RG-S2600

RGOS 10.4(2)

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ЎĄ й ' RGOS®10.4(2) Â

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' ⅋ ^ ⅋ ⅋ ╿ ~

[ ] ' [ ] ╿ ˘ ⅋ ┘ Â

{ x | y | ... }' ÿ ч ┘ Â

[x | y | ...]' ÿ ч ┘ a Â

//' ┤ й Â

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2.	Ї Ą ǂ ⅄ è ˆ Л à ~ ˘ é Ո и Â
3.	Ї Ą ˘ Ʒ ЊЮ ˘ Ո Ь Â

1 CLI

1.1

1.1.1 alias

ع ا ˇ ا Л∪ Ю alias ع Â ع no
ا Л∪ ع ا Ю ع ا Â

alias *mode command-alias original-command*

no alias *mode* [*original-command*]

mode	ا ع ع ع Â
command-alias	ع ا Â
original-command	ا ع ع Â

EXEC Ю ˇ † ع ا Â

ع

EXEC Ю ع ا й **h** à**p** à**s** à**u** à**un** ا† й **help** à**ping** à**show** à **undebug** à **undebug** Â

ع ا a **no alias exec** ع Â
ع ا ˇ ا Л∪ ع ع Â ш ع† ✕ ī

```
Ruijie# s?
*s=show  show  start-chat  start-terminal-service
```

EXEC

```
Ruijie# s?
*s=show  *sv="show version" show  start-chat
start-terminal-service
```

```
Ruijie# s?
show  start-chat  start-terminal-service
```

"ip address"

```
Ruijie(config-if)# ia ?
A.B.C.D  IP address
dhcp     IP Address via DHCP
Ruijie(config-if)# ip address
```

"**ip address**"

show aliases

"ip route 0.0.0.0 0.0.0.0 192.168.1.1"

```
Ruijie# configure terminal
Ruijie(config)# alias config def-route ip route 0.0.0.0 0.0.0.0
192.168.1.1
Ruijie(config)# def-route?
*def-route="ip route 0.0.0.0 0.0.0.0 192.168.1.1"
Ruijie(config)# def-route?
% Unrecognized command.
Ruijie(config)# end
Ruijie# show aliases config
globle configure mode alias:
def-route          ip route 0.0.0.0 0.0.0.0 192.168.1.1
```

show aliases	

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˘ ˩ Л∪ Ю **privilege** ҳ Â
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ommand-string

mand-string

ҳ CLI ҳ Â
ҳ ҳ ˘ ˩ ѝ ˩ Â
ҳ ҳ ˘ 0-15 Â
ҳ ѝ Â
ҳ Â

˩ CLI ҳ ˘ a ˩ ˘ ˩ ˘ Ю˝ ˩ Л∪ **privilege ?**

0.0.2 294.68 -139.2 -19.1Hp

```
Ruijie(config)# enable secret level 1 0 test
Ruijie(config)# privilege exec level 1 reload
   ˘        1    CLI   ˘     ⅃Ⅱ    reload   ঽ'
Ruijie> reload ?
<cr>
       reload          ঽ           1     ˘    ⅃Ⅱ    all      '
Ruijie(config)# privilege exec all level 1 reload
   ˘        1    CLI   ˘     ⅃Ⅱ    reload         ঽ'
Ruijie> reload ?
at                  reload at a specific time/date
cancel              cancel pending reload scheme
in                  reload after a time interval
<cr>
```

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enable secret	CLI ঽ

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ЛЬЮ ˘ EXEC Ю ३ ⅃'

```
Ruijie# show aliases exec
exec mode alias:
h                   help
p                   ping
s                   show
u                   undebug
un                  undebug
```

2

2.1

2.1.1 disable

Ю æ ˘ ч disable Â

disable [*privilege-level*]

privilege-level	

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æ Â

disable ч Л Â

Ю æ '
Ruijie# **disable** *10*

enable	ÿ ˘ Â

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2.1.2 enable

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2.1.3 enable password

a ৶ ৡˇ ৡ **enable password** Â ৡ **no** ৡ Â

enable password [**level** *level*] {*password* | [**0** | **7**] *encrypted-password*}**no enable password**

Password	EXEC ৡ Â
Level	Â
0|7	ৡ ╗ ˇ 0 ╗ ˇ 7 ╗ Â
encrypted-password	ৡ Â

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╗ ˘ Л ʒ˘ a EXEC Â a ╗ ʒ Â ↓ ʒ Â

ЮЎ ʒ ѝ pw10Ў

```
Ruijie(config)# enable password pw10
```

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enable secret	ʒ Â

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2.1.4 enable secret

a ↓ ʒ˘ ʒ **enable secret** Â ʒ **no** ʒ Â

enable secret [**level** *level*] {*secret* | [**0 | 5**] *encrypted-secret*}

no enable secret

Secret	EXEC ʒ Â
Level	Â
0|5	ʒ ╗ ˘ 0 ╗ ˘ 5 ╗ Â
encrypted-password	ʒ Â

ʒ

ʒ б Ł Â **no enable service** ʒ Ł Â

Ю ʒ’ enable service ssh-sesrver, SSH Server ╖ '

```
Ruijie(Config˜ # enable service ssh-sesrver
```

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Telnet

```
configure terminal
line tty 1 16
```

enable Â

Web Â **no ip http authentication**
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Web local
```
Ruijie(config)# ip http authentication local
```


enable service

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2.1.9 ip telnet source-interface

Э IP й Telnet ˘ Ю˘ ᴝ Л Ъ **ip telnet source-interface** ʒ'

ip telnet source-interface *interface-name*

interface-name	Э IP й Telnet Â

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ʒ Э IP й Telnet Â telnet ʒ ᴓ Telnet Ь ˘ й ˘ Â **no ip telnet source-interface** ʒ й Â

Ю ʒ˘ Loopback 1 Э IP й Telnet '

```
Ruijie(config)# ip telnet source-interface Loopback 1
```

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telnet	ᴓ Telnet Ь Â

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10.4(2)	ʒ

2.1.10 lock

Э EXEC **lock**

lock

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Ruijie(config-line)# lockable
Ruijie(config-line)# end
Ruijie# lock
Password: <password>
Again: <password>
Locked
Password: <password>

lockable	Э

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2.1.11 lockable

Э **lock** ˇ Л Ц line Ю **lockable** ˇ
Ю a **lock** Â **no** л Â

lockable

no lockable

-	-

line

Э в ˇ в Л Ц EXEC Ю
lock Â

Ю ⁸ Л Э в ˇ в ⁸ Л'

```
Ruijie(config)# line console 0
Ruijie(config-line)# lockable
Ruijie(config-line)# end
Ruijie# lock
Password: <password>
Again: <password>
Locked
Password: <password>
```

lock	в Â

Л

login

no login

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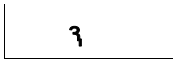
line

AAA VTY console

Ю VTY Э

```
Ruijie(config)# no aaa new-model
Ruijie(config)# line vty 0
Ruijie(config-line)# password 0 normatest
Ruijie(config-line)# login
```

password	line



line

username ϡ Â

Ю VTY Э Â

```
Ruijie(config)# no aaa new-model
Ruijie(config)# username  test password 0 test
Ruijie(config)# line vty 0
Ruijie(config-line)# login local
```

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username	Â

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2.1.15 privilege mode

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ê CLI ϡ Ì Â

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2.1.16 password

line ৡˇ line ৡ **password** Â ৡ **no** line ৡ Â

password {*password* | [*0*|*7*] *encrypted-password*}

no password

password	line ৡ Â

service password-encryption

interface *interface-name*	Telnet
/vrf *vrf-name*	VRF

	/ipv6 IPV6

1' Ю ˘ telnet IPV4 й 192.168.1.1˘ ˘
й vlan 1˘ VRF й vpn1'

```
Ruijie# telnet 192.168.1.1 /source interface vlan 1 /vrf vpn1
```

2' Ю ˘ telnet IPV6 й 2AAA:BBBB::CCCC'

```
Ruijie# telnet 2AAA:BBBB::CCCC
```

ip telnet source-interface	Э IP й Telnet '
show session	TTY '
exit	'

-	-

2.1.19 username

password	Â
0|7	Â
encrypted-password	Â
privilege-level	Â

message	

Ю

```
Ruijie(config)
Ruijie(config)# banner login $ enter your password $
```

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2.2.2 banner motd

Ю **banner motd** **no banner motd**

banner motd *c message c*

c	a
message	

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```
Ruijie#show boot system
system boot file: flash:/rgos.bin

Ruijie#dir
Directory of flash:/
   11015744 2008-01-01 08:00:46  rgos.bin
   12019754 2008-02-01 08:00:46  s5750_10_4.bin
       399 2006-01-01 08:01:37  config.text
33,030,144 bytes total. (10,590,592 bytes free)

Ruijie(config)# boot system s5750_10_4.bin
Ruijie(config)# show boot system
system boot file: flash:/ s5750_10_4.bin
```

╠ ˇ s5750_10_4.bin Â

show boot system	Â

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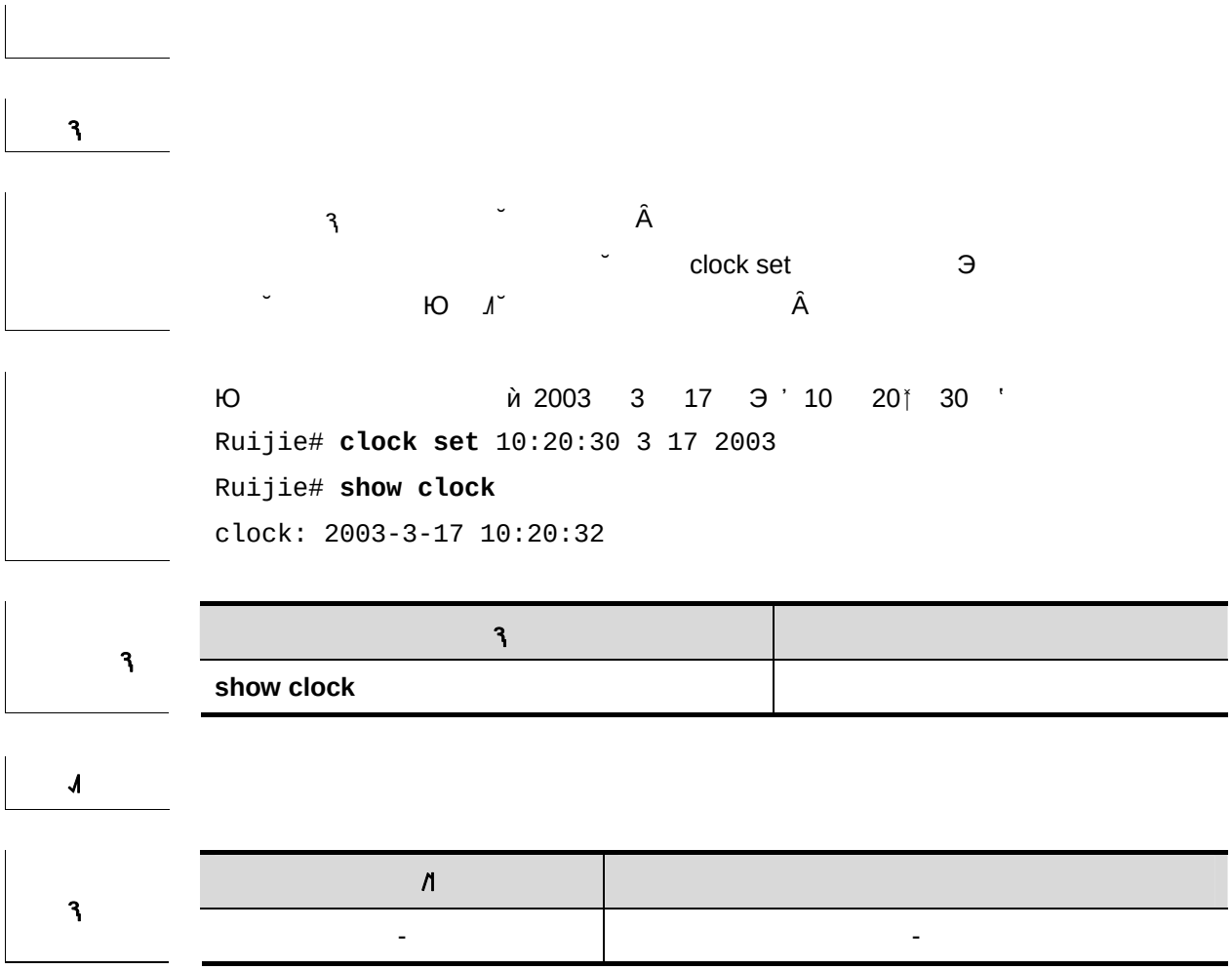
2.2.4 clock set

ˇ л Л **clock set** ч '

clock set *hh:mm:ss month day year*

hh:mm:ss	ˇ й ^ 24 ⁸ ~ : ↑ :
day	^ 1-31~ ˇ Â
month	^ 1-12~ ˇ
year	Ω ^ 1993-2035~ ˇ a Â



clock set

Ю

ю 2003 3 17 Э ' 10 20¦ 30 '

```
Ruijie# clock set 10:20:30 3 17 2003
Ruijie# show clock
clock: 2003-3-17 10:20:32
```

show clock	

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2.2.5 clock update-calendar

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clock update-calendar

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calendar Â

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```
Ruijie# clock update-calendar
```

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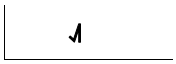

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ϡ ϟ ΠΥ ╟˘ Â

Ю 10† ΠΥ ϻ '

```
Ruijie# reload in 10
Router will reload in 600 seconds.
```

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2.2.10 session-timeout

LINE Э ˘ **session-timeout** ϡ Â
no session-timeout ϡ˘ ϟ LINE Ю ˘ a Â

session-timeout *minutes* [**output**]

no session-timeout

minutes	† '
output	≠ й ˘ '

й 0 min Â

ϡ LINE

˘ ÿ LINE Э ˘
˘ ˘ LINE й ϟ Â

Ю line vty 0 й 5† 30 '

Ruijie(config-line)# **exec-timeout** *5 30*

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-	-

/ϡ	
-	-

2.2.11 speed

ˇ ЮЎ ϡ **speed** *speed* Â
ˇ **no speed** ϡ Â

speed *speed*

Speed	ˇ Æ bps Â ˇ ˬ ϶ 9600 ã19200 ã38400 ã57600 ã 115200 ˇ 9600 Â

9600

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ϡ Â

ЮЎ ϶ 57600 bps'
Ruijie(config)# **line console** *0*
Ruijie(config-line)# **speed** *57600*

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/ϡ	
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2.2.12 write

ˆ running-config˜ Æ Â

write [**memory** | **network** | **terminal**]

memory	NVRAM˝ ˩ **copy running-config startup-config** Â
network	TFTP ˪ Э˘ ˩ **copy running-config tftp** Â

[Failed]
The device [usb1] does not exist, write to the default config file [/config.text]? [no] **yes**
Write to the default config file: [/config.text]
[OK]

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boot config	╟ ˩
copy	⁸
show running-config	

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2.3

2.3.1 show clock

ˇ ʒ **show clock** Â

show clock

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ʒ ˩ Л∪ ˇ detail Â

Ю **show clock** ʒ '

```
Ruijie# show clock
clock: 2003-3-17 10:27:21
```

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clock set	

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2.3.2 show line

˘ ΗΟ˘ ϡ **show line** Â

show line [**console** *line-num* **|** **aux** *line-num* **|** **vty** *line-num* **|** *line-num*]

console	⁸ ϡ
aux	aux
vty	vty
line-num	line

ϡ

ϡ˘ Â

ΗΟ console '

```
Ruijie# show line console 0
CON    Type    speed   Overruns
* 0    CON     9600    45927
Line 0, Location: "", Type: "vt100"
Length: 24 lines, Width: 79 columns
Special Chars: Escape  Disconnect  Activation
               ^^x     none        ^M
Timeouts:      Idle EXEC    Idle Session
               never        never
History is enabled, history size is 10.
```

Total input: 53564 bytes
Total output: 395756 bytes
Data overflow: 27697 bytes
stop rx interrupt: 0 times

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2.3.3 show reload

╟ ˘ Ю ϡ **show reload** Â

show reload

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Ю ╟ '
Ruijie# **show reload**
Reload scheduled in 595 seconds.
At 2003-12-29 11:37:42
Reload reason: test.

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2.3.4 show running-config

show running-config

show running-config

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```
By Ruijie Network
System start time: 1970-6-14 11:49:53
System uptime: 3:17:1:17
System hardware version: 2.0
System software version: RGOS 10.3.00(4), Release(34679)
System boot version: 10.2.34077
System CTRL version: 10.2.24136
System serial number: 1234942570001
```

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3 LINE

3.1 LINE

3.1.1 access-class

Line ÞO ACLˆ ¸ ~ Â **access-class** *acl-no* { **in | out** } ¾
Line ÞO ¸ Â no **access-class** *access-list-number* {**in | out**} ¾ ¼
LINE ÞO ACL Â

[**no**] **access-class** *access-list-number* {**in | out**}

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3.1.2 line

LINE ˘ ЛЬЮ ¾'

line [**aux** | **console** | **tty** | **vty**] *first-line* [*last-line*]

aux	˘ Э
console	8
tty	˘ Э
vty	˘ telnet/ssh
First-line	first-line /ı
Last-line	last-line /ı

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LINE Â

LINE VTY 1 3 LINE '

```
Ruijie(config)# line vty 1 3
```

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3.1.3 line vty

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line vty *line-number*

no line vty *line-number*

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Ю¯ ¬ VTY й 5¯ Л й 0--4 Â

¦

╕ ¬ VTY ˘ ¬ Л∪ Э ¦ Â

1' ¬ VTY ╕ 20¯ ¬ VTY Л й 0--19 Â

```
Ruijie(config)# line vty 19
```

2' ¬ VTY 10¯ ¬ VTY Л й 0—9 Â

```
Ruijie(config)# line vty 10
```

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3.1.4 transport input

Line Ю ¬ Л∪ ˘ **transport input** ¦ Line Ю ¬ Л∪ Â **default transport input** й LINE Ю й Â

transport input {**all | ssh | telnet | none**}

default transport input

all	Line Ю¯ Â
ssh	Line Ю¯ ¬ SSH Â

telnet	Line Ю˘ ¶ Telnet Â
none	Line Ю˘ a Â

˘ VTY Â è TTY й NONE˘ a
Â ¶Л» Л˘ ¶Л» **default transport input**
¶ й Â

¶ Line

¶ Line Ю ÂVTY Ю˘ Â
Л˘ ¶ ¶Л» VTY Э ╖ Â **show**
running ¶ Line Ю Â

d**efault transport inpu**t ¶ Â**no transport**
input ¶˘ LINE Ю Â б
transport input none ¶ Â

line vty 0 4 Ю˘ ¶ telnet '

```
Ruijie# configure terminal
Ruijie(config)# line vty 0 4
Ruijie(config-line)# transport input telnet
```

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show running	Â

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4

4.1

4.1.1 ping

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ping [**vrf** *vrf-name*] [**ip**] [*ip-address* [**length** *length*] [**ntimes** *times*] [**timeout** *seconds*] [**data** *data*] [**source** *source*] [**df-bit**] [**validate**]]

é DNS ¦ Â

1' ping '

```
Ruijie# ping 192.168.5.1
Sending 5, 100-byte ICMP Echoes to 192.168.5.1, timeout is 2 seconds:
  < press Ctrl+C to break >
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/2/10
ms
```

2' ping '

```
Ruijie# ping 192.168.5.197 length 1500 ntimes 100 timeout 3 data ffff
source 192.168.4.10
 Sending 100, 1000-byte ICMP Echoes to 192.168.5.197, timeout is 3
seconds:
  < press Ctrl+C to break >
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Success rate is 100 percent (100/100), round-trip min/avg/max = 2/2/3
ms
```

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4.1.2 ping ipv6

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ping [**ipv6**] [*ip-address* [**length** *length*] [**ntimes** *times*] [**timeout** *seconds*] [**data** *data*] [**source** *source*]]

ip-address	IPv6 Â

length	
times	
seconds	
data	ٰl
source	IPv6 Â è ˘ ˆ ::1˜ a ѝ Â

ˆ ѝ 2 ˜ ˘ 5 ѝ 100Byte IP Â

ٶ

Ping ipv6 ٶ Ю˝ Ю˝ ٧
ping ipv6 ╖ ˘ Ю˝ ٫Ъ ping ipv6 ╖ Â
ping ipv6 ╖ ˘ ٫Ъ Ю ˘ ˆ
ѝ 2 ˜ ˘ 5 ѝ 100Byte IP ˘ ˘
‘!ᵖ ˘ ‘.ᵖ б a ٦ ˘
a ‘Cᵖ ٨ Â ping ipv6 ╖ ˘ ٧ Ю
˘ ping ˘ ٫Ъ à ˘ ˘
ping ipv6 ╖ ˘ ٨ ≠ Â ╖

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⊿	ϡ	ipv6 Э Â

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	-	-

4.1.3 traceroute

traceroute ϡ˘ ⊣ Л∪ ÿ .

traceroute [**vrf**] [*vrf-name*] [**ip** *ip-address*][*ip-adress* [**probe** *number*] [**source** *source*] [**timeout** *seconds*] [**ttl** *minimum maximum*]]

vrf-name	VRF ⊿
Ip-address	IPv4 Â
number	
source	IPv4 Â ὲ ˘ ˆ 127.0.0.1˜ a ὶ Â
seconds	
minimum maximum	

```
2     192.168.9.2     4 msec  4 msec 4 msec
3     192.168.9.1     8 msec  8 msec  4 msec
4     192.168.0.10    4 msec  28 msec  12 msec
5     202.101.143.130     4 msec  16 msec  8 msec
6     202.101.143.154    12 msec  8 msec  24 msec
7     61.154.22.36    12 msec  8 msec  22 msec
ÿ Э       ˘  ˩Л         ˘  ÿ            IP     й 61.154.22.36   ў  ˘
                  ˆ 1˙  6˜ ˘  ˩                                  ˘
ǀ   ˘            Â
  2'              a      traceroute     '
Ruijie# traceroute 202.108.37.42
< press Ctrl+C to break >
Tracing the route to 202.108.37.42
1     192.168.12.1    0 msec  0 msec  0 msec
2     192.168.9.2       0 msec  4 msec 4 msec
3     192.168.110.1    16 msec  12 msec  16 msec
4     *  *  *
5     61.154.8.129     12 msec  28 msec  12 msec
6     61.154.8.17       8 msec  12 msec  16 msec
7     61.154.8.250     12 msec  12 msec  12 msec
8     218.85.157.222   12 msec  12 msec  12 msec
9     218.85.157.130   16 msec  16 msec  16 msec
10     218.85.157.77   16 msec  48 msec  16 msec
11     202.97.40.65    76 msec  24 msec  24 msec
12     202.97.37.65    32 msec  24 msec  24 msec
13     202.97.38.162   52 msec  52 msec  224 msec
14     202.96.12.38     84 msec  52 msec  52 msec
15     202.106.192.226   88 msec  52 msec  52 msec
16     202.106.192.174   52 msec  52 msec  88 msec
17     210.74.176.158   100 msec  52 msec  84 msec
18     202.108.37.42    48 msec  48 msec  52 msec
ÿ Э       ˘  ˩Л         ˘  ÿ            IP     й 202.108.37.42   ў  ˘
                    ˆ 1˙  17˜ ˘    з     4          Â
Ruijie# traceroute www.ietf.org
Translating " www.ietf.org "...[OK]
< press Ctrl+C to break >
Tracing the route to 64.170.98.32
1     192.168.217.1   0 msec  0 msec  0 msec
2     10.10.25.1        0 msec  0 msec  0 msec
```

```
3     10.10.24.1        0 msec  0 msec  0 msec
4     10.10.30.1        10 msec 0 msec  0 msec
5     218.5.3.254       0 msec  0 msec  0 msec
6     61.154.8.49       10 msec 0 msec  0 msec
7     202.109.204.210    0 msec  0 msec  0 msec
8     202.97.41.69      20 msec 10 msec 20 msec
9     202.97.34.65      40 msec 40 msec 50 msec
10    202.97.57.222     50 msec 40 msec 40 msec
11    219.141.130.122    40 msec 50 msec 40 msec
12    219.142.11.10     40 msec 50 msec 30 msec
13    211.157.37.14     50 msec 40 msec 50 msec
14    222.35.65.1       40 msec 50 msec 40 msec
15    222.35.65.18      40 msec 40 msec 40 msec
16    222.35.15.109     50 msec 50 msec 50 msec
17    *      *      *
18   64.170.98.32     40 msec 40 msec 40 msec
```

¾	
-	-

Ñ
-

¾	
Ñ	
-	-

4.1.4 traceroute ipv6

traceroute ipv6 ¾˘ ˩ Ʌʊ ÿ
Â

traceroute [**ipv6** *ip-address*][[**probe** *number*] [**timeout** *seconds*] [**ttl** *minimum maximum*]]

Ip-address	IPv6 ˩ Â
number	
seconds	
minimum maximum	TTL

ʒ

Traceroute ipv6 ʒ ў ˘ ˘ Æ
Æ Â ˩ ˥ ˘ ″I ˩ ˩ ˘ é DNS
ˆ Â

ЛЬЮ й traceroute ipv6 ч ˘ й ˘ й
a Â

1' traceroute ipv6 '

```
Ruijie# traceroute ipv6 3004::1
 < press Ctrl+C to break >
Tracing the route to 3004::1
1     3000::1        0 msec  0 msec  0 msec
2     3001::1        4 msec  4 msec 4 msec
3     3002::1        8 msec  8 msec  4 msec
4     3004::1        4 msec  28 msec  12 msec
```

ў Э ˩ Л˘ ˘ ў IP й *3004::1* ў ˘
ˆ 1˙ 4˜ ˘ ˩ ˘ ˆ ˘
Â

2' a traceroute ipv6 '

```
Ruijie# traceroute ipv6 3004::1
 < press Ctrl+C to break >
Tracing the route to 3004::1
1     3000::1        0 msec  0 msec  0 msec
2     3001::1        4 msec  4 msec 4 msec
3     3002::1        8 msec  8 msec  4 msec
4     * * *
5     3004::1        4 msec  28 msec  12 msec
```

ў Э ˩ Л˘ ˘ ў IP й *3004::1* ў ˘
ˆ 1˙ 5˜ ˘ з 4 Â

ʒ

ʒ	
-	-

˩

¾	

-

-

5

5.1

5.1.1 carrier-delay

Ю **carrier-delay** **no**
Â

carrier-delay [*seconds*]

no carrier-delay

seconds	1 60 Â

2 Â
Ruijie_0 1fig)#.12 0 f 4T0 1 T6 2812.52 63interface gigabitethernet.12 0 f 5Tj /TT05 249 0.0007 /1.12

Â

DCD ÿ Down Up
DCD a Э
Â
DCD
Â DCD
Â

ЛЮ

-	-

5.1.2 clear counters

clear counters [*interface-id*]

interface-id	Â

Â

Â

show interfaces **clear counters** Â a Â

```
Ruijie# clear counters gigabitethernet 1/1
```

show interfaces	Â

-	-

5.1.3 clear interface

Æ

clear interface *interface-id*

interface-id	Â

ʒ

ʒ ˂ Switch Port,L2 Aggregrate port ,Routed port,L3 Aggregate port
Â ʒ **shutdown** **no shutdown** ʒ Â

```
Ruijie# clear interface gigabitethernet 1/1
```

ʒ	
shutdown	

˄

˄	
-	-

5.1.4 descriptioin

˃ Â ʒ no Â

description *string*

no description

string	˃ Â

˃ Â

ʒ

show interfaces ʒ ˘ ˃ Â

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# description GBIC-1
```

ʒ	
show interfaces	Â

ʃ

ʃ	ʃ
-	-

5.1.5 duplex

Ю ʒ ʃ Â ʒ **no** ѝ Â

duplex {**auto** | **full** | **half**}

no duplex

auto	ʃ ʃ Â
full	ʃ Â
half	ʃ Â

ʃ ʃ Â

ʃ

ʃ б Â ʃ Л **show interfaces** ʒ ʃ Â

```
Ruijie(config-if)# duplex full
```

ʒ	

ʒ ⁸ Â ʒ no ѝ Â

flowcontrol {**auto** | **off** | **on**}

no flowcontrol

auto	⁸ Â
off	⁸ Â
on	⁸ Â

⁸ Â

ʒ

show interfaces ⁸ ⁸ Â

˜l Л∪ 1/1 ⁸'

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# flowcontrol on
```

ʒ	
show interfaces	Â

ʌ

ʌ	
-	-

5.1.7 interface aggregateport

ʒ ʒ˘ ˘ Â ʒ
no Â

interface aggregateport *port-number*

port-number	Aggregate port ʌ˘ ¤ Â

ʒ

˩ Л∪ ˘ è ╗ aggregate port Âaggregate port
ѝ ˘ aggregate port ¤ Â **show interfaces** **show interfaces aggregateport** ʒ Â

```
Ruijie(config)# interface aggregateport 3
Ruijie(config-if)#
```

ʒ	
show interfaces	Â

˩ -

ʃ	
-	-

5.1.8 interface fastEthernet

ʒ ʒ˘ Л∪ ˘ Â

interface fastEthernet *mod-num*/*port-num*

mod-num/port-num	ʃ/

ϡ

ϡ	
show interfaces	Â

ϡ -

ϡ

Ⲙ	
-	-

5.1.9 interface giagbitEthernet

ϡ ϡ˘ ˜I Ⲙυ ˘ Â

interface gigabitEthernet *mod-num/port-num*

mod-num/port-num	Ⲙ/ Э Ⲙ˘ ᾱ Â

ϡ

ϡ

ϡ **no** ˘ a Â **m**

ৡ

ৡ ৡ˘ 10G Л∪ ˘ Â

interface tenGigabitEthernet *mod-num/port-num*

mod-num/port-num	Л/ Э Л˘ ᾱ Â

ৡ **no** ˘ a Â **show interfaces** **show interfaces tenGigabitEthernet** ৡ Â

```
Ruijie(config)# interface tenGigabitEthernet 1/2
Ruijie(config-if)#
```

ৡ	
show interfaves	Â

Л Â

Л	
-	-

5.1.11 interface vlan

ৡ ৡ˘ ╟ ˆ switch virtual interface˘ SVI˜ ˘ Â ৡ **no** SVI Â

interface vlan *vlan-id*

no interface vlan *vlan-id*

vlan-id	VLAN ID˘ ᾱ Â

show interfaces	Â

ˇ ⅋ Â ⅋ **no** Â

shutdown

no shutdown

-	-

⅋

ˆ Л∪ à Ap à SVI ˜ ˇ ⅋ ˇ ε ÿ

ˇ a Â **show interfaces** ⅋ Â

no shutdown ˇ ┘

Â

1' Ap 1'

```
Ruijie(config)# interface aggregateport 1
Ruijie(config-if)# shutdown
```

2' Ap 1'

```
Ruijie(config)# interface aggregateport 1
Ruijie(config-if)# no shutdown      i8sCf29gateport
```

snmp trap link-status

no snmp trap link-status

ЮЎ ╖ ˇ Link ↓ ˇ SNMP LinkTrap Â

ϡ Â

ˆ Л∪ à Ap à SVI ˜ ˇ ϡ LinkTrapЎ
╖ ˇ Link ↓ ˇ SNMP LinkTrap, ↓ a Â

1' Ю й a Link trapЎ

```
Ruijie(config)# interface gigabitEthernet 1/1
Ruijie(config-if)# no snmp trap link-status
```

2' Ю й Link trapЎ

```
Ruijie(config)# interface gigabitEthernet 1/1
Ruijie(config-if)# snmp trap link-status
```

ϡ	
Ruijie(config-if)# **snmp trap link-status**	link trap ╖ Â
Ruijie(config-if)# **no snmp trap link-status**	link trap ╖ Â

↓

↓	
-	-

5.1.16 speed

Â ϡ **no**

10	й 10Mbps Â
100	й 100Mbps Â

1000	ѝ 1000Mbps Â
10G	ѝ 10Gbps Â
auto	ѝ Â

Â

Ap ˘ Ap ā ˘ ⅃Ⱡ ˘
a Â Ap Â **show interfaces** Â
a ⅃˘ ≠ a ⅃ Â ˘ SFP a
ѝ 10M 100M Â

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# speed 100
```

VLAN ID VLAN ID VLAN
VLAN VLAN ID VLAN
trunkport

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport access vlan 2
```

switchport mode	switch port
switchport trunk	trunkport native VLAN Trunk VLAN

-

-	-

5.1.18 switchport mode

switch port access port trunk port, 802.1Q **no**

switchport mode {**access | trunk**}

no switchport mode

access	switch port access port
trunk	switch port trunk port

switch port access

switch port access VLAN
switchport access vlan VLAN
switch port trunk VLAN

VLAN ل VLAN ā ˘ trunk port ل VLAN
VLAN Â ل ∩ **switchport trunk** ع ⊮ ل VLAN Â

Ruijie(config-if)# **switchport mode trunk**

ع	
switchport access	ى statics accessport˘ ى VLAN Â
switchport trunk	ى trunkport native VLAN Trunk ل VLAN Â

ل

∕	
-	-

5.1.19 switchport trunk

ى trunkport native VLAN Trunk ل VLAN Â
ع no trunk ى Â

switchport trunk {**allowed vlan** {**all |** [**add | remove | except**] *vlan-list* }**| native vlan** *vlan-id*}

no switchport trunk {**allowed vlan | native vlan**}

allowed vlan *vlan-list*	Trunk ل VLAN Â vlan-list ل ∩ VLAN˘ ≠ ل ∩ VLAN˘ ∩ VLAN ID ˘ ∩ VLAN ID ˘ ^ -˜ ∕ Â ' 10-20 Â ل ∩ ^ ,˜ ∕ ˘ ' 1-10,20-25,30,33 all ⊮ ل VLAN VLAN˙ add VLAN ╗ ل VLAN ' remove VLAN ÿ ل VLAN ' except VLAN VLAN ╗ ل VLAN '

native vlan *vlan-id*

5.2

5.2.1 show interfaces

˘ Л∪ ″I Â

show interfaces [*interface-id*] [**counters | description | status | switchport | trunk | transceiver [alarm | diagnosis]]**

interface-id	ˆ Л∪ à aggregateport à SVI à loopback ˜ Â
counters	Â
description	˘ link Â
status	γ ˘ à ˩ Â
switchport	γ ˘ ˩ γ Â
trunk	trunking port ˘ à Aggregate port Â
transceiver	″I Â
alarm	″I ˘ l' None Ł Â
diagnosis	″I Â

Â

a ╗ ˘ Â

```
Ruijie# show interfacesgigabitEthernet 0/1 switchport
Interface Switchport ModeAccess Native Protected VLAN lists
--------- ---------- --------- ------ ------ ---------
GigabitEthernet 0/1 enabled Access 11  Disabled  ALL
```


duplex

interface gigabitEthernet	Л∪ ˆ ¨l Л∪ ~ ˘ Â
interface aggregateport	˘ Â
interface vlan	╟ ˆ switch virtual interface˘ SVI˜ ˘ Â
shutdown	˘ ҂ Â
speed	Â
switchport priority	802.1q ¨l Â
switchport protected	и Â

/I	
-	-

6 Aggregate Port

6.1

6.1.1 aggregateport load-balance

AP Â ҳ no й Â

aggregateport load-balance {**dst-mac** | **src-mac** | **src-dst-mac** | **dst-ip** | **src-ip** | **src-dst-ip** }

no aggregateport load-balance

dst-mac	MAC ў Â AP ˘ MAC ﻉ ﻉ ˘ MAC a ﻉ ў a ﻉ Â
src-mac	MAC ў Â AP ˘ a ﻉ MAC ў a ﻉ ˘ ﻉ MAC ﻉ Â
src-dst-ip	IP б IP ў Â a ﻉ IP—— IP a ﻉ ˘ ﻉ IP—— IP ﻉ Â Ь Ю Â
dst-ip	IP ў Â AP ˘ IP ﻉ ﻉ ˘ IP a ﻉ ў a ﻉ Â
src-ip	IP ў Â AP ˘ a ﻉ IP ў a ﻉ ˘ ﻉ IP ﻉ Â
src-dst-mac	MAC б MAC ў Â a ﻉ MAC—— MAC a ﻉ ˘ ﻉ MAC—— MAC ﻉ Â

MAC ў Â

ҳ Â

show aggregateport load-balance ¾ Â

```
Ruijie(config)# aggregateport load-balance dst-mac
```

¾	
show aggregateport load-balance	aggregateport Â

¼ -

¼	
-	-

6.1.2 port-group

ѝ Aggregate Port Â ¾ no Aggregate Port Â

port-group *port-group-number*

no port-group

port-group-number	Aggregate Port ¼˘ Aggregate Port ¼ Â

a Aggregate Port Â

¾ Â

AP ¿ VLAN ˘ trunk port Â a ¿ native VLAN a AP

Ю Л 1/3 AP 3 '

```
Ruijie(config)# interface gigabitethernet 1/3
Ruijie(config-if)# port-group 3
```

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	-	-

6.2 e9(eg-9(eg))1(-5pte Port)

7 VLAN

7.1

7.1.1 name

VLAN ¼ Â ¾ **no** Â

name *vlan-name*

no name

vlan-name	VLAN ¼

VLAN ¼ ¸ VLAN¯ VLAN ID˘ VLAN 2 ¼ ¸ ”VLAN0002”

¾ VLAN

show vlan ¾ vlan

```
Ruijie(config)# vlan 10
Ruijie(config-vlan)# name vlan10
```

¾	
show vlan	VLAN Â

¼

¼	
-	-

7.1.2 switchport access

¾ ¸ access port˘ ¸ VLAN Â

¾ **no** VLAN Â

switchport access vlan *vlan-id*

no switchport access vlan

access	switch port ˙ access port Â
trunk	switch port ˙ trunk port Â
hybrid	switch port ˙ hybrid port Â

no switchport trunk {**allowed vlan** | **native vlan** }

allowed vlan *vlan-list*	Trunk ٫ VLAN Â vlan-list ٫ Л Ъ VLAN˘ ≠ ٫ Л Ъ VLAN˘ Л Ъ VLAN ID ˘ Л Ъ VLAN ID ˘ ^ -˜ /! Â ' 10-20 Â ٫ Л Ъ ^ ,˜ /! ˘ ' 1-10,20-25,30,33 all Ћ ٫ VLAN VLAN' add VLAN ╗ ٫ VLAN ' remove VLAN ÿ ٫ VLAN ' except VLAN VLAN ╗ ٫ VLAN '
native vlan *vlan-id*	Native VLAN Â

٫ VLAN all˘ Native VLAN VLAN 1

٪

Native VLAN'

й Trunk˘ native VLAN Â native VLAN˘ Э
UNTAG ˘ й VLAN Â ˘ VLAN ID
^ IEEE 802.1Q PVID˜ native VLAN VLAN ID Â ٫ ˘ Trunk Э
native VLAN ˘ UNTAG Â

٫ VLAN '

Trunk ٫ Л Ъ VLAN˘ 1˙ 4094˜ Â ˘ ≠ ٫ Л Ъ
Trunk ٫ VLAN 8 VLAN a Trunk Â
show interfaces switchport ٪ Â

Ю VLAN 2 ÿ 1/15 '

```
Ruijie(config)# interface fastethernet 1/15
Ruijie(config-if)# switchport trunk allowed vlan remove 2
Ruijie(config-if)# end
Ruijie# show interfaces fastethernet1/15 switchport
Interface  Switchport Mode  Access Native Protected VLAN lists
--------- --------- --------- --------- --------- --------
FigabitEthernet 1/15  enabled  TRUNK  1   1   Disabled  1,3-4094
```

	३	

-	-

7.2

7.2.1 show vlan

VLAN Â

show vlan [**id** *vlan-id*]

vlan-id	VLAN ID /I Â

¾

˘ **end** ¾˘ **Ctrl+C** Â

˘ **exit** ¾

```
Ruijie# show vlan id 1
VLAN Name                            Status    Ports
---------- ------------ ------------ ---------- ----------
   1 VLAN0001                        STATIC    Fa0/1, Fa0/2
```

¾	
name	VLAN ⅃ Â
switchport access	╗ Vlan Â

¾

/I	
-	-

8 Private VLAN

8.1

8.1.1 private-vlan association

secondary VLAN primary VLAN

private-vlan association {*svlist* | **add** *svlist* | **remove** *svlist*}

no private-vlan association

private-vlan mapping {*svlist* | **add** *svlist* | **remove** *svlist*}

no private-vlan mapping

svlist	secondary VLAN list
no	

҃ Primary VLAN

```
Ruijie(config)# interface vlan 22
Ruijie(config-if)# private-vlan mapping add 24-26
```

҃	
show vlan private-vlan	-

RGOS10.1 Л Э

Л	
-	-

8.1.3 private-vlan type

VLAN й VLAN

private-vlan {*community* | *isolated* | *primary*}

no private-vlan {*community* | *isolated* | *primary*}

community	й community VLAN
isolated	й isolated VLAN
primary	й primary VLAN
no	VLAN

VLAN

ঃ VLAN

```
Ruijie(config)# vlan 22
Ruijie(config-vlan)# private-vlan primary
```

ঃ	

ʒ	
show vlan private-vlan	-

RGOS10.1 Л Э

Л	
-	-

8.1.5 switchport private-vlan host-association

private VLAN ў primary VLAN secondary VLAN

switchport private-vlan host-association *p_vid s_vid*

no switchport private-vlan host-association

p_vid	primary VID
s_vid	secondary VID
no	ÿ VLAN ў

```
Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# switchport mode private-vlan host
Ruijie(config-if)# switchport private-vlan host-association 22 23
```


OS 1 1.006 T0 1.994.02 0 0 10.0 2 439.32 12541 60 1 Tf1198 -0.

- -

show vlan private-vlan [**community** | **primary** | **isolated**]

primary	primary VLAN
community	community VLAN
isolated	isolated VLAN

private VLAN

३

Ruijie# **show vlan private-vlan**

३	
-	-

RGOS10.1 Л Э

४	
-	-

8.3 Hybrid

8.3.1 switchport hybrid allowed vlan

switchport hybrid allowed vlan[[**add**][**tagged** | **untagged**] | **remove**] *vlist*

no switchport hybrid allowed vlan

hybrid

no	hybrid

	[redacted]

	[redacted]

	[redacted]

ʒ	/ʃ	
	-	-

8.3.3 switchport mode hybrid

switchport mode hybrid

no switchport mode

ʲʃ hybrid

no	hybrid

ʒ

Ruijie(config-if)# **switchport mode hybrid**

	ʒ	

9 802.1Q Tunneling

9.1

9.1.1 frame-tag tpid tpid

tpid

frame-tag tpid <*tpid*>

no frame-tag tpid

no	

```
Ruijie(config)# interface g0/3
Ruijie(config-if)# frame-tag tpid 9100
Ruijie(config-if)# end
Ruijie# show frame-tag tpid
Port    tpid
------  ---------
Gi0/3    0x9100
```

show frame-tag tpid	-

RGOS10.1

-	-

9.1.2 inner-priority-trust enable

/ ¼ tag ¨l tag ⁸

inner-priority-trust enable

no inner-priority-trust enable

	ÆÄ
no	¼ tag ¨l tag ⁸

¾

```
Ruijie(config)#
```

show vlan private-vlan	-

RGOS10.1

-	-

9.2

9.2.1 show frame-tag tpid

private VLAN

show frame-tag tpid [**interface <***interface***>**]

interface	

a tpid

```
Ruijie# show frame-tag tpid
Ruijie# show frame-tag tpid interface gi0/1
Port    tpid
-----  ---------
Gi0/1   0x9100
```

-	-

RGOS10.1

-	-

9.2.2 show inner-priority-trust

show inner-priority-trust

-	-

a

```
Ruijie# show inner-priority-trust
Port    inner-priority-trust
----    ----------
Gi0/1   enable
```

-	-

RGOS10.1

-	-

10 Share VLAN

10.1

10.1.1 share

¸ share vlan Â

ֽ ˘ Status original ' Status duplicated 8 ' Status й ˘ share vlan Â

-	-

ֽ

˘ **end** ֽ˘ Ctrl+C Â ˘ **exit** ֽ

```
Ruijie# show mac-address-table share
Vlan  MAC Address     Type    Interface   Status
----  --------------- ------- ----------- ----------
   1   0040.4650.1e1e DYNAMIC Gigabit 0/1 original
   2   0040.4650.1e1e DYNAMIC Gigabit 0/1 duplicated
```

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ֽ	
-	-

ʎ

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-	-

11 MAC

11.1

11.1.1 address-bind 1 1 . 1 .

/

address-bind install

no address-bind install

-	-

٦

˘ ٦ ٦ Â

Ю fa 0/1 й

```
Ruijie(config)# address-bind uplink fa0/1
Ruijie(config)# address-bind install
```

٦

٦	
show address-bind uplink	

RGOS10.1 Л Э

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Л	
-	-

11.1.3 address-bind ip-address

ip mac .

address-bind *ip-address mac-address*

no address-bind *ip-address*

ip-address	IP Â
mac-address	mac Â

ʒ

IP MAC ˘ IP ѝ IP
˘ MAC a ѝ IP MAC ˘
Â

Ю ip ѝ 3.3.3.3 mac 00d0.f811.1112

```
Ruijie(config)# address-bind 3.3.3.3 00d0.f811.1112
```

ʒ

ʒ	
show address-bind	

Ѵ -

ʒ

Ѵ	
-	-

11.1.4 address-bind ipv6-mode

ip IP

address-bind ipv6-mode compatible

address-bind ipv6-mode loose

ш

address-bind ipv6-mode strict

-	-

ш Â

ʒ

ѓ ѝ: ˘ ˘ ш Ь ˘ ѝ ш Â ѐ
˘ Ю '

	Ipv4	
ш	¬ IPV4+MAC	Â
	¬ IPV4+MAC	Â
	¬ IPV4+MAC	Â

	IPV6	
ш	a ipv6 ˆ ˜ Â	
	IPV6 Â	
	¬ MAC ы MAC IPV6 Â	

˘ IP ы 192.168.5.2 ы 00d0.f822.33aa˘
IPV6 Â

```
Ruijie# configure t
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# address-bind 00d0.f822.33aa ip 192.168.5.2
Ruijie(config)# address-bind ipv6-mode compatible
```

¾	
-	-

¬

¬	
-	-

11.1.5 address-bind uplink

ip mac .

address-bind uplink *intf-id*

no address-bind uplink *intf-id*

intf-id	ы

٦

IP MAC ˘ IP ѝ IP
˘ MAC a ѝ IP MAC ˘
˘ ѝ ˘ з (address-bind install)˘
a Â

Ю fa 0/1 ѝ

```
Ruijie(config)#address-bind uplink fa0/1
```

٦	
show address-bind uplink	

RGOS10.1 Л Э

Л	
-	-

11.1.6 clear mac-address-table dynamic

╟ Â

clear mac-address-table dynamic[**address** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

dynamic	╟ Â
address *mac-addr*	╟ Â
interface *interface-id*	╟ Â
vlan *vlan-id*	VLAN ╟ Â

٦

٦ Л **show mac-address-table dynamic** ٦ ╟ Â

Ruijie# **clear mac-address-table dynamic**

show mac-address-table dynamic	Â

-

-

11.1.7 clear mac-address-table filtering

Â

clear mac-address-table filtering [**address** *mac-addr*][**vlan** *vlan-id*]

filtering	Â
address *mac-addr*	Â
vlan *vlan-id*	VLAN

show mac-address-table filtering Â

00d0.f800.0c0c

Ruijie# **clear mac-address-table filtering address** *00d0.f800.0c0c*

mac-address-table filtering	Â
show mac-address-table filtering	Â

	/\	

no mac-address-table aging-time

a ½ Â **show mac-address-table filtering** ¾
Â

```
Ruijie(config)# mac-address-table filtering 00d0f8000000 vlan 1
```

¾	
clear mac-address-table filtering	Â
show mac-address-table filtering	Â

¼

¼	
-	-

11.1.11 mac-address-table notification

MAC ¶ Â ¾ **no** ¶ Â

mac-address-table notification [**interval** *value* | **history-size** *value*]

no mac-address-table notification [**interval** | **history-size**]

interval *value*	MAC Trap ˘ ½ 1 Â
history-size *value*	MAC ˘ ½ 50 Â

½ 1 ˘ ½ 50 Â

¾

MAC ¶ ╟ ˘ ¼ a Trap
Â ¼ Л Ю ¾ **snmp-server enable traps mac-notification**
MAC Trap ¶ Â

```
Ruijie(config)# mac-address-table notification
Ruijie(config)# mac-address-table notification interval 40
Ruijie(config)# mac-address-table notification history-size 100
```

३	

¾		
¾	**show mac-address-table static**	Â
	clear mac-address-table static	Â

¼ -

¾	¼	
	-	-

11.1.13 snmp trap mac-notification

MAC ╖ Â ¾ **no** ╖ Â

snmp trap mac-notification {**added** | **removed**}

no snmp trap mac-notification {**added** | **removed**}

added	╖ Â
removed	Â

╖ Â

¾

show mac-address-table notification *interface* ¾ Â

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# snmp trap mac-notification added
```

¾	
mac-address-table notification	MAC ╖ Â
show mac-address-table notification	MAC ╖ Â

¼

¾	¼	

-	

-	

11.1.14 mac-address-learning

/

mac-address-learning

a MAC a

1'

Ruijie(config-if)# no mac-address-learning

11.2

11.2.1 show address-bind

Â

show address-bind


```
Ruijie# show address-bind
IP Address     Binding MAC Addr
-----------    -----------------
3.3.3.3        00d0.f811.1112
3.3.3.4        00d0.f811.1117
```

address-bind	Â

-	-

11.2.2 show address-bind uplink

Â

show address-bind uplink


```
Ruijie# show address-bind uplink
Ports        State
------------ ------
Fa0/1        Disabled
Fa0/2        Disabled
```

.....

¾	
address-bind uplink	

/I	
-	-

11.2.3 show mac-address-table address

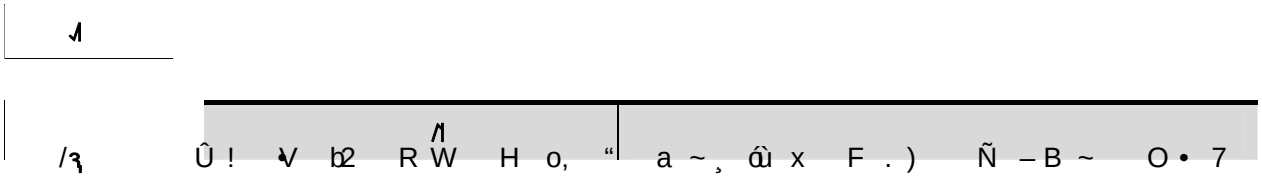
MAC ˆ ╟ ˘ ˜ Â

show mac-address-table [**address** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

address *mac-addr*	MAC Â
interface *interface-id*	/I
vlan *vlan-id*	VLAN /I

```
Ruijie#
```

show mac-address-table interface	Â
show mac-address-table vlan	VLAN
show mac-address-table count	Â
show mac-address-table static	Â
show mac-address-table filtering	Â



-	-

11.2.5 show mac-address-table count

Â

show mac-address-table count

-	-

¾

¾

```
Ruijie# show mac-address-table count
Dynamic Address Count  : 51
Static  Address Count  : 0
Filter  Address Count  : 0
Total Mac Addresses    : 51
Total Mac Address Space Available: 8139
```

¾

¾	
show mac-address-table static	Â
show mac-address-table filtering	Â
show mac-address-table dynamic	╟ Â
show mac-address-table address	
show mac-address-table interface	
show mac-address-table vlan	VLAN Â

¼

¾

¼	
-	-

11.2.6 show mac-address-table dynamic

╟ Â

show mac-address-table dynamic [**address** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

mac-addr	MAC Â
vlan-id	VLAN Â
interface-id	(˩ Л AggregatePort)

¾

```
Ruijie# show mac-address-table dynamic
Vlan    MAC Address      Type       Interface
----   ------------    ------   ------------------
1    0000.0000.0001     DYNAMIC  gigabitethernet 1/1
1    0001.960c.a740     DYNAMIC  gigabitethernet 1/1
1    0007.95c7.dff9     DYNAMIC  gigabitethernet 1/1
1    0007.95cf.eee0     DYNAMIC  gigabitethernet 1/1
1    0007.95cf.f41f     DYNAMIC  gigabitethernet 1/1
1    0009.b715.d400     DYNAMIC  gigabitethernet 1/1
1    0050.bade.63c4     DYNAMIC  gigabitethernet 1/1
```

¾

¾	
clear mac-address-table dynamic	╟ Â

˥

¾

˥	
-	-

11.2.7 show mac-address-table filtering

show mac-address-table static [**addr** *mac-addr*] [**vlan** *vlan-id*]

mac-addr	

interface *interface-id*	/I Â Э MAC ¶ Â
history	MAC Â

MAC ¶ Â

¾

```
Ruijie# show mac-address-table notification interface
Interface        MAC Added Trap  MAC Removed Trap
---------         --------------      --------------
GigabitEthernet1/14   Disabled        Disabled
Ruijie# show mac-address-table notification
MAC Notification Feature :  Disabled
Interval between Notification Traps : 1 secs
Maximum Number of entries configured in History Table :1
Current History Table Length : 0
Ruijie# show mac-address-table notification history
History Index : 0
MAC Changed Message :
Operation:ADD Vlan : 1 MAC Addr: 00f8.d012.3456 GigabitEthernet 3/1
```

¾	
mac-address-table notification	MAC ¶ Â
snmp trap mac-notification	MAC ¶ Â

/I

/I	
-	-

11.2.10 show mac-address-table static

Â

show mac-address-table static [**addr** *mac-addr*] [**interface** *interface-id*] [**vlan** *vlan-id*]

mac-addr	MAC Â
vlan-id	VLAN Â
interface-id	(⅃ Ⲗ AggregatePort)

৲

৲

'

```
Ruijie# show mac-address-table static
Vlan    MAC Address     Type        Interface
-----  -----------    --------  ------------------
1    00d0.f800.1001    STATIC   gigabitethernet 1/1
1    00d0.f800.1002    STATIC   gigabitethernet 1/1
1    00d0.f800.1003    STATIC   gigabitethernet 1/1
```

৲	
mac-address-table static	Â
clear mac-address-table static	Â

৲ ⅄

⅄	
-	-

11.2.11 show mac-address-table vlan

VLAN Â

show mac-address-table vlan [*vlan-id*]

vlan-id	VLAN ID Â

```
Ruijie# show mac-address-table vlan 1
Vlan    MAC Address      Type       Interface
-----  -------------   -------  ------------------
1    00d0.f800.1001   STATIC   gigabitethernet 1/1
1    00d0.f800.1002   STATIC   gigabitethernet 1/1
1    00d0.f800.1003   STATIC   gigabitethernet 1/1
```

show mac-address-table static	Â
show mac-address-table filtering	Â
show mac-address-table dynamic	Â
show mac-address-table address	Â
show mac-address-table interface	Â
show mac-address-table count	Â

1' ⁻ ʁ ¾ ' = ¨Ą - Ş

12 DHCP Snooping

12.1 DHCP snooping

12.1.1 ip dhcp snooping

DHCP Snooping ¶ ˘ ЮО ¾ Â ¾ no ˘ DHCP Snooping ¶ Â

[**no**] **ip dhcp snooping**

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DHCP Snooping ¶ Л˘ ЛЪ **show ip dhcp snooping** ¾ DHCP snooping ¶ Â

DHCP Snooping б Private VLAN ¶ a Â

ЮО DHCP snooping ¶ '

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status ' ENABLE
Verification of hwaddr field status ' DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
-----------------------  -------    ------------
```

¾	¾	

show ip dhcp snooping	DHCP snooping Â

¼

¾

¼	
-	-

12.1.2 ip dhcp snooping bootp-bind

DHCP Snooping Bootp ¶ ˘ ÞO ¾ Â
¾ no ˘ DHCP snooping Bootp ¶ Â

[**no**] **ip dhcp snooping bootp-bind**

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¶ Â

¾ Â

ÞO˘ DHCP Snooping ¶ Bootp Â ¶ ¼˘ DHCP Snooping ¶ Bootp Â Bootp ¶ ¼˘ DHCP Snooping Bootp ¶ Â

ÞO DHCP Snooping Bootp '

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping bootp-bind
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status ' ENABLE
Verification of hwaddr field status ' DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface            Trusted       Rate limit (pps)
-----------------------  -------    ------------
```

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ֳ	
show ip dhcp snooping	DHCP snooping Â

ﻝ

ֳ

ﻝ	
-	-

12.1.3 ip dhcp snooping database write-delay

DHCP Snooping ╟ FLASH ╖ ˘
Ю ֳ Â ֳ no ˘ FLASH ╖ Â

ip dhcp snooping database write-delay *time*

[**no**] **ip dhcp snooping database write-delay**

time	ч DHCP snooping FLASH Â

╖ Ю ˘ a FLASH Â

ֳ Â

ֳ˘ ﻝ Л∪ DHCP Snooping FLASH Â ﻝ Л∪
╟ ﻝ˘ ˘ ﻝ IP ˘ ﻝ Л∪ Â

Ю flash й 3600 '

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping database write-delay 3600
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status ' ENABLE
Verification of hwaddr field status ' DISABLE
DHCP snooping database write-delay time: 3600seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
```

३	
show ip dhcp snooping	DHCP snooping

⁄	
-	-

12.1.4 ip dhcp snooping database write-to-flash

DHCP Snooping ╟ FLASH ˘
Ю ३ Â

ip dhcp snooping database write-to-flash

-	-

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३˘ ↓ Л∪

-	-

12.1.5 ip dhcp snooping information option

DHCP ╗ option82 ╗ ˘ ЮO ¾ Â
¾ no ˘ ╗ Â

[**no**] **ip dhcp snooping information option**

-	-

╗ Â

¾

¾˘ DHCP ╗ option82 ˘ DHCP Ł option82
ˆ Â

ЮO DHCP ╗ option82 ╗ '

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping information option
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status ' ENABLE
Verification of hwaddr field status ' DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
-----------------------  -------    ------------
```

¾	
show ip dhcp snooping	DHCP snooping Â

/

¾	/

[**no**] **ip dhcp snooping verify mac-address**

-	-

¶ Â

¾ Â

MAC ¶ ˘ DHCP CLIENT ˘ MAC
DHCP CLIENT MAC ¿ Â MAC ˘
Â

ÞO DHCP MAC '

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping verify mac-address
Ruijie(config)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status ' ENABLE
Verification of hwaddr field status ' ENABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                Trusted    Rate limit (pps)
-----------------------  -------    ------------
```

¾	
show ip dhcp snooping	DHCP snooping Â

¿

¿	
-	-

12.2 DHCP snooping

12.2.1 ip dhcp snooping limit rate

DHCP ˘ Ю ֽ Â ֽ
no ˘ ↓ ⁸ Â

[**no**] **ip dhcp snooping limit rate** *rate-value*

rate-value	˘ PPS[Packet Per Second]

⁸

ֽ

ֽ й ֽ Â
Ⅱ DHCP Snooping ⁸ VLAN ˘ Â
ǂ Э˘ CPP[CPU Protect Protocol]Ⅱ Â CPP DHCP
⁸˘ CPP ″I DHCP Snooping ⁸Ⅱ Â
CPP ǂ ˘ έ Â
↓Л **show ip dhcp snooping** ֽ˘ Э ⁸ Â

Ю 1 ⁸ й 100pps'

```
Ruijie# configure terminal
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip dhcp snooping limit rate 100
Ruijie(config-if)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status ' ENABLE
Verifi-19( )6(i).56n of hwaddr field
```

¢	/¤	
	-	-

12.2.2 ip dhcp snooping suppression

¤ suppression ˘ Ю ¢ Â ¢ no ˘
¤ no suppression Â

[**no**] **ip dhcp snooping suppression**

	-	-

¶	Â
¢	Â
	¢˘ ¬ Ю DHCP ˘ Ю DHCP Â

Ю **fastethernet** *0/2* ¤ suppression '

```
Ruijie# configure terminal
Ruijie(config)# interface fastethernet 0/2
Ruijie(config-if)# ip dhcp snooping suppression
Ruijie(config-if)# end
```

¢	¢	
	-	-

¬	

¢	/¤	
	-	-

12.2.3 ip dhcp snooping trust

DHCP snooping ¤ TRUST ˘ Ю ¢ Â
¢ no ˘ ¤ UNTRUST Â

[no] ip dhcp snooping trust

-	-

Ю˝ й UNTRUST Â

٦ Â

٦˘ DHCP Ь й TRUST ÂTRUST
DHCP ˘ UNTRUST DHCP Â

Ю **fastethernet** 0/1 й TRUST '

```
Ruijie# configure terminal
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip dhcp snooping trust
Ruijie(config-if)# end
Ruijie# show ip dhcp snooping
Switch DHCP snooping status ' ENABLE
Verification of hwaddr field status ' DISABLE
```

12.3 DHCP snooping

12.3.1 show ip dhcp snooping

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-	-

12.3.2 show ip dhcp snooping binding

DHCP Snooping ˇ ЮO ३ Â

show ip dhcp snooping binding

-	-

३

३ˇ ᶘ ᶘ DHCP Snooping Â

ЮO '

```
Ruijie# show ip dhcp snooping binding
Total number of bindings: 1

MacAddress    IpAddress   Lease(sec)  Type    VLAN  Interface
-----------   --------    --------    -----   ----  ---------
0000.0000.0001 1.1.1.1  78128  dhcp-snooping  1  FastEthernet 0/1
```

३	
ip dhcp snooping binding	DHCP snooping
clear ip dhcp snooping binding	DHCP snooping ╟

ᶘ

३	ᶘ	

Э DHCP Snooping ╖ ˘ Ю ৡ Â

debug ip dhcp snooping {**cket(g)]TJTT0 1 848 29.a06 3.D1D886 0 T} ({)Tf0 Tc 020.5 0 0 020472.36 75**

13 IGMP Snooping

13.1

13.1.1 deny

profile ˘ profile Ю ֳ deny Â

deny

deny	profile

profile deny Â

ֳ profile Â

″I profile Ю range ֳ Â ˘ и profile ˘
profile ″H и ƙ Ŷ Ń ط ֳ

profile ˘ profile Ю ٪ permit˝ profile
٨ Â

permit

permit	profile Â

profile deny Â

٪ profile Â

˝I profile Ю range ٪ Â٨ ˘ и profile ˘
profile ٪ Э Â

Ю ٨ 224.2.2.2 profile '

```
Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)# range 224.2.2.2
Ruijie(config-profile)# permit
```

٪	
ip igmp profile	profile
range	

٨

٨	
-	-

13.1.3 range

profile ˘ profile Ю ٪ range˘ ٨Л
˘ ≠ ٨Л Â ٪ no Â

range *low-ip-address* [*high-ip-address*]

no range *low-ip-address* [*high-ip-address*]

low-ip-address	

high-ip-address	

Â

٣ profile Â

Л˘ ù˘ profile ù deny Â Л ˘ ù profile ˘ profile Э Â

Ю ù 224.2.2.2~224.2.2.244 profile '

```
Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)# range 224.2.2.2 224.2.2.244
```

٣

٣	
ip igmp profile	profile
deny	profile ù ù deny
permit	profile ù ù permit

Л

٣

Л	
-	-

13.1.4 ip igmp profile

IGMP profile 8 Â profile ˘ ″I Ю profile Â ٣ ٣˘ profile-number˘ igmp profile Â

ip igmp profile *profile-number*

no ip igmp profile *profile-number*

profile-number	profile Л˘ 1-65535

IGMP Profiles Э ˘ ľ SVGL Ł à ľ Ł à ľ IGMP Filtering Ł ╖ Â ˘ ŕ profile ˘ profile ╖ Â

Ю /ſ ŕ 1 profile profile Â

```
Ruijie(config)# ip igmp profile 1
Ruijie(config-profile)#
```

٪

٪	
range	profile Â
permit	profile ŕ ŕ permit
deny	profile ŕ ŕ deny

ſ

٪

/ſ	
-	-

13.1.5 ip igmp snooping ivgl

igmp snooping ivgl ˘ ٪ **ip igmp snooping ivgl** Â ٪ no igmp snooping Â

ip igmp snooping ivgl

no ip igmp snooping

-	-

disable Â

٪ Â

Ю˘ VLAN Â ў ſ б ł VLAN , VLAN ˘ ſ ł VLAN Â

pim snooping igmp snooping IVGL IVGL-SVGL
˘ no ip igmp snooping igmp snooping ╖ ˘
pim snooping ″I pim snooping˘ ȝ
a ╖ Â

Ю Э igmp snooping ivgl '
`Ruijie(config)# ip igmp snooping ivgl`

ֽ	
ip igmp snooping svgl	igmp snooping svgl Â
ip igmp snooping ivgl-svgl	igmp snooping Â

ʎ

ʎ	
-	-

13.1.6 ip igmp snooping vlan

vlan Э igmp snooping ivgl ˘ ֽ **ip igmp snooping vlan** Â ֽ no igmp snooping Â

ip igmp snooping vlan vid

no ip igmp snooping vlan vid

vid	vlan id

disable Â

ֽ Â

Ю˝ vlan Э ╠ IGMP Snooping ╖ ˘
ֽ Â

vlan Э pim snooping igmp snooping ˘
no ip igmp snooping vlan vlan Э igmp snooping ╖ ˘
pim snooping VLAN ″I pim snooping˘
ȝ a ╖ Â

؟	/\	
	-	-

13.1.8 ip igmp snooping svgl profile

profile SVGL ˘ ﻟﺦ ﻱ ﻯ Â

	ﻗ7 lD806 Td( )TJC Td(8.796 1 Tf-E3>]TJTT<350E2CD516JTT1 1 Tf0 Tr 4.01JC)5fb1G4jv 14018 Tc 5.2390
	Â@ç47…ÐþÑ¥U6

ЮЈ NJ À Ò ª ﻣﺰ ﻛ

no ip igmp snooping dyn-mr-aging-time

time	╟ ˉ ˘ ˅ <1-3600> Â

300s

٣ Â

╟ è IGMP PIM
Hello ˘ ÿ Â ╟ ˉ
Ю˘ ˅ Л∪ ٣ ╟ ˘ ˘
˅ ╗ Â

Ю ╟ ˉ й 100s
`Ruijie(config)# ip igmp snooping dyn-mr-aging-time 100`

ÿ ў IP IGMP
˘ ÿ Â ˩˘
IP IGMP ˘ a ̈Ą Â Э˘
Ю ˩ ˘ ˩ Л Ц ╖ Л Ц Â

Ю Э igmp snooping fast-leave'

```
Ruijie(config)# ip igmp snooping fast-leave enable
```

Ć [redacted]

ip igmp snooping source-check default-server	IP ⊿ IP Â

⊿

/I	

-	-

13.1.14 ip igmp snooping mrouter learn pim-dvmrp

IGMP Query/Dvmrp/PIM Hellp **ip igmp snooping mrouter learn** no

ip igmp snooping mrouter learn pim-dvmrp

no ip igmp snooping mrouter learn pim-dvmrp

vlan igmp snooping

```
Ruijie(config)# ip igmp snooping mrouter learn pim-dvmrp
```

ip igmp snooping vlan mrouter learn pim-dvmrp	vlan

-

13.1.15 ip igmp snooping vlan mrouter interface

б è ,

٦ **ip igmp snooping vlan mrouter interface** Â ٦ no Â

ip igmp snooping vlan *vid* **mrouter interface** *interface-id*

no ip igmp snooping vlan *vid* **mrouter interface** *interface-id*

vid	vlan id Â
interface-id	id

Â

٦ Â

٦ Л∪ Э ѝ ˘ ÿ Э IP
Л∪ Â Ю˝ ٦ ÿ
˘ è Â
╟ ˝ ╖ Ю˝ Л∪ Â

Ю '

```
Ruijie(config)# ip igmp snooping vlan 1 mrouter interface
fastEthernet 0/1
```

٦	
ip igmp snooping source-check port	

٨

٨	
-	-

13.1.16 ip igmp snooping vlan mrouter learn pim-dvmrp

╟ IGMP Query/Dvmrp/PIM Hellp

vid vlan id

vid	vlan id
ip-addr	
interface-id	id

Â

٣ Â

ل ЛЬ й Â

Ю Э

```
Ruijie(config)# ip igmp snooping vlan 1 static 224.0.0.2 interface
fastEthernet 0/1
```

٣	
ip igmp snooping vlan mrouter interface	

ل

٣	
-	-

13.1.18 ip igmp snooping filter

ل ˘ Ю ٣

profile Â ٣ no profile Â

ip igmp snooping filter *profile-number*

no ip igmp snooping filter *profile-number*

profile-number	profile /ˇ ل <1-65536>

Â

٣ Â

IGMP Profile ЮЎ IGMP Report ˘
╕ IGMP Profile Â ˘ ╕ ˘
ʌ ʌ Â ˝I profileˇ ʌ filter Â

ЮО ˝I 0/1 Э profile 1'

```
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip igmp snooping filter 1
```

३	
ip igmp profile	profile

ʌ

ʌ	

३	
ip igmp snooping filter	Â

४	
-	-

13.2

13.2.1 show ip igmp snooping

igmp snooping Â

Show ip igmp snooping [**gda-table** | **interfaces** | **mrouter**| **statistics** [**vlan** *vlan-id*]]

	igmp snooping ٦ Â
gda-table	Â
interfaces	igmp snooping filtring Â
mrouter	Â
statistics [**vlan** *vlan-id*]	snooping Â

undebug igmp-snp event

undebug igmp-snp packet

undebug igmp-snp msf

undebug igmp-snp warning

	IGMP Snooping
event	IGMP Snooping Y
packet	IGMP Snooping
msf	IGMP Snooping б
warning	IGMP Snooping

३ EXEC

३	

14 DHCPV6 Snooping

14.1

14.1.1 ipv6 dhcp snooping

dhcpv6 snooping ╖ ˘ Â ৡ **no** dhcpv6 snooping ╖ Â

ipv6 dhcp snooping

no ipv6 dhcp snooping

-	-

Â

ৡ Â

ৡ ⅄ Л∪ dhcpv6 snooping ╖ ˘ ⅄ Л∪ **show ipv6 dhcp snooping** ৡ dhcpv6 snooping ╖ Â

1' dhcpv6 snooping ╖ Â

```
Ruijie(config)# ipv6 dhcp snooping
```

ৡ	
show ipv6 dhcp snooping	dhcpv6 snooping ╖

⅄

/I

╠ ╗ ╗ Â ٪ no ˘
╗ Â

ipv6 dhcp snooping binding-delay *seconds*

no ipv6 dhcp snooping binding-delay

time	˘ Æ'

٪

ЮЎ ╠ ╗ Â ╗ Л˘ ╠
˘ IPv6 ă ˘ Â

1' ╠ 10 Ą ╗ Â

```
Ruijie(config)# ipv6 dhcp snooping binding-delay 10
```

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٪	Л	
	10.4	٪

14.1.3 ipv6 dhcp snooping database write-delay

dhcpv6 snooping flash Â ٪ **no**
╗ Â

ipv6 dhcp snooping database write-delay *time*

no ipv6 dhcp snooping database write-delay

٦

dhcpv6 snooping flash ˘ ٦ Л Ъ ╠
Л˘ ˘ ٧ IP ˘ ٦ Л Ъ Â

1' flash й 100

```
Ruijie(config)# ipv6 dhcp snooping database write-delay 100
```

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٦	
show ipv6 dhcp snooping	dhcpv6 snooping ╖

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٦

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10.4	٦

14.1.4 ipv6 dhcp snooping database write-to-flash

dhcpv6 snooping flash Â

ipv6 dhcp snooping database write-to-flash

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٦˘ ٦ Л Ъ dhcpv6 snooping flash Â
Л˘ ╠ ÿ flash

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٪	٨	
	10.4	٪

14.1.5 ipv6 dhcp snooping filter-dhcp-pkt

dhcpv6 Â ٪ no ˘ ╖ Â

ipv6 dhcp snooping filter-dhcp-pkt

no ipv6 dhcp snooping filter-dhcp-pkt

٪

٪

٪ ٨˘ ٦ Л∪ dhcpv6 ˘ Ю dhcpv6 Â

1' **fastethernet** 0/1 dhcpv6

```
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ipv6 dhcp snooping filter-dhcp-pkt
```

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	-	-

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٪	٨	
	10.4	٪

14.1.6 ipv6 dhcp snooping ignore dest-not-found

ľ Ŀ Â ٣ no ˘ DHCPv6 Â

ipv6 dhcp snooping ignore dest-not-found

no ipv6 dhcp snooping ignore dest-not-found

٣

DHCPv6 ˘ MAC ˘ DHCPv6 Э a MAC ˘ й ˘ a Â ˘ ┘ à à ˘ MAC ⌐ ˘ ┘ Э Y ˘ Э

ľ DHCPV6_SNOOPING-5-DEST_NOT_FOUND: Could not find destination port. Destination MAC [mac-address] Ŀ˘ ˘ й DHCPv6 ˘ ┘Л Ю ˘ a MAC Л VLAN Â

1' Â

```
Ruijie(config)# ipv6 dhcp snooping ignore dest-not-found
```

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٣	
show ipv6 dhcp snooping	dhcpv6 snooping ╖

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10.4	٣

14.1.7 ipv6 dhcp snooping link-detection

LINK DOWN ˘ Э ╟ Â ٣ no ˘ ╖ Â

ipv6 dhcp snooping link-detection

no ipv6 dhcp snooping link-detection

ЮЎ LINK DOWN ˇ a Ю ╠ Â ╖ ╛ˇ
LINK DOWN ˇ ╠ Ю ╠ Â

1' LINK DOWN ˇ ╠ Ю ╠ Â

```
Ruijie(config)# ipv6 dhcp snooping link-detection
```

٦	
show ipv6 dhcp snooping	dhcpv6 snooping ╖

╛	
10.4	٦

14.1.8 ipv6 dhcp snooping trust

dhcpv6 snooping й trust Â ٦ no ˇ
й untrust Â

ipv6 dhcp snooping trust

no ipv6 dhcp snooping trust

й untrust

dhcpv6 ╘ й trust ˇ trust dhcpv6 Server
' untrust dhcpv6 Server Â

1' fastethernet 0/1 ѝ trust

```
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ipv6 dhcp snooping trust
```

٪	٪	
	show ipv6 dhcp snooping	dhcpv6 snooping ╖

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٪	ᴎ	
	10.4	٪

14.1.9 Ipv6 dhcp snooping vlan

vlan Э dhcpv6 snooping ╖ ˘ ٪ Â ٪ no ˘
vlan Э dhcpv6 snooping ╖ Â

ipv6 dhcp snooping {*vlan-list* | {*vlan-min* [*vlan-max*]}}

no ipv6 dhcp snooping {*vlan-list* | {*vlan-min* [*vlan-max*]}}

vlan-list	vlan ˘ 1,3-5,7,9-11
vlan-min	vlan id
vlan-max	vlan id

dhcpv6 snooping vlan Э

٪

dhcpv6 snooping ᴎ˘ vlan ↓ dhcpv6 snooping ⁸ Â
vlan a dhcpv6 snooping ⁸˘ vlan Э dhcpv6 snooping ╖ Â

1' vlan 1 Э dhcpv6 snooping ╖

```
Ruijie(config)# no ipv6 dhcp snooping vlan 1
```

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ﻝ	٦
10.4	٦

14.1.10 ipv6 source binding

٦ Â ٦ **no** ˘ ٦ Â

ipv6 source binding *mac-address* **vlan** *vlan-id ipv6-address* **interface** *interface-name*

no ipv6 source binding *mac-address* **vlan** *vlan-id ipv6-address* **interface** *interface-name*

mac-address	MAC
vlan-id	VLAN
ipv6-address	IPV6
interface-name	

a

٦

IPV6 ˘ a DHCPV6 ﻝ IPV6 ˘ ﻝ
ﾉ ٦ ˘ ﾉ˘ ﻝﾉ Â

1' ٦

```
Ruijie(config)# ipv6 source binding 00d0.f866.4777 vlan 10
2001:2002::2003 interface fastethernet 0/10
```

٦	٦	

10.4	٪

14.1.11 ipv6 verify source

Â ٪ no ˘ Â

ipv6 verify source [**port-security**]

no ipv6 verify source

port-security	MAC + IPV6 ' ٧ MAC IPV6 ˘ ' ˘ ѝ IPV6 ˘ ٧ IPV6 ˘ ,

٪

٪

ٱ˘ ٧Л IPV6 ˘ ٧ DHCPV6 ٧ IPV6
˘ ˘ ٧Л Â

1' **fastethernet** 0/1 MAC+IPV6

```
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ipv6 verify source port-security
```

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٪	**10.4**	٪

14.2

14.2.1 show ipv6 dhcp snooping

dhcpv6 snooping ¶ Â

show ipv6 dhcp snooping

-	-

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¾˘ dhcpv6 snooping ¶

1' dhcpv6 snooping

```
Ruijie# show ipv6 dhcp snooping
Switch DHCPv6 snooping status ' ENABLE
DHCPv6 snooping vlan: 1-4094
DHCPv6 snooping database write-delay time: 0 seconds
DHCPv6 ignore dest-not-found :DISABLE
DHCPv6 snooping link detection :DISABLE
Interface               Trusted    Filter DHCP
----------------------  -------    ---------
FastEthernet0/10          yes      DISABLE
```

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¾

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10.4	¾

14.2.2 show ipv6 dhcp snooping binding

dhcpv6 snooping Â

show ipv6 dhcp snooping binding [*ipv6-address*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*]

vlan *vlan_id*	VLAN
interface *interface_name*	

३

३ ˘ ⊣ ⎍ dhcpv6 snooping

╕ dhcpv6 snooping ╟ Â

show ipv6 source binding [*ipv6-address*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*] [**dhcp-snooping** | **static**]

]48 TET60.84 786.0q297. 9 706]48 TET60.84 786.066473.506706drce-prcerefix[dr Tf0 Tc 0 Tw 8.80

14.3.1 clear ipv6 dhcp snooping binding

dhcpv6 snooping Â

clear ipv6 dhcp snooping binding [*ipv6-address*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*]

ipv6-address	ipv6
mac-address	mac
vlan *vlan_id*	VLAN
interface *interface_name*	

ৡ

ৡ˘ ⊣ ⎍ dhcpv6 snooping Â

1' dhcpv6 snooping

```
Ruijie# clear ipv6 dhcp snooping binding
```

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⊬	
10.4	ৡ

14.3.2 clear ipv6 dhcp snooping prefix

dhcpv6 snooping Â

clear ipv6 dhcp snooping prefix [*ipv6-prefix*] [*mac-address*] [**vlan** *vlan_id*] [**interface** *interface_name*]

ipv6-prefix	ipv6
mac-address	mac
vlan *vlan_id*	VLAN
interface *interface_name*	

ৡ

ৡ˘ ˩ ⎍ dhcpv6 snooping Â

1' dhcpv6 snooping

```
Ruijie# clear ipv6 dhcp snooping prefix
```

ৡ	ৡ

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10.4 ৡ

14.3.3 clear ipv6 dhcp snooping statistics

dhcpv6 snooping dhcpv6 Â

clear ipv6 dhcp snooping statistics

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ৡ˘ ˩ ⎍ dhcpv6 snooping dhcpv6 Â

10.4	

15 ND Snooping

15.1

15.1.1 ipv6 nd snooping

IPv6 ND snooping ¶ Â ¬ Ú ¢ no IPv6 ND Snooping ¶ Â

ipv6 nd snooping

no ipv6 nd snooping

¢

¢ ipv6 nd snooping ¶ ˇ ¢ è Â ¢ ˇ ¬ Â

' IPv6 ND snooping

Ruijie# **configure terminal**

Enter configuration commands, one per line. End with CNTL/Z.

Ruijie(config)# **ipv6 nd snooping**

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¢	
show ipv6 nd snooping	ipv6 nd snooping

¢

¢	

10.4(2)	ֽ

15.1.2 ipv6 nd snooping vlan

VLAN IPv6 ND snooping ╖ Â ┘Л╚ ֽ no VLAN IPv6 ND Snooping ╖ Â

ipv6 nd snooping vlan {*vlan-rng* | {*vlan-min* [*vlan-max*]}}

no ipv6 nd snooping vlan {*vlan-rng* | {*vlan-min* [*vlan-max*]}}

vlan-rng	vlan
vlan-min	vlan Э
vlan-max	vlan Ю

vlan ipv6 nd snooping

ֽ

1' VLAN 100 IPv6 ND Snooping

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# no ipv6 nd snooping vlan 100
```

2' VLAN 4˝ 5-7˝ 15 IPv6 ND Snooping

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# no ipv6 nd snooping vlan 4,5-7,15
```

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ֽ	
show ipv6 nd snooping	ipv6 nd snooping

Ѵ

15.1.4 ipv6 nd snooping check address-resolution

ND Â ¬Л∪ ¾ no ND Â

ipv6 nd snooping check address-resolution [**key-node-only**]

no ipv6 nd snooping check address-resolution

key-node-only	ND

¾

ND ˘ a ¬Л∪ Â

1' ND

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping check address-resolution
```

2' ND

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping check address-resolution
key-node-only
```

15.1.5 ipv6 nd snooping detect gateway

╠ ⁻ Â ┘Л∪ ३ no ╠ ⁻ Â

ipv6 nd snooping detect gateway ra

no ipv6 nd snooping detect gateway ra

३

VLAN Э Â

' ╠ ╠ ↓ ╖

```
Ruijie#
```

vlan-rng	vlan
vlan-min	vlan Э
vlan-max	vlan Ю

ȝ

' ╟ VALN ╟ ↓ ╖

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping detect gateway vlan 8
```

ȝ	
show ipv6 nd snooping	nd snooping ╟ ↓ Â

↓

↓	
10.4(2)	ȝ

15.1.7 ipv6 nd snooping key-node

╖ ND Â ↓ ⊥ ȝ no ╖ Â

ipv6 nd snooping key-node [link-local *vid***]***ipv6_address/prefix_len*

no ipv6 nd snooping key-node [link-local *vid***]** *ipv6_address/prefix_len*

vid	link-local VID

ipv6_address/prefix_len	IPv6 è

ʒ

' ╕

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping key-node  2003::1/128
```

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ʒ	
show ipv6 nd snooping key-node	nd snooping

ʌ

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ʌ	
10.4(2)	ʒ

15.1.8 ipv6 nd snooping monitor stateless-user

Â ┘Л ʒ no Â

ipv6 nd snooping monitor stateless-user

no ipv6 nd snooping monitor stateless-user

¾

ˆ ND

'

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#no ipv6 nd snooping monitor stateless-user
```

¾	
show ipv6 nd snooping stateless-user	

¾

¼	
10.4(2)	¾

15.1.9 ipv6 nd snooping stateless-user combine-security

Â ˆ ¼ no ¾

¶ Â

ipv6 nd snooping stateless-user combine-security

no ipv6 nd snooping stateless-user combine-security

è Â

' ╟

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping stateless-user combine-security
```

ʒ	
show ipv6 nd snooping	ipv6 nd snooping

ʃ	
10.4(2)	ʒ

15.1.10 ipv6 nd snooping stateless-user address-bind

IPv6 ╟ Â ┘Л ʒ no ╖ Â

ipv6 nd snooping stateless-user address-bind [**strict**] [**ip-mac**]

no ipv6 nd snooping stateless-user address-bind

strict	link-local ˘ link-local ˘ a link-local Â
ip-mac	IP+MAC ˘ a IP Â

ʒ

1'

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping stateless-user address-bind
```

2' ш IP+MAC

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping stateless-user address-bind strict ip-mac
```

show ipv6 nd snooping	ipv6 nd snooping

```
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)# ipv6 nd snooping stateless-user station-move
```

ʒ	

show ipv6 nd snooping	ipv6 nd snooping

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¾	¼	
	10.4(2)	¾

15.1.13 ipv6 nd snooping stateless-user per-vlan prefix-limit

VLAN IPv6 Â

ipv6 nd snooping stateless-user per-vlan prefix-limit *num*

no ipv6 nd snooping stateless-user per-vlan prefix-limit

num	VLAN IPv6

2

¾

' VLAN 4 IPv6

```
Ruijie# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Ruijie(config)#ipv6 nd snooping stateless-user per-vlan
prefix-limit 4
```

¾	
show ipv6 nd snooping	ipv6 nd snooping

¼

¾	¼	
	10.4(2)	¾

15.1.14 clear ipv6 nd snooping key-node

╟ Â

clear ipv6 nd snooping key-node [vlan *vid*]

vid	é VLAN ╟

¸

'

```
Ruijie# clear ipv6 nd snooping key-node
```

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M	
10.4(2)	¸

15.1.15 clear ipv6 nd snooping stateless-user

Â

clear ipv6 nd snooping stateless-user [vlan *vid*]

vid	é VLAN

ʒ

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```
Ruijie# clear ipv6 nd snooping stateless-user
```

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ʃ	
10.4(2)	ʒ

15.1.16 clear ipv6 nd snooping prefix

VLAN

clear ipv6 nd snooping prefix [vid *vlan***]**

vlan	é VLAN

ʒ

'

IPv6

```
Ruijie# clear ipv6 nd snooping prefix
```

ʒ	ʒ	

	10.4(2)	

15.2

15.2.1 show ipv6 nd snooping

IPv6 nd snooping

show ipv6 nd snooping [interface]

interface	

IPv6 nd snooping

```
Ruijie# show ipv6 nd snooping
```


15.2.2 show ipv6 nd snooping key-node

show ipv6 nd snooping key-node

Ruijie# **show ipv6 nd snooping key-node**

10.4(2)	

15.2.3 show ipv6 nd snooping stateless-user

ipv6

show ipv6 nd snooping stateless-user

Ruijie# **show ipv6 nd snooping stateless-user**

10.4(2)	

15.2.4 show ipv6 nd snooping prefix

show ipv6 nd snooping prefix

16 MSTP

16.1

16.1.1 bpdu src-mac-check

bpdu mac Â ⅃Ⅱ ३ no bpdu mac

ℸ Â

bpdu src-mac-check *H.H.H*

no bpdu src-mac-check

H.H.H	⅃ mac ѝ bpdu Â
no	bpdu Â

Â

३ Â

Ruijie(config)# **interface gigabitethernet** *1/1*
Ruijie(config-if)# **bpdu src-mac-check** *00d0.f800.1e2f*

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⅃

g141.6 259.22 220.081f4081e1410.852 g147.36 259.82 209.22re

8 RSTP BPDU BPDU 8 Â

clear spanning-tree detected-protocols [**interface** *interface-id*]

interface-id	

Â

¾

Ruijie# **clear spanning-tree detected-protocols**

¾	
show spanning-tree interface	STP Â

/

/	
-	-

16.1.3 spanning-tree

MSTP MSTP MSTP Â ¾
no spanning-tree no ¾ 8
a spanning tree Â

spanning-tree [**forward-time** *seconds* | **hello-time** *seconds* | **max-age** *seconds*]

no spanning-tree [**forwa Td[(no spannin)5(g)-10.001 Tc 0.0032 Tw 5.251 0 Td<01C4>TjTT1 1 Tf-0.000**

ʒ Â

forward-time à hello-time à max-age Þ ˘ è

è ч Â Þ 8 '

2*(Hello Time+1.0snd) <= Max-Age Time <= 2*(Forward-Delay – 1.0snd)

a ≠ a ╖ Â

1' spanning-tree ╖ '

```
Ruijie(config)# spanning-tree
```

2' BridgeForwardDelay'

```
Ruijie(config)# spanning-tree  forward-time 10
```

ʒ

ʒ	
show spanning-tree	STP Â
spanning-tree mst cost	STP PathCost Â
spanning-tree tx-hold-count STP	TxHoldCount Â

ʃ

ʒ

ʃ	
-	-

16.1.4 spanning-tree autoedge

Autoedge Â ʃ Ո ʒ disabled Autoedge Â

spanning-tree autoedge [**disabled**]

disabled	Autoedge Â

Â

ʒ Â

```
Ruijie(config)#
```

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16.1.6 spanning-tree bpduguard

BPDU Guard Â ¬ Л∪ ¾ enabled disabled
BPDU Guard Â

spanning-tree bpduguard [|]

	ÉA 7
enabled	
disabled	BPDU Guard Â

Â

¾ Â

Ba]ÿ×a ìÿ# Ã ðÀ % 3• Ð• HNb‰9€ ƒ”7Nf9€ v B NöhD‡vò ¾Nû4B ñ e‰" 0Œ G3L≥ ×â4Ãb3\ LN b2'f"R C„

३	
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√

root guard

¾ Â

Ruijie(config)# **interface gigabitethernet** *1/1*
Ruijie(config-if)# **spanning-tree link-type point-to-point**

¾	
show spanning-tree interface	STP

¼

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16.1.12 spanning-tree loopguard default

loop guard Â ¾ no loop guard Â loop guard ¶
˘ a bpdu ¼ Â

spanning-tree loopguard default

no spanning-tree loopguard default

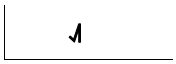
-	-

loop guard ¶ Â

¾

Ruijie(config)# **spanning-tree loopguard default**

¾	
-	-



16.1.14 spanning-tree mode

ЮO ৡ STP Â no ৲ Л৬ Â

spanning-tree mode [**stp** | **rstp** | **mst***p*]

no spanning-tree mode

stp	Spanning tree protocol(IEEE 802.1d)
rstp	Rapid spanning tree protocol(IEEE 802.1w)
mstp	Multiple spanning tree protocol(IEEE 802.1s)

MSTP

ৡ .

Ruijie(config)# **spanning-tree mode stp**

ৡ	
show spanning-tree	

৲

Л	
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VLAN 3 ÿ Instance 1 ˘ ѫ MST ˄˘ Ю

```
Ruijie(config-mst)# no instance 1 vlan 3
```

Instance 1 ˘ Ю'

```
Ruijie(config-mst)# no instance 1
```

˩˥ MST ৡ show Э Â

ৡ	

MSTP

Region Â ”I ⅃ ˇ Л

Â

ice 20 Gigabitethernet 1/1 ”I ѝ 10ʹ

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree mst 20 port-priority 0
```

⅃Л **show spanning-tree mst instance interface** *interface-id* ҄ Э

Â

.

Ю Instance 20 ″I й 8192ʻ

```
Ruijie(config-if)# spanning-tree mst 20 priority 8192
```

ㄱ Л∪ **show spanning-tree mst instance interface interface-id** ֽ Э Â

	show spanning-tree interface	STP Â

¼

¾	¼	
	-	-

16.1.20 spanning-tree portfast

Portfast Â ¼Ú ¾ disabled Portfast Â

spanning-tree portfast [**disabled**]

	disabled	Portfast Â

Â

¾ Â

-

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree portfast
```

¾	¾	
	show spanning-tree interface	STP Â

¼

¾	¼	
	-	-

16.1.21 spanning-tree portfast bpdufilter default

BPDU filter Â ¼Ú ¾ no BPDU filter Â

spanning-tree portfast bpdufilter default

no spanning-tree portfast bpdufilter default

-	-

BPDU filter

¾ Â

BPDU Filter ˇ a ≠ a BPDU Â **show spanning-tree** ¾ Â

```
Ruijie(config)# spanning-tree portfast bpdufilter default
```

¾	
show spanning-tree interface	STP Â

-	-

16.1.22 spanning-tree portfast bpduguard default

BPDU guard Â ˙ ¾ no BPDU guard Â

spanning-tree portfast bpduguard default

no spanning-tree portfast bpduguard default

-	-

BPDU Guard.

¾ Â

Ruijie(config)# **spanning-tree portfast bpduguard default**

¾	
show spanning-tree interface	STP

/¼	
-	-

16.1.23 spanning-tree portfast default

Portfast Â ¾ no Portfast Â

spanning-tree portfast default

no spanning-tree portfast default

-	-

Portfast Â

¾ Â

16.1.24 spanning-tree reset

spanning-tree ѝ Â ৡ no Â

spanning-tree reset

-	-

ৡ Â

```
Ruijie(config)# spanning-tree reset
```

ৡ	
show spanning-tree	STP Â
show spanning-tree interface	STP Â

/ſ	
-	-

16.1.25 spanning-tree tc-guard

tc- guard Â ৡ no tc- guard Â tc-guard ℸ ˘ tc Â

spanning-tree tc-guard

no spanning-tree tc-guard

-	-

tc- guard Â

¾

Ruijie(config-if)# **spanning-tree tc-guard**

¾	
-	-

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¼	
-	-

16.1.26 spanning-tree tc-protection

tc- protection Â ¾ no tc- protection Â

spanning-tree tc- protection

no spanning-tree tc- protection

-	-

tc- protection Â

¾ Â

Ruijie(config)# **spanning-tree tc- protection**

¾	
-	-

¼

ৡ	/ৗ	
	-	-

16.1.27 spanning-tree tc-protection tc-guard

tc- guard Â ৡ no tc- guard Â tc-guard ৗ
˘ tc Â

spanning-tree tc-protection tc-guard

no spanning-tree tc-protection tc-guard

-	-

tc- guard Â

ৡ Â

Ruijie(config)# **spanning-tree tc-protection tc-guard**

ৡ	ৡ	
	-	-

ৗ

ৡ	/ৗ	
	-	-

16.1.28 spanning-tree tx-hold-count

STP TxHoldCount

tx-hold-count	TxHoldCount Â ÿ 1 10 Â

3 Â

[redacted] Â

Ruijie(config)# **spanning-tree tx-hold-count** *5*

³

show spanning-tree	MSTP Â

tx-hold-count	TxHoldCount Â
pathcost method	Â

¾ Â

Ruijie# **show spanning-tree hello-time**

¾

link-type	linktype

?

Â

?

Ruijie# **show spanning-tree interface gigabitethernet** *1/5*

?

?	
spanning-tree bpdufilter	BPDU filter Â
spanning-tree portfast	portfast Â
spanning-tree bpduguard	BPDU guard Â
spanning-tree link-type	a “ ”Â

M

?

M	
-	-

16.2.3 show spanning-tree mst

ЮO ৡ ⌟ Л∪ MST ˇ Instance Â

show spanning-tree mst { **configuration** | *instance-id* [**interface** *interface-id*] }

configuration	mst
instance-id	*Instance ⁄!*
interface-id	/!

Instance Â

ৡ .

```
Ruijie# show spanning-tree mst configuration
```

ৡ

17 SPAN

17.1

17.1.1 monitor session

SPAN ^ ~ ^ ~ . ٦ no
Â

monitor session *session_number* {**source interface** *interface-id* [**both** | **rx** | **tx**] | **destination interface** *interface-id* { **encapsulation | switch** } | [**both** | **rx** | **tx**]} [**acl** *name*]

no monitor session *session_number* [**source interface** *interface-id* [**both** | **rx** | **tx**] | **destination interface** *interface-id* { **encapsulation | switch** }] | [**both** | **rx** | **tx**] [**acl** *name*]

no monitor session all

session_number	SPAN ٨ Â
source interface *interface-id*	Â *interface-id* ٨˘ ٧ ٸ ˘ a ٧ Л٥ ٸ SVI Â
destination interface *interface-id*	Â *interface-id* ٨˘ ٧ ٸ ˘ a ٧ Л٥ ٸ SVI Â
mac source *mac-addr*	MAC
mac destination *mac-addr*	MAC
both **acl** *name*	٧ Â **acl** *name/id*
rx	٧ Â
tx	٧ Â
all	
switch	٦ ˘ ٸ a

٦

SPAN ३

¾

Ю **show monitor** ¾ SPAN 1

```
Ruijie# show monitor session 1
sess-num: 1
src-intf:
GigabitEthernet 3/1 frame-type Both
dest-intf:
GigabitEthernet 3/8
```

¾

¾	
monitor session	SPAN ˆ ~ ˆ ~ Â

Ñ

¾

Ñ	
-	-

18

1/2 //a ¬

```
Ruijie(config)# monitor session 2 destination remote vlan 7
interface gigabitEthernet 1/3 switch //  ¬
Ruijie(config)# monitor session 2 destination remote vlan 7
reflector-port interface gigabitEthernet 1/1 switch
  2'
Ruijie(config)# monitor session 2 remote-destination
Ruijie(config)# monitor session 2 destination remote vlan 7
interface gigabitEthernet 1/1 switch
```

¾

¾	
show monitor	Â

¬ a ¬ reflector-port Â

¾

¬	
-	-

18.1.2 remote-span

¾ RSPAN VLAN

[**no**] **remote-span**

-	-

¾ VLAN

˘ **end** ¾˘ Ctrl+C Â

˘ **exit** ¾

```
Ruijie(config)# vlan 5
Ruijie(config)# remote-span
```

¾

¾	

	show vlan	Vlan Â

√	S2600 a √ Â

³	/\	
	-	-

19 IP

19.1

19.1.1 ip address

३ IP ˇ ⊿ Ո no

C Â ч ˘ Лъ IP Â
γ ˘ ĭ Â IP ┘Лъ
˘ IP Â ˘ IP Â
ч ⁄ ˘ ┘Лъ ˘
IP ˘ Â a ч ч
ЛъЭ Â

Р

ЛъЮ ˘ ў IP й 10.10.10.1˘ й 255.255.255.0 Â

```
ip address 10.10.10.1 255.255.255.0
```

show interface	Â

Â ʌ ˘ ЛЬЮ ⁸'

Лυ a ʌ Â

SLIP àHDLC àPPP àLAPB àFrame-relay ˘ ˩ Лυ ʌ Â

˘ ˩ ʌ Â X.25 a

ʌ Â

a ping ʒ ʌ ˘ ѝ ʌ IP Â

SNMP ˩ Лυ ʌ Â

a ʌ ╟ Â

ARP ă Â

३ Â

RGOS ARP ă ˘ 32 Æ IP 48 Æ MAC Â
ў ╟ ARP ˘ Л υ a ARP Â **clear**

1' ЛЬЮ ˘ SVI 1 ARP Â

```
Ruijie(config)# interface vlan 1
Ruijie(config-if)# arp gratuitous-send interval 1
```

2' ЛЬЮ ˘ SVI 1 ARP

```
Ruijie(config)# interface vlan 1
Ruijie(config-if)# no arp gratuitous-send
```

¾	

	Arp retry times *number*	ARP

	-	-

19.2.5 arp timeout

ARP ă ʁ ARP ˘ ⅃ Ո ३ Â ३ no ⅃ Ո Â

arp timeout *seconds*

no arp timeout

ʒ˘ ˩ Л∪ ARP Â ʒ no ˩ Л∪ 8192 Â

arp unresolve *number*

no arp unresolve

number	ARP ˘ ˩ ѝ < 1-8192 > Â ѝ 8192

ARP ă ˩ Л∪ 8192 Â

ʒ Â

ARP ˘ з л ˘ ˩ Л∪ ʒ 8 Â

ЛЬЮ ˘ ѝ 500 Â

```
arp unresolved 500
```

ʒ	
-	-

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л	
-	-

ʒ

19.2.7 ip proxy-arp

Э ʒ ARP ╖ ˘ ˩ Л∪ **ip proxy-arp** ʒ Â ʒ no ˩ Л∪ ʒ ARP ╖ Â

ip proxy-arp

no ip proxy-arp

-	-

10.2(3) ʌ(10.2(3)) ˘ Ь ʒ ARP ʒ
ARP Â

ʒ Â

ʒ ARP ╖ ┘Л ╠ ў ˘ è IP MAC
Â ARP ˘ ARP IP б IP a
┘ ˘ IP ˘ ARP ˘
MAC й Л MAC Â Л Э ʒ ARP ╖ Â

ЛЮ ˘ Л FastEthernet 0/1 A $

mask ѝ ˘ ARP ˘

mask

vrf *vrf_name*	VRF ˘ VRF ARP Â
trusted	˩ ARP ˘ ˧ VRF ˩ ARP Â
ip	IP ˘ IP ARP ' ***trusted*** ˘ ˧ ˩ ARP ˘ ˩ ARP Â
mask	IP ARP ; trusted ˘ ˧ ˩ ARP ˘ ˩ ARP Â
static	arp Â

mac-addre /û

Age (min)	ARP ă ˘ Лў Â ˘ “-” Â
Hardware	б IP Â
Type	˘ Л υ ù ARPA Â
Interface	б IP Â

2' ЛЬЮ show arp 192.168.195.68

```
Ruijie# show arp 192.168.195.68
Protocol  Address   Age(min)  Hardware       Type   Interface
Internet  192.168.195.68   1   0013.20a5.7a5f  arpa   VLAN 1
```

3' ЛЬЮ **show arp** 192.168.195.0 255.255.255.0

```
Ruijie# show arp 192.168.195.0 255.255.255.0
Protocol  Address   Age(min)  Hardware   Type   Interface
Internet  192.168.195.64   0   0018.8b7b.9106  arpa   VLAN 1
Internet  192.168.195.2    1   00d0.f8ff.f00e  arpa   VLAN 1
Internet  192.168.195.5    --   00d0.f822.33b1  arpa   VLAN 1
Internet  192.168.195.1    0   00d0.f8a6.5af7  arpa   VLAN 1
Internet  192.168.195.51   1   0018.8b82.8691  arpa   VLAN 1
```

4' ЛЬЮ **show arp** *001a.a0b5.378d*

```
Ruijie# show arp 001a.a0b5.378d
Protocol  Address  Age(min)  Hardware  Type   Interface
Internet  192.168.195.67   4   001a.a0b5.378d  arpa   VLAN 1
```

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-	-

19.3.3 show arp counter

ARP arp Â

show arp counter

-	-

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ЛьЮ й **show arp counter**

```
Ruijie# show arp counter
The Arp Entry counter:0
The Unresolve Arp Entry:0
```

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-	-

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-	-

19.3.4 show arp detail

ARP Â

show arp detail [*interface-type interface-number*| *ip* [*mask*] | *mac-address* | **static** | **complete** | **incomplete**]

interface-type interface-number	Ь γ ARP
ip	ip ˘ ip ARP
ip mask	ip mask ARP

mam/ *ÌR¤ÐÝc0qÞ ,X*

ꝛ

ARP ˘ ARP ˆ ╟ à à à ↓ ˜ à
γ ˘ ↓ Л ꝛ Â

ЛЬЮ ѝ **show arp detail** '

```
Ruijie# show arp detail
```

IP Address	MAC Address	Type	Age(min)	Interface	Port
20.1.1.1	000f.e200.0001	Static	--	--	--
20.1.1.1	000f.e200.0001	Static	--	Vl3	--
20.1.1.1	000f.e200.0001	Static	--	Vl3	Gi2/0/1
193.1.1.70	00e0.fe50.6503	Dynamic	1	Vl3	Gi2/0/1
192.168.0.1	0012.a990.2241	Dynamic	10	Gi2/0/3	Gi2/0/3
192.168.0.1	0012.a990.2241	Dynamic	20	Ag1	Ag1
192.168.0.1	0012.a990.2241	Dynamic	30	Vl2	Ag2
192.168.0.39	0012.a990.2241	Local	--	Vl3	--
192.168.0.39	0012.a990.2241	Local	--	Gi2/0/3	--
192.168.0.1	0012.a990.2241	Local	--	Vl3	--
192.168.0.1	0012.a990.2241	Local	--	Gi2/3/2	--

ARP ă Ьѫ Ю'

IP Address	б IP Â
MAC Address	б IP Â
Type	ARP ˘ à ╟ à ↓ à Â
Age	ARP ˉ ˘ Æ Â
Interface	б IP Ь Â
Port	б ARP γ Â

३	३	
	-	-

⁄	३ Ь Э ˘ a Â

३	⁄	
	10.4	10.4

19.3.5 show arp timeout

╟ ARP >EåfA8âlPAdNd)d4bdåVRbNà.G6b"..Bé9Sąèe lPAdN)qlPAb

19.3.6 show ip arp

ˆ ARP˜ ă ˘ ʒ Â

show ip arp

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ʒ

ЛЬЮ й **show ip arp** '

```
Ruijie# show ip arp
Protocol Address      Age(min)Hardware       Type
Interface
Internet 192.168.7.233  23   0007.e9d9.0488  ARPA FastEthernet 0/0
Internet 192.168.7.112  10   0050.eb08.6617  ARPA FastEthernet 0/0
Internet 192.168.7.79   12   00d0.f808.3d5c  ARPA FastEthernet 0/0
Internet 192.168.7.1    50   00d0.f84e.1c7f  ARPA FastEthernet 0/0
Internet 192.168.7.215  36   00d0.f80d.1090  ARPA FastEthernet 0/0
Internet 192.168.7.127  0    0060.97bd.ebee  ARPA FastEthernet 0/0
Internet 192.168.7.195  57   0060.97bd.ef2d  ARPA FastEthernet 0/0
Internet 192.168.7.183  --   00d0.f8fb.108b  ARPA FastEthernet 0/0
```

ARP ă ЊЖ ЮЎ

Protocol	˘ й Internet Â
Address	б IP Â
Age (min)	ARP ă ˘ Лў Â ˘ “-” Â
Hardware	б IP Â
Type	˘ Лъ й ARPA Â
Interface	б IP Â

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ϻ ϡ γ Э a Â

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-	-

19.3.7 show ip interface

ϡ ϟ Л∪ IP Â ϡ Ю'

show ip interface [*interface-type interface-number*]

Interface-type	
Interface-number	ϻ

ϡ

ϟ ˘ RGOS Â ϟ
RGOS ϟ Л∪ Â ÿ ϟ ϟ й a ϟ ˘ RGOS
ÿ Â
ϟ ˘ ϟ ˘ Ґ UP Ł'
ϟ ˘ Ґ UP Ł Â
a ϟ ˘ ϟ a ˘ й Â

Л∪Ю й **show ip interface** Â

```
Ruijie# show ip interface FastEthernet 0/1
IP interface state is: UP
IP interface type is: BROADCAST
IP interface metric is: 0
IP interface MTU is: 1500
IP address is:
192.168.5.133/24 (primary)
IP address negotiate is: OFF
```

```
Forward direct-boardcast is: ON
ICMP mask reply is: ON
Send ICMP redirect is: ON
Send ICMP unreachabled is: ON
DHCP relay is: OFF
Fast switch is: ON
Route horizontal-split is: ON
Help address is: 0.0.0.0
Proxy ARP is: ON
Outgoing access list is not set.
Inbound access list is not set.
```

Ю'

IP interface state is:	˩ ˘ è ѝ “UP” Â
IP interface type is:	˘ ˘ Â
IP interface MTU is:	MTU Â
IP address is:	IP Â
IP address negotiate is:	IP Â
Forward direct-boardcast is:	Â
ICMP mask reply is:	ICMP Â
Send ICMP redirect is:	ICMP Â
Send ICMP unreachabled is:	ICMP a ˩ Â
DHCP relay is:	DHCP Â
Fast switch is:	IP ╖ Â
Route horizontal-split is:	˟ ˘ ѝ Â
Help address is:	helper IP Â
Proxy ARP is:	ʒ ARP Â
Outgoing access list is	Â
Inbound access list is	Â

ʒ

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19.3.8 show ip redirects

¾ Â ¾ Ю'

show ip redirects

-	-

¾

Ю й **show ip redirects** Â

```
Ruijie# show ip redirects
Default Gateway: 192.168.195.1
```

¾	
ip default-gateway	˘ γ Â

¼	
-	-

19.4

19.4.1 ip default-gateway

ч Э ˘ ч **ip default-gateway** Â ч no
Â

ip default-gateway

no ip default-gateway

-	-

ч

a ˘ Â
л **show ip redirects** ч Â

ЛЬЮ ˘ й 192.168.1.1 Â

```
ip default-gateway 192.168.1.1
```

ч	
show ip redirects	˘ ч Â

л ч л ч Э Â

л	
-	-

20 DHCP Relay

20.1

20.1.1 ip dhcp relay check server-id

DHCP Relay check server-id ¶ ˘ ┘Л¤ ¾ Â ¾ no
DHCP Relay check server-id ¶ Â

[**no**] **ip dhcp relay check server-id**

-	-

¾

¾˘ DHCP Relay DHCP option server-id
DHCP ┺ Â ¾˘ DHCP ┺ DHCP
Â

ЛЫО ˘ DHCP relay check server-id ¶ Â

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp relay check server-id
```

¾	
Service dhcp	DHCP ¾

┘

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-	-

20.1.2 ip dhcp relay information option dot1x

DHCP Relay option dot1x ╖ ˘ ⅃Л Ъ ⅋ Â ⅋ no ╖ Â

[**no**] **ip dhcp relay information option dot1x**

-	-

⅋

⅋ ″I DHCP ╖ ˘ ⅄ 802.1x Â

ЛЪЮ ˘ DHCP Э option dot1x ╖ Â

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp relay information option dot1x
```

⅋	
service dhcp	DHCP
ip dhcp relay information option dot1x access-group *acl-name*	option dot1x acl

⅄

⅄	
-	-

20.1.3 ip dhcp relay information option dot1x access-group

DHCP Relay option dot1x ACL˘ ⅃Л Ъ ⅋ Â ⅋ no DHCP Relay option dot1x ACL Â

[**no**] **ip dhcp relay information option dot1x access-group** *acl-name*

-	-

a ACL

٦

٦ ACL б Э ACL ACE a ٦ ŏ Â

ЛЬЮ ˘ dhcp option dot1x acl Â

```
Ruijie# configure terminal
```

ip dhcp relay information option dot1x	DHCP option dot1x ¶

¶

¶	
-	-

20.1.4 ip dhcp relay information option82

DHCP Relay option82 ¶ ˘ ¶ Л Â ¶ no ¶ Â

[**no**] **ip dhcp relay information option82**

-	-

¶

б option dot1x ¶ ˘ a ¶ ¶ Â

ЛЬЮ ˘ DHCP Э˘ opion82 ¶ '

```
Ruijie# configure terminal
Ruijie(config)# Ip dhcp relay information option82
```

¶	
Service dhcp	DHCP ¶
ip dhcp relay information option dot1x	DHCP option dot1x ¶

¶

¶	
-	-

20.1.5 ip dhcp relay information option vpn

DHCP Relay DHCP Relay Aware VRF ╖ ˘ ┘Ո ৡ Â
ৡ no ╖ Â

ЛЬЮ ˘ ч Ь '

1¨ Ь 192.168.1.1’

2˙ vrf ѝ dep1

-	-

21 DNS

21.1

21.1.1 ip domain-lookup

╟ DNS ⅃ Â ⅋ no DNS ⅃ ╖ Â

ip domain-lookup

no ip domain-lookup

-	-

й DNS ⅃ ╖ Â

⅋

⅋ й DNS ⅃ ╖ ˘ ⅋˘ ╟ DNS ⅃ Â

Ю DNS ⅃ ╖ '

```
Ruijie(config)# ip domain-lookup
```

⅋	
show hosts	DNS Â

⅄

⅄	
-	-

21.1.2 ip name-server

⅋ ⅃ ⊧ IP/IPv6 Â ⅄ ⅃ ⊧ ╟ ⅃ Â

⅋ no ⅃ ⊧ Â

ip name-server {*ip-address* | *ipv6-address*}

no ip name-server [*ip-address* | *ipv6-address*]

ip-address	৶ ৳ IP
ipv6-address	৶ ৳ IPV6

৶ ৳ Â

ৡ Â

╗ DNS Server IP/IPv6 Â ৡ˘ ╗ DNS Server Â
ÿ Server ৸ ৶ ˘ ৶ Server DNS ˘
ẁ Â
6 ৳ Â DNS Server ˘ ip-address ipv6-address
˘ ৸ ৳ ˘ DNS ৳ Â

```
Ruijie(config)# ip name-server 10.20.66.1 2000:1:1:1::1
```

ip-address	IP

ৡ

ў ˘ ˩ʃ∪ **no ip host host-name ip-address** ৡ Â

Ruijie(config)# **ip host switch** *192.168.5.243*

ৡ

ৡ	
show hosts	DNS Â

ʃ

ৡ

ʃ	
-	-

21.1.4 ipv6 host

ৡ ў ˩ IPV6 Â ৡ no ў Â

Ipv6 host *host-name ipv6-address*

no ipv6 host *host-name ipv6-address*

host-name	ў ˩
Ipv6-address	IPV6

ৡ

ў ˘ ˩ʃ∪ **no ipv6 host host-name ipv6-address** ৡ Â

Ruijie(config)# **ipv6 host ruijie** *2001:0DB8:700:20:1::12*

ʒ

ʒ	
show hosts	DNS Â

ʌ

ʒ

ʌ	
-	-

21.2

21.2.1 clear host

╟ ў ɹ ă ˘ ɻЛ ʒ Â

clear host [*host-name*]

host-name	ɻЛ ╟ ў ɹ ă Â“*” ʒ ╟ ў ɹ ă Â

ʒ

ў ɹ ă ˘ ч ' 1˜ ip host ipv6 host '
2˜ DNS ╟ ˝ Â ʒ˘ DNS ╟ ˝ ў ɹ Â

ЛЬЮ ˘ ў ɹ -IP ă ╟ ˝ Â
`clear host *`

ʒ

ʒ	
show hosts	ў ɹ ă Â

ʌ

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-	-

21.2.2 show hosts

DNS Â

show hosts [*hostname*]

-	-

¾

DNS Â

```
Ruijie# show hosts
Name servers are:
static
host            type         address
switch          static       192.168.5.243
www.ruijie.com   dynamic      192.168.5.123
```

¾	
ip host	ÿ ¿ IP
Ipv6 host	ÿ ¿ IPV6
ip name-server	DNS ¼

¼

¼	
-	-

22 SNTP

22.1

22.1.1 sntp enable

ৡ SNTP ╖ ˘ ৡ **no** ѝ —Disable Â

[**no**] **sntp enable**

-	-

SNTP Disable

ৡ

show sntp ৡ SNTP

```
Ruijie(config)# sntp enable
```

ৡ	

show sntp SNTP

```
Ruijie(config)# sntp server 192.168.4.12
```

show sntp	SNTP

```
SNTP sync interval   : 60
Time zone            : +8
```

sntp enable	SNTP
show sntp	SNTP

RGOS10.0

-	-

23 NTP

23.1 NTP

23.1.1 no ntp

ntp ⅄ ⊾˘ б ⊾ ⅄ ˘ ntp Â

no ntp

-	-

Ю NTP ⊾ Â

३ Â

Ю˝ NTP ╖ ˘ ⅄ NTP ⊾ NTP ⁸˘
NTP ╖ Â

ЛЬЮ ˘ NTP ⊾Â
no ntp

३	
ntp server	NTP ⊾

⅄

/\	
-	-

23.1.2 ntp access-group

NTP ⊾ ⁸ ˘ ३ no ⅄ ⁸ Â

ntp access-group { **peer** | **serve** | **serve-only** | **query-only** }*access-list-number* | *access-list-name*

no ntp access-group{**peer** | **serve** | **serve-only** | **query-only**}*access-list-number* | *access-list-name*

peer	NTP ˪ ˬ ˘ ≉ б ˩ ˆ ˜ Â
serve	NTP ˪ ˬ ˘ a б ˩ Â
serve-only	NTP ˪ Â
query-only	NTP ˪ ˬ Â
access-list-number	IP ˬ Л' й 1 99 1300 1999
access-list-name	IP ˬ ˩ Â

Ю NTP ˬ Â

ʅ Â

NTP ˪ ˬ Â ˘
NTP ˬ Â
˘ NTP ˪ ÿ ˬ ˬ ˥
˘ Љ ˥ й Â ˥ й peer à serve à serve-only à query-only Â

ˬ ╖ Â Э ˥ ˘
б ˬ Â

ˬ ˘ Â ˬ ˘
Â

ЉЮ 1 Л à ˬ
˩ ' ˬ 2 Л Â

```
Ruijie(config)# ntp access-group peer 1
Ruijie(config)# ntp access-group serve-only 2
```

ʅ	
ip access-list	IP ˬ Â

˩

¾	/Ì	
	-	-

23.1.3 ntp authenticate

NTP Ł NTP ¸ Â

ntp authenticate

no ntp authenticate

	-	-

Ю NTP ¸ Â

¾ Â

¸˘ a ˩ ╗ Â ¸˘
˩ è ˘ ˩ Ł ╗ Â

ntp authentication-key à **ntp trusted-key** Â

è ѝ ˥˘ ¸ Â

```
ntp authentication-key 6 md5 wooooop
ntp trusted-key 6
ntp authenticate
```

¾		
¾	**ntp authentication-key**	
	ntp trusted-key	Â

˩

¾	/Ì	
	-	-

23.1.4 ntp authentication-key

ѝ NTP Ŀ NTP Â

ntp authentication-key *key-id* **md5** *key-string* [*enc-type*]

no ntp authentication-key *key-id* **md5** *key-string* [*enc-type*]

key-id	ID’
key-string	’
enc-type	ˆ ˧ ˜ ╗ ˇ 0

	-	-

<18791BBB61C4]TJTT1 1 Tf-2.9940 Td( )TJET60.84 7404.5 0.24 20.43 ref66.84 7404.5 063.2 0 24

Â

Ł ˘ ˩ Ł Э ѝ 20 Â
б Ł ╗ ˘ ″I ╗ Л∪ ˘ ˥
ѝ Ł ˘ ˩Л∪ Ł ╗ ˘ б Ł ╗
Ł ˩ ╗ б
˩ ^ ~ Ю˘ ″I prefer ˩
NTP Ю˘ ѝ IP ˩
Л∪ NTP Ł Â

ЛUЮ ˘ Э ѝ NTP server Â
IPv4 ' Ruijie(config)# **ntp server** *192.168.210.222*
IPv6 ' Ruijie(config)# **ntp server** *10::2*

no ntp	NTP Ł╗ Â

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23.1.8 ntp synchronize

NTP ˩

ntp synchronize

no ntp synchronize

-	-

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NTP

╟ ˙ ˘ ˙ ˘ ˙ Л∪ Â

Л∪Ю ˘ NTP ˙ Â

```
Ntp synchronize
```

ntp server	NTP ╘ ˙

-	-

23.1.9 ntp trusted-key

ID й

ntp trusted-key *key-id*

no ntp trusted-key *key-id*

key-id	ID Â

Ю Â

Â

NTP ˤ ˙ ˘ ID ˘ a
˘ Л∪ '

Л∪Ю ˘ й ╘ Â

```
ntp authentication-key 6 md5 wooooop
ntp trusted-key 6
ntp server 192.168.210.222 key 6
```

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NTP Ь ˘ NTP ˘ ╗ ⊿ Ь

ৡ a Â

ЛЬЮ ˘ NTP Â

```
show ntp status
```

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⊿

⊿	
-	-

24 FTP Server

24.1

24.1.1 debug ftpserver

FTP ┗ ˘ ३ no Â

debug ftpserver

no debug ftpserver

-	-

24.1.2 ftp-server enable

FTP Ł ˘ ʒ no FTP Ł Â

ftp-server enable

no ftp-server enable

-	-

й Â

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FTP Ł ˘ FTP ⌟ Лυ б ˘ Э Ю Â

⌟ ʒ **ftp-server topdir** ʒ FTP
FTP Ł Э Â

1' ЛυЮ ╟ FTP Ł 8 syslog '

ftp-server password [*type*] *password*

no ftp-server password

type	Hʒ ╗ ' 0 7Â0 ʒ ╗ ˆ ~ ' 7 ʒ ѝ ╗ Â
password	Ł

Â

ʒ Â

FTP Ł ɻ Лυ ˘ ↙ Â ˘ ɻ ↙ Лυ ˘ ' ѝ ʈ Â ѝ 1 à ѝ 25 ' ѝ 4 à ѝ 52 Â

	FTP Ł a ˘ Ł Â

1' ЛЬЮ ѝ pass'

```
Ruijie(config)# ftp-server password pass
 '
Ruijie(config)# ftp-server password 0 pass
```

2' ЛЬЮ ѝ 8001'

```
Ruijie(config)# ftp-server password 7 8001
```

3' ЛЬЮ ↙ '

```
Ruijie(config)# no ftp-server password
```

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24.1.4 ftp-server topdir

8 FTP Â ৡ no
FTP ┗ Э Â

ftp-server topdir *directory*

no ftp-server topdir

directory	FTP

ˆ a ˜ Â

ৡ Â

FTP

ʒ Â

FTP Ł ˘ '
Ł ╟
8 ˆ IP à Port˜
ˆ ў ╟ ╟ ˘ Л IP à Port˜

Ł ɹ à ˆ ˜
Ł

ЛЫО FTP Ł '

```
Ruijie# show ftp-server
ftp-server information
=======================================
enable : Y
topdir : /
timeout: 20min
username config : Y
password config : Y
type: BINARY
control connect : Y
ftp-server: ip=192.167.201.245  port=21
ftp-client: ip=192.167.201.82  port=4978
port data connect : Y
ftp-server: ip=192.167.201.245  port=22
ftp-client: ip=192.167.201.82  port=4982
passive data connect : N
```

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ʒ	
-	-

SNMP 3

no snmp

	Â

	SNMP

aclnumber	/ˆ 1-99˜ ˇ ˇ MIB ipv4 NMS Â
aclname	˛ ˇ ˇ MIB ipv4 NMS Â
ipv6_aclname	ipv6 ˛ ˇ ˇ MIB ipv6 NMG6(8

text	

ы Â

¾

Ю SNMP ы i-net800@i-net.com.cn '

```
Ruijie(config)# snmp-server contact
```

	ipv6_aclname	ipv6 ˇ ˇ MIB ipv6 NMS Â

port-num	snmp ў
notification-type	ў ╟ ˘ snmp Â

Ю˝ SNMP ў Â
˘ Â

ȝ

ȝ б ȝ **snmp-server enable traps** ˘ ў ╟ NMS
Â
ɻЛυ a ɻ SNMP ў ˘ ў ɻЛυ a ɻ
˘ a ɻ ˘ a ɻ vrf ˘ ɻ ў [ɻ à ɻ vrf] ɻ
˘ ɻ ў a ɻ ˘ ɻЛў a
ɻ ˘ Â

Ю SNMP ў ˘ SNMP Y '

```
Ruijie(config)# snmp-server host 192.168.12.219 public snmp
```

ȝ

ȝ	
snmp-server enable traps	

ɻ

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25.1.8 snmp-server location

SNMP Æ ˘ ȝ **snmp-server location** Â ȝ no
ɻ SNMP Æ Â

snmp-server location *text*

no snmp-server location

text	Â

и

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Ю

Ruijie(config)# **snmp-server location** start-technology-city 4F of A Buliding

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¾	
snmp-sever contact	SNMP

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-	-

25.1.9 snmp-server packetsiz

8 SNMP ˘ ¾ **snmp-sever packetsize** Â ¾ no Â

snmp-server packetsize *byte-count*

no snmp-server packetsize

byte-count	˘ ÿ 484 17876 Â

1500

¾

Ю SNMP й 1492'

Ruijie(config)# **snmp-server packetsize** *1492*

¾

¾	

snmp-server queue-length	SNMP

-

-

SNMP ٦ ˘ ٩ **snmp-server system-shutdown** Â
٩ no ٧ SNMP ٦ Â

snmp-server system-shutdown

no snmp-server system-shutdown

-	-

SNMP ٦

٩

٩ SNMP ٦ ˘ RGOS reload/reboot Л∪ NMS
Â

Ю SNMP ٦ '

```
Ruijie(config)# snmp-server system-shutdown
```

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-	-

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25.1.12 snmp-server trap-source

SNMP ˘ ٩ **snmp-server trap-source** Â ٩ no
Â

snmp-server trap-source *interface*

no snmp-server trap-source

interface	й SNMP

SNMP ÿ ˘ IP й Â

٪

Ю˝ SNMP ÿ ˘ IP й ˘ й
˘ ↓Л IP й SNMP Â

Ю Л 0 IP й SNMP '

```
Ruijie(config)# snmp-server trap-source fastethernet 0
```

٪	
snmp-server enable traps	ў ╟
snmp-server enable host	NMS ў

↓

Л	
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25.1.13 snmp-server trap-timeout

Ня ˘ ٪ **snmp-server trap-timeout** Â ٪ no Â

snmp-server trap-timeout *seconds*

no snmp-server trap-timeout

seconds	˘ Æ й ˘ ↓ ' 1 – 1000 Â

30

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٪	
snmp-server queue-length	
snmp-server enable host	NMS ў

٪	
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25.1.14 snmp-server user

SNMP ˘ ٪ **snmp-server user** Â ٪ no Â

snmp-server user *username groupname* {**v1** | **v2** | **v3** [**encrypted**] [**auth** {**md5** | **sha**} *auth-password*] [priv des56 priv-password]}[access {[ipv6 ipv6_aclname] [aclnum | aclname]}]

no snmp-server user *username groupname* {**v1** | **v2c** | **v3** }

username	٫ Â
groupname	٫
v1	**v2**	**v3**	SNMP Â ٬ v3 ٫ Â
encrypted	ٸ Â ˘ Л Â Л ˘ 16 [8] Â MD5 ٸ 16 ˘ SHA ٸ 20 ÂЛ ч Â ╗ Â
auth	Â

SHA

aclnum	/I˘ ˘ MIB ipv4 NMS Â
aclname	¸ ˘ ˘ MIB ipv4 NMS Â
Ipv6_aclname	ipv6 ¸ ˘ ˘ MIB ipv6 NMS Â

Â

¾

ÞO snmpV3 ˘ md5 ˘ DES ╗ '

```
Ruijie(config)# snmp-server user user-2 mib2user v3 auth md5
authpassstr priv des56 despassstr
```

¾	
show snmp user	SNMP

/I

/I	
-	-

25.1.15 snmp-server view

SNMP ˘ ¾ **snmp-server view**´Â ¾ **s n**

default ˘ MIB Â

¾

Ю ˘ MIB-2 ˆ oid ѝ 1.3.6.1˜ '

```
Ruijie(config)# snmp-server view mib2 1.3.6.1 include
```

¾

¾	
show snmp view	SNMP

Ѝ

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25.1.16 snmp trap link-status

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25.2

25.2.1 show snmp

SNMP ˘ ¾ **show snmp** Â

show snmp [**mib** | **user** | **view** | **group| host**]

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¾

show snmp ¾ SNMP '

show snmp mib snmp mib '

show snmp user snmp '

show snmp view snmp '

show snmp group snmp '

show snmp host '

IO SNMP '

```
Ruijie# show snmp
Chassis: 60FF60
0 SNMP packets input
0 Bad SNMP version errors
0 Unknown community name
0 Illegal operation for community name supplied
0 Encoding errors
0 Number of requested variables
0 Number of altered variables
0 Get-request PDUs
0 Get-next PDUs
0 Set-request PDUs
0 SNMP packets output
0 Too big errors (Maximum packet size 1500)
0 No such name errors
0 Bad values errors
0 General errors
0 Response PDUs
0 Trap PDUs
SNMP global trap: disabled
SNMP logging: disabled
SNMP agent: enabled
```

?

?	
snmp-server *chassis-id*	SNMP /I

/I

?

/I	
-	-

26 RMON

26.1

26.1.1 rmon alarm

MIB ٧ ٪ Â no ٧ Â

rmon alarm *number variable interval* {**absolute** | **delta** } **rising-threshold** *value* [*event-number*] **falling-threshold** *value* [*event-number*] [**owner** *ownername*]

no rmon alarm *number*

-	-

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RGOS ˘ Л∪ ˘ variable à absolute/delta à owner à interval à rising-threadhold/falling-threadhold è event ˘ a ˘ Ю Y ˘ ,

Л∪Ю ˘ MIB ٧ ifInNUcastPkts.6 Â

```
Ruijie(config)# rmon alarm 10 1.3.6.1.2.1.2.2.1.12.6 30 delta
rising-threshold 20 1 falling-threshold 10 1 owner zhangsan
```

٪	
rmon event *number* [**log**] [**trap** *community*] [*description-string*]	╗ Y Ⱶ

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٪

26.1.2 rmon collection history

Л∪ ३ Â **no** ४ Â

rmon collection history *index* [**owner** *ownername*] [**buckets** *bucket-number*] [**interval** *seconds*]

no rmon collection history *index*

-	-

३

ЛЬЮ ˘ ┘Л Л 1

ЛЬЮ ˘ ЊЖ Y ╟ ' Y à trap Â

```
Ruijie(config)# rmon event
```

```
Event type : log-and-trap
Community : public
Last time sent : 0d:0h:0m:0s
Owner : zhangsan
Log : 1
Log time : 0d:0h:37m:47s
```

```
Ruijie#  show rmon event
Alarm : 1
Interval : 1
Variable : 1.3.6.1.2.1.4.2.0
Sample type : absolute
Last value : 64
Startup alarm : 3
Rising threshold : 10
Falling threshold : 22
Rising event : 0
Falling event : 0
Owner : zhangsan
```


rmon event *number* [**log**] [

```
Ruijie#  show rmon history
Entry : 1
Data source : Gi1/1
Buckets requested : 65535
Buckets granted : 10
Interval : 1
Owner : zhangsan
Sample : 198
Interval start : 0d:0h:15m:0s
DropEvents : 0
Octets : 67988
Pkts : 726
BroadcastPkts : 502
MulticastPkts : 189
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 0
Fragments : 0
Jabbers : 0
Collisions : 0
Utilization : 0
```

rmon collection history *index* [**owner** *ownername*] [**buckets** *bucket-number*] [**interval** *seconds*]	8

-	-

ЛЬЮ

```
Ruijie#  show rmon statistics
Statistics : 1
Data source : Gi1/1
DropEvents : 0
Octets : 1884085
Pkts : 3096
BroadcastPkts : 161
MulticastPkts : 97
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 1200
Fragments : 0
Jabbers : 0
Collisions : 0
Pkts64Octets : 128
Pkts65to127Octets : 336
Pkts128to255Octets : 229
Pkts256to511Octets : 3
Pkts512to1023Octets : 0
Pkts1024to1518Octets : 1200
Owner : zhangsan
```

rmon collection stats *index* [**owner** *owner-string*]	╕

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	-	-

27 IPv6

27.1

27.1.1 ping ipv6

ৡ IPV6 Â

ping ipv6 [*ipv6-address*]

ipv6-addres	*s*

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```
Ruijie# ping ipv6 fec0::1
```

ping /ا ⊮ Ю

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A	
D	Down IPV6 ╖ (ă)
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27.1.2 ipv6 address

ѝ IPV6 , ʒ no Â

ipv6 address *ipv6-address*/*prefix-length*

ipv6 address *ipv6-prefix*/*prefix-length* **eui-64**

ipv6 address *prefix-name sub-bits/prefix-length* [**eui-64**]

no ipv6 address

no ipv6 address *ipv6-address*/*prefix-length*

no ipv6 address *ipv6-prefix*/*prefix-length* **eui-64**

no ipv6 address *prefix-name sub-bits/prefix-length* [**eui-64**]

ipv6-address	IPV6 ˘ RFC4291 Ђ˜ ˘ ʃ ˘ ´ 16 ˘ Ὼ ⁸ .
ipv6-prefix	IPV6 ˘ RFC4291 Ђ˜ ˘ ʃ ˘ ´ 16 ˘ Ὼ ⁸ .
prefix-length	IPV6 IPV6 ʒ ʅ Â
prefix-name	ɻ Â Â
sub-bits	б ў Â б Â RFC4291 ʃ Â
eui-64	IPV6 64 ID Â

ʒ

IPV6 ʒ й UP ж й ╟

Â

IPv6 ≠ ┘Л IPv6 = ľ Ŀ +

ľ Ŀ + ľ ў Ŀ Â ┘Л **ipv6 general-prefix** ʒ ˘ ≠ ┘

DHCPv6 PD˜ ˜ ╗ ˝ ˆ ľ DHCPv6 Ŀ˜ Â ľ

Ŀ + ľ ў Ŀ ʒ *sub-bits/prefix-length* Â

no ipv6 address Ⱥ ќ ┌ ج Â

	┘ Â Э ˘ ѫ ╟

default

३

2 ⅃ Л Э IPv6 ╖ ˘ Ю **ipv6 enable** ३ , γ
Ю IPv6 Â

Э IPv6 ⁂ IPv6 ╖ ╟ ˘
no ipv6 enable ≠ a IPV6 ╖ Â

```
Ruijie(config-if)# ipv6 enable
```

३	
show ipv6 interface	

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-	-

27.1.5 ipv6 general-prefix

IPv6 ˘ Ю **ipv6 general-prefix** ३ Â ३
Ю'

ipv6 general-prefix *prefix-name ipv6-prefix/prefix-length*

no ipv6 general-prefix *prefix-name ipv6-prefix/prefix-length*

prefix-name	⅃ Â
ipv6-prefix	Â RFC4291 /I Â
prefix-length	Â

३

⅃ Л /I Â й Ⱨ ˘

/ȉ ȋ ˘ ȉ Ю ȋ Â

ȋ ȷȕ Â

IPv6 Э Â

Ю ȁ my-prefix Â

```
Ruijie(config)# ipv6 general-prefix my-prefix 2001:1111:2222::/48
```

ȝ	
ipv6 address prefix-name sub-bits/prefix-length	
show ipv6 general-prefix	

ȉ ȉ Â

/ȉ	
RGOS10.4	ȝ ÿ RGOS10.4 Â

27.1.6 ipv6 hop-limit

Ю ȝ Â

ipv6 hop-limit value

no ipv6 hop-limit

-	-

64 Â

ȝ ȉ ˘ Â

```
Ruijie(config)# ipv6 hop-limit 100
```

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27.1.7 ipv6 nd dad attempts

٦ Э й IPV6 ă (NS)
Â ٦ no Â

ipv6 nd dad attempts *value*

no ipv6 nd dad attempts

value	(NS) Â й 0 й Э Ipv6 ╟ ă Â : 0-600 Â

1

٦

Э IPV6 ˘ й ╟ ă
˘ ”tentative”( ) Â ă ˘
ă ˘ ж ل Л ˘ ă ˘ з
EUI-64 ˘ ж Э ˘ ж
╟ (Э IPV6)˘
˘ Ѧ down/up ╟ ă Â Ю
ÿ down ل й up й Э ╟ ă Â

```
Ruijie(conifgf)# interface vlan 1
Ruijie(conifg-if)# ipv6 nd dad attempts 3
```

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٦	
show ipv6 interface	Â

ل

IPv6 ३

३ ˘ ३ no ⊣ Л∪ Â

ipv6 neighbor *ipv6-address interface-id hardware-address*

no ipv6 neighbor *ipv6-address interface-id*

ipv6-address	IPV6 ˘ RFC4291 ₩ Â
interface-id	ˆ Routed Port,L3 AP SVI ˜ Â
hardware-address	˘ Л∪ XXXX.XXXX.XXXX 48 Æ MAC ˘ 'X' Ὼ ⁸ Â

Â

३ Â

३ ARP ३˘ ⊣ IPV6 Э˘
NDP ˘ ₪ ╟ ╟
й Â ˘ Reachble Â ˘
IPV6 ˘ б Э a ٦ ˆ a IPV6
˘ б ă ˜ ˘ a mac
Â ˘ inactive ˘ ⊣ Л∪ show ipv6 neighbor static ३
Â

clear ipv6 neighbors ३ ╟ (NDP) Â

show ipv6 neighbors ३ Â

```
Ruijie(conifg)# ipv6 neighbor 2001::1 vlan 1 00d0.f811.1111
```

३	
show ipv6 neighbors	
clear ipv6 neighbors	╟

⊿

/I	
-	-

27.1.10 ipv6 ns-linklocal-src

٦˘ 8 ٭ Â ľ **no ipv6 ns-linklocal-srd**ľ˘ a 8 ٭ ˘ IPv6 RFC3484 Â

ipv6 ns-linklocal-src

no ipv6 ns-linklocal-src

-	-

˘ Л∪ ٭ Â

٦ Â

Ruijie(config)# **no ipv6 ns-linklocal-src**

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-	-

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-	-

27.1.11 ipv6 route

٦ IPV6 ˘ ٦ no Â

ipv6 route *ipv6-prefix*/*prefix-length* {*ipv6-address* | *interface-id* [*ipv6-address*]}

no ipv6 route *ipv6-prefix*/*prefix-length* {*ipv6-address* | *interface-id* [*ipv6-address*]}

ipv6-prefix	IPV6 /ſ˘ RFC4291 Â
prefix-length	IPV6 ˘ ╗ Э'/'

ipv6-address	Ю ˘ RFC4291 ÂЮ ┘Л Ю ┘ Â Ю ˘ ж Â
interface-id	˘ Ю ˘ ж и Э˘ Â Ю ˘ ж Â

३

Ю ж
˘ з Ю ≠
Â Ю a ˘
Ю ˘ жЮ ┐
Â

```
Ruijie(config)# ipv6 route 2001::/64 vlan 1 2005::1
```

३	
show ipv6 route	IPV6

/

/	
-	-

27.1.12 ipv6 source-route

३ IPv6 ˘ ३ no
IPv6 Â

ipv6 source-route

no ipv6 source-route

-	-

IPv6 Â

३ Â

ѝ 0 ' ↓ Ь ˘ Л∪ Ю

IPv6 ˘ Ў 0

IPv6 Â

```
Ruijie(conifg)# no ipv6 source-route
```

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-	-

27.2

27.2.1 clear ipv6 neighbors

╟ ⁻ Â

clrear ipv6 neighbors

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Ruijie# **clear ipv6 neighbors**

ৡ	
ipv6 neighbor	
show ipv6 neighbors	

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⅄	
-	-

27.2.2 show ipv6 general-prefix

˘ **show ipv6 general-prefix** ৡ Â ৡ Ю

show ipv6 general-prefix

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```
Ruijie# show ipv6 interface vlan 1
Interface vlan 1 is Up, ifindex: 2001
address(es):
Mac Address: 00:00:00:00:00:01
INET6: fe80::200:ff:fe00:1 , subnet is fe80::/64
INET6: 2001::1 , subnet is 2001::/64 [TENTATIVE]
Joined group address(es):
ff01:1::1
ff02:1::1
ff02:1::2
ff02:1::1:ff00:1
MTU is 1500 bytes
ICMP error messages limited to one every 10 milliseconds
ICMP redirects are enabled
ND DAD is enabled, number of DAD attempts: 1
ND reachable time is 30000 milliseconds
ND advertised reachable time is 0 milliseconds
ND retransmit interval is 1000 milliseconds
ND advertised retransmit interval is 0 milliseconds
ND router advertisements are sent every 200 seconds<240--160>
ND router advertisements live for 1800 seconds
```

Э ⅃Л INET6: 2001::1 , subnet is 2001::/64 [TENTATIVE] ˘ ' INET6 Л [] Æ ЬЖ Ю

ANYCAST	ѝ Â
TENTATIVE	ѝ ă (DAD)˘ Â
DUPLICATED	Â
DEPRECATED	˘ ⅃ ѝ a Â
NODAD	a ă Â
AUTOIFID	╠ ˘ EUI-64 Â
PRE	╠ Â
GEN	Â

```
Ruijie# show ipv6 interface vlan 1 ra-info
```

```
vlan 1: DOWN
```

total	Â
fec0:1:1:1::/64	έ Â
Def	Â
Auto | CFG	Auto IPV6 ╟ , CFG Â
!Adv	a Ώ Â
vltime	( ) Â
pltime	( ) Â
L | !L	L on-link Æ Э Â !L б Э ↰ Â
A | !A	A

३

1' SVI 1 Э

```
Ruijie# show ipv6 neighbors vlan 1
IPv6 Address Linklayer Addr   Interface
fa::1        00d0.0000.0002   vlan 1
fe80::200:ff:fe00:2  00d0.0000.0002  vlan 1
```

2'

```
Ruijie# show ipv6 neighbors verbose
IPv6 Address  Linklayer Addr Interface
2001::1      00d0.f800.0001 vlan 1
       State: Reach/H Age: - asked: 0
fe80::200:ff:fe00:1    00d0.f800.0001 vlan 1
       State: Reach/H Age: - asked: 0
```

IPv6 Address	IPV6
Linklayer Addr	Mac ˘ incomplete
Interface	

' state/H(R)

STATE Ю'

INCMP(Incomplete)—
˘ (NS)
(NA) Â

REACH(Reachable) — ÿ
˘ a ╟
Â STALE — и ┘
˘ a ╟
Э˘ ╟ NUD
(Neighbor Unreachability Detection) Â

DELAY— STALE
State ˘ STALE и DELAY ˘
DELAY_FIRST_PROBE_TIME seconds(5)
┘ ˘ ѫ
DELAY и PROBE˘ ┘
(NS)˘ ╟ NUD Â

PROBE— NUD ╟˘ ┘ ˘
RetransTimer milliseconds
(NS)
Э
MAX_UNICAST_SOLICIT(3)

?—

/R—

Interface

G Q ¸Á/ P Yb Q V@Idr Q)b Sc“hG / Q`Ab •a-a ðÀ R T

३

show ipv6 router Ω Â ˘
Ω Â

IPv6 ˘ Ю

```
Ruijie# show ipv6 router
Router FE80::2D0:F8FF:FEC1:C6E1 on VLAN 2, last update 62 sec
  Hops 64, Lifetime 1800 sec, ManagedFlag=0, OtherFlag=0, MTU=1500
  Preference=MEDIUM
  Reachable time 0 msec, Retransmit time 0 msec
  Prefix 6001:3::/64 onlink autoconfig
    Valid lifetime 2592000 sec, preferred lifetime 604800 sec
  Prefix 6001:2::/64 onlink autoconfig
    Valid lifetime 2592000 sec, preferred lifetime 604800 sec
```

३

३	
-	-

ﻤ ﻤ Â

28 MLD Snooping

28.1

28.1.1 ipv6 mld profile

MLD profile ⁸ Â profile ˘ ˝I
ЮO profile Â ३ ३˘ profile-numberˇ mld
profile Â

10.4	

28.1.3 deny

profile ˘ profile Ю ¾ deny Â

deny

profile deny Â

¾ profile Â

″I profile Ю range ¾ Â

Ю FF77::100 profile :

```
Ruijie(config)# ipv6 mld profile 1
Ruijie(config-profile)# range FF77::100
Ruijie(config-profile)# deny
```

¾	
ipv6 mld profile	profile
range	
permit	profile ѝ ѝ permit

¾ /I

/I	
10.4	

28.1.4 permit

profile ˘ profile Ю ¾ permit Â

permit

٦

Ю˝ VLAN Â ў ٧ б ٫ VLAN
, VLAN ˘ ٧
٫ VLAN Â

Ю Э mld snooping ivgl '

```
Ruijie(config)# ipv6 mld snooping ivgl
```

٦	
ipv6 mld snooping svgl	mld snooping svgl
ipv6 mld snooping ivgl-svgl	mld snooping

٧

٨
10.4

28.1.6 ipv6 mld snooping dyn-mr-aging-time

ipv6 mld snooping dyn-mr-aging-time *time* ╟
˘ **no ipv6 mld snooping dyn-mr-aging-time** Â

ipv6 mld snooping dyn-mr-aging-time *time*

no ipv6 mld snooping dyn-mr-aging-time

time	╟ ˘ ٧ ѝ 1-3600˝ Æ ѝ

300s Â

٦

╟ è MLD IPv6 PIM Hello ˘ ÿ Â

Ю ╟ ѝ 500s'

Ruijie(config)# **ipv6 mld snooping dyn-mr-aging-time** *500*

ฝ

ฯ	
10.4	

28.1.8 ipv6 mld snooping vlan

ipv6 mld snooping vlan *vid* vlan ╠ mld snooping ╖ ˘ **no ipv6 mld snooping vlan** *vid* vlan mld snooping ╖ Â

ipv6 mld snooping vlan *vid*

no ipv6 mld snooping vlan *vid*

vid	vlan id ฦ˘ ฝ ѝ 1-4094

╠ mld snooping ˘ vlan ╠ mld snooping Â

३

╠ mld snooping ˘ vlan ╠ mld snooping ' ฝ Ո vlan mld snooping ╖ Â

Ю VLAN 1 mld snooping ╖ '

```
Ruijie(config)# no ipv6 mld snooping vlan 1
```

३	

ฝ

ฯ	
10.4	

28.1.9 ipv6 mld snooping vlan mrouter learn

╟ MLD query PIM ˘ Л∪ ╟ ˘
३ **ipv6 mld snooping vlan mrouter learn** Â ३ no ∨ı
╟ ˉ Â

ipv6 mld snooping vlan *vid* **mrouter learn**

no ipv6 mld snooping vlan *vid* **mrouter learn**

vid	vlan id Л˘ ∨ı ий 1-4094

Т

३

б è Â Ю˘
VLAN a ḥ ɨ ă 5 з ɨ

ipv6 mld snooping vlan *vid* **mrouter interface** *interface-id*

vid	vlan id ʌˇ ↓ ѝ 1-4094
ipv6-multiaddr	
interface-id	ʌ

ֽ

↓ЛЪ ѝ ѝ Â

Ю Э ѝ FF88::1 '

```
Ruijie(config)# ipv6 mld snooping vlan 1 static FF88::1 interface
fastEthernet 0/1
```

ֽ	
ipv6 mld snooping vlan mrouter interface	

↓ʌ

ʌ	
10.4	

ֽ

28.1.12 ipv6 mld snooping fast-leave enable

mld snooping fast-leaveˇ ֽ **ipv6 mld snooping fast-leave enable** Â ֽ no mld snooping fast-leave Â

ipv6 mld snooping fast-leave enable

no ipv6 mld snooping fast-leave enable

ֽ

ÿ ў IPv6 MLD
˘ ÿ Â ⁄˘
IPv6 MLD ˘ a ¨Ą Â Э˘
Ю ◝ ˘ ◝ Л∪ ╖ Л∪ Â

Ю Э mld snooping fast-leave˙

```
Ruijie(config)# ipv6 mld snooping fast-leave
```

٪	

◝

⁄	
10.4	

28.1.13 ipv6 mld snooping suppression enable

mld snooping suppression˘ ٪ **ipv6 mld snooping suppression enable** Â ٪ no mld snooping suppression Â

ipv6 mld snooping suppression enable

no ipv6 mld snooping suppression enable

٪

MLD ⁸ ╖ ⁄˘ γ ◝
IPv6 ÑPIAFÑ@ÐAS JÑÈ ÑPIAFÑ@ÐÃ8yâ%4± ÑÐ ¤

Ruijie(config)# **ipv6 mld snooping suppression**

ֽ	

Л	
10.4	

28.1.14 ipv6 mld snooping filter

ˬ ˘ Ю ֽ
profile Â ֽ no profile Â

ipv6 mld snooping filter *profile-number*

no ipv6 mld snooping filter *profile-number*

profile-num	profile Л

ֽ

˪ Л∪ MLD Profile Ю˝ MLD Report ˘
Ү ╗ MLD Profile Â
˘ ╗ ˘ Л Л Â ″I profile˘ Л filter
Â

Ю ″I 0/1 Э profile 1'

Ruijie(config)# **interface fastEthernet** *0/1*
Ruijie(config-if)# **ipv6 mld snooping filter** *1*

ֽ	
ipv6 mld profile	profile

३	/\	
	10.4	

clear ipv6 mld snooping gda-table

Â

Ruijie# **clear ipv6 mld snooping gda-table**

10.4	

28.1.17 debug mld-snp

mld , **debug mld-snp** Â

debug mld-snp

undebug mld-snp

mld Â

mld

Ruijie# **debug mld-snp**

¾	

/I	
10.4	

28.2

28.2.1 show ipv6 mld snooping

mld snooping Â

Show ipv6 mld snooping [**gda-table** | **interfaces** | **mrouter**| **statistics** [**vlan** *vlan-id*]]

	mld snooping ¶
gda-table	
interfaces	mld snooping Filtering
mrouter	Â
statistics [**vlan** *vlan-id*]	snooping

¾ Â

mld snooping

1' **show ipv6 mld snooping** ¾ mld snooping '

```
Ruijie# show ipv6 mld snooping
MLD-snooping mode      : IVGL
SVGL vlan-id           : 1
SVGL profile number    : 0
Source check port      : Disabled
```

```
Query max respone time : 10(Seconds)Â
```

2' **show ipv6 mld snooping statistics** ¸ mld snooping

'

```
Ruijie# show ipv6 mld snooping statistics
GROUP    Interface    Last report       Last leave     Last
                        time          time          reporter
--------------- ------------ -------------  -------------   -
FF88::1 VL1:Gi4/2   0d:0h:0m:7s     ----     2003::1111
                       Report pkts: 1           Leave pkts: 0
```

3' **show ipv6 mld snooping mrouter** ¸ mld snooping

'

```
Ruijie# show ipv6 mld snooping mrouter
Vlan   Interface       State     MLD profile number
----     --------         -------     -------------------
1   GigabitEthernet 0/7   static       1
1   GigabitEthernet 0/12  dynamic      0
```

4' **show ipv6 mld snooping gda-table** GDA Ո

'

```
Ruijie# show ipv6 mld snooping gda-table
Abbr: M - mrouter
     D - dynamic
     S - static
VLAN  Address            Member ports
-------------------------------------------------------------
1      FF88::1          GigabitEthernet 0/7(S)
```

5

10.4	

28.2.2 show ipv6 mld profile

MLD profile Â

show ipv6 mld profile [*profile-number*]

	profile
profile-number	profile

৲ Â

mld profile

1' **show ipv6 mld profile** ৲ MLD profile '

```
Ruijie# show ipv6 mld profile 1
MLD Profile 1
permit
range FF77::1 FF77::100
range FF88::123
```

৲	

৲

⁄	
10.4	

29

29.1

29.1.1 strom-control

⁸ Â ϡ **no** ⁸ ╖ Â

storm-control {**broadcast** | **multicast** | **unicast**} [{**level** *percent* | **pps** *packets* | *rate-bps*}]

no storm-control {**broadcast** | **multicast** | **unicast**} [{**level** *percent* | **pps** *packets* | *rate-bps*}]

broadcast	⁸ ╖ Â
multicast	⅄ ⁸ ╖ Â
unicast	⅄ ⁸ ╖ Â
percent	Л∪ ⍞ 20 20%
packets	Л∪ pps ѝ Æ packets per second
Rate-bps	Â
64k-2M	Л∪ 64k ѝ Æ Â
2-100M	Л∪ 1M ѝ Æ Â
100M Л∪Э	Л∪ 8M ѝ Æ Â

ϡ Â

Э à ˘ ˘
⅃ ╖ Â ⅃
Â
⅃ Л∪⍞ à ⁸ Â à
˘ ˆ
˜ Â
show storm-control ϡ Â

Ю GigabitEthernet 1/1 Э 8 ℸ ˘ 3
ὶ 4M Â

```
Ruijie# configure terminal
Ruijie(config)# interface GigabitEthernet 1/1
Ruijie(config-if)# storm-control multicast 4096
Ruijie(config-if)# end
```

३	
show storm-control	8 Â

86 ↓ **pps** ὶ Æ Â

/I	
-	-

29.1.2 switchport protected

३ ὶ Â ३ **no** Â

switchport protected

no switchport protected

-	-

३

ὶ ʌ˘ Ю a γ ↓Ռ
3 ˘ б ↓Ռ Â **show interfaces** ३
Â

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport protected
```

३	

show interfaces

-	-

29.1.3 switchport port-security

no

switchport port-security [**violation** {**protect** | **restrict** | **shutdown**}]

no switchport port-security [**violation**]

port-security	
violation protect	
violation restrict	trap
violation shutdown	Trap

show port-security

	show port-security	Â
√		

३	
switchport port-security	
switchport port-security binding interface	Ю
Switchport port-security mac-address	
switchport port-security aging	
show port-security	

/I	
-	-

29.1.6 switchport port-security binding interface

Ю ˇ ┘Л IP+ MAC IP ˇ
/ˇ ┘Л ˇ a
Â no ┘ '

[**no**] **switchport port-security binding interface** i*nterface-id mac-address* **vlan** *vlan_id ipv4-address* | *ipv6-address*

[**no**] **switchport port-security binding interface** i*nterface-id ipv4-address* | *ipv6-address*

i*nterface-id*	ID
mac-address	MAC
Vlan_id	MAC VID
Ipv4-address	Ipv4 Ip
Ipv6-address	Ipv6 Ip

1' 192.168.1.100 10'

```
Ruijie(config)# switchport port-security binding interface g0/10
192.168.1.100
```

2' 192.168.1.100 MAC 00d0.f800.5555, VID= 1 10'

```
Ruijie(config)# switchport port-security binding interface g0/10 00d0.f800.5555
vlan 1 192.168.1.100
```

३	
switchport port-security	
switchport port-security binding	IO
Switchport port-security mac-address	
switchport port-security aging	
show port-security	

/I

/I

1' TRUNK 10

1' TRUNK 10 00d0.f800.5555 VID=2'

```
Ruijie(config)# switchport port-security interface g0/10
mac-address 00d0.f800.5555 vlan 2
```

```
Interface Broadcast Control Multicast Control Unicast Control
---------------------------------- --------------
Gi1/1 Disabled Disabled Disabled
```

¾	
storm-control	8 Â

/I	
-	-

29.2.2 show port-security

Â

show port-security [**address**] [**interface** *interface-id*] [**all**]

address	˘ Â
interface *interface-id*	Â
all	Â

¾ a ╗ ˘ à ˘ ┘ Â

```
Ruijie# show port-security
Secure Port MaxSecureAddr(count) CurrentAddr(count) Security
Action
-------- ------------- ----------- -----------
Gi1/1 128 1 Restrict
Gi1/2 128 0 Restrict
Gi1/3 8 1 Protect
```

३	
switchport port-security	Ⅱ Â
switchport port-security aging	ѝ Э Â
switchport port-security mac-address	Â

/I	
-	-

30 802.1X

30.1 dot1x

30.1.1 dot1x auto-req

802.1X ў ╠ ╖ ˘ ৡ **dot1x auto-req** Â ৡ **no** ৸ ў ╠ ╖ Â

[**no**] **dot1x auto-req**

-	-

a ў ╠

ৡ Â

ў ╠ 802.1x ˘ ৸ Л∪ **show dot1x auto-req** ৡ ╖ Â

Ю ў ╠ 802.1x '

```
Ruijie# configure terminal
Ruijie(config)# dot1x auto-req
Ruijie(config)# end
Ruijie# show dot1x auto-req
Ruijie(config)# dot1x auto-req
Auto-Req: Enabled
User-Detect : Enabled
Packet-Num  : 0
Req-Interval: 30 Second
```

ৡ	
show dot1x auto-req	ў ╠ Â

৸

-	-

30.1.3 dot1x auto-req req-interval

ў ╟ ˘ **no** й

dot1x auto-req req-interval *interval*

no dot1x auto-req req-interval

interval	ў ╟ ˘ Æ s

30

Â

ў ╟ ˘ ┘ Л∪ **show dot1x auto-req** ৡ ℸ Â

Ю 802.1x й 60s '

30.1.4 dot1x auto-req user-detect

ў ╟ ˘ no й Â

dot1x auto-req user-detect

no dot1x auto-req user-detect

-	-

٣ Â

ў ╟ ˘ ┘Л **show dot1x auto-req** ٣ ╖ Â

Ю ў Э Л '

```
Ruijie# configure terminal
Ruijie(config)# dot1x auto-req user-detect
Ruijie(config)# end
Ruijie# show dot1x auto-req
Auto-Req: Enabled
User-Detect : Enabled
Packet-Num  : 0
Req-Interval: 60 Second
```

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٣	
show dot1x auto-req	ў ╟ Â

Л

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-	-

30.2 dot1x

30.2.1 dot1x timeout quiet-period

ৡ ˆ ৡ ˜ ﾉ ˆ
˜ Â ৡ **no** ﾙ Â

dot1x timeout quiet-period *seconds*

no dot1x timeout quiet-period

seconds	ﾉ Â 0 65535 Â æ s

10 Â

ৡ Â

ﾉ˘ a ˘ Â┘Л **show dot1x**
ৡ Â

Ю ﾙ 1000s'
Ruijie# **configure terminal**
Ruijie(config)# **dot1x timeout quiet-period** *1000*
Ruijie(config)# **end**
Ruijie# **show dot1x**
802.1X Status: Enabled
Authentication Mode: EAP-MD5
Authed User Number: 0
Re-authen Enabled: Disabled
Re-authen Period: 3600 sec
Quiet Timer Period: 1000 sec
Tx Timer Period: 3 sec
Supplicant Timeout: 3 sec
Server Timeout: 5 sec
Re-authen Max: 3 times
Maximum Request: 3 times
Filter Non-RG Supp: Disabled

```
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
Authorization Mode:   Group Server
```

show dot1x	802.1x Â

	-

period

econds

```
Re-authen Period:    1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:     3 sec
Supplicant Timeout:   3 sec
Server Timeout:      5 sec
Re-authen Max:       3 times
Maximum 2Request:     3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:    Disabled
Authorization Mode:   Group Server
```

-	-

30.2.5 dot1x timeout tx-period

Л˘ ٪ ˘ Â
٪ no ѝ Â

dot1x timeout tx-period *seconds*

no dot1x timeout tx-period

seconds	Â 0 65535 Â

3 Â

٪ Â

↓Л↻ **show dot1x** ٪ 802.1x Â

Ю ѝ 10s'

```
Ruijie# configure terminal
Ruijie(config)# dot1x timeout tx-period 10
Ruijie(config)# end
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Disabled
Re-authen Period:     1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:      10 sec
Supplicant Timeout:   10 sec
Server Timeout:       10 sec
Re-authen Max:        3 times
Maximum Request:      3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
```

Authorization Mode: Group Server

ৡ	ৡ
show dot1x	802.1x Â

```
Re-authen Period:    1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:     10 sec
Supplicant Timeout:   10 sec
Server Timeout:      10 sec
Re-authen Max:       3 times
Maximum Request:     3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:    Disabled
Authorization Mode:   Group Server
```

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ৡ	
show dot1x	802.1x Â

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30.3.2 dot1x reauth-max

ৡ Â ৡ **no** Â

dot1x reauth-max *count*

no dot1x reauth-max

count	Â

ঌ 3

ৡ Â

ৡ˘ ৲Ծ Â ৲Ծ **show dot1x**
ৡ 802.1x Â

Ю ৷৷ '

```
Ruijie# configure terminal
Ruijie(config)# dot1x reauth-max 5
Ruijie(config)# end
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Enabled
Re-authen Period:     1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:      10 sec
Supplicant Timeout:   10 sec
Server Timeout:       10 sec
Re-authen Max:        5 times
Maximum Request:      3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:     Disabled
Authorization Mode:   Group Server
```

ৡ

ৡ	
show dot1x	802.1x Â

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-	-

30.4 dot1x

30.4.1 dot1x probe-timer

.

dot1x probe-timer{**interval** | **alive**}*interval*

no dot1x probe-timer

no	
interval	hello
alive	
interval	

Hello ѝ 20 ’
ѝ 250 Â

ৡ Â

˘ ┘Л **show dot1x** ৡ 802.1x Â

hello ѝ 30 , ѝ 120 '

```
Ruijie# configure terminal
Ruijie(config)# dot1x probe-timer interval 30
Ruijie(config)# dot1x probe-timer alive 120
Ruijie(config)# end
Ruijie# show dot1x probe-timer
Hello Interval: 30 Seconds
Hello Alive: 120 Seconds
```

ৡ	
Show dot1x probe-timer	Â

┘

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৲ Â

Ⅱ Â

Ⅱ '

```
Ruijie# configure terminal
Ruijie(config)# dot1x client-probe enable
Ruijie(config)# end
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Enabled
Re-authen Period:     1000 sec
Quiet Timer Period:   1000 sec
Tx Timer Period:      10 sec
Supplicant Timeout:   10 sec
Server Timeout:       10 sec
```

30.5 dot1x

30.5.1 dot1x authentication

AAA AAA

no

dot1x authentication {**default** | *list-name*}

no dot1x authentication {**default** | *list-name*}

default	
list-name	

AAA AAA

dot1x 8

group radius

```
Ruijie# configure terminal
Ruijie(config)# aaa new-model
Ruijie(config)# aaa authentication dot1x default group radius
Ruijie(config)# interface fastEthernet0/1
Ruijie(config-if)# dot1x authentication default
Ruijie(config-if)# end
```

aaa new-model	AAA
aaa authentication dot1x	

-	-

30.5.2 dot1x auth-address-table

ৡ 802.1X Â ৡ **no** ৶ Â

dot1x auth-address-table address *mac-addr* **interface** *interface*

no dot1x auth-address-table address *mac-addr* **interface** *interface*

mac-addr	৶ Â
Interface	৸ Â

৶ Â

ৡ Â

S*ৠ ৸ 802.1X Â **show dot1x auth-address table** ৡ Â

dot1x auth-mode {**eap-md5** | **chap** | **pap**}

no dot1x auth-mode

eap-md5	802.1x EAP-MD5 Â
chap	802.1x CHAP Â
pap	802.1x PAP Â

EAP-MD5

ৡ Â

ㅓ Л **show dot1x** ৡ 802.1x Â

Ю 802.1x

```
Ruijie# configure terminal
Ruijie(config)# dot1x auth-mode chap
Ruijie(config)# end
Ruijie#
```

ৡ	
show dot1x	802.1x Â

ㅓ

/I

¦ Â

ы Л∪ **show dot1x** ¦ 802.1x Â

Ю 802.1x '

```
Ruijie# configure terminal
Ruijie(config)# dot1x default
Ruijie(config)# end
Ruijie# end
```

¦

¦	
show dot1x	802.1x Â

Л

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Л	
-	-

30.5.5 dot1x dynamic-vlan enable

╟ vlan Â ¦ **no** ы Л∪ Â

dot1x dynamic-vlan enable

no dot1x dynamic-vlan enable

-	-

й

¦

ы Л∪ **show dot1x dynamic-vlan** ¦ 802.1x Â

Ю 802.1x ╟ vlan '

```
Ruijie# configure terminal
```

```
Ruijie(config)# dot1x dynamic-vlan enable
Ruijie(config)# end
Ruijie#
```

ʒ	
show dot1x	802.1x Â

ʃ

ʃ	
-	-

30.5.6 dot1x guest-vlan

guest vlan Â ʒ **no** ʅ Л Ъ Â

dot1x dynamic-vlan <1 - 4094>

no dot1x guest-vlan

vid	<1 - 4094>

й

ʒ Ю

' guest vlan ╖ ˘ ″l **dot1x dynamic-vlan enable** ʒ˘
guest vlan a Â
γ ' guest vlan ╖ ˘ a γ ˘ è ╟
╖ vlan Â
Ь ' ʅ Л Ъ **show running-config** ʒ 802.1x Â

Ю 802.1x guest vlan '

```
Ruijie# configure terminal
Ruijie(config)# dot1x guest-vlan 10
Ruijie(config)# end
Ruijie#
```

show running-config	802.1x Â

-	-

30.5.7 dot1x eapol-tag

EAPOL TAG ╗ Â

dot1x eapol-tag

no dot1x eapol-tag

-	-

ѝ

ৡ Â

┘Л **show dot1x** ৡ 802.1x Â

Ю 802.1X tag '

```
Ruijie# configure terminal
Ruijie(config)# dot1x eapol-tag
Ruijie(config)# end
Ruijie#
```

ৡ	
show dot1x	802.1x Â

┙

Л	
-	-

30.5.8 dot1x max-req

DOT1X Ь ˇ DOT1X Ь ˇ
DOT1X Ѧ Ь Â ৡ Ь Â
ৡ **no** Â

dot1x max-req *count*

no dot1x max-req

ৰ Л৬ **show dot1x private-supplicant-only** ৡ 802.1x Â

Ю ৰ

```
Ruijie# configure t
Ruijie(config)# dot1x private-supplicant-only
Ruijie(config)# end
Ruijie#
```

ৡ

ৡ	
show dot1x private-supplicant-only	Â

ৰ

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-	-

30.5.10 dot1x port-control auto

˘ ╗ Â ৡ **no**

Â

dot1x port-control auto

no dot1x port-control

Ruijie#

٩	
show dot1x	802.1x Â

/ا	
-	-

30.5.11 dot1x port-control-mode

802.1x ⁸ ЮO MAC ⁸ ˘ ل
˘ ٤ ل ˘ ⁸
˘ ل ˘ ЮO
Â ⁸ ˘ ЮO ل ˘
ل ˘ Â ⁸ Ю˘ ل ى
˘ ٤ ˘ ЮO ˘ Â
٩ Ю'

dot1x port-control-mode {**mac-based** | {**port-based** [**single-host**]} }

no dot1x port-control-mode

mac-based	mac 802.1X ⁸
port-based	802.1X ⁸
single-host	802.1x ⁸

ى mac-based ⁸

٩ Â

ل Л **show dot1x port-control** ٩ 802.1x Â
s2600 Э˘ 802.1X a ل ˘
Ю˘ 802.1X Э ى
Â
single-host 802.1x ⁸˘ **show dot1x port-control** Э
ى port-based˘ **show running-config** ى **dot1x port-control-mode**

port-based single-host Â

single-host ৸ ˘ ╟ default-user-limiť single-host

й ╟ ┘Л Â

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٦˘ Â

Ю 802.1x б '

```
Ruijie# configure terminal
Ruijie(config)# dot1x stationarity enable
Ruijie(config)# end
Ruijie#
```

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30.5.13 dot1x redirect url

˘ 802.1x ╥ ^ ~ ˘

˘ URL URL˘ Л http:// ˘ '

http://ruijie.net/web˘ ˘ ┘ http:// ˘ a https:// Â ┘

1' ' ruijie.net/web'

```
Ruijie(config)# dot1x redirect url http://ruijie.net/web
```

dot1x redirect for special tcp-destination port	

dot1x redirect url	ӆ ˘ ip ӆ ip web
dot1x redirect for special tcp-destination port	
dot1x redirect num for special source-ip	৶
show dot1x	dot1x

৶

ৡ	/ӏ	
	-	-

30.5.16 dot1x redirect num for special source-ip

৶ ˘ 1 ˘ ৶ ӆ 1-10 Â no ৶Ո ৡ '

dot1x redirect num for special source-ip *num*

no dot1x redirect num for special source-ip

num	

1

ৡ

1' ӆ 3'

```
Ruijie(config)# dot1x redirect num for special source-ip 3
```

ৡ	ৡ	
	dot1x redirect url	
	dot1x redirect for special tcp-destination port	ӆ ˘ ip ӆ ip web

dot1x redirect time-out	
show dot1x	dot1x

-	-

30.6 dot1x

30.6.1 show dot1x

802.1x Â

show dot1x

-	-

Â

```
Ruijie# show dot1x
802.1X Status:       Enabled
Authentication Mode:  EAP-MD5
Authed User Number:   0
Re-authen Enabled:    Disabled
Re-authen Period:     3600 sec
Quiet Timer Period:   10 sec
Tx Timer Period:      3 sec
Supplicant Timeout:   3 sec
Server Timeout:       5 sec
Re-authen Max:        3 times
```

```
Maximum Request:     3 times
Filter Non-RG Supp:   Disabled
Client Oline Probe:   Disabled
Eapol Tag Enable:    Disabled
Authorization Mode:   Group Server
Ruijie#
```

dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	Â
dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

-	-

30.6.2 show dot1x auth-address-table

802.1X Â

show dot1x auth-address-table[*addressmac-addr*][*interface interface*]

mac-addr	

interface	

Â

Ю

```
Ruijie# show dot1x auth-address-table
interface:g3/1
-----------------------------------
mac addr: 00D0.F800.0001
Ruijie#
```

dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	Â
dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

-	-

30.6.3 show dot1x auto-req

ў ╟ 802.1x Â

show dot1x auto-req

-	-

ৡ Â

Ю '

```
Ruijie# show dot1x auto-req
Auto-Req: Disabled
User-Detect : Enabled
Packet-Num  : 0
Req-Interval: 30 Seconds
```

ৡ	
dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	╗ Â
dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	⁄ Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	╘ Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	˘ Â

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30.6.4 show dot1x private-supplicant-only

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show dot1x private-supplicant-only

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¾ Â

Ю '

```
Ruijie# show dot1x private-supplicant-only
private-supplicant-only:: disabled
Ruijie#
```

dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

-	-

30.6.5 show dot1x max-req

Â

show dot1x max-req

-	-

IO

```
Ruijie# show dot1x max-req
max-req: 2 times
Ruijie#
```

dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	Â
dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

ʒ	Л	
	-	-

30.6.6 show dot1x port-control

б Â

show dot1x port-control [**interface** *interface*]

	interface	

ʒ Â

Ю '

```
Ruijie# show dot1x port-control
interface dyn-user static-user max-user qos
ctrl-mode status
--------- -------- ----------- -------- ------- ------
Gi0/1     0        1           6000     dscp: 0 mac-base Authed
Ruijie#
```

ʒ	ʒ	
	dot1x auth-mode	802.1x Â
	dot1x max-req	Â
	dot1x port-control auto	╗ Â
	dot1x reauth-max	
	dot1x re-authentication	Â
	dot1x timeout quiet-period	Л Â
	dot1x timeout re-authperiod	Â

dot1x timeout server-timeout	Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

-	-

30.6.8 show dot1x re-authentication

show dot1x re-authentication

-	-

Â

```
Ruijie# show dot1x re-authentication
reauth-enabled: disabled
Ruijie#
```

dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	Â
dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

-	-

30.6.9 show dot1x reauth-max

show dot1x reauth-max

-	-

Â

Â

Ю '

```
Ruijie# show dot1x reauth-max
reauth-max: 2 times
Ruijie#
```

ৡ	
dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	╗ Â
dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	⁄ Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	┴ Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	˘ Â

⁄

⁄	
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ৡ

30.6.10 show dot1x summary

ৡ 802.1X

show dot1x summary

-	-

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Ю

```
Ruijie# show dot1x summary
ID    MAC       Interface VLAN Auth-State
Backend-State Port-Status Type
--------------- -------------- ---------------
1 00d0f8000000 Gi0/1       1  Authenticated Idle
Authed     Static
Ruijie#
```

dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	Â
dot1x reauth-max	
dot1x re-authentication	Â
dot1x timeout quiet-period	Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

-	-

30.6.11 show dot1x user id

ৡ 802.1X

show dot1x user id <*id*>

id	show summary id

ৡ Â

ЮO '

```
Ruijie# show dot1x user id 1
User name: caikov
id: 1
Type: static
Mac address is 0013.2049.8272
Vlan id is 217
Access from port Gi0/13
User ip address is 192.168.217.64
Max user number on this port is 6000
COS on this port is 5
Up-bandwidth is 1024 kbps
Down-bandwidth is 1024 kbps
Authorization vlan is dep7
Authorization seesion time is 1000000 seconds
Authorization ip address is 192.168.217.64
Start accounting
Permit proxy user
Permit dial user
IP privilige is 2
```

ৡ

ৡ	
dot1x auth-mode	802.1x Â

dot1x max-req	Â
dot1x port-control auto	╗ Â

Ю '

```
Ruijie# show dot1x timeout quiet-period
quiet-period: 60 sec
Ruijie#
```

ৡ	
dot1x auth-mode	802.1x Â
dot1x max-req	Â
dot1x port-control auto	╗ Â
dot1x reauth-max	
dot1x re-authentication	Â

dot1x timeo/Tpf-0.0024 Tw 1.198 <4-0.0024 Tw 1.] 0.47A48 20.1 33.36 394.9840.1 F909B>E20804

31 AAA

31.1

31.1.1 aaa authentication dot1x

AAA

ৡ	
aaa new-model	AAA ᒪ
dot1x authentication	802.1X Э
username	ᒪ

ᑦ	
-	-

31.1.2 aaa authentication enable

AAA Enable ˘ ৡ **aaa authentication enable** Enable Â ৡ no Â

aaa authentication enable default *method1* [*method2*...]

no aaa authentication enable default

default	˘ ᑦ ᒪ й Enable ÂEnable ˘ ৸ Â
method	ľ local à none à group Ŀ ˘ 4
local	ᒧ
none	a
group	ᒪ ˘ RADIUS TACACS+ ᒪ

ৡ Â AxA•Enable

AAA Enable ᒪ˘ AAA Enable Â **aaa authentication enable** ৡ Enabl

Ю Нж AAA Enable Â ″I RADIUS
Ь ˘ RADIUS Ь ˘
Â

```
Ruijie(config)# aaa authentication enable default group radius local
```

⅋	
aaa new-model	AAA Ь
enable	ⅈ
username	Нж

⅄

⅄	
-	-

31.1.3 aaa authentication login

AAA Loginˆ ~ ˘ ⅋ **aaa authentication login** Login Â ⅋ no Â

aaa authentication login {**default** | *list-name*} *method1* [*method2*...]

no aaa authentication login {**default** | *list-name*}

default	˘ ⅄ Нж ѝ Login Â
list-name	Нж Login ˘ ⅃ Л∪ Â
method	Ⅰ′ local à none à group Ь ˘ 4
local	⅃
none	a
group	Ь ˘ RADIUS TACACS+ Ь

¾ Â

AAA ╘˘ AAA Login Â
aaa authentication login ¾ ┘ Login Â
┘ ˘ ╜ Â
Login ╜˘ è Login Э˘ a
Â

Ю Нж ╛ и list-1 AAA Login Â ¨I
RADIUS ╘ ˘ RADIUS ╘ ˘
Â

```
Ruijie(config)# aaa authentication login list-1 group radius local
```

¾

¾	
aaa new-model	AAA ╘
username	Нж
login authentication	Э Login

╜

¾

╜	
-	-

31.1.4 aaa authentication ppp

AAA PPP ˘ ¾ **aaa authentication ppp** PPP

local	¸
none	a
group	¸ ˘ RADIUS TACACS+ ¸

¸ Â

AAA PPP ¸˘ AAA PPP Â **aaa authentication ppp** ¸ ¸ PPP Â ¸ ˘ ¸ Â

Ю ЊЖ ¸ и rds_ppp AAA PPP Â ¨І RADIUS ¸ ˘ RADIUS ¸ ˘ ˘ Â

```
Ruijie(config)# aaa authentication ppp rds_ppp group radius local
```

¸	
aaa new-model	AAA ¸
ppp authentication	PPP
username	ЊЖ

¸

¸	
-	-

31.1.5 login authentication

Э Loginˆ ~ ¶ ˘ Ю **login authentication** ¸ Login Â ¸ no Э Â

login authentication {**default** | *list-name*}

no login authentication

default	˘	Login Â
list-name	Ы	Login Â

¦ Â

Login ˘ ╟ Э Â Э
Login ˘ ¶ ¦ Â Ы ˘
˘ Э Login a ˘ Ы Login
Â

Ю Ы ¶ и list-1 AAA Login Â
Â ¶ VTY 0 - 4 Э Â

```
Ruijie(config)# aaa authentication login list-1 local
Ruijie(config)# line vty 0 4
Ruijie(config-line)# login authentication list-1
```

¦

no aaa authorization commands *level* {**default** | *list-name*}

level	ঽ ˘ 0~15˝ ᾱ ঽ ʌ Â
default	˘ ʌ Ⱨ '] Ư Ă –

31.2.2 aaa authorization config-commands

AAA ˆ è ˜ Ю ৡ ˘
ৡ **aaa authorization config-commands** Â ৡ no AAA Ю
ৡ ℸ Â

aaa authorization config-commands

no aaa authorization config-commands

-	-

a Ю ৡ Â

ৡ Â

ৎ ˆ ˜ Ю ৡ ˘ ৎ Л∪ ৡ no
ℸ ˘ è Ю ৡ a ৡ ৎ Л∪ Â

Ю Ю ৡ ℸ '
`Ruijie(config)# aaa authorization config-commands`

ৡ	
aaa new-model	AAA ┺
aaa authorization commands	㈱ AAA ৡ

ৎ

ৎ	
-	-

31.2.3 aaa authorization console

AAA ⁸ ৎ ˘ ৡ ˘ ৡ **aaa**
authorization console Â ৡ no AAA ⁸ ৎ ৡ
ℸ Â

aaa authorization console

no aaa authorization console

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a ⁸ ⅄ ৡ Â

ৡ Â

RGOS Ⱳ⁋ ⁸ ⅄ è ˘ ⅃ Ⅱ ⁸ ⅄ ˘
ৡ Â ⁸ ⅄ ৡ ℸ ˘ ⁸ ⅄
ৡ a Â

Ю ⁸ ⅄ ৡ ℸ '

```
Ruijie(config)# aaa authorization console
```

ৡ	
aaa new-model	AAA ⊾
aaa authorization commands	Ⱨ AAA ৡ
authorization commands	Э ৡ

⅄

⁄	
-	-

31.2.4 aaa authorization exec

AAA NAS CLI Exec ˘ è ˘
ৡ **aaa authorization exec** Â ৡ no AAA Exec ℸ Â

aaa authorization exec {**default** | *list-name*} *method1* [*method2*...]

no aaa authorization exec {**default** | *list-name*}

default	˘ ⅄ Ⱨ й Exec Â
list-name	Ⱨ Exec ˘ ⅃ Ⅱ Â

AAA ३

default	' ˘ ⁄ Ⱨ ѝ Network Â

ľ

method

authorization commands no

authorization commands *level* {**default** | *list-name*}

no authorization commands *level*

level	0~15
default	
list-name	

AAA

a

Ю cmd 15 TACACS+ none VTY 0 – 4

```
Ruijie(config)# aaa authorization commands 15 cmd group tacacs+ none
Ruijie(config)# line vty 0 4
Ruijie(config-line)# authorization commands 15 cmd
```

aaa new-model	AAA
aaa authorization commands	AAA

-	-

Exec Э˘ ¦ **authorization exec** Â
¦ no ¬ Э Exec ¶ Â

authorization exec {**default** | *list-name*}

no authorization exec

default	˘ Exec Â
list-name	Ьж Exec Â

AAA Exec ¶ Â

¦ Â

Exec ˘ ╟ Э Â Э
Exec ˘ ¬ ¦ Â Ьж ˘
˘ Э Exec a ˘ Ьж Exec
Â

Ю ¬ й exec-1 Exec ˘ RADIUS й Ь ˘
Ь none Â ¬ VTY 0 – 4 Э'

```
Ruijie(config)# aaa authorization exec exec-1 group radius none
Ruijie(config)# line vty 0 4
Ruijie(config-line)# authorization exec exec-1
```

¦	
aaa new-model	AAA Ь
aaa authorization commands	Ьж AAA Exec

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¬	
-	-

31.3

╟˘ NAS Э ٦ ╟ ˘
٦ **aaa accounting commands** Â ٦ no ٧ ٦ ╖ Â

aaa accounting commands *level* {**default** | *list-name*} **start-stop** *method1* [*method2*...]

no aaa accounting commands *level* {**default** | *list-name*}

level	٦ ˘ 0~15˜ ā ٦ ˘ Â
default	˘ ٨ Ⱶ ѝ ٦ Â
list-name	Ⱶ ٦ ˘ ٧ Л Â
method '	ľ **none à group** Ŀ ˘ 4

ঽ	/ا	
	-	-

31.3.2 aaa accounting exec

╟˘ NAS ╟ ˘ ঽ **aaa accounting exec** Â ঽ no ا Exec ╖ Â

aaa accounting exec {**default** | *list-name*} **start-stop** *method1* [*method2*...]

no aaa accounting exec {**default** | *list-name*}

default	˘ ا ⊩ж и Exec Â
list-name	⊩ж Exec ˘ ┘Л Â
method	׀ **none à group** Ŀ ˘ 4
none	a

aaa new-model	AAA
aaa authentication	AAA
accounting commands	Exec

-

-

31.3.3 aaa accounting network

aaa accounting network no

aaa accounting network {**default** | *list-name*} **start-stop** *method1* [*method2*...]

no aaa accounting network {**default** | *list-name*}

default	Network
list-name	
start-stop	
method	4
none	a
group	

Ruijie(config)# **aaa accounting network default start-stop group radius**

aaa new-model	AAA
aaa authorization network	AAA
aaa authentication	AAA
username	

-	-

31.3.4 aaa accounting update

aaa accounting update no

aaa accounting update

no aaa accounting update

-	-

AAA a AAA

Ruijie(config)# **aaa new-model**
Ruijie(config)#

aaa new-model	AAA
aaa accounting network	

ৡ	/I	
	-	-

31.3.6 accounting commands

ৡ Э˘ ৡ **accounting commands** Â
ৡ no ৸ Э ৡ ℼ Â

accounting commands *level* {**default** | *list-name*}

no accounting commands *level*

level	ৡ ˘ 0~15˜ ¤ ৡ Â
default	˘ ৡ Â

¾	/Ì	
	-	-

31.3.7 accounting exec

Exec Э˘ ¾ **accounting exec** Â
¾ no ¼ Э Exec ¶ Â

accounting exec {**default** | *list-name*}

no accounting exec

default	˘ Exec Â
list-name	Ьѫ Exec Â

¶

¾ Â

Exec ˘ ╟ Э Â Э
Exec ˘ ¼ ¾ Â Ьѫ ˘
˘ Э Exec a ˘ Ьѫ Exec
Â

Ю ¿ й exec-1 Exec ˘ RADIUS й Ь ˘
Ь none Â ¿ VTY 0 – 4 Э'

```
Ruijie(config)# aaa accounting exec exec-1 group radius none
Ruijie(config)# line vty 0 4
Ruijie(config-line)# accounting exec exec-1
```

¾	
aaa new-model	AAA Ь
aaa accounting commands	Ьѫ AAA Exec

¼

¾	/Ì	

-	-

31.4 AAA

31.4.1 aaa domain

˘ Â ৡ no ৸ ৡ Â

aaa domain {**default** | *domain-name*}

no aaa domain {**default** | *domain-name*}

default	˘
domain-name	৶

Â

ৡ Â

৶ AAA ৮ Âdefault ৸ ˘ ≠ ˘
Â*domain-name* ৸ ৶ ˘ ৶˘
Â 32 Â

Ю ৶ '

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)#
```

ৡ	
aaa new-model	AAA ৮
aaa domain enable	৶ AAA ৮
show aaa domain	

৸

৸	

31.4.2 aaa domain enable

ɹ AAA ᒪ ˇ Ю й Â ˇ ″I
ɹ AAA ᒪ Â ৡ no Â

aaa domain enable

no aaa domain enable

-	-

ɹ AAA ᒪ Â

ৡ Â

ɹ AAA ᒪ ˇ Â

ɹ AAA ᒪ '

```
Ruijie(config)# aaa domain enable
```

ৡ	
aaa new-model	AAA ᒪ
show aaa domain	

ᐯ

ᐯ	
-	-

31.4.3 access-limit

8ˇ ᐯ

no access-limit

num	٨ ˇ √ ٨ IEEE802.1x

٢

default Â

¾ Â

ù Network Â

Ю Network '

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# accounting network default
```

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¾	
aaa new-model	AAA Ł
aaa domain enable	¿ AAA Ł
show aaa domain	

¼

¾

¼	
-	-

31.4.5 authentication dot1x

Ю IEEE802.1x ˘ ¾ no ¼ ¾ Â

authentication dot1x {**default** | *list-name*}

no authentication dot1x

default	˘
list-name	¿

˘ ˘ default Â

¾ Â

ѝ IEEE802.1x Â

Ю IEEE802.1x '

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# authentication dot1x default
```

ȝ

ȝ	
aaa new-model	AAA Ł
aaa domain enable	ȷ AAA Ł
show aaa domain	

ȷ

ȝ

ȷ	
-	-

31.4.6 authorization network

Ю Network ˘ ȝ no ȷ ȝ Â

authorization network {**default** | *list-name*}

no authorization network

default	˘
list-name	ȷ

˘ ˘ default

Â

ȝ Â

ѝ Â

Ю '

```
Ruijie(config)# aaa domain ruijie.com
```

Ruijie(config-aaa-domain)# **authorization network default**

aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

-	-

31.4.7 state

no Â

state {**block** | **active**}

no state

block	
active	

Ю Â

Â

Â

Ю Â

```
Ruijie(config)# aaa domain ruijie.com
Ruijie(config-aaa-domain)# state block
```


aaa new-model	AAA
aaa domain enable	AAA
show aaa domain	

ৡ	/ſ	
	-	-

31.5 AAA

31.5.1 aaa group server

AAA Ŀ Â ৡ no Ŀ Â

aaa group server {**radius** | **tacacs+**} *name*

no aaa group server {**radius** | **tacacs+**} *name*

name	Ŀ ৸ ৶˘ a ঌ ľ radius Ŀ˘ ľ tacacs+ Ŀ˘ ঌ RADIUS TACACS+ Ŀ ৶ Â

ৡ Â

ৡ AAA Ŀ ˘ RADIUS TACACS+ Ŀ Â

Ю Â

```
Ruijie(config)# aaa group server radius ss
Ruijie(config-gs-radius)# end
Ruijie# show aaa group
Group Name:  ss
Group Type:  radius
Referred:   1
Server List:
```

ৡ	
show aaa group	aaa Ŀ

৸

ʒ	/ʃ	
	-	-

31.5.2 ip vrf forwarding

ѝ AAA ʟ vrf no Â

ip vrf forwarding *vrf_name*

no ip vrf forwarding

	vrf_name	vrf ɹ

ʒ	ʟ Â
	ѝ ʟ vrf Â

	Ю Â
	`Ruijie(config)# aaa group server radius ss`
	`Ruijie(config-gs-radius)# server 192.168.4.12`
	`Ruijie(config-gs-radius)# server 192.168.4.13`
	`Ruijie(config-gs-radius)# ip vrf forwarding vrf_name`
	`Ruijie(config-gs-radius)# end`

ʒ		
ʒ	**aaa group server**	aaa ʟ
	show aaa group	aaa ʟ

ʃ

╗ AAA ╘ ╘ ˘ no Â

server *ip-addr* [**authen-port** *port1*] [**acct-port** *port2*]

no server

	-	-

31.5.4 show aaa group

AAA Ł Â

show aaa group

31.6.1 aaa local authentication attempts

login

aaa local authentication attempts *max-attempts*

max-attempts'	˘ ४ 1~2147483647 Â

ѝ 3

३ Â

३ Login

D

ৡ Â

login ˘

Ю '

```
Ruijie# configure terminal
Ruijie(config)# aaa local authentication lockout-time 5
```

ৡ	
Show running-config	
Show aaa lockout	login

ৗ

ৗ	
-	-

31.6.3 aaa new-model

RGOS AAA ┗╖ ˘ ৡ **aaa new-model** AAA Â ৡ **no** AAA ┗ Â

aaa new-model

no aaa new-model

-	-

AAA ┗

ৡ Â

ৡ AAA ৡ˘ AAA ┗˘ **aaa new-model** AAA ┗ Â AAA˘ AAA ৡ a ┘ Â

Ю AAA ┗ Â

```
Ruijie(config)# aaa new-model
```

३	
aaa authentication	⊮
aaa authorization	⊮
aaa accounting	⊮

/I	
-	-

31.6.4 clear aaa local user lockout

clear aaa local user lockout {**all** | **user-name** <*word*>}

<*word*>	ID

Â

31.6.5 debug aaa

AAA ┗ Â ৡ **no** Â

debug aaa event

no debug aaa event

-	-

ৡ EXEC Â

ৡ	
-	-

⁄	
-	-

31.6.6 show aaa method-list

AAA Â

show aaa method-list

-	-

ৡ « ẵ

¸ AAA Â

IO AAA Â

```
Ruijie# show aaa method-list
Authentication method-list
aaa authentication login default group radius
aaa authentication ppp default group radius
aaa authentication dot1x default group radius
aaa authentication dot1x san-f local  group angel group rain none
aaa authentication enable default group radius
Accounting method-list
aaa accounting network default start-stop group radius
Authorization method-list
aaa authorizating network default group radius
```

¸

¸	
aaa authentication	ЬЖ
aaa authorization	ЬЖ
aaa accounting	ЬЖ

Ñ

¸

Ñ	
-	-

31.6.7 show aaa user lockout

Â

show aaa user lockout {**all** | **user-name** <*word*>}

<*word*>	ID

¸ Â

˘ Л∪ Â

Ю '

```
Ruijie# show aaa user lockout all
```

३	
show running-config	
show aaa lockout	login

✓

/I	
-	-

32.1.2 radius attribute

radius ttribute{*<id>* | **down-rate-limit** | **dscp** | **mac-limit** | **up-rate-limit**} **vendor-type** *<type>*

no radius attribute {*<id>*|**down-rate-limit** | **dscp** | **mac-limit** | **up-rate-limit**} **vendor-type**

id	╖ id <1-255>
type	type

ɻ ʌ '

id	╖	type
1	max down-rate	1
2	qos	2
3	user ip	3
4	vlan id	4
5	version to client	5
6	net ip	6
7	user name	7
8	password	8
9	file-diractory	9
10	file-count	10
11	file-name-0	11
12	file-name-1	12
13	file-name-2	13
14	file-name-3	14
15	file-name-4	15
16	max up-rate	16
17	version to server	17
18	flux-max-high32	18
19	flux-max-low32	19
20	proxy-avoid	20
21	dailup-avoid	21
22	ip privilige	22

23	login privilige	42

radius-server key	ﾎｽ RADIUS ﾋ ﾃｽ
radius-server retransmit	ﾎｽ RADIUS

/\	

RADIUS ┺ ˘ ৡ

radius-server timeout Â ৡ **no** ˘ Â

radius-server timeout *seconds*

no radius-server timeout

seconds	ˆ Æ ѝ ˜ Â ┘ ѝ 1-1000 Â

5

ৡ Â

ৡ Â

Ю ㎧ ѝ 10 '

```
Ruijie(config)# radius-server timeout 10
```

ৡ	
radius-server host	㎧ RADIUS ┺ ў
radius-server retransmit	㎧ RADIUS
radius-server key	㎧ RADIUS ৡ

ѧ

ѧ	
-	-

32.1.8 radius set qos cos

radius Ю qos ѝ cos

radius set qos cos

no radius set qos cos

-	-

qos й dscp

३ Â

३˘ ⅃ Л Ю qos

radius attribute	/I
radius set	qos cos

✓I

/I	
-	-

32.2 RADIUS

32.2.1 debug radius

RADIUS Â ३ no RADIUS Â

debug radius [**event | detail**]

no debug radius [**event | detail**]

-	-

३ EXEC Â

३	
-	-

✓I

RADIUS ┗ Â

show radius parameter

-	-

Â

¾ radius ┗ Â

```
Ruijie# show radius parameter
Server Timout:   5 Seconds
Server Deadtime: 5 Minutes
Server Retries:  3
Server Key:      ******
```

¾	
radius-server host	ĺ RADIUS ┗ ў
radius-server retransmit	ĺ RADIUS
radius-server key	ĺ RADIUS ¾
radius-server timeout	ĺ RADIUS

¼	
-	-

Â

radius Â

```
Ruijie# show radius server
server ip : 192.168.4.12
acct  port: 23
authen  port: 77
server state: ready
server ip : 192.168.4.13
acct  port: 45
authen  port: 74
server state: ready
```

radius-server host	RADIUS ÿ
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

-	-

32.2.4 show radius vendor-specific

RADIUS Â

show radius vendor-specific

-	-

¾ Â

¾ radius Â

```
Ruijie# show radius vendor-specific
id    vendor-specific       type-value
----- -------------------- ----------
1     max down-rate         76
2     qos                   77
3     user ip               3
4     vlan id               4
5     version to client     5
6     net ip                6
7     user name             7
8     password              8
```

-	-

33 TACACS+

33.1 TACACS+

33.1.1 aaa group server tacacs+

৻ TACACS+ ┺ ˘ a ⅄ TACACS+ ┺ ˀ a ⅄ Â

aaa group server tacacs+ *group-name*

no aaa group server tacacs+ *group-name*

group-name	TACACS+ ┺ ⅄

TACACS+ ┺ Â

৻ Â

TACACS+ ┺ ˀ ˘ à à ⅄Ո a ⅄ ┺ Â

Ю ⅄ й tac1 TACACS+ ┺ ˘ з 1.1.1.1
TACACS+ ┺ '

```
Ruijie(config)# aaa group server tacacs+ tac1
Ruijie(config-gs-tacacs+)# server 1.1.1.1
```

৻	
server	TACACS+ ┺ server
ip vrf forwarding	TACACS+ ┺ VRF ⅄

⅄

⅄	
-	-

33.1.2 ip tacacs source-interface

¾ TACACS+ Â

ip tacacs source-interface *interface*

no ip tacacs source-interface

2.247 0 Td[(T)-10(A)-1(C35Tf-0.0jC2>2 78 1 Tf0 Tc 4.6>2 4 0 19C2>2 09B>tacacs source-7.24>TjTT1 1 T

vrf-name	vrf ﻝ

٦ TACACS+ ﻠ Â

ﻯ TACACS+ ﻠ vrf ﻝ Â

Ю ﻯ TACACS+ ﻠ VRF ﻝ ﻯ vpn1'

```
Ruijie(config)# aaa group server tacacs+ tac1
Ruijie(config-gs-radius)# server 1.1.1.1
Ruijie(config-gs-radius)# ip vrf forwarding vpn1
```

٦

٦	
aaa group server tacacs+	TACACS+ ﻠ
server	TACACS+ ﻠ server

ﻤ

ﻤ	

ʒ ˘ ʒ **aaa group server tacacs+** TACACS+ Â
TACACS+ Ł Ł ˘ Ю˘ **tacacs-server**
host ʒ Ł Â
Ł TACACS+ Ł ˘ Ł ˘ Ю Ł
Â

Ю ɹ ŕ tac1 TACACS+ Ł ˘ з 1.1.1.1
TACACS+ Ł '

```
Ruijie(config)# aaa group server tacacs+ tac1
Ruijie(config-gs-tacacs+)# server 1.1.1.1
```

79 0 1 Tf10.5-220.08 -20.64 re90.TrT2 1 Tf0 Tc 4.7[gD.16D4009.22 1966.84 fQ 1 Tf0 Tc 7-20.642r 4 0.0

? Â

й TACACS+ AAA Ł˘ Нѫ TACACS+ Ł Â ┘Л∪
tacacs-server ? Нѫ TACACS+ Ł Â

Ю Нѫ TACACS+ Ł ў '

```
Ruijie(config)# tacacs-server host 192.168.12.1
Ruijie(config)# tacacs-server host 2001::1
```

?	
aaa authentication	Нѫ AAA
tacacs-server key	Нѫ TACACS+ Ł ?
tacacs-server timeout	Нѫ TACACS+ Ł

┘

й Ł a ˩ ˘ host ʒ key ˘
˩ Л∪ key Ł key Â

Ю Ѭ TACACS+ Ł ʒ й aaa'

```
Ruijie(config)#tacacs-server key aaa
```

ʒ	
tacacs-server host	Ѭ TACACS+ Ł ў
tacacs-server timeout	Ѭ TACACS+

˩

/I	
-	-

33.1.7 tacacs-server timeout

ʒ б TACACS+ Ł ˘ Ł Â

tacacs-server timeout *seconds*

no tacacs-server timeout

seconds

tacacs-server host	ÍÆ TACACS+ Ë ÿ
tacacs-server key	ÍÆ TACACS+ ¾

Ñ	
-	

33.2 TACACS+

33.2.1 debug tacacs+

TACACS+ Â ¾ no TACACS+ Â

debug tacacs+

no debug tacacs+

33.2.2 show tacacs

TACACS+ ¼ Â

show tacacs

-	-

¾ Â

¾ TACACS+ ¼ Â

```
Ruijie# show tacacs
Tacacs+ Server : 172.19.192.80/49
Socket Opens: 0
Socket Closes: 0
Total Packets Sent: 0
Total Packets Recv: 0
Reference Count: 0
```

¾	
tacacs-server host	¼ TACACS+ ¼ ¼ ÿ

¼

¼	
-	-

34 SSH

34.1 SSH

34.1.1 crypto key generate

ᒪ Ὼ ˘ Ю˘ ٹ'

crypto key generate {**rsa | dsa**}

rsa	RSA
dsa	DSA

Ю SSH Server Ὼ Â

ٹ

SSH Server ᒪ ˘ ٹ SSH ᒪ Ὼ Â ᒧ **enable service ssh-server** ٹ˘ SSH Server ╖ ÂSSH 1 RSA ' SSH 2 RSA DSA Â ˘ RSA ˘ SSH1 б SSH2 ᒧ Л ' DSA ˘ SSH2 ᒧ Л Â

a ٹ **no crypto key generate**˘ ٹ **crypto key zeroize** ٹ Â

```
Ruijie# configure terminal
Ruijie(config)# crypto key generate rsa
```

ٹ	
show ip ssh	SSH Server Â
crypto key zeroize {**rsa	dsa**}	DSA б RSA ˘ SSH Server ╖ Â

ᒧ RGOS10.1 Л Э

ٹ	ᒧ

-	-

34.1.2 crypto key zeroize

SSH Ł Ὼ ˘ ЮЎ ٪'

crypto key zeroize {**rsa** | **dsa**}

rsa	RSA
dsa	DSA

٪

٪ Ł Ὼ Â Л˘ SSH Server ѝ ѝ DISABLE Â SSH Server˘ **no enable service ssh-server** ٪ Â

```
Ruijie# configure terminal
Ruijie(config)# crypto key zeroize rsa
```

٪	
show ip ssh	SSH Server Â
crypto key generate {**rsa|dsa**}	DSA б RSA Â

Л RGOS10.1 ЛЪЭ

Л	
-	-

34.1.3 ip ssh authentication-retries

SSH Server Â ٪ no ѝ Â

ip ssh authentication-retries *retry times*

no ip ssh authentication-retries

retry times	Â

Ю ѝ 3 Â Л˘ **no ip ssh authentication-retries** ٪ ≠ ↓Л Ъ ѝ Â

٪

٪ SSH Server Â SSH Server ˘ Ÿ ╖˘ ѝ Â **show ip ssh** ٪ SSH Server Â

ѝ 2ʻ

```
Ruijie# configure terminal
Ruijie(config)# ip ssh ssh authentication-retries 2
```

٪	
show ip ssh	SSH Server Â

Л RGOS10.1 ЛЪЭ

Л	
-	-

34.1.4 ip ssh time-out

SSH Server Â ٪ **no** ѝ Â

ip ssh time-out *time*

no ip ssh time-out

time	Â

Ю˘ ѝ 120s Â Л˘ **no ip ssh time-out** ٪˘ ѝ Â

ৡ

ৡ SSH Server Â ÿ ৸ ˘
120s ৷৷ ˘

ৰ 2ʼ

```
Ruijie# configure terminal
Ruijie(config)# ip ssh version 2
```

३

३	
show ip ssh	SSH Server Â

ৰ RGOS10.1 Л Э

Clear line vty *line_number*	VTY Â

RGOS10.1 Л Э

٦	
-	-

34.2.2 show crypto key mypubkey

SSH Server Ω Ω ׀ Â

show crypto key mypubkey {***rsa*****|*****dsa***}

rsa	RSA Ω ׀
dsa	DSA Ω ׀

٦

SSH Server Ω Ω ׀ Â ' à
ل à Ω ׀ Â

```
Ruijie# show crypto key mypubkey rsa
```

٦	
crypto key generate {**rsa	dsa**}	DSA б RSA Â

RGOS10.1 Л Э

٦	
-	-

34.2.3 show ip ssh

SSH Server Â

show ip ssh

-	-

SSH Server Â ' à SSH Server à à Â

SSH ˘ Ь ˘ ÿ
SSH й а ┘ Â

```
Ruijie# show ip ssh
```

Ip ssh version {**1**	**2**}	SSH Server Â
ip ssh time-out time	SSH Server Â
Ip ssh authentication-retries retry times	SSH Server Â

RGOS10.1 Л Э

-	-

34.2.4 show ssh

SSH Â

show ssh

-	-

३

SSH Â ' ´ VTY ภ à SSH à ╗
à à à ┘ Â

Ruijie# **show ssh**

३	
-	-

ม RGOS10.1 ภ Э

ภ	

35 CPU

35.1

35.1.1 cpu-protect type packet-type pps pps_value

CPU Â

cpu-protect type { **arp** | **bpdu** | **dhcp** | **ipv6mc** | **igmp** | **rip** | **ospf** | **vrrp** | **pim** | **ttl1** | **unknown-ipmc** | **dvmrp** | …} **pps** *pps_value*

CPU

¾ Â

¾ CPU Â

Ю S9610 CPU Â

```
Ruijie# show cpu-protect mboard
ype        Pps      Total    Drop
------------ --------- --------- ---------
arp         500       19       0
bpdu        200       24       0
dhcp        0         0        0
gvrp        0         0        0
ipv6-mc     0         0        0
dvmrp       0         0        0
igmp        0         0        0
ospf        0         0        0
pim         0         0        0
rip         0         0        0
vrrp        0         0        0
unknow-ipmc  0         0        0
ttl1        0         0        0
...
```

¾

¾	
show cpu-protect slot *slot-num*	´ CPU Â

Ì

¾

Ì	
-	-

35.2.2 show cpu-protect slot

´ CPP Â

show cpu-protect slot *slot_num*

slot_num	¼ ½ 1-16 Â

¾ Â

¾ ´ CPP Â

Ю ´ 2 CPU Â

```
Ruijie(config)# show cpu-protect slot 2
Type        Pps      Total    Drop
----------- --------- --------- ---------
arp         200      200       15
bpdu        200        8        0
dhcp        200        0        0
gvrp        200        0        0
ipv6-mc     200        0        0
dvmrp       200        0        0
igmp        200        0        0
ospf        200        0        0
pim         200        0        0
rip         200        0        0
vrrp        200        0        0
unknow-ipmc  200       0        0
ttl1         20        3        0
```

¾	
show cpu-protect mboard	CPU Â

¼

¼	
-	-

35.2.3 show cpu-protect type

show cpu-protect type { **arp** | **bpdu** | **dhcp** | **ipv6mc** | **igmp** | **rip** | **ospf** | **vrrp** | **pim** | **ttl1** | **unknown-ipmc** | **dvmrp | …**} *dvmrp*

slot_num	1-16

Â

Â

ЛЬЮ **show cpu-protect type bpdu** BPDU

```
Ruijie(config)# show cpu-protect type arp
Slot     Type        Pps      Total     Drop
-------- ----------- -------- --------- ---------
MainBoard bpdu         100        30        0
Slot-2    bpdu         100        30        0
```

show cpu-protect type *packet-type*	CPU Â

-

-	-

CPP "…" CPP Â

36 DoS

36.1

36.1.1 ip deny invalid-l4port

٦ Â ٣ **no** ٦ Â

ip deny invalid-l4port

no ip deny invalid-l4port

-	-

ЮЎ ٦ Â

٣ Â

1' Э ٦ '

```
Ruijie(config)# ip deny invalid-l4port
```

2' Э ٦ '

```
Ruijie(config)# no ip deny invalid-l4port
```

٣	
show ip deny invalid-l4port	

-

/١	
-	-

36.1.2 ip deny invalid-tcp

TCP ╖ Â ¾ **no** TCP ╖ Â

ip deny invalid-tcp

no ip deny invalid-tcp

-	-

ЮЎ TCP ╖ Â

¾ Â

1' Э TCP ╖ '

```
Ruijie(config)# ip deny invalid-tcp
```

2' Э TCP ╖ '

```
Ruijie(config)# no ip deny invalid-tcp
```

¾	
show ip deny invalid-tcp	TCP P532A>6<0B9TJ

¶ Â

1' Э Land ╖ '
```
Ruijie(config)# ip deny land
```
2' Э Land ╖ '
```
Ruijie(config)# no ip deny land
```

¶	
show ip deny land	Land

-

/I	
-	-

36.2

36.2.1 show ip deny invalid-l4port

Â

show ip deny invalid-l4port

-	-

¶ Â

```
Ruijie# show ip deny invalid-l4port
 DoS Protection Mode                  State
 -------------------------------      -----
```

protect against invalid l4port attack Off

¾	
-	-

¼	
-	-

36.2.2 show ip deny invalid-tcp

TCP Â

show ip deny invalid-tcp

-	-

Â

```
Ruijie# show ip deny invalid-tcp
DoS Protection Mode                          State
-------------------------------------     -----
protect against invalid tcp attack         On
```

¾	
(**no**) **ip deny invalid-tcp**	TCP ¶

¼	
-	-

36.2.3 show ip deny land

Land Â

show ip deny land

37 GSN

37.1

37.1.1 security address-bind enable

¾ Â

security address-bind enable

no security address-bind enable

-	-

¾ ˘ γ ^ a AP AP ~ Â

¾ Â ˘ ¾ GSN Â

Y '

```
Ruijie(config-if)# security address-bind enable
```

¾	
security gsn enable	GSN

RGOS10.1 ЛЪЭ Â

И	
-	-

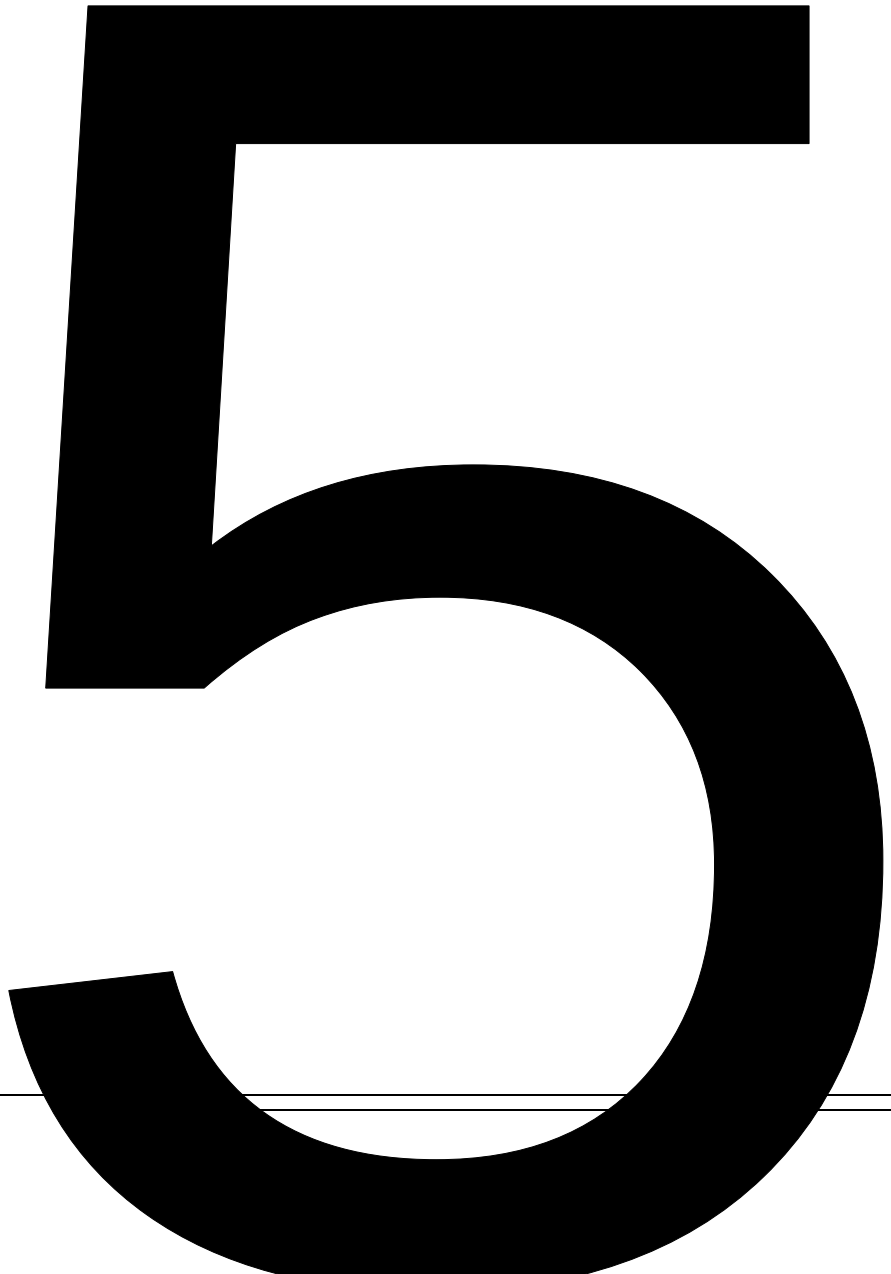
37.1.2 security community

¾ smp Ь Й Â

security { [**v1 | v2**] **community** *community* | **v3 user** *username* }

no security { [**v1 | v2**] **community** *community* | **v3 user** *username* }

community	⌟ ⌞ *community* Â
username	v3



	-	-

¼	RGOS10.1 Л Э

¾	¼	
	-	-

37.1.5 smp-server host

¾ smp-server ip Â

smp-server host *ip-address*

no smp-server host

	ip-address	smp server ip

	smp server

¾	

	¾ Â **show smp-server** Â

```
Ruijie(config)#smp-server host 192.168.4.243
```

¾	¾	
	show smp-server	smp server

¼	RGOS10.1 Л Э

¾	¼	
	-	-

37.2

37.2.1 show security evnet interval

Y Â

-	-

¾

Y Â

```
Ruijie# show security event interval
Event sending interval(Seconds):5
```

¾

¾	
security event interval *interval*	Y Â

¼ RGOS10.1 Л Э Â

¾

¼	
-	-

37.2.2 show smp-server

smp server IP

-	-

¾

smp server IP Â

```
Ruijie# show smp-server
```

SMP-Server IP' 192.168.20.30

३	
smp-server host	smp server ip Â

RGOS10.1 ЛЬЭ Â

Л	
-	-

38 DAI

38.1 VLAN DAI

38.1.1 ip arp inspection vlan

३ˇ ⅃ Ո *vlan-id* VLAN DAI ╖ Â ३ no ⅃ Ո *vlan-id* VLAN DAI ╖ ˇ *vlan-id*ď VLAN Э DAI ╖ Â

ip arp inspection vlan *vlan-id*

no ip arp inspection vlan [*vlan-id*]

vlan-id	vlan /ו Â

38.2

38.2.1 ip arp inspection trust

γ ↲ ˘ ३ **ip arp inspection trust** Â ३ **no** γ ѝ a Â

ip arp inspection trust

no ip arp inspection trust

-	-

a Â

३ Â

ARP DAI ˘ ↲Ло è ↲ ˘ a ARP ˘ Â

NFPP( ) ˘ ⁸ NFPP ˘ a ¨Ạ DAI ˘ ३ **show ip arp inspection interface** ↲ Â

ЛоЮ ˘ gigabitEthernet 0/19 ↲ Â

```
Ruijie(config)# interface gigabitEthernet 0/19
Ruijie(config-if)# ip arp inspection trust
```

३	
show ip arp inspection interface	DAI ˘ Â

↲ Ь Â

/ı	
-	-

38.3 DHCP Snooping

Ş ‹ γ t

39 arp

Ю arp Â

show anti-arp-spoofing

¾

Ruijie#**show** anti-arp-spoofing

port ip

------- -----------

Fa0/1 192.168.1.1

¾	
anti-arp-spoofing ip	arp ¾

¼

¼	
-	-

40 IP Source Guard

40.1 IP Source Guard

40.1.1 ip source binding

IP ╗ ˘ **no** Â

[**no**] **ip source binding** *mac-address* **vlan** *vlan-id ip-address* **interface** *interface-id*

mac-address	╗ MAC ’
vlan-id	╗ vlan id’
ip-address	╗ IP ’
interface-id	╗ Â

╗ Â

¾ Â

¾ ┘Л∪ ǂ ┘Л∪ IP Source Guard ˘ a DHCP ⁸ Â

Ю 1 ’

```
Ruijie# configure terminal
Ruijie(config)# ip source binding 0000.0000.0001 vlan 1 1.1.1.1
interface FastEthernet 0/1
Ruijie(config)# end
Ruijie# show ip source binding
MacAddress    IpAddress  Lease(sec)  Type    VLAN  Interface
------------- --------- ----------  ----    ----  ------------
0000.0000.0001 1.1.1.1   infinite   static   1  FastEthernet 0/1
Total number of bindings: 1
```

¾	¾	

	show ip source binding	IP

¾	¾	
	-	-

40.2 IP Source Guard

40.2.1 ip verify source

Э IP Source Guard ╖ ˘ **no** ╖ Â

[**no**] **ip verify source** [**port-security**]

	port-security	IP Source Guard ╖ IP+MAC Â

Â

¾ Â

¾ IP Source Guard ╖ ˘ ⌟Л IP ˘ IP+MAC ’

IP Source Guard ╖ DHCP Snooping Э ˘ ≠ ˘ Trust Л DHCP Snooping ⁸ Э IP Source Guard ╖ ˘ IP Source Guard ╖ a Â

Ю 1 Э IP Source Guard ╖ ’

```
Ruijie# configure terminal
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip verify source
Ruijie(config-if)# end
```

¾

¾	/I	
	-	-

40.3 IP Source Guard

40.3.1 show ip source binding

¾ IP Â

show ip source binding [*ip-address*] [*mac-address*] [**dhcp-snooping**] [**static**] [**vlan** *vlan-id*] [**interface** *interface-id*]

ip-address	ip '
mac-address	mac '
dhcp-snooping	╟ '
static	'
vlan-id	vlan '
interface-id	Â

Â

¾ Â

Â

Ю '

```
Ruijie# show ip source binding static
MacAddress    IpAddress  Lease(sec)   Type    VLAN  Interface
------------- --------- ----------   ----    ----  ------------
0000.0000.0001 1.0.0.1   infinite    static    1  FastEthernet 0/1
Total number of bindings: 1
```

-	-

-	-

٣ ´ ¦ Â

cpu-protect sub-interface {*manage*|*protocol*|*route*} **percent** *percent_vaule*

percent_vaule	¦ ˘ ٧ 1 100

(Manage)´ ă ש ¦ ٮ 30˝
(Route)´ ă ש ¦ ٮ 25˝
(Protocol)´ ă ש ¦ ٮ 45 Â

٣

Ruijie(config)# **cpu-protect sub-interface manage percent** 60

٣	
cpu-protect sub-interface { *manage*	*protocol*	*route* } **pps**	´ ¦

٧

41.3 ARP

41.3.1 arp-guard attack-threshold

˘ ˘ ѝ ѝ Â

arp-guard attack-threshold {**per-src-ip** | **per-src-mac** | **per-port**} *pps*

per-src-ip	IP Â
per-src-mac	MAC Â
per-port	Â
pps	˘ Æ ˘ ↓ [1,9999] Â

IP MAC 8 ˘
200 Â

NFPP

a Â

```
rcport3 1 f-0001010 2098( )j/0 1 f6000073 c 110 239( )j/503 1 f-0001010 2719
Ruijie(config)#
```

41.3.2 arp-guard enable

¾ ARP ¶ Â

arp-guard enable

-	-

ARP ¶

¾ NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# arp-guard enable
```

¾	
nffp arp-guard enable	Э ARP ¶
show nfpp arp-guard summary	

¼

¼	
-	-

41.3.3 arp-guard isolate-period

¾ Â

arp-guard isolate-period {*seconds* | **perma**ÑÐÐÐ ,Q A

¾ NFPP

Ruijie(config)# **nfpp**
Ruijie(config-nfpp)# **arp-guard isolate-period** 180

¾	
nfpp arp-guard isolate-period	Э
show nfpp arp-guard summary	

¶

¶	
-	-

41.3.4 arp-guard monitor-period

¾ Â

arp-guard monitor-period *seconds*

seconds	˘ Æ ˘ ¶ [180, 86400] Â

600 Â

¾ NFPP

˘ ѝ Ơ ˘ ѝ
Â ˘ ѝ ˘ ╟
¶ ˘ з ѝ Â ѝ 0 Ю
Ђ Â
ÿ ˘ ˘ a
Â

Ruijie(config)# **nfpp**

```
Ruijie(config-nfpp)# arp-guard monitor-period 180
```

show nfpp arp-guard summary

३	Л	
	-	-

41.3.7 arp-guard scan-threshold

Â

arp-guard scan-threshold *pkt-cnt*

	pkt-cnt	˘ ৸ [1,9999] Â

15˜ Æ 10 Â

NFPP ३

10 15 ЛЪЭ ARP ˘ MAC IP ৸ ˘ MAC IP IP a ৸ ˘ ѝ Â

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# arp-guard scan-threshold 20
```

३	
nfpp arp-guard scan-threshold	Э
show nfpp arp-guard summary	لجي

clear nfpp arp-guard hosts [**vlan** *vid*] [**interface** *interface-id*] [*ip-address* | *mac-address*]

vid	/ʃ
interface-id	ɹ
ip-address	IP
mac-address	MAC

ʒ

a ˘ ў Â

VLAN 1 g 0/1 ў Â

```
Ruijie# clear nfpp arp-guard hosts vlan 1 interface g0/1
```

ʒ	
arp-guard attack-threshold	
nfpp arp-guard policy	
show nfpp arp-guard hosts	ɻ ў

ɻ

/ʃ	
-	-

41.3.9 clear nfpp arp-guard scan

ARP Â

clear nfpp arp-guard scan

-	-

٦

Ruijie# **clear nfpp arp-guard scan**

٦

٦	
arp-guard scan-threshold	
nfpp arp-guard scan-threshold	
show nfpp arp-guard scan	ARP

٨

٦

٨	
-	-

41.3.10 nfpp arp-guard enable

٦ Э ARP ٦ Â

nfpp arp-guard enable

-	-

ARP ˘ Â

٦

ARP ″I ARP Â

Ruijie(config)# **interface G0/1**
Ruijie(config-if)# **nfpp arp-guard enable**

٦

٦	
arp-guard enable	ARP ٦
show nfpp arp-guard summary	

10.4	

41.3.11 nfpp arp-guard isolate-period

nfpp arp-guard isolate-period {*seconds* | **permanent**}

seconds	0 [30, 86400] 0
permanent	

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp arp-guard isolate-period 180
```

Э Â

nfpp arp-guard policy {**per-src-ip** | **per-src-mac** | **per-port**} *rate-limit-pps attack-threshold-pps*

per-src-ip	IP Â
per-src-mac	MAC Â
per-port	Â
rate-limit-pps	˘ ↓ 1 9999 Â
attack-threshold-pps	˘ ↓ 1 9999 Â

˘ Â

ʒ

a Â

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp arp-guard policy per-src-ip 2 10
Ruijie(config-if)# nfpp arp-guard policy per-src-mac 3 10
Ruijie(config-if)# nfpp arp-guard policy per-port 50 100
```

ʒ

ʒ	
arp-guard attack-threshold	
arp-guard rate-limit	
show nfpp arp-guard summary	
show nfpp arp-guard hosts	↓ ў
clear nfpp arp-guard hosts	ў

↓

ʒ

/	
10.4	ʒ

41.3.13 nfpp arp-guard scan-threshold

Э Â

nfpp arp-guard scan-threshold *pkt-cnt*

pkt-cnt	˘ ˬ [1,9999] Â

ARP ˘ ARP Â

ʒ

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp arp-guard scan-threshold 20
```

ʒ	
arp-guard scan-threshold	
show nfpp arp-guard summary	
show nfpp arp-guard scan	ARP
clear nfpp arp-guard scan	ARP

ʃ

ʃ	
10.4	ʒ

41.4 DHCP

41.4.1 dhcp-guard attack-threshold

˘ ˘ ѝ ѝ Â

dhcp-guard attack-threshold { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC Â
per-port	Â

	pps	˘ Æ ˘ ↓ [1,9999] Â
	MAC	10 ˘ 300 Â
¾	NFPP	

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard attack-threshold per-src-mac 15
Ruijie(config-nfpp)# dhcp-guard attack-threshold per-port 200
```

¾	
nfpp dhcp-guard policy	
show nfpp dhcp-guard summary	
show nfpp dhcp-guard hosts	↓ ÿ
clear nfpp dhcp-guard hosts	↓ ÿ

¾	
-	-

41.4.2 dhcp-guard enable

¾ DHCP ╖ Â

dhcp-guard enable

-	-

DHCP ˘ Â

NFPP

Ruijie(config)# **nfpp**
Ruijie(config-nfpp)# **dhcp-guard enable**

٣	
nffp dhcp-guard enable	Э DHCP ٦
show nfpp dhcp-guard summary	

/١	
-	-

41.4.3 dhcp-guard isolate-period

٣ Â

dhcp-guard isolate-period {*seconds* | **permanent**}

seconds	˘ Æ ˘ ٧ 0 [30, 86400]˺ 0 a Â
permanent	

0˝ a Â

٣ NFPP

ˆ ˜ Â
˘ ˘ ,
Â

Ruijie(config)# **nfpp**
Ruijie(config-nfpp)# **dhcp-guard isolate timeout** *180*

٣	
nfpp dhcp-guard isolate-period	Э

show nfpp dhcp-guard summary	

¼

¾	
-	-

41.4.4 dhcp-guard monitor-period

¾ Â

dhcp-guard monitor- period *seconds*

seconds	˘ Æ ˘ ¼ [180, 86400] Â

600 Â

¾ NFPP

˘ ѝ Ơ ˘ ѝ
Â ˘ ѝ ˘ ╟
¼ ˘ з ѝ Â ѝ 0 Ю
Ђ Â
ÿ ˘ ˘ a
Â

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard monitor-period 180
```

¾	
show nfpp dhcp-guard summary	
show nfpp dhcp-guard hosts	¼ ў
clear nfpp dhcp-guard hosts	ў

¼

¾	

dhcp-guard rate-limit { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC
per-port	
pps	˘ ↓ [1,9999] Â

MAC 5 ˘ 150 Â

३ NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard rate-limit per-src-mac 8
Ruijie(config-nfpp)# dhcp-guard rate-limit per-port 100
```

41.4.10 nfpp dhcp-guard policy

Э Â

nfpp dhcp-guard policy { **per-src-mac** | **per-port**} *rate-limit-pps attack-threshold-pps*

per-src-mac	MAC Â
per-port	Â
rate-limit-pps	˘ ↓ 1 9999 Â
attack-threshold-pps	˘ ↓ 1 9999 Â

˘ Â

ʒ

a Â

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp dhcp-guard policy per-src-mac 3 10
Ruijie(config-if)# nfpp dhcp-guard policy per-port 50 100
```

ʒ

ʒ	
dhcp-guard attack-threshold	
dhcp-guard rate-limit	
show nfpp dhcp-guard summary	
show nfpp dhcp-guard hosts	↓ ў
clear nfpp dhcp-guard hosts	ў

↓

ʒ

/\	
10.4	ʒ

41.5 DHCPv6

41.5.1 dhcpv6-guard attack-threshold

˘ ˘ ѝ ѝ Â

dhcpv6-guard attack-threshold { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC Â
per-port	Â

-	-

DHCPv6 ˘ Â

¾ NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcpv6-guard enable
```

¾	
nffp dhcpv6-guard enable	Э DHCPv6 ℡
show nfpp dhcpv6-guard summary	

ℳ

/I	
10.4	¾

41.5.3 dhcpv6-guard isolate-period

¾ Â

dhcpv6-guard isolate-period {*seconds* | **permanent**}

seconds	˘ Æ ˘ ℳ 0 [30, 86400] 0 a Â
permanent	

0 a Â

¾ NFPP

† и ^ ~ Â

Â

٣	
show nfpp dhcpv6-guard summary	
show nfpp dhcpv6-guard hosts	ل ÿ
clear nfpp dhcpv6-guard hosts	ÿ

ل

٨	
10.4	٣

41.5.5 dhcpv6-guard monitored-host-limit

٣ ل ÿ Â

dhcpv6-guard monitored-host-limit *number*

number	ل ÿ ˘ ل ѝ 1 4294967295

ل ÿ ѝ 1000

٣ NFPP

ل ÿ 1000 ˘ ل ÿ 1000˜ a ل ÿ ˘ ľ %ERROR' The value that you configured is smaller than current monitored hosts 1000˜ ل ÿ ~ ˘ please clear a part of monitored hosts. Ł ˘ ľ ÿ Â

ل ÿ ˘ ľ % NFPP_DHCP_GUARD-4-SESSION_LIMIT: Attempt to exceed limit of 1000˜ ل ÿ ~ monitored hosts. Ł Â

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcp-guard monitored-host-limit 200
```

٣	
show nfpp dhcpv6-guard summary	

ʃ

ʒ

ʃ	
10.4	ʒ

41.5.6 dhcpv6-guard rate-limit

Â

dhcpv6-guard rate-limit { **per-src-mac** | **per-port**} *pps*

per-src-mac	MAC
per-port	
pps	˘ ʃ [1,9999] Â

MAC 5 ˘ 150 Â

ʒ NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# dhcpv6-guard rate-limit per-src-mac 8
Ruijie(config-nfpp)# dhcpv6-guard rate-limit per-port 100
```

ʒ	

nfpp dhcpv6-guard policy

ˇ Â

clear nfpp dhcpv6-guard hosts [*vlan vid*] [**interface** *interface-id*] [*mac-address*]

¾

DHCPv6 ″I DHCP Â

```
Ruijie(config)# interface G0/1
Ruijie(config-if)# nfpp dhcpv6-guard enable
```

¾	
dhcpv6-guard enable	DHCPv6 ℡
show nfpp dhcpv6-guard summary	

	/I	
	10.4	¾

41.5.9 nfpp dhcpv6-guard isolate-period

¾ Э Â

nfpp dhcpv6-guard isolate-period {*seconds* | **permanent**}

seconds **c<17EA35D9>1 Tf 0.0001 Tc 7.1412 T- 2 3198 -0.0 ( )Tj ET [30, 86400]0 1 Tf 0 Tc 0 Tw 25.**

dhcpv6-guard isolate-period	
show nfpp dhcpv6-guard summary	

ɻ

ʒ

ʃ	
10.4	ʒ

41.6 ICMP

41.6.1 icmp-guard attack-threshold

˘ ˘ ϳ ϳ Â

icmp-guard attack-threshold { **per-src-ip** | **per-port**} *pps*

per-src-ip	IP Â
per-port	Â
pps	˘ Æ ˘ ɻ [1,9999] Â

IP 1200 ˘ 1500 Â

ʒ NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# icmp-guard attack-threshold per-src-ip 600
Ruijie(config-nfpp)# icmp-guard attack-threshold per-port 1200
```

ʒ

ʒ	
nfpp icmp-guard policy	
show nfpp icmp-guard summary	
show nfpp icmp-guard hosts	ɻ ў
clear nfpp icmp-guard hosts	ў

ɻ

¾	/¼	
	-	-

41.6.2 icmp-guard enable

¾ ICMP ¶ Â

icmp-guard enable

	-	-

ICMP ¶

¾ NFPP

Ruijie(config)# **nfpp**
Ruijie(config-nfpp)# **icmp-guard enable**

¾	¾	
	nffp icmp-guard enable	Э ICMP ¶
	show nfpp icmp-guard summary	

¼

¾	/¼	
	-	-

41.6.3 icmp-guard isolate-period

¾ Â

icmp-guard isolate-period {*seconds* | **permanent**}

seconds	˘ Æ ˘ ٧ 0 [30, 86400]ٜ 0 a Â
permanent	

0ٜ a Â

٣ NFPP

ٛ ٸ ˆ ˜ Â
˘ ˘ ,ٛ ˘
Â

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# icmp-guard isolate-period 180
```

٣	
nfpp icmp-guard isolate-period	Э
show nfpp icmp-guard summary	

٧

٣	٨	
	-	-

41.6.4 icmp-guard monitor-period

٣ Â

icmp-guard monitor-period *seconds*

seconds	˘ Æ ˘ ٧ [180, 86400] Â

600 Â

٣ NFPP

˘ ٸ 0ٜ ˘ ٸ

Â ˘ ѝ ˘ ╟

exceed limit of 1000ˆ ↓ ў ˜ monitored hosts. Ł Â

41.6.8 clear nfpp icmp-guard hosts

ل ÿ ˘ ÿ ˘ Â

clear nfpp icmp-guard hosts [*vlan vid*] [**interface** *interface-id*] [*ip-address*]

vid	/ا
interface-id	ل
ip-address	IP

٣

a ˘ ÿ Â

VLAN 1 g 0/1 ل ÿ Â

```
Ruijie# clear nfpp icmp-guard hosts vlan 1 interface g 0/1
```

٣	
icmp-guard attack-threshold	
nfpp icmp-guard policy	
show nfpp icmp-guard hosts	ÿ

٣

ا

/ا	
-	-

٣

41.6.9 nfpp icmp-guard enable

٣ Э ICMP ٦ Â

nfpp icmp-guard enable

ICMP ˘ Â

¾

ICMP ¨I ICMP Â

```
Ruijie(config)# interface G0/1
Ruijie(config-if)# nfpp icmp-guard enable
```

¾

¾	
icmp-guard enable	ICMP ¶
show nfpp icmp-guard summary	

¼

¾

¼	
10.4	¾

41.6.10 nfpp icmp-guard isolate-period

¾ Э Â

nfpp icmp-guard isolate-period {*seconds* | **permanent**}

seconds	˘ Æ ˘ ¼ 0 [30, 86400] 0 a Â
permanent	

˘ Â

¾

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp
```

	३	

icmp-guard isolate-period

clear nfpp icmp-guard hosts	ў

ʃ

ʒ

ʃ	
10.4	ʒ

41.7 ND

41.7.1 nd-guard attack-threshold

˘ ˘ ѝ ѝ Â

nd-guard attack-threshold per-port {**ns-na** | **rs** | **ra-redirect**} *pps*

ns-na	Ὼ
rs	
ra-redirect	Ὼ
pps	˘ Æ ˘ ʅ [1,9999] Â

/Ὼ 30 ˘

30 ˘ Ὼ / 30 Â

ʒ NFPP

a Â

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# nd-guard attack-threshold per-port ns-na 20
Ruijie(config-nfpp)# nd-guard attack-threshold per-port rs 10
Ruijie(config-nfpp)# nd-guard attack-threshold per-port ra-redir
ect 10
```

ʒ	
nfpp nd-guard policy	

¼

¾

¼	
10.4	¾

41.7.2 nd-guard enable

¾ ND ¶ Â

nd-guard enable

-	-

ND ¶

¾ NFPP

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# nd-guard enable
```

¾	
nffp nd-guard enable	Э ND ¶
show nfpp nd-guard summary	

¼

¾

¼	
10.4	¾

41.7.3 nd-guard rate-limit

Â

nd-guard rate-limit per-port { {

३

ND ″I Â

```
Ruijie(config)# interface G0/1
Ruijie(config-if)# nfpp nd-guard enable
```

३

३	
nd-guard enable	ND ℸ
show nfpp nd-guard summary	

४

३

४	
10.4	३

41.7.5 nfpp nd-guard policy

Э Â

nfpp nd-guard policy per-port {**ns-na** | **rs** | **ra-redirect**} *rate-limit-pps attack-thresh old-pps*

ns-na	Ὼ
rs	
ra-redirect	Ὼ
rate-limit-pps	˘ ४ 1 9999 Â
attack-threshold-pps	˘ ४ 1 9999 Â

˘ Â

३

a Â

ND snooping ʃ ѝ ˘ ў ˘
Â ˘ Л
˘ ND snooping ╖ ˘ ˘ ND snooping
ND guard Ь 800 ˘
900 Â
ND guard ˩ ND snooping ˘ ˥
ʺI ˘ з Â ND snooping Â

```
Ruijie(config)# interface G 0/1
Ruijie(config-if)# nfpp nd-guard policy per-port ns-na 50 100
Ruijie(config-if)# nfpp nd-guard policy per-port rs 10 20
Ruijie(config-if)# nfpp nd-guard policy per-port ra-redirect 10 20
```

ʒ

Ruijie# **clear nfpp log**
32 log-buffer entries were cleared.

ʒ	
show nfpp log	NFPP ă ʁ

ʃ	
10.4	ʒ

41.8.2 log-buffer entries

NFPP ă ʁ Â

log-buffer entries *number*

number	ă ʁ ˘ Æ ˘ ɻ [0,1024]

ă ʁ ɨ 256 Â

NFPP

NFPP ă ʁ ɨ 50 Â
Ruijie(config)# **nfpp**
Ruijie(config-nfpp)# **log-buffer entries** *50*

ʒ	
log-buffer logs number_of_message **interval** length_in_seconds	NFPP ÿ ă ʁ ɻ Â
show nfpp log	NFPP ă ʁ

٨	
٣	10.4

41.8.3 log-buffer logs

NFPP ÿ ă ש ٧ Â

log-buffer logs *number_of_message* **interval** *length_in_seconds*

number_of_message	ù 0-1024 0 ж ă ש a Â
length_in_seconds	ù 0-86400 1 ~ 0 a ă ש Â number_of_message length_in_seconds ù 0 a ă ש Â number_of_message /length_in_second ٧ Â

ȝ	
10.4	ȝ

41.8.4 logging

NFPP VLAN Â

logging vlan *vlan-range*

logging interface *interface-id*

vlan-range	VLAN ˘ Ľ 1-3,5 Ł Â
interface-id	Â

Â

ȝ NFPP

ȝ ɻ Ո ˘ ɻ VLAN Â ч ˘ ɻ è ˘ ă ʁ Â

ɻ VLAN 1 à VLAN 2 à VLAN 3 VLAN 5 ˘ Ю

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# logging vlan 1-3,5
```

ɻ G 0/1 ˘ Ю

```
Ruijie(config)# nfpp
Ruijie(config-nfpp)# logging interface G 0/1
```

ȝ	
show nfpp log summary	NFPP ă ʁ Â

ɻ

ȝ	
10.4	ȝ

- - - - - - - - -

10.4	ȝ

41.9 ARP

41.9.1 show nfpp arp-guard hosts

ȴ ў Â

show nfpp arp-guard hosts [**statistics** | [[*vlan vid*] [**interface** *interface-id*] [*ip-address* | *mac-address*]]]

statistics	ȴ ў
vid	ȑ
interface-id	ȷ
ip-address	IP
mac-address	MAC

ȝ

1' ȴ ў Â

```
Ruijie# show nfpp arp-guard hosts statistics
success   fail   total
-------   ----   -----
100       20      120
```

120 ȑ ў ˇ è 100 ȑ ў ˇ 20 ȑ ў

ˆ a ˇ a ˜ Â

2' ȴ ў ˇ Ȉ remain-time(seconds) Ȉ Â

```
Ruijie# show nfpp arp-guard hosts
If column 1 shows '*', it means "hardware do not isolate user" .
VLAN  interface IP address   MAC address     remain-time(s)
----  --------  ---------    -----------     -------------
1     Gi0/1     1.1.1.1      -               110
2     Gi0/2     1.1.2.1      -               61
*3    Gi0/3     -            0000.0000.1111  110
```

```
4      Gi0/4       -            0000.0000.2222   61
Total' 4 hosts
```

ȝ

ȝ	
clear nfpp arp-guard hosts	↓ ў

↓

ȝ

/ł	
-	-

41.9.2 show nfpp arp-guard scan

ARP Â

show nfpp arp-guard scan [**statistics** | [[**vlan** *vid*] [**interface** *interface-id*] [*ip-address*] [*mac-address*]]]

statistics	ARP
vid	/ł
interface-id	ł
ip-address	IP
mac-address	MAC

ȝ

```
Ruijie# show nfpp arp-guard scan statistics
ARP scan table has 4 record(s).
```

' ľ ARP 4 Ł Â

```
Ruijie# show nfpp arp-guard scan
VLAN    interface   IP address   MAC address     timestamp
```

```
----    --------    ----------  -----------     ----------
1       Gi0/1       N/A         0000.0000.0001   2008-01-23
16:23:10
2       Gi0/2       1.1.1.1     0000.0000.0002   2008-01-23
16:24:10
3       Gi0/3       N/A         0000.0000.0003   2008-01-23
16:25:10
4       Gi0/4       N/A         0000.0000.0004   2008-01-23
16:26:10
Total' 4 record(s)
```

l' timestamp L ARP ˇ l' 2008-01-23 16:23:10 L 2008 1 23 16 23¦ 10 ARP Â

```
Ruijie# show nfpp arp-guard scan vlan 1 interface G 0/1
0000.0000.0001
VLAN    interface   IP address   MAC address     timestamp
----    --------    ----------    -----------     ----------
1       Gi0/1       N/A          0000.0000.0001   2008-01-23
16:23:10
Total' 1 record(s)
```

¾

¾	
arp-guard scan-threshold	
nfpp arp-guard scan-threshold	
clear nfpp arp-guard scan	ARP

M

¾

M	
-	-

41.9.3 show nfpp arp-guard summary

Â

show nfpp arp-guard summary

-	-

Â

```
Ruijie# show nfpp arp-guard summary
ˆ Format of column Rate-limit and  Attack-threshold is per-src-ip
/per-src-mac/per-port.˜
Interface  Status  Isolate-period Rate-limit Attack-threshold Sc
an-threshold
Global     Enable  300           4/5/60     8/10/100          15
Gi 0/1      Enable  180           5/-/-      8/-/-              -
Gi 0/2      Disable 200           4/5/60     8/10/100          20

Maximum count of monitored hosts: 1000
Monitor period: 300s
```

ˆ 1˜ Interface Â Global Â

ˆ 2˜ Status Â

ˆ 3˜ Rate-limit ˆ IP / MAC / ˜ ˇ Attack-threshold Â - Â

arp-guard attack-threshold	
arp-guard enable	ARP
arp-guard isolate-period	
arp-guard monitor-period	
arp-guard monitored-host-limit	ÿ
arp-guard rate-limit	
arp-guard scan-threshold	
nfpp arp-guard enable	ARP
nfpp arp-guard isolate-period	

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-	-

41.10 DHCP

41.10.1 show nfpp dhcp-guard hosts

˄ ў Â

show nfpp dhcp-guard hosts [**statistics** | [[**vlan** *vid*] [**interface** *interface-id*] [*mac-address*]]]

statistics	˄ ў
vid	˄
interface-id	˂
mac-address	MAC

˃

˄ ў Â

Ruijie# **show nfpp dhcp-guard hosts statistics**

success fail total

------- ---- -----

100 20 120

120 ˄ ў ˘ è 100 ˄ ў ˘ 20 ˄ ў

ˆ a ˘ a ˜ Â

˄ ў ˘ ľ remain-time(seconds) Ł Â

Ruijie# **show nfpp dhcp-guard hosts**

If column 1 shows '*', it means "hardware failed to isolate host".

VLAN interface MAC address remain-time(seconds)

```
----    ---------    -----------          -------------------
 1      gi0/2        0000.0000.0001       10
 *2     gi0/1        0000.0000.0002       20
Total' 2 host(s)
```

ৡ	
clear nfpp dhcp-guard hosts	↓ ў

↓

/\	
10.4	ৡ

41.10.2 show nfpp dhcp-guard summary

Â

show nfpp dhcp-guard summary

-	-

ৡ

ৡ ↓Л Â

```
Ruijie# show nfpp dhcp-guard summary
ˆ Format of column Rate-limit and  Attack-threshold is per-src-ip
/per-src-mac/per-port.˜
Interface  Status  Isolate-period Rate-limit Attack-threshold
Global     Enable  300            -/5/150    -/10/300
Gi 0/1      Enable  180            -/6/-      -/8/-
Gi 0/2      Disable 200            -/5/30     -/10/50

Maximum count of monitored hosts: 1000
Monitor period' 300s
```

'

ˆ 1˜ Interface ѝ Global Â

ˆ 2˜ Status ╖ Â

ˆ 3˜ Rate-limit ѝ IP / MAC / ˜ ˘ Attack-threshold Â ľ - Ł Â

ʒ

ʒ	
dhcp-guard attack-threshold	
dhcp-guard enable	DHCP ╖
dhcp-guard isolate-period	
dhcp-guard monitor-period	
dhcp-guard monitored-host-limit	↓ ў
dhcp-guard rate-limit	
nfpp dhcp-guard enable	Э DHCP ╖
nfpp dhcp-guard isolate-period	
nfpp dhcp-guard policy	

↓

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∕	
10.4	ʒ

41.11 DHCPv6

41.11.1 show nfpp dhcpv6-guard hosts

↓ ў Â

show nfpp dhcpv6-guard hosts [**statistics** | [[**vlan** *vid*] [**interface** *interface-id*

mac-address	MAC

३

↓ ў Â

Ruijie# **show nfpp dhcpv6-guard hosts statistics**

success fail total

------- ---- -----

100 20 120

120 ↓ ў ˘ è 100 ↓ ў ˘ 20 ↓ ў

ˆ a ˘ a ~ Â

↓ ў ˘ ľ remain-time(seconds) Ł Â

Ruijie# **show nfpp dhcpv6-guard hosts**

If column 1 shows '*', it means "hardware failed to isolate host".

VLAN interface MAC address remain-time(seconds)

---- --------- ----------- --------------------

1 gi0/2 0000.0000.0001 10

*2 gi0/1 0000.0000.0002 20

Total‛ 2 host(s)

-	-

३

३ ↓ Л∪ Â

```
Ruijie# show nfpp dhcpv6-guard summary
ˆ Format of column Rate-limit and  Attack-threshold is per-src-ip
/per-src-mac/per-port.˜
Interface  Status  Isolate-period Rate-limit Attack-threshold
Global     Enable  300            -/5/150     -/10/300
Gi 0/1      Enable  180            -/6/-       -/8/-
Gi 0/2      Disable 200            -/5/30      -/10/50

Maximum count of monitored hosts: 1000
Monitor period: 300s
```

ˆ 1˜ Interface и Global Â

ˆ 2˜ Status ╖ Â

ˆ 3˜ Rate-limit й IP / MAC / ˜ ˇ Attack-threshold Â ľ - Ł Â

41.12 ICMP

41.12.1 show nfpp icmp-guard hosts

2 Gi0/2 1.1.2.1 61

Total' 2 host(s)

٦	
clear nfpp icmp-guard hosts	٧ ў

٧

٨	
10.4	٦

41.12.2 show nfpp icmp-guard summary

Â

show nfpp icmp-guard summary

-	-

٦

٦ ٧ ՈՆ Â

Ruijie# show nfpp icmp-guard summary

ˆ Format of column Rate-limit and Attack-threshold is per-src-ip /per-src-mac/per-port.˜

Interface Status Isolate-period Rate-limit Attack-threshold

Global Enable 300 4/-/60 8/-/100

Gi 0/1 Enable 180 5/-/- 8/-/-

Gi 0/2 Disable 200 4/-/60 8/-/100

Maximum count of monitored hosts: 1000

Monitor period' 300s

'

ˆ 1˜ Interface ѝ Global Â

ˆ 2˜ Status ╖ Â

ˆ 3˜ Rate-limit ѝˆ IP / MAC /

˜ ˇ Attack-threshold Â ľ - Ł Â

३	
icmp-guard attack-threshold	
icmp-guard enable	ICMP ╖
icmp-guard isolate-period	
icmp-guard monitor-period	
icmp-guard monitored-host-limit	↓ ў
icmp-guard rate-limit	
nfpp icmp-guard enable	Э ICMP ╖
nfpp icmp-guard isolate-period	
nfpp icmp-guard policy	

↓

/\	
10.4	३

41.12.3 show nfpp icmp-guard trusted-host

a ↓ ў Â

show nfpp icmp-guard trusted-host

-	-

३

↓ ў Â

```
Ruijie# show nfpp icmp-guard trusted-host
IP address      mask
---------       ------
1.1.1.0         255.255.255.0
```

```
Gi 0/1      Enable  15/15/15    30/30/30
Gi 0/2      Disable -/5/30       -/10/50
```

ˈ

ˆ 1˜ Interface ѝ Global Â

ˆ 2˜ Status ℸ Â

ˆ 3˜ Rate-limit ѝ /Ὼ /

/ Ὼ / ˜˜ Attack-threshold Â

Ⅰ' - Ⅼ Â

ˈ Ⅰ' -/5/30 Ⅼ G 0/2 Э /Ὼ ˘

5˜ Ὼ / 30 Â

३

३	
nd-guard attack-threshold	
nd-guard enable	ND ℸ
nd-guard rate-limit	
nfpp nd-guard enable	Э ND ℸ
nfpp nd-guard policy	

४

४	

42 ACL

ЛЬЮ ٪ ٬ ЛЬЮ ٪

	ⅷ
id	/ſ Â ٬ IP ACL' 1-99˝ 1300-1999 IP ACL' 100-199˝ 2000-2699 MAC ACL' 700–799 ж ACL' 2700–2899
name	ACL ٫
sn	ACL /ſ (˝I)
start-sn	/ſ
inc-sn	/ſ
deny	٦ ˘
permit	٦ ˘
prot	/ſ˘ IPv6 ٬ ѝ ipv6˝ icmp˘ tcp˘ udp 0-255˝ IPv4˝ ٬ Лъ eigrp˘ gre˘ ipinip˘ igmp˘ nos˘ ospf˝ icmp˘ udp˘ È

precedence precedence	″I ˆ 0-7˜
range	/ﾊ
time-range tm-rng-name	ѡ˘ ɻ ѝ tm-rng-name
tos tos	Ь ˆ 0-15˜
cos cos	cos (0-7)
cos inner cos	tag cos
icmp-type	ICMP ˆ 0-255˜
icmp-code	ICMP ϗ ˆ 0-255˜
icmp-message	ICMP ɻ
operator port[port]	Operator ѝ ˆ lt- ˘ eq- ˘ gt- ˘ neq- a ˘ range- ˜ port /ﾊ˘ γ ч /ﾊ ˘ è ﾍ /ﾊ

B	MAC	6	P	∕	35
C		12	Q	IP	36
D	VLAN tag	14	R	ip	38
E	DSAP( )	18	S	ip	42
F	SSAP( )	19	T	TCP	46
G	Ctrl	20	U	TCP	48
H	Org Code	21	V	∕	50

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4) Expert ˆ 2700 - 2899˜

access-list *id* {**deny** | **permit**} [**protocol** | [*ethernet-type*][**cos** [*out*][**inner** *in*]]] [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any**} {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**}][**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Ʌυ Ethernet-type cos '

access-list *id* {**deny** | **permit**} {*ethernet-type*| **cos** [*out*][**inner** *in*]} [**VID** [*out*][**inner** *in*]] {**s***ource source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**time-range** *time-range-name*]

Protocol '

access-list *id* {**deny** | **permit**} **protocol** [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** }{*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Expert '

Internet Control Message Protocol (ICMP)'

access-list *id* {**deny** | **permit**} **icmp** [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)'

access-list *id* {**deny** | **permit**} **tcp** [**VID** [*out*][**inner** *in*]]{*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } [**operator** port [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**operator port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)'

access-list *id* {**deny** | **permit**} **udp**[**VID** [*out*][**inner** *in*]] {*source source –wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } [**operator port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**}{**host** *destination-mac-address* | **any**} [**operator port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

5)

access-list *list-remark text*

Id	/! Â ¬ ^ 1-99˝ 100-199˝ 1300-1999˝ 2000-2699˝ 2700 – 2899˝ 700 - 799˜ Â
Deny	¬ ˘ Â
Permit	¬ ˘ Â
Source	^ ў ˜
source-wildcard	Â ¬ Л∪ a ˘ 0.255.0.32
protocol	IP /!˘ ¬ Л∪ EIGRP àGRE àIPINIP àIGMP à NOS à OSPF à ICMP à UDP à TCP à IP ˘ ≠ ¬ Л∪ ¾ IP 0-255 /! Â ICMP/TCP/UDP Â
Destination	^ ў ˜
destination-wildcard	Â ¬ Л∪ a ˘ 0.255.0.32
fragments	↑

precedenoB/TT5 -0.0 Tc 0.98<01C3D9.4SPF ¸XE$

match-all	ৗ *tcp flag* Æ
tcp-flag	tcp flag

ACL

ৡ

ӣ ˘ ˝I ৡ **access-list** ⊮

ﾒ Â ﾚﾉ ɛ R a ﾚ R ' ȯ B

dod-host-prohibited
dod-net-prohibited
echo
echo-reply
fragment-time-exceeded
general-parameter-problem
host-isolated
host-precedence-unreachable
host-redirect
host-tos-redirect
host-tos-unreachable
host-unknown
host-unreachable
information-reply
information-request
mask-reply
mask-request
mobile-redirect
net-redirect
net-tos-redirect
net-tos-unreachable
net-unreachable
network-unknown
no-room-for-option
option-missing
packet-too-big
parameter-problem
port-unreachable
precedence-unreachable
protocol-unreachable
redirect
router-advertisement
router-solicitation
source-quench
source-route-failed
time-exceeded
timestamp-reply
timestamp-request

ttl-exceeded

unreachable

Ю TCP ɻ ˘ TCP ɻ Ո ɻ Ո ɛ '

bgp

chargen

cmd

daytime

discard

domain

echo

exec

finger

ftp

ftp-data

gopher

hostname

ident

irc

klogin

kshell

login

nntp

pim-auto-rp

pop2

pop3

smtp

sunrpc

syslog

tacacs

talk

telnet

time

uucp

whois

www

Ю UDP ɻ ˘ UDP ɻ Ո ɻ Ո ɛ '

biff

bootpc

bootps
discard
dnsix
domain
echo
isakmp
mobile-ip
nameserver
netbios-dgm
netbios-ns
netbios-ss
ntp
pim-auto-rp
rip
snmp
snmptrap
sunrpc
syslog
tacacs
talk
tftp
time
who
xdmcp

Л Ethernet-type Ю'

aarp
arp
appletalk
decnet-iv
diagnostic
etype-6000
etype-8042
lat
lavc-sca
mop-console
mop-dump
mumps
netbios

vines-echo

xns-idp

1' IP

Ю IP й 192.168.1.64 - 192.168.1.127 ˘ è

'

```
Ruijie(config)# access-list 1 permit 192.168.1.64 0.0.0.63
```

2' IP

Ю IP DNS ICMP '

```
Ruijie(config)# access-list 102 permit tcp any any eq domain
Ruijie(config)# access-list 102 permit udp any any eq domain
Ruijie(config)# access-list 102 permit icmp any any echo
Ruijie(config)# access-list 102 permit icmp any any echo-reply
```

3' MAC

Ю ˘ MAC й 00d0f8000c0c ў й 100 Лu

42.1.2 deny

(deny) Л∪ ᾱ Â

1˜ IP

[*sn*] **deny** {*source source-wildcard* 1

[*sn*] **d**{] [(s)-8(()3)8(]Tu/C2_)]5-J0T0007 T 3.0006001 Td (1.)05 7T0T28(1P)-4/C2_6-37.486(0)Tj34.1pTeom3.24d

destination-wildcard | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**time-range** *time-range-name*]

b) protocol

[*sn*] **deny protocol** [[**VID** [*out*][**inner** *in*]]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destinationdestination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

c) expert

Internet Control Message Protocol (ICMP)

[*sn*] **deny icmp** [[**VID** [*out*][**inner** *in*]]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any**} {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**frag-6( )]931 Tf0(upper)c 0 Tw 2.571 0 Td[(icmp-)-65 Tf2BE3C02D6>TJTT0 1 Tf7**

[[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

[*sn*] **deny tcp** {*source-ipv6-prefix / prefix-length* | **host***source-ipv6-address* | **any**}[*operator* **port**[*port*]] {*destination-ipv6-prefix /prefix-length* | **host** *destination-ipv6-address* | **any**} [*operator* **port** [*port*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

[sn] **deny udp** {*source-ipv6-prefix/prefix-length* | **host** *source-ipv6-address* | **any**} [*operator* **port** [*port*]] {*destination-ipv6-prefix /prefix-length* | **host** *destination-ipv6-address* | **any**}[*operator* **port** [*port*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Sn	ACL /I
source-ipv6-prefix	IPv6 .
destination-ipv6-prefix	IPv6
prefix-length	Æ Æ
source-ipv6-address	IPv6
destination-ipv6-address	IPv6
dscp	Ł
dscp	˘ 0-63.
flow-label	
flow-label	˘ 0-1048575
protocol	IPV6 ٦ ѝ IPV6 | icmp | tcp | udp <0-255>

1Â '

```
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# 11 deny ipv6 host 192.168.4.12 any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
11 deny ipv6 host 192.168.4.12 any
Ruijie(config-ipv6-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ipv6 traffic-filter v6-acl in
```

ʒ

ʒ	
show access-lists	
ipv6 traffic-filter	Э IPV6
ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL Ⱶ
mac access-list	MAC ACL Ⱶ
expert access-list	ж ACL Ⱶ
ipv6 access-list	IPV6 ACL Ⱶ
permit	Ⱶ ʒ

ʃ

ʒ

ʃ	
V10.0	V10.0 ΛЬЭ˜ arp V10.2(3) ΛЬЭ Â

42.1.3 expert access-group

EXPERT ACL Â ʒ **no** ʃ Â

expert access-group {*id* | *name*} {**in** | **out**}

no expert access-group {*id* | *name*} {**in** | **out**}

id	Expert Λˆ 2700-2899˜
name	Expert ɻ

ACL ३

ˀ ˩Л **show expert access-lists** ˀ Â

1' ж ACL'

```
Ruijie(config)# expert access-list extended exp-acl
Ruijie(config-exp-nacl)# show expert access-lists
expert access-list extended exp-acl
Ruijie(config-exp-nacl)#
```

2' ж ACL'

```
Ruijie(config)# expert access-list extended 2704
Ruijie(config-exp-nacl)# show expert access-lists
expert access-list extended 2704
Ruijie(config-exp-nacl)#
```

ˀ

ˀ	
show expert access-lists	ж

˄

ˀ

˄	
V10.0	V10.0 ЛЪЭ

42.1.5 ip access-group

é ˘ ˀ **ip access-group** Â ˀ no ˄ Â

ip access-group {*id* | *name*} {**in** | **out**}

no ip access-group { *id* | *name*} {**in** | **out**}

id	IP ˄ˆ 1-199˜ 1300-2699˜
name	IP ˩
in	
out	ÿ

¾

ip access-group ¾ ˘ Â

Ю fastEthernet0/0 Э 120 '

```
Ruijie(config)# interface fastEthernet 0/0
Ruijie(config-if)#ip access-group 120 in
```

¾

¾	
access-list	Н Â
show access-lists	
show ip access-list	IP ¦ ˆ 1-199˝ 1300 – 2699˝ 3000˙ 3199˜

1' ACL'

```
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# show ip access-lists
ip access-list standard std-acl
Ruijie(config-std-nacl)#
```

2 ' ACL'

```
Ruijie(config)# ip access-list extended 123
Ruijie(config-ext-nacl)# show ip access-lists
ip access-list extended 123
```

¾

¾	
show ip access-lists	IP

Ñ

¾

Ñ	
V10.0	V10.0 Л Э

42.1.7 ip access-list resequence

¾ ip ACL ˘ IPV6 ACL˘ Â ¾

no

ip access-list resequence {*id* | *name*} **start-sn inc-sn**

no ip access-list resequence {*id* | *name*}

Id	ACL Ñ
name	ACL ¸
start-sn	Ñ
inc-sn	Ñ

start-sn 10

inc-sn 10

¾

¾ ⅃Ո **show access-lists** ¾ Â

ACL '

```
Ruijie#
```

ACL Э˘ ⁸ Â **show ipv6 traffic-filter**

Ю access-list v6-acl Gigabit 1 Э'

```
Ruijie(config)# interface GigaEthernet 0/1
Ruijie(config-if)# ipv6 traffic-filter v6-acl in
```

show access-group	Э ACL Â

V10.0	V10.0 Л Э

42.1.9 ipv6 access-list

IPV6 ACL˘ Â **no** ACL

ipv6 access-list *name*

no ipv6 access-list *name*

name	ACL

show access-lists Â

IPV6 ACL'

```
Ruijie(config)# ipv6 access-list v6-acl
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)#
```

V10.0	V10.0

42.1.11 MAC access-group

MAC ACL **no**

mac access-group {*id* | *name*}{**in** | **out**}

no mac access-group {*id* | *name*} {**in** | **out**}

id	MAC 700-799
name	MAC
in	
out	

ACL

show running-config

Gigabit

```
Ruijie(config)# interface GigaEthernet 1/1
Ruijie(config-if)# mac access-group accept_00d0f8xxxxxx_only in
```

show access-group	ACL

¾ MAC ACL˘ Â ¾ **no** ACL

mac access-list extended {*id* | *name*}

no mac access-list extended {*id* | *name*}

Id	MAC /ˆ 700-799˜
name	MAC ˛

MAC ACL

¾

¾ ˛ Л **show mac access-lists** ¾ Â

1' MAC ACL'

```
Ruijie(config)# mac access-list extended mac-acl
Ruijie(config-mac-nacl)# show mac access-lists
mac access-list extended mac-acl
```

2' MAC ACL'

```
Ruijie(config)# mac access-list extended 704
Ruijie(config-mac-nacl)# show mac access-lists
mac access-list extended 704
```

¾	
show mac access-lists	mac

˙

/	
V10.0	V10.0 Л Э

42.1.13 no sn

ACL

no *sn*

sn	ѝ ACL Л

३ ACL Ю

ACL Ю ACL

```
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# permit ipv6 host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)# 12 deny ipv6 host any any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
10 permit ipv6 host ::192.168.4.12 any
12 deny ipv6 any any
Ruijie(config-ipv6-nacl)# no 12
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
10 permit ipv6 host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)#
```

३

1) IP

[*sn*] **permit** {*source source-wildcard* | **host** *source* | **any**}

2) IP

[*sn*] **permit protocol** *source source-wildcard destination destination-wildcard* [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

IP 8 '

Internet Control Message Protocol (ICMP)

[*sn*] **permit icmp** {*source source-wildcard* | **host** *source* | **any**} {*destination destination-wildcard* | **host** *destination* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

[*sn*] **permit tcp** {*source source-wildcard* |

[*sn*] **permit protocol** [**VID** [*out]*[**inner** *in*]] {*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Expert '

Internet Control Message Protocol (ICMP)

[*sn*] **permit icmp** [**VID** [*out*][**inner** *in*]] {*source source-wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**}[*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

[*sn*] **permit tcp** [**VID** [*out*][**inner** *in*]]{*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

[*sn*] **permit udp** [**VID** [*out*][**inner** *in*]]{*source source –wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedenceprecedence**] [**tos** *tos*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

Address Resolution Protocol (ARP)

[*sn*] **permit arp** {**vid** *vlan-id***}** [**host** *source-mac-address* | **any**] [**host** *destination –mac-address* | **any**] {*sender-ip sender-ip–wildcard* | **host** *sender-ip* | **any**} {*sender-mac sender-mac-wildcard* | **host** *sender-mac* | **any**} {*target-ip target-ip–wildcard* | **host** *target-ip* | **any**}

5) IPV6

[*sn*] **permit protocol** {*source-ipv6-prefix* / *prefix-length* | **any** | **host** *source-ipv6-address*} {*destination-ipv6-prefix* / *prefix-length* | **any**| *hostdestination-ipv6-address*} [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

IPV6 8 '

Internet Control Message Protocol (ICMP)

[*sn*] **permit icmp** {*source-ipv6-prefix* / *prefix-length* | **any** *source-ipv6-address* | **host**} {*destination-ipv6-prefix* / *prefix-length*| **host** *destination-ipv6-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**dscp** *dscp*] [**flow-label** *flow-label*][**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

[*sn*] **permit tcp** {*source-ipv6-prefix* / *prefix-length* | **host** *source-ipv6-address* | **any**} [*operator* **port** [*port*]] {*destination-ipv6-prefix* / *prefix-length* | **host** *destination-ipv6-address* | **any**} [*operator* **port** [*port*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

[*sn*] **permit udp** {*source-ipv6-prefix* / *prefix-length* | **host** *source-ipv6-address* | **any**} [*operator* **port** [*port*]] {*destination-ipv6-prefix* / *prefix-length* | **host** *destination-ipv6-address* | **any**} [*operator* **port** [**port**]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**range** *lower upper*] [**time-range** *time-range-name*]

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ip access-group 102 in
Ruijie(config-if)#
```

3' Ю MAC ACL ˘ MAC й 0013.0049.8272 ў й 100 Лu ˘ 1Â

```
Ruijie(config)# mac access-list extended 702
Ruijie(config-mac-nacl)# permit host 0013.0049.8272 any aarp
Ruijie(config-mac-nacl)# show access-lists
mac access-list extended
10 permit host 0013.0049.8272 any aarp702
Ruijie(config-mac-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mac access-group 702 in
```

4' Ю ip ACL ˘ IP й 192.168.4.12 ў ˘ 1Â '

```
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# permit host 192.168.4.12
Ruijie(config-std-nacl)# show access-lists
ip access-list standard std-acl
10 permit host 192.168.4.12
Ruijie(config-std-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ip access-group std-acl in
```

5' Ю IPV6 ACL ˘ IP й 192.168.4.12 ў ˘ 1Â '

```
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# 11 permit ipv6
host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
```

```
11 permit ipv6 host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)#
```

ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL Ⱨ
mac access-list	MAC ACL Ⱨ
expert access-list	ж ACL Ⱨ
ipv6 access-list	IPV6 ACL Ⱨ
deny	Ⱨ ACL

ʌ

ˀ

ʌ	
V10.0	V10.0 ΛЪЭ˘ arp V10.2(3) ΛЪЭ Â

42.2

42.2.1 show access-group

Э ACL

show access-group [**interface** <*interface*>]

<*interface*>	

ˀ

Э ACL˘ a Э ACL

```
Ruijie# show access-group
ip access-list standard ipstd3
Applied On interface GigabitEthernet 0/1.
ip access-list standard ipstd4
Applied On interface GigabitEthernet 0/2.
ip access-list extended 101
```

```
Applied On interface GigabitEthernet 0/3.
ip access-list extended 102
Applied On interface GigabitEthernet 0/8.
```

ip access-group	ip
mac access-group	MAC
expert access-group	Expert
ipv6 traffic-filter	IPV6

V10.0	V10.0

42.2.2 show access-lists

ACL ACL

show access-lists [*id* | *name*]

id	
name	

acl *id* *name* ACL

```
Ruijie# show access-lists n_acl
ip access-list standard n_acl
Ruijie# show access-lists 102
ip access-list extended 102
Ruijie# show access-lists
ip access-list standard n_acl
```

ACL ३

V10.0	V10.0

42.2.4 show ip access-group

IP ACL

show ip access-group[**interface** <*interface*>]

<*interface*>	

IP ACL

```
Ruijie# show ip access-group interface gigabitethernet 0/1
ip access-group aaa in
Applied On interface GigabitEthernet 0/1.
```

ip access-list	IP ACL

<interface>	

IPv6 ACL IPv6 ACL

```
Ruijie# show ipv6 traffic-filter interface gigabitethernet 0/4
ipv6 traffic-filter v6 in
Applied On interface GigabitEthernet 0/4.
```


```
mac access-group mm in
Applied On interface GigabitEthernet 0/3.
```

mac access-list	MAC ACL

V10.0	V10.0

42.3

42.3.1 security access-group

security access-group {*id*|*name*}

no security access-group

id	ACL id
name	ACL

Ю

```
Ruijie(config-if)#security access-group 1
```

show secu-acl	

V10.2	V10.2

42.3.2 security global access-group

security global access-group {*id*|*name*}

no security global access-group


```
Fa0/6     uplink    --
```

security global access-group	
security access-group	
security uplink enable	

V10.2	V10.2

43 QOS

43.1

QoS ˘ QoS ЛЬЮ '

1 policy-map'

policy-map ┘Л class-map'

class-map 1 ACL˘ ACL ACE ε ┘

'

Э ACE ÿ “ ACL” ⁸ Â

Ю˘ QoS ╖ Â ┘ Â Policy Map

Э˘ ˘ QoS ╖ Â

QoS ╖ ˘ ¤ Policy Map ˘ й Off

┘ Â ЛЬЮ й QOS '

CoS	0
	8

WRR A

CoS to DSCP

CoS	DSCP
0	0
1	8
2	16
3	24
4	32
5	40
6	48
7	56

IP-Precedence to DSCP

IP-Precedence to DSCP

IP-Precedence	DSCP
0	0
1	8
2	16
3	24
4	32
5	40
6	48
7	56

DSCP to CoS

DSCP to CoS

DSCP	CoS
0	0
8	1
16	2
24	3
32	4
40	5
48	6
56	7

43.2

43.2.1 class maps

ACL'

ip access-list {**extended** | **standard**} { *acl-id* | *acl-name* }

mac access-list extended {*acl-id* | *acl-name*}

expert access-list extended {*acl-id* | *acl-name*}

ipv6 access-list extended *acl-name*

4' class-map, ⅄ cm

```
Ruijie(config)# class-map cm
```

5' ACL

```
Ruijie(config-cmap)# match access-group me
```

6' class-map

```
Ruijie(config-cmap)# exit
```

৲	

	show mls qos queueing	-

४		
३	४	
	-	-

43.2.3 interface rate-limit

8

rate-limit {**input** | **output**}

-	-

43.2.4 mls qos cos

CoS

mls qos cos *default-cos*

no mls qos cos

default-cos	ӣ 0 7
no	

CoS ӣ 0

ৡ

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mls qos cos 7
```

ৡ	
show mls qos interface *interface-id*	-

dscp	৸ a ৶ a ৶
no	

৲

Ruijie(config)# **mls qo map cos-dscp** *8 10 16 18 24 26 32 34*

```
Ruijie(config)# mls qos trust cos
```

43.2.8 mls qos scheduler

mls qos scheduler [**sp** | **rr** | **wrr** | **drr**]

no mls qos scheduler

cos	Qos	ӈ CoS
dscp ӈ	Qos	ӈ DSCP

policy-map-name	policymap
no policy-map *policy-map-name*	policy map
class-map-name	class map
no class *class-map-name*	
new-dscp	DSCP
rate-bps	kbps
burst-byte	kbyte
drop	
dscp-value	DSCP

1' policy map, po

```
Ruijie(config)# policy-map po
```

2' class-map cm

```
Ruijie(config-pmap)# class cm
```

3' dscp 10

```
Ruijie(config-pmap-c)# set ip dscp 10
```

4' 1M, 4096k, dscp 16

```
Ruijie(config-pmap-c)# police 1000000 4096 exceed-action dscp 16
```

show policy-map	-

-	-

43.2.11 priority-queue

[**no**] **priority-queue**

priority-queue	ѝ SP
no priority-queue	ѝ WRR

ѝ WRR

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Ruijie(config)# **priority-queue cos-map** *1 0 1*

show mls qos queueing	-

a a

-	-

43.2.13 service-policy

policy map

service-policy {**input** | **output**} *policy-map-name*

no service-policy {**input** | **output**}

policy-map-name	policymap
no	policy map

Ruijie(config)# **interface fastEthernet** *0/1*
Ruijie(config-if)# **service-policy input po**

	show mls qos interface	-

४		
३	४	
	-	-

43.3

43.3.1 show class-map52 g184 15 1 Tf0 Tc 0 Tw 0 Ts0 0 10.5 118.56 676.54362.7<

show policy-map [*policy-name* [**class** *class-name*]]

policy-name	policy name
class-name	class map

policy name

```
Ruijie# show policy-map
```

-	-

-	-

43.3.3 show mls qos interface

QoS

show mls qos interface *interface-id* [**policers**]

interface-id	
policers	police

QOS

Ruijie# **show mls qos interface fastEthernet** *0/1*

-	-

-	-

43.3.4 show mls qos maps

dscp-cos maps,dscp-cos maps ip-prec-dscp maps

show mls qos maps [**cos-dscp** | **dscp-cos** | **ip-prec-dscp**]

cos-dscp	cos-dscp maps
dscp-cos	dscp-cos maps
ip-prec-dscp	ip-prec-dscp maps

dscp-cos maps dscp-cos maps ip-prec-dscp maps

Ruijie# **show mls qos maps**

-	-

-	-

43.3.5 show mls qos queueing

QoS (cos-to-queue map,wrr weight,drr weight)

show mls qos queueing

Ruijie# **show mls qos rate-limit**

-	-

-	-

43.3.7 show mls qos scheduler

show mls qos scheduler

-	-

Ruijie# **show mls qos scheduler**

-	-

-

-	-

44 Voice VLAN

44.1

44.1.1 voice vlan

Voice VLAN˝ VLAN ѝ Voice VLAN Â ┘Л┐ ٣ **no** Voice VLAN ╖ Â

voice vlan *vlan-id*

no voice vlan

vlan-id	Voice VLAN ID Â

Â

٣

٣ Voice VLAN ╖ ˘ ┘ Voice VLAN ID Â

1˜ Voice VLAN ˘ ″I VLAN Â

2˜ VLAN 1 VLAN˝ ˘ VLAN 1 a ѝ Voice VLAN Â

3˜ a VLAN ┘ ѝ Voice VLAN б Super VLAN Â

4˜ Э 802.1x VLAN ╟ ╖ ˘ ѝ ╖ ˘ a Ю VID ѝ Voice VLAN ID Â

5˜ a RSPAN Remote VLAN б Voice VLAN ┘ 1 VLAN˝ ┘ ╖ б Voice VLAN ╖ Â

1' Voice VLAN ╖ ˘ VLAN2 ѝ Voice VLAN Â

```
Ruijie(config)# vlan 2
Ruijie(config-vlan)# exit
Ruijie(config)# voice vlan 2
```

٣	٣	

show voice vlan	Voice VLAN б Â 44-2

44.1.3 voice vlan cos

Voice VLAN CoS Â ┘Л┐ ३ **no** Â

voice vlan cos *cos-value*

no voice vlan cos

cos-value	Voice VLAN CoS Â

cos-value й 6Â

३

Voice VLAN CoS б DSCP ″I ˘ Â

1' Voice VLAN ″I ˘ CoS й 5

```
Ruijie(config)# voice vlan cos 5
```

३	
show voice vlan	Voice VLAN б Â

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10.4	३

44.1.4 voice vlan dscp

Voice VLAN DSCP Â ┘Л┐ ३ **no** Â

voice vlan dscp *dscp-value*

no voice vlan dscp

dscp-value	Voice VLAN DSCP Â

dscp-value й 46 Â

ҳ

Voice VLAN CoS б DSCP ″I ˘
Â

1' Voice VLAN ″I ˘ DSCP й 40 Â

```
Ruijie(config)# voice vlan dscp 40
```

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ҳ	
show voice vlan	Voice VLAN б Â

Л

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Л	
10.4	ҳ

44.1.5 voice vlan enable

Ю ҳ Voice VLAN ╖ Â Л Л∪ ҳ **no** Voice VLAN ╖ Â

voice vlan enable

no voice vlan enable

Ю ⌀ ⊥

1' OUI 0012.3400.0000 ѝ Voice VLAN ˇ ѝ Company A Â

```
Ruijie(config)# voice vlan mac-address 0012.3400.0000 mask
ffff.ff00.0000 description Company A
```

1˜ Voice VLAN ˘
╗ Voice VLAN˝ Voice VLAN ╖ Â
2˜ ╟ ˘ ѝ ╖ ˘ a
native VLAN ѝ Voice VLAN Â
3˜ Trunk Port/Hybrid Port ┘Л VLAN ˘
˝I Voice VLAN ÿ VLAN ┘ ˘ Ą Voice
VLAN ╖ ˘ Л a ╗ Voice VLAN˝
a

	⁄ MAC ˘ MAC ˙ Voice VLAN OUI ˘ Voice VLAN ˘ Â
	a Voice VLAN ˙ ⊧ Â ˘ Voice VLAN Â
	Ю˘ untagged Voice VLAN tag MAC ˘ è Voice VLAN tag ˘ VLAN ˘ a ˙ Voice VLAN / Â

1' Voice VLAN Â

```
Ruijie(config)# voice vlan security enable
```

ʔ	
show voice vlan	Voice VLAN б Â

¾

¾˘ ¬ Voice VLAN б ˘ Voice VLAN ╖
Â

1' Voice VLAN

```
Ruijie(config)# show voice vlan
Voice VLAN status: ENABLE            //Voice VLAN
Voice VLAN ID: 2                     //Voice VLAN ID
Voice VLAN security mode: Security   //
Voice VLAN aging time: 5 minutes     //
Voice VLAN cos: 6                    //      CoS
Voice VLAN dscp: 46                  //      DSCP
Current voice vlan enabled port mode: //    Voice VLAN      б
PORT                    MODE
--------------------------------------------------
Fa0/1                   Auto
```

¾

¾	
voice vlan *vlan-id*	Voice VLAN˘ VLAN ѝ Voice VLAN Â
voice vlan aging *minutes*	Voice VLAN Â
voice vlan cos *cos-value*	Voice VLAN CoS Â
voice vlan dscp *dscp-value*	Voice VLAN DSCP Â
voice vlan enable	Voice VLAN ╖ Â
voice vlan mode auto	Voice VLAN Â
voice vlan security enable	Voice VLAN Â

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10.4	¾

44.2.2 show voice vlan oui

OUI à OUI Â

show voice vlan oui

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३ ˘ ˩

45

45.1

45.1.1 rgos-security compatible

Ю˘ ╖ й RGOS ˘ ३ **rgos-security compatible** ' RGOS ˘ no ३ '

rgos-security compatible

no rgos-security compatible

Ю˘ ╖ й RGOS

३

३ Л˘

1' ╖ й RGOS '

```
Ruijie(config)#no gos-security compatible
```

३	

Л

Л	
10.4	३

46 RLDP

46.1

46.1.1 rldp detect-interval

¶ RLDP Э Â

rldp detect-interval *interval*

no rldp detect-interval

interval	˘ ы й 2-15

3 Â

¶ Â

stp Ю˘ × Л stp Â

Ю й 5s :

```
Ruijie(config)# rldp detect-interval 5
```

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rldp detect-max	

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-	-

46.1.2 rldp detect-max

¶ RLDP Э ˘ ˘

Ў ˘ й Â

rldp detect-max *num*

no rldp detect-max

num	, ¶ ù 2-10

2

¶ Â

¶ ˘ Â

Ю ù 5 '

```
Ruijie(config)# rldp detect-max 5
```

¶	
rldp detect-interval	

¶

¶	
-	-

46.1.3 rldp enable

¶ ® RLDP ™ Â

rldp enable

no rldp enable

Â

¶ Â

	ɻ RLDP ˘ RLDP Â
	ƗO '
	Ruijie(config)# **rldp enable**

ʒ	
rldp port	

ʃ

ʃ	
-	

46.1.4 rldp port

ʒ rldp ˘ ɻ Â

rldp port {**unidirection-detect | bidirection-detect | loop-detec**
shutdown-svi | shutdown-port | block}

no rldp port { **unidirection-detect | bidirection-detect | loop-detect** }

unidirection-detect	
bidirection-detect	ɻ
loop-detect	
warning	
shutdown-svi	shutdown svi

¯ Â

```
Ruijie(config)# interface fas 0/1
Ruijie(config-if)# rldp port loop-detect block
```

¾

¾	
rldp enable	rldp ¾

¼

¾

¼	
-	-

46.1.5 rldp reset

¾ **rldp shutdown** **disable** rldp Â

rldp reset

-	-

¾ Â

Ю ¾ '

```
Ruijie# rldp reset
```

¾

¾	
rldp enable	Rldp ¾

¼

¾

¼	
-	-

46.2

46.2.1 show rldp

rldp Â

show rldp [**interface** *interface-id*]

EXEC

-	-

-	-

47 TPP

47.1

47.1.1 topology guard

३ Ю˘ topology guard ३ ╖ Â
३ no ╖ Â

[**no**] **topology guard**

-	-

╖ ѝ

३ ३

z

ৗ ˘ ৡ no ৗ Â

[**no**] **tp-guard port enable**

ৡ ৡ

ৡ tpp Â

Ю

ℿ '

```
Ruijie# show tpp
```

ৡ	
topology guard	ℿ

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-	-

48

48.1

48.1.1 cd

Â

cd [*filesystem:*][*directory*]

filesystem	Â ľ ' Ł
directory	

flash Ю

cd ʒ ↓ Â ε ʒ ˘ ^ a
Л∪ ľ / Ł ~ ˘ Â ˘ pwd ʒ Â

1' й usb0

```
Ruijie# cd usb0:/
```

2' й sd´

```
Ruijie# cd sd0:/
```

ʒ	
pwd	

/ł	

48.1.2 copy

ÿ Â

copy *source-url destination-url*

source-url	URL Â Э Ю ╟ ˘ ┘ Л Ц Â
destination-url	URL Â Э Ю ╟ ˘ ┘ Л Ц Â

copy ┘ Л Ц Ц Ь Â

URL '

flash:	flash Â Э ┘ Л Ц Â URL a ˘ flash Â ╟ ў flash Э Â
tftp:	TFTP Ь
xmodem:	xmodem
slave:	ÿ Э flash
usb0:	usb
usb1:	γ usb
sd0:	sd´

a .

URL

1' ÿ tftp Ь ЭЮ

```
Ruijie#copy tftp://192.168.201.54/rgos.bin flash:/
  2' Э        tftp  Ł
Ruijie#copy flash:/rgos.bin tftp://192.168.201.54/rgos.bin
  3'      xmodem ЮO
Ruijie# copy xmodem: flash:/config.text
  4'             U
Ruijie#copy flash:/config.text usb0:/config.text
  5'             ÿ
Ruijie#copy flash:/config.text slave:/config.text
  6'        ÿ flash       sd´
Ruijie#copy flash:/rgos.bin sd0:/rgos.bin
  7'        ÿ U         sd´
Ruijie#copy usb0:/config.text sd0:/config.text
  8'        ÿ sd´       U
Ruijie#copy sd0:/config.text usb0:/config.text
```

ϡ

ϡ	
del	
rename	⅃
dir	

⅄

ϡ

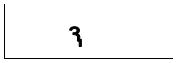
/\	

48.1.3 delete

Â

delete *url*

url	urlÂ



url Æ Â

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```
Ruijie# dir slave0:/
Directory of slave:/
   Mode Link     Size             MTime Name
-------- ---- --------- ------------------- ------------------
          1  10838016 2008-01-01 00:01:53 rgos.bin
          1      399 2008-01-01 00:01:37 config.text
          1      399 2008-01-01 00:17:58 cfg.txt
-----------------------------------------------------------------
3 Files (Total size 11210782 Bytes), 0 Directories.
Total 33030144 bytes (31MB) in this device, 20463616 bytes (19MB)
available.
```

2' Ю

```
Ruijie# dir
Directory of temp:/
   Mode Link     Size             MTime Name
-------- ---- --------- ------------------- ------------------
          1      399 2008-01-01 00:17:58 a.dat
-----------------------------------------------------------------
1 Files (Total size 399 Bytes), 0 Directories.
Total 33030144 bytes (31MB) in this device, 20463616 bytes (19MB)
available.
```

pwd	
cd	

48.1.6 rename

╟ ɹ

rename *url1 url2*

url1	╟ URL Â
url2	URL

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╟ Â ʒ ╟ Â a
Ь Э Â ' usb0/1, flash, slave Â

1' log.txt ╟ Э ь ź ơ ⁂ ⁋

48.1.7 rmdir

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rmdir *directory*

directory	,

a , Â

Ю tmp ˘ з Â

```
Ruijie# rmdir tmp
```

mkdir	

48.2

48.2.1 pwd

pwd

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1' Ю Â

```
Ruijie# pwd
flash:/
```

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cd	

/I	

48.2.2 show file systems

show file systems

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Ruijie#**show file systems**

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49

49.1 CPU

49.1.1 cpu-log

CPU , ㄴ Ⅱ **cpu-log** Â

cpu-*log* *log-limit low_num high_num*

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49.1.2 show cpu

CPU ˘ ৄ **show cpu** Â

show cpu

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ৄ ৲ Ո CPU ˘ 5 à 1ǂ à 5

ǂ CPU ˘ Ո Ԓǂ 5 à 1ǂ à 5

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```
  5    0%    0%    0%   waitqueue_process
  6    0%    0%    0%   tasklet_task
  7    0%    0%    0%   kevents
  8    0%    0%    0%   snmpd
  9    0%    0%    0%   snmp_trapd
 10    0%    0%    0%   mtdblock
 11    0%    0%    0%   gc_task
 12    0%    0%    0%   Context
 13    0%    0%    0%   kswapd
 14    0%    0%    0%   bdflush
 15    0%    0%    0%   kupdate
 16    0%    3%    1%   ll_mt
 17    0%    0%    0%   ll main process
 18    0%    0%    0%   bridge_relay
 19    0%    0%    0%   d1x_task
 20    0%    0%    0%   secu_policy_task
 21    0%    0%    0%   dhcpa_task
 22    0%    0%    0%   dhcpsnp_task
 23    0%    0%    0%   igmp_snp
 24    0%    0%    0%   mstp_event
 25    0%    0%    0%   GVRP_EVENT
 26    0%    0%    0%   rldp_task
 27    0%    2%    1%   rerp_task
 28    0%    0%    0%   reup_event_handler
 29    0%    0%    0%   tpp_task
 30    0%    0%    0%   ip6timer
 31    0%    0%    0%   rtadvd
 32    0%    0%    0%   tnet6
 33    2%    0%    0%   tnet
 34    0%    0%    0%   Tarptime
 35    0%    0%    0%   gra_arp
 36    0%    0%    0%   Ttcptimer
 37    8%    1%    0%   ef_res
 38    0%    0%    0%   ef_rcv_msg
 39    0%    0%    0%   ef_inconsistent_daemon
 40    0%    0%    0%   ip6_tunnel_rcv_pkt
 41    0%    0%    0%   res6t
 42    0%    0%    0%   tunrt6
 43    0%    0%    0%   ef6_rcv_msg
```

```
44    0%    0%    0%    ef6_inconsistent_daemon
45    0%    0%    0%    imid
46    0%    0%    0%    nsmd
47    0%    0%    0%    ripd
48    0%    0%    0%    ripngd
49    0%    0%    0%    ospfd
50    0%    0%    0%    ospf6d
51    0%    0%    0%    bgpd
52    0%    0%    0%    pimd
53    0%    0%    0%    pim6d
54    0%    0%    0%    pdmd
55    0%    0%    0%    dvmrpd
56    0%    0%    0%    vty_connect
57    0%    0%    0%    aaa_task
58    0%    0%    0%    Tlogtrap
59    0%    0%    0%    dhcp6c
60    0%    0%    0%    sntp_recv_task
61    0%    0%    0%    ntp_task
62    0%    0%    0%    sla_deamon
63    0%    3%    1%    track_daemon
64    0%    0%    0%    pbr_guard
65    0%    0%    0%    vrrpd
66    0%    0%    0%    psnpd
67    0%    0%    0%    igsnpd
68    0%    0%    0%    coa_recv
69    0%    0%    0%    co_oper
70    0%    0%    0%    co_mac
71    0%    0%    0%    radius_task
72    0%    0%    0%    tac+_acct_task
73    0%    0%    0%    tac+_task
74    0%    0%    0%    dhcpd_task
75    0%    0%    0%    dhcps_task
76    0%    0%    0%    dhcpping_task
77    0%    0%    0%    dhcpc_task
78    0%    0%    0%    uart_debug_file_task
79    0%    0%    0%    ssp_init_task
80    0%    0%    0%    rl_listen
81    0%    0%    0%    ikl_msg_operate_thread
82    0%    0%    0%    bcmDPC
```

```
 83     0%     0%     0%    bcmL2X.0
 84     3%     3%     3%    bcmL2X.0
 85     0%     0%     0%    bcmCNTR.0
 86     0%     0%     0%    bcmTX
 87     0%     0%     0%    bcmXGS3AsyncTX
 88     0%     2%     1%    bcmLINK.0
 89     0%     0%     0%     bcmRX
 90     0%     0%     0%     mngpkt_rcv_thread
 91     0%     0%     0%     mngpkt_recycle_thread
 92     0%     0%     0%     stack_task
 93     0%     0%     0%     stack_disc_task
 94     0%     0%     0%     redun_sync_task
 95     0%     0%     0%     conf_dispatch_task
 96     0%     0%     0%     devprob_task
 97     0%     0%     0%     rdp_snd_thread
 98     0%     0%     0%     rdp_rcv_thread
 99     0%     0%     0%     rdp_slot_change_thread
100     4%     2%     1%     datapkt_rcv_thread
101     0%     0%     0%     keepalive_link_notify
102     0%     0%     0%     rerp_msg_recv_thread
103     0%     0%     0%     ip_scan_guard_task
104     0%     0%     0%     ssp_ipmc_hit_task
105     0%     0%     0%     ssp_ipmc_trap_task
106     0%     0%     0%     hw_err_snd_task
107     0%     0%     0%    rerp_packet_send_task
108     0%     0%     0%    idle_vlan_proc_thread
109     0%     0%     0%    cmic_pause_detect
110     1%     1%     1%    stat_get_and_send
111     0%     1%     0%    rl_con
112    75%    80%    90%    idle
```

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CPU ˆ LISR à HISR ˫˜ ÂЮ é CPU ˚
Â è ˘ ЊЖ Ю'

No	Л
5Sec	˫ 5 CPU
1Min	˫ 1˚ CPU
5Min	˫ 5˚ CPU

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й bgp Â

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1' ЛЮ й BGP й ″I Â

```
Ruijie(config)# memory-lack exit-policy bgp
```

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show memory	

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10.3(4b3)	ҁ

49.2.2 show memory

˘ ҁ **show memory** Â

show memory

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```
Free pages: 1079
  watermarks : min 379, lower 758, low 1137, high 1516
System Total Memory : 128MB, Current Free Memory : 5283KB
Used Rate : 96%
```

Э Ю ‘ ‘

1. ↓ ˘ ѝ 4k Â

2. ˘ Ю ѝ ЊЖ‘

min	a ˘ ˘ ˘ Э a ↓ Â
lower	ш a ˘ ˘ Э ╟ ˘ Â ⁸ **memory-lack exit-policy** ҙ Â
low	a ˘ ˘ Э OVERFLOW ˘ Ю˘ a ‘Ą ˗ Â a ˘ ⁸ ⅄ a ҙ Â
high	‘I ˘ ЛЭ˘ ‘I ˘ ÿ OVERFLOW

50

50.1

50.1.1 clear logging

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clear logging

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Ю ă ʁ Â

```
Ruijie# clear logging
```

ϡ	
logging on	
show logging	ă ʁ
logging buffered	ă ʁ

˭

more flash:filename

Filename '	ﻝ

FLASH ﻝ ”//f2/˜ ”//f3/’ Â ﻉ
˘ a ﻉ è Â

levell	ш ˘ ÿ 0 7 Â ⅃ Л ⅄ ˘ ≠ ⅃ Л ⅄ Â

ă ѡ ѝ 4k Bytes Â

ш ѝ 7 Â

ҁ

ă ѡ ˘ ѡ ˘

Â ă ѡ ˘ ҁ **show logging Â**

ă ѡ ˘ ҁ clear logging˘

ă ѡ Â ˘ FLASH

Syslog Server Â

ǂ ѝ ЛЮ 8 '

Emergencies	0	˘ a
Alerts	1	⅄
Critical	2	
Errors	3	
warnings	4	
Notifications	5	˘ a
informational	6	
Debugging	7	

˘ ˘ 0 Â

Л ⅄˘ æ

Â

Ю ⅄ ѝ 6 Л æ 6 ѝ 10000

ă ѡ '

```
Ruijie(config)# logging buffered 10000 6
```

ҁ	
logging on	
show logging	ă ѡ
clear logging	ă ѡ

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50.1.4 logging console

⁸ ʃ Э ˘ Ю ʒ Â ʒ no
⁸ ʃ Э Â

logging console *level*

no logging console

level	ш ˘ ÿ 0 7 Â ʃ Л ʃ ˘ ≠ ʃ Л Â ш ˘ 1 Â

Debugging (7)

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⁸ ʃ Э Â

show logging ʒ ʃ Л Â

Ю ⁸ ʃ й б'
`Ruijie(config)#` **`logging console informational`**

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logging on	
show logging	ă ʊ ˘ Л

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-	-

50.1.5 logging count

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no Â

logging count

no logging count

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з Âÿ **no logging count** Â

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```
Ruijie(config)# logging count
```

show logging count	
show logging	б

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facility-type	Syslog ˘ ɛ Â

Local7(23)

ƗO ˆ 2˜ Syslog ˩ '

Numerical Code	Facility
0	kernel messages
1	user-level messages
2	mail system
3	system daemons
4	security/authorization messages
5	messages generated internally by syslogd
6	line printer subsystem
7	network news subsystem
8	UUCP subsystem
9	clock daemon
10	security/authorization messages
11	FTP daemon
12	NTP subsystem
13	log audit
14	log alert
15	clock daemon
16	local use 0 (local0)
17	local use 1 (local1)
18	local use 2 (local2)
19	local use 3 (local3)
20	local use 4 (local4)
21	local use 5 (local5)
22	local use 6 (local6)
23	local use 7 (local7)

ы (local7) 23 Â

Ю Syslog ы kernel

```
Ruijie(config)# logging facility kern
```

ٶ	
logging console	⁸ ٨ Э

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50.1.7 logging file flash

FLASH ˘ Ю ٶ Â ٧ FLASH ˘ ٶ no Â

logging file flash:filename [*max-file-size*] [*level*]

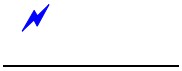
no logging file

Filename	٦ Â a ˘ ы txt Â
max-file-size	Â ÿ 128K 6M bytes˘ ы 128K Â
level	Â ٧ Л∪ ٦ ˘ ≠ ٧ Л∪ Â FLASH ы 6 Â ˘ 1 Â

a FLASH Â

ٶ

Syslog Server˘ a ˘ ٧ Л∪ FLASH Â ٨ ы ы txt˘ ٨ ٦ Â



FLASH˝ ˥ FLASH˝
FLASH˝ logging file flash ╟ ˘ a Â

Ю VTY Э й б

```
Ruijie(config)# logging monitor informational
```


logging	Syslog Server
logging file flash:	FLASH Э
logging console	⁸ Л Э
logging monitor	VTY (telnet) Э
logging trap	Syslog Server

Л	
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50.1.10 logging rate-limit

⁸ Ll ˘ ⁸ ˘ Ю

Â ⁸ Ll ˘ no Â

logging rate-limit {*number* | *all number* | *console* {*number* | *all number*}} [*except severity*]

no logging rate-limit

number	˘ й 1—10000
all	⁸˘ 0—7 ,
console	⁸ Л Э ’
except	ш ˘ a ⁸’ й error(3)˘ error a ⁸’
severity	ш ˘ ˘ ш ˘ й 0—7

Ю˘ a ⁸ Â

Â ⁸ Â Â˘ Л Л Â

ˆ debug˜ ˙ 10 ˘ warning ш

a ⁸'

```
Ruijie(config)#logging rate-limit all 10 except warnings
```

show logging count	
show logging	б ă ѡ

2' Ю IPV6 ѝ AAAA:BBBB::FFFF

```
Ruijie(config)# logging server ipv6 AAAA:BBBB::FFFF
```

logging on	
show logging	ă ѡ ˘ Л
logging trap	syslog server

/I	
-	-

50.1.12 logging source ip| ipv6

˘ Ю ȝ Â ȝ no ѵ

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logging source {**ip** *ip-address* | **ipv6** *ipv6-address*}

no logging source {**ip** | **ipv6**}

ip-address	IPV4

३	

-	-

50.1.14 logging synchronous

logging synchronous

no logging synchronous

-	-

Ruijie(config)#**line console** *0*
Ruijie(config-line)#logging synchronous
UP-DOWN
Ruijie#**configue terminal**
Oct 9 23:40:55 %LINK-5-CHANGED: Interface GigabitEthernet 0/1, changed state to down
Oct 9 23:40:55 %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet 0/1, changed state to DOWN
Ruijie# **configue terminal** //

show running-config	

-	-

50.1.15 logging trap

Syslog Server

service sequence-numbers

no service sequence-numbers

-	-

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Ruijie(config)# **service sequence-numbers**

logging on	
service timestamps	

-	-

50.1.17 service sysname

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service sysname

no service sysname

-	-

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Ю ╗ Э ˩'

```
Mar 22 15:28:02 %SYS-5-CONFIG: Configured from console by console
Ruijie# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)#
```

msec	Jul 27 16:53:07.299
year	2007 Jul 27 16:53:07

RTC

Uptime Datetime

Log Debug Datetime

```
Ruijie(config)# service timestamps debug datetime msec
Ruijie(config)# service timestamps log datetime msec
Ruijie(config)# end
Ruijie(config)# Oct 8 23:04:58.301 %SYS-5-CONFIG_I: Configured from
console by console
```

logging on	
service sequence-numbers	

-	-

50.1.19 terminal monitor

VTY VTY no

terminal monitor

terminal no monitor

Trap logging	Syslog Server
Log Buffer	

logging on	
clear logging	

-	-

50.2.2 show logging count

show logging count

-	-

show logging count **logging count** **show logging**

```
Ruijie# show logging count
Module Name   Message Name Sev Occur     Last Time
==========================================================SYS
CONFIG_I        5   1        Jul 6 10:29:57
-----------------------------------------SYS      TOTAL      1
```


logging count	ㄲ
show logging	б ă ʍ
clear logging	ă ʍ

ʎ

ʎ	
-	-

51

member *member*	ID Â ˇ member 1 Â
description	ˇ ѝ 31 Â

Â

ˇ ˇ write Â

2 ѝ red-giant

```
Ruijie(config)# device-description member 2 red-giant
```

show member	Â

-	-

51.2

51.2.1 show member

show member [*member*]

member	ID Â

Â

```
Ruijie# show member
```