          : 3         98292
12    MEM_LIB_SOCK_DATA             : 1         12
16    MEM_LIB_SLIST                 : 98        1960
17    MEM_LIB_SLISTNODE             : 51        612
22    MEM_TBL_MASTER                : 30        13916
23    MEM_TBL_INTERFACE             : 37        28416
67    MEM_TBL_SYS_GLOBAL            : 1         384
68    MEM_TBL_VERSION               : 1         768
69    MEM_TBL_MANAGE_IF             : 1         28
71    MEM_TBL_BOOTIMAGE             : 1         1024
72    MEM_TBL_CHASSIS               : 1         64
73    MEM_TBL_IFNAME_INFO           : 1         768
74    MEM_TBL_CARD                  : 1         4092
75    MEM_TBL_PORT                  : 34        4352
76    MEM_TBL_FIBER                 : 2         1536
77    MEM_TBL_SYS_SPEC              : 8         3072
78    MEM_TBL_FAN                   : 4         6144
79    MEM_TBL_PSU                   : 2         3072
81    MEM_TBL_SENSOR                : 4         4096
82    MEM_TBL_REBOOT_INFO           : 1         96
85    MEM_TBL_CHSM_DEBUG            : 1         4
113   MEM_TBL_SNMP_CFG              : 1         768
161   MEM_TBL_LOG_GLOBAL            : 1         12
163   MEM_TBL_SYS_LOAD              : 1         32
165   MEM_TBL_CLOCK                 : 1         40
177   MEM_TBL_OPM_GLOBAL            : 1         4
180   MEM_TBL_OPM_DEBUG             : 1         4
194   MEM_TBL_DOT1X_GLOBAL          : 1         768
199   MEM_TBL_CHIP                  : 1         4
229   MEM_TBL_SFLOW_GLOBAL          : 1         48
234   MEM_DS_BRGIF                  : 36        27648
235   MEM_DS_LAG                    : 5         80
245   MEM_DS_ACLQOS_IF              : 3         3072
247   MEM_DS_DHCLIENT_IF            : 36        9216
263   MEM_PM_LIB_MASTER             : 1         1024
264   MEM_PM_CHSM_MASTER            : 1         4
344   MEM_COLD_LOGGING_BUF          : 4         8192

AppCfg Memory Information:
Type   Description                  Alloc Count  Alloc Size
--------------------------------------------------------------------------
0     MEM_TEMP                     : 1         8188
2     MEM_LIB_HASH                 : 16        320
3     MEM_LIB_HASH_BACKET_LIST     : 16        131008
4     MEM_LIB_HASH_BACKET          : 46        552
9     MEM_LIB_SOCK_MASTER          : 1         192
10    MEM_LIB_SOCK                 : 5         1280
11    MEM_LIB_SOCK_SESSION         : 7         229348
12    MEM_LIB_SOCK_DATA            : 1         16
16    MEM_LIB_SLIST                : 113       2260
17    MEM_LIB_SLISTNODE            : 68        816
22    MEM_TBL_MASTER               : 44        9788
23    MEM_TBL_INTERFACE            : 37        28416
28    MEM_TBL_CPU_UTILIZATION      : 9         864
```

```
67    MEM_TBL_SYS_GLOBAL          : 1         384
68    MEM_TBL_VERSION             : 1         768
72    MEM_TBL_CHASSIS             : 1         64
77    MEM_TBL_SYS_SPEC            : 8         3072
84    MEM_TBL_MEM_SUMMARY         : 1         28
112   MEM_TBL_SSH_CFG             : 1         48
113   MEM_TBL_SNMP_CFG            : 1         768
114   MEM_TBL_SNMP_VIEW           : 1         256
115   MEM_TBL_SNMP_COMMUNITY      : 2         768
116   MEM_TBL_SNMP_TRAP           : 1         384
117   MEM_TBL_SNMP_INFORM         : 1         384
118   MEM_TBL_SYSLOG_CFG          : 1         384
119   MEM_TBL_NTP_SERVER          : 3         288
121   MEM_TBL_NTP_KEY             : 2         80
122   MEM_TBL_NTP_CFG             : 1         64
123   MEM_TBL_NTP_IF              : 1         8
124   MEM_TBL_NTP_IF              : 1         256
125   MEM_TBL_USER                : 2         1536
126   MEM_TBL_VTY                 : 8         32736
127   MEM_TBL_CONSOLE             : 1         768
128   MEM_TBL_AUTHEN              : 1         192
129   MEM_TBL_LOGIN               : 3         1152
161   MEM_TBL_LOG_GLOBAL          : 1         12
163   MEM_TBL_SYS_LOAD            : 1         32
165   MEM_TBL_CLOCK               : 1         40
177   MEM_TBL_OPM_GLOBAL          : 1         4
180   MEM_TBL_OPM_DEBUG           : 1         4
194   MEM_TBL_DOT1X_GLOBAL        : 1         768
198   MEM_TBL_ENABLE              : 4         3072
199   MEM_TBL_CHIP                : 1         4
201   MEM_TBL_AUTHOR              : 1         192
202   MEM_TBL_ACCOUNT             : 1         192
203   MEM_TBL_ACCOUNTCMD          : 1         192
229   MEM_TBL_SFLOW_GLOBAL        : 1         48
234   MEM_DS_BRGIF                : 36        27648
235   MEM_DS_LAG                  : 5         80
245   MEM_DS_ACLQOS_IF            : 3         3072
247   MEM_DS_DHCLIENT_IF          : 36        9216
262   MEM_PM_TEMP                 : 1         4092
263   MEM_PM_LIB_MASTER           : 1         1024

FEA Memory Information:
Type   Description                 Alloc Count  Alloc Size
-------------------------------------------------------------------
0     MEM_TEMP                  : 2         8284
2     MEM_LIB_HASH              : 105       2100
3     MEM_LIB_HASH_BACKET_LIST  : 105       859740
4     MEM_LIB_HASH_BACKET       : 308       3696
9     MEM_LIB_SOCK_MASTER       : 1         192
10    MEM_LIB_SOCK              : 6         1536
11    MEM_LIB_SOCK_SESSION      : 10        327640
12    MEM_LIB_SOCK_DATA         : 1         12
14    MEM_LIB_OPF               : 99        924
16    MEM_LIB_SLIST             : 171       3420
```

```
17   MEM_LIB_SLISTNODE           : 273       3276
22   MEM_TBL_MASTER              : 141       115932
23   MEM_TBL_INTERFACE           : 37        28416
24   MEM_TBL_FEA_PORT_IF         : 36        2304
26   MEM_TBL_CPU_TRAFFIC         : 13        312
27   MEM_TBL_CPU_TRAFFIC_GROUP   : 4         64
38   MEM_TBL_BRG_GLOBAL          : 1         128
39   MEM_TBL_LAG_GLOBAL          : 1         96
40   MEM_TBL_MSTP_PORT           : 2         768
43   MEM_TBL_MSTP_GLOBAL         : 1         256
44   MEM_TBL_LLDP_GLOBAL         : 1         768
46   MEM_TBL_MLAG                : 1         1536
47   MEM_TBL_MLAG_PEER           : 1         256
50   MEM_TBL_ROUTE_GLOBAL        : 1         128
67   MEM_TBL_SYS_GLOBAL          : 1         384
68   MEM_TBL_VERSION             : 1         768
69   MEM_TBL_MANAGE_IF           : 1         28
71   MEM_TBL_BOOTIMAGE           : 1         1024
72   MEM_TBL_CHASSIS             : 1         64
73   MEM_TBL_IFNAME_INFO         : 1         768
74   MEM_TBL_CARD                : 1         4092
75   MEM_TBL_PORT                : 34        4352
76   MEM_TBL_FIBER               : 2         1536
77   MEM_TBL_SYS_SPEC            : 8         3072
78   MEM_TBL_FAN                 : 4         6144
79   MEM_TBL_PSU                 : 2         3072
81   MEM_TBL_SENSOR              : 4         4096
82   MEM_TBL_REBOOT_INFO         : 1         96
84   MEM_TBL_MEM_SUMMARY         : 1         28
85   MEM_TBL_CHSM_DEBUG          : 1         4
86   MEM_TBL_SWITCH_DEBUG        : 1         24
87   MEM_TBL_ROUTE_DEBUG         : 1         12
88   MEM_TBL_QUAGGA_DEBUG        : 1         8
89   MEM_TBL_LSRV_DEBUG          : 1         4
90   MEM_TBL_HSRV_DEBUG          : 1         96
93   MEM_TBL_FEA_LAG             : 2         32
94   MEM_TBL_FEA_GLOBAL          : 1         8
95   MEM_TBL_FEA_ACL_TABLE       : 2         128
98   MEM_TBL_FEA_BRG_IF          : 36        6912
100  MEM_TBL_ACL_CONFIG          : 7         1344
101  MEM_TBL_ACE_CONFIG          : 3         1536
112  MEM_TBL_SSH_CFG             : 1         48
113  MEM_TBL_SNMP_CFG            : 1         768
118  MEM_TBL_SYSLOG_CFG          : 1         384
122  MEM_TBL_NTP_CFG             : 1         64
123  MEM_TBL_NTP_IF              : 1         8
124  MEM_TBL_NTP_IF              : 1         256
127  MEM_TBL_CONSOLE             : 1         768
131  MEM_TBL_QOS_DOMAIN          : 1         8188
133  MEM_TBL_QOS_DROP_PROFILE    : 1         96
134  MEM_TBL_QOS_QUEUE_SHAPE_PROFILE : 1     64
135  MEM_TBL_QOS_PORT_SHAPE_PROFILE  : 1     40
136  MEM_TBL_QOS_GLOBAL          : 1         64
137  MEM_TBL_OPENFLOW            : 1         512
```

```
143   MEM_TBL_TAP_GROUP_INGRESS     : 2        384
145   MEM_TBL_TAP_GROUP_EGRESS      : 2        192
150   MEM_TBL_DHCRELAY           : 1        8
152   MEM_TBL_DHCP_DEBUG         : 1        4
153   MEM_TBL_DHCLIENT           : 1        4
154   MEM_TBL_DHCSNOOPING        : 1        1536
156   MEM_TBL_IPTABLES_PREVENT      : 1        96
157   MEM_TBL_ERRDISABLE         : 13       104
159   MEM_TBL_TAP_GROUP          : 1        128
161   MEM_TBL_LOG_GLOBAL         : 1        12
163   MEM_TBL_SYS_LOAD           : 1        32
165   MEM_TBL_CLOCK              : 1        40
166   MEM_TBL_PORT_STATS         : 36       9216
168   MEM_TBL_ACLQOS_IF          : 34       26112
169   MEM_TBL_L2_ACTION          : 1        4
170   MEM_TBL_FEA_QOS_DROP_PROFILE   : 1        16
171   MEM_TBL_FEA_QOS_DOMAIN        : 1        40
172   MEM_TBL_FEA_QOS_QUEUE_SHAPE_PROFILE: 1        16
173   MEM_TBL_FEA_QOS_PORT_SHAPE_PROFILE: 1        16
177   MEM_TBL_OPM_GLOBAL         : 1        4
180   MEM_TBL_OPM_DEBUG          : 1        4
187   MEM_TBL_IGSP_INTF          : 1        96
190   MEM_TBL_AUTH_SERVER        : 1        384
193   MEM_TBL_FEA_ACL_POLICY_ACTION  : 1        4
194   MEM_TBL_DOT1X_GLOBAL       : 1        768
199   MEM_TBL_CHIP               : 1        4
200   MEM_TBL_CLEAR_ACL_POLICY      : 1        16
208   MEM_TBL_FEA_PCAP           : 1        12
210   MEM_TBL_CPU_PACKETS        : 1        256
213   MEM_TBL_OPENFLOW_INTERFACE    : 97       74496
216   MEM_TBL_PTP_GLOBAL         : 1        4
219   MEM_TBL_FEA_TIME           : 1        12
220   MEM_TBL_BHM_GLOBAL         : 1        40
228   MEM_TBL_COPP_CFG           : 1        32
229   MEM_TBL_SFLOW_GLOBAL       : 1        48
230   MEM_TBL_SFLOW_COLLECTOR       : 1        1536
231   MEM_TBL_SFLOW_COUNTER_PORT    : 1        12
234   MEM_DS_BRGIF               : 36       27648
235   MEM_DS_LAG                 : 5        80
245   MEM_DS_ACLQOS_IF           : 3        3072
247   MEM_DS_DHCLIENT_IF         : 36       9216
254   MEM_DS_FLUSH_FDB           : 1        24
263   MEM_PM_LIB_MASTER          : 1        1024
285   MEM_FEA_TEMP               : 2        768
287   MEM_FEA_HSRV_MODULE        : 2        4108
293   MEM_FEA_HSRV_STATS         : 1        8188
295   MEM_FEA_HSRV_OPENFLOW      : 4        76
299   MEM_FEA_HSRV_OPENFLOW_GROUP   : 1        8
300   MEM_FEA_HSRV_OPENFLOW_TUNNEL  : 1        64
301   MEM_FEA_HSRV_OPENFLOW_NH      : 1        192
302   MEM_FEA_HSRV_OPENFLOW_PORT    : 1        12
303   MEM_FEA_HSRV_OPENFLOW_STATS   : 1        8
304   MEM_FEA_HAGT_MODULE        : 1        192
306   MEM_FEA_HAGT_MSG           : 1        2048
```

```
309   MEM_FEA_HAGT_QOS            : 2         12
311   MEM_FEA_HAGT_STATS          : 2         200
312   MEM_FEA_HAGT_OPENFLOW       : 2         104
319   MEM_FEA_LCM_MODULE          : 4         1256
322   MEM_FEA_SFLOW               : 2         12
327   MEM_DRV_PHY                 : 34        13056
330   MEM_DRV_FIBER               : 69        2368
331   MEM_DRV_EPLD                : 2         8216
333   MEM_DRV_I2C                 : 24        528
334   MEM_DRV_EEPROM              : 2         20
335   MEM_DRV_SENSOR              : 4         176
336   MEM_DRV_POWER               : 7         136
337   MEM_DRV_FAN                 : 3         68
339   MEM_DRV_LED                 : 13        1196
341   MEM_DRV_GPIO                : 4         112
343   MEM_LCM_PORT                : 73        11648

Authd Memory Information:
Type   Description                 Alloc Count  Alloc Size
-------------------------------------------------------------------
0     MEM_TEMP                  : 1         8188
2     MEM_LIB_HASH              : 16        320
3     MEM_LIB_HASH_BACKET_LIST  : 16        131008
4     MEM_LIB_HASH_BACKET       : 37        444
9     MEM_LIB_SOCK_MASTER       : 1         192
10    MEM_LIB_SOCK              : 4         1024
11    MEM_LIB_SOCK_SESSION      : 4         131056
12    MEM_LIB_SOCK_DATA         : 1         16
16    MEM_LIB_SLIST             : 100       2000
17    MEM_LIB_SLISTNODE         : 50        600
22    MEM_TBL_MASTER            : 31        26112
23    MEM_TBL_INTERFACE         : 37        28416
67    MEM_TBL_SYS_GLOBAL        : 1         384
68    MEM_TBL_VERSION           : 1         768
72    MEM_TBL_CHASSIS           : 1         64
113   MEM_TBL_SNMP_CFG          : 1         768
126   MEM_TBL_VTY               : 8         32736
129   MEM_TBL_LOGIN             : 3         1152
161   MEM_TBL_LOG_GLOBAL        : 1         12
163   MEM_TBL_SYS_LOAD          : 1         32
165   MEM_TBL_CLOCK             : 1         40
177   MEM_TBL_OPM_GLOBAL        : 1         4
180   MEM_TBL_OPM_DEBUG         : 1         4
190   MEM_TBL_AUTH_SERVER       : 1         384
191   MEM_TBL_AUTH_SESSION      : 3         49140
193   MEM_TBL_FEA_ACL_POLICY_ACTION  : 1        4
194   MEM_TBL_DOT1X_GLOBAL      : 1         768
196   MEM_TBL_DOT1X_RADIUS      : 1         2048
199   MEM_TBL_CHIP              : 1         4
201   MEM_TBL_AUTHOR            : 1         192
202   MEM_TBL_ACCOUNT           : 1         192
203   MEM_TBL_ACCOUNTCMD        : 1         192
229   MEM_TBL_SFLOW_GLOBAL      : 1         48
234   MEM_DS_BRGIF              : 36        27648
```

```
235   MEM_DS_LAG                : 5         80
245   MEM_DS_ACLQOS_IF          : 3         3072
247   MEM_DS_DHCLIENT_IF        : 36        9216
263   MEM_PM_LIB_MASTER         : 1         1024


------------------ show cpu utilization ------------------

Process           Usage(%)
--------------------+----------
python             5.37
fea               3.08
switch             0.70
ctcmore            0.40
telnetd            0.30
ccs               0.30
chsm               0.10
cds               0.10
syslog-ng          0.10
appcfg             0.10
ksoftirqd          0.10
kworker            0.10
authd             0.10
Others             24.04
------------------------------
Total             34.89

------------------ show stm prefer current ------------------

number of tap group                  : 1/512
number of tap trunction              : 0/4
number of link aggregation(static)       : 2/55
number of Flow features:
   Flow entry ingress entries        : 0/2048
   Flow entry egress entries         : 0/255
   System Flow configure             : 7/4096
   System Flow entry configure       : 3/8192
   System L4 Port Range entries      : 0/7

------------------ ls ------------------

Directory of flash:/

total 3304
-rw-r--r-- 1    1371 May 31 22:32 001E080BE6C2.1.lic
-rwxr-xr-x 1  295938 Aug 15 10:26 AQR-G2_v3.2.5_ID19866_VER537.cld
-rw-r--r-- 1   39861 Jul  5 15:07 E580_48X2Q4Z_EPLD-4.1_0410_POWERDOWN.tar.gz
-rw-r--r-- 1  212556 May 15 16:49 appcfg.core.2017_0515_0849.gz
-rw-r--r-- 1  224863 Sep 21 14:33 appcfg.core.2017_0921_0633.gz
-rw-r--r-- 1  225409 Sep 21 14:46 appcfg.core.2017_0921_0646.gz
drwxr-xr-x 2    2656 Sep 26 21:02 boot
drwxr-xr-x 7     760 Aug 15 10:26 cold
drwxr-xr-x 3    1016 Sep 26 23:49 conf
-rw-r--r-- 1   20615 Jul 19 09:46 ctc_shell.core.2017_0719_0146.gz
```

```
-rw-r--r-- 1    2644 Sep 22 16:19 current-config.conf
-rw-r--r-- 1     147 Aug 15 10:31 dhcpsnooping
-rw------- 1     151 Aug 15 10:31 dhcpv6snooping
drwxr-xr-x 2     728 Sep  4 20:53 info
-rw-r--r-- 1     909 Jul 18 13:30 init_flow
-rw-r--r-- 1    3181 Aug 15 10:09 jinl_astp
drwxr-xr-x 3     224 Aug 10 11:25 lib
-rw-r--r-- 1    2180 Jul 13 16:09 liujy_lab.conf
drwxr-xr-x 2     288 Jul  1  2016 log
drwxr-xr-x 7     488 Aug 23  2016 monitor
drwxr-xr-x 2     232 May  2 19:03 reboot-info
-rw-r--r-- 1   11963 Mar 30 18:21 route.txt
-rw------- 1    3374 Sep 26 19:46 startup-config.conf
-rw------- 1   13686 Apr 10 18:57 startup-config.conf.2017-4-10
-rw-r--r-- 1    1314 May  4 18:48 startup-config.conf.empty
-rw-r--r-- 1    1694 Apr 21 17:40 startup-config.conf_0421
-rwxr-xr-x 1 1015068 Mar 18  2017 stressapptest
-rw-r--r-- 1 1265046 Sep 27 13:43 syslog
drwxr-xr-x 2    4192 Sep 12 06:09 syslogfile

Total 887.00M bytes (875.00M bytes free)

------------------ show environment ------------------

Fan tray status:
Index     Status      SpeedRate    Mode
----------+-----------+------------+------------
1-1       OK          40%          AUTO
1-2       OK          40%          AUTO
1-3       OK          40%          AUTO
1-4       OK          40%          AUTO

Power status:
Index     Status      Power       Type        Alert
----------+-----------+-----------+-----------+-----------
1         PRESENT     OK          AC          NO
2         PRESENT     FAIL        -           ALERT

Sensor status (Degree Centigrade):
Index     Temperature  Lower_alarm  Upper_alarm  Critical    Position
----------+------------+------------+------------+-----------+-----------
1         44           5            65           80          BEHIND_CHIP
2         35           5            65           80          AROUND_FAN
3         44           5            65           80          AROUND_CPU
4         62           -10          100          110         SWITCH_CHIP0

------------------ show transceiver detail ------------------


Port eth-0-17 transceiver info:
Transceiver Type: 1000BASE-T_SFP
 Transceiver Vendor Name : INNOLIGHT
 Transceiver PN          : TC-SORJZ-N00
 Transceiver S/N         : IN0912SZ01025C
```

```
Transceiver Output Wavelength: N/A
Supported Link Type and Length:
    Link Length for copper: 100 m
Digital diagnostic is not implemented.

Port eth-0-21 transceiver info:
Transceiver Type: 1000BASE-SX
 Transceiver Vendor Name : FINISAR CORP.
 Transceiver PN         : FTLF8519P3BTL
 Transceiver S/N        : PPB2DL1
Transceiver Output Wavelength: 850 nm
Supported Link Type and Length:
    Link Length for 50/125um multi-mode fiber: 300 m
    Link Length for 62.5/125um multi-mode fiber: 150 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-0-21    32.82           110.00      93.00       -30.00      -40.00
--------------------------------------------------------------------------------
                    High Alarm  High Warn   Low Warn    Low Alarm
          Voltage         Threshold   Threshold   Threshold   Threshold
Port        (Volts)         (Volts)     (Volts)     (Volts)     (Volts)
---------------+---------------+-----------+-----------+-----------+----------
eth-0-21    3.29            3.60        3.50        3.10        3.00
--------------------------------------------------------------------------------
                    High Alarm  High Warn   Low Warn    Low Alarm
          Current         Threshold   Threshold   Threshold   Threshold
Port        (milliamperes)      (mA)        (mA)        (mA)        (mA)
---------------+---------------+-----------+-----------+-----------+----------
eth-0-21    6.61            13.00       12.50       2.00        1.00
--------------------------------------------------------------------------------
          Optical         High Alarm  High Warn   Low Warn    Low Alarm
          Transmit Power    Threshold   Threshold   Threshold   Threshold
Port        (dBm)           (dBm)       (dBm)       (dBm)       (dBm)
---------------+---------------+-----------+-----------+-----------+----------
eth-0-21    -5.01           0.00        -3.00       -9.50       -13.50
--------------------------------------------------------------------------------
          Optical         High Alarm  High Warn   Low Warn    Low Alarm
          Receive Power     Threshold   Threshold   Threshold   Threshold
Port        (dBm)           (dBm)       (dBm)       (dBm)       (dBm)
---------------+---------------+-----------+-----------+-----------+----------
eth-0-21    -6.63           0.50        -1.00       -16.99      -21.02

------------------ show interface status ------------------

Name      Status     Duplex  Speed    Mode    Type       Description
----------+----------+-------+--------+-------+----------+---------------
```

```
eth-0-1    admin down  auto    1000    trunk   UNKNOWN     TenGigabitEth...
eth-0-2    admin down  auto    auto    trunk   UNKNOWN
eth-0-3    admin down  auto    auto    trunk   UNKNOWN
eth-0-4    admin down  auto    auto    trunk   UNKNOWN
eth-0-5    admin down  auto    auto    trunk   UNKNOWN
eth-0-6    admin down  auto    auto    trunk   UNKNOWN
eth-0-7    admin down  auto    auto    trunk   UNKNOWN
eth-0-8    admin down  auto    auto    trunk   UNKNOWN
eth-0-9    admin down  auto    auto    trunk   UNKNOWN
eth-0-10   admin down  auto    auto    trunk   UNKNOWN
eth-0-11   down      auto    auto    trunk   UNKNOWN
eth-0-12   down      auto    auto    trunk   UNKNOWN
eth-0-13   down      auto    auto    trunk   UNKNOWN
eth-0-14   down      auto    auto    trunk   UNKNOWN
eth-0-15   down      auto    auto    trunk   UNKNOWN
eth-0-16   down      auto    auto    trunk   UNKNOWN
eth-0-17   up        a-full  a-1000  trunk   1000BASE_T_SFP
eth-0-18   down      auto    auto    trunk   UNKNOWN
eth-0-19   down      auto    auto    trunk   UNKNOWN
eth-0-20   down      auto    auto    trunk   UNKNOWN
eth-0-21   up        a-full  a-1000  trunk   1000BASE_SX
eth-0-22   down      auto    auto    trunk   UNKNOWN
eth-0-23   down      auto    auto    trunk   UNKNOWN
eth-0-24   down      auto    auto    trunk   UNKNOWN
eth-0-25   down      auto    auto    trunk   UNKNOWN
eth-0-26   down      auto    auto    trunk   UNKNOWN
eth-0-27   down      auto    auto    trunk   UNKNOWN
eth-0-28   down      auto    auto    trunk   UNKNOWN
eth-0-29   down      auto    auto    trunk   UNKNOWN
eth-0-30   down      auto    auto    trunk   UNKNOWN
eth-0-31   down      auto    auto    trunk   UNKNOWN
eth-0-32   down      auto    auto    trunk   UNKNOWN
FGE0/33    down      full    40000   trunk   UNKNOWN
FGE0/34    down      full    40000   trunk   UNKNOWN
agg5       down      auto    auto    trunk   LAG         LinkAgg5
agg10      down      auto    auto    trunk   LAG

------------------- show interface summary -------------------

RXBS: rx rate (bits/sec)        RXPS: rx rate (pkts/sec)
TXBS: tx rate (bits/sec)        TXPS: tx rate (pkts/sec)

Interface  Link   RXBS          RXPS          TXBS          TXPS
-----------+------+-------------+-------------+-------------+-------------
eth-0-1    DOWN   0             0             0             0
eth-0-2    DOWN   0             0             0             0
eth-0-3    DOWN   0             0             0             0
eth-0-4    DOWN   0             0             0             0
eth-0-5    DOWN   0             0             0             0
eth-0-6    DOWN   0             0             0             0
eth-0-7    DOWN   0             0             0             0
eth-0-8    DOWN   0             0             0             0
eth-0-9    DOWN   0             0             0             0
eth-0-10   DOWN   0             0             0             0
```

```
eth-0-11   DOWN  0          0          0          0
eth-0-12   DOWN  0          0          0          0
eth-0-13   DOWN  0          0          0          0
eth-0-14   DOWN  0          0          0          0
eth-0-15   DOWN  0          0          0          0
eth-0-16   DOWN  0          0          0          0
eth-0-17   UP    0          0          0          0
eth-0-18   DOWN  0          0          0          0
eth-0-19   DOWN  0          0          0          0
eth-0-20   DOWN  0          0          0          0
eth-0-21   UP    0          0          0          0
eth-0-22   DOWN  0          0          0          0
eth-0-23   DOWN  0          0          0          0
eth-0-24   DOWN  0          0          0          0
eth-0-25   DOWN  0          0          0          0
eth-0-26   DOWN  0          0          0          0
eth-0-27   DOWN  0          0          0          0
eth-0-28   DOWN  0          0          0          0
eth-0-29   DOWN  0          0          0          0
eth-0-30   DOWN  0          0          0          0
eth-0-31   DOWN  0          0          0          0
eth-0-32   DOWN  0          0          0          0
FGE0/33    DOWN  0          0          0          0
FGE0/34    DOWN  0          0          0          0
agg5       DOWN  0          0          0          0
agg10      DOWN  0          0          0          0

------------------ show interface ------------------

Interface eth-0-1
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Description is: TenGigabitEthernet
 Bandwidth 1000000 kbits
 Index 1 , Metric 1
 Speed - 1000Mb/s ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-2
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
```

```
 Index 2 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-3
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 3 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-4
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 4 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
```

```
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-5
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 5 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-6
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 6 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-7
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 7 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
```

```
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-8
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 8 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-9
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 9 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-10
 Interface current state: Administratively DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 10 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
```

```
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runs, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-11
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 11 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runs, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-12
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 12 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runs, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output
```

```
Interface eth-0-13
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 13 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-14
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 14 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-15
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 15 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
```

```
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-16
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 16 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-17
 Interface current state: UP
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 17 , Metric 1
 Speed - 1000Mb/s ,  Duplex - full ,  Metadata - Disable ,  Media type is 1000BASE_T_SFP
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  7095 packets input, 454080 bytes
  Received 0 unicast, 7095 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-18
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 18 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
```

```
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-19
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 19 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-20
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 20 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-21
 Interface current state: UP
```

```
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 21 , Metric 1
 Speed - 1000Mb/s ,  Duplex - full ,  Metadata - Disable ,  Media type is 1000BASE_SX
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   7041 packets input, 450624 bytes
   Received 0 unicast, 7041 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-22
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 22 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-23
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 23 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
```

```
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-24
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 24 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-25
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 25 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-26
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 26 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
```

```
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-27
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 27 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-28
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 28 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-29
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
```

```
 Index 29 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-30
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 30 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
   0 underruns, 0 output errors, 0 pause output

Interface eth-0-31
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 31 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
   5 minute input rate 0 bits/sec, 0 packets/sec
   5 minute output rate 0 bits/sec, 0 packets/sec
   0 packets input, 0 bytes
   Received 0 unicast, 0 broadcast, 0 multicast
   0 runts, 0 giants, 0 input errors, 0 CRC
   0 frame, 0 overrun, 0 pause input
   0 packets output, 0 bytes
   Transmitted 0 unicast, 0 broadcast, 0 multicast
```

```
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-32
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 32 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-33
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 40000000 kbits
 Index 33 , Metric 1
 Speed - 40Gb/s ,  Duplex - full ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is force link
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runts, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface eth-0-34
 Interface current state: DOWN
 Hardware is Port, address is 001e.080b.e6c2
 Bandwidth 40000000 kbits
 Index 34 , Metric 1
 Speed - 40Gb/s ,  Duplex - full ,  Metadata - Disable ,  Media type is UNKNOWN
 Link type is force link
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
```

```
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runs, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface agg5
 Interface current state: DOWN
 Hardware is LAG, address is 001e.080b.e6c2
 Description is: LinkAgg5
 Bandwidth 1000000 kbits
 Index 2053 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is Aggregation
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runs, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output

Interface agg10
 Interface current state: DOWN
 Hardware is LAG, address is 001e.080b.e6c2
 Bandwidth 1000000 kbits
 Index 2058 , Metric 1
 Speed - auto ,  Duplex - auto ,  Metadata - Disable ,  Media type is Aggregation
 Link type is autonegotiation
 Admin input flow-control is off, output flow-control is off
 Oper input flow-control is off, output flow-control is off
 The Maximum Frame Size is 12800 bytes
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes
  Received 0 unicast, 0 broadcast, 0 multicast
  0 runs, 0 giants, 0 input errors, 0 CRC
  0 frame, 0 overrun, 0 pause input
  0 packets output, 0 bytes
  Transmitted 0 unicast, 0 broadcast, 0 multicast
  0 underruns, 0 output errors, 0 pause output



------------------ show channel-group summary ------------------

port-channel load-balance hash-arithmetic: crc
```

```
Port-channel load-balance hash-field-select:
  src-ip dst-ip src-port-l4 dst-port-l4 vxlan-vni inner-dst-mac
Flags:  s - suspend         T - standby
       w - wait            B - in Bundle
       R - Layer3          S - Layer2
       D - down/admin down   U - in use

Mode:  SLB   - static load balance
      DLB   - dynamic load balance
      RR    - round robin load balance

Aggregator Mode Protocol Ports
----------+----+--------+-------------------------------------------------
agg5(SD)   SLB  Static   eth-0-5(D)
agg10(SD)  SLB  Static   eth-0-3(D)    eth-0-4(D)

------------------ show logging buffer 1000 ------------------

Sep 27 13:54:11 Switch APP-6: ready to service
Sep 27 13:54:11 Switch %SYSTEM-4-USERLOGIN: User  from 10.10.25.25 login system by telnet
Sep 27 13:40:18 Switch %SYSTEM-4-USERLOGIN: User  from 10.10.25.25 logoff system by telnet
Sep 27 12:07:54 Switch %INTERFACE-4-UPDOWN: Interface eth-0-17 state change to up
Sep 27 12:07:53 Switch %TRANSCEIVER-4-NORMAL: Interface eth-0-21 received power return to
normal, before is alarm
Sep 27 12:07:51 Switch %INTERFACE-4-UPDOWN: Interface eth-0-21 state change to up
Sep 27 12:07:49 Switch %TRANSCEIVER-3-ALARM: Interface eth-0-21 received power enter to low
alarm, before is normal
Sep 27 12:07:47 Switch %INTERFACE-4-UPDOWN: Interface eth-0-17 state change to down
Sep 27 12:07:40 Switch %INTERFACE-4-UPDOWN: Interface eth-0-17 state change to up
Sep 27 12:07:41 Switch %TRANSCEIVER-4-NORMAL: Interface eth-0-21 received power return to
normal, before is alarm
Sep 27 12:06:17 Switch %TRANSCEIVER-3-ALARM: Interface eth-0-21 received power enter to low
alarm, before is normal
```

Related Commands

show version

show clock

17.2 hostname

To specify or modify the host name for the network server, use the hostname command in global configuration mode.

Use the no form of this command to reset the default value.

Command Syntax

hostname *NAME_STRING*

no hostname

NAME_STRING	This system's network name, must not exceed 63 characters

Command Mode

Global Configuration

Default

The default host name is “Switch”.

Usage

The host name is used in prompts and default configuration filenames.

The name must also follow the rules for ARPANET host names. They must start with a letter, and have as interior characters only letters, digits, hyphens, and underline. Names must be 63 characters or fewer.

Examples

The following example changes the host name to DUT1:

```
Switch(config)# hostname DUT1
DUT1(config)#
```

The following example changes the host name to default:

```
sandbox(config)# no hostname
Switch(config)#
```

Related Commands

None

17.3 format udisk:

Format the USB mass storage device (MSDOS file system)

Command Syntax

format udisk:

Command Mode

Global Configuration

Default

None.

Usage

Format the USB mass storage device (MSDOS file system)

Examples

The following shows an example to format USB mass storage device:

```
Switch(config)# format udisk:
WARNING: All data on udisk: will be lost!!!
And format operation may take a while. Are you sure to process with format? [yes/no]: yes
```

Related Commands

umount udisk:

17.4 umount udisk:

To uninstall the USB mass storage device before plug out it from the switch.

Command Syntax

umount udisk:

Command Mode

Global Configuration

Default

None.

Usage

USB mass storage device must exist in the system. You can use the “umount” command to uninstall the USB mass storage device.

Examples

The following example umount USB mass storage device:

```
Switch(config)# umount udisk:
```

Related Commands

format udisk:

17.5 management ip address

Use this command to set the management IP address on the Switch.

To remove the management IP address, use the no form of this command.

Command Syntax

management ip address *IP_ADDR_MASK*

IP_ADDR_MASK	IP address with mask length, in A.B.C.D/M format

Command Mode

Global Configuration

Default

None

Usage

User cannot connect to the device via telnet and only console port is available for management after removing the IP address.

Examples

The following example sets the management ipv4 address.

```
Switch(config)# management ip address 10.10.39.104/23
```

The following example unsets the management ipv4 address.

```
Switch(config)# no management ip address
```

Related Commands

management route gateway

17.6 management route gateway

Use this command to set the gateway on the Switch for management ip.

Use no form of this command to delete the gateway on the Switch for management ip.

Command Syntax

management route (add |) **gateway** *IP_ADDR*

no management route gateway

add	Add a gateway address
IP_ADDR	IP address

Command Mode

Global Configuration

Default

None

Usage

Use this command to set the gateway on the Switch for management ip.

Use no form of this command to delete the gateway on the Switch for management ip

Examples

The following example sets the gateway of 192.168.100.254 for the switch.

```
Switch(config)# management route add gateway 192.168.100.254
```

The following example sets the gateway of 192.168.100.254 for the switch.

```
Switch(config)# no management route gateway
```

Related Commands

management ip address

17.7 service telnet enable

Use this command to set service telnet enable.

Use the no form of this command to set service telnet disable.

Command Syntax

service telnet enable

no service telnet enable

Command Mode

Global Configuration

Default

Enabled

Usage

Uses this command to enable the telnet service.

Examples

The following example set telnet service enable for the switch.

```
Switch# configure terminal
Switch(config)# service telnet enable
```

The following example set telnet service disable for the switch.

```
Switch# configure terminal
Switch(config)# no service telnet enable
Connection closed by foreign host.
```

Related Commands

telnet

17.8 service http

Use this command to set service http enable or disable or restart.

Command Syntax

service http (**enable** | **disable** | **restart**)

enable	Enable the http service
disable	Disable the http service
restart	Restart the http service

Command Mode

Global Configuration

Default

Enabled

Usage

Uses this command to enable or disable or restart http service.

Examples

The following example set http service enable for the switch.

```
Switch(config)# service http enable
```

The following example set http service disable for the switch.

```
Switch(config)# service disable
```

Related Commands

show web users

18 SYSTEM CONFIGURATION Commands

18.1 disable

To exit Privileged EXEC mode and return to user EXEC mode, enter the disable command in EXEC mode.

Command Syntax

disable

Command Mode

Privileged EXEC

Default

None

Usage

To exit Privileged EXEC mode and return to user EXEC mode, enter the disable command in EXEC mode.

The prompt for Privileged EXEC mode is “#”, for EXEC mode is “>”.

Examples

In the following example, the user enters Privileged EXEC mode using the enable command, then exits back to user EXEC mode using the disable command:

```
Switch# disable
Switch>
```

Related Commands

enable

18.2 enable

To enter Privileged EXEC mod, use the enable command in user EXEC or Privileged EXEC mode.

Command Syntax

enable

Command Mode

Privileged EXEC

Default

None

Usage

To enter Privileged EXEC mod, use the enable command in user EXEC or Privileged EXEC mode.

The prompt for Privileged EXEC mode is “#”, for EXEC mode is “>”.

Examples

In the following example, the user enters Privileged EXEC mode using the enable command. The system prompts the user for a password before allowing access to the Privileged EXEC mode. The password is not printed to the screen. The user then exits back to user EXEC mode using the disable command:

```
Switch# disable
Switch> enable
Password:
Switch#
```

Related Commands

disable

enable password

18.3 logout

To logout of the current CLI session, enter the logout command in EXEC mode.

Command Syntax

logout

Command Mode

Privileged EXEC

Default

None

Usage

To logout of the current CLI session, enter the logout command in EXEC mode.

Examples

In the following example, the user logout of the current CLI session using the logout command.

```
Switch# logout
Connection closed by foreign host.
```

Related Commands

None

18.4 reboot

To reload the operating system, use the reboot command in Privileged EXEC mode.

Command Syntax

reboot

Command Mode

Privileged EXEC

Default

None

Usage

The reboot command halts the system. Use the reboot command after configuration information is entered into a file and saved to the startup configuration.

Examples

The following example is sample dialog from the reboot command:

```
Switch# reboot
Building configuration...
Reboot system? [confirm]y
Waiting ...
% Connection is closed by administrator!
```

Related Commands

Write

18.5 show file system

Use this command to show file system information.

Command Syntax

show file system

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show file system information.

Examples

The following example is to show file system information:

```
Switch# show file system
Type      Size      Used      Free      Use%
=========================================================================
flash:/   887M      56M       827M      7%
flash:/boot 776M    360M      412M      47%
udisk:    0B        0B        0B        100%
```

Related Commands

None

18.6 show management ip address

Use this command to show management interface ip address.

Command Syntax

show management ip address

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show management interface ip address.

Examples

The following example is to show management interface ip address:

```
Switch# show management ip address
Management IP address:  10.10.39.131/23
Gateway:  0.0.0.0
```

Related Commands

management ip address

management route gateway

18.7 show startup-config

Use this command to show contents of startup configuration.

Command Syntax

show startup-config

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show contents of startup configuration.

Examples

The following example is to show contents of startup configuration:

```
Switch# show startup-config
hostname Switch
timestamp sync systime
enable password abc
!
```

```
username admin privilege 4 password admin
username test privilege 4 password test
!
!
logging server enable
!
radius-server host mgmt-if 1.1.1.1
!
tacacs-server host mgmt-if 1.1.1.2
!
tacacs-server host mgmt-if 2.1.1.1 key mykey
!
!
ntp authentication enable
!
ntp key 43 aNickKey
ntp trustedkey 43
ntp key 123 ntpkty123
!
ntp server mgmt-if 1.1.1.1
ntp server mgmt-if 10.10.25.8
ntp server mgmt-if 192.16.22.44 version 2
!
snmp-server enable
snmp-server system-contact admin@example.com
!
snmp-server view view1 included .1.2.3.4 mask f
!
snmp-server trap target-address mgmt-if 10.10.27.232 community sysname
!
snmp-server inform target-address mgmt-if 10.10.27.233 community sysname
!
management ip address 10.10.39.104/23
management route add gateway 10.10.39.254
!
port-channel load-balance hash-arithmetic crc
port-channel load-balance set vxlan-vni
port-channel load-balance set inner-dst-mac
!
ip access-list a
!
ip access-list e1
!
ip access-list aaaa
!
flow f1
!
flow f2
!
sflow enable
sflow agent ip 10.0.0.254
sflow counter interval 10
!
interface eth-0-1
```

```
 description TenGigabitEthernet
 speed 1000
 shutdown
!
interface eth-0-2
 shutdown
!
interface eth-0-3
 shutdown
 static-channel-group 10
!
interface eth-0-4
 shutdown
 static-channel-group 10
!
interface eth-0-5
 shutdown
 static-channel-group 5
!
interface eth-0-6
 shutdown
!
interface eth-0-7
 shutdown
 sflow counter-sampling enable
 sflow flow-sampling enable input
 sflow flow-sampling rate 2048
!
interface eth-0-8
 shutdown
!
interface eth-0-9
 shutdown
!
interface eth-0-10
 shutdown
!
interface eth-0-11
!
interface eth-0-12
!
interface eth-0-13
!
interface eth-0-14
!
interface eth-0-15
!
interface eth-0-16
!
interface eth-0-17
!
interface eth-0-18
!
interface eth-0-19
```

```
!
interface eth-0-20
!
interface eth-0-21
!
interface eth-0-22
!
interface eth-0-23
!
interface eth-0-24
!
interface eth-0-25
!
interface eth-0-26
!
interface eth-0-27
!
interface eth-0-28
!
interface eth-0-29
!
interface eth-0-30
!
interface eth-0-31
!
interface eth-0-32
!
interface eth-0-33
!
interface eth-0-34
!
interface agg5
 description LinkAgg5
!
interface agg10
!
tap-group tap1 1
 ingress eth-0-1 flow f1
 egress eth-0-9
!
tap-group tap2 2
 ingress eth-0-21
 egress eth-0-22
!
tap-group g1 3
 ingress eth-0-33
!
line console 0
 privilege level 4
 no line-password
 no login
line vty 0 7
 exec-timeout 35791 0
 privilege level 4
```

```
no line-password
no login
```

Related Commands

None

18.8 write

Use this command to write startup configuration.

Command Syntax

write

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to write startup configuration.

Examples

```
The following example is to write startup configuration:
Switch# write
[OK]
```

Related Commands

show startup-config

18.9 boot system flash

To specify the system image that the switch loads at startup in flash, use the following boot system commands in Privileged EXEC mode.

Command Syntax

boot system flash *STRING*

STRING	System image file for next booting

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to specify an image to boot system.

This command will take effect after reboot.

Examples

The following example is sample dialog from the boot system command.

```
Switch# boot system flash:/boot/SecPathTAP2000A-IMW110-E6601.BIN.01
Are you sure to use flash:/boot/SecPathTAP2000A-IMW110-E6601.BIN.01 as the next boot image?
[confirm]y
Waiting ..... success
```

Related Commands

reboot

18.10 boot system tftp:

To specify the system image that the switch loads at startup in tftp, use the following boot system commands in Privileged EXEC mode.

Command Syntax

boot system tftp: mgmt-if *IP_ADDR STRING*

IP_ADDR	Server *IP*
STRING	Image file name

Command Mode

Privileged EXEC

Default

None

Usage

Management IP address in startup-config file will be used as source address when system boot via TFTP.

This command will take effect after reboot.

Examples

The following example is sample dialog from the boot system via tftp command.

```
Switch# boot system tftp: mgmt-if 10.10.38.160 SecPathTAP2000A-IMW110-E6601.BIN.01
Waiting . success
```

Related Commands

reboot

18.11 show boot

To display the current image and the image the next startup will load, use the show boot command in Privileged EXEC mode.

Command Syntax

show boot (**image**|)

image	Show the detailed information about the boot image.

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to display the current image and the image the next startup will load.

Examples

The following is sample output from the show boot command:

```
Switch# show boot
The current boot image version is: 1.10, ESS 6601
The current running image is: flash:/boot/SecPathTAP2000A-IMW110-E6601.BIN.01
The next running image is: tftp://10.10.38.160/SecPathTAP2000A-IMW110-E6601.BIN.01
```

The following is sample output from the show boot image command:

```
Switch# show boot image
Current boot image version: E580-1.10, ESS 6601
System image files list:
  Create Time          Version             File name
-----------------------+-------------------+---------------------------------
  2017-08-02 13:32:31   v5.1.4              CNOS-e580-hybrid-v5.1.4.bin
* 2017-09-21 15:43:52   v1.10, ESS 6601     SecPathTAP2000A-IMW110-E6601.BIN.01
```

Related Commands

boot system flash

boot system tftp：

18.12 show memory

Use this command to show memory with keyword.

Command Syntax

show memory (**ccs** | **cds** | **switch** | **chsm** | **appcfg** | **fea** | **authd** | **all**)

ccs	Configure center service
cds	Data center service
switch	Switch process
chsm	Chassis manage process
appcfg	Application configure process
fea	Forwarding process
authd	Authentication daemon process
all	All processes

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show memory appcfg command

```
Switch# show memory appcfg
AppCfg Memory Information:
Type   Description                 Alloc Count  Alloc Size
-------------------------------------------------------------------
0     MEM_TEMP                  : 1         8188
2     MEM_LIB_HASH              : 16        320
3     MEM_LIB_HASH_BACKET_LIST      : 16        131008
4     MEM_LIB_HASH_BACKET           : 37        444
9     MEM_LIB_SOCK_MASTER           : 1         192
10    MEM_LIB_SOCK              : 5         1280
11    MEM_LIB_SOCK_SESSION          : 7         229348
12    MEM_LIB_SOCK_DATA             : 1         16
16    MEM_LIB_SLIST             : 113       2260
17    MEM_LIB_SLISTNODE             : 57        684
22    MEM_TBL_MASTER            : 44        9788
23    MEM_TBL_INTERFACE             : 37        28416
67    MEM_TBL_SYS_GLOBAL            : 1         384
68    MEM_TBL_VERSION           : 1         768
72    MEM_TBL_CHASSIS           : 1         64
77    MEM_TBL_SYS_SPEC              : 8         3072
```

```
84   MEM_TBL_MEM_SUMMARY          : 1        28
112  MEM_TBL_SSH_CFG              : 1        48
113  MEM_TBL_SNMP_CFG             : 1        768
114  MEM_TBL_SNMP_VIEW            : 1        256
116  MEM_TBL_SNMP_TRAP            : 1        384
117  MEM_TBL_SNMP_INFORM          : 1        384
118  MEM_TBL_SYSLOG_CFG           : 1        384
119  MEM_TBL_NTP_SERVER           : 3        288
121  MEM_TBL_NTP_KEY              : 2        80
122  MEM_TBL_NTP_CFG              : 1        64
123  MEM_TBL_NTP_IF               : 1        8
124  MEM_TBL_NTP_IF               : 1        256
125  MEM_TBL_USER                 : 2        1536
126  MEM_TBL_VTY                  : 8        32736
127  MEM_TBL_CONSOLE              : 1        768
128  MEM_TBL_AUTHEN               : 1        192
129  MEM_TBL_LOGIN                : 3        1152
161  MEM_TBL_LOG_GLOBAL           : 1        12
163  MEM_TBL_SYS_LOAD             : 1        32
165  MEM_TBL_CLOCK                : 1        40
177  MEM_TBL_OPM_GLOBAL           : 1        4
180  MEM_TBL_OPM_DEBUG            : 1        4
194  MEM_TBL_DOT1X_GLOBAL         : 1        768
198  MEM_TBL_ENABLE               : 4        3072
199  MEM_TBL_CHIP                 : 1        4
201  MEM_TBL_AUTHOR               : 1        192
202  MEM_TBL_ACCOUNT              : 1        192
203  MEM_TBL_ACCOUNTCMD           : 1        192
229  MEM_TBL_SFLOW_GLOBAL         : 1        48
234  MEM_DS_BRGIF                 : 36       27648
235  MEM_DS_LAG                   : 5        80
245  MEM_DS_ACLQOS_IF             : 3        3072
247  MEM_DS_DHCLIENT_IF           : 36       9216
262  MEM_PM_TEMP                  : 1        4092
263  MEM_PM_LIB_MASTER            : 1        1024
```

Related Commands

show memory summary

18.13 show memory summary

Use this command to show the summary of memory states.

Command Syntax

show memory summary total

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is sample output from the show memory summary command

```
Switch# show memory summary total
Total memory      : 940428 KB
Used memory       : 259228 KB
Freed memory      : 681200 KB
Buffer memory     : 0 KB
Cached memory     : 125848 KB
Memory utilization: 27.56%
```

Related Commands

show memory

18.14 show cpu utilization

Use this command to show utilizations of cpu.

Command Syntax

show cpu utilization

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show utilizations of cpu.

Examples

The following is sample output from the show cpu utilization command:

```
Switch# show cpu utilization
Process            Usage(%)
--------------------+----------
python              3.42
fea               2.62
switch             0.20
appcfg             0.10
cds               0.10
snmpd              0.10
ccs               0.10
kworker            0.10
Others             5.55
-------------------------------
Total             12.29
```

Related Commands

None

18.15 terminal length

Use this command to set number of terminal lines on a screen. Range is 0 to 512.

Use the no form of this command to restore the default value.

Command Syntax

terminal length *TERM_LINES*

terminal no length

TERM_LINES	Number of lines on screen (0 for no pausing)

Command Mode

Privileged EXEC

Default

0 (no pausing)

Usage

None

Examples

The following is sample to set terminal length lines:

```
Switch# terminal length 100
```

The following is sample to unset terminal length lines:

```
Switch# terminal no length
```

Related Commands

None

18.16 terminal monitor

To copy debug output to the current terminal line, use the terminal monitor command in Privileged EXEC mode.

To close the debug output to the current terminal line, use the no form of this command.

Command Syntax

terminal monitor

terminal no monitor

Command Mode

Privileged EXEC

Default

Debug output to the current terminal line is closed

Usage

To copy debug output to the current terminal line, use the terminal monitor command in Privileged EXEC mode.

To close the debug output to the current terminal line, use the no form of this command.

Examples

The following is sample output from the terminal monitor command:

```
Switch# terminal monitor
```

The following is sample close the debug output to the current terminal line:

```
Switch# terminal no monitor
```

Related Commands

debug aaa

debug sflow

18.17 cd

Change the current directory to dir, use the cd command in EXEC mode.

Command Syntax

cd (*STRING*|)

STRING	Directory name

Command Mode

Privileged EXEC

Default

The initial default file system is flash:. If you do not specify a directory on a file system, the default is the root directory on that file system.

Usage

Change the current directory to dir, use the cd command in EXEC mode.

Examples

In the following example, the cd command is set the flash:/boot file system to the Flash memory:

```
Switch# cd flash:/boot
Switch# pwd
flash:/boot
```

Related Commands

Pwd

18.18 mkdir

To create a new directory in a Flash file system, use the mkdir command in EXEC mode.

Command Syntax

mkdir *STRING*

STRING	Directory name or file name

Command Mode

Privileged EXEC

Default

None

Usage

This command is valid only for local file systems.

Examples

The following example creates a directory named newdir in Flash.

```
Switch# mkdir flash:/newdir
```

Related Commands

rmdir

dir

18.19 rmdir

To remove an existing directory in a Flash file system or udisk device, use the rmdir command in Privileged EXEC mode.

Command Syntax

rmdir *STRING*

STRING	Directory name or file name

Command Mode

Privileged EXEC

Default

None

Usage

This command is valid only for local file systems.

Examples

The following example deletes a directory named newdir.

```
Switch# rmdir flash:/newdir
Are you sure to delete flash:/newdir ? [no]y
```

Related Commands

mkdir

18.20 pwd

Use this command to print working directory.

Command Syntax

pwd

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to print working directory.

Examples

The following example print current working directory:

```
Switch# pwd
flash:/
```

Related Commands

cd

18.21 ls

To display a list of files on a file system, use the ls command in EXEC mode.

Command Syntax

ls (**flash:** | **flash:/boot** | **udisk:** |) (*STRING* |)

flash:	File system on the flash
flash:/boot	File path “flash:/boot”
udisk:	USB storage devices
STRING	Directory name or file name

Command Mode

Privileged EXEC

Default

None

Usage

Use the ls (Flash file system) command to display flash information.

Examples

The following is sample output from the ls command.

```
Switch# ls
Directory of flash:/

total 3196
-rw-r--r-- 1    1371 May 31 22:32 001E080BE6C2.1.lic
-rwxr-xr-x 1  295938 Aug 15 10:26 AQR-G2_v3.2.5_ID19866_VER537.cld
-rw-r--r-- 1   39861 Jul  5 15:07 E580_48X2Q4Z_EPLD-4.1_0410_POWERDOWN.tar.gz
drwxr-xr-x 2    2464 Sep 22 14:41 boot
drwxr-xr-x 7     760 Aug 15 10:26 cold
drwxr-xr-x 3    1016 Sep 22 14:42 conf
-rw-r--r-- 1     147 Aug 15 10:31 dhcpsnooping
-rw------- 1     151 Aug 15 10:31 dhcpv6snooping
drwxr-xr-x 2     728 Sep  4 20:53 info
-rw-r--r-- 1     909 Jul 18 13:30 init_flow
-rw-r--r-- 1    3181 Aug 15 10:09 jinl_astp
drwxr-xr-x 3     224 Aug 10 11:25 lib
```

```
-rw-r--r-- 1    2180 Jul 13 16:09 liujy_lab.conf
drwxr-xr-x 2     288 Jul  1  2016 log
drwxr-xr-x 7     488 Aug 23  2016 monitor
drwxr-xr-x 2     232 May  2 19:03 reboot-info
-rw-r--r-- 1   11963 Mar 30 18:21 route.txt
-rw-r--r-- 1    2624 Sep 22 14:41 startup-config.conf
-rw------- 1   13686 Apr 10 18:57 startup-config.conf.2017-4-10
-rw-r--r-- 1    1314 May  4 18:48 startup-config.conf.empty
-rw-r--r-- 1    1694 Apr 21 17:40 startup-config.conf_0421
-rwxr-xr-x 1 1015068 Mar 18  2017 stressapptest
-rw-r--r-- 1 1155521 Sep 22 15:56 syslog
drwxr-xr-x 2    4192 Sep 12 06:09 syslogfile

Total 887.00M bytes (875.00M bytes free)
```

Related Commands

Dir

18.22 copy running-config

To copy current device configuration to other files, use this command in EXEC mode.

Command Syntax

copy running-config (**mgmt-if** |) (*STRING* |)

mgmt-if	Need to connect to the URL via management interface
STRING	Copy to URL and local file name

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to copy current running-config to destination file.

Examples

Switch# copy running-config flash:/current-config.conf

```
flash:/current-config.conf
[OK]
```

Related Commands

delete

18.23 copy startup-config

Use this command to copy startup-config to tftp server or dest file.

Command Syntax

copy startup-config (**mgmt-if** |) (*STRING* |)

mgmt-if	Need to connect to the URL via management interface
STRING	Copy to URL and local file name

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This is a sample output from the command displaying how to copy startup-config to tftp server.

```
Switch# copy startup-config mgmt-if tftp://10.10.38.160/
TFTP server [10.10.38.160]
```

```
Name of the TFTP file to access [] startup-config
Send file to tftp://10.10.38.160/startup-config
.
Sent 2337 bytes in 0.0 seconds
```

Related Commands

delete

18.24 copy mgmt-if

Use this command to copy file from tftp server to local.

Command Syntax

copy mgmt-if *SRC_STRING DST_STRING*

SRC_*STRING*	Copy from URL
DST_*STRING*	Copy to local file

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to copy file from tftp server to local.

Examples

This is a sample output from the command displaying how to copy file from tftp server to local.

```
Switch# copy mgmt-if tftp://10.10.38.160 flash:/boot
TFTP server [10.10.38.160]
Name of the TFTP file to access [] collections.py
Download from URL to temporary file.
Get file from tftp://10.10.38.160/collections.py
.
```

```
Received 25403 bytes in 0.2 seconds
Copy the temporary file to its destination.
.
File system synchronization. Please waiting...
25403 bytes in 0.1 seconds, 248 kbytes/second
```

Related Commands

delete

18.25 copy

Use this command to copy file from local file to tftp server or local.

Command Syntax

copy SRC_*STRING* **mgmt-if** DST_*STRING*

SRC_*STRING*	Copy from URL
DST_*STRING*	Copy to local file

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

This is a sample output from the command displaying how to copy file from local file to tftp server.

```
Switch# copy flash:/startup-config.conf mgmt-if tftp://10.10.38.160
TFTP server [10.10.38.160]
Name of the TFTP file to access [] startup-config.conf
Send file to tftp://10.10.38.160/startup-config.conf
.
```

```
Sent 2177 bytes in 0.1 seconds
```

Related Commands

delete

18.26 more

To display the contents of a file, use the more command in EXEC mode.

Command Syntax

more *STRING*

STRING	Text file name

Command Mode

Privileged EXEC

Default

None

Usage

The system can only display a file in ASCII format.

Examples

The following partial sample output displays the configuration file named startup-config in flash.

```
Switch# more flash:/startup-config.conf
```

Related Commands

dir

18.27 delete

To delete a file on the flash, use the delete command in Privileged EXEC mode.

Command Syntax

delete *STRING*

STRING	File name for delete

Command Mode

Privileged EXEC

Default

None

Usage

If you attempt to delete the configuration file or image, the system prompts you to confirm the deletion.

Examples

The following example deletes the file named test from the flash:

```
Switch# delete flash:/test
Are you sure to delete flash:/test? [no]y
```

Related Commands

copy

18.28 rename

To rename a file in a Class C Flash file system or udisk device, use the rename command in EXEC mode.

Command Syntax

rename *OLD_STRING NEW_STRING* Command Mode

Privileged EXEC

Default

None

Usage

This command is valid only for local file systems.

Examples

In the following example, the file named startup-config.conf-bak is renamed startup-config.conf-bak1.

```
Switch# rename flash:/startup-config.conf-bak flash:/startup-config.conf-bak1
Are you sure to rename flash:/startup-config.conf-bak ? [confirm]y
.
File system synchronization. Please waiting...
1061 bytes in 0.1 seconds, 10 kbytes/second
```

Related Commands

ls

18.29 source

Read and execute commands from filename in the shell environment.

Command Syntax

source *STRING*

STRING	Configuration file

Command Mode

Privileged EXEC

Default

None

Usage

None

Examples

The following is show how to source commands from a file:

```
Switch# source flash:/bash_shutdown.txt
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# interface range eth-0-5 - 7
Switch(config-if-range)# shutdown
Switch(config-if-range)# end
Switch#
```

Related Commands

None

19 DEVICE Commands

19.1 show version

To display the version information of the hardware and firmware, use the show version command in EXEC mode.

Command Syntax

show version

Command Mode

Privileged EXEC

Default

None

Usage

This command can display the version information of the hardware and firmware.

Examples

This example shows how to display version information of the hardware and firmware.

```
Switch# show version
FS i-Ware Software, Version 1.10, ESS 6601 01
Copyright(C) 2004-2017 New FS Technologies Co., Ltd. All rights Reserved
FS SecPath FW uptime is 0 weeks, 1 day, 1 hours, 16 minutes

Boot image: flash:/boot/SecPathTAP2000S-IMW110-E6601.BIN
Boot image version: 1.10, ESS 6601 01
Next running image : flash:/boot/SecPathTAP2000S-IMW110-E6601.BIN

SLOT 1
Hardware Type       : CTC8096(GoldenGate) based switch
```

```
SDRAM size          : 2048M
Flash size          : 2048M
Hardware Version    : 1.2
EPLD Version        : 2.1
BootRom Version     : 6.1.1
System serial number : E101ZB142025
```

Related Commands

None

19.2 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.

Command Syntax

show stm prefer (**current** | **next** | **default**)

current	Current profile information
next	Next profile information
default	Balance on all kinds of tables size

Command Mode

Privileged EXEC

Default

None

Usage

The numbers displayed for each profile represent an approximate maximum number for each feature resource. Use this command to show the default balance on all kinds of tables size.

Examples

This is an example of output from the show stm prefer current command,:

```
Switch# show stm prefer current
```

```
number of tap group                  : 1/512
number of tap trunction              : 0/4
number of link aggregation(static)       : 0/31
number of Flow features:
  Flow entry ingress entries         : 0/1024
  Flow entry egress entries          : 0/255
  System Flow configure              : 2/4096
  System Flow entry configure          : 0/8192
  System L4 Port Range entries         : 0/7
```

Related Commands

stm prefer

19.3 show environment

Use this command to show the hardware environment information.

Command Syntax

show environment

Command Mode

Privileged EXEC

Default

None

Usage

This command only can show the hardware environment information.

Examples

This example shows how to display hardware environment information.

```
Switch# show environment
Fan tray status:
Index    Status     SpeedRate   Mode
---------+----------+-----------+-----------
1-1      OK         60%         AUTO
1-2      OK         60%         AUTO
```

```
1-3      OK        60%       AUTO

Power status:
Index    Status     Power      Type       Alert
---------+----------+----------+----------+----------
1        PRESENT    OK         AC         NO
2        ABSENT     -          -          -

Sensor status (Degree Centigrade):
Index    Temperature  Lower_alarm  Upper_alarm  Critical    Position
---------+------------+------------+------------+-----------+-----------
1        56         5          65         80          AROUND_CPU
```

Related Commands

temperature

19.4 show clock

Use this command to show the clock information.

Command Syntax

show clock

Command Mode

Privileged EXEC

Default

None

Usage

The show clock command can get the clock information.

Examples

This example shows how to display clock information.

```
Switch# show clock
05:29:55 Beijing Wed Sep 27 2017
Time Zone(Beijing) : UTC+08:00:00
```

Related Commands

clock set datetime

clock set timezone

19.5 show transceiver

Use this command to show the transceiver information.

Command Syntax

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

IF_NAME_E	Ethernet interface name
detail	Show detailed information

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show the interface transceiver information, or the transceiver detail information.

Examples

This example shows how to display transceiver information.

```
Switch# show transceiver detail

Port eth-0-17 transceiver info:
Transceiver Type: 1000BASE-T_SFP
 Transceiver Vendor Name : INNOLIGHT
 Transceiver PN          : TC-SORJZ-N00
 Transceiver S/N         : IN0912SZ01025C
Transceiver Output Wavelength: N/A
Supported Link Type and Length:
```

```
    Link Length for copper: 100 m
Digital diagnostic is not implemented.

Port eth-0-21 transceiver info:
Transceiver Type: 1000BASE-SX
 Transceiver Vendor Name : FINISAR CORP.
 Transceiver PN         : FTLF8519P3BTL
 Transceiver S/N        : PPB2DL1
Transceiver Output Wavelength: 850 nm
Supported Link Type and Length:
    Link Length for 50/125um multi-mode fiber: 300 m
    Link Length for 62.5/125um multi-mode fiber: 150 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-0-21    32.92           110.00      93.00       -30.00      -40.00
--------------------------------------------------------------------------------
                    High Alarm  High Warn   Low Warn    Low Alarm
          Voltage         Threshold   Threshold   Threshold   Threshold
Port        (Volts)         (Volts)     (Volts)     (Volts)     (Volts)
--------------+---------------+-----------+-----------+-----------+----------
eth-0-21    3.29            3.60        3.50        3.10        3.00
--------------------------------------------------------------------------------
                    High Alarm  High Warn   Low Warn    Low Alarm
          Current         Threshold   Threshold   Threshold   Threshold
Port        (milliamperes)  (mA)        (mA)        (mA)        (mA)
--------------+---------------+-----------+-----------+-----------+----------
eth-0-21    6.53            13.00       12.50       2.00        1.00
--------------------------------------------------------------------------------
          Optical         High Alarm  High Warn   Low Warn    Low Alarm
          Transmit Power  Threshold   Threshold   Threshold   Threshold
Port        (dBm)           (dBm)       (dBm)       (dBm)       (dBm)
--------------+---------------+-----------+-----------+-----------+----------
eth-0-21    -5.08           0.00        -3.00       -9.50       -13.50
--------------------------------------------------------------------------------
          Optical         High Alarm  High Warn   Low Warn    Low Alarm
          Receive Power   Threshold   Threshold   Threshold   Threshold
Port        (dBm)           (dBm)       (dBm)       (dBm)       (dBm)
--------------+---------------+-----------+-----------+-----------+----------
eth-0-21    -6.68           0.50        -1.00       -16.99      -21.02
```

Related Commands

None

19.6 show system summary

Use this command to show the summary of system information.

Command Syntax

show system summary

Command Mode

Privileged EXEC

Default

None

Usage

This command to show the summary of system information.

Examples

This example shows how to display the summary of system information.

```
Switch# show system summary
########## Version Table ##########
FS i-Ware Software, Version 1.10, ESS 6601 01
Copyright(C) 2004-2017 New FS Technologies Co., Ltd. All rights Reserved
FS SecPath FW uptime is 0 weeks, 0 day, 0 hours, 52 minutes

Boot image: flash:/boot/SecPathTAP2000A-IMW110-E6601.BIN.03
Boot image version: 1.10, ESS 6601 01
Next running image : flash:/boot/SecPathTAP2000A-IMW110-E6601.BIN.03

SLOT 1
Hardware Type       : CTC5160(GreatBelt) based switch
SDRAM size          : 1024M
Flash size          : 2048M
Hardware Version    : 2.0
EPLD Version        : 1.2
BootRom Version     : 8.1.3
System serial number : E142GD16107A
########## Management IP Table ##########
Management IP address:  10.10.39.104/23
Gateway:  10.10.39.254
########## Route Mac Table ##########
 Route MAC is: 001e.080b.e6c2
```

```
########## Users Table ##########
 Line         Host(s)   Idle      Location       User
--------------+----------+----------+---------------+----------
 130 vty  0    idle      00:51:05   Local
 131 vty  1    idle      00:50:30   10.10.25.25
*132 vty  2    idle      00:00:00   10.10.25.25
########## Memory Summary Table ##########
Total memory     : 940428 KB
Used memory      : 260220 KB
Freed memory     : 680208 KB
Buffer memory    : 0 KB
Cached memory    : 125840 KB
Memory utilization: 27.67%
```

Related Commands

None

19.7 show reboot-info

Use this command to show reboot information.

Command Syntax

show reboot-info

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show reboot information.

Examples

The following example shows how to display reboot information:

```
Switch# show reboot-info
Times     Reboot Type     Reboot Time
```

```
----------+---------------+--------------------
1         MANUAL          2017-06-27 06:46:19
2         MANUAL          2017-06-28 02:12:28
3         MANUAL          2017-06-30 08:34:57
4         MANUAL          2017-07-05 09:45:01
5         MANUAL          2017-07-13 08:12:08
6         POWER          2017-07-23 09:47:32
7         POWER          2017-07-30 05:47:48
8         POWER          2017-07-30 08:37:03
9         POWER          2017-08-03 02:14:48
10        MANUAL          2017-08-03 12:07:06
11        MANUAL          2017-08-05 03:41:58
12        MANUAL          2017-08-05 06:30:18
13        BHMDOG          2017-08-05 16:48:30
14        POWER          2017-08-10 03:19:47
15        MANUAL          2017-08-10 03:27:31
16        MANUAL          2017-08-10 03:34:27
17        UNKNOWN          2017-08-11 06:48:21
18        MANUAL          2017/08/15 02:13:55
19        POWER          2017/08/15 02:22:21
20        MANUAL          2017/08/15 02:26:27
21        MANUAL          2017/08/15 02:29:39
22        MANUAL          2017/08/15 02:32:37
23        MANUAL          2017/08/15 02:35:11
24        POWER          2017-08-15 07:51:14
25        MANUAL          2017-08-15 08:19:48
26        UNKNOWN          2017-08-15 08:40:01
27        MANUAL          2017-08-15 08:44:19
28        MANUAL          2017-08-16 03:43:38
29        MANUAL          2017-08-17 07:00:46
30        MANUAL          2017-08-18 07:23:43
31        POWER          2017-09-12 02:34:24
32        UNKNOWN          2017-09-12 05:56:16
33        POWER          2017-09-12 07:17:19
34        POWER          2017-09-12 07:22:47
35        ABNORMAL          2017-09-12 07:31:32
36        MANUAL          2017-09-12 07:44:43
37        MANUAL          2017-09-12 07:50:12
38        MANUAL          2017-09-12 07:57:50
39        MANUAL          2017-09-19 13:07:38
40        POWER          2017-09-20 10:07:18
41        MANUAL          2017-09-20 10:26:10
42        ABNORMAL          2017-09-21 06:38:38
43        MANUAL          2017-09-21 06:50:39
44        MANUAL          2017-09-21 07:13:14
45        MANUAL          2017-09-21 07:36:41
46        MANUAL          2017-09-21 07:47:01
47        MANUAL          2017-09-21 13:05:42
48        MANUAL          2017-09-22 06:42:49
49        MANUAL          2017-09-26 11:48:08
50        MANUAL          2017-09-26 13:03:57
```

Related Commands

clear reboot-info

19.8 clear reboot-info

Use this command to clear reboot information.

Command Syntax

clear reboot-info

Command Mode

Privileged EXEC

Default

None

Usage

The clear reboot-info command can clear reboot information.

Examples

The following example shows how to clear reboot information:

```
Switch# clear reboot-info
```

Related Commands

show reboot-info

19.9 set device id-led

Use this command to set the device indicate led force on or force off.

Command Syntax

set device id-led (**on**| **off**)

on	Turn on the led
off	Turn off the led

Command Mode

Privileged EXEC

Default

None

Usage

The command can set device indicate led force on or force off.

Examples

The following example shows how to set device indicate led force on:

```
Switch# set device id-led on
```

Related Commands

show device id-led

19.10 show device id-led

Use this command to show device indicate led information.

Command Syntax

show device id-led

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show device indicate led information.

Examples

The following example shows the device indicates led information:

```
Switch# show device id-led
Indicate led is forced on
```

Related Commands

set device id-led

19.11 show schedule reboot

Use this command to show schedule reboot information.

Command Syntax

show schedule reboot

Command Mode

Privileged EXEC

Default

None

Usage

Use this command to show schedule reboot information.

Examples

The following example shows schedule reboot information:

```
Switch# show schedule reboot
Current time is : 2017-09-26 22:14:49
Will reboot at  : 2017-09-26 23:48:44
```

Related Commands

schedule reboot delay

schedule reboot at

19.12 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.

Command Syntax

stm prefer default

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 default profile on the switch:

```
Switch(config)# stm prefer default
% Changes to STM profile have been stored, but cannot take effect until the next reload. Use 'show stm prefer current' to see what STM profile is currently active.
```

Related Commands

show stm prefer current

show stm prefer next

19.13 temperature

Use this command to specify the system temperature monitor threshold.

Use the no form of this command to restore the default value.

Command Syntax

temperature *TEMP_LOW TEMP_HIGH TEMP_CRIT*

no temperature

TEMP_LOW	Low alarm temperature degree Celsius, range -15 to 50
TEMP_HIGH	High alarm temperature degree Celsius, range 50 to 85
TEMP_CRIT	Critical temperature degree Celsius, range 55 to 90

Command Mode

Global Configuration

Default

The default threshold is low temperature 5, high temperature 65, and critical temperature 80.

Usage

The unit for temperature is centigrade. The critical temperature must higher than high temperature 5 Celsius degrees. The high temperature must higher than low temperature 5 Celsius degrees.

Examples

This example shows how to specify the temperature thresholds:

```
Switch(config)# temperature 5 70 80
```

This example shows how to specify the temperature thresholds to default value:

```
Switch(config)# no temperature
```

Related Commands

show environment

19.14 clock set datetime

Use this command to set system current date and time on the Switch.

Command Syntax

clock set datetime *ABS_TIME CLOCK_MONTH ABS_DAY ABS_YEAR*

ABS_TIME	Current time
CLOCK_MONTH	Month of the year
ABS_DAY	Day of the month
ABS_YEAR	Year

Command Mode

Global Configuration

Default

The default time is based from UTC.

Usage

If no other source of time is available, you can manually configure the time and date after the system is restarted. The time remains accurate until the next system restart. We recommend that you use manual configuration only as a last resort. If you have an outside source to which the switch can synchronize, you do not need to manually set the system clock.

Examples

This example shows how to manually set the system clock

```
Switch(config)# clock set datetime 22:43:23 9 26 2017
```

Related Commands

show clock

19.15 clock set timezone

Use this command to set timezone.

Use the no form of this command to restore the default value.

Command Syntax

clock set timezone *Z_NAME* (**add** | **minus**) *TZ_HOURS* (*TZ_MIN* (*TZ_SEC* |) |)

no clock set timezone

Z_NAME	Zone name, must be less than 32 characters
add	Specify the time offset is positive from UTC
minus	Specify the time offset is negative from UTC
TZ_HOURS	Hours offset from *UTC,* must be range 0~23
TZ_MIN	Minutes offset from *UTC,* must be range 0~59
TZ_SEC	Seconds offset from *UTC,* must be range 0~59

Command Mode

Global Configuration

Default

None

Usage

None

Examples

This example shows how to set the clock timezone :

```
Switch(config)# clock set timezone Beijing add 8
```

This example shows how to recover the clock timezone :

```
Switch(config)# no clock set timezone
```

Related Commands

show clock

19.16 update bootrom

Use this command to upgrade bootrom image.

Command Syntax

update bootrom *STRING*

STRING	Source file direction

Command Mode

Global Configuration

Default

None

Usage

This command can upgrade bootrom image.

Examples

This example shows how to update bootrom image:

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

Related Commands

reboot

19.17 split interface

Use the command to split physic port to 10G ports or 40G ports.

Use the no form of this command to set the interface to un-split the physic port.

Command Syntax

split interface *IF_NAME_E* (**10giga** | **40giga**)

no split interface *IF_NAME_E*

IF_NAME_E	Interface name
10giga	Split to 10G port
40giga	Split to 40G port

Command Mode

Global Configuration

Default

None

Usage

Need to save configuration and reboot to make this command take effect.

Examples

The following example shows how to split interface to four 10G port:

```
Switch(config)# split interface eth-0-34 10giga
Notice: Configuration of split interface should be writen in startup-config, and take effect at next reload
```

Related Commands

reboot

19.18 schedule reboot at

Use this command to set schedule reboot at a time.

Use the no form of this command to cancel the schedule.

Command Syntax

schedule reboot at *HOUR_MIN* (*YEAR_MON_DAY*|)

no schedule reboot

HOUR_MIN	Specify the hour and minute
YEAR_MON_DAY	Specify the date for current year, year range is [2000, 2037]

Command Mode

Global Configuration

Default

None

Usage

The reboot time could select time with format HH:MM, and optional date with format YYYY/MM/DD or MM/DD/YYYY or MM/DD.

Examples

The following example shows how to set schedule reboot at a time:

```
Switch(config)# schedule reboot at 10:20 2016/10/2
```

Related Commands

show schedule reboot

19.19 schedule reboot delay

Use this command to set schedule reboot after a time.

Command Syntax

schedule reboot delay *DELAY_TIME*

no schedule reboot

DELAY_TIME	Specify the delay time

Command Mode

Global Configuration

Default

None

Usage

The reboot delay time could select be format HH:MM, or minutes in range of [1,720].

Examples

The following example shows how to set schedule reboot after a time:

```
Switch(config)# schedule reboot delay 100
```

Related Commands

show schedule reboot