PacketMAX™

Advanced Features

Command Line (CLI) Reference Guide

AF40G24AC

Garland Technology: Advanced Features System
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Table of Contents

Revision History **13**

1 Preface **14**

1.1 Declaration 14

1.2 Suggestion feedback 14

1.3 Audience 14

1.4 Conventions 14

2 INTERFACE Commands **16**

2.1 interface range 16

2.2 interface 17

2.3 shutdown 18

2.4 description 19

2.5 speed 20

2.6 duplex 22

2.7 unidirectional 23

2.8 fec 24

2.9 static-channel-group 25

2.10 media-type 27

2.11 show management interface 28

2.12 show interface 29

2.13 show interface summary 30

2.14 show interface status 31

2.15 show interface description 33

2.16 clear counters 34

2.17 crc-check 35

2.18 crc-recalculation 37

2.19 show this 38

3 ErrDisable Commands 39

3.1 errdisable detect 39

3.2 errdisable recovery interval 40

3.3 errdisable recovery reason 41

3.4 errdisable flap 42

3.5 show errdisable detect 43

3.6 show errdisable recovery 44

3.7 show errdisable flap 45

4 FLOW Commands 47

4.1 show interface flow statistics 47

4.2 clear interface flow statistics 48

4.3 show flow 50

4.4 flow 51

4.5 remark 52

4.6 no sequence-num 53

4.7 sequence-num 54

5 UDF Commands 73

5.1 show udf 73

5.2 udf 74

5.3 match 75

5.4 offset 76

6 PORT-GROUP Commands 78

6.1 port-group 78

6.2 member interface 79
6.3 show port-group 80
6.4 show port-group flow statistics 81
7 INNER-MATCH Commands 83
7.1 show inner-match 83
7.2 inner-match 84
7.3 remark 86
7.4 no sequence-num 87
7.5 sequence-num 88
8 ACL Commands 99
8.1 show interface egress ip access-list 99
8.2 clear interface egress ip access-list 100
8.3 show ip access-list 101
8.4 ip access-list 102
8.5 remark 103
8.6 no sequence-num 104
8.7 sequence-num 105
9 TAP Commands 118
9.1 tap-group 118
9.2 description 119
9.3 ingress 120
9.4 egress 124
9.5 show tap-group 125
10 TIMESTAMP Commands 127
10.1 timestamp-over-ether 127
10.2 show timestamp sync 128

10.3 timestamp sync 129

11 TRUNCATION Commands 131

11.1 truncation 131

12 SSH Commands 133

12.1 ssh 133

12.2 ip ssh server enable 134

12.3 ip ssh server disable 135

12.4 ip ssh server version 136

12.5 ip ssh server authentication-retries 137

12.6 ip ssh server authentication-timeout 138

12.7 ip ssh server authentication-type 139

12.8 ip ssh server rekey-interval 140

12.9 ip ssh server host-key 141

12.10 ip ssh server port 143

12.11 show ip ssh server status 144

13 LACP Commands 145

13.1 port-channel load-balance-mode 145

13.2 port-channel load-balance hash-arithmetic 146

13.3 port-channel load-balance set 147

13.4 port-channel load-balance tunnel-hash-mode 150

13.5 port-channel load-balance 151

13.6 show channel-group 152

13.7 show channel-group interface 155

13.8 show port-channel load-balance 156

14 NTP Commands 158

14.1 ntp minimum-distance 158

14.2 ntp server 159
14.3 ntp authentication 160
14.4 ntp key 161
14.5 ntp trustedkey 162
14.6 show ntp 164
14.7 show ntp status 165
14.8 show ntp statistics 166
14.9 show ntp associations 167
14.10 show ntp key 168
14.11 clear ntp statistics 169
15 NETWORK DIAGNOSIS Commands 170
15.1 ping 170
15.2 traceroute 171
16 SYSLOG Commands 173
16.1 logging sync 173
16.2 logging buffer 174
16.3 logging file 175
16.4 logging level file 176
16.5 logging level module 177
16.6 logging timestamp 179
16.7 logging server 180
16.8 logging server severity 181
16.9 logging server facility 183
16.10 logging server address 184
16.11 logging merge 186
16.12 show logging 187

16.13 show logging buffer 188
16.14 show logging buffer statistics 190
16.15 show logging levels 191
16.16 show logging facilities 192
16.17 clear logging buffer 193

17 SNMP Commands 194

17.1 show snmp 194
17.2 show snmp-server version 195
17.3 show snmp-server community 196
17.4 show snmp-server engineID 197
17.5 show snmp-server sys-info 198
17.6 show snmp-server trap-receiver 199
17.7 show snmp-server inform-receiver 200
17.8 show snmp-server view 201
17.9 snmp-server enable 202
17.10 snmp-server engineID 203
17.11 snmp-server system-contact 204
17.12 snmp-server system-location 205
17.13 snmp-server version 206
17.14 snmp-server view 208
17.15 snmp-server community 209
17.16 snmp-server trap enable 211
17.17 snmp-server trap target-address 212
17.18 snmp-server trap delay linkup 213
17.19 snmp-server trap delay linkdown 215
17.20 snmp-server inform target-address 216
17.21 snmp-server access-group 217

18 AUTH Commands **219**

18.1 show usernames 219

18.2 show users 220

18.3 show web users 221

18.4 show privilege 221

18.5 clear line console 0 222

18.6 clear line vty 223

18.7 clear web session 224

18.8 show console 225

18.9 show vty 226

18.10 show rsa keys 227

18.11 show rsa key 228

18.12 show key config 230

18.13 show key string 231

18.14 show tacacs 232

18.15 show aaa status 233

18.16 show aaa privilege mapping 234

18.17 show aaa method-lists 235

18.18 line console 237

18.19 line vty 237

18.20 line vty maximum 238

18.21 rsa key generate 239

18.22 rsa key import 241

18.23 rsa key export 242

18.24 rsa key 244

18.25 reset 245

18.26 key type 246

18.27 key format 247
18.28 key string end 248
18.29 validate 249
18.30 KEYLINE 250
18.31 re-activate radius-server 251
18.32 show radius-server 252
18.33 radius-server host 253
18.34 radius-server deadtime 254
18.35 radius-server retransmit 255
18.36 radius-server timeout 257
18.37 radius-server key 258
18.38 re-activate tacacs-server 259
18.39 tacacs-server host 260
18.40 username 262
18.41 username password 263
18.42 username assign 264
18.43 username privilege 265
18.44 username secret 266
18.45 re-username 267
18.46 enable password 269
18.47 enable password privilege 270
18.48 service password-encryption 271
18.49 aaa new-model 272
18.50 aaa authentication login 273
18.51 aaa authorization exec 275
18.52 aaa accounting exec 276
18.53 aaa accounting commands 278

18.54 aaa privilege mapping 279
18.55 debug aaa 280
18.56 exec-timeout 282
18.57 login 283
18.58 privilege level 284
18.59 line-password 285
18.60 stopbits 287
18.61 databits 288
18.62 parity 289
18.63 speed 290
18.64 authorization exec 291
18.65 accounting exec 293
18.66 accounting commands 294
18.67 end 295
18.68 ip access-class 296

19 SFLOW Commands 298

19.1 sflow enable 298
19.2 sflow agent 299
19.3 sflow collector 300
19.4 sflow counter interval 301
19.5 sflow counter-sampling enable 302
19.6 sflow flow-sampling rate 303
19.7 sflow flow-sampling enable 305
19.8 debug sflow 306
19.9 show sflow 307

20 GLOBAL Commands 309

20.1 show debugging 309
20.2 no debug all 310
20.3 show history 311
20.4 show running-config 312
20.5 md5sum 315
21 MANAGEMENT Commands 317
21.1 show diagnostic-information 317
21.2 show services 318
21.3 show services rpc-api 319
21.4 hostname 319
21.5 format 321
21.6 umount udisk: 322
21.7 reset factory-config 323
21.8 management ip address dhcp 323
21.9 management ip address 324
21.10 management ipv6 address 326
21.11 management route gateway 327
21.12 management ipv6 route gateway 328
21.13 service telnet enable 329
21.14 service http 330
21.15 service http port 331
21.16 service https 332
21.17 service https port 334
21.18 service rpc-api enable 335
21.19 service rpc-api auth-mode 336
21.20 certificate load pem-cert 337

22 SYSTEM CONFIGURATION Commands **339**

22.1 disable 339

22.2 enable 340

22.3 logout 341

22.4 reboot 342

22.5 show file system 343

22.6 show management ip address 344

22.7 show startup-config 345

22.8 write 348

22.9 boot system flash 349

22.10 boot system tftp: 350

22.11 show boot 351

22.12 show memory 353

22.13 show memory summary 355

22.14 show cpu utilization 356

22.15 terminal length 357

22.16 terminal monitor 358

22.17 cd 359

22.18 mkdir 360

22.19 rmdir 361

22.20 pwd 362

22.21 ls 363

22.22 copy running-config 365

22.23 copy startup-config 366

22.24 copy mgmt-if 367

22.25 copy 368

22.26 more 369

22.27 delete 370
22.28 rename 371
22.29 source 372
22.30 system min-frame check 373
22.31 banner 374
22.32 do 375

23 DEVICE Commands 378

23.1 show version 378
23.2 show stm prefer 379
23.3 show environment 380
23.4 show clock 381
23.5 show transceiver 382
23.6 show system summary 384
23.7 show reboot-info 385
23.8 clear reboot-info 387
23.9 set device id-led 388
23.10 show device id-led 389
23.11 show schedule reboot 390
23.12 stm prefer 391
23.13 temperature 392
23.14 clock set datetime 393
23.15 clock set timezone 394
23.16 update bootrom 395
23.17 split interface 396
23.18 schedule reboot at 397
23.19 schedule reboot delay 399
23.20 telnet 400

24 IPFIX Commands **402**

24.1 ipfix recorder 402

24.2 description 403

24.3 match ipv4 404

24.4 match ipv6 406

24.5 match mac 407

24.6 match transport 408

24.7 match vlan 410

24.8 match cos 411

24.9 match interface (input | output) 412

24.10 match vxlan-vni 413

24.11 match nvgre-key 414

24.12 match packet (drop | non-drop) 415

24.13 collect counter 416

24.14 collect flow 417

24.15 collect ttl 418

24.16 collect timestamp 419

24.17 ipfix exporter 420

24.18 description 422

24.19 destination 423

24.20 dscp 424

24.21 domain-id 425

24.22 template data timeout 426

24.23 flow data timeout 427

24.24 transport protocol 428

24.25 ttl 429

24.26 event flow 430

24.27 flow data flush threshold length 431
24.28 flow data flush threshold timer 432
24.29 flow data flush threshold count 433
24.30 ipfix sampler 434
24.31 description 435
24.32 1 out-of 436
24.33 ipfix monitor 437
24.34 description 438
24.35 recorder 439
24.36 exporter 440
24.37 ipfix monitor 441
24.38 ipfix global 442
24.39 flow aging 443
24.40 flow export 444
24.41 flow sampler 445
24.42 show ipfix global 446
24.43 show ipfix recorder 447
24.44 show ipfix exporter 448
24.45 show ipfix cache 449
24.46 show ipfix monitor 451
24.47 show ipfix sampler 452
24.48 clear ipfix cache monitor 453
24.49 clear ipfix cache observe-point interface 454

Revision History

Date	Version	Description
09/09/2020	3.0.6.r2	Previous release

1 Preface

1.1 Declaration

This document updates at irregular intervals because of product upgrade or other reason.

This document is for your reference only.

1.2 Suggestion feedback

If you have any questions when using our product and reading this document, please contact us:

garlandtechnology.com/support

1.1 Audience

This document is for the following audiences:

System maintenance engineers

Debugging and testing engineers

Network monitoring engineers

Field maintenance engineers

1.2 Conventions

Table 2-1 Command syntax convention table

Syntax	Description
Italic type with capital letters	Use *italic type* with capital letters for the parameters of the commands. Parameters are the parts which need to replace with the actual value.

(x|y|…)	Select one among the choices.
(x|y|…|)	Select one or none among the choices.
[x|y|…]	Select one or more among the choices. The choices can be selected repeatedly.
[x|y|…|]	Select one or more or none among the choices. The choices can be selected repeatedly.
{x|y|…}	Select one or more among the choices. The choices can be selected only once.
{x|y|…|}	Select one or more or none among the choices. The choices can be selected only once.
<x-y>	Select a number between x and y.

2 INTERFACE Commands

2.1 interface range

1 Command Purpose

Use this command to enter interface range mode, include physical port, linkagg interface.

2 Command Syntax

interface range *KLINE*

Parameter	Parameter Description	Parameter Value
KLINE	Interface range, with “,” or “-” to distinguish the interface range set.	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 Examples

The following example shows how to enter interface range eth-0-1 to eth-0-24 and shutdown these 24 interfaces:

```
Switch(config)# interface range eth-0-1 - 24
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
```

7 Related Commands

interface

2.2 interface

1 Command Purpose

Use this command to enter interface mode.

2 Command Syntax

interface *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to enter the mode. e.g.eth-0-1, agg1.	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

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

6 Examples

This example shows how to enter physical port eth-0-1:

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

This example shows how to enter aggregation interface agg10:

```
Switch(config)# interface agg10
```

7 Related Commands

interface range

2.3 shutdown

1 Command Purpose

Use this command to disable the interface manually. Use the no form of this command to enable the interface.

2 Command Syntax

shutdown

no shutdown

3 Command Mode

Interface Configuration

4 Default

No shutdown

5 Usage

None

6 Examples

The following example shows how to enter physical port eth-0-1 and disable the interface:

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

The following example shows how to enter physical port eth-0-1 and enable the interface:

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

7 Related Commands

show interface status

2.4 description

1 Command Purpose

Use this command to set the description on the interface.

And use the no form of this command to delete the description.

2 Command Syntax

description *LINE*

no description

Parameter	Parameter Description	Parameter Value
LINE	Interface description	-

3 Command Mode

Interface Configuration

4 Default

None

5 Usage

None

6 Examples

The following example shows how to set the description on the interface eth-0-1:

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

The following example shows how to remove the description on the interface eth-0-1:

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

7 Related Commands

show interface description

2.5 speed

1 Command Purpose

Use this command to set the interface speed. And use the no form of this command to restore the interface to its default speed value.

2 Command Syntax

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

no speed

Parameter	Parameter Description	Parameter Value
auto	Auto negotiation the speed of a port	-
10	Force the port speed to be 10Mb/s	-
100	Force the port speed to be 100Mb/s	-
1000	Force the port speed to be 1000Mb/s	-
2.5G	Force the port speed to be 2.5Gb/s	-
5G	Force the port speed to be 5Gb/s	-
10G	Force the port speed to be 10Gb/s	-
40G	Force the port speed to be 40Gb/s	-
100G	Force the port speed to be 100Gb/s	-

3 Command Mode

Interface Configuration

4 Default

Auto

5 Usage

For different interface, some speed value can't be set.

6 Examples

The following example shows how to set the port speed to 1000Mb/s:

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

The following example shows how to restore the port speed to default value:

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

7 Related Commands

show interface status

show interface

2.6 duplex

1 Command Purpose

Use this command to set the mode of operation for a port. And use the no form of this command set the mode of operation to default value.

2 Command Syntax

duplex (auto | full | half)

no duplex

Parameter	Parameter Description	Parameter Value
auto	Auto negotiation mode, the port should be automatically detected in full duplex or half duplex	-

	state according to the device it is connected to	
full	Full duplex mode	-
half	Half duplex mode, can only be configured on ports of 10M or 100M	-

3 Command Mode

Interface Configuration

4 Default

Auto

5 Usage

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

6 Examples

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

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

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

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

7 Related Commands

show interface status

show interface

2.7 unidirectional

1 Command Purpose

Use this command to set unidirectional function for a port.

2 Command Syntax

unidirectional (enable | disable | rx-only)

Parameter	Parameter Description	Parameter Value
enable	Enable unidirectional	-
disable	Disable unidirectional	-
rx-only	Receive only	-

3 Command Mode

Interface Configuration

4 Default

Disable

5 Usage

None

6 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
```

7 Related Commands

show interface status

show interface

2.8 fec

1 Command Purpose

Use the command to set fec function for a port. And use the no form of this command set fec function to default value.

2 Command Syntax

fec (enable | disable)

no fec

Parameter	Parameter Description	Parameter Value
enable	Enable fec	-
disable	Disable fec	-

3 Command Mode

Interface Configuration

4 Default

Disable

5 Usage

FEC is only support on 100G physical interface

6 Examples

The following example shows how to enable fec function for a port:

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

The following example shows how to disable fec function for a port:

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

7 Related Commands

show interface status

show interface

2.9 static-channel-group

1 Command Purpose

Use this command to add a port to a static channel group. And use the no form of this command to remove this port from this static channel group.

2 Command Syntax

static-channel-group *AGG_GID*

no static-channel-group

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	range is <1-55>

3 Command Mode

Interface Configuration

4 Default

None

5 Usage

The valid range of channel group id is limited by hardware and is different for each model.

6 Examples

The following example shows how to add 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
```

The following example shows how to remove interface eth-0-1 from static channel group 2:

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

7 Related Commands

show interface

2.10 media-type

1 Command Purpose

Use this command to set media type of combo port. And use the no form of this command to set media type to default.

2 Command Syntax

media-type (auto | rj45 | sfp)

no media-type

Parameter	Parameter Description	Parameter Value
auto	Automatically select media type of combo port	-
rj45	Set media type as rj45	-
sfp	Set media type as sfp	-

3 Command Mode

Interface Configuration

4 Default

Auto

5 Usage

Different media type of the combo port cannot be active at the same time.

6 Examples

The following example shows how to set media type of combo port:

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

The following example shows how to set media type of combo port to default:

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

7 Related Commands

show interface

2.11 show management interface

1 Command Purpose

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

2 Command Syntax

show management interface

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to 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)
```

7 Related Commands

show interface status

2.12 show interface

1 Command Purpose

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

2 Command Syntax

show interface (*IF_NAME* |)

Parameter	Parameter Description	Parameter Value

IF_NAME	Specify the interface name to show	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

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.

6 Examples

The following 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.080b.e6c2
  Bandwidth 1000000 kbits
  Index 1 , 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
```

7 Related Commands

show interface status

2.13 show interface summary

1 Command Purpose

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

2 Command Syntax

show interface summary (*IF_NAME* |)

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to show	-

3 Command Mode

Privileged EXEC

4 Default

none

5 Usage

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.

6 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
```

7 Related Commands

show interface

2.14 show interface status

1 Command Purpose

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

2 Command Syntax

show interface status

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following 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
```

7 Related Commands

show interface

2.15 show interface description

1 Command Purpose

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

2 Command Syntax

show interface description

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display the description on all physical and link aggregation 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
```

7 Related Commands

show interface

2.16 clear counters

1 Command Purpose

Use this command to clear the statistics information on the interfaces.

2 Command Syntax

clear counters (*IF_NAME* |)

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to clear the statistics counters.	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

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.

6 Examples

The following example shows how to clear the statistics information on all interfaces:

```
Switch# clear counters
```

The following example shows how to clear the statistics information on the interface eth-0-1:

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

7 Related Commands

show interface

2.17 crc-check

1 Command Purpose

Use this command to set CRC check function for a port.

2 Command Syntax

crc-check enable

no crc-check enable

Parameter	Parameter Description	Parameter Value
enable	crc check function enable	-

3 Command Mode

Interface Configuration

4 Default

Disable

5 Usage

None

6 Examples

The following example shows how to enable CRC check function for a port:

```
Switch# configure terminal
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# crc-check enable
```

The following example shows how to disable CRC check function for a port:

```
Switch# configure terminal
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# no crc-check enable
```

7 Related Commands

None

2.18 crc-recalculation

1 Command Purpose

Use this command to set CRC recalculation function for a port.

2 Command Syntax

crc-recalculation enable

no crc-recalculation enable

Parameter	Parameter Description	Parameter Value
enable	crc recalculation function enable	-

3 Command Mode

Interface Configuration

4 Default

enable

5 Usage

None

6 Examples

The following example shows how to enable CRC recalculation function for a port:

```
Switch# configure terminal
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# crc-recalculation enable
```

The following example shows how to disable CRC recalculation function for a port:

```
Switch# configure terminal
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# no crc-recalculation enable
```

7 Related Commands

None

2.19 show this

1 Command Purpose

Use this command to show the interface information

2 Command Syntax

show this

3 Command Mode

Interface Configuration

4 Default

None

5 Usage

None

6 Examples

The following example shows how to show interface information:

```
Switch(config-if-eth-0-1)# show this

interface eth-0-1
!
```

7 Related Commands

None

3 ErrDisable Commands

3.1 errdisable detect

1 Command Purpose

Use this command to enable link error status detection function for ports. And use the no form of this command to restore to default value.

2 Command Syntax

errdisable detect reason link-flap

no errdisable detect reason link-flap

Parameter	Parameter Description	Parameter Value
link-flap	Link oscillation detection	-

3 Command Mode

Global Configuration

4 Default

Default link-flap is enable

5 Usage

None

6 Examples

The following example shows how to enable link error status detection function for port:

```
Switch# configure terminal
Switch(config)# errdisable detect reason link-flap
```

The following example shows how to disable link error status detection function for port:

```
Switch# configure terminal
Switch(config)# no errdisable detect reason link-flap
```

7 Related Commands

show errdisable detect

3.2 errdisable recovery interval

1 Command Purpose

Use this command to set the recovery time of the link from the error state. And use the no form of this command to restore recovery time to default value.

2 Command Syntax

errdisable recovery interval *ERRDIS_RECOVER_TIMER_PARAM*

no errdisable recovery interval

Parameter	Parameter Description	Parameter Value
ERRDIS_RECOVER_TIMER_PARA	Time interval to recover from error state	range is 30-86400, unit is second

3 Command Mode

Global Configuration

4 Default

300

5 Usage

None

6 Examples

The following example shows how to set the interval for error status recovery to 100 seconds:

```
Switch# configure terminal
Switch(config)# errdisable recover interval 100
```

The following example shows how to restore the interval to default value:

```
Switch# configure terminal
Switch(config)# no errdisable recover interval
```

7 Related Commands

show errdisable recovery

3.3 errdisable recovery reason

1 Command Purpose

Use this command to enable the error recovery function for the specified reason. And use the no form of this command to disable this function.

2 Command Syntax

errdisable recovery reason link-flap

no errdisable recovery reason link-flap

Parameter	Parameter Description	Parameter Value
link-flap	Enable or disable the error recovery function for link oscillation	-

3 Command Mode

Global Configuration

4 Default

Disable

5 Usage

Use this command to enable or disable the error recovery function for the specified reason。

6 Examples

The following example shows how to enable the error recovery function for port:

```
Switch# configure terminal
Switch(config)# errdisable recover reason link-flap
```

The following example shows how to disable the error recovery function for port:

```
Switch# configure terminal
Switch(config)# no errdisable recover reason link-flap
```

7 Related Commands

show errdisable recovery

3.4 errdisable flap

1 Command Purpose

Use this command set link oscillation parameters. And use the no form of this command to restore to default setting.

2 Command Syntax

errdisable flap reason link-flap *ERRDIS_FLAP_COUNT ERRDIS_FLAP_TIME*

no errdisable flap reason link-flap

Parameter	Parameter Description	Parameter Value
ERRDIS_FLAP_COUNT	The maximum number of possible oscillations	range is 1-100

	before setting the port to errdisable	
ERRDIS_FLAP_TIME	The time of possible oscillations before setting the port to errdisable	range is 1-120

3 Command Mode

Global Configuration

4 Default

10

5 Usage

There are two parameters in link flap error detection, one is flap count, the other is flap time, if the count of flap reach the max flap count in time of flap time specified, the port will enter errdisable state.

6 Examples

The following example shows how to set link oscillation parameters:

```
Switch# configure terminal
Switch(config)# errdisable flap reason link-flap 30 40
```

The following example shows how to restore link oscillation parameters to default value:

```
Switch# configure terminal
Switch(config)# no errdisable flap reason link-flap
```

7 Related Commands

show errdisable flap

3.5 show errdisable detect

1 Command Purpose

Use this command to display whether error detection is enabled.

2 Command Syntax

show errdisable detect

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display whether error detection is enabled:

```
Switch# show errdisable detect

ErrDisable Reason        Detection status
------------------------+--------------------
link-flap                Enabled
```

7 Related Commands

errdisable detect reason

3.6 show errdisable recovery

1 Command Purpose

Use this command to display whether error recovery is enabled.

2 Command Syntax

show errdisable recovery

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to get the recovery status of all error reason. If link error is happened, it can get the recovery information.

6 Examples

The following example shows how to display whether error recovery is enabled:

```
Switch# show errdisable recovery

ErrDisable Reason        Timer status
------------------------+--------------------
link-flap                Enabled
Timer interval: 300 seconds
```

7 Related Commands

errdisable recovery interval

errdisable recovery reason

3.7 show errdisable flap

1 Command Purpose

This command is used to display parameters for link oscillation error detection.

2 Command Syntax

show errdisable flap

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to display the link oscillation error detection time, unit is second.

6 Examples

The following example shows how to display the link oscillation error detection time:

```
Switch# show errdisable flap

ErrDisable Reason Flaps      Time (sec)
-----------------+----------+----------
link-flap         10         10
```

7 Related Commands

errdisable flap

4 FLOW Commands

4.1 show interface flow statistics

1 Command Purpose

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

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
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.	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Interface name must be specified.

6 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 )
```

7 Related Commands

show flow

clear interface flow statistics

4.2 clear interface flow statistics

1 Command Purpose

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

2 Command Syntax

clear interface flow statistics *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify an interface name to clear flow statistics. This command supports	-

	physical or link aggregation interfaces.	

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Interface name must be specified.

6 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 )
```

7 Related Commands

show interface flow statistics

4.3 show flow

1 Command Purpose

Use this command to show the configuration of flow.

2 Command Syntax

show flow (*NAME_STRING* |)

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

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

flow

4.4 flow

1 Command Purpose

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

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

2 Command Syntax

flow *NAME_STRING* (type decap |)

no flow *NAME_STRING*

Parameter	Parameter Description	Parameter Value
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.	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

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.

6 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
```

7 Related Commands

show flow

4.5 remark

1 Command Purpose

Use this command to add remarks for the flow.

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

2 Command Syntax

remark *NAME_STRING*

no remark

Parameter	Parameter Description	Parameter Value
NAME_STRING	Remark string for the flow	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.

3 Command Mode

Flow Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show flow

4.6 no sequence-num

1 Command Purpose

Use this command to delete a filter from flow.

2 Command Syntax

no sequence-num *FLOW_SEQ_NUM*

Parameter	Parameter Description	Parameter Value
FLOW_SEQ_NUM	Sequence-number	1 - 65535

3 Command Mode

Flow Configuration

4 Default

None

5 Usage

None

6 Examples

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

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

7 Related Commands

show flow

sequence-num

4.7 sequence-num

1 Command Purpose

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

2 Command Syntax

(sequence-num *FLOW_SEQ_NUM* |) (permit | deny) (*PROTOCOL_NUM* | any | mpls (any | label-num (any | *MPLS_LABEL_NUM_WITHOUT_0*) (mpls-label1 (any |

FLOW_LABEL_VALUE) |) (mpls-label2 (any | *FLOW_LABEL_VALUE*) |) (mpls-label3 (any | *FLOW_LABEL_VALUE*) |)) | pppoe ppp-type (ipv4 | ipv6) | 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 | ipip | 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* | any | host *IP_ADDR*) | src-ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* | any | host *IPv6_ADDR*)) (dst-ip (*IP_ADDR IP_ADDR_WILD* | any | host *IP_ADDR*) | dst-ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* | any | host *IPv6_ADDR*)) (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* | udf udf-id *UDF_ID* (udf0 *L2_UDF_VALUE L2_UDF_VALUE_WILD* | udf1 *L2_UDF_VALUE L2_UDF_VALUE_WILD* | udf2 *L2_UDF_VALUE L2_UDF_VALUE_WILD* | udf3 *L2_UDF_VALUE L2_UDF_VALUE_WILD* |) |) (strip-inner-vxlan-header |) (inner-match *MATCH_NAME* |) (add-l2gre l2gre-sip *L2GRE_SRC_IP* l2gre-dip *L2GRE_DEST_IP* l2gre-dmac *L2GRE_DEST_MAC*

l2gre-key *L2GRE_KEY_NUM* l2gre-key-length (16 | 20 | 24 | 32) |) (add-l3gre l3gre-sip *L3GRE_SRC_IP* l3gre-dip *L3GRE_DEST_IP* l3gre-dmac *L3GRE_DEST_MAC* |)

Parameter	Parameter Description	Parameter Value
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.	1-65535
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). Specify the IP protocol number of the flow rule.
mpls (any | label-num (any | MPLS_LABEL_NUM_WITHOUT_0) (mpls-label1 (any|FLOW_LABEL_VALUE) |) (mpls-label2 (any|FLOW_LABEL_VALUE) |) (mpls-label3 (any|FLOW_LABEL_VALUE) |))	Specify the mpls label of the flow rule.	The mpls label number is 0-9.It can match 3 layers of MPLS label values at most.
pppoe ppp-type (ipv4 | ipv6)	Specify the pppoe ppp-type of the flow rule.	The ppp-type is ipv4 or ipv6.
src-port (range L4_PORT_NUM L4_PORT_NUM | eq L4_PORT_NUM | gt	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

L4_PORT_NUM | lt L4_PORT_NUM | any)		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 Specify the layer 4 source port of the inner-match 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.
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	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

	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).	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.
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.	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.	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 destination 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 inner-match rule. DSCP = Differentiated Services Code Point. Specify the DSCP in IPv4 packets value of the inner-match rule.	0-63

	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. 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	0-7
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. 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 outer vlan id can match this rule.
cos COS_ID	Specify the outer CoS value of the inner-match rule. CoS = Class of Service. Specify the outer CoS value of the inner-match rule. CoS = Class of Service.	0-7
inner-cos COS_ID	Specify the inner CoS value of the inner-match rule. CoS = Class of Service. Specify the inner CoS value of the inner-match rule. CoS = Class of Service.	0-7
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	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 |	Specify the destination mac address	Specify the destination mac address in HHHH.HHHH.HHHH

any| host FLOW_MAC_ADDR)		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	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	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	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	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.	Specify the source IPv6 address of the outgoing packets.
edit-ipv6da IPv6_ADDRESS	Specify the destination IPv6 address of the outgoing packets.	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 the 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. The strip-positon and strip-offset can not set and when the packet is	The parameter “strip-position” specifies the begging of the outer header. “l2” means begin with the layer 2 tunnel

	gre/nvgre/vxlan/ipip/mpls/ppoe.	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. 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. Specify the inner match profile of the flow rule. The inner-match profile is created by “inner-match” command in global configuration mode.	-
add-l2gre l2gre-sip L2GRE_SRC_IP l2gre-dip L2GRE_DEST_IP l2gre-dmac L2GRE_DEST_MAC l2gre-key L2GRE_KEY_NUM l2gre-key-length (16 | 20 | 24 | 32)	Use this action to add l2gre header. L2GRE_SRC_IP: L2GRE Source IP L2GRE_DEST_IP: L2GRE Destination IP L2GRE_DEST_MAC: L2GRE Destination MAC L2GRE_KEY_NUM: L2GRE Key Number	-
add-l3gre l3gre-sip L3GRE_SRC_IP l3gre-dip L3GRE_DEST_IP l3gre-dmac L3GRE_DEST_MAC	Use this action to add l3gre header. L3GRE_SRC_IP: L3GRE Source IP L3GRE_DEST_IP: L3GRE Destination IP L3GRE_DEST_MAC: L3GRE Destination MAC	-
udf udf-id UDF_ID (udf0 L2_UDF_VALUE L2_UDF_VALUE_WILD | udf1 L2_UDF_VALUE L2_UDF_VALUE_WILD | udf2 L2_UDF_VALUE	UDF = User Define Format. The parameter “udf-id” indicates the packet is parsed at the beginning with the L2 header.	Udf value and wildcard bits both have 8 bits, If a bit in wildcard is 0 means this bit needs to check,

L2_UDF_VALUE_WILD | udf3 L2_UDF_VALUE L2_UDF_VALUE_WILD|)		otherwise this bit should be ignored.

3 Command Mode

Flow Configuration

4 Default

None

5 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.

6 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
```

7 Related Commands

no sequence-num

5 UDF Commands

5.1 show udf

1 Command Purpose

Use this command to show the configuration of UDF entries.

2 Command Syntax

show udf (*UDF_ID* |)

Parameter	Parameter Description	Parameter Value
UDF_ID	Specify a index to show the configuration of a specific UDF entry.	The range is 0-3

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows the configuration of UDF entries:

```
Switch# show udf

Udf Global Information:
  Offset Unit : 1 Bytes
Udf Index 0
  Udf Type : l2 header
  Udf Match-Field:
    ether-type 0x8100 0x0
  Offset : n/a|8|n/a|n/a
```

7 Related Commands

udf

5.2 udf

1 Command Purpose

Use this command to create a UDF entry or enter the configuration mode of a specific DUF entry.

2 Command Syntax

udf *UDF_ID* (offset-type *OFFSET_TYPE* |)

Parameter	Parameter Description	Parameter Value
UDF_ID	Specify a index of a UDF entry.	The range is 0-3
OFFSET_TYPE	The offset type should be configured when a UDF entry was first created.	The offset type can be l2-header

3 Command Mode

Global Configuration

4 Default

None

5 Usage

The UDF-ID also means the priority of UDF entries, smaller id is a higher priority.

6 Examples

This example shows how to create a UDF entry and enter it's configuration mode:

```
Switch(config)# udf 1 offset-type l2-header
Switch(config-udf-1)#
```

7 Related Commands

show udf

5.3 match

1 Command Purpose

Use this command to configure the match field for an UDF entry.

2 Command Syntax

match (ether-type *ETHER_TYPE_VALUE*)

Parameter	Parameter Description	Parameter Value
ether-type (ETHER_TYPE_VALUE)	Specify the ether-type of the flow rule.	The valid range for ether-type is 0x600-0xFFFF.

3 Command Mode

UDF Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure the match field for an UDF entry:

```
Switch(config-udf-1)# match ether-type 0x8100
```

7 Related Commands

show udf

5.4 offset

1 Command Purpose

Use this command to configure the detailed offset value for an UDF entry.

2 Command Syntax

match (offset0 *UDF_OFFSET* | offset1 *UDF_OFFSET* | offset2 *UDF_OFFSET* | offset3 *UDF_OFFSET* |)

Parameter	Parameter Description	Parameter Value
UDF_OFFSET	Specifies the offset in bytes from the beginning.	The valid range of the offset is 0-63 bytes.

3 Command Mode

UDF Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure the detailed offset value for an UDF entry:

```
Switch(config-udf-1)# offset offset0 1 offset1 20 offset3 63
```

7 Related Commands

show udf

6 PORT-GROUP Commands

6.1 port-group

1 Command Purpose

Use this command to create a port-group and enter the port-group configuration mode.

Use the no form of this command to delete the port-group.

2 Command Syntax

port-group *NAME_STRING* (*PORT_GROUP_ID* |)

no port-group *NAME_STRING*

Parameter	Parameter Description	Parameter Value
NAME_STRING	Port-group Name string	The first character should be a-z or A-Z, character only can be 0-9A-Za-z.-_ and the max len is 31.
PORT_GROUP_ID	Port Group ID, range 1-48	1-48

3 Command Mode

Global Configuration

4 Default

None

5 Usage

This device supports at most 48 port-groups.

6 Examples

The following example shows how to add a port-group:

```
Switch(config)# port-group portgroup1
Switch(config-port-portgroup1)#
```

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

```
Switch(config)# no port-group portgroup1
```

7 Related Commands

show port-group

6.2 member interface

1 Command Purpose

Use this command to add a member interface in port-group.

Use the no form of this command to delete the member interface.

2 Command Syntax

member interface *IF_NAME_EA*

no member interface *IF_NAME_EA*

Parameter	Parameter Description	Parameter Value
IF_NAME_EA	member interface Name string	Specify the interface name to enter the mode. e.g.eth-0-1, agg1.

3 Command Mode

Port-group Configuration

4 Default

None

5 Usage

This device supports at most 16 member interface.

6 Examples

The following example shows how to add a member interface in port-group:

```
Switch(config-port-portgroup1)# member interface eth-0-1
```

The following example shows how to delete a member interface in port-group:

```
Switch(config-port-portgroup1)# no member interface eth-0-1
```

7 Related Commands

show port-group

6.3 show port-group

1 Command Purpose

Use this command to display the configurations of port-group.

2 Command Syntax

show port-group (*NAME_STRING* |)

Parameter	Parameter Description	Parameter Value

NAME_STRING	Specify the port-group name to show	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

If the parameter "NAME_STRING" is not specified, the command indicates that all port-groups on this device should be displayed; otherwise only the specified port-group should be displayed.

6 Examples

The following example shows how to display the configurations port-group portgroup1:

```
Switch# show port-group

port-group portgroup1 1
 member interface eth-0-1
 member interface eth-0-2
```

7 Related Commands

show port-group flow statistics

6.4 show port-group flow statistics

1 Command Purpose

Use this command to display the statistics of port-group.

2 Command Syntax

show port-group flow statistics *NAME_STRING* (*FLOW_SEQ_NUM* |)

Parameter	Parameter Description	Parameter Value
NAME_STRING	Specify the port-group name to show	-
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.	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The specified port-group statistics should be displayed.

6 Examples

The following example shows how to display the statistics port-group portgroup1:

```
Switch# show port-group flow statistics

portgroup1
TAP group name: tapgroup1
 flow name: flow1
 sequence-num 10 permit gre src-ip any dst-ip any ( bytes 0 packets 0 )
 sequence-num 20 permit mpls any ( bytes 0 packets 0 )
(total bytes 0 total packets 0 )
```

7 Related Commands

show port-group

7 INNER-MATCH Commands

7.1 show inner-match

1 Command Purpose

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

2 Command Syntax

show inner-match (*INNER_MATCH_NAME* |)

Parameter	Parameter Description	Parameter Value
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

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

inner-match

7.2 inner-match

1 Command Purpose

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.

2 Command Syntax

inner-match *INNER_MATCH_NAME*

no inner-match *INNER_MATCH_NAME*

Parameter	Parameter Description	Parameter Value
INNER_MATCH_NAME	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.

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 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)#
```

This example shows how to delete a inner-match named im1:

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

7 Related Commands

show inner-match

7.3 remark

1 Command Purpose

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

2 Command Syntax

remark *NAME_STRING*

no remark

Parameter	Parameter Description	Parameter Value
NAME_STRING	Remark string for the inner-match	Begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, maximum length is 100 characters.

3 Command Mode

Inner-match Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show inner-match

7.4 no sequence-num

1 Command Purpose

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

2 Command Syntax

no sequence-num *MATCH_SEQ_NUM*

Parameter	Parameter Description	Parameter Value
MATCH_SEQ_NUM	Sequence-number with the valid range 1 - 65535.	1-65535

3 Command Mode

Inner-match Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show inner-match

match

7.5 sequence-num

1 Command Purpose

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

2 Command Syntax

(sequence-num *MATCH_SEQ_NUM* |) match (*PROTOCOL_NUM* | any | mpls (any | label-num (any | *MPLS_LABEL_NUM_WITHOUT_0*) (mpls-label1 (any | *FLOW_LABEL_VALUE*) |) (mpls-label2 (any | *FLOW_LABEL_VALUE*) |) (mpls-label3 (any | *FLOW_LABEL_VALUE*) |)) | pppoe ppp-type (ipv4 | ipv6) | 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* | any | host *IP_ADDR*) | src-ipv6 (*IPv6_ADDR* *IPv6_ADDR_WILD* | any | host *IPv6_ADDR*)) (dst-ip (*IP_ADDR* *IP_ADDR_WILD* | any | host *IP_ADDR*) | dst-ipv6 (*IPv6_ADDR* *IPv6_ADDR_WILD* | any | host *IPv6_ADDR*)) (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 (*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*) |)

Parameter	Parameter Description	Parameter Value
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.
mpls (any | label-num (any | MPLS_LABEL_NUM_WITHOUT_0) (mpls-label1 (any|FLOW_LABEL_VALUE) |) (mpls-label2 (any|FLOW_LABEL_VALUE) |) (mpls-label3 (any|FLOW_LABEL_VALUE) |))	Specify the mpls label of the flow rule.	The mpls label number is 0-9.It can match 3 layers of MPLS label values at most.
pppoe ppp-type (ipv4 | ipv6)	Specify the pppoe ppp-type of the flow rule.	The ppp-type is ipv4 or ipv6.
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	0-63

	inner-match rule. DSCP = Differentiated Services Code Point. Specify the DSCP in IPv4 packets value of the inner-match rule. DSCP = Differentiated Services Code Point.	
ip-precedence PRECEDENCE_VALUE	Specify the IP precedence in IPv4 packets of the inner-match rule. DSCP & ip precedence configurations are exclusive.	0-7
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	0-7

	rule. CoS = Class of Service. Specify the outer CoS value of the inner-match rule. CoS = Class of Service.	
inner-cos COS_ID	Specify the inner CoS value of the inner-match rule. CoS = Class of Service. Specify the inner CoS value of the inner-match rule. CoS = Class of Service.	0-7
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	Specify the source mac address in	Use a mac address and wildcard bits to specify a

MATCH_MAC_ADDR_WILD | any | host MATCH_MAC_ADDR)	HHHH.HHHH.HHHH format.	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.

3 Command Mode

Inner-match Configuration

4 Default

None

5 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.

6 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 any src-ip 10.10.10.0
0.0.0.255 dst-ip any
```

7 Related Commands

no sequence-num

8 ACL Commands

8.1 show interface egress ip access-list

1 Command Purpose

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

2 Command Syntax

show interface egress ip access-list statistics *IF_NAME*

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

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The interface name must be specified.

6 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 )
```

7 Related Commands

clear interface egress ip access-list

8.2 clear interface egress ip access-list

1 Command Purpose

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

2 Command Syntax

clear interface egress ip access-list statistics *IF_NAME*

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

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The interface name must be specified.

6 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 )
```

7 Related Commands

show interface egress ip access-list

8.3 show ip access-list

1 Command Purpose

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

2 Command Syntax

show ip access-list (*NAME_STRING* |)

Parameter	Parameter Description	Parameter Value
NAME_STRING	Ip access-list name	up to 20 characters

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

ip access-list

8.4 ip access-list

1 Command Purpose

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.

2 Command Syntax

ip access-list *NAME_STRING*

no ip access-list *NAME_STRING*

Parameter	Parameter Description	Parameter Value

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

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 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)#
```

7 Related Commands

show ip access-list

8.5 remark

1 Command Purpose

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

2 Command Syntax

remark *NAME_STRING*

no remark

Parameter	Parameter Description	Parameter Value
NAME_STRING	Remark string for the IP ACL	Begin with a-z/A-Z/0-9, valid characters are 0-9A-Za-z.-, maximum length is 100 characters.

3 Command Mode

ACL Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show ip access-list

8.6 no sequence-num

1 Command Purpose

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

2 Command Syntax

no sequence-num *ACL_SEQ_NUM*

Parameter	Parameter Description	Parameter Value
ACL_SEQ_NUM	Sequence-number with the valid range 1-65535.	1-65535

3 Command Mode

ACL Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show ip access-list

sequence-num

8.7 sequence-num

1 Command Purpose

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

2 Command Syntax

(sequence-num *ACL_SEQ_NUM* |) (permit | deny) (*PROTOCOL_NUM* | any | mpls (any | label-num (any | *MPLS_LABEL_NUM_WITHOUT_0*) (mpls-label1 (any | *FLOW_LABEL_VALUE*) |) (mpls-label2 (any | *FLOW_LABEL_VALUE*) |) (mpls-label3 (any | *FLOW_LABEL_VALUE*) |)) | pppoe ppp-type (ipv4 | ipv6) | 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* | any | host *IP_ADDR*) | src-ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* | any | host *IPv6_ADDR*)) (dst-ip (*IP_ADDR IP_ADDR_WILD* | any | host *IP_ADDR*) | dst-ipv6 (*IPv6_ADDR IPv6_ADDR_WILD* | any | host *IPv6_ADDR*)) (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* |)

Parameter	Parameter Description	Parameter Value

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.
mpls (any | label-num (any | MPLS_LABEL_NUM_WITHOUT_0) (mpls-label1 (any|FLOW_LABEL_VALUE) |) (mpls-label2 (any|FLOW_LABEL_VALUE) |) (mpls-label3 (any|FLOW_LABEL_VALUE) |))	Specify the mpls label of the flow rule.	The mpls label number is 0-9.It can match 3 layers of MPLS label values at most.
pppoe ppp-type (ipv4 | ipv6)	Specify the pppoe ppp-type of the flow rule.	The ppp-type is ipv4 or ipv6.
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. 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. DSCP & ip precedence configurations are exclusive	Valid range of IP precedence value is 0 – 7.
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 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. 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. 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 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 ACL_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 (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”	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

	indicates the packet is parsed at the beginning with the layer4 header.	"UDF_OFFSET" specifies the offset bits from the beginning. The valid range of the offset is 0 -60.

3 Command Mode

ACL Configuration

4 Default

None

5 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.

6 Examples

Create a rule with sequence number 10:

```
Switch(config)# ip access-list acl1
Switch(config-acl-acl1)# sequence-num 10 permit any src-ip 10.10.10.0 0.0.0.255
dst-ip any
```

7 Related Commands

no sequence-num

show ip access-list

9 TAP Commands

9.1 tap-group

1 Command Purpose

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.

2 Command Syntax

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

no tap-group *TAPNAME*

Parameter	Parameter Description	Parameter Value
TAPNAME	Tap Group Name string	Begin with a-z/A-Z, valid characters are 0-9A-Za-z.-, maximum length is 20 characters.
NUM	Tap Group ID, range 1-10000	1-10000

3 Command Mode

Global Configuration

4 Default

None

5 Usage

This device supports at most 512 TAP groups.

6 Examples

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

```
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
```

7 Related Commands

show tap-group

9.2 description

1 Command Purpose

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

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

2 Command Syntax

description *LINE*

no description

Parameter	Parameter Description	Parameter Value
LINE	TAP group description string	Begin with a-z/A-Z, valid characters are 0-9A-Za-z.-, maximum length is 80 characters

3 Command Mode

tap-group Configuration

4 Default

None

5 Usage

None

6 Examples

The following example shows how to config description:

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

7 Related Commands

tap-group

show tap-group

9.3 ingress

1 Command Purpose

Use this command to add a physical,link aggregation interface or port-groupto 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.

2 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* | *PORTGROUP_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*

Parameter	Parameter Description	Parameter Value
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.	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.	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.	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.	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.	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.	::-ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff。
edit-ipv6da IPv6_ADDRESS	Specify the destination IPv6 address of the outgoing packets.	::-ffff:ffff:ffff:ffff:ffff:ffff:ffff:ffff。

PORTGROUP_NAME	Specify the name of port-group.	The first character should be a-z or A-Z, character only can be 0-9A-Za-z.-_ and the max len is 31.
flow FLOW_NAME	Specify the name of flow to apply to tap group's ingress direction.	-

3 Command Mode

tap-group Configuration

4 Default

None

5 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.

6 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
```

7 Related Commands

tap-group

egress

9.4 egress

1 Command Purpose

2 Command Syntax

egress *IF_NAME* (timestamp |)

no egress *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name. This command supports physical or link aggregation interfaces.	-

timestamp	Add timestamp for packets on egress interfaces.	-

3 Command Mode

tap-group Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

tap-group

9.5 show tap-group

1 Command Purpose

This command displays the TAP group configurations.

2 Command Syntax

show tap-group (*TAPNAME* |)

Parameter	Parameter Description	Parameter Value
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.	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

tap-group

ingress

10 TIMESTAMP Commands

10.1 timestamp-over-ether

1 Command Purpose

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

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

2 Command Syntax

timestamp-over-ether *MAC_ADDR_DA MAC_ADDR_SA ETHTYPE_ID*

no timestamp-over-ether

Parameter	Parameter Description	Parameter Value
MAC_ADDR_DA	Ethernet destination MAC address	MAC address in HHHH.HHHH.HHHH format, valid range is 0.0.0-FFFF.FFFF.FFFF
MAC_ADDR_SA	Ethernet source MAC address	MAC address in HHHH.HHHH.HHHH format, valid range is 0.0.0-FFFF.FFFF.FFFF
ETHTYPE_ID	Ethertype in hexadecimal	range is [0x0-0xffff]

3 Command Mode

Global Configuration

4 Default

None

5 Usage

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

6 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
```

7 Related Commands

tap-group

egress

10.2 show timestamp sync

1 Command Purpose

Use this command configure to display timestamp sync information.

2 Command Syntax

show timestamp sync

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display timestamp information:

```
Switch# show timestamp sync

Sync Type         : Disabled
Sync Count        : 0
Last Sync Time    : Tue Sep 12 07:57:08 2017
```

7 Related Commands

timestamp sync

10.3 timestamp sync

1 Command Purpose

Use this command configure to timestamp sync.

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

2 Command Syntax

timestamp sync (systime | none)

no timestamp sync

Parameter	Parameter Description	Parameter Value
systime	Use the system time as time source.	-

none	Use the chip time as time source.	-

3 Command Mode

Global Configuration

4 Default

The default value is “none”

5 Usage

None

6 Examples

The following example shows how to config timestamp sync:

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

7 Related Commands

show timestamp sync

11 TRUNCATION Commands

11.1 truncation

1 Command Purpose

Use this command to configure the truncation length information.

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

2 Command Syntax

truncation *TRUNCATION_LEN*

no truncation

Parameter	Parameter Description	Parameter Value
TRUNCATION_LEN	Truncation length in bytes.	Valid range is 64-144.

3 Command Mode

Global Configuration

4 Default

144

5 Usage

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

6 Examples

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

```
Switch(config)# truncation 64
```

The following example shows how to use truncation in TAP group:

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

7 Related Commands

tap-group

ingress

12 SSH Commands

12.1 ssh

1 Command Purpose

In privileged mode, use this command to log in remote ssh server.

2 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*)

Parameter	Parameter Description	Parameter Value
NAME_STRING	Login name	-
RSAKEYNAME	Specify key name	-
L4_PORT_NUM	Remote ssh server port	range is <0-65535>
SSHPINPROMPTS	Number of password prompts	range is <1-7>
IP_ADDR | STRING	Specify IP address of remote system /Specify hostname of remote system	-

3 Command Mode

Privileged EXEC

4 Default

Version default is 2

5 Usage

None

6 Examples

The following example shows how to establish connection by ssh:

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

Switch#
```

7 Related Commands

ip ssh server enable

12.2 ip ssh server enable

1 Command Purpose

In global mode, use this command to start ssh server.

2 Command Syntax

ip ssh server enable

3 Command Mode

Global Configuration

4 Default

Enabled

5 Usage

None

6 Examples

The following example enables the SSH server:

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

7 Related Commands

ip ssh server disable

12.3 ip ssh server disable

1 Command Purpose

In global mode, use this command to disable ssh server.

2 Command Syntax

ip ssh server disable

3 Command Mode

Global Configuration

4 Default

Enabled

5 Usage

None

6 Examples

The following example disable the SSH server:

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

7 Related Commands

ip ssh server enable

12.4 ip ssh server version

1 Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) version on your switch. And use the no form of this command to restore the default value.

2 Command Syntax

ip ssh server version (v1 | v2 | all)

no ip ssh server version

Parameter	Parameter Description	Parameter Value
v1	Support SSH version 1	-
v2	Support SSH version 2	-
all	Support SSH version 1 and 2	-

3 Command Mode

Global Configuration

4 Default

V2

5 Usage

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

6 Examples

The following example shows how to configure support SSH Version 1:

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

The following example shows how to restore the default configuration:

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

7 Related Commands

show ip ssh server status

12.5 ip ssh server authentication-retries

1 Command Purpose

Use this command to set retry times when log in remote ssh server failed. Use the command in no format, could rest retry times to default value.

2 Command Syntax

ip ssh server authentication-retries *SSHAUTHRETRIES*

no ip ssh server authentication-retries

Parameter	Parameter Description	Parameter Value
SSHAUTHRETRIES	Retry times	Range is <1-6>

3 Command Mode

Global Configuration

4 Default

6

5 Usage

None

6 Examples

The following examples configures 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
```

7 Related Commands

show ip ssh server status

12.6 ip ssh server authentication-timeout

1 Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) authentication timeout on your switch.

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

2 Command Syntax

ip ssh server authentication-timeout *SSHAUTHTIMEOUT*

no ip ssh server authentication-timeout

Parameter	Parameter Description	Parameter Value

SSHAUTHTIMEOUT	Timeout seconds	Range is <1-120>, unit is seconds

3 Command Mode

Global Configuration

4 Default

120

5 Usage

None

6 Examples

The following examples configures SSH authentication timeout on your switch:

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

The following examples restore SSH authentication timeout to default value:

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

7 Related Commands

show ip ssh server status

12.7 ip ssh server authentication-type

1 Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) authentication type.

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

2 Command Syntax

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

no ip ssh server authentication-type

Parameter	Parameter Description	Parameter Value
all	Enable all authentication type	-
password	Enable password	-
public-key	Enable public key	-
rsa	Enable rsa	-

3 Command Mode

Global Configuration

4 Default

Public-key and password

5 Usage

When logging in using SSH, the authentication mode will be negotiated at the beginning of establishing connection reply.

6 Examples

The following example configures SSH authentication type to password:

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

The following example restore SSH authentication type to default value:

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

7 Related Commands

show ip ssh server status

12.8 ip ssh server rekey-interval

1 Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) rekey interval.

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

2 Command Syntax

ip ssh server rekey-interval *SSHREKEYINTVL*

no ip ssh server rekey-interval

Parameter	Parameter Description	Parameter Value
SSHREKEYINTVL	Rekey interval in minutes	Range is <1-1440>

3 Command Mode

Global Configuration

4 Default

60

5 Usage

None

6 Examples

The following example configures SSH rekey interval to 30:

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

The following example restore SSH rekey interval to default value:

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

7 Related Commands

show ip ssh server status

12.9 ip ssh server host-key

1 Command Purpose

In global configuration mode, use this command to configure Secure Shell (SSH) host-key.

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

2 Command Syntax

ip ssh server host-key rsa key *RSAKEYNAME*

no ip ssh server host-key

Parameter	Parameter Description	Parameter Value
RSAKEYNAME	Key Name	=Y27

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Host-key is used to generate session when establish connection.

6 Examples

The following example shows how to configure SSH host key:

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

The following example shows how to remove SSH host key:

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

7 Related Commands

show ip ssh server status

12.10 ip ssh server port

1 Command Purpose

Use this command to configure ssh service port.

2 Command Syntax

ip ssh server port *SERVICE_PORT*

no ip ssh server port

Parameter	Parameter Description	Parameter Value
SERVICE_PORT	port number	Range is 1025-65535

3 Command Mode

Global Configuration

4 Default

22

5 Usage

When change ssh service port, all users must be forced to disconnect.

6 Examples

The following example configures port number:

```
Switch# configure terminal
Switch(config)# ip ssh server port 2000
```

The following example recovers ssh port to default port:

```
Switch# configure terminal
Switch(config)# no ip ssh server port
```

7 Related Commands

None

12.11 show ip ssh server status

1 Command Purpose

In privileged mode, use this command to show information of SSH.

2 Command Syntax

show ip ssh server status

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows information of ssh server:

```
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
```

7 Related Commands

ssh

13 LACP Commands

13.1 port-channel load-balance-mode

1 Command Purpose

Use this command to set port-channel load balance mode from static to round-robin. Use the no form of this command to set port-channel load balance mode to default static mode.

2 Command Syntax

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

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

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	Range is <1-55>

3 Command Mode

Global Configuration

4 Default

Disabled

5 Usage

None

6 Examples

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

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

The following example shows how to set port-channel load balance mode to the default:

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

7 Related Commands

None

13.2 port-channel load-balance hash-arithmetic

1 Command Purpose

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.

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
crc	Use algorithm of crc to compute hash value	-
xor	Use algorithm of exclusive or to compute hash value	-

3 Command Mode

Global Configuration

4 Default

XOR

5 Usage

None

6 Examples

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

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

7 Related Commands

None

13.3 port-channel load-balance set

1 Command Purpose

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 to the default value.

2 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 | inner-src-port-l4 | inner-dst-port-l4 | 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 | | inner-src-port-l4 | inner-dst-port-l4 | vxlan-vni | gre-key | nvgre-vsid | nvgre-flow-id)

no port-channel load-balance

Parameter	Parameter Description	Parameter Value
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	-

inner-src-port-l4	Inner Source Port based load balancing	-
inner-dst-port-l4	Inner Destination Port 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	-

3 Command Mode

Global Configuration

4 Default

Src-ip, dst-ip, src-port-l4, dst-port-l4

5 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.

6 Examples

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

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

The following example shows how to remove the configuration of load balance type for Link Aggregation Control Protocol (LACP):

```
Switch(config)# no port-channel load-balance set src-mac
```

7 Related Commands

show port-channel load-balance

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

1 Command Purpose

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

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

Both

5 Usage

None

6 Examples

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

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

7 Related Commands

port-channel load-balance set

13.5 port-channel load-balance

1 Command Purpose

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.

2 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

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

Src-ip, dst-ip, src-port, dst-port

5 Usage

None

6 Examples

The following example shows how to set port-channel load-balance to src-mac:

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

7 Related Commands

show port-channel load-balance

13.6 show channel-group

1 Command Purpose

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.

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
AGG_GID	Channel group ID	Range is <1-55>

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following 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
```

The following 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)
```

The following example shows how to display 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)
```

7 Related Commands

static-channel-group

13.7 show channel-group interface

1 Command Purpose

Use this command to display link aggregation information for the port.

2 Command Syntax

show channel-group interface *IF_NAME*

Parameter	Parameter Description	Parameter Value
IF_NAME	Specify the interface name to show	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display link aggregation information for the specified port:

```
Switch# show channel-group interface eth-0-3

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

7 Related Commands

static-channel-group

13.8 show port-channel load-balance

1 Command Purpose

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

2 Command Syntax

show port-channel load-balance

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to show 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
```

7 Related Commands

port-channel load-balance set

14 NTP Commands

14.1 ntp minimum-distance

1 Command Purpose

In global configuration mode, use this command to configure the minimum distance between the switch and the NTP server.

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

2 Command Syntax

ntp minimum-distance *NTP_MIN_DISP*

no ntp minimum-distance

Parameter	Parameter Description	Parameter Value
NTP_MIN_DISP	Distance value time interval in milliseconds	Range is <1-1000>

3 Command Mode

Global Configuration

4 Default

1ms

5 Usage

None

6 Examples

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

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

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

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

7 Related Commands

show ntp status

14.2 ntp server

1 Command Purpose

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

2 Command Syntax

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

no ntp server *IP_ADDR*

Parameter	Parameter Description	Parameter Value
IP_ADDR	IP address of the time server or peer	-
NTP_KEYID	Authentication key to use when sending packets to this peer	Range is <1-64000>

NTP_VERSION	Defines the Network Time Protocol (NTP) version number	Range is <1-3>
prefer	Makes this peer the preferred peer that provides synchronization	-

3 Command Mode

Global Configuration

4 Default

Not synchronized with any NTP server

5 Usage

None

6 Examples

The following example shows how to configure ntp server ip as 172.16.22.44, the version of NTP as 2:

```
Switch(config)# ntp server mgmt-if 172.16.22.44 version 2
```

The following example shows how to remove ntp server:

```
Switch(config)# no ntp server 172.16.22.44
```

7 Related Commands

show ntp status

14.3 ntp authentication

1 Command Purpose

To enable NTP authentication, use the ntp authentication enable command. To disable the NTP authentication, use the ntp authentication disable command.

2 Command Syntax

ntp authentication (enable | disable)

3 Command Mode

Global Configuration

4 Default

Disabled

5 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.

6 Examples

The following example shows how to enables NTP authentication:

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

7 Related Commands

show ntp

14.4 ntp key

1 Command Purpose

In global mode, use this command to create a value for a NTP key. And remove the value of the NTP key by the no form of the command

2 Command Syntax

ntp key *NTP_KEYID KEY_STRING*

no ntp key *NTP_KEYID*

Parameter	Parameter Description	Parameter Value
NTP_KEYID	Authentication key ID	Range is <1-64000>
KEY_STRING	The value of the key	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 Examples

The following example shows how to create a ntp key:

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

The following example shows how to remove a ntp key:

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

7 Related Commands

show ntp key

14.5 ntp trustedkey

1 Command Purpose

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.

2 Command Syntax

ntp trustedkey *NTP_KEYID*

no ntp trustedkey *NTP_KEYID*

Parameter	Parameter Description	Parameter Value
NTP_KEYID	Authentication key to use when sending packets to this peer	Range is <1-64000>

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 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
```

7 Related Commands

ntp key

14.6 show ntp

1 Command Purpose

In privileged mode, use this command to display NTP configuration.

2 Command Syntax

show ntp

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display the NTP configurations :

```
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:
```

7 Related Commands

ntp server

14.7 show ntp status

1 Command Purpose

In privileged mode, use this command to display current NTP status.

2 Command Syntax

show ntp status

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display ntp 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
```

7 Related Commands

ntp minimum-distance

14.8 show ntp statistics

1 Command Purpose

In privileged mode, use this command to display ntp statistics.

2 Command Syntax

show ntp statistics

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display ntp statistics:

```
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
```

7 Related Commands

ntp server

clear ntp statistics

14.9 show ntp associations

1 Command Purpose

In privileged mode, use this command to display neighbor state of NTP.

2 Command Syntax

show ntp associations

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

ntp server

14.10 show ntp key

1 Command Purpose

In privileged mode, use this command to display NTP key.

2 Command Syntax

show ntp key

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows the keys of NTP:

```
Switch# show ntp key

Current NTP key configuration:
-+-----+---------+----------------------------------------
      43      key43
     123     key123
```

7 Related Commands

ntp key

14.11 clear ntp statistics

1 Command Purpose

In privileged mode, use this command to clear NTP statistics.

2 Command Syntax

clear ntp statistics

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to clear ntp statistics:

```
Switch# clear ntp statistics
```

7 Related Commands

show ntp statistics

15 NETWORK DIAGNOSIS Commands

15.1 ping

1 Command Purpose

Use this command to check whether a specific IPv4 address is available through management interface.

2 Command Syntax

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

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

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following 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
```

7 Related Commands

traceroute

15.2 traceroute

1 Command Purpose

Use this command to show the path from the current device to the destination device.

2 Command Syntax

traceroute mgmt-if *WORD*

Parameter	Parameter Description	Parameter Value
mgmt-if	Send packet from management interface	-
WORD	Traceroute destination address	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to show the path from current device to 10.108.1.29:

```
Switch# traceroute mgmt-if 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
```

7 Related Commands

ping

16 SYSLOG Commands

16.1 logging sync

1 Command Purpose

In privileged mode, use this command to write the log in the memory buffer to the syslog file in flash.

2 Command Syntax

logging sync

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following shows how to enable logging sync function:

```
Switch# logging sync
```

7 Related Commands

show logging buffer

16.2 logging buffer

1 Command Purpose

In global configuration mode, the command is used to set the number of logs saved by the system temporary buffer, and the default value is restored in the form of no of the command.

2 Command Syntax

logging buffer *CFGLOGLINES*

no logging buffer

Parameter	Parameter Description	Parameter Value
CFGLOGLINES	Log quantity	Range is <10-1000>

3 Command Mode

Global Configuration

4 Default

500

5 Usage

None

6 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
```

7 Related Commands

show logging buffer

16.3 logging file

1 Command Purpose

In global configuration mode, use this command to set whether to write logs into log files.

2 Command Syntax

logging file (enable | disable)

Parameter	Parameter Description	Parameter Value
enable	Write log information into log files	-
disable	Cancel writing log information to log file	-

3 Command Mode

Global Configuration

4 Default

Enabled

5 Usage

Once enabled, the log writes the currently generated log to the flash:/syslogfile file every 10 minutes.

6 Examples

The following example shows how to enable logging file function:

```
Switch(config)# logging file enable
```

7 Related Commands

show logging

16.4 logging level file

1 Command Purpose

In global configuration mode, using this command to set the level of log information, logs above or equal to this level will be counted into log files. And

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

2 Command Syntax

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

no logging level file

Parameter	Parameter Description	Parameter Value
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	Range is <0-7>

3 Command Mode

Global Configuration

4 Default

Warning

5 Usage

Use this command to set the level of log information. Log information above or equal to this level will be logged to the log file, while log information below this level will not be logged to the file. If debug is specified, all log messages will be logged to the log file.

6 Examples

The following example shows how to configure the log message level to error:

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

The following example shows how to restore the default value of log message level:

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

7 Related Commands

logging level module

16.5 logging level module

1 Command Purpose

In global configuration mode, use this command to set the level of log information sent to the terminal and entered into the buffer. Logs higher than or equal to this level will be displayed on the terminal. And use the no form of this command to restore the default value.

2 Command Syntax

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

no logging level module

Parameter	Parameter Description	Parameter Value
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.	Range is <0-7>

3 Command Mode

Global Configuration

4 Default

Debug

5 Usage

With this, the command sets the level of log information sent to the terminal and recorded to the buffer. Log messages above or equal to this level will be displayed to the terminal and written to the log buffer, while those below this level will not be displayed at the terminal, nor will they be written to the log buffer.

6 Examples

The following example shows how to set logging level module to error:

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

The following example shows how to restore the default value of logging level module:

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

7 Related Commands

logging level file

16.6 logging timestamp

1 Command Purpose

In global configuration mode, the command is used to set the timestamp format of log information. And use the no form of this command to restore the default value.

2 Command Syntax

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

no logging timestamp

Parameter	Parameter Description	Parameter Value
date	The time format displayed when using the date command	-
bsd	BSD style (RFC 3164)	-
iso	ISO style (RFC 3339)	-
rfc3164	RFC 3164 style (bsd)	-
rfc3339	RFC 3339 style (iso)	-
none	No timestamp	-

3 Command Mode

Global Configuration

4 Default

BSD

5 Usage

None

6 Examples

The following example shows how to set the log message timestamp format to RFC3164:

```
Switch(config)# logging timestamp rfc3164
```

The following example shows how to recovery log message timestamp format to default:

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

7 Related Commands

show logging

16.7 logging server

1 Command Purpose

In global configuration mode, use this command to set whether to use a remote log server.

2 Command Syntax

logging server (enable | disable)

Parameter	Parameter Description	Parameter Value
enable	Enable logging server	-
disable	Disable logging server	-

3 Command Mode

Global Configuration

4 Default

Disabled

5 Usage

None

6 Examples

The following example shows how to enable log server:

```
Switch(config)# logging server enable
```

7 Related Commands

show logging

16.8 logging server severity

1 Command Purpose

In global configuration mode, this command is used to set the log level sent to the remote log server. Logs above or equal to this level will be sent to the log server. And use the no form of this command to restore the default value.

2 Command Syntax

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

no logging server severity

Parameter	Parameter Description	Parameter Value
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.	Range is <0-7>

3 Command Mode

Global Configuration

4 Default

Warning

5 Usage

This command is used to set the level of log information sent to the remote log server. Logs higher than or equal to this level will be sent to the log server. If the threshold value is debug, all log messages will be sent to the log server.

6 Examples

The following example shows how to set the level of log messages sent to remote log servers to be error, and information above or equal to the level of error will be sent to remote servers:

```
Switch(config)# logging server severity error
```

The following example shows how to recovery the level of log messages sent to remote log servers by default:

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

7 Related Commands

show logging

16.9 logging server facility

1 Command Purpose

In global configuration mode, use this command to configure the log daemon on the server.

And use the no form of this command to restore the default value.

2 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)

no logging server facility

Parameter	Parameter Description	Parameter Value
LOGFAC	Log facility-type	Range is <0-11> and <16-23>
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	-

3 Command Mode

Global Configuration

4 Default

Local4

5 Usage

None

6 Examples

The following example shows how to set logging server facility to local3:

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

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

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

7 Related Commands

show logging

16.10 logging server address

1 Command Purpose

In the global configuration mode, use this command to set the IP address of the log server. The switch can send the log information to this server. And use the no form of this command to delete the address.

2 Command Syntax

logging server address mgmt-if *IP_ADDR*

no logging server address mgmt-if *IP_ADDR*

Parameter	Parameter Description	Parameter Value
IP_ADDR	Remote server IP address	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

In order for the switch to send the system log information to the log server correctly, make sure that the server is in its normal functional state.

6 Examples

The following example shows how to set the IP address of log server to 10.10.38.236:

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

The following example shows how to delete log server:

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

7 Related Commands

logging server

16.11 logging merge

1 Command Purpose

When this function is enabled, the switch merges the same logs that appear in a specified period of time into one. During this period, the switch places the received logs in a temporary buffer of a specified size in the background. The size of this period can be specified by using the timeout parameter, and the size of the backstage temporary buffer can be specified by using fifo-size parameter.

2 Command Syntax

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

no logging merge (timeout | fifo-size)

Parameter	Parameter Description	Parameter Value
enable	Enable logging merge	-
disable	Disable logging merge	-
MERGEFSIZE	Set the size of the background log merge buffer in terms of entries, default 1024 entries	Range is <100-10240>
MERGETIMEOUT	For a specified period of time, the same logs that appear during that period are merged into one	Range is <1-300>, uint is seconds

3 Command Mode

Global Configuration

4 Default

Logging mergence is enabled. Timeout is 10.

Fifo-size is 1024.

5 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.

6 Examples

The following example shows how to enable logging merge:

```
Switch(config)# logging merge enable
```

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

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

7 Related Commands

show logging

16.12 show logging

1 Command Purpose

In privileged mode, use this command to display the configuration of logging.

2 Command Syntax

show logging

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display the configuration of logging:

```
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
```

7 Related Commands

logging buff

logging timestamp

logging file

logging level file

logging level module

logging server

logging server severity

logging server facility

logging merge

16.13 show logging buffer

1 Command Purpose

In privileged mode, use this command to show logging buffer messages.

2 Command Syntax

show logging buffer (*SYSLOGLINES* |)

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

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

By default, syslog lines are sorted in reverse chronological order, which means the newest syslog is on top.

6 Examples

The following example shows how to display logging buffer :

```
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
```

7 Related Commands

clear logging buffer

16.14 show logging buffer statistics

1 Command Purpose

In privileged mode, use this command to display the amount of information stored in the log buffer.

2 Command Syntax

show logging buffer statistics

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display the statistics of logging buffer:

```
Switch# show logging buffer statistics

Logging buffer statistics:
------------------------------------------------------------
Total processed 314 entries
Total dropped 0 entries
Current have 50 entries
```

7 Related Commands

clear logging buffer

16.15 show logging levels

1 Command Purpose

In privileged mode, use this command to show the severity level information of logging.

2 Command Syntax

show logging levels

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display the severity level information of logging:

```
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
```

7 Related Commands

logging level file

16.16 show logging facilities

1 Command Purpose

In privileged mode, use this command to display log daemon tool information.

2 Command Syntax

show logging facilities

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display the facility information of logging:

```
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
```

7 Related Commands

logging server facility

16.17 clear logging buffer

1 Command Purpose

In privileged mode, use this command to clear records in the log buffer.

2 Command Syntax

clear logging buffer

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to clear logging buffer:

```
Switch# clear logging buffer
```

7 Related Commands

show logging buffer

17 SNMP Commands

17.1 show snmp

1 Command Purpose

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

2 Command Syntax

show snmp

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

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

```
Switch# show snmp

Switch# show snmp
SNMP services: enable
```

7 Related Commands

snmp server enable

17.2 show snmp-server version

1 Command Purpose

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

2 Command Syntax

show snmp-server version

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

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

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

7 Related Commands

snmp-server version

17.3 show snmp-server community

1 Command Purpose

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

2 Command Syntax

show snmp-server community

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

snmp-server community

17.4 show snmp-server engineID

1 Command Purpose

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.

2 Command Syntax

show snmp-server *engineID*

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

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

6 Examples

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

```
Switch# show snmp-server engineID

Engine ID   : 00000009020000000c025808
```

7 Related Commands

snmp-server engineID

17.5 show snmp-server sys-info

1 Command Purpose

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

2 Command Syntax

show snmp-server sys-info

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

snmp-server system-contact

snmp-server system-location

17.6 show snmp-server trap-receiver

1 Command Purpose

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

2 Command Syntax

show snmp-server trap-receiver

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

snmp-server trap target-address

17.7 show snmp-server inform-receiver

1 Command Purpose

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

2 Command Syntax

show snmp-server inform-receiver

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

snmp-server inform target-address

17.8 show snmp-server view

1 Command Purpose

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.

2 Command Syntax

show snmp-server view (*USERNAME* |)

Parameter	Parameter Description	Parameter Value
USERNAME	Specify a view name that want to show, WORD	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

snmp-server view

17.9 snmp-server enable

1 Command Purpose

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.

2 Command Syntax

snmp-server enable

no snmp-server enable

3 Command Mode

Global Configuration

4 Default

Disabled

5 Usage

None

6 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
```

7 Related Commands

show snmp

17.10 snmp-server engineID

1 Command Purpose

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

2 Command Syntax

snmp-server *engineID ENGINEID*

no snmp-server *engineID*

Parameter	Parameter Description	Parameter Value
ENGINEID	octet string of hexadecimal characters	10-64 hexadecimal characters

3 Command Mode

Global Configuration

4 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.

5 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.

6 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
```

7 Related Commands

show snmp-server engineID

17.11 snmp-server system-contact

1 Command Purpose

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.

2 Command Syntax

snmp-server system-contact *KLINE*

no snmp-server system-contact

Parameter	Parameter Description	Parameter Value
KLINE	Specify SNMP system contact parameter	Up to 255 characters, valid character is among “0-9A-Za-z.-_@*”

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show snmp-server sys-info

17.12 snmp-server system-location

1 Command Purpose

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.

2 Command Syntax

snmp-server system-location *KLINE*

no snmp-server system-location

Parameter	Parameter Description	Parameter Value
KLINE	Specify SNMP system location parameter	Up to 255 characters, valid character is among "0-9A-Za-z.-_@*"

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 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
```

7 Related Commands

show snmp-server sys-info

17.13 snmp-server version

1 Command Purpose

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.

2 Command Syntax

snmp-server version (all | v1 | v2c)

no snmp-server version

Parameter	Parameter Description	Parameter Value
all	Support all versions (v1, v2c, and v3)	-
v1	Support only v1 version	-
v2c	Support only v2c version	-

3 Command Mode

Global Configuration

4 Default

Support v1 and v2c SNMP versions.

5 Usage

None

6 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
```

7 Related Commands

show snmp-server version

17.14 snmp-server view

1 Command Purpose

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.

2 Command Syntax

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

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

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 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
```

7 Related Commands

show snmp-server view

17.15 snmp-server community

1 Command Purpose

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.

2 Command Syntax

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

no snmp-server community *CONM_NAME*

Parameter	Parameter Description	Parameter Value
CONM_NAME	Specify a SNMP community name	A string with 1-256 characters. A blank means deny access.
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 VIEW_NAME	MIB view to which this community has access	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show snmp-server community

17.16 snmp-server trap enable

1 Command Purpose

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.

2 Command Syntax

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

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

Parameter	Parameter Description	Parameter Value

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

3 Command Mode

Global Configuration

4 Default

Disabled

5 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.

6 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
```

7 Related Commands

snmp-server trap target-address

17.17 snmp-server trap target-address

1 Command Purpose

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.

2 Command Syntax

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

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

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show snmp-server trap-receiver

17.18 snmp-server trap delay linkup

1 Command Purpose

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.

2 Command Syntax

snmp-server trap delay linkup *TRAP_DELAY_TIME*

no snmp-server trap delay linkup

Parameter	Parameter Description	Parameter Value
TRAP_DELAY_TIME	Linkup trap delay time	1-10 seconds

3 Command Mode

Global Configuration

4 Default

0

5 Usage

None

6 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
```

7 Related Commands

snmp-server trap enable

17.19 snmp-server trap delay linkdown

1 Command Purpose

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.

2 Command Syntax

snmp-server trap delay linkdown *TRAP_DELAY_TIME*

no snmp-server trap delay linkdown

Parameter	Parameter Description	Parameter Value
TRAP_DELAY_TIME	Linkdown trap delay time	1-10 seconds

3 Command Mode

Global Configuration

4 Default

0

5 Usage

None

6 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
```

7 Related Commands

snmp-server trap enable

17.20 snmp-server inform target-address

1 Command Purpose

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.

2 Command Syntax

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

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

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

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show snmp-server inform-receiver

17.21 snmp-server access-group

1 Command Purpose

Use this command to apply access list on Simple Network Management Protocol(SNMP).Use the no form of this command to remove access list applied to SNMP.

2 Command Syntax

snmp-server access-group *NAME_STRING* in

no snmp-server access-group

Parameter	Parameter Description	Parameter Value
NAME_STRING	IP ACL NAME	The initial character name should be a-z, A-Z, 0-9 or ._-, character only can be 0-9A-Za-z.-_ and the max length is 20

3 Command Mode

Global Configuration

4 Default

None

5 Usage

ACL applied on SNMP can only matching of source IP,destination IP, behaviour as WhiteList by default.

6 Examples

The following example shows how to apply acl to SNMP:

```
Switch(config)# ip access-list a5
Switch(config-ip-acl-a5)# exit
Switch(config)# snmp-server access-group a5 in
Notice: ACL applied on SNMP can only matching of source IP,destination IP,
behaviour as WhiteList by default.
```

7 Related Commands

None

18 AUTH Commands

18.1 show usernames

1 Command Purpose

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

2 Command Syntax

show usernames

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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#
```

7 Related Commands

username

18.2 show users

1 Command Purpose

Use this command to display information about terminal lines.

2 Command Syntax

show users

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show usernames

18.3 show web users

1 Command Purpose

Use this command to display information of the web users。

2 Command Syntax

show web users

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

username

18.4 show privilege

1 Command Purpose

Use this command to display the current privilege.

2 Command Syntax

show privilege

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following example shows how to display current privilege:

```
Switch# show privilege

Current privilege level is 4
```

7 Related Commands

username

18.5 clear line console 0

1 Command Purpose

Use this command to clear primary console terminal line login.

2 Command Syntax

clear line console 0

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following is sample to clear line console 0:

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

7 Related Commands

line console

18.6 clear line vty

1 Command Purpose

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

2 Command Syntax

clear line vty *VTYID1* (*VTYID2* |)

Parameter	Parameter Description	Parameter Value
VTYID1	First Line number	0-7
VTYID2	Last Line number	0-7

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

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

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

7 Related Commands

show users

18.7 clear web session

1 Command Purpose

Use this command to clear web sessions.

2 Command Syntax

clear web session (all | *WEBSESSION*)

Parameter	Parameter Description	Parameter Value
all	Clear all sessions	-
WEBSESSION	Session Name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

The following is sample to clear all web sessions:

```
Switch# clear web session all

[OK]
```

7 Related Commands

show web users

18.8 show console

1 Command Purpose

Use this command to show the current console configuration.

2 Command Syntax

show console

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

line console

18.9 show vty

1 Command Purpose

Use this command to show the current vty configuration.

2 Command Syntax

show vty

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

line vty

18.10 show rsa keys

1 Command Purpose

Use this command to show RSA key information.

2 Command Syntax

show rsa keys

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key

18.11 show rsa key

1 Command Purpose

Use this command to show RSA key information.

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
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)	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key

18.12 show key config

1 Command Purpose

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

2 Command Syntax

show key config

3 Command Mode

Rsa Key Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key

18.13 show key string

1 Command Purpose

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

2 Command Syntax

show key string

3 Command Mode

Rsa Key Configuration

4 Default

None

5 Usage

None

6 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)#
```

7 Related Commands

rsa key

18.14 show tacacs

1 Command Purpose

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

2 Command Syntax

show tacacs

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

tacacs-server host

18.15 show aaa status

1 Command Purpose

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

2 Command Syntax

show aaa status

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

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

```
Switch# show aaa status

AAA status:
     Authentication enable
```

7 Related Commands

aaa new-model

18.16 show aaa privilege mapping

1 Command Purpose

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

2 Command Syntax

show aaa privilege mapping

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

aaa privilege mapping

18.17 show aaa method-lists

1 Command Purpose

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

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
accounting	Accounting information	-
all	All information	-

authentication	Authentication information	-
authorization	Authorization information	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

aaa authentication login

aaa authentication exec

aaa accounting exec

18.18 line console

1 Command Purpose

Use this command to set console configuration.

2 Command Syntax

line console 0

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 Examples

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

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

7 Related Commands

show console

18.19 line vty

1 Command Purpose

Use line vty command to set virtual terminal line configuration.

2 Command Syntax

line vty *VTYID1* (*VTYID2* |)

Parameter	Parameter Description	Parameter Value
VTYID1	First Line number	0-7
VTYID2	Last Line number	0-7

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 Examples

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

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

7 Related Commands

show vty

18.20 line vty maximum

1 Command Purpose

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.

2 Command Syntax

line vty maximum *VTYMAX*

no line vty maximum

Parameter	Parameter Description	Parameter Value
VTYMAX	Max Line number	0-8. default is 8

3 Command Mode

Global Configuration

4 Default

8

5 Usage

None

6 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
```

7 Related Commands

show line vty

18.21 rsa key generate

1 Command Purpose

Use this command to create a key.

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

2 Command Syntax

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

no rsa key *RSAKEYNAME*

Parameter	Parameter Description	Parameter Value
RSAKEYNAME	Key name	String begin with [a-zA-Z],valid character is among [0-9A-Za-z.-_], up to 255 characters.
RSAKEYBITS	RSA key bits number	768-4096,default is 1024

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show rsa key

rsa key

18.22 rsa key import

1 Command Purpose

Use this command to import a key.

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key generate

rsa key export

18.23 rsa key export

1 Command Purpose

Use this command to export a key.

2 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* |))

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key generate

rsa key import

18.24 rsa key

1 Command Purpose

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

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

2 Command Syntax

rsa key *RSAKEYNAME*

no rsa key *RSAKEYNAME*

Parameter	Parameter Description	Parameter Value
RSAKEYNAME	Key name	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key generate

18.25 reset

1 Command Purpose

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

2 Command Syntax

reset

3 Command Mode

Rsa Key Configuration

4 Default

None

5 Usage

None

6 Examples

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

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

7 Related Commands

rsa key

18.26 key type

1 Command Purpose

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

2 Command Syntax

key type (private | public)

Parameter	Parameter Description	Parameter Value
private	Private key	-
public	Public key	-

3 Command Mode

Rsa Key Configuration

4 Default

Public

5 Usage

None

6 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
```

7 Related Commands

rsa key

18.27 key format

1 Command Purpose

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

2 Command Syntax

key format (der | pem)

Parameter	Parameter Description	Parameter Value
der	Der format	-
pem	Pem format	-

3 Command Mode

Rsa Key Configuration

4 Default

DER

5 Usage

None

6 Examples

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

```
Switch(config)# rsa key KEY1
Switch(config-rsa-key)# key format pem
```

7 Related Commands

rsa key

18.28 key string end

1 Command Purpose

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.

2 Command Syntax

key string end

3 Command Mode

Rsa Key Configuration

4 Default

None

5 Usage

None

6 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)#
```

7 Related Commands

rsa key

18.29 validate

1 Command Purpose

To check the validation of the key strings, use the validate command in RSA key configuration mode.

2 Command Syntax

validate

3 Command Mode

Rsa Key Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key

18.30 KEYLINE

1 Command Purpose

To add key strings from the screen directly, type any strings in RSA key configuration mode except the keywords in this mode.

2 Command Syntax

KEYLINE

3 Command Mode

Rsa Key Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

rsa key

validate

18.31 re-activate radius-server

1 Command Purpose

Use this command to re-activate the specified radius servers.

2 Command Syntax

re-activate radius-server (all | host *IP_ADDR* (auth-port *AUTHDPORT* |) |)

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Privileged EXEC

4 Default

None

5 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.

6 Examples

This example shows how to re-activate radius-server:

```
Switch# re-activate radius-server all
```

7 Related Commands

radius-server host

18.32 show radius-server

1 Command Purpose

Use this command to display radius server states of each IEEE 802.1 x sessions.

2 Command Syntax

show radius-server

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to display the current radius-server and dead radius-servers of each IEEE 802.1x sessions.

6 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
=====================================
```

7 Related Commands

radius-server host

18.33 radius-server host

1 Command Purpose

Use this command to specify a RADIUS server host.

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

2 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* |)

Parameter	Parameter Description	Parameter Value
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	-
key (8 |) AUTHDKEY		-
retransmit AUTHDRETRIES	RADIUS server retries (default 3)	-
timeout AUTHDTIMEOUT	RADIUS server timeout in seconds (default 5)	-

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 Examples

This example shows how to set the radius-server key::

```
Switch(config)# radius-server host mgmt-if 10.0.0.1
```

This example shows how to delete radius-server key:

```
Switch(config)# no radius-server host mgmt-if  10.0.0.1
```

7 Related Commands

show radius-server

18.34 radius-server deadtime

1 Command Purpose

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.

2 Command Syntax

radius-server deadtime *DEADTIME*

no radius-server deadtime

Parameter	Parameter Description	Parameter Value
DEAD_TIME	RADIUS server deadtime in minutes	1-20 minutes. default is 5 minute.

3 Command Mode

Global Configuration

4 Default

5

5 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”.

6 Examples

This example shows how to set radius-server dead time:

```
Switch(config)# radius-server deadtime 10
```

This example shows how to restore the default radius-server dead time:

```
Switch(config)# no radius-server deadtime
```

7 Related Commands

show radius-server

18.35 radius-server retransmit

1 Command Purpose

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.

2 Command Syntax

radius-server retransmit *RETRANSMIT*

no radius-server retransmit

Parameter	Parameter Description	Parameter Value
RETRANSMIT	RADIUS server retries	1-100, default is 3

3 Command Mode

Global Configuration

4 Default

3

5 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.

6 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)# no radius-server retransmit
```

7 Related Commands

show radius-server

18.36 radius-server timeout

1 Command Purpose

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.

2 Command Syntax

radius-server timeout *TIMEOUT*

no radius-server timeout

Parameter	Parameter Description	Parameter Value
TIMEOUT	RADIUS server timeout in seconds	1-1000 seconds. default is 5 seconds

3 Command Mode

Global Configuration

4 Default

5

5 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.

6 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)# no radius-server timeout
```

7 Related Commands

show radius-server

18.37 radius-server key

1 Command Purpose

Use this command to set the shared encryption key of RADIUS server.

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

2 Command Syntax

radius-server key (8 |) *STRING*

no radius-server timeout

Parameter	Parameter Description	Parameter Value
8	Specifies a hidden password will follow	-
STRING	RADIUS server key-string	-

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 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)# no radius-server key
```

7 Related Commands

show radius-server

18.38 re-activate tacacs-server

1 Command Purpose

Use this command to re-activate the specified tacacs servers.

2 Command Syntax

re-activate tacacs-server (all | host *IP_ADDR* (auth-port *AUTHDPORT* |) |)

Parameter	Parameter Description	Parameter Value
all	Re-active all tacacs-servers	-
IP_ADDR	Set TACACS server IP address	-
AUTHDPORT	TACACS server port number (default 49)	-

3 Command Mode

Privileged EXEC

4 Default

None

5 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.

6 Examples

This example shows how to re-activate tacacs-server:

```
Switch# re-activate tacacs-server host 10.0.0.1 auth-port 49
```

7 Related Commands

tacacs-server host

18.39 tacacs-server host

1 Command Purpose

Use this command to set tacacs-server parameters.

Use the no form of this command to delete the tacacs server.

2 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* |)

Parameter	Parameter Description	Parameter Value
mgmt-if	Use management interface	-
IP_ADDR	IP address of TACACS server	-
auth-port AUTHDPORT		-
8	Specifies a hidden password will follow	-
key (8 |) AUTHDKEY		-
retransmit AUTHDRETRIES	TACACS server retries (default 3)	-

timeout AUTHDTIMEOUT	TACACS server timeout in seconds (default 5)	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to set tacacs-server parameters.

Use the no form of this command to delete the tacacs server.

6 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
```

7 Related Commands

show tacacs

18.40 username

1 Command Purpose

Use this command to create a local user account on the switch.

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

2 Command Syntax

username *NAME_STRING*

no username *NAME_STRING*

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-zA-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to create a local user account on the switch.

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

6 Examples

This is a sample output from this command displaying how to add a user named testName:

```
Switch(config)# username testName
```

This is a sample output from this command displaying how to delete a user named testName:

```
Switch(config)# no username testName
```

7 Related Commands

show usernames

18.41 username password

1 Command Purpose

Use this command to add username and password.

2 Command Syntax

username *NAME_STRING* password (8 |) *PASSWORD* (privilege *PRIVILEGE* |)

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	-
8	Specifies a hidden password will follow	-
PASSWORD	User password string	-
privilege PRIVILEGE	Set user privilege level	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to add username and password.

6 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
```

7 Related Commands

show usernames

18.42 username assign

1 Command Purpose

Use this command to assign a public key to a user.

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

2 Command Syntax

username *NAME_STRING* assign rsa key *RSAKEYNAME*

no username *USERNAME* assign rsa key

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-zA-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
RSAKEYNAME	Key Name	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to assign a public key to a user.

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

6 Examples

This is a sample output from this command displaying how to assign a key:

```
Switch(config)# username abc assign rsa key importkey
```

This is a sample output from this command displaying how to delete the assigned key:

```
Switch(config)# no username abc assign rsa key
```

7 Related Commands

username

rsa key

18.43 username privilege

1 Command Purpose

Use this command to set user privilege level.

2 Command Syntax

username *NAME_STRING* privilege *PRIVILEGE* (password (8 |) *PASSWORD* | secret *PASSWORD* |)

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-zA-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
PRIVILEGE	Set user privilege level	-

8	Specifies a hidden password will follow	-
PASSWORD	User password string	-
secret PASSWORD	User secret string	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to set user privilege level.

6 Examples

This is a sample output from this command displaying how to add a user named testName and with the privilege 3 and password of 12345.:

```
Switch(config)# username u1 privilege 3 secret 12345
```

7 Related Commands

show usernames

18.44 username secret

1 Command Purpose

Use username command to create a local user account with secret password.

2 Command Syntax

username *NAME_STRING* secret *PASSWORD*

Parameter	Parameter Description	Parameter Value
NAME_STRING	User name	String begin with [a-zA-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
secret PASSWORD	User secret string	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use username command to create a local user account with secret password.

6 Examples

This is a sample output from this command displaying how to add a user named u2 and with the secret 23.:

```
Switch(config)# username u2 secret 23
```

7 Related Commands

show usernames

18.45 re-username

1 Command Purpose

Use re-username command to modify local user account on the switch.

2 Command Syntax

re-username *OLD_NAME NEW_NAME*

Parameter	Parameter Description	Parameter Value
OLD_NAME	Old user name	String begin with [a-zA-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.
NEW_NAME	New user name	String begin with [a-zA-Z],valid character is among [0-9A-Za-z.-_], up to 31 characters.

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use re-username command to modify local user account on the switch.

6 Examples

The following example shows how to change user account's name:

```
Switch(config)# re-username oldUser newUser
```

7 Related Commands

show usernames

18.46 enable password

1 Command Purpose

Use this command to set the password which is needed when user enter Privileged EXEC mode.

2 Command Syntax

enable password (8 |) *PASSWORD*

no enable password

Parameter	Parameter Description	Parameter Value
8	Specifies a hidden password will follow	-
PASSWORD	Enable password string	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

If this command is set, user need to provide the password when enter Privileged EXEC mode.

6 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
```

7 Related Commands

enable

disable

18.47 enable password privilege

1 Command Purpose

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.

2 Command Syntax

enable password privilege *PRIVILEGE* (8 |) *PASSWORD*

no enable password privilege *PRIVILEGE*

Parameter	Parameter Description	Parameter Value
PRIVILEGE	Set user privilege level	-
8	Specifies a hidden password will follow	-

PASSWORD	Enable password string	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

If this command is set, user need to provide the password when enter Privileged EXEC mode.

6 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
```

7 Related Commands

enable

disable

18.48 service password-encryption

1 Command Purpose

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.

2 Command Syntax

service password-encryption

no service password-encryption

3 Command Mode

Global Configuration

4 Default

Not encrypt

5 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.

6 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
```

7 Related Commands

show current-configuration

18.49 aaa new-model

1 Command Purpose

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.

2 Command Syntax

aaa new-model

no aaa new-model

3 Command Mode

Global Configuration

4 Default

Disabled

5 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.

6 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
```

7 Related Commands

show aaa status

18.50 aaa authentication login

1 Command Purpose

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.

2 Command Syntax

aaa authentication login (default | *AUTHLISTNAME*) (enable |) (line |) (radius |) (tacplus |) (local |) (none |)

no aaa authentication login (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use the aaa authentication login configuration command to specify one or more AAA methods.

6 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
```

7 Related Commands

show aaa method-lists authentication

18.51 aaa authorization exec

1 Command Purpose

Use the aaa authorization exec configuration command to set authentication, authorization, accounting (AAA) authorization at login.

2 Command Syntax

aaa authorization exec (default | *AUTHLISTNAME*) (none |) (radius |) (local |) (tacplus |)

no aaa authorization exec (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value

default	Default method list	-
AUTHLISTNAME	Named authentication list (a-zA-Z0-9._-)	-
none	No authentication	-
radius	RADIUS server	-
local	Local username	-
tacplus	TACACS+	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use the aaa authorization exec configuration command to Set authentication, authorization, accounting (AAA) authorization at login

6 Examples

The following example shows how to set authorization exec:

```
Switch# configure terminal
Switch(config)# aaa authorization exec default tacplus none
```

7 Related Commands

show aaa method-lists authorization

18.52 aaa accounting exec

1 Command Purpose

Use this command to set authentication, authorization, accounting (AAA) accounting at login.

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

2 Command Syntax

aaa accounting exec (default | *AUTHLISTNAME*) (start-stop (radius | tacplus | none) * | stop-only (radius | tacplus | none) * | none)

no aaa accounting exec (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to set authentication, authorization, accounting (AAA) accounting at login.

6 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
```

7 Related Commands

show aaa method-lists accounting

18.53 aaa accounting commands

1 Command Purpose

Use this command to set authentication, authorization, accounting (AAA) accounting for commands.

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

2 Command Syntax

aaa accounting commands (default | *AUTHLISTNAME*) (tacplus | none) *

no aaa accounting commands (default | *AUTHLISTNAME*)

Parameter	Parameter Description	Parameter Value
default	Default method list	-

AUTHLISTNAME	Named authentication list (a-zA-Z0-9._-)	-
tacplus	TACACS+	-
none	No authentication	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to set authentication, authorization, accounting (AAA) accounting for commands.

6 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
```

7 Related Commands

show aaa method-lists accounting

18.54 aaa privilege mapping

1 Command Purpose

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.

2 Command Syntax

aaa privilege mapping *AAA_PRIVILEGE1 AAA_PRIVILEGE2 AAA_PRIVILEGE3*

no aaa privilege mapping

Parameter	Parameter Description	Parameter Value
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)	-

3 Command Mode

Global Configuration

4 Default

0, 1, 10

5 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

6 Examples

The following example shows how to set the mapping range:

```
Switch(config)# aaa privilege mapping 0 1 14
```

The following example shows how to set default mapping range:

```
Switch# configure terminal
Switch(config)# no aaa privilege mapping
```

7 Related Commands

show aaa privilege mapping

18.55 debug aaa

1 Command Purpose

Use this command to enable debugging aaa.

Use the no form of this command to disable debugging aaa.

2 Command Syntax

debug aaa (all | packet | event | protocol | timer)

no debug aaa (all | packet | event | protocol | timer)

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Privileged EXEC

4 Default

Disabled

5 Usage

None

6 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
```

7 Related Commands

show debugging

18.56 exec-timeout

1 Command Purpose

Use this command to set console timeout value.

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

2 Command Syntax

exec-timeout *ETIMEOUTMIN* (*ETIMEOUTSEC* |)

no exec-timeout

Parameter	Parameter Description	Parameter Value
ETIMEOUTMIN	Timeout value in minute.	0-35791
ETIMEOUTSEC	Timeout value in second	0- 2147483

3 Command Mode

Line Configuration

4 Default

10

5 Usage

None

6 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
```

7 Related Commands

show console

18.57 login

1 Command Purpose

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.

2 Command Syntax

login (local |)

no login (local |)

Parameter	Parameter Description	Parameter Value
local	Local username	-

3 Command Mode

Line Configuration

4 Default

no password checking

5 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.

6 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
```

7 Related Commands

show console

18.58 privilege level

1 Command Purpose

Use this command to set console privilege level for line.

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

2 Command Syntax

privilege level *PRIVILEGE*

no privilege level

Parameter	Parameter Description	Parameter Value
PRIVILEGE	Default privilege level for line	-

3 Command Mode

Line Configuration

4 Default

1

5 Usage

Use this command to set console privilege level for line.

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

6 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
```

7 Related Commands

show console

18.59 line-password

1 Command Purpose

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.

2 Command Syntax

line-password (8 |) *NAME_STRING*

no line-password

Parameter	Parameter Description	Parameter Value
8	Specifies a hidden password will follow	-
NAME_STRING	User password string	-

3 Command Mode

Line Configuration

4 Default

No console line-password

5 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.

6 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
```

7 Related Commands

show console

18.60 stopbits

1 Command Purpose

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.

2 Command Syntax

stopbits (1 | 2)

no stopbits

Parameter	Parameter Description	Parameter Value
1	Set 1 bit stop bit	-
2	Set 2 bits stop bits	-

3 Command Mode

Line Configuration

4 Default

One-bit stop

5 Usage

None

6 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
```

7 Related Commands

show console

18.61 databits

1 Command Purpose

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.

2 Command Syntax

databits (7 | 8)

no databits

Parameter	Parameter Description	Parameter Value
7	7-bit databits.	-
8	8-bit databits.	-

3 Command Mode

Line Configuration

4 Default

8-bit databits

5 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.

6 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
```

7 Related Commands

show console

18.62 parity

1 Command Purpose

Use this command to set console terminal parity.

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

2 Command Syntax

parity (even | odd | none)

no parity

Parameter	Parameter Description	Parameter Value
even	Parity mode even	-
odd	Parity mode odd	-
none	No parity	-

3 Command Mode

Line Configuration

4 Default

No parity

5 Usage

Use this command to set console terminal parity.

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

6 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
```

7 Related Commands

line console

show console

18.63 speed

1 Command Purpose

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.

2 Command Syntax

speed (115200 | 57600 | 38400 | 19200 | 9600 | 4800 | 2400 | 1200 | 600)

no speed

3 Command Mode

Line Configuration

4 Default

115200

5 Usage

None

6 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
```

7 Related Commands

show console

18.64 authorization exec

1 Command Purpose

Use this command to enable authentication, authorization, accounting (AAA) authorization for logins.

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

2 Command Syntax

authorization exec (default | *LISTNAME*)

no authorization exec

Parameter	Parameter Description	Parameter Value
default	Default authorization list	-
LISTNAME	An authorization list with this name (a-zA-Z0-9._-)	-

3 Command Mode

Line Configuration

4 Default

None

5 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.

6 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
```

7 Related Commands

show vty

18.65 accounting exec

1 Command Purpose

Use this command to enable authentication, authorization, accounting (AAA) accounting for logins.

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

2 Command Syntax

accounting exec (default | *LISTNAME*)

no accounting exec

Parameter	Parameter Description	Parameter Value
default	Default accounting list	-
LISTNAME	An accounting list with this name (a-zA-Z0-9._-)	-

3 Command Mode

Line Configuration

4 Default

None

5 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.

6 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
```

7 Related Commands

show vty

18.66 accounting commands

1 Command Purpose

Use this command to enable accounting for commands.

2 Command Syntax

accounting commands (default | *LISTNAME*)

no accounting commands

Parameter	Parameter Description	Parameter Value
default	Default accounting list	-
LISTNAME	An accounting list with this name (a-zA-Z0-9._-)	-

3 Command Mode

Line Configuration

4 Default

None

5 Usage

Use this command to enable accounting for commands.

6 Examples

The following example shows how to enable accounting for commands:

```
Switch# configure terminal
Switch(config)# line vty 0 7
Switch(config-line)# accounting commands default
```

7 Related Commands

show vty

18.67 end

1 Command Purpose

To end the current configuration session and return to Privileged EXEC mode, use the end command in global configuration mode.

2 Command Syntax

end

3 Command Mode

All Configuration Mode

4 Default

None

5 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.

6 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-eth-0-1)# end
Switch#
```

7 Related Commands

None

18.68 ip access-class

1 Command Purpose

Use this command to set vty IPv4 ACL.Use the no form of this command to remove ACL from vty.

2 Command Syntax

ip access-class *NAME_STRING* in

no ip access-class in

Parameter	Parameter Description	Parameter Value
NAME_STRING	IP ACL NAME	The initial character name should be a-z, A-Z, 0-9 or ._-, character only can be 0-9A-Za-z.-_ and the max length is 20

3 Command Mode

Line Configuration

4 Default

None

5 Usage

None

6 Examples

The following example shows how to configure IPv4 ACL on vty:

```
Switch# configure terminal
Switch(config)# line vty 1
Switch(config-line)# ip access-class a4 in
```

7 Related Commands

ip access-list

19 SFLOW Commands

19.1 sflow enable

1 Command Purpose

Use this command to enable sFlow globally.

Use the no form of this command to disable sFlow.

2 Command Syntax

sflow enable

no sflow enable

3 Command Mode

Global Configuration

4 Default

Disabled

5 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.

6 Examples

This example shows how to enable sFlow services globally:

```
Switch(config)# sflow enable
```

This example shows how to disable sFlow services globally:

```
Switch(config)# no sflow enable
```

7 Related Commands

show sflow

19.2 sflow agent

1 Command Purpose

Use this command to configure sFlow agent.

Use the no form of this command to delete the sFlow agent.

2 Command Syntax

sflow agent ip *IP_ADDR*

no sflow agent ip

Parameter	Parameter Description	Parameter Value
IP_ADDR	IPv4 address	-

3 Command Mode

Global Configuration

4 Default

0.0.0.0

5 Usage

Use this command to configure IP address for sflow agent. If not configured, sflow agent IP address will be 0.0.0.0.

6 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
```

7 Related Commands

show sflow

19.3 sflow collector

1 Command Purpose

Use this command to configure sFlow collector.

Use the no form of this command to delete the sFlow collector.

2 Command Syntax

sflow collector mgmt-if *IP_ADDR* (*UDP_PORT* |)

no sflow collector *IP_ADDR*

Parameter	Parameter Description	Parameter Value
IP_ADDR	Collector IPv4 address	-
UDP_PORT	Collector UDP port number	1-65535, default is 6343

3 Command Mode

Global Configuration

4 Default

Default source ip is the ip address of interface which is connected with sflow collector

5 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.

6 Examples

This example shows how to add a collector:

```
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
```

7 Related Commands

show sflow

19.4 sflow counter interval

1 Command Purpose

Use this command to configure sFlow polling-interval for counter sample.

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

2 Command Syntax

sflow counter interval *INTERVAL_VAL*

no sflow counter interval

Parameter	Parameter Description	Parameter Value

INTERVAL_VAL	Interval value in second	1-2000 seconds, default is 20 seconds.

3 Command Mode

Global Configuration

4 Default

20

5 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.

6 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
```

7 Related Commands

show sflow

19.5 sflow counter-sampling enable

1 Command Purpose

Use this command to enable counter sampling on specified port.

Use the no form of this command to disable counter sampling.

2 Command Syntax

sflow counter-sampling enable

no sflow counter-sampling enable

3 Command Mode

Interface Configuration

4 Default

Disabled

5 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.

6 Examples

This example shows how to set sFlow polling-interval to 10 second::

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# 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-eth-0-1)# no sflow counter-sampling enable
```

7 Related Commands

show sflow

19.6 sflow flow-sampling rate

1 Command Purpose

Use this command to configure flow sampling rate.

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

2 Command Syntax

sflow flow-sampling rate *RATE*

no sflow flow-sampling rate

Parameter	Parameter Description	Parameter Value
RATE	Sample rate value,	must be a power of 2. Range is 1-32768, default is 32768.

3 Command Mode

Interface Configuration

4 Default

32768

5 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.

6 Examples

This example shows how to enable sFlow counter sampling on interface eth-0-1:

```
Switch(config)# interface eth-0-1
Switch(config-if-eth-0-1)# 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-eth-0-1)# no sflow flow-sampling rate
```

7 Related Commands

show sflow

19.7 sflow flow-sampling enable

1 Command Purpose

Use this command to enable packet sampling on individual port.

Use the no form of this command to disable packet sampling.

2 Command Syntax

sflow flow-sampling enable (input | output | both)

no sflow flow-sampling enable (input | output | both)

Parameter	Parameter Description	Parameter Value
input	Sampling for input packets	-
output	Sampling for output packets	-
both	Sampling for packets on both direction	-

3 Command Mode

Interface Configuration

4 Default

Disabled

5 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.

6 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-eth-0-1)# sflow flow-sampling enable input
```

7 Related Commands

show sflow

19.8 debug sflow

1 Command Purpose

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.

2 Command Syntax

debug sflow (all | packet | counter | sample)

no debug sflow (all | packet | counter | sample)

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Privileged EXEC

4 Default

Disabled

5 Usage

Use this command to turn on the debug switches of sflow module.

6 Examples

In the following example shows how to enable debugging sflow all:

```
Switch# Switch# debug sflow all
```

7 Related Commands

show debugging

19.9 show sflow

1 Command Purpose

Use this command to show the running information of sflow.

2 Command Syntax

show sflow

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show the running information of sflow.

6 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
```

7 Related Commands

sflow enable

sflow agent

20 GLOBAL Commands

20.1 show debugging

1 Command Purpose

To display the debugging status, use the show debugging command in EXEC mode.

2 Command Syntax

show debugging (aaa | sflow |) (detail |)

Parameter	Parameter Description	Parameter Value
aaa	Display the states of aaa debugging	-
sflow	Display the states of sflow debugging	-
detail	Display the detailed information of debugging	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to display the debugging status.

6 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
```

7 Related Commands

debug aaa

debug sflow

20.2 no debug all

1 Command Purpose

Use this command to turn off all debugging switches.

2 Command Syntax

no debug all

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to turn off all debugging switches.

6 Examples

In the following example shows how to disable all debugging:

```
Switch# no debug all
```

7 Related Commands

show debugging

20.3 show history

1 Command Purpose

To display the history command lines, use the show history command in EXEC mode.

2 Command Syntax

show history

3 Command Mode

Privileged EXEC

4 Default

none

5 Usage

Use this command to display the history command lines.

6 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
```

7 Related Commands

None

20.4 show running-config

1 Command Purpose

To display the current operating configuration, use the show running-config command in EXEC mode.

2 Command Syntax

show running-config

3 Command Mode

Privileged EXEC

4 Default

none

5 Usage

Use this command to display the current operating configuration.

6 Examples

This example shows how to display current operating configuration of device:

```
Switch# show running-config

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
```

7 Related Commands

None

20.5 md5sum

1 Command Purpose

To calculate the md5sum of the file.

2 Command Syntax

md5sum *FILENAME*

Parameter	Parameter Description	Parameter Value
FILENAME	Specify the file name	-

3 Command Mode

Privileged EXEC

4 Default

none

5 Usage

Use this command to calculate the md5sum of the file.

6 Examples

This example shows how to calculate the md5sum of the file:

```
Switch# md5sum flash:/boot/OS-v580-tap-v3.0.8.bin

8771a9cb344cebb70f8baa4715f3f97d flash:/boot/OS-v580-tap-v3.0.8.bin
```

7 Related Commands

None

21 MANAGEMENT Commands

21.1 show diagnostic-information

1 Command Purpose

Use this command to display the diagnostic information of the system.

2 Command Syntax

show diagnostic-information

3 Command Mode

Privileged EXEC

4 Default

None

5 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.

6 Examples

The following example shows how to display the diagnostic information:

```
Switch# show diagnostic-information
```

7 Related Commands

show version

show clock

21.2 show services

1 Command Purpose

To display the networking services, use the show services command in privileged EXEC mode.

2 Command Syntax

show services

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

This command is used to display networking services of the switch.

6 Examples

In the following example shows how to display networking services of the switch:

```
Switch# show services

Networking services configuration:
Service Name Status Port Protocol
---------------+-------------+----------+----------
http enable 80 TCP
telnet enable 23 TCP
ssh enable 22 TCP
snmp disable 161 UDP
```

7 Related Commands

None

21.3 show services rpc-api

1 Command Purpose

2 Command Syntax

show services rpc-api

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

```
Switch# show services rpc-api

RPC-API service configuration:
 Server State        : disable
 Port                : 80
 Authentication Mode : none
 SSL State           : disable
```

7 Related Commands

service rpc-api

21.4 hostname

1 Command Purpose

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.

2 Command Syntax

hostname *NAME_STRING*

no hostname

Parameter	Parameter Description	Parameter Value
NAME_STRING	This system's network name	Up to 63 characters.

3 Command Mode

Global Configuration

4 Default

Switch

5 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.

6 Examples

The following example changes the host name to DUT1:

```
Switch(config)# hostname DUT1
```

The following example changes the host name to default:

```
DUT1(config)# no hostname
```

7 Related Commands

None

21.5 format

1 Command Purpose

To format file system.

2 Command Syntax

format (system | boot | *udisk:*)

Parameter	Parameter Description	Parameter Value
system	The system partition	-
boot	The boot partition	-
udisk:	The USB mass storage device (MSDOS file system)	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Format the USB mass storage device (MSDOS file system)

6 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
```

7 Related Commands

umount udisk:

21.6 umount udisk:

1 Command Purpose

To uninstall the USB mass storage device before plug out it from the switch.

2 Command Syntax

umount *udisk:*

3 Command Mode

Global Configuration

4 Default

None

5 Usage

USB mass storage device must exist in the system. You can use the “umount” command to uninstall the USB mass storage device.

6 Examples

The following example umount USB mass storage device:

```
Switch(config)# umount udisk:
```

7 Related Commands

format udisk:

21.7 reset factory-config

1 Command Purpose

To reset factory configuration

2 Command Syntax

reset factory-config

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The flash/boot/.factory-config.conf needs to exist for resetting factory configuration.

6 Examples

The following shows an example to reset factory configuration:

```
Switch# reset factory-config

Startup-config will be overwritten with factory-config. Continue? [yes/no]:y
```

7 Related Commands

None

21.8 management ip address dhcp

1 Command Purpose

Use this command to set the management IP address on the Switch from the dhcp protocol.

To remove the management IP address from the dhcp protocol, use the no form of this command.

2 Command Syntax

management ip address dhcp

no management ip address dhcp

3 Command Mode

Global Configuration

4 Default

None

5 Usage

User cannot connect to the device via telnet and only console port is available for management after removing the IP address.

6 Examples

The following example sets the management ipv4 address from dhcp protocol:

```
Switch(config)# management ip address dhcp
```

The following example unsets the management ipv4 address from dhcp protocol:

```
Switch(config)# no management ip address dhcp
```

7 Related Commands

management ip address

21.9 management ip address

1 Command Purpose

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.

2 Command Syntax

management ip address *IP_ADDR_MASK*

no management ip address

Parameter	Parameter Description	Parameter Value
IP_ADDR_MASK	IP address with mask length	In A.B.C.D/M format

3 Command Mode

Global Configuration

4 Default

None

5 Usage

User cannot connect to the device via telnet and only console port is available for management after removing the IP address.

6 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
```

7 Related Commands

management route gateway

21.10 management ipv6 address

1 Command Purpose

Use this command to set the management IPv6 address on the Switch.

To remove the management IPv6 address, use the no form of this command.

2 Command Syntax

management ipv6 address *IPV6_ADDR_MASK*

no management ipv6 address

Parameter	Parameter Description	Parameter Value
IPV6_ADDR_MASK	IPv6 address with mask length	In X:X::X:X/M format

3 Command Mode

Global Configuration

4 Default

None

5 Usage

User cannot connect to the device via telnet and only console port is available for management after removing the IP address.

6 Examples

The following example sets the management ipv6 address:

```
Switch(config)# management ipv6 address 2000::1/64
```

The following example unsets the management ipv6 address:

```
Switch(config)# no management ipv6 address
```

7 Related Commands

management ipv6 route gateway

21.11 management route gateway

1 Command Purpose

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.

2 Command Syntax

management route (add |) gateway *IP_ADDR*

no management route gateway

Parameter	Parameter Description	Parameter Value
add	Add a gateway address	-
IP_ADDR	IP address	-

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 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 unsets the gateway of 192.168.100.254 for the switch:

```
Switch(config)# no management route gateway
```

7 Related Commands

management ip address

21.12 management ipv6 route gateway

1 Command Purpose

Use this command to set the gateway on the Switch for management ipv6 address.

2 Command Syntax

management ipv6 route (add | del) gateway *IPV6_ADDR*

Parameter	Parameter Description	Parameter Value
add	Add a gateway ipv6 address	-

del	Delete a gateway ipv6 address	-
IPV6_ADDR	IPv6 address	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Use this command to set the gateway on the Switch for management ipv6 address.

6 Examples

The following example sets the gateway of 2000::64 for the switch:

```
Switch(config)# management ipv6 route add gateway 2000::64
```

7 Related Commands

management ipv6 address

21.13 service telnet enable

1 Command Purpose

Use this command to set service telnet enable.

Use the no form of this command to set service telnet disable.

2 Command Syntax

service telnet enable

no service telnet enable

3 Command Mode

Global Configuration

4 Default

Enabled

5 Usage

Uses this command to enable the telnet service.

6 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(config)# no service telnet enable

Connection closed by foreign host.
```

7 Related Commands

telnet

21.14 service http

1 Command Purpose

Use this command to set service http enable or disable or restart or timeout.

2 Command Syntax

service http (enable | disable | restart | timeout *TIMEOUT_VALUE*)

Parameter	Parameter Description	Parameter Value
enable	Enable the http service	-
disable	Disable the http service	-
restart	Restart the http service	-
timeout TIMEOUT_VALUE	Set http timeout value, unit is minute	1-60

3 Command Mode

Global Configuration

4 Default

Enabled

Timeout default value is 10 minutes

5 Usage

Uses this command to enable or disable or restart http service or set timeout value.

6 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 http disable
```

The following example set http service restart for the switch:

```
Switch(config)# service http restart
```

7 Related Commands

show web users

21.15 service http port

1 Command Purpose

Use this command to set set http service L4 port number; use the no command to set the default http service L4 port number.

2 Command Syntax

service http port *L4_NUM_PORT*

no service http port

Parameter	Parameter Description	Parameter Value
L4_NUM_PORT	Http service L4 port number	The range is 1025-65535

3 Command Mode

Global Configuration

4 Default

80

5 Usage

None

6 Examples

The following example set http service L4 port number for the switch:

```
Switch(config)# service http port 2000
```

The following example set the default http service L4 port number for the switch:

```
Switch(config)# no service http port
```

7 Related Commands

show web users

21.16 service https

1 Command Purpose

Use this command to set service https enable or disable or restart or set https service L4 port number.

2 Command Syntax

service https (enable | disable | restart)

Parameter	Parameter Description	Parameter Value
enable	Enable the https service	-
disable	Disable the https service	-
restart	Restart the https service	-

3 Command Mode

Global Configuration

4 Default

Enabled

5 Usage

Uses this command to enable or disable or restart https service.

6 Examples

The following example set https service enable for the switch:

```
Switch(config)# service https enable
```

The following example set https service disable for the switch:

```
Switch(config)# service https disable
```

The following example set https service restart for the switch:

```
Switch(config)# service https restart
```

7 Related Commands

show web users

21.17 service https port

1 Command Purpose

Use this command to set set https service L4 port number; use the no command to set the default https service L4 port number.

2 Command Syntax

service https port *L4_NUM_PORT*

no service https port

Parameter	Parameter Description	Parameter Value
L4_NUM_PORT	Https service L4 port number	The range is 1025-65535

3 Command Mode

Global Configuration

4 Default

443

5 Usage

None

6 Examples

The following example set https service L4 port number for the switch:

```
Switch(config)# service https port 2000
```

The following example set the default https service L4 port number for the switch:

```
Switch(config)# no service https port
```

7 Related Commands

show web users

21.18 service rpc-api enable

1 Command Purpose

Use the command to enable rpc-api service. And use disable command to disable rpc-api service.

2 Command Syntax

service rpc-api enable (port *PORT_NUM* |) (ssl (ssl-port *SSL_PORT_NUM* |) |)

service rpc-api disable

Parameter	Parameter Description	Parameter Value
PORT_NUM	port number of https service	Default port number is 80

SSL_PORT_NUM	port number of SSL service	Default port number is 443

3 Command Mode

Global Configuration

4 Default

Disabled

5 Usage

Use this command to enable RPC-API service. If parameters need to be modified, RPC-API service need to be disable. RPC-API service can not be enable when http has been enable.

6 Examples

The following example enables encrypted RPC-API service:

```
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# service rpc-api enable ssl
Switch(config)#
```

The following example disables encrypted RPC-API service:

```
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# service rpc-api disable
Switch(config)#
```

7 Related Commands

service rpc-api auth-mode

21.19 service rpc-api auth-mode

1 Command Purpose

Use the command to configure the auth mode of RPC-API.

2 Command Syntax

service rpc-api auth-mode (basic)

no service rpc-api auth-mode

3 Command Mode

Global Configuration

4 Default

Configure the auth mode of RPC-API

5 Usage

Use this command to enable or disable the auth mode of RPC-API.If the the the auth mode has been enabled.

6 Examples

The following example enables the auth mode of RPC-API:

```
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# service rpc-api auth-mode basic
```

The following example disables the auth mode of RPC-API:

```
Switch(config)# no service rpc-api auth-mode basic
```

7 Related Commands

services rpc-api enable

21.20 certificate load pem-cert

1 Command Purpose

Use the command to import the new certificate file. Use the no command to restore the default certificate file.

2 Command Syntax

certificate load pem-cert (*FILENAME* | *GFLASHFILE*)

no certificate load pem-cert

Parameter	Parameter Description	Parameter Value
FILENAME	certificate file name, no path but suffix	-
GFLASHFILE	certificate file name with path	-

3 Command Mode

Global Configuration

4 Default

Default certificate file

5 Usage

The private key and certificate need to be placed in the same file as the new certificate file. You need to upload the new certificate file to the any directory under the flash/ directory on the device before using this command. Ensure that the HTTPS service is turned on at the time of command execution and restart the HTTPS service after execution to take effect.

6 Examples

The following example import new certificate file cert.pem:

```
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# certificate load pem-cert flash:/boot/cert.pem
Switch(config)#
```

The following example restore the default certificate file:

```
Switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)# no certificate load pem-cert
Switch(config)#
```

7 Related Commands

None

22 SYSTEM CONFIGURATION Commands

22.1 disable

1 Command Purpose

To exit Privileged EXEC mode and return to user EXEC mode, enter the disable command in EXEC mode.

2 Command Syntax

disable

3 Command Mode

Privileged EXEC

4 Default

None

5 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 “>”.

6 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>
```

7 Related Commands

enable

22.2 enable

1 Command Purpose

To enter Privileged EXEC mod, use the enable command in user EXEC or Privileged EXEC mode.

2 Command Syntax

enable

3 Command Mode

User EXEC

4 Default

None

5 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 “>”.

6 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#

Password:
Switch#
```

7 Related Commands

disable

enable password

22.3 logout

1 Command Purpose

To logout of the current CLI session, enter the logout command in EXEC mode.

2 Command Syntax

logout

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

To logout of the current CLI session, enter the logout command in EXEC mode.

6 Examples

In the following example, the user logout of the current CLI session using the logout command:

```
Switch# logout

Connection closed by foreign host.
```

7 Related Commands

None

22.4 reboot

1 Command Purpose

To reload the operating system, use the reboot command in Privileged EXEC mode.

2 Command Syntax

reboot

3 Command Mode

Privileged EXEC

4 Default

None

5 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.

6 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!
```

7 Related Commands

write

22.5 show file system

1 Command Purpose

Use this command to show file system information.

2 Command Syntax

show file system

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show file system information.

6 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%
```

7 Related Commands

None

22.6 show management ip address

1 Command Purpose

Use this command to show management interface ip address.

2 Command Syntax

show management ip address

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show management interface ip address.

6 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
```

7 Related Commands

management ip address

management route gateway

22.7 show startup-config

1 Command Purpose

Use this command to show contents of startup configuration.

2 Command Syntax

show startup-config

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show contents of startup configuration.

6 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
```

7 Related Commands

write

22.8 write

1 Command Purpose

Use this command to write startup configuration.

2 Command Syntax

write

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to write startup configuration.

6 Examples

The following example is to write startup configuration:

```
Switch# write

[OK]
```

7 Related Commands

show startup-config

22.9 boot system flash

1 Command Purpose

To specify the system image that the switch loads at startup in flash, use the following boot system commands in Privileged EXEC mode.

2 Command Syntax

boot system flash *STRING*

Parameter	Parameter Description	Parameter Value
STRING	System image file for next booting	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to specify an image to boot system.

This command will take effect after reboot.

6 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
```

7 Related Commands

reboot

22.10 boot system tftp:

1 Command Purpose

To specify the system image that the switch loads at startup in tftp, use the following boot system commands in Privileged EXEC mode.

2 Command Syntax

boot system *tftp:* mgmt-if *IP_ADDR STRING*

Parameter	Parameter Description	Parameter Value
IP_ADDR	Server IP	-
STRING	Image file name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 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.

6 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
```

7 Related Commands

reboot

22.11 show boot

1 Command Purpose

To display the current image and the image the next startup will load, use the show boot command in Privileged EXEC mode.

2 Command Syntax

show boot (image |)

Parameter	Parameter Description	Parameter Value
image	Show the detailed information about the boot image.	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to display the current image and the image the next startup will load.

6 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
```

7 Related Commands

boot system flash

boot system tftp:

22.12 show memory

1 Command Purpose

Use this command to show memory with keyword.

2 Command Syntax

show memory (ccs | cds | switch | chsm | appcfg | fea | authd | all)

Parameter	Parameter Description	Parameter Value
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	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show memory summary

22.13 show memory summary

1 Command Purpose

Use this command to show the summary of memory states.

2 Command Syntax

show memory summary total

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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%
```

7 Related Commands

show memory

22.14 show cpu utilization

1 Command Purpose

Use this command to show utilizations of cpu.

2 Command Syntax

show cpu utilization

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show utilizations of cpu.

6 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
```

7 Related Commands

None

22.15 terminal length

1 Command Purpose

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.

2 Command Syntax

terminal length *TERM_LINES*

terminal no length

Parameter	Parameter Description	Parameter Value
TERM_LINES	Number of lines on screen (0 for no pausing)	-

3 Command Mode

Privileged EXEC

4 Default

0 (no pausing)

5 Usage

None

6 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
```

7 Related Commands

None

22.16 terminal monitor

1 Command Purpose

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.

2 Command Syntax

terminal monitor

terminal no monitor

3 Command Mode

Privileged EXEC

4 Default

Debug output to the current terminal line is closed

5 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.

6 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
```

7 Related Commands

debug aaa

debug sflow

22.17 cd

1 Command Purpose

Change the current directory to dir, use the cd command in EXEC mode.

2 Command Syntax

cd (*STRING* |)

Parameter	Parameter Description	Parameter Value
STRING	Directory name	-

3 Command Mode

Privileged EXEC

4 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.

5 Usage

Change the current directory to dir, use the cd command in EXEC mode.

6 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
```

7 Related Commands

pwd

22.18 mkdir

1 Command Purpose

To create a new directory in a Flash file system, use the mkdir command in EXEC mode.

2 Command Syntax

mkdir *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Directory name or file name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

This command is valid only for local file systems.

6 Examples

The following example creates a directory named newdir in Flash:

```
Switch# mkdir flash:/newdir
```

7 Related Commands

rmdir

dir

22.19 rmdir

1 Command Purpose

To remove an existing directory in a Flash file system or udisk device, use the rmdir command in Privileged EXEC mode.

2 Command Syntax

rmdir *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Directory name or file name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

This command is valid only for local file systems.

6 Examples

The following example deletes a directory named newdir:

```
Switch# rmdir flash:/newdir

Are you sure to delete flash:/newdir ? [no]y
```

7 Related Commands

mkdir

22.20 pwd

1 Command Purpose

Use this command to print working directory.

2 Command Syntax

pwd

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to print working directory.

6 Examples

The following example print current working directory:

```
Switch# pwd
flash:/
```

7 Related Commands

cd

22.21 ls

1 Command Purpose

To display a list of files on a file system, use the ls command in EXEC mode.

2 Command Syntax

ls (*flash:* | *flash:/boot* | *udisk:* |) (*STRING* |)

Parameter	Parameter Description	Parameter Value
flash:	File system on the flash	-
flash:/boot	File path “flash:/boot”	-
udisk:	USB storage devices	-
STRING	Directory name or file name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use the ls (Flash file system) command to display flash information.

6 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)
```

7 Related Commands

dir

22.22 copy running-config

1 Command Purpose

To copy current device configuration to other files, use this command in EXEC mode.

2 Command Syntax

copy running-config (mgmt-if |) (*STRING* |)

Parameter	Parameter Description	Parameter Value
mgmt-if	Need to connect to the URL via management interface	-

STRING	Copy to URL and local file name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to copy current running-config to destination file.

6 Examples

The following example copies the current configuration to the file named current-config.conf:

```
Switch# copy running-config flash:/current-config.conf
flash:/current-config.conf
[OK]
```

7 Related Commands

delete

22.23 copy startup-config

1 Command Purpose

Use this command to copy startup-config to tftp server or dest file.

2 Command Syntax

copy startup-config (mgmt-if |) (*STRING* |)

Parameter	Parameter Description	Parameter Value

mgmt-if	Need to connect to the URL via management interface	-
STRING	Copy to URL and local file name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

delete

22.24 copy mgmt-if

1 Command Purpose

Use this command to copy file from tftp server to local.

2 Command Syntax

copy mgmt-if *SRC_STRING DST_STRING*

Parameter	Parameter Description	Parameter Value
SRC_STRING	Copy from URL	-
DST_STRING	Copy to local file	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to copy file from tftp server to local.

6 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
```

7 Related Commands

delete

22.25 copy

1 Command Purpose

Use this command to copy file from local file to tftp server or local.

2 Command Syntax

copy *SRC_STRING* mgmt-if *DST_STRING*

Parameter	Parameter Description	Parameter Value
SRC_STRING	Copy from URL	-
DST_STRING	Copy to local file	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

delete

22.26 more

1 Command Purpose

To display the contents of a file, use the more command in EXEC mode.

2 Command Syntax

more *STRING*、

Parameter	Parameter Description	Parameter Value
STRING	Text file name	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The system can only display a file in ASCII format.

6 Examples

The following partial sample output displays the configuration file named startup-config in flash:

```
Switch# more flash:/startup-config.conf
```

7 Related Commands

dir

22.27 delete

1 Command Purpose

To delete a file on the flash, use the delete command in Privileged EXEC mode.

2 Command Syntax

delete *STRING*、

Parameter	Parameter Description	Parameter Value
STRING	File name for delete	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

If you attempt to delete the configuration file or image, the system prompts you to confirm the deletion.

6 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
```

7 Related Commands

copy

22.28 rename

1 Command Purpose

To rename a file in a Class C Flash file system or udisk device, use the rename command in EXEC mode.

2 Command Syntax

rename *OLD_STRING NEW_STRING*

Parameter	Parameter Description	Parameter Value
OLD_STRING		-
NEW_STRING		-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

This command is valid only for local file systems.

6 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
```

7 Related Commands

ls

22.29 source

1 Command Purpose

Read and execute commands from filename in the shell environment.

2 Command Syntax

source *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Configuration file	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 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#
```

7 Related Commands

None

22.30 system min-frame check

1 Command Purpose

Use this command enable system min frame check, system min frame size is 64bytes.

2 Command Syntax

system min-frame check enable

no system min-frame check enable

Parameter	Parameter Description	Parameter Value
enable	enable system min frame check	-

3 Command Mode

Global Configuration

4 Default

enable

5 Usage

None

6 Examples

The following example shows how to enable system min frame check:

```
Switch(config)# system min-frame check enable
```

The following example shows how to disable system min frame check:

```
Switch(config)# no system min-frame check enable
```

7 Related Commands

None

22.31 banner

1 Command Purpose

Use this command to define a banner

2 Command Syntax

banner (exec | login) *STRING*

no banner (exec | login)

Parameter	Parameter Description	Parameter Value
exec	exec banner	-
login	login banner	-
STRING	banner text information	c banner-text c, where ‘c’ is a delimiting character, only allow ‘0-9A-Za-z,@._-’

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 Examples

The following example shows how to define a exec banner:

```
Switch(config)# banner exec @no_delete_configuration@
```

7 Related Commands

None

22.32 do

1 Command Purpose

Use this command to execute the commands in EXEC mode

2 Command Syntax

do *COMMAND_STRING*

Parameter	Parameter Description	Parameter Value
COMMAND_STRING	The string of the command	-

3 Command Mode

All Configuration Mode

4 Default

None

5 Usage

None

6 Examples

The following example shows how to execute the do command:

```
Switch# configure terminal
Switch(config)# do show interface eth-0-1

Interface eth-0-1
  Interface current state: DOWN
  Hardware is Port, address is 001e.080b.e6c2
  Bandwidth 1000000 kbits
  Index 1 , 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
```

7 Related Commands

None

23 DEVICE Commands

23.1 show version

1 Command Purpose

To display the version information of the hardware and firmware, use the show version command in EXEC mode.

2 Command Syntax

show version

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

This command can display the version information of the hardware and firmware.

6 Examples

This example shows how to display version information of the hardware and firmware:

```
Switch# show version

i-Ware Software, Version 1.10, ESS 6601 01
Vendor Information
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         : switch
SDRAM size            : 2048M
Flash size            : 2048M
Hardware Version      : 1.2
EPLD Version          : 2.1
BootRom Version       : 6.1.1
System serial number  : E101ZB142025
```

7 Related Commands

None

23.2 show stm prefer

1 Command Purpose

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.

2 Command Syntax

show stm prefer (current | next | default)

Parameter	Parameter Description	Parameter Value
current	Current profile information	-
next	Next profile information	-
default	Balance on all kinds of tables size	-

3 Command Mode

Privileged EXEC

4 Default

None

5 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.

6 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
```

7 Related Commands

stm prefer

23.3 show environment

1 Command Purpose

Use this command to show the hardware environment information.

2 Command Syntax

show environment

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

This command only can show the hardware environment information.

6 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
```

7 Related Commands

temperature

23.4 show clock

1 Command Purpose

Use this command to show the clock information.

2 Command Syntax

show clock

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The show clock command can get the clock information.

6 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
```

7 Related Commands

clock set datetime

clock set timezone

23.5 show transceiver

1 Command Purpose

Use this command to show the transceiver information.

2 Command Syntax

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

Parameter	Parameter Description	Parameter Value
IF_NAME_E	Ethernet interface name	-
detail	Show detailed information	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show the interface transceiver information, or the transceiver detail information.

6 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
```

7 Related Commands

None

23.6 show system summary

1 Command Purpose

Use this command to show the summary of system information.

2 Command Syntax

show system summary

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

This command to show the summary of system information.

6 Examples

This example shows how to display the summary of system information:

```
Switch# show system summary

########## Version Table ##########
i-Ware Software, Version 1.10, ESS 6601 01
Vendor Information
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        : 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%
```

7 Related Commands

None

23.7 show reboot-info

1 Command Purpose

Use this command to show reboot information.

2 Command Syntax

show reboot-info

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show reboot information.

6 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
```

7 Related Commands

clear reboot-info

23.8 clear reboot-info

1 Command Purpose

Use this command to clear reboot information.

2 Command Syntax

clear reboot-info

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The clear reboot-info command can clear reboot information.

6 Examples

The following example shows how to clear reboot information:

```
Switch# clear reboot-info
```

7 Related Commands

show reboot-info

23.9 set device id-led

1 Command Purpose

Use this command to set the device indicate led force on or force off.

2 Command Syntax

set device id-led (on | off)

Parameter	Parameter Description	Parameter Value
on	Turn on the led	-
off	Turn off the led	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The command can set device indicate led force on or force off.

6 Examples

The following example shows how to set device indicate led force on:

```
Switch# set device id-led on
```

7 Related Commands

show device id-led

23.10 show device id-led

1 Command Purpose

Use this command to show device indicate led information.

2 Command Syntax

show device id-led

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show device indicate led information.

6 Examples

The following example shows the device indicates led information:

```
Switch# show device id-led

Indicate led is forced on
```

7 Related Commands

set device id-led

23.11 show schedule reboot

1 Command Purpose

Use this command to show schedule reboot information.

2 Command Syntax

show schedule reboot

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

Use this command to show schedule reboot information.

6 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
```

7 Related Commands

schedule reboot delay

schedule reboot at

23.12 stm prefer

1 Command Purpose

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.

2 Command Syntax

stm prefer default

3 Command Mode

Global Configuration

4 Default

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

5 Usage

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

6 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.
```

7 Related Commands

show stm prefer current

show stm prefer next

23.13 temperature

1 Command Purpose

Use this command to specify the system temperature monitor threshold.

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

2 Command Syntax

temperature *TEMP_LOW TEMP_HIGH TEMP_CRIT*

no temperature

Parameter	Parameter Description	Parameter Value
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

3 Command Mode

Global Configuration

4 Default

The default threshold is low temperature 5, high temperature 65, and critical temperature 80.

5 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.

6 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
```

7 Related Commands

show environment

23.14 clock set datetime

1 Command Purpose

Use this command to set system current date and time on the Switch.

2 Command Syntax

clock set datetime *ABS_TIME CLOCK_MONTH ABS_DAY ABS_YEAR*

Parameter	Parameter Description	Parameter Value
ABS_TIME	Current time	-
CLOCK_MONTH	Month of the year	1-12
ABS_DAY	Day of the month	1-31
ABS_YEAR	Year	2000-2037

3 Command Mode

Global Configuration

4 Default

The default time is based from UTC.

5 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.

6 Examples

This example shows how to manually set the system clock:

```
Switch(config)# clock set datetime 22:43:23 9 26 2017
```

7 Related Commands

show clock

23.15 clock set timezone

1 Command Purpose

Use this command to set timezone.

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

2 Command Syntax

clock set timezone *Z_NAME* (add | minus) *TZ_HOURS* (*TZ_MIN* (*TZ_SEC* |) |)

no clock set timezone

Parameter	Parameter Description	Parameter Value
Z_NAME	Zone name,	Valid characters are among “A-Za-z_”, 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	0-23
TZ_MIN	Minutes offset from UTC	0-59
TZ_SEC	Seconds offset from UTC	0-59

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 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
```

7 Related Commands

show clock

23.16 update bootrom

1 Command Purpose

Use this command to upgrade bootrom image.

2 Command Syntax

update bootrom *STRING*

Parameter	Parameter Description	Parameter Value
STRING	Source file direction	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

This command can upgrade bootrom image.

6 Examples

This example shows how to update bootrom image:

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

7 Related Commands

reboot

23.17 split interface

1 Command Purpose

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.

2 Command Syntax

split interface *IF_NAME_E* (10giga | 40giga)

no split interface *IF_NAME_E*

Parameter	Parameter Description	Parameter Value
IF_NAME_E	Interface name	-
10giga	Split to 10G port	-
40giga	Split to 40G port	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

Need to save configuration and reboot to make this command take effect.

6 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
```

7 Related Commands

reboot

23.18 schedule reboot at

1 Command Purpose

Use this command to set schedule reboot at a time.

Use the no form of this command to cancel the schedule.

2 Command Syntax

schedule reboot at *HOUR_MIN* (*YEAR_MON_DAY* |)

no schedule reboot

Parameter	Parameter Description	Parameter Value
HOUR_MIN	Specify the hour and minute	-
YEAR_MON_DAY	Specify the date for current year, year range is [2000, 2037]	-

3 Command Mode

Global Configuration

4 Default

None

5 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.

6 Examples

The following example shows how to set schedule reboot at a time:

```
Switch(config)# schedule reboot at 10:20 2016/10/2
```

7 Related Commands

show schedule reboot

23.19 schedule reboot delay

1 Command Purpose

Use this command to set schedule reboot after a time.

2 Command Syntax

schedule reboot delay *DELAY_TIME*

no schedule reboot

Parameter	Parameter Description	Parameter Value
DELAY_TIME	Specify the delay time	-

3 Command Mode

Global Configuration

4 Default

None

5 Usage

The reboot delay time could select be format HH:MM, or minutes in range of [1,720].

6 Examples

The following example shows how to set schedule reboot after a time:

```
Switch(config)# schedule reboot delay 100
```

7 Related Commands

show schedule reboot

23.20 telnet

1 Command Purpose

Use this command to remote access to other devices

2 Command Syntax

telnet mgmt-if *NAME_STRING* (*TCP_PORT* |)

Parameter	Parameter Description	Parameter Value
mgmt-if	Establish a remote connection through the management port	-
NAME_STRING	IP address or hostname of a remote system	-
TCP_PORT	Specify the tcp port number, the default number is 23	1-65535

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

The command is used to establish a connection to other devices through the management port.The default tcp port is 23.

6 Examples

The following example shows how to remote access to other devices:

```
Switch# telnet mgmt-if 10.10.39.101
```

7 Related Commands

None

24 IPFIX Commands

24.1 ipfix recorder

1 Command Purpose

Use this command to create a ipfix recorder and enter recorder configure mode. To remove the ipfix recorder, use the no form of this command.

2 Command Syntax

ipfix recorder *NAME*

no ipfix recorder *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix recorder name	Up to 32 characters

3 Command Mode

Global Configuration

4 Default

None

5 Usage

If ipfix recorder has existed, it will enter IPFIX recorder Configuration; if ipfix recorder is new, it will create a recorder and enter IPFIX recorder Configuration; this command should work with the commands of match and collect.

6 Examples

This example shows how to create ipfix recorder recorder1in global configuration and enter IPFIX recorder Configuration:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)#

Switch# configure terminal
Switch(config)# no ipfix recorder recorder1
```

7 Related Commands

decription

match ipv4

match ipv6

match mpls

match transport

collect ttl

collect flow

collect counter

24.2 description

1 Command Purpose

This command used to describe ipfix recorder, use the no form of this command to delete this description.

2 Command Syntax

description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value

DESCRIPTION	ipfix monitor description	The length of ipfix monitor description should not exceed 64 characters

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to describe recorder in IPFIX recorder Configuration:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# descrption this is a ipfix recorder
```

This example shows how to delete the description of the recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# no description
```

7 Related Commands

None

24.3 match ipv4

1 Command Purpose

This command configures the fields of ipv4 in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match ipv4 (source | destination) address (mask *IP_MASK_LEN* |)

match ipv4 (dscp | ecn | ttl)

no match ipv4 (source | destination) address

no match ipv4 (dscp | ecn | ttl)

Parameter	Parameter Description	Parameter Value
source	ipv4 source ipaddress	-
destination	ipv4 destination ipaddress	-
dscp	ipv4 dscp value	-
ecn	ipv4 ecn value	-
ttl	ipv4 ttl value	-
IP_MASK_LEN	mask length for ipv4 address	1-32

3 Command Mode

IPFIX recorder Configuration

4 Default

Default value is 32

5 Usage

None

6 Examples

This example shows how to configure to use ipv4 source address and ipv4 destination address in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match ipv4 source address

Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)#  match ipv4 destination address
```

7 Related Commands

None

24.4 match ipv6

1 Command Purpose

This command configures the fields of ipv6 in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match ipv6 (source | destination) address (mask *IPV6_MASK_LEN* |)

no match ipv6(source | destination)address

match ipv6(flowlabel | dscp)

no match ipv6(flowlabel | dscp)

Parameter	Parameter Description	Parameter Value
source	ipv6 source ipaddress	-
destination	ipv4 destination ipaddress	-
dscp	ipv6 dscp value	-

flowlabel	ipv6 flowlabel value	-
IPV6_MASK_LEN	mask length for ipv6 address	range is 1-128 and must be the multiple of 4

3 Command Mode

IPFIX recorder Configuration

4 Default

Default value is 128

5 Usage

None

6 Examples

This example shows how to configure to use ipv6 source address and ipv6 destination address in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match ipv6 source address

Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match ipv6 destination address
```

7 Related Commands

None

24.5 match mac

1 Command Purpose

this command configures the fields of mac in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match mac (destination | source) address

no match mac (destination | source)address

Parameter	Parameter Description	Parameter Value
source	Source mac address	-
destination	Destination mac address	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to use source mac address in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match mac source address
```

7 Related Commands

None

24.6 match transport

1 Command Purpose

This command configures the fields of transport in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match transport(destination-port | source-port | type)

no match transport(destination-port | source-port | type)

match transport icmp(opcode | type)

no match transport icmp(opcode | type)

Parameter	Parameter Description	Parameter Value
destination-port	Destination port	-
source-port	Source port	-
type	Transport layer type	-
opcode	Icmp operated code	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to use source port and destination port of transport in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match transport source-port

Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match transport destination-port
```

7 Related Commands

None

24.7 match vlan

1 Command Purpose

This command configures the fields of vlan in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match vlan(inner |)

no match vlan(inner |)

Parameter	Parameter Description	Parameter Value
inner	Inner VLAN	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to use inner vlan in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match vlan inner
```

7 Related Commands

None

24.8 match cos

1 Command Purpose

This command configures the fields of cos in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match cos(inner |)

no match cos(inner |)

Parameter	Parameter Description	Parameter Value
inner	Inner COS	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to use inner cos in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match cos inner
```

7 Related Commands

None

24.9 match interface (input | output)

1 Command Purpose

This command configures the fields of interface in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match interface (input | output)

no match interface (input | output)

Parameter	Parameter Description	Parameter Value
input	input direction	-
output	output direction	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure input direction in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match interface input
```

7 Related Commands

None

24.10 match vxlan-vni

1 Command Purpose

This command configures the fields of vxlan-vni in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match vxlan-vni

no match vxlan-vni

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to use vxlan-vni in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match vxlan-vni
```

7 Related Commands

None

24.11 match nvgre-key

1 Command Purpose

This command configures the fields of nvgre-key in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match nvgre-key

no match nvgre-key

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to use nvgre-key in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match nvgre-key
```

7 Related Commands

None

24.12 match packet (drop | non-drop)

1 Command Purpose

This command configures the fields of packet in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

match packet (drop | non-drop)

no match packet (drop | non-drop)

Parameter	Parameter Description	Parameter Value
drop	Drop packet	-
non-drop	Non-drop packet	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to use drop packet:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# match packet drop
```

7 Related Commands

None

24.13 collect counter

1 Command Purpose

this command configures byte number and packet number that needed to be collected in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

collect counter (delta |) (bytes | packets)

no collect counter (delta |) (bytes | packets)

Parameter	Parameter Description	Parameter Value
delta	delta counter	-
bytes	Collect flow with byte number	-
packets	Collect flow with packet number	-

3 Command Mode

IPFIX recorder Configuration

4 Default

Without collecting any information

5 Usage

None

6 Examples

This example shows how to configure to collect the number of flow's byte in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# collect counter bytes
```

7 Related Commands

None

24.14 collect flow

1 Command Purpose

This command configures to collect ipfix flow information in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

collect flow (drop | destination | fragmentation)

no collect flow (drop | destination | fragmentation)

Parameter	Parameter Description	Parameter Value

drop	Only collect the droped flows	-
destination	Collect destination address of flows	-
fragmentation	Only collect the fragmented flows	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to collect the destination address of flows in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# collect flow destination
```

7 Related Commands

None

24.15 collect ttl

1 Command Purpose

This command configures to collect ipfix flow information about ttl in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

collect ttl (maximum | minimum | changed |)

no collect ttl (maximum | minimum | changed |)

Parameter	Parameter Description	Parameter Value
maximum	Collect flow max ttl value	-
minimum	Collect flow min ttl value	-
changed	Collect flow ttl changed history	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to collect the maximum ttl and minimum ttl of the flows in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# collect ttl maximum
Switch(Config-ipfix-reocrder)# collect ttl minimum
```

7 Related Commands

None

24.16 collect timestamp

1 Command Purpose

This command configures to collect ipfix flow information about timestamp in ipfix recorder, use the no form of this command to delete this configure.

2 Command Syntax

collect timestamp (first | last)

no collect timestamp (first | last)

Parameter	Parameter Description	Parameter Value
first	Collect flow start timestamp	-
last	Collect flow end timestamp	-

3 Command Mode

IPFIX recorder Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure to collect the timestamp of the flows in ipfix recorder:

```
Switch# configure terminal
Switch(config)# ipfix recorder recorder1
Switch(Config-ipfix-reocrder)# collect timestamp  first
```

7 Related Commands

None

24.17 ipfix exporter

1 Command Purpose

Use this command to create a ipfix exporter and enter exporter configure mode.

To remove the ipfix exporter, use the no form of this command.

2 Command Syntax

ipfix exporter *NAME*

no ipfix exporter *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix exporter name	Up to 32 characters

3 Command Mode

Global Configuration

4 Default

None

5 Usage

If ipfix exporter has existed, it will enter IPFIX exporter Configuration;if ipfix exporter is new, it will create exporter and enter IPFIX exporter Configuration;this command should work with the other commands .

6 Examples

This example shows how to create ipfix exporter exporter1in global configuration and enter IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)#
```

This example shows how to delete ipfix exporter exporter1:

```
Switch# configure terminal
Switch(config)# no ipfix exporter exporter1
```

7 Related Commands

template data timeout

flow data timeout

event flow start

event flow end (tcp-end|timeout)

transport protocol udp

24.18 description

1 Command Purpose

This command used to describe ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value
DESCRIPTION	Ipfix exporter description	Up to 64 characters

3 Command Mode

IPFIX exporter Configuration

4 Default

None

5 Usage

None

6 Examples

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# descrption this is a ipfix exporter

Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# no description
```

7 Related Commands

None

24.19 destination

1 Command Purpose

This command used to configure collecter host name that need to receive flow records in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

destination mgmt-if ipv4 *IPV4_ADDR*

no destination

Parameter	Parameter Description	Parameter Value
IPV4_ADDR	IP address of collector	-

3 Command Mode

IPFIX exporter Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to create a host named host1 in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# destination mgmt-if ipv4 9.0.0.2
```

7 Related Commands

None

24.20 dscp

1 Command Purpose

this command used to configure the dscp value of the message that need to be sended in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

dscp *DSCP*

Parameter	Parameter Description	Parameter Value
DSCP	dscp value	0-63

3 Command Mode

IPFIX exporter Configuration

4 Default

63

5 Usage

None

6 Examples

This example shows how to configure dscp to be 20 in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# dscp 20
```

7 Related Commands

None

24.21 domain-id

1 Command Purpose

This command used to configure the ipfix domain value of the message that needs to be sent in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

domain-id *ID*

Parameter	Parameter Description	Parameter Value
ID	domain id	1-65535

3 Command Mode

IPFIX exporter Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure domain-id to be 1000 in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# domain-id 1000
```

7 Related Commands

None

24.22 template data timeout

1 Command Purpose

This command used to configure time interval of sending template data in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

template data timeout *TIMEOUT*

no template data timeout

Parameter	Parameter Description	Parameter Value
TIMEOUT	template data timeout	1-86400

3 Command Mode

IPFIX exporter Configuration

4 Default

600

5 Usage

None

6 Examples

This example shows how to configure time interval of sending template data to be 200 seconds in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# template data timeout 200
```

7 Related Commands

None

24.23 flow data timeout

1 Command Purpose

This command used to configure time interval of sending flow data in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

flow data timeout *TIMEOUT*

no flow data timeout

Parameter	Parameter Description	Parameter Value
TIMEOUT	flow data timeout	1-86400

3 Command Mode

IPFIX exporter Configuration

4 Default

600

5 Usage

None

6 Examples

This example shows how to configure time interval of sending flow data to be 200 seconds in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# flow data timeout 200
```

7 Related Commands

None

24.24 transport protocol

1 Command Purpose

This command used to configure to use which transport when send message in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

transport protocol udp port *UDP_PORT*

no transport protocol

Parameter	Parameter Description	Parameter Value
UDP_PORT	transport protocol number	Range is 2000 to 65535, Default is 2055

3 Command Mode

IPFIX exporter Configuration

4 Default

2055

5 Usage

None

6 Examples

This example shows how to configure transport protocol of flow data sended to be udp and its port is 3500 in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# transport protocol udp 3500
```

7 Related Commands

None

24.25 ttl

1 Command Purpose

This command used to configure the ttl of the sended message in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

ttl *TTL*

no ttl

Parameter	Parameter Description	Parameter Value
TTL	TTL value	1-255

3 Command Mode

IPFIX exporter Configuration

4 Default

255

5 Usage

None

6 Examples

This example shows how to configure ttl value of flow data to be 255 in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# ttl 255
```

7 Related Commands

None

24.26 event flow

1 Command Purpose

This command used to configure which event should triggle to send flow information at once in ipfix exporter, use the no form of this command to delete this description.

2 Command Syntax

event flow start

no event flow start

event flow end (tcp-end | timeout)

no event flow end (tcp-end | timeout)

3 Command Mode

IPFIX exporter Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure the event about ending tcp transmission of flow data will triggle to send flow information in IPFIX exporter Configuration:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# event flow tcp-end
```

7 Related Commands

None

24.27 flow data flush threshold length

1 Command Purpose

This command used to configure the threshold.When the threshold is reached,flow information should be sent at once in ipfix exporter

2 Command Syntax

flow data flush threshold length *LENGTH*

Parameter	Parameter Description	Parameter Value
LENGTH	length threshold value	1000-60000

3 Command Mode

IPFIX exporter Configuration

4 Default

1416

5 Usage

None

6 Examples

This example shows how to configure the length threshold value about flow data in IPFIX exporter Configuration.When the threshod is reached,flow data information will be sent at once.:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# flow data flush threshold length 2000
```

7 Related Commands

None

24.28 flow data flush threshold timer

1 Command Purpose

This command used to configure the threshold.When the threshold is reached,flow information should be sent at once in ipfix exporter

2 Command Syntax

flow data flush threshold timer *TIMER*

Parameter	Parameter Description	Parameter Value
TIMER	timer threshold value	100-60000

3 Command Mode

IPFIX exporter Configuration

4 Default

500

5 Usage

None

6 Examples

This example shows how to configure the timer threshold value in IPFIX exporter Configuration.When the threshod is reached,flow data information will be sent at once.:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# flow data flush threshold timer 1000
```

7 Related Commands

None

24.29 flow data flush threshold count

1 Command Purpose

This command used to configure the threshold.When the threshold is reached,flow information should be sent at once in ipfix exporter

2 Command Syntax

flow data flush threshold count *COUNT*

Parameter	Parameter Description	Parameter Value
COUNT	count threshold value	1-100

3 Command Mode

IPFIX exporter Configuration

4 Default

10

5 Usage

None

6 Examples

This example shows how to configure the count threshold value about flow data in IPFIX exporter Configuration.When the threshod is reached,flow data information will be sent at once.:

```
Switch# configure terminal
Switch(config)# ipfix exporter exporter1
Switch(Config-ipfix-exporter)# flow data flush threshold count 20
```

7 Related Commands

None

24.30 ipfix sampler

1 Command Purpose

Use this command to create a ipfix sampler and enter sampler configure mode. To remove the ipfix sampler, use the no form of this command.

2 Command Syntax

ipfix sampler *NAME*

no ipfix sampler *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix sampler name	Up to 32 characters

3 Command Mode

Global Configuration

4 Default

None

5 Usage

If ipfix sampler has existed, it will enter IPFIX sampler Configuration;if ipfix sampler is new, it will create sampler and enter IPFIX sampler Configuration;this command should work with the command of match and collect.

6 Examples

This example shows how to create ipfix sampler sampler1 in global configuration and enter IPFIX sampler Configuration:

```
Switch# configure terminal
Switch(config)# ipfix sampler sampler 1
Switch(Config-ipfix-sampler)#
```

This example shows how to delete ipfix sampler sampler1:

```
Switch# configure terminal
Switch(config)# no ipfix sampler sampler1
```

7 Related Commands

1 out-of

24.31 description

1 Command Purpose

2 Command Syntax

description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value
DESCRIPTION	ipfix sampler description	Up to 64 characters

3 Command Mode

IPFIX sampler Configuration

4 Default

None

5 Usage

None

6 Examples

```
Switch# configure terminal
Switch(config)# ipfix sampler sampler 1
Switch(Config-ipfix-sampler)# descrption this is a ipfix sampler

Switch# configure terminal
Switch(config)# ipfix sampler sampler 1
Switch(Config-ipfix-sampler)# no description
```

7 Related Commands

None

24.32 1 out-of

1 Command Purpose

This command used to configure the rate of ipfix sampler, use the no form of this command to delete this configure.

2 Command Syntax

1 out of *CLI_IPFIX_SAMPLER_RATE_RNG*

Parameter	Parameter Description	Parameter Value

CLI_IPFIX_SAMPLER_RATE_RNG	How many packets will sample one packet	2-8191

3 Command Mode

IPFIX sampler Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure the rate of sampling is 1/100 in IPFIX sampler Configuration:

```
Switch# configure terminal
Switch(config)# ipfix sampler sampler 1
Switch(Config-ipfix-sampler)# 1 out of 100
```

7 Related Commands

None

24.33 ipfix monitor

1 Command Purpose

Use this command to create a ipfix monitor and enter monitor configure mode. To remove the ipfix monitor, use the no form of this command.

2 Command Syntax

ipfix monitor *NAME*

no ipfix monitor *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix monitor name	Up to 32 characters

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to create ipfix monitor monitor1 in global configuration and enter IPFIX monitor Configuration:

```
Switch# configure terminal
Switch(config)# ipfix monitor monitor1
Switch(Config-ipfix-monitor)#
```

This example shows how to delete ipfix monitor monitor1:

```
Switch# configure terminal
Switch(config)# no ipfix monitor monitor1
```

7 Related Commands

recorder

exporter

24.34 description

1 Command Purpose

2 Command Syntax

description *DESCRIPTION*

Parameter	Parameter Description	Parameter Value
DESCRIPTION	The length of ipfix monitor description should not exceed 64 characters	Up to 64 characters

3 Command Mode

IPFIX monitor Configuration

4 Default

None

5 Usage

None

6 Examples

Add descriptoin for IPFIX monitor:

```
Switch# configure terminal
Switch(config)# ipfix monitor monitor1
Switch(Config-ipfix-monitor)# descrption this is a ipfix monitor
```

Remove description:

```
Switch# configure terminal
Switch(config)# ipfix monitor monitor1
Switch(Config-ipfix-monitor)# no description
```

7 Related Commands

None

24.35 recorder

1 Command Purpose

Use this command to create a ipfix recorder of the ipfix monitor. To remove the ipfix monitor, use the no form of this command.

2 Command Syntax

recorder *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix recorder name	Up to 32 characters

3 Command Mode

IPFIX monitor Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to create a recorder of the ipfix monitor configure mode:

```
Switch# configure terminal
Switch(config)# ipfix monitor monitor1
Switch(Config-ipfix-monitor)# recorder recorder1
```

7 Related Commands

None

24.36 exporter

1 Command Purpose

Use this command to create a ipfix exporter of the ipfix monitor. To remove the ipfix monitor, use the no form of this command.

2 Command Syntax

exporter *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix exporter name	Up to 32 characters

3 Command Mode

IPFIX monitor Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to create a exporter of the ipfix monitor configure mode:

```
Switch# configure terminal
Switch(config)# ipfix monitor monitor1
Switch(Config-ipfix-monitor)# exporter exporter1
```

7 Related Commands

None

24.37 ipfix monitor

1 Command Purpose

This command used to enable ipfix.

2 Command Syntax

ipfix monitor (input | output) *NAME* (sampler *NAME* |)

no ipfix monitor (input | output)

Parameter	Parameter Description	Parameter Value
input	do ipfix for the inputed packets	-
output	do ipfix for the outputed packets	-
NAME	IPFIX monitor name	Up to 32 characters
sampler NAME	IPFIX sampler name	Up to 32 characters

3 Command Mode

Interface Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to enable ipfix:

```
Switch# configure terminal
Switch(config)# interface eth-0-1
Switch(config-if)# ipfix monitor input monitor sampler test-sample
```

7 Related Commands

None

24.38 ipfix global

1 Command Purpose

Use this command to enter ipfix global configure mode.

2 Command Syntax

ipfix global

3 Command Mode

Global Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to enter ipfix global configure mode:

```
Switch# configure terminal
Switch(config)# ipfix global
```

7 Related Commands

None

24.39 flow aging

1 Command Purpose

Use this command to configure ipfix global flow aging interval.

2 Command Syntax

flow aging *INTERVAL*

Parameter	Parameter Description	Parameter Value
INTERVAL	The aging time of the flow	Range is 15 to 65535, the default is 1800 seconds

3 Command Mode

IPFIX Global Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure the aging time to be 200 seconds in global configure mode:

```
Switch# configure terminal
Switch(config)# ipfix global
Switch(config-ipfix-global)# flow aging 200
```

7 Related Commands

None

24.40 flow export

1 Command Purpose

Use this command to configure ipfix global flow export interval.

2 Command Syntax

flow export *INTERVAL*

Parameter	Parameter Description	Parameter Value
INTERVAL	The export time of the flow	Range is 0 to 1000, the default is 5 seconds

3 Command Mode

IPFIX Global Configuration

4 Default

None

5 Usage

None

6 Examples

This example shows how to configure the export time to be 200 seconds in global configure mode:

```
Switch# configure terminal
Switch(config)# ipfix global
Switch(config-ipfix-global)# flow export 200
```

7 Related Commands

None

24.41 flow sampler

1 Command Purpose

Use this command to configure ipfix flow sampler mode.

2 Command Syntax

flow sampler (new | all)

Parameter	Parameter Description	Parameter Value
new	only sample new flow	-
all	sample all flow	-

3 Command Mode

IPFIX Global Configuration

4 Default

all

5 Usage

None

6 Examples

This example shows how to configure the ipfix sampler to sample all flow in IPFIX global Configuration:

```
Switch# configure terminal
Switch(config)# ipfix global
Switch(config-ipfix-global)# flow sampler all
```

7 Related Commands

None

24.42 show ipfix global

1 Command Purpose

Use the show ipfix global privileged EXEC command to display the configure information of ipfix global.

2 Command Syntax

show ipfix global

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to display configuration about ipfix global in privileged EXEC mode:

```
Switch# show ipfix global
```

7 Related Commands

None

24.43 show ipfix recorder

1 Command Purpose

Use the show ipfix recorde privileged EXEC command to display the configure information of one ipfix recorder.

2 Command Syntax

show ipfix recorder *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix recorder name	Up to 32 characters

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to show ipfix recorder command:

```
Switch# show ipfix recorder recorder1
```

```
IPFIX recorder information:
    Name            : recorder1
    Description     :
    Match info      :
        match Source Mac Address
        match IPv4 Source Address
        match IPv4 Destination Address
        match Vxlanvni
    Collect info    :
        collect Flow Byte Number
        collect Flow Packet Number
```

7 Related Commands

None

24.44 show ipfix exporter

1 Command Purpose

Use the show ipfix exporter privileged EXEC command to display the configure information of one ipfix exporter.

2 Command Syntax

show ipfix exporter *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix exporter name	Up to 32 characters

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to display configuration about exporter1 in privileged EXEC mode:

```
Switch# show ipfix exporter exporter1

IPFIX exporter information:
    Name                            : exporter1
    Description                     :
    Domain ID                       : 0
    Collector Name                  : 9.0.0.2
    IPFIX message protocol          : UDP
    IPFIX message destination Port  : 2055
    IPFIX message TTL value         : 255
    IPFIX message DSCP value        : 63
    IPFIX data interval             : 200
    IPFIX template interval         : 1800
    IPFIX exporter events           :
        Flow aging event
```

7 Related Commands

None

24.45 show ipfix cache

1 Command Purpose

This command used to show the state information of the ipfix on the interface.

2 Command Syntax

show ipfix cache observe-point interface *IFNAME* (input | output)

show ipfix cache monitor *NAME*

show ipfix cache counter observe-point interface *IFNAME*

show ipfix cache counter monitor *NAME*

Parameter	Parameter Description	Parameter Value
IFNAME	Interface name	Support physical ports
NAME	ipfix monitor name	Up to 32 characters

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to show the state information of the ipfix on the interface eth-0-1in privileged EXEC mode:

```
Switch# show ipfix cache observe-point interface eth-0-1 input

  Cache dir               : input
  Cache flow profile      : 0
  Cache key profile       : 0
  Cache key info     :
      Source mac           : 0000.0002.0001
      ipsa                 : 10.10.10.3/32
      ipda                 : 10.10.10.1/32
  Cache collect info:
      Byte number of ingress                : 64
      Packet number of ingress              : 1
```

7 Related Commands

None

24.46 show ipfix monitor

1 Command Purpose

This command used to describe the configration of the ipfix monitor.

2 Command Syntax

show ipfix monitor *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix monitor name	Up to 32 characters

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to display configuration of monitor 1 in privileged EXEC mode:

```
Switch# show ipfix monitor monitor1

IPFIX monitor information:
    Name                              : monitor1
    Description                       :
    Recorder                          : recorder1
    exporter                          : exporter1
```

7 Related Commands

None

24.47 show ipfix sampler

1 Command Purpose

This command used to describe the configration of the ipfix sampler.

2 Command Syntax

show ipfix sampler *NAME*

Parameter	Parameter Description	Parameter Value
NAME	ipfix sampler name	Up to 32 characters

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to display configuration of sampler1 in privileged EXEC mode:

```
Switch# show ipfix sampler sampler1

IPFIX sampler information:
    Name                              : sampler1
    Description                       :
    Rate                              : 100
    Sample mode                       : determinate
    Flow mode                         : all
```

7 Related Commands

None

24.48 clear ipfix cache monitor

1 Command Purpose

This command used to clear cache with ipfix monitor name.

2 Command Syntax

clear ipfix cache monitor *NAME*

Parameter	Parameter Description	Parameter Value
NAME	IPFIX monitor name	Up to 32 characters

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to clear ipfix cache with name test in privileged EXEC mode:

```
Switch# clear ipfix cache monitor test
```

7 Related Commands

None

24.49 clear ipfix cache observe-point interface

1 Command Purpose

This command used to clear cache on interface.

2 Command Syntax

clear ipfix cache observe-point interface (*IFNAME*) (input | output)

Parameter	Parameter Description	Parameter Value
IFPHYSICAL	Name of interface	Support physical
input	the inputed packets	-
output	the outputed packets	-

3 Command Mode

Privileged EXEC

4 Default

None

5 Usage

None

6 Examples

This example shows how to clear ipfix cache on interface eth-0-1 in privileged EXEC mode:

```
Switch# clear ipfix cache observe-point interface eth-0-1 input
```

7 Related Commands

None

For questions, please contact Garland Technology Support at:
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Tel: 716.242.8500 Online: www.garlandtechnology.com/support