



RGOS[®]

NMX “ ’ 3 1 ”A

V10.3(5b6)

Ω Λ ©2012

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˙ Â

Ruijie
Networks

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Ruijie 锐捷网络

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锐捷网络

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Ruijie

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"А й' RGOS®10.3(5b6) Â

1 Ю " ≈

1.

$$E' \quad 5 \wedge \quad E \hat{A}$$

注意、说明 ã m 1 ¶ 6 Â

α Courier New $\tilde{E}$ 5 $\hat{\Lambda}$
 α $\hat{A}$ α $\ddot{y}$ $\hat{\omega}$ α $\tilde{\eta}$ E $\hat{A}$

2. 3

Ʒ E Arial é E Ω ∞ ∪

$$\frac{E'}{E} = \frac{\Omega}{\tilde{\Omega}} \approx \frac{q}{a} \frac{d}{c} \approx \frac{\gamma}{\beta} \approx \frac{E}{\hat{A}}$$

$[x|y|\dots]$ $\hat{y}$ ч $\hat{y}$ а $\hat{A}$
// ч и $\hat{A}$

3. $\mathcal{H}$

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CLI }

1.1 alias

G no

$\hat{\omega}$ $\hat{A}$

alias

Ruijie(config)# **alias ?**

```
aaa-gs          AAA server group mode
acl             acl configure mode
bgp            Configure bgp Protocol
config         globle configure mode
.....
```

3:1 11a ~ 11m 11 *~ 1110

**command-alias=original-command*

R ~ EXEC 10 3:1 "s" "show"Ω Â± ω"s?"
11 1's' Ω 11 11a '

Ruijie# **s?**

*s=show show start-chat start-terminal-service

11 3 3a ' ~ ± G 11 3 ↑ ÂR
~ EXEC 10 11 "sv"3 3 "show version" ±'

Ruijie# **s?**

*s=show *sv="show version" show start-chat
start-terminal-service

11 3 ω 3 ~ m a Â 3
R ~ 3 m ω ~ a 1 11'

Ruijie# **s?**

show start-chat start-terminal-service

3:1 ≠ 11 11 3 11 11a ~ R 11 10
3:1 "ia"3 "ip address" ± 11 10'

Ruijie(config-if)# **ia ?**

```
A.B.C.D IP address
dhcp IP Address via DHCP
```

Ruijie(config-if)# **ip address**

" "ip address" 3 1 11a ~ 11
3 Â

3:1 G ω 1 ± a 1 Â

G **show aliases** 3 11 11 Â

ð R Ô

1110 R ~ ω 10 G 3:1

```
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
globe configure mode alias:
    def-route                ip route 0.0.0.0 0.0.0.0
192.168.1.1
```

$$\tilde{0} \quad \tilde{\Omega} \quad \tilde{\mathfrak{z}} \quad \hat{0}$$

show aliases	$\vdots$ 1
---------------------	------------

1.2 privilege

privilege no

```
privilege mode [all] {level level | reset} command-string
no privilege mode [all] [level level ] command-string
```

Ồ 1 Ô

<i>mode</i> ' {	CLI {	Â
[all] ' {	{	~ √ ÷ √ ∴ Â
level <i>level</i> ' {	{	∴ ~ ∴ 0-15 Â
reset ' {	÷	∴ Â
<i>command-string</i> ' {	{	Â

Ồ Ơ Ô

$$\ddot{O} \quad \mathfrak{z} \quad \hat{O}$$
 ω'

Ồ G ' Ô

Ю | **privilege** | CLI | Ω |

a ↓ ~ ↓ 3 ↓ ↓ ↓ y ~ ǒ Ю
 ↓ √ ∪ ∪ privilege ? " ∅ ↓ CLI 3 Â

config	ǒ
exec	
interface	∕
ip-dhcp-pool	DHCP
keychain	KeyChain
keychain-key	KeyChain-key
time-range	Time-Range

ǒ R Ô

√ Ю R ~ CLI ∶ 1 ∕ 3 ∕ "test" reload 3
 ~ ↓ √ ∪ ∪ Â

Ruijie(config)# **enable secret level 1 0 test**
 Ruijie(config)# **privilege exec level 1 reload**

~ ∪ ∶ 1 ǒ CLI ~ ↓ ↓ √ ∪ ∪ reload 3'

Ruijie> **reload ?**
 <cr>

reload ǒ 3 ∶ 1 ~ ‡ ↓ √ ∪ ∪ **all**
1 reload

~ ∪ ∶ 1 ǒ

1.3 show aliases

```

3:1 3 10 3:1~ 1 EXEC
Ruijie# show aliases 3 A

```

show aliases [mode]

0 1 0

mode ' : 1 3 3 3 A

0 2 0

0 3 0

EXEC

0 6 ' 0

0 3 ~ 3:1 A

0 R 0

10R ~ EXEC 10 3:1'

Ruijie# **show aliases exec**

exec mode alias:

```

h          help
p          ping
s          show
u          undebug
un         undebug

```

0 2 3 0

3	
alias	3:1

Y ' 3

2.1 Ω 3

. ð 3 4^ CLI~ ↑ ЛЮ Ω 3'

- » disable
- » enable
- » enable password
- » enable secret
- » password
- » login
- » login local
- » login authentication
- » username
- » lock
- » lockable
- » telnet
- » enable service

2.1.1 disable

ÿ ↑ æ| ~
3 disable Â

disable [*privilege-level*]

ð 1 Ô

privilege-level

ð 3 Ô

ð 6 ' Ô

G 3 ÿ ↑ Â ¶ 3 ~ ‡
m æ| Â

```
Ruijie# disable 10
```

enable	$\ddot{y}$ $\dot{\omega}$ $\uparrow$ $\vdots$ $\hat{A}$

3 enable A
 3 a 1 e 3 1 I A

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

no enable password

$$\begin{array}{ccccccc} \dot{\omega} \uparrow & & \hat{A} & & \alpha \uparrow & & 8 \\ \downarrow & & \downarrow & & \downarrow & & \downarrow \\ \downarrow & & \downarrow & & \downarrow & & \downarrow \end{array}$$

1 3 8 0
 ↑ ü 1 26 ñ Â
 1 3 m J L m ~ n Â 1 ± o ÿ 1 3
 ↑ Â

~ 注意:

[illegible]

Ồ R Ô

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

$$\vec{0} \quad \vec{\tau}_\Omega \quad \vec{\zeta} \quad \vec{0}$$

3	
enable secret	ŵ 4 3 Â

2.1.4 enable secret

a 1 : ǫ 1 3 ǫ 3 enable secret A
3 no 1 : 1 3 A

```
enable secret [level level] {secret | [0 | 5] encrypted-secret}
no enable secret
```

Ồ 1 Ô

Secret ω EXEC 1 3 Â M

```

3 a      Â      15      password 1 3 ~  +      ~      ~
||  n security 1 3'      15      password 1 3 security 1
3 ǒ 1 ~  +      ~      ' 1 3  1 3  ǒ ~ password
1 3 G      '  1 ~ security 1 3 G      ǒ 1  Â

```

ð R Ô

Ю R ǒ 1 3 n pw10'

Ruijie(config)# **enable secret 0 pw10**

ð ǒ 3 Ô

3	
enable password	a 1 : 1 3 Â

2.1.5 password

```

line 1 3 ~ line 3 password Â 3
no 1 line 1 3 Â
password {password | [0|7] encrypted-password}
no password

```

ð 1 Ô

```

password ' line 1 3 Â
0|7 ' 1 3  1 ~ 0  1 ~ 7 '  1  Â
encrypted-password ' 1 3  Â

```

ð 3 Ô

line

ð G ' Ô
ð R Ô

3 line 1 3 Â

Ю R line 1 3 n red'

Ruijie(config)# **line vty 0**

Ruijie(config-line)# **password**

3

2.1.6 login

```
AAA 配置 用户 认证 配置
login 配置 no 配置 认证
```

login

no login

0 1 0

1 1

0 3 0

line

0 6 0

```
AAA 配置 用户 认证 配置
VTY console 配置 认证
```

0 R 0

```
用户 R VTY 配置 认证
```

```
Ruijie(config)# no aaa new-model
```

```
Ruijie(config)# line vty 0
```

```
Ruijie(config-line)# password 0 normatest
```

```
Ruijie(config-line)# login
```

0 7 3 0

3	
password	line 1 3 1

2.1.7 login local

```
AAA 配置 用户 认证 配置
login local 配置 no 配置 认证
```

login local

no login local

0 1 0

1 1

0 3 0

line

Step 1

```

Ruijie(config)# aaa
Ruijie(config)# username test

```

Step 2

```

Ruijie(config)# line vty 0
Ruijie(config-line)# login local

```

Step 3

username	test

2.1.8 login authentication

```

Ruijie(config)# aaa
Ruijie(config)# no login authentication

```

```

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

```

Step 1

```

default
list-name

```

Step 2

```

line

```

Step 3

```

Ruijie(config)# aaa
Ruijie(config)# radius

```

Step 4

```

Ruijie(config)# line vty 0
Ruijie(config-line)# login authentication default

```

配置命令

配置命令	配置说明
aaa new-model	启用AAA认证
aaa authentication login	配置登录认证

2.1.9 username

配置命令 username *name*

username *name* {**nopassword** | **password** { *password* | [**0**/**7**] *encrypted-password* }}

username *name* **privilege** *privilege-level*

no username *name*

配置命令

name ' ' 用户名
password ' ' 密码
0/**7** ' ' 密码是否加密
encrypted-password ' ' 加密后的密码
privilege-level ' ' 特权级别

配置命令

配置命令

配置命令

配置命令

~ 注意:

配置命令

配置命令

Ruijie(config)# **username test privilege 15 password 0 pw15**

2.1.11 lockable

	ᄃ ᄆ	lock	ᄃ ᄆ	line	ᄆ	lockable
ᄃ	ᄆ ᄆ	lock	ᄃ ᄆ ᄆ	no	ᄃ ᄆ	ᄆ

lockable

no lockable

Ồ Ơ Ô

Ồ 3 Ô

line

Ồ G ' Ô

EXEC Ю lock 3 Â

Ồ R Ô

$$Y \stackrel{R}{\sim} {}^8 J_1 \oplus {}^8 J_1' \quad B \cong \prod_{j=1}^6 B_j$$

```
Ruijie(config)# line console 0
```

```
Ruijie(config-line)# lockable
```

```
Ruijie(config-line)# end
```

Ruijie# lock

Password: <password>

Again: <password>

Locked

Password: <password>

Ruijie#

$$\tilde{0} \quad \tilde{\Omega} \quad \tilde{3} \quad \tilde{O}$$

$\mathfrak{f}$	
lock	$\mathfrak{B} \quad \hat{A}$

2.1.12 telnet

telnet

telnet *host* [*port*] [*keyword*]

Ồ ư Ô

Host 3 IP 3 1'
 Port 3 G TCP 3 1' 3 h 3 23'
 Keyword 3 3 3 3 3 3

3	
/source-interface	3 3 3 telnet 3
/vrf	VRF

3 3 3

3 3 3

3 3 3 telnet 3 3

~ 注意:

/vrf 3 3 RSR

3 R 3

3 R 3 telnet 3 192.168.1.11 3 3 3 3 3
 vlan 1 3 VRF 3 vpn1'

Ruijie# **telnet 192.168.1.11 /source-interface vlan 1**
/vrf vpn1

3 3 3

3	
Show session	3 TTY 3
Exit	3 3

2.1.13 enable service

3 3 3 SSH Server/Telnet Server/Web Server/Snmp
 Agent 3 3 3 3 **enable service** 3

enable service { ssh-sesrver | telnet-server | web-server |
snmp-agent}

3 3 3

Ω	
ssh-sesrver	6 Ω SSH Server
telnet-server	6 Ω Telnet Server
web-server	6 Ω Http Server
snmp-agent	6 Ω Snmp Agent

δ 3 Ô

ω

δ G ' Ô

3 6 Ω E Â G **no enable service** 3 Ω
E Â

δ R Ô

Ю R 3' **enable service ssh-sesrver,** SSH Server П ' Ruijie(Config~ # **enable service ssh-sesrver**

δ Ω 3 Ô

3	
show service	м E ,

2.2 Ω 3

↑ ЮЮ Ω 3'

- » **clock set**
- » **hostname**
- » **show clock**
- » **show running-config**
- » **show startup-config**
- » **reload**
- » **show reload**
- » **prompt**
- » **banner motd**
- » **banner login**
- » **speed**
- » **show line**
- » **write**

2.2.1 clock set

~ J U G 3


```

Ruijie# show clock
clock: 2003-3-17 10:27:21
Clock read from calendar when system boot.

```

3.2.6

3	
clock set	

2.2.6 show running-config

```

Ruijie# show running-config
show running-config

```

3.2.7

2.2.7 show startup-config

```

Ruijie# show startup-config
show startup-config

```

3.2.8

2.2.8 reload

```

Ruijie# reload
reload [ text | in [

```



```

text '          \  ~ 1-255      Â
in [ hh: ] mm '          1      ~          ñ 24
at hh:mm '          2
month '          ~      3      ~ Mar
day '          ~   ý 1| 31
cancel '  \      ,

```

ð 3 Ô

ð G ' Ô

```

G      3  \  \
2  ð  ||~  f      Â

```

ð R Ô

```

Ю      R      10|  \  \      '
Ruijie# reload in 10
Router will reload in 600 seconds.

```

2.2.9 show reload

```

reload Â
show reload

```

ð 1 Ô

ð 3 Ô

ð G ' Ô

```

G      3  \  \      ð  ||  Â

```

ð R Ô

```

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

```

2.2.10 prompt

```

    {
        ~ ω      Ю      { prompt^ ^
            } ~ G   no prompt  { ^
prompt string

δ 1      Ô

string '     {           ~       ↓ √      32

δ 3      Ô

ω

δ G      ' Ô

                æ          {           ~ ±      ↓ m ñ      ~
                    ↓ √      ↓ √ Â {           ↓ EXEC      Â

δ R Ô

Ю      R          {           ñ rgnos'

Ruijie(config)# prompt rgnos
Ruijie(config)# end
rgnos

```

2.2.11 banner motd

ǰ ə ˘ ǿ ʎ ʒ banner motd Â
 ə ˘ Ǿ no banner motd ʒ Â
 banner motd c message c
 ǰ ʎ Ô
 c ˘ ə ˘ ǿ ə ˘ a ǿ
 message ˘ ə ˘ ǿ
 ǰ ʒ Ô
 ǿ
 ǰ Ǿ ˘ Ô
 Ǿ ʒ ʎ ʎ ə ˘ ˘ ə ˘
 Â ǿ ǿ ʎ ǿ ǿ ˘ ‡
 Â
 ǰ ʎ Ô

```

Ruijie(config)
Ruijie(config)# banner motd $ hello,world $

```

2.2.12 banner login

```

Ruijie(config)# banner login ^
no banner login ^

```

```

LINE 3
0 0
9600
0 G ' 0
G 3 A
0 R 0
Ю R 4 57600 bps'
Ruijie(config)#
Ruijie(config)# line console 0
Ruijie(config-line)# speed 57600
Ruijie(config-line)#

```

2.2.14 show line

```

a ~ Ю 3 show line A
show line [console line-num | aux line-num | vty line-num | line-num]
0 1 0
console ' 8 4 a
aux ' aux a
vty ' vty a
line-num ' line
0 3 0
0 0
0 G ' 0
G 3 a A
0 R 0
Ю R console 4 a '
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

```

2.2.15 write

```

^ 0 || ~ 7 5
3 write^

```

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

0 1 0

```

memory ' ^ running-config~ 7 5 NVRAM 4 copy
running-config startup-config^

```

```

network ' 4 7 TFTP 4 3 4 copy
running-config tftp^

```

```

terminal ' ~ 4 show running-config^

```

0 3 0

0 6 ' 0

```

3 3 3 7 8 6 4 7 4
Ю ~ 4 6 ^

```

```

3 a 7 4 7 memory ^

```

0 R 0

```

Ю R 4 '
Ruijie# write
Building configuration...
[OK]

```

0 9 3 0

3	
show running-config	
copy	8

˘

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3.1

Ω

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CLI

Π

3.1.2 copy tftp

tftp ~ ~ ~ tftp ~ 3 10
^

copy flash: filename tftp://location/filename

copy tftp://location/filename flash: filename

x

x

4 3

4.1 4.1.1

4 3

- › interface aggregateport
- › interface fastEthernet
- › interface vlan
- › medium-type
- › descriptionin
- › shutdown
- › speed
- › duplex
- › flowcontrol
- › mtu
- › clear counters
- › clear interface
- › switchport

4.1.1 interface aggregateport

3 3 ... 1 4 5 4

interface aggregateport port-number

8 4 0

port-number ' D@Py

8 R O

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

8 9 3 O

3	
show interfaces	4 a A

8 4 O

4.1.2 interface fastEthernet

3 3~ 7 4~ 5 4 A

```
interface fastEthernet mod-num/port-num
```

8 4 O

```
mod-num/port-num 1/ 3 4 1~ a
```

8 3 O

5

8 G ' O

```
3 no ~ 4 a 7 A G show interfaces
show interfaces fastEthernet 3 4
```

8 R O

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

8 9 3 O

3	
show interfaces	4 a A

8 4 O

4.1.3 interface vlan

3 3~ ... || 4^ switch
virtual interface SVI~ 5 4 A G 3 no 7

SVI.

interface vlan *vlan-id*

```

 Ruijie(config)# interface gigabitethernet 1/1
 Ruijie(config-if)# medium-type copper

```

④ R ①

```

Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# medium-type copper

```

④ ② ③ ①

③	
show interfaces	④ ② ①

④ ④ ①

```

24SFP/12GT ④ 12 SFP ④ 12 10/100/1000M BASE-T
④ ④ ④ ④
a ④ ④ " ④ ④ SFP ④ 10/100/1000M
BASE-T ④ ④

```

4.1.5 description

④ ④ ④ ④ ④ no ④.

```

description string
no description

```

④ ④ ①

```

string ④ ④ ④ ④

```

④ ①

```

④ ④ ④

```

④ ③ ①

```

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④ show interfaces ③ ④ ④ ④ ④ ④ ④ ④

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④ R ①

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

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④ ⑤ ⑥

④	⑤
show interfaces	⑥ ⑦

4.1.6 shutdown

④ ⑤ ⑥ ⑦ ⑧ ⑨ no

shutdown

no shutdown

④ ⑤ ⑥

④

④ ⑤ ⑥

④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ ⑬ ⑭ ⑮ ⑯ ⑰ ⑱ ⑲ ⑳ ㉑ ㉒ ㉓ ㉔ ㉕ ㉖ ㉗ ㉘ ㉙ ㉚ ㉛ ㉜ ㉝ ㉞ ㉟ ㊱ ㊲ ㊳ ㊴ ㊵ ㊶ ㊷ ㊸ ㊹ ㊺ ㊻ ㊼ ㊽ ㊾ ㊿ ㏀ ㏁ ㏂ ㏃ ㏄ ㏅ ㏆ ㏇ ㏈ ㏉ ㏊ ㏋ ㏌ ㏍ ㏎ ㏏ ㏐ ㏑ ㏒ ㏓ ㏔ ㏕ ㏖ ㏗ ㏘ ㏙ ㏚ ㏛ ㏜ ㏝ ㏞ ㏟ ㏠ ㏡ ㏢ ㏣ ㏤ ㏥ ㏦ ㏧ ㏨ ㏩ ㏪ ㏫ ㏬ ㏭ ㏮ ㏯ ㏰ ㏱ ㏲ ㏳ ㏴ ㏵ ㏶ ㏷ ㏸ ㏹ ㏺ ㏻ ㏼ ㏽ ㏾ ㏿ 㐀 㐁 㐂 㐃 㐄 㐅 㐆 㐇 㐈 㐉 㐊 㐋 㐌 㐍 㐎 㐏 㐐 㐑 㐒 㐓 㐔 㐕 㐖 㐗 㐘 㐙 㐚 㐛 㐜 㐝 㐞 㐟 㐠 㐡 㐢 㐣 㐤 㐥 㐦 㐧 㐨 㐩 㐪 㐫 㐬 㐭 㐮 㐯 㐰 㐱 㐲 㐳 㐴 㐵 㐶 㐷 㐸 㐹 㐺 㐻 㐼 㐽 㐾 㐿 㑀 㑁 㑂 㑃 㑄 㑅 㑆 㑇 㑈 㑉 㑊 㑋 㑌 㑍 㑎 㑏 㑐 㑑 㑒 㑓 㑔 㑕 㑖 㑗 㑘 㑙 㑚 㑛 㑜 㑝 㑞 㑟 㑠 㑡 㑢 㑣 㑤 㑥 㑦 㑧 㑨 㑩 㑪 㑫 㑬 㑭 㑮 㑯 㑰 㑱 㑲 㑳 㑴 㑵 㑶 㑷 㑸 㑹 㑺 㑻 㑼 㑽 㑾 㑿 㒀 㒁 㒂 㒃 㒄 㒅 㒆 㒇 㒈 㒉 㒊 㒋 㒌 㒍 㒎 㒏 㒐 㒑 㒒 㒓 㒔 㒕 㒖 㒗 㒘 㒙 㒚 㒛 㒜 㒝 㒞 㒟 㒠 㒡 㒢 㒣 㒤 㒥 㒦 㒧 㒨 㒩 㒪 㒫 㒬 㒭 㒮 㒯 㒰 㒱 㒲 㒳 㒴 㒵 㒶 㒷 㒸 㒹 㒺 㒻 㒼 㒽 㒾 㒿 㓀 㓁 㓂 㓃 㓄 㓅 㓆 㓇 㓈 㓉 㓊 㓋 㓌 㓍 㓎 㓏 㓐 㓑 㓒 㓓 㓔 㓕 㓖 㓗 㓘 㓙 㓚 㓛 㓜 㓝 㓞 㓟 㓠 㓡 㓢 㓣 㓤 㓥 㓦 㓧 㓨 㓩 㓪 㓫 㓬 㓭 㓮 㓯 㓰 㓱 㓲 㓳 㓴 㓵 㓶 㓷 㓸 㓹 㓺 㓻 㓼 㓽 㓾 㓿 㔀 㔁 㔂 㔃 㔄 㔅 㔆 㔇 㔈 㔉 㔊 㔋 㔌 㔍 㔎 㔏 㔐 㔑 㔒 㔓 㔔 㔕 㔖 㔗 㔘 㔙 㔚 㔛 㔜 㔝 㔞 㔟 㔠 㔡 㔢 㔣 㔤 㔥 㔦 㔧 㔨 㔩 㔪 㔫 㔬 㔭 㔮 㔯 㔰 㔱 㔲 㔳 㔴 㔵 㔶 㔷 㔸 㔹 㔺 㔻 㔼 㔽 㔾 㔿 㕀 㕁 㕂 㕃 㕄 㕅 㕆 㕇 㕈 㕉 㕊 㕋 㕌 㕍 㕎 㕏 㕐 㕑 㕒 㕓 㕔 㕕 㕖 㕗 㕘 㕙 㕚 㕛 㕜 㕝 㕞 㕟 㕠 㕡 㕢 㕣 㕤 㕥 㕦 㕧 㕨 㕩 㕪 㕫 㕬 㕭 㕮 㕯 㕰 㕱 㕲 㕳 㕴 㕵 㕶 㕷 㕸 㕹 㕺 㕻 㕼 㕽 㕾 㕿 㖀 㖁 㖂 㖃 㖄 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auto ' ǒ ǎ ˘ ǎ Â
full ' ǒ ǎ Â
half ' ˘ ǎ Â

ǒ Ô

ǒ ǎ ˘ ǎ Â

ǒ ǎ Ô

ǎ

ǒ ǎ Ô

ǎ ǎ ǒ ǎ ǎ Â ǎ ǎ **show interfaces** ǎ
 ǎ ǎ Â

ǒ ǎ Ô

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

ǒ ǎ Ô

ǎ	
show interfaces	ǎ ǎ Â

4.1.9 flowcontrol

ǎ ǎ ǎ Â ǎ ǎ no ǎ

flowcontrol {auto | off | on}
no flowcontrol

ǒ ǎ Ô

auto ' ~ ǎ Â
off ' ǎ ǎ Â
on ' ǎ Â

ǒ Ô

ǎ ǎ Â

ǒ ǎ Ô

ǎ

ǒ ǎ Ô

ǎ **show interfaces** ǎ ǎ ǎ Â

8 R 0

~ "l 1 1 8'

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

8 2 3 0

3	
show interfaces	1 a Â

4.1.10 mtu

1 mtu

Mtu num

8 1 0

num' 64' 9216(65536 a 1 a 1)

8 0

h 1500 Â

8 3 0

1

8 G ' 0

1 mtu' ~ Â m 1 1

8 R 0

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mtu 9216
```

8 2 3 0

3	
show interfaces	1 a Â

4.1.11 carrier-delay

1 HO G 3 carrier-delay 1 ~ G
3 no h Â

carrier-delay [seconds]

no carrier-delay

④ ① ②

seconds ' 1 60

④ ②

h 2

④ ③ ②

4

④ ④ ②

4 4 a 1 DCD y Down ↑ Up
 ~ DCD ǎ 4 4 y ~ 8
 4 y a ③ ~ Â
 DCD ~ 8 4 ~ 4 4 4
 ~ 4 f 4 4 4 4 DCD 4 4
 ~ 4 8 4 4 4 4 4 4
 Â

④ R ②

4 R 4 5 '
 Ruijie(config)# **interface gigabitethernet 1/1**
 Ruijie(coinfig)# **carrier-delay 5**

4.1.12 clear counters

4

clear counters [interface-id]

④ ① ②

interface-id ' 4 4 1 Â

④ ③ ②

④ ④ ②

4 h 4 4 show interfaces ~
 4 ④ **clear counters** 4 4 4 4 4 4 a
 4 4 4 4 4 4

❖ R O

Ruijie# **clear counters gigabitethernet 1/1**

❖ Ω 3 O

3	
show interfaces	4 a Â

4.1.13 clear interface

4 Æ

clear interface interface-id

❖ 4 O

interface-id ' 4 4 1 Â

❖ 3 O

❖ G ' O

3 4 Switch Port,L2 Aggregate port 4 ,Routed port,L3
Aggregate port 4 Â 3 4
shutdown no shutdown 3 Â

❖ R O

Ruijie# **clear interface gigabitethernet 1/1**

❖ Ω 3 O

3	
shutdown	Ω 4 Â

4.1.14 switchport

4 IO G a ! 4 **switchport 3** 4
Ï 2 Â G a ! 4 **no switchport 3** 4
Ï 3

switchport

no switchport

❖ 4 O

在配置 VLAN 时，使用 **switchport access vlan** 命令将端口配置为访问端口，并指定 VLAN ID。

在配置 trunk 端口时，使用 **switchport mode trunk** 命令将端口配置为 trunk 端口，并使用 **switchport trunk native vlan** 命令指定本征 VLAN ID。

❖ 配置

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

❖ 配置

配置	说明
switchport access	将端口配置为访问端口，并指定 VLAN ID。
switchport trunk	将端口配置为 trunk 端口，并指定本征 VLAN ID。

4.1.16 switchport access

在配置访问端口时，使用 **switchport access vlan** 命令指定 VLAN ID。如果不配置，端口将处于默认状态，即未配置任何 VLAN。

switchport access vlan *vlan-id*

no switchport access vlan

❖ 配置

vlan-id 指定 VLAN ID。

❖ 配置

在配置访问端口时，使用 **switchport access vlan** 命令指定 VLAN ID。

❖ 配置

在配置访问端口时，使用 **switchport access vlan** 命令指定 VLAN ID。

❖ 配置

在配置访问端口时，使用 **switchport access vlan** 命令指定 VLAN ID。如果不配置，端口将处于默认状态，即未配置任何 VLAN。

❖ 配置

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

Aggregate Port 3

5.1 配置

5.1.1 port-group

在配置聚合端口时，使用 `port-group` 命令可以配置聚合端口的成员端口。配置命令如下：

```
port-group port-group-number
no port-group
```

配置示例：

配置聚合端口 1 的成员端口：

配置命令：

命令	说明
<code>port-group-number</code>	聚合端口成员端口编号。取值范围：1~255。

配置示例：

配置命令：

配置命令：

配置聚合端口 1 的成员端口，并配置为 trunk 端口，native VLAN 为 100，聚合端口 1 的 VLAN 为 100。

配置命令：

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

配置命令：

配置命令：

5.1.2 aggregateport load-balance

配置命令：

ÿ ÿ Â

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

no aggregateport load-balance

ð ¶ Ô

¶	
dst-mac	ð MAC ¶ Â AP ¶ MAC ¶ ¶ MAC a ¶ ¶ a ¶
src-mac	ð MAC Â AP ¶ a ¶ MAC ¶ ¶ a ¶ ¶ MAC G ¶
ip	IP 6 IP ¶ Â a ¶ IP— IP a ¶ ¶ ¶ ¶ IP— IP ¶ ¶ ¶ Â ¶ ¶ Â
dst-ip	ð IP Â AP ¶ IP ¶ ¶ IP a ¶ ¶ ¶ a ¶ ¶
src-ip	ð IP AP ¶ a ¶ IP ¶ ¶ a ¶ ¶ IP G ¶ ¶

ð Ω 3 Ô

3	
show aggregateport load-balance	aggregateport ă Â

ð 1 Ô

5.2 Ω 3

5.2.1 show aggregateport

aggregateport ă Â

show aggregateport {[*aggregate-port-number*] **summary** |
load-balance}

ð 1 Ô

1	
aggregate-port-number	Aggregate Port 1 1 Â
load-balance	
summary	

{	
aggregateport load-balance	AP Â

Ω VLAN 3

6.1 Ω 3

6.1.1 vlan

3 ω VLAN 3 Â 3 no 7
VLAN Â VLA88(N)]TJ 0 1 -id8 54.00003 Tc -3.611 D2 13.98 D2410.5-VLA88ANN É7 Œ ~jç

no name

Ồ 1 Ô

1	
<i>vlan-name</i>	VLAN 1

Ồ Ô

VLAN 1

Ồ 3 Ô

VLAN

Ổ G ' Ô

G **show vlan** { vlan

Ồ R Ô

```
Ruijie(config)# vlan 10
```

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

$$\tilde{0} \quad \tilde{\Omega} \quad \tilde{3} \quad \tilde{0}$$

3	
sho vlan	VLAN 1 2 3 4

6.1.3 switchport mode

access port trunk port, 802.1Q no

sitchport mode {access | trunk}

no sitchport mode

Ồ 1 Ô

1	
---	--

access

4

8 6 ' 0

switch port access 4 4 5 VLAN
 8 6 0 **switchport access vlan** 3 4 VLAN
 8 6 0 4

switch port trunk 4 4 5 VLAN 8 6 0 4
 4 4 5 VLAN 4 4 VLAN " 5 5 trunk port
 4 VLAN " VLAN 8 6 0 4 **switchport trunk**
 3 4 4 4 VLAN "

8 R 0

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

8 9 3 0

1 trunkport 2 3

8 R 0

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

8 9 3 0

3	
switchport mode	γ 1^ switch port~ 1
switchport trunk	1 trunkport native VLAN Trunk 1 2 VLAN " 1

6.1.5 switchport trunk

1 trunkport native VLAN Trunk 1 2 VLAN
" 1 3 no 1 trunk 1 1

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

no switchport trunk {allowed vlan | native vlan }

8 1 0

1	
	Trunk 1 2 VLAN " 1 vlan-list 2 VLAN 3 2 VLAN 2 VLAN ID 2 VLAN ID 2 ^ ~ 1 1 10-20 1 2 2 ^ ~ 1 2 1-10,20-25,30,33 all 2 2 2 VLAN " 2 2 VLAN add VLAN " 2 2 2 VLAN " , remove VLAN " 2 2 2 VLAN " 2 , except " VLAN " VLAN 2 2 2 VLAN " ,
allowed vlan vlan-list	
native vlan vlan-id	Native VLAN 1

8 0

2 VLAN " all Native VLAN 2 VLAN 1

8 3 0

1

8.6.2.1

Native VLAN

Trunk 上 native VLAN 上 native VLAN
 上 上 UNTAG 上 VLAN 上
 上 VLAN ID 上 IEEE 802.1Q PVID 上 native
 VLAN VLAN ID 上 Trunk 上 native VLAN 上
 UNTAG 上

上 VLAN 上

Trunk 上 上 VLAN 1 4094 上
 上 上 Trunk 上 上 VLAN 上 上 VLAN
 a Trunk 上 上

上 **show interfaces switchport** 上 上

8.6.2.2

上 VLAN 2 上 上 1/15 上 上

```
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
Switchport is enabled
Mode is trunk port
Access vlan is 1,Native vlan is 1
Protected is disabled
Vlan lists is
1,3-4094
```

8.6.2.3

上	上
show interfaces	上 上 上
switchport access	上 上 statics accessport 上 VLAN 上 上 上

Ồ 1 Ô

Ồ Ô

$$\tilde{O} \quad \{ \quad \tilde{O}$$

Ồ G ' Ô

| ŵ ~ ŵ exit }

```
esw ~$ show esw vlan ^
```

Ồ R Ô

$$\partial \quad \Omega \quad \partial$$

3	
---	--

name	VLAN 1 A
switchport access	1 2 3 Vlan A

MAC 3

7.1 7.1 3

↑ 0 7 10 3

- › mac-address-table aging-time
- › clear mac-address-table dynamic
- › clear mac-address-table filtering
- › clear mac-address-table static
- › mac-address-table static
- › mac-address-table filtering
- › mac-address-table notification
- › nmp trap mac-notification
- › address-bind
- › mac-manage-learning uniform
- › mac-manage-learning uniform learning-synchronization
- › mac-manage-learning dispersive

7.1.1 mac-address-table aging-time

|| 7 10 3 no 7 10

mac-address-table aging-time seconds

no mac-address-table aging-time

7 10 7

seconds ' || 7 10 7 10 7 10 7 10

7 7

7 300 7

7 3 7

7

7 7 7

7 show mac-address-table aging-time 3 7

7 show mac-address-table dynamic 3 || 7

8 R Ô

Ruijie(config)# **mac-address-table aging-time 150**

8 Ω 3 Ô

3	
show mac-address-table aging-time	Â √
show mac-address-table dynamic	a Â

7.1.2 clear mac-address-table dynamic

|| Â

7.1.3 clear mac-address-table filtering

^

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

ð 1 Ô

1	
filtering	^
address <i>mac-addr</i>	^
vlan <i>vlan-id</i>	VLAN

ð 3 Ô

ð G ' Ô

↓ ∪ G **show mac-address-table filtering** 3
Q

ð R Ô

↑ 00d0.f800.0c0c'

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

ð Ω 3 Ô

3	
mac-address-table filtering	^
show mac-address-table filtering	α ^

ð 4 Ô

7.1.4 clear mac-address-table static

^

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

ð 1 Ô

! A

ð 3 Ô

ω

ð G ' Ô

a y~ A π √ A || ~

≠ a A a ñ A G show

mac-address-table static 3 ~ G **clear**

mac-address-table static 3

ð R Ô

Ю R ! 00d0.f800.073c VLAN 4

√↑ ñ ↑ √↑

gigabitethernet 1/1 Ñ'

Ruijie(config)# **mac-address-table static**

00d0.f800.073c vlan 4 interface gigabitethernet 1/1

ð Ω 3 Ô

3	
show mac-address-table static	A
clear mac-address-table static	A

ð √ Ô

7.1.6 mac-address-table filtering

A G 3 no ↑ A

mac-address-table filtering *mac-address* **vlan** *vlan-id*

no mac-address-table filtering *mac-address* **vlan** *vlan-id*

ð √ Ô

√	
<i>mac-address</i>	A
vlan <i>vlan-id</i>	VLAN ID~ ā A

ð Ô

! A

ð 3 Ô

ω

δ G ' Ô

a ñ Â G **show mac-address-table filtering**

3 Â

δ R Ô

Ruijie(config)# **mac-address-table filtering 00d0f8000
000 vlan 1**

δ Ω 3 Ô

3	
clear mac-address-table filtering	Â
show mac-address-table filtering	ə Â

7.1.7 mac-address-table notification

MAC π Â G 3 **no** Ω π Â

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

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

δ 1 Ô

1	
interval value	4 MAC Trap ñ 1 Â 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032 1033 1034 1035 1036 1037 1038 1039 1040 1041 1042 1043 1044 1045 1046 1047 1048 1049 1050 1051 1052 1053 1054 1055 1056 1057 1058 1059 1060 1061 1062 1063 1064 1065 1066 1067 1068 1069 1070 1071 1072 1073 1074 1075 1076 1077 1078 1079 1080 1081 1082 1083 1084 1085 1086 1087 1088 1089 1090 1091 1092 1093 1094 1095 1096 1097 1098 1099 1100 1101 1102 1103 1104 1105 1106 1107 1108 1109 1110 1111 1112 1113 1114 1115 1116 1117 1118 1119 1120 1121 1122 1123 1124 1125 1126 1127 1128 1129 1130 1131 1132 1133 1134 1135 1136 1137 1138 1139 1140 1141 1142 1143 1144 1145 1146 1147 1148 1149 1150 1151 1152 1153 1154 1155 1156 1157 1158 1159 1160 1161 1162 1163 1164 1165 1166 1167 1168 1169 1170 1171 1172 1173 1174 1175 1176 1177 1178 1179 1180 1181 1182 1183 1184 1185 1186 1187 1188 1189 1190 1191 1192 1193 1194 1195 1196 1197 1198 1199 1200 1201 1202 1203 1204 1205 1206 1207 1208 1209 1210 1211 1212 1213 1214 1215 1216 1217 1218 1219 1220 1221 1222 1223 1224 1225 1226 1227 1228 1229 1230 1231 1232 1233 1234 1235 1236 1237 1238 1239 1240 1241 1242 1243 1244 1245 1246 1247 1248 1249 1250 1251 1252 1253 1254 1255 1256 1257 1258 1259 1260 1261 1262 1263 1264 1265 1266 1267 1268 1269 1270 1271 1272 1273 1274 1275 1276 1277 1278 1279 1280 1281 1282 1283 1284 1285 1286 1287 1288 1289 1290 1291 1292 1293 1294 1295 1296 1297 1298 1299 1300 1301 1302 1303 1304 1305 1306 1307 1308 1309 1310 1311 1312 1313 1314 1315 1316 1317 1318 1319 1320 1321 1322 1323 1324 1325 1326 1327 1328 1329 1330 1331 1332 1333 1334 1335 1336 1337 1338 1339 1340 1341 1342 1343 1344 1345 1346 1347 1348 1349 1350 1351 1352 1353 1354 1355 1356 1357 1358 1359 1360 1361 1362 1363 1364 1365 1366 1367 1368 1369 1370 1371 1372 1373 1374 1375 1376 1377 1378 1379 1380 1381 1382 1383 1384 1385 1386 1387 1388 1389 1390 1391 1392 1393 1394 1395 1396 1397 1398 1399 1400 1401 1402 1403 1404 1405 1406 1407 1408 1409 1410 1411 1412 1413 1414 1415 1416 1417 1418 1419 1420 1421 1422 1423 1424 1425 1426 1427 1428 1429 1430 1431 1432 1433 1434 1435 1436 1437 1438 1439 1440 1441 1442 1443 1444 1445 1446 1447 1448 1449 1450 1451 1452 1453 1454 1455 1456 1457 1458 1459 1460 1461 1462 1463 1464 1465 1466 1467 1468 1469 1470 1471 1472 1473 1474 1475 1476 1477 1478 1479 1480 1481 1482 1483 1484 1485 1486 1487 1488 1489 1490 1491 1492 1493 1494 1495 1496 1497 1498 1499 1500 1501 1502 1503 1504 1505 1506 1507 1508 1509 1510 1511 1512 1513 1514 1515 1516 1517 1518 1519 1520 1521 1522 1523 1524 1525 1526 1527 1528 1529 1530 1531 1532 1533 1534 1535 1536 1537 1538 1539 1540 1541 1542 1543 1544 1545 1546 1547 1548 1549 1550 1551 1552 1553 1554 1555 1556 1557 1558 1559 1560 1561 1562 1563 1564 1565 1566 1567 1568 1569 1570 1571 1572 1573 1574 1575 1576 1577 1578 1579 1580 1581 1582 1583 1584 1585 1586 1587 1588 1589 1590 1591 1592 1593 1594 1595 1596 1597 1598 1599 1600 1601 1602 1603 1604 1605 1606 1607 1608 1609 1610 1611 1612 1613 1614 1615 1616 1617 1618 1619 1620 1621 1622 1623 1624 1625 1626 1627 1628 1629 1630 1631 1632 1633 1634 1635 1636 1637 1638 1639 1640 1641 1642 1643 1644 1645 1646 1647 1648 1649 1650 1651 1652 1653 1654 1655 1656 1657 1658 1659 1660 1661 1662 1663 1664 1665 1666 1667 1668 1669 1670 1671 1672 1673 1674 1675 1676 1677 1678 1679 1680 1681 1682 1683 1684 1685 1686 1687 1688 1689 1690 1691 1692 1693 1694 1695 1696 1697 1698 1699 1700 1701 1702 1703 1704 1705 1706 1707 1708 1709 1710 1711 1712 1713 1714 1715 1716 1717 1718 1719 1720 1721 1722 1723 1724 1725 1726 1727 1728 1729 1730 1731 1732 1733 1734 1735 1736 1737 1738 1739 1740 1741 1742 1743 1744 1745 1746 1747 1748 1749 1750 1751 1752 1753 1754 1755 1756 1757 1758 1759 1760 1761 1762 1763 1764 1765 1766 1767 1768 1769 1770 1771 1772 1773 1774 1775 1776 1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 254


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

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

δ Ω 3 Ô

3	
snmp-server enable traps	trap Â
show mac-address-table notification	MAC π α Â
snmp trap mac-notification	4 MAC π Â

7.1.8 snmp trap mac-notification

4 MAC π Â G 3

```
show mac-address-table
notification
```

MAC
a A T

7.1.9 address-bind

ip mac .

```
address-bind ip-address mac-address
```

```
no address-bind ip-address
```

3 1 Ô

1	
ip-address	IP A
mac-address	mac A

3 3 Ô

ŵ

3 G ' Ô

∞ IP MAC ~ ‡ ↑ IP
 ñ IP ~ MAC a ñ IP
 MAC ~

3 R Ô

Ю R ip ñ 3.3.3.3 mac 00d0.f811.1112

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

3 3 3 Ô

3	
show address-bind	

3 1 Ô

7.1.10 address-bind ip-address

ip mac .

```
address-bind ip-address mac-address
```

```
no address-bind ip-address
```

3 1 Ô

1	
<i>ip-address</i>	IP 1
<i>mac-address</i>	mac 1

3 1

3

3 1

1 IP 1 MAC 1
IP 1 IP 1 MAC 1
MAC 1

3 R 1

1 R ip 1 3.3.3.3 mac 00d0.f811.1112

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

3 1 1

3	
show address-bind	

3 1 1

7.1.11 address-bind uplink

ip mac .

address-bind uplink intf-id

no address-bind uplink intf-id

3 1 1

1	
<i>intf-id</i>	1 R 1 1

3 1 1

3

3 1 1

1 IP 1 MAC 1
IP 1 IP 1 MAC 1
MAC 1

MAC (address-bind install) $\lambda \hat{N}^R \lambda$ $a \hat{A}$

Ồ R Ô

Ю R fa 0/1 4 й

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

$$\partial \quad \tau_{\Omega} \quad \partial$$

3	
show address-bind uplink	R 4

Ồ 1 Ô

RGOS10.1 版本

7.1.12 address-bind install

$$I \quad R \quad \wedge$$

address-bind install
no address-bind install

Ồ 1 Ô

$$\tilde{O} \quad \{ \quad \hat{O}$$
 ω

Ồ G ' Ô

$$R \quad \mathcal{N}^{\vee} \quad \mathfrak{z} \quad \downarrow \quad \hat{A}$$

Ồ R Ô

Ю R fa 0/1 4 й

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

```
Ruijie(config)# address-bind install
```

$$\partial \quad \partial_\Omega \quad \partial \quad \partial$$

3	
show address-bind uplink	R 4

Ồ Ạ Ô

7.1.13 mac-manage-learning uniform

配置 MAC 地址学习 uniform 模式。

配置步骤

配置步骤

1

配置步骤

配置 MAC 地址学习 uniform 模式。配置命令如下：

8.6.3.1

uniform 100% MAC 1 1/2 Y
' 1/2 no 3 1/2 MAC 1

8.6.3.2

8.6.3.3

3	
show mac-address-table mac-manage-learning	MAC 1

8.6.3.4

S8600 à S9600 " 3

7.1.15 mac-manage-learning dispersive

MAC 1 1/2 dispersive .

8.6.3.1

8.6.3.2

ω

8.6.3.3

MAC 1 1/2 dispersive 1 1/2 1
MAC ,

8.6.3.4

8.6.3.5

3	
show mac-address-table mac-manage-learning	MAC 1

8.6.3.6

S8600 à S9600 " 3

7.2 7.2 3

↑ 0 7 10 3

- › **show mac-address-table address**
- › **show mac-address-table aging-time**
- › **show mac-address-table count**
- › **show mac-address-table dynamic**
- › **show mac-address-table filtering**
- › **show mac-address-table interface**
- › **show mac-address-table notification**
- › **show mac-address-table static**
- › **show mac-address-table vlan**
- › **show address-bind**
- › **show mac-address-table mac-manage-learning**

7.2.1 show mac-address-table address

MAC 3 ^ ↑ || ~ ^

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

0 1 0

1	
address <i>mac-addr</i>	MAC ^
interface <i>interface-id</i>	1 1
vlan <i>vlan-id</i>	VLAN 1

0 3 0

0 R 0

```
Ruijie# show mac-address-table address 00d0.f800.1001
Vlan      MAC Address      Type      Interface
-----
1          00d0.f800.1001      STATIC    Gi1/1
```

0 7 3 0

3	
show mac-address-table static	^

show mac-address-table filtering	^
show mac-address-table dynamic	^
show mac-address-table interface	^ a ^
show mac-address-table vlan	VLAN a
show mac-address-table count	^
show mac-address-table static	^
show mac-address-table filtering	^

7.2.2 show mac-address-table aging-time

|| y ^

show mac-address-table aging-time

ð 3 Ô

ð R Ô

```
Ruijie# show mac-address-table aging-time
Aging time    : 300
```

ð Ω 3 Ô

3	
mac-address-table aging-time	y ^

7.2.3 show mac-address-table count

^

show mac-address-table count

ð 3 Ô

ð R Ô

```
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

ð Ω 3 Ô

3	
show mac-address-table static	Â
show mac-address-table filtering	Â
show mac-address-table dynamic	Â
show mac-address-table address	â Â
show mac-address-table interface	â Â ¹
show mac-address-table vlan	VLAN â Â

7.2.4 show mac-address-table dynamic

|| â Â

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

ð 1 Ô

1	
---	--

3 1 Ô

1	
<i>interface-id</i>	1 (1 1 AggregatePort) ^
<i>vlan-id</i>	VLAN ^

3 3 Ô

3 R Ô

Ruijie# show mac-address-table interface
gigabitethernet 1/1

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
1	00d0.f800.1004	STATIC	gigabitethernet 1/1

3 3 Ô

3	
show mac-address-table static	^
show mac-address-table filtering	^
show mac-address-table dynamic	^
show mac-address-table address	a ^
show mac-address-table vlan	VLAN a ^

show mac-address-table count

interface <i>interface-id</i>	MAC Address	MAC	Trap
history	MAC	Trap	Trap

3 3

MAC Trap

3 3 3

3 R 3

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

3 3 3

3	
mac-address-table notification	MAC Trap
snmp trap mac-notification	MAC Trap

7.2.8 show mac-address-table static

3

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

3 3 3

MAC	}
<i>mac-addr</i>	MAC
<i>vlan-id</i>	VLAN
<i>interface-id</i>	AggregatePort)

显示命令

命令	显示内容
show mac-address-table static	静态 MAC 地址表
show mac-address-table filtering	过滤 MAC 地址表
show mac-address-table dynamic	动态 MAC 地址表
show mac-address-table address	MAC 地址表
show mac-address-table interface	接口 MAC 地址表
show mac-address-table count	MAC 地址表计数

7.2.10 show address-bind

显示命令

show address-bind

显示命令

显示命令

显示命令

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

显示命令

命令	显示内容
address-bind	地址绑定

7.2.11 show mac-address-table mac-manage-learning

显示命令

显示命令

显示命令

8 R 0

```
Ruijie# show mac-address-table mac-manage-learning
#####MAC manage-learning
running mode: uniform
configuration mode: uniform
dynamic address learning-synchronization: off.
```

8 9 3 0

8.1 MSTP 3

8.1 8.1.1

8.1.1 spanning-tree

MSTP 3 no spanning-tree 3
 spanning-tree [forward-time seconds | hello-time seconds |
 max-age seconds]
 no spanning-tree [forward-time | hello-time | max-age]

8.1.1

forward-time seconds ' 3
 hello-time seconds ' 3 BPDUs
 max-age seconds ' BPDUs

8.1.1

spanning-tree 3

8.1.1

3

8.1.1

forward-time 3 hello-time 3 max-age 3 3
 3 3 3 3 3 3 3 3

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

a 3 h 3 a 3

8.1.1

spanning-tree 3

Ruijie(config)# spanning-tree

BridgeForwardDelay


```

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

show spanning-tree      STP  0      0
spanning-tree mst cost  STP  1      PathCost 0
spanning-tree tx-hold-count STP  0      TxHoldCount 0

```

8.1.2 spanning-tree bpdudfilter

```

    1  enabled
    2  disabled
    3  spanning-tree bpdudfilter [enabled | disabled]
    4
    5  enabled
    6  Disabled
    7
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```


spanning-tree max-hops *hop-count*

no spanning-tree max-hops

δ 1 Ô

hop-count ' BPDU 7h ↓ 7u ~ ñ 1' 40

δ Ô

hop-count h ñ 20

δ 3 Ô

ω .

δ 6 ' Ô

Region ă~ Root Bridge ↓ BPDU ↑ 0 Hot Count ~ y Root
 Bridge ~ Hop Count 1' ↑ ñ 0 ‡
 BPDU ă ~ ↑ Hops h ñ 0 BPDU Â

↓ **max-hops**

z Ô Hop λ

íÇPa @à

⑧ 3 ①

② .

⑧ R ①

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

⑧ ② 3 ①

show spanning-tree

8.1.7 spanning-tree mst configure

② ③ ④ ⑤ MST ⑥ MSTP Region ⑦
no ⑧ ⑨ ⑩ ⑪ *name* ⑫ *revision* ⑬ *vlan map*
 ⑭ ⑮

spanning-tree mst configuration

no spanning-tree mst configuration

⑧ ①

instance *vlan* ② *Vlan* Instance 0 ③
name ④ ⑤
revision ⑥ 0 ⑦

⑧ 3 ①

② .

⑧ ④ ①

① ② **end** ③ ④ Ctrl+C ⑤ ⑥

① ② ③ **exit** ④ ⑤

② MST ③ ④ ⑤ ⑥ ⑦ ⑧

instance *instance-id* **vlan** *vlan-range* *Vlan* ① MST Instance
 ② *instance-id* ③ 0 64 ④ *vlan* ⑤ 1 4095 ⑥ *vlan-range*
 ⑦ *vlan* ⑧ VLAN ID ⑨ ⑩ VLAN ID ⑪
 ⑫ ⑬ ⑭ VLAN ID ⑮ R ⑯ **instance 10 vlan 2,3,6-9**
 ⑰ VLAN 2 3 6 7 8 9 ⑱ Instance 10 ⑲
 ⑳ VLAN Instance 0 ㉑ VLAN ㉒ Instance ㉓

```

name name' MST 1 ~ 1/2 1/2 0 32 Â 1/2
no name è h Â
revision version' MST ~ 0 65535 Â 1/2 no revision
è h Â
show' m MST region a Â

```

8 R Ô

```

R R ! w MST ~ VLAN 3, 5-10 i MST
Instance 1 Â

```

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

```
Ruijie(config-mst)# instance 1 vlan 3~ 5-10
```

```
Ruijie(config-mst)# name region 1
```

```
Ruijie(config-mst)# revision 1
```

```
Ruijie(config-mst)# show
```

```
MST configuration
```

```
Name [region1]
```

```
Revision 1
```

```
Instance Vlan Mapped
```

```
-----
```

```
0 1-2,4,11-4094
```

```
1 3,5-10
```

```
-----
```

```
Ruijie(config-mst)# exit
```

```
Ruijie(config)#
```

```

VLAN 3 y Instance 1 i ~ x w MST 1~
R

```

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

```
Instance 1 i ~ R
```

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

```
1/2 MST 3 show 3 Â
```

8 Q 3 Ô

```
show spanning-tree mst ' MST region
```

```
instance instance-id vlan vlan-range ' Vlan 1/2 MST Instance
```

```
name ' MST 1
```

```
revision ' MST 1
```

```
show ' MST R MST
```

8.1.8 spanning-tree mst cost

```

      1  10 G      3      Instance      6 no      1
      2      3      1  1

```

spanning-tree [mst *instance-id*] **cost** *cost*

no spanning-tree [mst *instance-id*] *cost*

8 1 0

```

instance-id 1 Instance 1 1 0 64
cost 1 1 1 200 000 000

```

Â 6 no ↓ ∪ 3 h Â

spanning-tree [mst instance-id] port-priority priority

no spanning-tree [mst instance-id] port-priority

δ 4 Ô

Instance-id ' Instance 1~ h 0 64

priority ' 4 "I ~ ↓ 0 16 32 48 64 80 96 112 128
144 160 176 192 208 224 240 "Ω 16 ~ h 16 "

δ Ô

Instance-id h h 0

priority h h 128

δ 3 Ô

4 .

δ 6 ' Ô

Region 6~ "I "I 4 ↓ Â "I
↓ ~ ∪ 4 1 4

δ R Ô

Ю R Instance 20 Gigabitethernet 1/1 4 "I h h h
10

Ruijie(config)# **interface gigabitethernet 1/1**

Ruijie(config-if)# **spanning-tree mst 20 port-priority
0**

↓ ∪ ω **show spanning-tree mst instance interface interface-id**
3 3

δ "Ω 3 Ô

show spanning-tree mst ' 4 MSTP 6 Â

spanning-tree mst cost ' 4

spanning-tree mst priority ' a ↓ Instance "I

8.1.10 spanning-tree mst priority

ω Ю 6 3 ↓ ∪ Instance "I Â 6 no
↓ ∪ 3 h Â

spanning-tree [mst instance-id] priority priority

no spanning-tree [mst instance-id] priority

8.1.10 MSTP 3

```
instance-id ' Instance 17
priority ' 0, 4096, 8192, 12288, 16384, 20480,
24576, 28672, 32768, 36864, 40960, 45056, 49152, 53248, 57344
61440
Ω 16
~
~ 4096
```

8.1.11 spanning-tree reset

```
instance-id h
priority h 32768
```

8.1.12 spanning-tree reset

ω .

8.1.13 spanning-tree reset

```
Instance 20
~ h 8192
Ruijie(config-if)# spanning-tree mst 20 priority 8192
↓ ω show spanning-tree mst instance interface interface-id
3
Θ
```

8.1.14 spanning-tree reset

```
show spanning-tree mst ' MSTP a
spanning-tree mst cost '
spanning-tree mst port-priority ' a ↓ Instance ~
```

8.1.11 spanning-tree reset

spanning-tree h h h no h

spanning-tree reset

8.1.15 spanning-tree reset

h h h

8.1.16 spanning-tree reset

ω h

8.1.17 spanning-tree reset

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

8.1.18 spanning-tree reset

```
show spanning-tree ' STP ω a h
show spanning-tree interface ' STP ~ h
```


8.1.12 spanning-tree tx-hold-count

STP 的 TxHoldCount 值 4 BPDU 的 6
 3 no 的 1

spanning-tree tx-hold-count tx-hold-count

no spanning-tree tx-hold-count

8 1 0

tx-hold-count ' TxHoldCount 1 10

8 0

3

8 3 0

的 1

8 R 0

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

8 9 3 0

show spanning-tree ' MSTP 的 1 1

8.1.13 spanning-tree pathcost method

1 1 3 no
 的 1

spanning-tree pathcost method [long | short]

no spanning-tree pathcost method

8 1 0

long ' 802.1t 1 path-cost 的 1

short ' 802.1d 1 path-cost 的 1

8 0

802.1T 1 Path-cost 的 1

8 3 0

的 1

8 R 0

Ruijie(config-if)# **spanning-tree pathcost method long**

8.1.13 查看配置

```
show spanning-tree interface ' ' STP 1 1
```

8.1.14 spanning-tree portfast

配置 Portfast 1 1 1 1 disabled 1 1
配置 Portfast 1 1 1 1

```
spanning-tree portfast [disabled]
```

8.1.14 配置

```
disabled 1 1 Portfast 1 1
```

8.1.14 配置

```
1 1
```

8.1.14 配置

```
1 1
```

8.1.14 配置

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

8.1.14 查看配置

```
show spanning-tree interface ' ' 1 STP 1 1
```

8.1.15 spanning-tree portfast bpduguard default

配置 BPDU guard 1 1 1 1 no 1 1
BPDU guard 1 1

```
spanning-tree portfast bpduguard default
```

```
no spanning-tree portfast bpduguard default
```

8.1.15 配置

```
1 1 1 1
```

8.1.15 配置

```
1 1 BPDU Guard.
```

8.1.15 配置

```
1 1
```

8.1.15 配置

BPDU guard

4 3 1 BPDU

no spanning-tree portfast default

```

<1>

```

```

    <1>

```

```


```

```

    Portfast

```

```

    <1>

```

```

    <1>

```

```

    R

```

```

Ruijie(config)# spanning-tree portfast default

```

```

    <1>

```

```

show spanning-tree interface STP

```

8.1.18 spanning-tree tc- protection

```

    tc- protection
    no
    tc-

```

```

spanning-tree tc- protection

```

```

no spanning-tree tc- protection

```

```

<1>

```

```

    <1>

```

```


```

```

    tc- protection

```

```

    <1>

```

```

    <1>

```

```

    R

```

```

Ruijie(config)# spanning-tree tc- protection

```

8.1.19 spanning-tree tc-protection tc-guard

```

    tc- guard
    no
    tc- guard

```

```

spanning-tree tc- protection tc-guard

```

```

no spanning-tree tc- protection tc-guard

```

⑧ ④ ②

③ ④ ②

⑧ ②

③ tc-guard ③ ②

⑧ ③ ②

③ ②

⑧ R ②

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

8.1.20 spanning-tree tc-guard

④ tc-guard ③ ② ③ no ③ tc-guard ③ ②
 ③ tc-guard ③ ② tc ②

spanning-tree tc-guard

no spanning-tree tc-guard

⑧ ④ ②

③ ④ ②

⑧ ②

③ tc-guard ③ ②

⑧ ③ ②

④ ②

⑧ R ②

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

8.1.21 spanning-tree autoedge

④ Autoedge ③ ② ③ disabled ③ ②
 ④ Autoedge ③ ②

spanning-tree autoedge [disabled]

```

Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree autoedge disabled

Ruijie(config)# show spanning-tree interface ' '

```

8.1.22 bpdu src-mac-check

```

Ruijie(config)# bpdu src-mac-check H.H.H
Ruijie(config)# no bpdu src-mac-check

Ruijie(config)# show bpdu src-mac-check H.H.H
Ruijie(config)# no show bpdu src-mac-check H.H.H

Ruijie(config)# clear spanning-tree detected-protocols
Ruijie(config)# clear spanning-tree detected-protocols [interface interface-id]

Ruijie(config)# show spanning-tree detected-protocols
Ruijie(config)# no show spanning-tree detected-protocols

```

8.1.23 clear spanning-tree detected-protocols

```

Ruijie(config)# clear spanning-tree detected-protocols [interface interface-id]

Ruijie(config)# show spanning-tree detected-protocols
Ruijie(config)# no show spanning-tree detected-protocols

```

interface-id 4

đ Ô

```

spanning-tree forward-time '      BridgeForwardDelay ^
spanning-tree hello-time '      BridgeHelloTime ^
spanning-tree max-age '      BridgeMaxAge ^
spanning-tree max-hops '      instance
spanning-tree tx-hold-count '      TxHoldCount ^

```

8.2.2 show spanning-tree interface

STP 4 ^ ↑ ↓ ^

```

show spanning-tree interface interface-id [{bpdufilter | portfast |
bpduguard | link-type } ]

```

ð 4 Ô

```

interface-id ' 4 1
bpdufilter '      bpdufilter      ^
portfast '      portfast      ^
bpduguard '      bpduguard      ^
/link-type '      4 linktype

```

ð 3 Ô

^

ð R Ô

```

Ruijie# show spanning-tree interface gigabitethernet
1/5

```

ð ˆ 3 Ô

```

spanning-tree bpdufilter '      4 BPDU filter BPDU filter      1 ˆ

```



```
instance-id ' Instance 1
```

```
interface-id ' 1 1
```

```
Ø Ø
```

```
Instance 1
```

```
Ø 3 Ø
```

```
Ø R Ø
```

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

```
Ø 3 Ø
```

```
spanning-tree mst configuration ' 1 MST region
```

```
spanning-tree mst cost ' instance
```

```
spanning-tree mst max-hops ' instance
```

```
spanning-tree mst priority : instance "1
```

```
spanning-tree mst port-priority ' instance 1 "1
```

SPAN 3

9.1 monitor session

```
... SPAN 1 2 3 4 .
G 3 no 1 2 3 4
```

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

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

no monitor session all

3 1 0

1	
<i>session_number</i>	SPAN 1 2
source interface <i>interface-id</i>	1 2 <i>interface-id</i> 1 2 3 4 1 2 a 3 4 5 AP SVI 2
destination interface <i>interface-id</i>	1 2 <i>interface-id</i> 1 2 3 4 1 2 a 3 4 5 AP SVI 2
mac source <i>mac-addr</i>	6 MAC
mac destination <i>mac-addr</i>	6 MAC
both acl <i>name</i>	3 4 5 2 acl <i>name/id</i>
rx	1 4 2
tx	1 2
all	1
encapsulation	6 7 8 9 10 tag 11 a

3 3 0

3 G 0

3 R 0

IO R ! show monitor 3 SPAN 1
 00

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

3 0 3 0

'
 [REDACTED]

IP 3

10.1 4 3

4 ↑ 7Ю 3'

- ip address
- ip unnumbered

10.1.1 ip address

3 4 IP ~ 7Ю no 7 4 IP
Â 3 Ю'

ip address *ip-address network-mask* [**secondary**]

no ip address *ip-address network-mask* [**secondary**]

ð 4 Ô

4	
<i>ip-address</i>	32 ~ Æ IP ~ 8 Æ ~ 7Ю 8 Â
<i>network-mask</i>	32 Æ Æ ~ "1" Æ ~ "0" ÿ Æ Â 8 Æ ~ 7Ю 8 Æ ~ Â
secondary	IP Â

ð 4 Ô

4 IP Â

ð 3 Ô

4

ð 6 ' Ô

4 IP ~ 7Ю 4 IP ~ 4
IP ~ 4 7 IP ~ Â

≠ 32 Æ Æ ~ IP Ó Æ
7 Â ~ Æ 7 1 Æ IP Æ Æ
7 ~ Æ 7 0 Æ IP Æ Æ Æ 7 Â
A Æ 7 255.0.0.0 Æ 7Ю ~

Ồ R Ô

$$\partial \quad \tau_{\Omega} \quad \mathfrak{z} \quad \hat{O}$$

Ồ 1 Ô

10.1.2 ip unnumbered

Ồ Ơ Ô

1	
<i>interface-type</i>	Ω 1
<i>interface-number</i>	Ω 1 1

δ α Ô

α Ю 1 1 Â

δ 3 Ô

1

δ 6 ˘ Ô

1 1 1 1 1 IP ~ 1 a 1 IP 1 1
 1 Ω é IP 1 Â 1 1 IP 1
 1 IP 1 Ω 1 IP Â 1 ~ ≠ Ω
 1 IP 1 α 1 1 1 1 Â
 1 1 1 Ю 8
 , 1 1 a 1 1 Â
 , 1 SLIP à HDLC à PPP à LAPB à Frame-relay 1 1
 1 1 Â 1 1 1 1 1
 1 1 Â X.25 a 1 1 1 Â
 , a ping 3 1 1 1 1 1 1
 1 IP Â 1 SNMP 1 1 1 1 Â
 , a 1 1 1 1 Â

δ R Ô

1 Ю 1 1 1 1 1 Ω 1 1 FastEthernet 0/0 Â
 Ω 1 IP Â
 ip unnumbered fastEthernet 0/0

δ Ω 3 Ô

3	
show interface	1 1

δ 1 Ô

3 1 3 a Â

10.2

~

3

~ 3 1 1

MAC ˆ

ˆ ˆ ARP ˆ ˆ a ARP
 ˆ - **clear arp-cache** ˆ ˆ ˆ ARP ˆ

ˆ R ˆ

ˆ ˆ ˆ ˆ ARP ˆ

arp 1.1.1.1 4e54.3800.0002 arpa

ˆ ˆ ˆ ˆ

ˆ	
clear arp-cache	ARP ˆ

10.2.2 arp retry interval

ˆ ˆ ˆ ˆ arp ˆ ˆ ˆ IP
 ˆ ˆ 2 ARP ˆ ˆ ˆ no ˆ ˆ
 ˆ 1 ARP ˆ

arp retry interval *seconds***no arp retry interval**

ˆ ˆ ˆ

ˆ	
<i>seconds</i>	<1-3600>,ARP ˆ ˆ ˆ 1 —3600 ˆ ˆ 1

ˆ ˆ ˆ

ARP ˆ ˆ ˆ

ˆ ˆ ˆ

ˆ

ˆ ˆ ˆ

ˆ ˆ ˆ ARP ˆ ˆ ˆ
 ˆ ˆ ARP ˆ ˆ a ˆ ARP
 ˆ ˆ

ˆ R ˆ

ˆ ˆ ARP ˆ ˆ 30s

arp retry interval 30

IP 3

ð Ω 3 Ô

10.2.4 arp trusted

G 3 J L J a ARP $\hat{\text{A}}$ 3 **no**
 h $\hat{\text{A}}$

arp trusted *number*

no arp trusted

ð ¶ Ô

¶	
<i>number</i>	J L J a ARP , J h $<10-4096>$ $\hat{\text{A}}$

ð ¶ Ô

a J h a J $\hat{\text{A}}$

ð 3 Ô

ŵ

ð G ' Ô

G 3 ' " I U J a ARP ¶ $\hat{\text{A}}$ J a ARP e
 " Ω q J a ' J ¶ ARP a
 $\hat{\text{A}}$ a $\hat{\text{A}}$

ð R Ô

L U J L 1000 J a ARP $\hat{\text{A}}$

arp trusted 1000

ð " Ω 3 Ô

3	
service trustedarp	U J a ARP ¶

10.2.5 arp unresolve

G 3 J L ARP $\hat{\text{A}}$ 3
no J L h 8192 $\hat{\text{A}}$

arp unresolve *number*

no arp unresolve

ð ¶ Ô

~ 4 0 ARP ~ Ω[~]
Ω[~] Â

δ R Ô

~ 4 SVI 1 4 0 ARP Â
Ruijie(config)# **interface vlan 1**
Ruijie(config-if)# **arp gratuitous-send interval 1**
~ 4 SVI 1 4 0 ARP
Ruijie(config)# **interface vlan 1**
Ruijie(config-if)# **no arp gratuitous-send**

δ Ω 3 Ô

10.2.7 arp timeout

ARP 3 ARP ~ 4 3 Â
3 **no** 4 Â

arp timeout seconds

no arp timeout

δ 4 Ô

4	
seconds	~ 4 3 0-2147483

δ 4 Ô

3 3600 Â

δ 3 Ô

Ω

δ G ' Ô

ARP 4 || ~ 1 IP MAC 3 Â
~ ARP 3 4 ~ 4 ARP
3 ~ 4 - Â : ~ 3 a
ARP Â

δ R Ô

~ 4 FastEthernet 0/0 1 || ARP
3 120 Â

```
interface fastEthernet 0/0
arp timeout 120
```

δ Ω 3 Ô

3	
clear arp-cache	ARP ǎ
show interface	4 a

10.2.8 ip proxy-arp

4 3 ǔ 3 ARP 7 ~ 4 7 **ip proxy-arp** 3 Â 3
no 4 7 7 3 ARP 7 Â

ip proxy-arp

no ip proxy-arp

δ α Ô

ǔ 3 ARP Â

δ 3 Ô

4

δ G ˆ Ô

3 ARP 7 4 7 ǁ a ǔ ~ é
IP MAC Â ↑ ARP ~ ARP
4 IP 6 IP a 4 ~ 4
IP ~ 4 ARP ~ MAC ı
7 MAC Â 7 3 ARP 7 Â

δ R Ô

7 7 7 FastEthernet 0 ǔ 3 ARP 7 Â

```
interface fastEthernet 0
ip proxy-arp
```

δ 4 Ô

3 7 3 a Â

10.2.9 service trustedarp

ǔ 4 a ARP 7 ~ 4 7 **service trustedarp** 3 Â 3
no

service trustedarp

no service trustedarp

δ α Ô

Ω ↓ a ARP Â

δ 3 Ô

ω

δ G ' Ô

↓ a ARP 7 ARP 7 ~ 3 ñ GSN
↑ ~ G Â

δ R Ô

∪∪ ~ ω ∪ ∪ service trustedarp 7 Â

config

service trustedarp

δ 4 Ô

3 γ ∪ 1 s32 3 a Â

10.3 IP 3

6 IP Ω 3 ↑ ,

, **clear arp-cache**
, **show arp**
, **show arp counter**
, **show arp timeout**
, **clear ip route**
, **show ip arp**
, **show ip interface**

~ 注意:

∪ ∪ 3 arp a 7 ~ arp Ω 7 7
3 esw Ω 7 ~ . show esw [ip] arp [keyword ...] Â

10.3.1 clear arp-cache

清除 ARP 表项。清除 ARP 表项时，系统会清除所有 ARP 表项。
命令格式：
clear arp-cache

clear arp-cache [A.B.C.D] [interface *interface-name*]


```
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
```

```
ルЮ 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
```

ð ¼ Ô

3 γ ∅ a Â

10.3.3 show arp counter

ARP "Ω arp

show arp counter

ð ¼ Ô

ð 3 Ô

ð R Ô

```
ルЮ ì show arp counter
```

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

ARP ă ¼ Û ⅈ Ю

0 1 0

3 Y 3 a A

10.3.4 show arp timeout

4 || ARP 5

show arp timeout

0 1 0

0 3 0

0 R 0

ЛЮ ÿ **show arp timeout** '

Ruijie# **show arp timeout**

Interface arp timeout(sec)

VLAN 1 3600

ARP

8.6.1.1

~ ^ ARP ~ 3 ^

8.6.1.2

~ ^ ARP ~ 3 ^

8.6.1.3

3	
show ip route	IP

8.6.1.4

3 7 3 a ^

10.3.6 show ip arp

~ ^ ARP ~ 3 ^

show ip arp

8.6.1.5

8.6.1.6

8.6.1.7

~ ^ ARP ~ 3 ^

Ruijie# show ip arp

Protocol	Address	Age(min)	Hardware	Type
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			

ARP ǎ ɹ ʊ̃ ɪ̯ ɯ'

Protocol	Internet
Address	IP
Age (min)	ARP ~ 100 ms
Hardware	IP
Type	ARP
Interface	IP

$$\{ \quad \gamma \quad \exists a \quad \hat{A}$$
$$\{ \Omega \hat{A} \} \quad \text{Ю'}$$

```
Ruijie# show ip redirects
```

Default Gateway: 192.168.195.1

RMON 3

11.1 11.1 3

RMON 1 3

- › **rmon collection stats index** [owner owner-string]
- › **rmon collection history index** [owner owner-string] [buckets bucket-number] [interval seconds]
- › **rmon alarm number variable interval** {absolute | delta } **rising-threshold value** [event-number] **falling-threshold value** [event-number] [owner ownername]
- › **rmon event number** [log] [trap community] [description-string]
- › **show rmon statistics**
- › **show rmon history**
- › **show rmon events**
- › **show rmon alarms**

11.1.1 rmon collection stats

3 1 3 1 3 no 1 1

rmon collection stats index [owner owner-string]
no rmon collection stats index

1 1

1 3 1

1

1 3 1

1 R 1

3 R 1 3 1 1 1 1

Ruijie(config)# **interface fast-Ethernet 0/1**
 Ruijie(config-if)# **rmon collection stats 1 zhansan**

8 R Ô

ルヨ R ~ ㄨ Y || ㄋ' Y ㄐ ㄋ trap Â

Ruijie(config)# **rmon event 1 log trap rmon description**
"ifInNUcastPkts is too much " owner zhangsan

8 ㄒ 3 Ô

3	
---	--

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

ㄒ ~

```
Fragments : 0
Jabbers : 0
Collisions : 0
Pkts64Octets : 128
Pkts65to127Octets : 336
Pkts128to255Octets : 229
Pkts256to511Octets : 3
Pkts512to1023Octets : 0
Pkts1024to1518Octets : 1200
Owner : zhangsan
```

显示命令

命令	说明
rmon collection stats index [owner owner-string]	显示指定索引的统计信息

11.2.2 show rmon history

命令

show rmon history

显示命令

显示命令

显示命令

显示命令

```
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

8 9 3 0

3	
rmon collection history <i>index</i> <i>[owner ownername] [buckets</i> <i>bucket-number] [interval</i> <i>seconds]</i>	7 7 4 8

11.2.3 show rmon alarm

9 Â

3	
rmon event <i>number</i> [log] [trap <i>community</i>] [<i>description-string</i>]	7 Y

Y 1 8 3

12.1 12.1

1 0 1 0 3

- , storm-control
- , switchport protected
- , switchport port-security
- , switchport port-security aging
- , switchport port-security mac-address
- , port-security arp-check

12.1.1 storm-control

1 8 1 2 3 no 1 8
1 2

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

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

1 1 2

broadcast ' 8 11
multicast ' 1 8 11
unicast ' 1 8 11
percent ' 1 20 20%
pps ' 1 11 packets per second
Rate-bps ' 1
64k-2M ' 1 64k 11 11
2-100M ' 1 1M 11 11
100M 1 1 8M 11 11

1 2

1 1 8 11 12

8 9 3 0

3	
show running-config	3 4 7 3 3

8 1 0

10.2 3 1 S32/S37 S25 S57 7 1

12.1.4 switchport port-security

1 3 7 3 1 3 R 1 G 3 no 9
1 3 3 3 R h 1

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

no switchport port-security [violation]

8 1 0

1	
port-security	1 3 9
violation protect	4 R 3 R 1
violation restrict	4 R 3 R 4 trap 1
violation shutdown	4 R 3 1 4 Trap 9 1 1

8 0

1 3 9 1

8 3 0

1

8 6 0

1 1 3 3 8 3 1 MAC
7 1 IP(4) 3 1 1 1 3 1
1 3 7 1) 3 1 3 1
3 1 3 1 1 a 4 1 1 1 3 8
1 3 1 3 3 1 1 1 1
1 3 3 3 1 1 3 1 1

time 8 1 0 3 no switchport
port-security aging static 3 1 0 0
A

G show port-security 3

8 R 0

Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport port-security aging time
8
Ruijie(config-if)# switchport port-security aging
static

8 9 3 0

3	
show port-security	1 0 2 0 A

12.1.6 switchport port-security mac-address

1 0 A G 3 no 1 0
h A

switchport port-security [mac-address mac-address [ip-address
ip-address]] | [maximum value]
no switchport port-security [mac-address mac-address] |
[maximum]

8 1 0

1	
mac-address mac-address	1 0 A
ip-address ip-address	h 0 IP A
maximum value	1 0 A

8 0

! 0

8 3 0

1

8 G ' 0

<http://www.ruijie.com.cn>

0 R 0

Ruijie(config-if)#switchport **port-security arp-check**

0 2 3 0

3	
show port-security	1 0 0 0

0 1 0

S8600

Gi1/1 Disabled Disabled Disabled

$$\partial \quad \tau_{\Omega} \quad \mathfrak{z} \quad \hat{O}$$

3	
storm-control	$\mathcal{N} \quad 8 \quad \tau_{\Omega} \hat{A}$

12.2.2 show port-security

$$\mathcal{N} \quad \check{\omega} \quad \mathfrak{a}_l \quad \check{\omega} \quad \hat{A}$$

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

Ồ 1 Ô

$\mathcal{A}$	
address	$\tilde{\omega} \quad \hat{A} \quad \tilde{\omega} \quad \sim \quad \mathcal{A}$
interface <i>interface-id</i>	$\mathcal{A} \quad \mathcal{A} \quad \tilde{\omega} \quad \mathfrak{a} \quad \hat{A}$

Ô 3 Ô

Ổ G ' Ô

G ʒ a ɲ ʋ ʃ ɰ ă R

a ʊ ɹ ɯ a Â

Ồ R Ô

```
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

 $\tilde{O} \quad {}^{\tau}\Omega \quad \mathfrak{z} \quad \hat{O}$

switchport port-security	R A P V
switchport port-security aging	N E W
switchport port-security	A W A

mac-address	
-------------	--

Б 802.1Х 3

13.1 dot1x ý ||- 3

dot1x ы || 3 ^ лЮ

- › dot1x auto-req
- › dot1x auto-req packet-num
- › dot1x auto-req req-interval
- › dot1x auto-req user-detect

13.1.1 dot1x auto-reg

802.1X ȳ || π ˘ ǫ ȳ dot1x auto-req Â

```
[no] dot1x auto-req
```

Ồ 1 Ô

Ồ Ơ Ô

a ŷ ||

$$\hat{O} \quad \hat{Z} \quad \hat{O}$$
 $\ddot{\omega} \quad \hat{A}$

Ổ G ' Ô

```

y || v 802.1x ~ J L G show dot1x auto-reg

```

3 7

Ồ R Ô

Ю ы ||-ч 802.1x R ' 1

```
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

```

8 9 3 0

3	
show dot1x auto-req	3 4 a

13.1.2 dot1x auto-req packet-num

3 4 ~ no 5 6

```

dot1x auto-req packet-num num
no dot1x auto-req packet-num

```

8 9 0

num 3 4

8 9 0

num = 0; 4

8 3 0

5 6

8 9 0

```

3 4 ~ 4 5 6 show dot1x
auto-req 3 7

```

8 R 0

8 3 4 802.1x R 9

```

Ruijie# configure terminal
Ruijie(config)# dot1x auto-req packet-num 0
Ruijie(config)# end
Ruijie# show dot1x auto-req

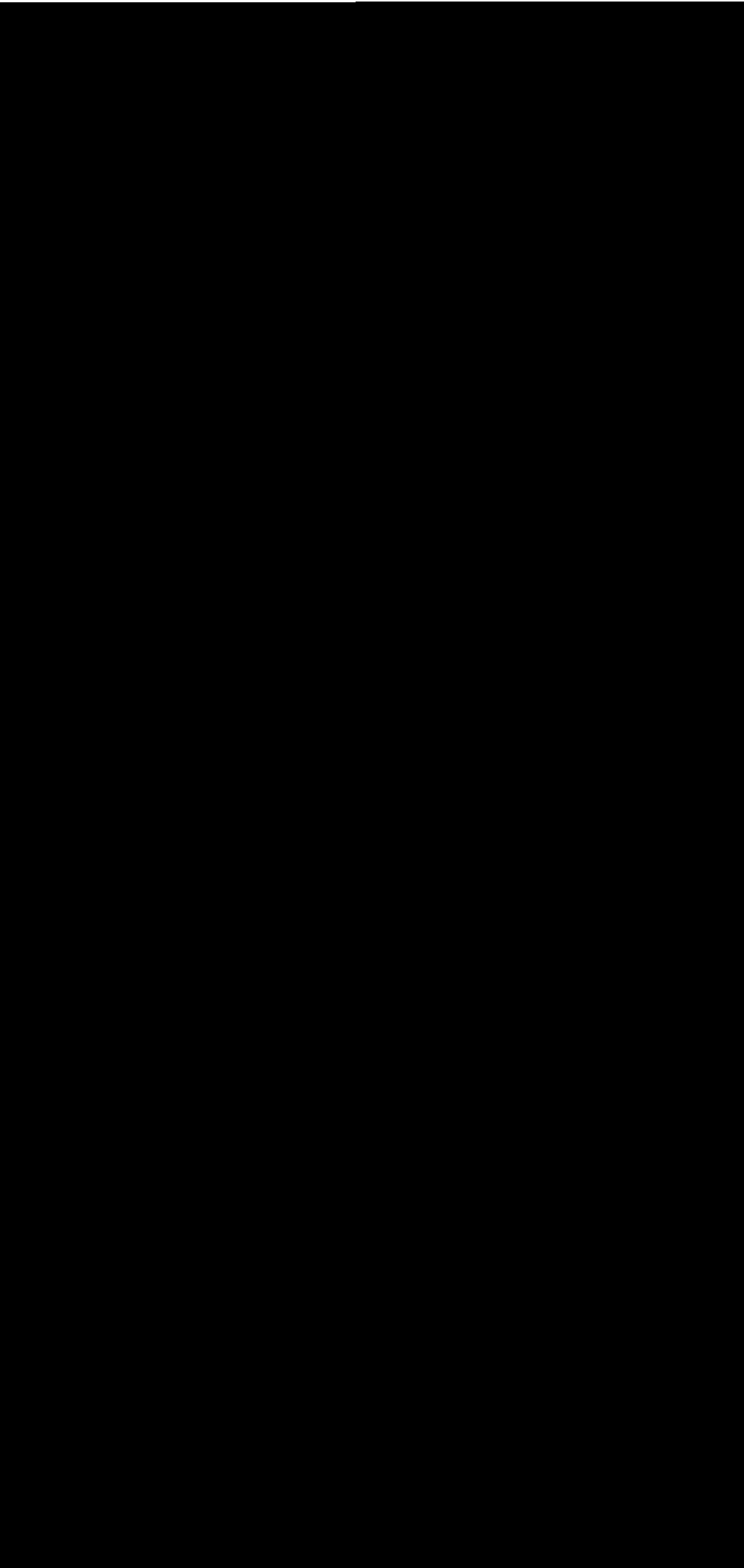
```

```

Auto-Req: Enabled
User-Detect : Enabled
Packet-Num : 0
Req-Interval: 30 Second

```

8 9 3 0



ŷ ||

ə

13.1.4 dot1x auto-req user-detect

~ no h

dot1x auto-req user-detect

no dot1x auto-req user-detect

0 1 Ô

3 1 Â

0 2 Ô

0 3 Ô

ô Â

0 6 Ô

3 1

~ 1 2 6 **show dot1x**

auto-req 3 1

0 R Ô

Ю 3 3 1 1 1 1 1

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

0 3 Ô



- **dot1x timeout server-timeout**
- **dot1x timeout supp-timeout**
- **dot1x timeout tx-period**

13.2.1 dot1x timeout quiet-period

802.1X 3 ^ R 4 3 ~ 11 ĭ
^ ~ Â G 3 no ĭ ĥ

dot1x timeout quiet-period *seconds*

no dot1x timeout quiet-period

ð 1 Ô

seconds' 11 ĭ Â ĥ
0 ĭ 65535 Â' Æ S

ð 4 Ô

ĥ 10 Â

ð 3 Ô

ŵ Â

ð G ' Ô

11 a ĭ . 4 ~ Â 4
11 G **show dot1x** 3 Â

ð R Ô

Ю ĭ 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
```

$$\partial \quad \tau_{\Omega} \quad \{ \quad \hat{O}$$

3	
show dot1x	802.1x a

13.2.2 dot1x timeout re-authperiod

$\tilde{\Omega}$ $\mathcal{M}^G$ $\mathfrak{z}$
 $\hat{A}^G$ $\mathfrak{z}$ **no** $\mathfrak{y}$
 $\mathfrak{h} \hat{A}$

dot1x timeout re-authperiod *seconds*

no dot1x timeout re-authperiod

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seconds' $\hat{A} \cdot \hat{h}$ 0 65535 $\hat{A}'$ $\hat{A} \in \mathcal{S} \hat{A}$

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3600

0 3 0

 $\hat{\omega} \quad \hat{A}$

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↓ ∪^G **show dot1x** } 802.1x Â

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Ю й 1000s'

```
Ruijie# configure terminal
```

```
Ruijie(config)# dot1x timeout re-authperiod 1000
```

```
Ruijie(config)# end
```

```
Ruijie# show dot1x
```

```
802.1X Status:      Enabled
```

Authentication Mode: EAP-MD5

Authed User Number: 0


```

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:    3 sec
Supplicant Timeout: 3 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

```

8 9 3 0

3	
show dot1x	802.1x 2

13.2.4 dot1x timeout supp-timeout

3 2 6 3 no

dot1x timeout supp-timeout *seconds*

no dot1x timeout supp-timeout

8 1 0

seconds 65535 0

8 2 0

3 3 2

8 3 0

3 2

8 6 0

3 802.1x 2

8 R 0

10 10s


```

Ruijie# configure terminal
Ruijie(config)# dot1x timeout supp-timeout 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:     3 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

```

8 2 3 0

3	
---	--

show dot1x

802.1x

2

dot344 4Tf-0344 41 16333C

↓ 图 3-1-1 show dot1x 3 802.1x 的显示

图 3-1-1

```

Ruijie# configure terminal
Ruijie(config)# dot1x timeout tx-period 10
Ruijie(config)# end
Ruijie# show dot1x

802.1X Status:      Enabled
Authentication Mode: EAP-MD5
Authenticated 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
  
```

图 3-1-2

3	
show dot1x	802.1x 的显示

13.3 dot1x 3

图 3-1-2

- dot1x re-authentication
- dot1x reauth-max

13.3.1 dot1x re-authentication

图 3-1-3 的显示

[no] dot1x re-authentication

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3 Of.RTgF3D)A#B.D0A6cVp8cVpa3#B3PF3gF4HgF80c3VqXEg

```
Ruijie(config)# dot1x probe-timer alive 120
Ruijie(config)# end
Ruijie# show dot1x probe-timer
```

```
Hello Interval: 30 Seconds
Hello Alive: 120 Seconds
```

8 9 3 0

3	
Show dot1x probe-timer	

13.4.2 dot1x client-probe enable

11

[no] dot1x client-probe enable

8 1 0

11

8 2 0

9

8 3 0

0 1

8 4 0

11 9

8 5 0

11

```
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
Re-authen Max: 5 times
Maximum Request: 3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Enabled
Eapol Tag Enable: Disabled
Authorization Mode: Group Server

```

8 9 3 0

3	
show dot1x	dot1x

13.5 dot1x è 3

```

è dot1x ↑ 3
, dot1x authentication
, dot1x auth-address-table
, dot1x auth-mode
, dot1x default
, dot1x dynamic-vlan enable
, dot1x eapol-tag
, dot1x max-req
, dot1x private-supplicant-only
, dot1x port-control auto
, dot1x port-control-mode
, dot1x stationarity enable

```

13.5.1 dot1x authentication

```

AAA 3 10 " 3 AAA 3 3 G
3 9 " 3 no 3
3

```

```

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

```

8 1 0

```

default " 3

```

list-name' ↓ " ↓

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AAA ~ ‡ G AAA L Â

δ 3 Ô

∕ Â

δ G ' Ô

Ü AAA ŵ L ‡ 3 dot1x G 8 "

δ R Ô

Ю R ∕ ∅ Ω " group radius Â

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**

Ruijie#

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3	
aaa new-model	G AAA ŵ L
aaa authentication dot1x	"

13.5.2 dot1x auth-address-table

3 802.1X ĭ Â G 3 **no** † ↓

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

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

δ ∕ Ô

mac-addr' ↓ Â

Interface' ∕ ∕ Â

δ α Ô

h ! 4 Â

ð 3 Ô

↓ 图 6-13 **show dot1x** 3 802.1x

8 R 0

```

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

```

8 图 6-14 3 0

3	
show dot1x	802.1x 表 6-1

13.5.4 dot1x default

802.1x 1 1 h 表 6-1

dot1x default

8 1 0

3 1 表 6-1

8 表 6-1 0

8 3 0

表 6-1 表 6-1

8 图 6-15 0

↓ 图 6-15 **show dot1x** 3 802.1x 表 6-1

8 R 0

```

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

```

8 图 6-16 3 0

3	
show dot1x	802.1x 表 6-1

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↓ ∪ G **show dot1x** 3 802.1x Â

ð R Ô

Ю 802.1X tag R ´

Ruijie# **configure terminal**

Ruijie(config)# **dot1x eapol-tag**

Ruijie(config)# **end** Ruijie(config)#

```

Ruijie# configure terminal
Ruijie(config)# dot1x max-req 7
Ruijie(config)# end
Ruijie#

```

3.5.8 802.1X

命令	作用
show dot1x	显示 802.1X 配置

13.5.8 dot1x private-supplicant-only

```

Ruijie# no dot1x private-supplicant-only
Ruijie#

```

```

dot1x private-supplicant-only
no dot1x private-supplicant-only

```

3.5.8 802.1X

命令

3.5.8 802.1X

命令

3.5.8 802.1X

命令

3.5.8 802.1X

```

Ruijie# show dot1x private-supplicant-only
Ruijie#

```

3.5.8 802.1X

```

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

```

3.5.8 802.1X

命令	作用
show dot1x private-supplicant-only	显示 802.1X 配置

13.5.9 dot1x port-control auto

配置命令如下：

```

Ruijie(config-if)# dot1x port-control {auto | no auto}

```

dot1x port-control auto

no dot1x port-control

命令作用：

配置命令如下：

命令作用：

配置命令如下：

命令作用：

配置命令如下：

命令作用：

配置命令如下：

命令作用：

配置命令如下：

Ruijie# **configure terminal**

Ruijie(config)# **interface g0/1**

Ruijie(config-if)# **dot1x port-control auto**

Ruijie(config-if)# **end**

Ruijie#

命令作用：

命令	作用
show dot1x	显示 802.1x 配置信息

13.5.10 dot1x port-control-mode

配置命令如下：

```

Ruijie(config-if)# dot1x port-control-mode {mac-based | port-based}

```

dot1x port-control-mode {mac-based | port-based}

no dot1x port-control-mode

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mac-based [†]	mac	802.1X	8
port-based [†]	✓	802.1X	8

$$\tilde{O} \quad \alpha \hat{O}$$

mac-based 8

$$\tilde{O} \quad \mathfrak{z} \quad \hat{O}$$
 $\hat{A}$

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1. **show dot1x port-control** 3 4 802.1x 5
 2. 6 7 802.1X 9 a 10
 3. 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000 1001 1002 1003 1004 1005 1006 1007 1008 1009 1010 1011 1012 1013 1014 1015 1016 1017 1018 1019 1020 1021 1022 1023 1024 1025 1026 1027 1028 1029 1030 1031 1032

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```

Ruijie(config)# interface g 0/1
Ruijie(config-if)# dot1x port-control auto
Ruijie(config-if)# dot1x port-control-mode
port-based
Ruijie(config-if)# end
Ruijie#

```

$$\partial \quad \tau_{\Omega} \quad \mathfrak{z} \quad \hat{O}$$

3	
show dot1x port-control	

13.5.11 dot1x stationarity enable

802.1x Ч 8 Ю а Ю || ↓ Л А Ч
 а Ю и а ў 802.1X Ч ↑
È Ч ↓ Л ЛЮ з î Â

dot1x stationarity enable

no dot1x stationarity enable

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$\dot{N}$ || $\downarrow \cup$ $\downarrow$ $\downarrow$

$\dot{O}$ 3 $\dot{O}$

$\dot{\omega}$ $\hat{A}$

$\dot{O}$ G $\dot{O}$

$\dot{m}$ $\dot{z}$ $\dot{i}$ $\dot{z}$ $\hat{A}$

$\dot{O}$ R $\dot{O}$

$\dot{O}$ $\dot{A}$ 802.1x $\dot{A}$ 6 R $\dot{A}$

Ruijie# **configure terminal**

Ruijie(config)# **dot1x stationarity enable**

Ruijie(config)# **end**

Ruijie#

$\dot{O}$ $\dot{\Omega}$ 3 $\dot{O}$

13.6 dot1x 3

$\dot{O}$ **show dot1x**
 $\dot{O}$ **show dot1x auth-address-table**
 $\dot{O}$ **show dot1x auto-req**
 $\dot{O}$ **show dot1x private-suppllicant-only**
 $\dot{O}$ **show dot1x max-req**
 $\dot{O}$ **show dot1x port-control**
 $\dot{O}$ **show dot1x probe-timer**
 $\dot{O}$ **show dot1x re-authentication**
 $\dot{O}$ **show dot1x reauth-max**
 $\dot{O}$ **show dot1x summary**
 $\dot{O}$ **show dot1x timeout**
 $\dot{O}$ **show dot1x user id**

13.6.1 show dot1x

802.1x $\dot{a}$ $\hat{A}$

show dot1x

$\dot{O}$ $\dot{A}$ $\dot{O}$

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Ю R '

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#

```

ð ¢ 3 Ô

3	
dot1x auth-mode	802.1x Â
dot1x max-req	ĩ Â
dot1x port-control auto	1 ĩ 1 ¶ Â
dot1x reauth-max	
dot1x re-authentication	ĩ Â

dot1x max-req	1 ~ 10000
dot1x port-control auto	enable disable auto
dot1x reauth-max	1 ~ 10000
dot1x re-authentication	enable disable
dot1x timeout quiet-period	1 ~ 10000
dot1x timeout re-authperiod	1 ~ 10000
dot1x timeout server-timeout	1 ~ 10000
dot1x timeout supp-timeout	1 ~ 10000
dot1x timeout tx-period	1 ~ 10000

13.6.3 show dot1x auto-req

显示 802.1x 认证配置

show dot1x auto-req

显示 802.1x 认证配置

1

显示 802.1x 认证配置

1

显示 802.1x 认证配置

1

显示 802.1x 认证配置

1

显示 802.1x 认证配置

1 1

Ruijie# **show dot1x auto-req**

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

8 9 3 0

Ruijie#

$$\tilde{0} \quad \tilde{\omega} \quad \tilde{\omega} \quad \tilde{0}$$

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

13.6.5 show dot1x max-req

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```
show dot1x max-req
```

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4

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 $\hat{A}$

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 $\hat{A}$

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 $\hat{A}$

Ồ R Ô

Ю R

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

8 9 3 0

3	
dot1x auth-mode	802.1x Â
dot1x max-req	ĩ Â
dot1x port-control auto	4 ĩ 4 ¶ Â
dot1x reauth-max	
dot1x re-authentication	Â ĩ
dot1x timeout quiet-period	1† ĩ Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â ¤
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

13.6.6 show dot1x port-control

4 6 4 Â

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

8 4 0

```
interface 4
```

8 4 0

Â

8 3 0

Â

8 6 0

Â

8 R 0

Ю R '

Ruijie#

802.1X 3

802.1X 3

802.1X 3

802.1X 3

802.1X 3

Ruijie# show dot1x probe-timer

Hello Interval: 20 Seconds

Hello Alive: 250 Seconds

Ruijie#

802.1X 3

802.1X 3	802.1X 3
dot1x auth-mode	802.1X 3
dot1x max-req	802.1X 3
dot1x port-control auto	802.1X 3
dot1x reauth-max	802.1X 3
dot1x re-authentication	802.1X 3
dot1x timeout quiet-period	802.1X 3
dot1x timeout re-authperiod	802.1X 3
dot1x timeout server-timeout	802.1X 3
dot1x timeout supp-timeout	802.1X 3
dot1x timeout tx-period	802.1X 3

13.6.8 show dot1x re-authentication

show dot1x re-authentication

显示配置

配置

显示配置

配置

显示配置

配置

显示配置

配置

显示配置

配置

Ruijie# show dot1x re-authentication

reauth-enabled: disabled

Ruijie#

显示配置

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

13.6.9 show dot1x reauth-max

show dot1x reauth-max

显示配置

配置

显示配置

配置

显示配置

配置

显示配置

显示配置

配置

Ruijie# show dot1x reauth-max

reauth-max: 2 times

Ruijie#

显示配置

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

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

13.6.10 show dot1x summary

3 802.1X 2

show dot1x summary

0 1 0

Â

0 2 0

Â

0 3 0

Â

0 4 0

0 R 0

10 R 1

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#

0 5 0

3	
dot1x auth-mode	802.1x Â
dot1x max-req	ĩ Â
dot1x port-control auto	4 ĩ 4 ¶ Â
dot1x reauth-max	

dot1x re-authentication	Â ³
dot1x timeout quiet-period	Â ³
dot1x timeout re-authperiod	Â

· dot1x timeoutserver-ttimeouX ·

Â

```

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 privilege is 2

```

```
Ruijie#
```

8 9 3 0

3	
dot1x auth-mode	802.1x Â
dot1x max-req	ĩ Â
dot1x port-control auto	¶ ĩ ¶ ¶ Â
dot1x reauth-max	
dot1x re-authentication	Â ĩ
dot1x timeout quiet-period	¶ ĩ Â
dot1x timeout re-authperiod	Â
dot1x timeout server-timeout	Â ¶
dot1x timeout supp-timeout	Â
dot1x timeout tx-period	Â

13.6.12 show dot1x timeout

```
3 802.1X ¶ 8
```

```

show dot1x timeout quiet-period
show dot1x timeout re-authperiod
show dot1x timeout server-timeout
show dot1x timeout supp-timeout
show dot1x timeout tx-period

```

8 ¶ 0

AAA 3

14.1 3

aaa authentication

14.1.1 aaa authentication

AAA 3 aaa authentication
" A 3 no 1 " A

aaa authentication {dot1x | enable | ppp | login} {default | list-name} method1 [method2...]

no aaa authentication {dot1x | enable | ppp | login} {default | list-name}

1 1

default ' G 1 1 1 " 1 1
A

list-name ' 1 " 1 1 1 A

dot1x ' Dot1x

enable ' Enable

ppp ' PPP

login ' Login

method ' 1 1 " 1 1 " 4 A

1 AAA

3	
local	G 1
none	a
group	G 1 1 1 1 RADIUS 1

1 1

default " 1 1

aaa authentication {dot1x | enable | ppp | login} default group radius

14.3 配置

RGOS 中 配置 RADIUS 认证、计费、授权

```

, aaa accounting network
, aaa accounting update
, aaa accounting update periodic
, show aaa method-list
, debug aaa

```

14.3.1 aaa accounting network

配置 aaa accounting network 命令，用于配置 RADIUS 计费。该命令在系统视图下使用。

```

aaa accounting network {default | list-name} start-stop group
radius
no aaa accounting network {default | list-name}

```

命令格式

```

network 'radius' {default | list-name} start-stop group
resource 'radius' {default | list-name}
list-name 'radius' {default | list-name}
start-stop 'radius' {default | list-name}
group 'radius' {default | list-name}
radius 'radius' {default | list-name}

```

命令参数

radius

命令选项

radius

命令缺省值

```

RGOS 中 配置 RADIUS 认证、计费、授权
start-stop 'radius' {default | list-name}

```

命令说明

RGOS 中 配置 RADIUS 认证、计费、授权

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

δ Ω 3 Ô

3	
aaa new-model	G AAA ũ Ł
aaa authorization network	ℙ AAA
aaa authentication	ℙ AAA
username	ℙ

14.3.2 aaa accounting update

```

    ũ      ℙ      ũ      3 aaa accounting update
3~      3      G      ũ      Â G      3      no      Ω
    ℙ      Â

```

```
aaa accounting update
no aaa accounting update
```

δ 1 Ô

1

δ α Ô

ℙ Ω Â

δ 3 Ô

ũ Â

δ G ' Ô

```

    ũ      AAA      ũ      Ł      ‡      a      G      Â      ũ      AAA
ũ      Ł      ‡      3      Â

```

δ R Ô

Ю R G Â

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

δ Ω 3 Ô

3	
aaa new-model	AAA ũ Ł

aaa accounting network	177	“
------------------------	-----	---

14.3.3 aaa accounting update periodic

periodic **aaa accounting update**

aaa accounting update periodic *interval*

no aaa accounting update periodic

Ồ 1 Ô

$$interval \quad \sim \quad \text{Л}^{\times} \quad \text{и}^{\prime} \quad \text{Æ}^{\sim} \quad \text{и} \quad 1^{\times} \quad \hat{A}$$

Ồ Ơ Ô

5 minutes Â

Ồ 3 Ô

 $\hat{\omega} \quad \hat{A}$

Ồ G ' Ô

$$\begin{array}{ccccccc} & \textcircled{0} & \text{AAA} & \textcircled{0} & \textcircled{0} & \neq a & \textcircled{0} & \hat{A} & \textcircled{0} & \text{AAA} \\ \textcircled{0} & \textcircled{0} & \neq & \textcircled{0} & & & & \hat{A} & & \end{array}$$

Ồ R Ô

$$\mathbb{Y} \quad \mathbb{R} \quad 1^* \quad \hat{A}$$

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

```
Ruijie(config)# aaa accounting update
```

```
Ruijie(config)# aaa accounting update periodic 1
```

Ồ Ồ Ồ

3	
aaa new-model	AAA ō Ł
aaa accounting network	łŁ "

14.3.4 show aaa method-list

EXEC 3

⑧ 1 ①

Ω 1 Â

⑧ 3 ①

EXEC Â

⑧ R ①

Ruijie# show aaa method-list

14.4 AAA 4 3

- show aaa group
- aaa group server
- server ip-addr authen-port port1 acct-port port2
- ip vrf forwarding

14.4.1 show aaa group

AAA 4 Â

show aaa group

⑧ 1 ①

3 1 Ω Â

⑧ α ①

⑧ 3 ①

Â

⑧ G ' ①

3 AAA 8 4 Â

⑧ R ①

Ю R Â

Ruijie# show aaa group

Group Name: ss

Group Type: radius

Referred: 2

Server List:

IP Address: 192.168.217.64

Authentication Port: 1812
 Accounting Port: 1813
 Referred: 1
 Ruijie#

δ Ω 3 Ô

3	
aaa group server	AAA Ǝ

14.4.2 aaa group server

ω AAA Ǝ Â 3 no 7 Ǝ Â

g51 1r70C3C34F7c 0/50 gsB/s1 Tf-050004 Tc 0.051 0 T 10.580 0 1<43

14.4.3 server *ip-addr* authen-port *port1* acct-port *port2*

AAA 1 1 ~ no 1 Â

server *ip-addr* [authen-port *port1*] [acct-port *port2*]

no server *ip-addr* [authen-port *port1*] [acct-port *port2*]

1 1 1

ip-addr ' 1 ip

port1 ' 1 1

port2 ' 1 1

1 1 1

1

18 AFC]]

aaa group server	aaa 1
show aaa group	aaa 1

14.4.4 ip vrf forwarding

在 AAA 1 下配置 vrf no 1 的

ip vrf forwarding vrf_name

no ip vrf forwarding

1 1 1

vrf_name 1 vrf 1

1 1 1

1 1 1

1 1

1 1 1

在 1 下配置 vrf 1

1 1 1

1 1 1

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**

Ruijie#

1 1 1

1	
aaa group server	aaa 1
show aaa group	aaa 1

14.5 AAA 1 3

1 **aaa new-model**

1 **debug aaa**

1 **show aaa method-list**

14.5.1 aaa new-model

```

G RGOS AAA ǒ ⚭ ǒ 3 aaa
new-model G AAA Â 3 no ǒ AAA ǒ ⚭ Â

```

```
aaa new-model
```

```
no aaa new-model
```

ǒ 1 Ô

```
3 1 ǒ Â
```

ǒ ǫ Ô

```
ǒ AAA ǒ ⚭
```

ǒ 3 Ô

```
ǒ Â
```

ǒ G ' Ô

```

3 AAA G 3~ G AAA ǒ ⚭ G
aaa new-model G AAA ǒ ⚭ Â ǒ AAA~ ‡ AAA
3 a ↓ Â

```

ǒ R Ô

```
Ю R G AAA ǒ ⚭ Â
```

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

ǒ ǒ 3 Ô

3	
aaa authentication	✖ "

14.5.2 debug aaa

```
AAA ⚭ ǒ Â 3 no ǒ ǒ Â
```

```
debug aaa
```

```
no debug aaa
```

ǒ 1 Ô

```
1 ǒ Â
```

ǒ 3 Ô

```
EXEC Â
```

14.5.3 show aaa method-list

AAA " Â

show aaa method-list

ð 1 Ô

3 1 Ω Â

ð α Ô

ð 3 Ô

Â

ð G ' Ô

3 AAA " Â

ð R Ô

Ю R 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 authorizing network default group radius

Ruijie#

ð Ω 3 Ô

3	
aaa authentication	℔ " "
aaa authorization	℔ " "
aaa accounting	℔ " "

RADIUS 3

15.1 RADIUS 3

RADIUS ↑ 3

- › **ip radius source-interface**
- › **radius-server host**
- › **radius-server key**
- › **radius-server retransmit**
- › **radius-server timeout**
- › **radius-server dead-time**
- ›

o ñ radius ~ 3 b G Â

ð R Ô

Ю R radius ÿ fastEthernet 0/0 ¼ ¼ ip o
ñ radius

Ruijie(config)# **ip radius source-interface**
fastEthernet 0/0

ð Ʊ 3 Ô

3	
radius-server host	Ɔ RADIUS ¼
ip address	¼ ip

15.1.2 radius-server host

RADIUS Ɔ ¼ ÿ ~ Ɔ 3 radius-server Â
3 **no** Ɔ RADIUS Ɔ ¼ ÿ Â

radius-server host {hostname | ip-address} [auth-port port-number]
[acct-port port-number]
no radius-server host {hostname | ip-address}

ð ¼ Ô

hostname	RADIUS Ɔ ¼ ÿ DNS ¼ Â
Ip-address	RADIUS Ɔ ¼ ÿ IP Â
Auth-port	RADIUS UDP ¼
Port-number	RADIUS UDP ¼ ¼~ ñ Ɔ ‡ ÿ a Â
Acct-port	Radius UDP ¼
Port-number	RADIUS UDP ¼ ¼~ ñ Ɔ ‡ a Â

在配置 RADIUS AAA 时，需要指定 RADIUS 服务器的 IP 地址。
 在 Ruijie 设备上配置 RADIUS 服务器的命令如下：

配置 RADIUS

在 Ruijie 设备上配置 RADIUS 服务器的命令如下：

```
Ruijie(config)# radius-server host 192.168.12.1
```

配置 RADIUS

配置项	说明
aaa authentication	配置 AAA 认证
radius-server key	配置 RADIUS 服务器的共享密钥
radius-server retransmit	配置 RADIUS 服务器的重传次数
radius-server timeout	配置 RADIUS 服务器的超时时间

15.1.3 radius-server key

```
Ruijie(config)# radius-server key aaa
```

no radius-server retransmit

3	
radius-server host	⌘ RADIUS ǒ ƚ ǎ
radius-server key	⌘ RADIUS "Ω ƚ 3
radius-server timeout	⌘ RADIUS

15.1.5 radius-server timeout

↓ RADIUS ǒ ƚ ǎ ǎ
3 radius-server timeout ǎ 3 no ǎ ǎ ǎ

radius-server timeout *seconds*

no radius-server timeout

ǎ ƚ ǎ

seconds ǎ ǎ ǎ ǎ ǎ ǎ ǎ ǎ 1-1000 ǎ

ǎ ǎ ǎ

5

ǎ 3 ǎ

ǎ ǎ

ǎ ǎ ǎ

ǎ 3 ǎ ǎ

ǎ R ǎ

ǎ R ǎ ǎ 10 ǎ

Ruijie(config)# **radius-server timeout 10**

ǎ "Ω 3 ǎ

3	
radius-server host	⌘ RADIUS ǒ ƚ ǎ
radius-server retransmit	⌘ RADIUS ǎ
radius-server key	⌘ RADIUS "Ω ƚ 3

15.1.6 radius-server deadtime

radius-server deadtime *minutes* | no radius-server deadtime

radius-server deadtime minutes

no radius-server deadtime

1. 配置

minutes 取值范围：1-1000

2. 缺省

5

3. 查看

display radius-server deadtime

4. 恢复缺省

radius-server deadtime 5

5. 配置示例

Ruijie(config)# radius-server deadtime 10

6. 配置参数

参数	说明
radius-server host	RADIUS 服务器地址
radius-server retransmit	RADIUS 服务器重传次数
radius-server key	RADIUS 服务器密钥
radius-server timeout	RADIUS 服务器超时时间

15.1.7 radius attribute

radius attribute { <id> | down-rate-limit | dscp | mac-limit | up-rate-limit } vendor-type <type>

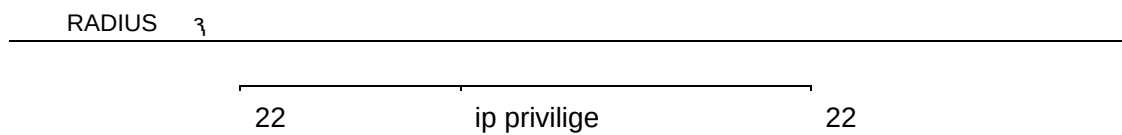
**no radius attribute {<id>|down-rate-limit | dscp | mac-limit |
up-rate-limit} vendor-type**

**no radius attribute {<id>|down-rate-limit | dscp | mac-limit |
up-rate-limit} vendor-type**

id ' ' id <1-255>
type ' ' type

**no radius attribute {<id>|down-rate-limit | dscp | mac-limit |
up-rate-limit} vendor-type**

~ ~ ~



RADIUS 3			
	ω	Â	
ð G ' Ô	G	3	h Â
ð R Ô	Ю	R max up-rate	h 211'

3	
radius vendor-specific extend	Radius 3 id

15.1.9 radius vendor-specific extend

3 id

```
, show radius vendor-specific
```

15.2.1 debug radius

```
RADIUS 1000000000 no RADIUS 1000000000
```

```
debug radius [event | detail]
```

```
no debug radius [event | detail]
```

```
0 1 0
```

```
1 1000000000
```

```
0 3 0
```

```
EXEC 1000000000
```

15.2.2 show radius server

```
RADIUS 1000000000 1000000000
```

```
show radius server
```

```
0 1 0
```

```
1000000000
```

```
0 1000000000
```

```
0 3 0
```

```
1000000000
```

```
0 1000000000
```

```
1000000000 1000000000 radius 1000000000 1000000000
```

```
0 1000000000
```

```
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

```

配置示例

配置项	配置值
radius-server host	192.168.4.13
radius-server retransmit	3
radius-server key	1234567890123456
radius-server timeout	5

15.2.3 show radius parameter

配置示例

show radius parameter

配置示例

配置示例

配置示例

配置示例

配置示例

配置示例

配置示例

配置示例

```

Ruijie# show radius parameter
Server Timeout: 5 Seconds

```

3	
radius-server host	✕ RADIUS ǒ 𐀀 ǎ
radius-server retransmit	✕ RADIUS 𐀀
radius-server key	✕ RADIUS 𐀀 𐀀 3
radius-server timeout	✕ RADIUS

15.2.4 show radius vendor-specific

RADIUS 𐀀

show radius vendor-specific

𐀀 𐀀 𐀀

𐀀

𐀀 𐀀 𐀀

𐀀 3 𐀀

𐀀

𐀀 𐀀 𐀀

𐀀 3 radius

𐀀 R 𐀀

```
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
9   file-directory        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	75
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 privilege	22
23	login privilege	42
24	limit to user number	50

8 9 3 0

3	
radius-server host	8 RADIUS 0 1 3
radius-server retransmit	8 RADIUS 4
radius-server key	8 RADIUS "9 1 3
radius-server timeout	8 RADIUS

16.1

CoS h	0
"	8
"	WRR
QueueWeight	1:1:1:1:1:1:1:1
WRR Weight Range	1:15
DRR Weight Range	1:15
a	No Trust

CoS h	0	1	2	3	4	5	6	7
"	1	2	3	4	5	6	7	8

CoS ħ	0	1	2	3	4	5	6	7
DSCP ħ	0	8	16	24	32	40	48	56

<http://www.ruijie.com.cn>

IP-Precedence	0	1	2	3	4	5	6	7
DSCP	0	8	16	24	32	40	48	56

⑧ 1 ①

```
S2900 " 1 cos dscp
S8600 " 1 cos dscp ip-precedence
```

16.2.2 mls qos cos

1 CoS h

```
mls qos cos default-cos
no mls qos cos
```

⑧ 1 ①

```
default-cos h 0 7
no h
```

⑧ ①

CoS h h 0

⑧ 3 ①

1

⑧ R ①

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mls qos cos 7
```

⑧ ② 3 ①

```
show mls qos interface interface-id
```

16.2.3 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
access-list acl-id " 3 1 ACL ②
```

... class map ③ class map

```
[no] class-map class-map-name
```

... class map ④ ⑤

[no] match access-group *acl-name*| *acl-id*

ð 1 Ô

acl-name ' ... ACL 1
acl-id ' ... ACL id
class-map-name ' ... class map 1
no class-map *class-map-name* ' 1 class map
no match access-group *acl-name*| *acl-id* ' 1 1

ð 3 Ô

ω

ð R Ô

... MAC ACL, 1 me
 Ruijie(config)# **mac access-list extended** *me*
 ACL ‡
 Ruijie(config-ext-macl)# **permit host** *1111.2222.3333*
any
 ACL
 Ruijie(config-ext-macl)# **exit**
 ... class-map, 1 cm
 Ruijie(config)# **class-map** *cm*
 Ω ACL
 Ruijie(config-cmap)# **match access-group** *me*
 class-map
 Ruijie(config-cmap)# **exit**

ð Ω 3 Ô

show mac access-lists
show ip access-lists
show class-map

ð 1 Ô

S2900 " S8600 "

16.2.4 Policy Maps

... policy map *policy-map-name* **policy-map**

[no] policy-map *policy-map-name*

... policy map *class-map-name* **class-map** *class-map-name* **class**

[no] class *class-map-name*

IP *ip-dscp* **ip dscp** *new-dscp*

set ip dscp *new-dscp*

no set ip dscp

rate-bps *burst-byte* **police** *rate-bps* *burst-byte* **police** *rate-bps* *burst-byte*

police *rate-bps* *burst-byte* **police** *rate-bps* *burst-byte* **police** *rate-bps* *burst-byte*

no police

3 1 0

policy-map-name **policy-map** *policy-map-name* **policy-map**

no policy-map *policy-map-name* **no policy-map** *policy-map-name*

class-map-name **class-map** *class-map-name* **class-map**

no class *class-map-name* **no class** *class-map-name*

new-dscp **new-dscp** *new-dscp* **new-dscp** *new-dscp*

rate-bps **rate-bps** *rate-bps* **rate-bps** *rate-bps*

burst-byte **burst-byte** *burst-byte* **burst-byte** *burst-byte*

drop **drop** *drop* **drop** *drop*

dscp-value **dscp-value** *dscp-value* **dscp-value** *dscp-value*

3 3 0

0

dscp h n 10

Ruijie(config-pmap-c)# **set ip dscp 10**

n 1M, n 4096k, || c n dscp 16

Ruijie(config-pmap-c)# **police 1000000 4096**
exceed-action dscp 16

δ Ω 3 Ô

show policy-map

δ 1 Ô

S2900 " S8600 "

16.2.5 service-policy

policy map ↑ 1 3

service-policy {input | output} policy-map-name
no service-policy {input | output}

δ 1 Ô

policy-map-name ' ... policymap ↓
no ' policy map 1 3

δ 3 Ô

1

δ R Ô

Ruijie(config)# **interface fastEthernet 0/1**
Ruijie(config-if)# **service-policy input po**

δ Ω 3 Ô

show mls qos interface

δ 1 Ô

S2900 " 1 input
S8600 " 1 input output

16.2.6 priority-queue

"

[no] priority-queue [out]

④ ① ②

priority-queue [out] " " SP (S2900 " " ,S8600 ")

no priority-queue [out] " " WRR

④ ②

" " WRR

④ ③ ②

ω

④ R ②

Ruijie(config)# **no priority-queue out**

④ Ω ③ ②

show mls qos queueing

16.2.7 wrr-queue bandwidth

WRR " R

wrr-queue bandwidth *weight1 ... weightn*

no wrr-queue bandwidth

④ ① ②

weight1...weightn " n " h~ n h 1 √ h

no ' h

④ ②

weight1: ...: weightn = 1:...:1

④ ③ ②

ω

④ R ②

Ruijie(config)# **wrr-queue bandwidth 1 2 3 4 5 6 7 8**

④ Ω ③ ②

show mls qos queueing

④ ④ ②

S2900 " S8600 " ¶ a ¶

16.2.8 wrr-queue cos-map

" Ω CoS h

wrr-queue cos-map *qid cos0* [

⑧ 3 ①

ω

⑧ R ①

```
Ruijie(config)# mls qos map cos-dscp 8 10 16 18 24 26
32 34
```

⑧ Ω 3 ①

```
show mls qos maps          dscp-cos maps,dscp-cos maps
ip-prec-dscp maps
```

⑧ 4 ①

S2900 " S8600 "

16.2.10 mls qos map dscp-cos

ǻ DSCP h ↑ CoS h

```
mls qos map dscp-cos dscp-list to cos
```

```
no mls qos map dscp-cos
```

⑧ 4 ①

```
dscp-list ' 4 h 7 a 4 a 4
```

```
cos ' 4 h 0 7
```

```
no ' h
```

⑧ ①

⑧ 3 ①

ω

⑧ R ①

```
Ruijie(config)# mls qos map dscp-cos 8 10 16 18 to 0
```

⑧ Ω 3 ①

```
show mls qos maps          dscp-cos maps,dscp-cos maps
ip-prec-dscp maps
```

⑧ 4 ①

S2900 " S8600 "

16.2.11 interface rate-limit

4 8

rate-limit {input | output} *bps burst-size*

no rate-limit

8 1 Ô

input ' ñ ò

output ' ñ

⑧ ⑧

⑧ wrr

⑧ ③ ⑧

⑧

⑧ R ⑧

Ruijie(config)# **mls qos scheduler sp**

⑧ ⑧ ③ ⑧

show mls qos scheduler

⑧ ④ ⑧

S8600 "

16.2.13 drr-queue bandwidth

DRR "

drr-queue bandwidth weight1...weight8

no drr-queue bandwidth

⑧ ④ ⑧

weight1...weight8 ' ④ ħ

no ' ħ

⑧ ⑧

⑧ ③ ⑧

⑧

⑧ R ⑧

Ruijie(config)# **drr-queue bandwidth 1 2 3 4 5 6 7 8**

⑧ ⑧ ③ ⑧

show mls qos queueing

⑧ ④ ⑧

86

16.2.14 mls qos map ip-prec-dscp

ip-prec h 1 0 DSCP h

mls qos map ip-prec-dscp dscp1...dscp8

no mls qos map ip-prec-dscp

0 1 0

dscp ' 1 0 a 1 a 1

no ' h

0 0

0 3 0

0

0 R 0

Ruijie(config)# **mls qos map ip-prec -dscp 8 10 16 18 24**
26 32 34

0 0 3 0

show mls qos maps dscp-cos maps,dscp-cos maps
 ip-prec-dscp maps

0 1 0

S8600 "

16.2.15 wfq-queue bandwidth

6 wfq 0 10 3 1 " A

wfq-queue queue-id bandwidth min max

no wfq-queue queue-id bandwidth

0 1 0

queue-id " 1

min ' 0

max ' 1

0 0

min * 1

max $\dot{\eta}$ $\wedge$ kbps

3 3

$\wedge$

3 3

" G wfq $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$

3 3

" G wfq

Ruijie(config)# **mls qos scheduler wfq**

Ruijie(config)# **show mls qos scheduler**

$\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$

Ruijie(config-if)# **wfq-queue 2 bandwidth 10 10240**

Ruijie(config-if)# **wfq-queue 4 bandwidth 7 10240**

Ruijie(config-if)# **show running**

3 3

3	
show mls qos scheduler	QOS

3 3

RGOS10.1 $\mathfrak{A}$ $\mathfrak{A}$

16.2.16 wfq-queue sp

" G wfq $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$ $\mathfrak{A}$

"l (sp) $\mathfrak{A}$

wfq-queue queue-id sp

no wfq-queue queue-id sp

3 3

queue-id " $\mathfrak{A}$

sp: $\mathfrak{A}$ "l "

3 3

a G sp

3 3

Ω

ð 6 ' Ô

" 6 wfq 3 6 3 ↓ 6 " 6 sp+wfq
 Â

ð R Ô

" 6 wfq '

Ruijie(config)# **mls qos scheduler wfq**
 Ruijie(config)# **show mls qos scheduler**

" 1 3 ñ 3 " '

Ruijie(config)# **wfq-queue 1 sp**
 Ruijie(config)# **wfq-queue 3 sp**
 Ruijie(config)# **show running**

ð 3 3 Ô

3	
show mls qos scheduler	QOS

ð 4 Ô

RGOS10.1 6 3

16.3 3 3

16.3.1 show class-map

class map E 3

show class-map [class-name]

ð 4 Ô

class-name ' class map 4

ð Ô

class map

ð 3 Ô

ð R Ô

Ruijie# **show class-map**

⑧ 1 ⑧

S2900 " S8600 "

16.3.2 show policy-map

QoS policy map E [class class-name] ⑧

show policy-map [*policy-name* [**class** *class-name*]]

⑧ 1 ⑧

policy-name ' policy name 1
class-name ' class map 1

⑧ ⑧

policy name

⑧ 3 ⑧

⑧ R ⑧

Ruijie# **show policy-map**

⑧ 1 ⑧

S2900 " S8600 "

16.3.3 show mls qos interface

1 QoS ⑧

16.3.4 show mls qos queueing

QoS " a (cos-to-queue map, wrr weight, drr weight)

show mls qos queueing

0 3 Ô

0 R Ô

Ruijie# **show mls qos queueing**

0 1 Ô

S2900 " cos-to-queue map, wrr weight

S8600 " cos-to-queue map, wrr weight, drr weight

16.3.5 show mls qos scheduler

1 " "

show mls qos scheduler

0 3 Ô

0 R Ô

Ruijie# **show mls qos scheduler**

0 1 Ô

S8600 "

16.3.6 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]

0 1 Ô

cos-dscp ' cos-dscp maps

dscp-cos ' dscp-cos maps

ip-prec-dscp ' ip-prec-dscp maps

0 Ô

[no] tp-guard port enable

8 R Ô

Ю R ! П а '

Ruijie# **show tpp**

8 9 3 Ô

topology guard ' G ō П

ˆ Ω G 3

18.1 Ω 3

k 3 ˆ

- ˆ cat
- ˆ cd
- ˆ cp
- ˆ ls
- ˆ makefs
- ˆ mkdir
- ˆ mv
- ˆ pwd
- ˆ rm
- ˆ rmdir

18.1.1 cat

γ 8 ð ñ Ò Â

cat type {bin

3	
ls	𐀀 𐀁

18.1.3 cp

𐀁, 𐀂 𐀃

cp **dest** {*DESTINE_FILE* | *DIRECTORY*} **sour** *SOURCE_FILE*
cp **sour** *SOURCE_FILE* **dest** {*DESTINE_FILE* | *DIRECTORY*}

𐀄 𐀅 𐀆

DESTINE_FILE 𐀇
DIRECTORY 𐀈𐀇
SOURCE_FILE 𐀈 𐀉 (𐀊)

𐀄 𐀋 𐀆

𐀌 𐀃

𐀄 𐀍 𐀆

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a

ð q Ô

 ↓ m c IO a Â

ð 3 Ô

 Â

ð G ' Ô

 ô IO a ~ 1

 IO a Â

 c ↓ a .

ð R Ô

 m IO a

Ruijie# ls

 tmp IO a

Ruijie# ls tmp

ð Ω 3 Ô

 Ω 3

18.1.5 makefs

 y ↑

makefs dev DEVNAME fs FSNAME

makefs fs FSNAME dev DEVNAME

ð 1 Ô

 DEVNAME y ↓ (↑ ü a)

 FSNAME 3 G ↓

ð q Ô

 h Â

ð 3 Ô

 Â

ð G ' Ô

makefs6.823 fs

18.1.10 rmdir

 $\hat{A}$ **rmmdir** *DIRECTORY*

Ồ Ạ Ô

DIRECTORY ' 7 1, 5

੭ ੫੭

 $\hbar \hat{A}$

Ô 3 Ô

 $\hat{A}$

Ồ G ' Ô

а џ, џ ѝ Ѡ ѣ ѣ,
 ђ ђ ѣ ѣ ѣ ѣ џ џ Ѡ

Ồ R Ô

μ Ю tmp $\sim$ $\hat{A}$

```
Ruijie# rmdir tmp
```

```
Ruijie# ls
```

$$\hat{O} \quad \hat{\Omega} \quad \hat{O}$$
 $\tilde{\Omega} \quad \{$

18.2

 $\hat{A}$

logging console	<pre> logging console logging console </pre>
logging monitor	<pre> logging monitor logging monitor </pre>
logging trap	<pre> logging trap logging trap </pre>

19.1.2 terminal monitor

$\{ \tilde{I} \quad m \text{ VTY} \quad \wedge \Theta \quad a \quad \hat{A} \quad \tilde{\Omega} \quad m \text{ VTY} \quad \wedge \Theta$
 $\Theta \quad a \quad \sim \quad G \quad \{ \quad \text{no} \quad \hat{A}$

terminal monitor

terminal no monitor

Ổ Ô

$$\alpha \text{ Ю } \quad \text{VTY} \quad \text{л } \text{Э } \text{а } \text{ї} \quad \text{VTY} \quad \text{л } \text{Э} \quad \text{а, } \hat{A}$$
$$\tilde{O} \quad \{ \quad \hat{O}$$

Ồ G ' Ô

$\{ \downarrow$ ∇ VTY $\hat{A} \circ \hat{y}$ $\sim$ a
 ∂ $\hat{A}$ VTY $\mathcal{L}$
 $\hat{A}$

& 说明:

Й Ғ Ү RGOS Ы 8 Җ Э 6 3 Â 8 Җ Э
3 no , Җ Ы Ш 3 Й О 1 Â

Ồ R Ô

Ю R~ m VTY 4 ĭ . a Â

```
Ruijie# terminal monitor
```

Ruijie#

19.1.3 logging buffered

ω a $\ddot{a}$ $\check{\alpha} \psi 1^{\wedge}$ a w $\grave{a}$ $\check{\alpha} \psi$ $\sim$
 $\exists \hat{A}$ $\exists$ **no** $\ddot{a}$ $\check{\alpha} \psi$
 a $\hat{A}$

logging buffered [*buffer-size* | *level*]

no logging buffered

ð 1 Ô

buffer-size ' ă ʃ ~ ↓ ħ ÿ 4K↑ 128K Bytes Â

level ' ə ʃ ~ ÿ 0↑ 7 Â ↓ ʃ ʒ Ğ ∴ ↓ ~ ≠ ↓ ʃ

ð Ô

ă ʃ ñ 4k Bytes Â

ə ʃ ñ 7 Â

ð ʒ Ô

ŵ

ð Ğ ' Ô

ǻ ă ʃ Ğ ~ ǻ ʃ ĩ ~ ‡
ə Â ǻ ă ʃ ə ~ Ğ

ʒ **show logging** Â

ǻ ă ʃ ə ~ ǻ ʃ ʒ

clear logging ă ʃ ə Â ~
ĩ↑ FLASH ↓ Syslog Server Â

RGOS ə ↑ ñ ʃ ʒ 8 ∴'

1

Ω		
Emergencies	0	ǻ ~ a
Alerts	1	. ↓
Critical	2	ǻ
Errors	3	ə
warnings	4	~ ə
Notifications	5	~ a Ω ə

logging on	Ω
show logging	Ω ǎ ψ ˘ ʌ 1 Ω ʌ
logging trap	ǐ ʌ syslog server ǎ ⋮

19.1.5 logging file flash

ǎ ǎ FLASH ˘ ǒ ʌ ǎ ǎ
ʌ FLASH ǎ ˘ ʌ ǎ no ǎ

logging file flash:filename [max-file-size] [level]

no logging file

ǎ ʌ ǎ

Filename ' ʌ ǎ a ˘ ʌ txt ǎ
max-file-size ' ʌ ǎ ʏ 128Kǐ 6M bytes˘ ʌ
128K ǎ
level ' ǐ ǐ ǎ ⋮ ǎ ʌ ʌ ʌ ⋮ ʌ ˘
≠ ʌ ʌ ʌ ǎ ǐǐ FLASH ⋮ ʌ 6 ǎ Ω
ǎ ⋮ ʌ 1 ǎ

ǎ ǎ

a ǎ ǐ FLASH ǎ

ǎ ǎ ǎ

ǒ

ǎ ʌ ǎ

Syslog Server˘ ʌ ǒ a
ǎ ˘ ʌ ǎ ǎ FLASH ǎ
ʌ ʌ ʌ txt˘ ʌ ʌ ǎ

˘ 注意:

ǎ ǐ FLASH˘ ʌ FLASH˘
FLASH **logging file flash** ǐ ˘ a ǐ ǎ

ǎ R ǎ

ʌ R ǎ FLASH ˘ ʌ ʌ trace.txt˘
ʌ 64K, ǎ ⋮ ʌ 6 ǎ

```
Ruijie(config)# logging file flash:trace
```

$$\partial \quad \tau_{\Omega} \quad \mathfrak{z} \quad \hat{O}$$

logging on	
show logging	
more flash	

19.1.6 logging console

ĭ 8 1 Э ә ı̇ ӱ Ю
 3 Â 3 no 8 1 Э Â

logging console *level*

no logging console

Ồ 1 Ô

[illegible]

Ô

Debugging (7)

Ö 3 Ö

 ω

Ồ G ' Ô

ш л л̃ ħ э æ ш :

8 л э â

show logging 3 4 5 6 7 8 9

Ồ R Ô

Ю R ĭ 8 √ а ∴ ÿ 6'

```
Ruijie(config)# logging console informational
```

$$\partial \quad \Omega \quad \partial$$

3	
---	--

logging on	Ω
show logging	Ω ǎ ʘ ʘ ʘ 1 ʘ ʘ

19.1.7 logging monitor

```

        ǐ      VTY  ʘ^ telnet  ʘ ǎ SSH  ʘ ʘ ʘ      ʘ
        ʘ~      ʘ      ʘ      ʘ ǎ      ʘ ʘ      VTY
        ʘ ʘ      ǎ

```

logging monitor level

no logging monitor

ǔ ʘ ǐ

```

level '      ʘ      ǎ ʘ ʘ ʘ      ʘ ʘ ʘ ʘ ʘ      ǎ
Ω      ʘ ʘ      ʘ      ʘ      1 ǎ

```

ǔ ǐ

Debugging (7)

ǔ ʘ ǐ

ʘ

ǔ ʘ ǐ

```

        VTY  ʘ ʘ      ʘ ʘ      ʘ      ʘ terminal
monitor ǐ      ʘ VTY  ʘ      ʘ ǎǐ      ʘ
ʘ ʘ      logging monitor ʘ ǎ

```

Logging monitor ʘ ʘ ʘ VTY ʘ ǎ

ǔ ʘ ǐ

```

ʘ      ʘ      ǐ      VTY  ʘ ʘ      ʘ      ʘ ʘ 6

```


Ω

δ G ' Ô

α Ю √ Syslog Server √ √
 Â ÿ √ √ √ √ √
 ÿ √ √ √ √ √ √ √
 Â

δ R Ô

Ю R Loopback 0 ÿ Syslog
 Ruijie(config)# **logging source ip 192.168.1.1**

δ Ω √ Ô

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)

RGOS ħ ì (local7) 23 Â

ð R Ô

Ю Syslog ħ ì kernel

Ruijie(config)# **logging facility kern**

ð Ƨ Ƨ Ô

Ƨ	
logging console	ĩ ¸ ¼ Ƨ ə ∴

19.1.12 logging count

```

~Ω      π  ~      ō      Ю      3  Â
      π  ~      G      3  no      Â

```

logging count

no logging count

ð 4 Ô

4

ð Ô

~Ω

ð 3 Ô

ō

ð G Ô

```

      3      π  Â  ŷ      3      Â      no
logging count  3  ~      π      ~Ω  ~      Â

```

ð R Ô

π '

Ruijie(config)# logging count

ð ~Ω 3 Ô

Ō 3 Ô

Ồ G Ô

Ồ R Ô

Ю R а 7 Э Л'

$$\partial \quad \{ \quad \partial$$
 ω

Ồ G ' Ô

Uptime Datetime

Ồ R Ô

Ю R Ё Log а Debug а ~ и Datetime'

```
Ruijie(config)# service timestamps debug datetime
```

```
Ruijie(config)# service timestamps log datetime
```

0 2 3 0

$\mathfrak{z}$	
logging on	τ_{Ω}
service sequence-numbers	$\mathfrak{U} \quad \mathfrak{a} \quad \mathfrak{N}$

19.1.15 service sysname

no ə ʔ ɛ̃ ʊ ɯ ʌ ʒ ʌ

service sysname

no service sysname

Ồ 1 Ô

Ồ Ô

$$\partial_a \quad a \quad \downarrow \hat{A}$$

Ồ 3 Ô

 ω

Ồ G ' Ô

 $\{ \bar{\nu} \quad \downarrow \mu \quad \bar{\nu} \quad \bar{\alpha} \quad \partial \quad \bar{i} \quad \eta \quad \downarrow \hat{A}$

Ồ R Ô

Ю R а 7 Э 1'

```
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)**#service sysname**

Ruijie (config)**#end**

Ruijie #

Mar 22 15:35:57 S3250 %SYS-5-CONFIG: Configured from
console by console

δ Ω 3 Ô

3	
show logging	6 ă ʘ ă

19.1.16 more flash

FLASH

ă ~

Ю

3'

more flash:*filename*

19.1.17 clear logging

清除日志缓冲区的配置

clear logging

清除日志缓冲区

清除日志缓冲区

清除日志缓冲区的配置

清除日志缓冲区

清除日志缓冲区的配置

Ruijie# **clear logging**

清除日志缓冲区

清除日志缓冲区	清除日志缓冲区
logging on	清除日志缓冲区
show logging	清除日志缓冲区
logging buffered	清除日志缓冲区

19.2 清除日志缓冲区

19.2.1 show logging

清除日志缓冲区的配置

show logging

清除日志缓冲区

清除日志缓冲区

清除日志缓冲区

清除日志缓冲区的配置

Ruijie# show logging

```

Syslog logging: enabled
Console logging: level debugging, 4 messages logged
Monitor logging: level informational, 0 messages logged
Buffer logging: level debugging, 6 messages logged
Timestamp debug messages: datetime
Timestamp log messages: disabled
Sequence log messages: enable
Trap logging: level debugging, 2 message lines logged, 0
reserved, 0 fail
logging to 202.101.11.22
logging to 192.168.200.112
Log Buffer (Total 4096 Bytes) : have written 680
00001 2004-11-17 10:20:59 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/0, changed state to up
00002 2004-11-17 10:20:59 Ruijie: %7:%LINE PROTOCOL
CHANGE: Interface FastEthernet 0/0, changed state to
UP
00003 2004-11-17 10:57:18 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to
administratively down
00004 2004-11-17 10:57:21 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to down
00005 2004-11-17 10:57:41 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to
administratively down
00006 2004-11-17 10:57:43 Ruijie: %7:%LINK CHANGED:
Interface FastEthernet 0/1, changed state to down

```

a

Syslog logging	enabled, disabled
Console logging	VTY 4 3 a 1
Monitor logging	VTY 4 3 a 1
Buffer logging	6 3 a 1
Timestamp debug messages	Debug a

Timestamp log messages Log a

$$\mathfrak{O} \quad \mathfrak{r}_{\Omega} \quad \mathfrak{z} \quad \hat{\mathfrak{O}}$$

19.2.2 show logging count

show logging count

Ô 3 Ô

count	show logging	count	show logging
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
20	20	20	20
21	21	21	21
22	22	22	22
23	23	23	23
24	24	24	24
25	25	25	25
26	26	26	26
27	27	27	27
28	28	28	28
29	29	29	29
30	30	30	30
31	31	31	31
32	32	32	32
33	33	33	33
34	34	34	34
35	35	35	35
36	36	36	36
37	37	37	37
38	38	38	38
39	39	39	39
40	40	40	40
41	41	41	41
42	42	42	42
43	43	43	43
44	44	44	44
45	45	45	45
46	46	46	46
47	47	47	47
48	48	48	48
49	49	49	49
50	50	50	50
51	51	51	51
52	52	52	52
53	53	53	53
54	54	54	54
55	55	55	55
56	56	56	56
57	57	57	57
58	58	58	58
59	59	59	59
60	60	60	60
61	61	61	61
62	62	62	62
63	63	63	63
64	64	64	64
65	65	65	65
66	66	66	66
67	67	67	67
68	68	68	68
69	69	69	69
70	70	70	70
71	71	71	71
72	72	72	72
73	73	73	73
74	74	74	74
75	75	75	75
76	76	76	76
77	77	77	77
78	78	78	78
79	79	79	79
80	80	80	80
81	81	81	81
82	82	82	82
83	83	83	83
84	84	84	84
85	85	85	85
86	86	86	86
87	87	87	87
88	88	88	88
89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

```

IO      R      show logging count
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

```

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3	
logging count	π Ω
show logging	6 ǎ ʘ ǎ
clear logging	ǎ ʘ ǎ