

RG-S20

RGOS 10.2(5)

©2009



RGOS®10.2(5)

[] []

{x|y|...}

[x|y|...]

//

3.

r 注意:

/ 说明:

CLI

alias

alias

no

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

mode
command-alias
original-command

EXEC

EXEC

h	help
p	ping
s	show
u	undebug
un	undebug

no alias exec**alias ?**

```
Ruijie(config)# alias ?
aaa-gs          AAA server group mode
acl             acl configure mode
bgp            Configure bgp Protocol
config        globle configure mode
```

*

**command-alias=original-command*

```
EXEC          "s"  "show"
"s?"         's'
```

Ruijie# **s?**

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

```
EXEC          "sv"  "show version"
```

Ruijie# **s?**

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

Ruijie# **s?**

show start-chat start-terminal-service

```
"ia"  "ip address"
```

Ruijieig)# 9ff)# **ia ?**

A.B.C.D IP address

dhcp IP Address via DHCP

Ruijieig)# 9ff)# **ip address**

```
"ip address"
```

show aliases

dhcp IP Address via DHCP

Ruijie)# 9ff)#

```
*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          iproute 0.0.0.0 0.0.0.0 192.168.1.1
```



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

CLI 1 "test" reload

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

1 CLI reload

```
Ruijie> reload ?
<cr>
```

reload 1 all

```
Ruijie(config)# privilege exec all level 1 reload
```

1 CLI reload

```
Ruijie> reload ?
at reload at a specific time/date
cancel cancel pending reload scheme
in reload after a time interval
<cr>
```

enable secret	CLI

show aliases

EXEC

show aliases

show aliases [mode]

mode

EXEC

EXEC

Ruijie# **show aliases exec**

exec mode alias:

h	help
p	ping
s	show
u	undebug
un	undebug

alias	

CLI

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

disable

disable

disable [*privilege-level*]

privilege-level

/ 说明:

disable

Ruijie# **disable** 10

enable	

enable

enable

enable password

enable password

no

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

no enable password

Password

EXEC

' 1 26
'

r 注意:

EXEC

```

15          15          security          0
15
password          15          password
          security          15          password
security
password          security

          pw10

Ruijie(config)# enable secret 0 pw10

```

enable password	

password

```

          line          line          password
no          line

password {password | [0|7] encrypted-password}
no password

password          line
0|7          0          7
encrypted-password

line

          line

          line          red

Ruijie(config)# line vty 0
Ruijie(config-line)# password red

```

login	

login

```
AAA
    login      no
login
no login
```

line

```
AAA
    VTY      console

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

password	line

login local

```
AAA
```

line

AAA

username

VTY

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

Ruijie(config)# **username test password 0 test**

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

Ruijie(config-line)# **login local**

username	

login authentication

AAA

AAA

no

login authentication {default | list-name}

no login authentication {default | list-name}

default

list-name

line

AAA

VTY

radius

```
Ruijie(config)# aaa new-model  
Ruijie(config)# aaa authentication login default radius  
Ruijie(config)# line vty 0  
Ruijie(config-line)# login authentication default
```

aaa new-model	AAA
aaa authentication login	

username

username

```
username name {nopassword | password { secret | local | radius | tacacs } } @username
```

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

login local	

lock

EXEC lock

lock

1. **lock**

2.

Locked

3.

line

lockable

line

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

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

```
Ruijie# lock
```

```
Password: <password>
```

```
Again: <password>
```

```
Locked
```

```
Password: <password>
```

Ruijie#

lockable	

lockable

lock **lock** **line** **no** **lockable**

lockable

no lockable

line

EXEC **lock**

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

lock	

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

Web

no ip http authentication

ip http authentication local, Web

local

Ruijie(Config # **ip http authentication local**

enable service	

ip http port

HTTP

ip http port

ip http port *number*

number HTTP Server 80

HTTP

no ip http port

HTTP 8080

Ruijie(Config # **ip http port 8080**

enable service	

```
' clock set
' clock update-calendar
' exec-timeout
' hostname
' session-timeout
' show clock
' show cpu
' show cpu slot
' show memory
' show memory slot
' show running-config
' show startup-config
' reload
' show reload
' prompt
' banner motd
' banner login
' speed
' show line
' write
```

clock set

clock set

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

clock set

S2026G S2026F S2028

2008 1 30 05 54 43

Ruijie# **clock set** 05:54:43 1 30 2008

Ruijie# **show clock**

05:54:43 CHN-BJ Wed 2008-01-30

show clock	

clock update-calendar

clock clock privileged EXEC clock
update-calendar clock clock
clock update-calendar

calendar

S2026G S2026F S2028

clock

clock

Ruijie# **clock update-calendar**

exec-timeout

LINE
no exec-timeout LINE
exec-timeout *minutes* [*seconds*]
no exec-timeout

minutes
seconds

10 min

LINE

LINE

line vty 0 5 30 :

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

hostname

hostname

hostname *name*

name
63

Ruijie

CHAP

BeiJingAgenda

```
Ruijie(config)# hostname BeiJingAgenda
BeiJingAgenda(config)#
```

session-timeout

```
LINE
session-timeout          no session-timeout          LINE
```

```
session-timeout minutes [seconds]
no session-timeout
```

```
minutes
seconds
```

```
0 min
```

```
LINE
```

```
LINE
```

```
LINE
```

```
line vty 0          5 30 :
```

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

show clock

```
show clock
```

```
show clock [detail]
```

detail

detail

show clock

```
Ruijie# show clock detail
05:54:43 CHN-BJ Wed 2008-01-30
Clock read from calendar when system boot.
```

clock set	

show cpu

CPU

show cpu

CPU

show cpu

```
Ruijie# show cpu
CPU utilization in five seconds: 0%
CPU utilization in one minute : 35%
CPU utilization in five minutes: 33%
NO 5Sec 1Min 5Min Process
0 0% 0% 0% LISR INT
```

```

 1   0%   0%   0%   HISR INT
 2   0%   0%   0%   ktimer
 3   0%   0%   0%   atimer
 4   0%   0%   0%   printk_task
 5   0%   0%   0%   waitqueue_process
 6   0%   0%   0%   tasklet_task
 7   0%   0%   0%   kevents
 8   0%   0%   0%   snmpd
 9   0%   0%   0%   snmp_trapd
10   0%   0%   0%   mtdblock
11   0%  35%  33%   gc_task
12   0%   0%   0%   Context
13   0%   0%   0%   kswapd
14   0%   0%   0%   bdflush
15   0%   0%   0%   kupdate
16   0%   0%   0%   buffcopy
17   0%   0%   0%   ll_mt
18   0%   0%   0%   ll main process
19   0%   0%   0%   ISDN MAIN
20   0%   0%   0%   tnet
21   0%   0%   0%   Tarptime
22   0%   0%   0%   gra_arp
23   0%   0%   0%   Ttcptimer
24   0%   0%   0%   gk process
25   0%   0%   0%   rl_con
26 100%  65%  67%   idle

```

show cpu

CPU utilization in five seconds	5 CPU
CPU utilization in one minute	1 CPU
CPU utilization in five minutes	5 CPU
NO	
Process	
5Sec	5 CPU
1Min	1 CPU
5Min	5 CPU

--	--

show cpu slot	CPU
----------------------	-----

show cpu slot

CPU

show cpu slot [*slot-number*]

slot-number

CPU

CPU

1 1 CPU

Ruijie# **show cpu slot 1**

CPU utilization for five seconds: 3%

CPU utilization for one minute : 2%

CPU utilization for five minutes: 1%

2 CPU

Ruijie# **show cpu slot**

slot 1 CPU information

CPU utilization for five seconds: 3%

CPU utilization for one minute : 2%

CPU utilization for five minutes: 1%

slot 3 CPU information

CPU utilization for five seconds: 5%

CPU utilization for one minute : 2%

CPU utilization for five minutes: 1%

show running-config

show running-config

show running-config

show startup-config

NVRAM

show startup-config

show startup-config

NVRAM

startup-config

reload

reload

reload [*text* | **in** [*hh:*] *mm* [*text*] | **at** *hh:mm* [*month day* | *day month*]
[*text*] | **cancel**]

text 1-255

in [*hh:*] *mm* 24

at *hh:mm*

month 3 Mar

day 1 31

cancel

10

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

show reload

show

reload

show reload

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

prompt

prompt

no prompt

prompt *string*

string

32

EXEC

RGOS

Ruijie(config)# **prompt** *RGOS*

Ruijie(config)# **end**

RGOS

banner motd

banner motd

no banner motd

ueoq

show line

show line

memory	running-config	NVRAM	copy
	running-config	startup-config	
network		TFTP	copy
	running-config	tftp	
terminal		show running-config	

memory

```
Ruijie# write  
Building configuration...  
[OK]
```



LINE

LINE

line

LINE

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

aux	
console	
tty	
vty	telnet/ssh
<i>First-line</i>	first-line
<i>Last-line</i>	last-line

LINE

LINE VTY 1 3 LINE

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

line vty

```

VTY
VTY
no
line vty line-number
no line vty line-number

```

```

VTY      5      0--4

```

```

VTY
VTY      20      VTY      0--19
Ruijie(config)# line vty 19
VTY      10      VTY      0—9
Ruijie(config)# line vty 10

```

transport input

```

Line
transport input
default transport input
Line
LINE

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

```

all	Line
ssh	Line SSH
telnet	Line Telnet

LINE

none	Line
------	------

NONE VTY TTY
default transport input

Line

Line VTY
VTY **show running** Line

r 注意:

ut **default transport input** **no transport inp**
rt input none LINE transpo

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

<i>access-list-number</i>	access-list
in	
out	

Line

Line

Line

access list **access-class**
 Line **show running**

line vty 0 4 access-list 10

```
Ruijie# configure terminal
Ruijie(config)# line vty 0 4
Ruijie(config-line)# access-class 10 in
```

show running	

RGOS10.1

	CLI	COPY
' Xmodem		copy xmodem
' Tftp		copy tftp

copy xmodem

xmodem

xmodem

copy flash: filename xmodem

copy xmodem flash: filename

filename

Xmodem

Xmodem

:

xmodem

xmodem

:

Ruijie# **copy xmodem flash: config.text**

Ruijie# **copy flash: config.text xmodem**

copy tftp

tftp

tftp

copy flash: *filename* **tftp://** *location / filename*

copy tftp:// *location/filename* **flash:** *filename*

filename

TFTP

TFTP

 :
 config.bak ;
ip 192.168.12.1 :
 :
 ip 192.168.12. 1
 switch.bin

Ruijie# **copy tftp://192.168.12.1/config.bak flash:**
config.text

Ruijie# **copy flash: switch.bin tftp://192.168.12.1/**

- ' ping
- ' traceroute

ping

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

<i>ip-address</i>	IPv4
<i>length</i>	
<i>times</i>	
timeout	
<i>data</i>	
<i>source</i>	IPv4

IP 2 5 100Byte

Ping

ping
ping

ping

IP . 2 ping ping 5 ! ping 100Byte
DNS

ping

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

ping

```
Ruijie# ping 192.168.5.197 length 1500 ntimes 100 timeout
3 data ffff source 192.168.4.10

Sending 100, 1000-byte ICMP Echoes to 192.168.5.197,
timeout is 3 seconds:
 < press Ctrl+C to break >
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
Success rate is 100 percent (100/100), round-trip
min/avg/max = 2/2/3 ms
```

<i>ip-address</i>	IPv4
<i>number</i>	
<i>source-address</i>	IPV4
<i>seconds</i>	
<i>minimum maximum</i>	TTL

traceroute

DNS

traceroute

1 traceroute

Ruijie# **traceroute** 61.154.22.36

< press Ctrl+C to break >

Tracing the route to 61.154.22.36

```

1    192.168.12.1    0 msec  0 msec  0 msec
2    192.168.9.2    4 msec  4 msec  4 msec
3    192.168.9.1    8 msec  8 msec  4 msec
4    192.168.0.10   4 msec  28 msec 12 msec
5    202.101.143.130 4 msec  16 msec 8 msec
6    202.101.143.154 12 msec 8 msec 24 msec
7    61.154.22.36   12 msec 8 msec 22 msec

```

Ruijie#

```

                                     IP
61.154.22.36                          1 6

```

2 traceroute

Ruijie# **traceroute** 202.108.37.42

< press Ctrl+C to break >

Tracing the route to 202.108.37.42

```

1    192.168.12.1    0 msec  0 msec  0 msec

```

```
2      192.168.9.2      0 msec  4 msec  4 msec
3      192.168.110.1    16 msec 12 msec 16 msec
4      * * *
5      61.154.8.129    12 msec 28 msec 12 msec
6      61.154.8.17     8 msec 12 msec 16 msec
7      61.154.8.250    12 msec 12 msec 12 msec
8      218.85.157.222  12 msec 12 msec 12 msec
9      218.85.157.130  16 msec 16 msec 16 msec
10     218.85.157.77   16 msec 48 msec 16 msec
11     202.97.40.65    76 msec 24 msec 24 msec
12     202.97.37.65    32 msec 24 msec 24 msec
13     202.97.38.162   52 msec 52 msec 224 msec
14     202.96.12.38    84 msec 52 msec 52 msec
15     202.106.192.226  88 msec 52 msec 52 msec
16     202.106.192.174  52 msec 52 msec 88 msec
17     210.74.176.158  100 msec 52 msec 84 msec
18     202.108.37.42   48 msec 48 msec 52 msec
```

Ruijie#

```
                                     IP
202.108.37.42                         1 17
4
```

Ruijie# **traceroute** *www.ietf.org*

TranslatiniT2 1 Tf-0 1 Tf-0.0013 -6(84)Tj/TT4.org 84

```
' interface aggregateport
' interface fastEthernet
' interface giagbitEthernet
' interface tenGigabitEthernet
' interface vlan
' medium-type
' descriptioin
' shutdown
' speed
' duplex
' flowcontrol
' mtu
' clear counters
' clear interface
' switchport
' snmp trap link-status
' line-detect
```

interface aggregateport

no

```
interface aggregateport port-number
```

port-number Aggregate port

aggregate port

aggregate port

aggregate port
interfaces aggregateport

show interfaces **show**

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

show interfaces	

interface fastEthernet

interface fastEthernet *mod-num/port-num*

mod-num/port-num /

no

77<0787116Ew

Ru69ie(config)# **interface aggregatenet**

show interfaces	
-----------------	--

medium-type

no

medium-type { fiber | copper }

no medium-type

fiber

copper

Ap SVI

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

```
Ruijie(config-if)# medium-type copper
```

show interfaces	

descriptoin

no

description *string*

no description

string

show interfaces

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

show interfaces	

shutdown

no

shutdown
no shutdown

Ap

SVI

show interfaces

Ap 1

clear interface	
show interfaces	

/ 说明:

no shutdown

speed

no

10	10Mbps
100	100Mbps
1000	1000Mbps
10G	10Gbps
auto	

></A@

d(TPO 1 T

show interfaces	

duplex

no

duplex {auto | full | half}

no duplex

auto

full

half

show interfaces

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

show interfaces	

flowcontrol

no

flowcontrol {auto | off | on}

no flowcontrol

auto
off
on

show interfaces

1/1

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

show interfaces	

mtu

mtu

Mtu num

num 64 9216(65536)

1500

mtu

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

show interfaces	

carrier-delay

```
no
carrier-delay
carrier-delay [ seconds ]
no carrier-delay

seconds 1 60

2 1/1
```

clear counters

clear counters [*interface-id*]

interface-id

show interfaces
clear counters

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

show interfaces	

clear interface

clear interface *interface-id*

interface-id

Aggregate port Switch Port,L2 Aggregate port ,Routed port,L3
shutdown **no shutdown**

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

shutdown	

switchport

2

3

switchport

no switchport

switchport

no switchport

2

switchport

access	switch port	access port
trunk	switch port	trunk port

switch port access

```

switch port          access                  VLAN
switchport access vlan                      VLAN

switch port          trunk                  VLAN
port          VLAN                  VLAN                  VLAN                  trunk
trunk                  VLAN                  switchport

```

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

switchport access	statics accessport VLAN
switchport trunk	trunkport native VLAN Trunk VLAN

switchport access

```

access port                  VLAN
no                                  VLAN

switchport access vlan vlan-id
no switchport access vlan

vlan-id                  VLAN ID

switch port                  access          VLAN          VLAN 1

```

snmp trap link-status

LinkTrap
LinkTrap,
LinkTrap
LinkTrap
SNMP
no Link SNMP

snmp trap link-status
no snmp trap link-status

LinkTrap Link SNMP

LinkTrap Ap SVI Link SNMP
LinkTrap,

Link trap:

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

Link trap:

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

Ruijie(config-if)# snmp trap link-status	link trap
Ruijie(config-if)# no snmp trap link-status	link trap

line-detect

line-detect

line-detect

line-detect

```
Ruijie(config)#interface gigabitEthernet 0/1  
Ruijie(config-if-GigabitEthernet 0/1)#line-detect
```

length

Aggregate Port

port-group

Aggregate Port no
Aggregate Port

port-group *port-group-number*
no port-group

Aggregate Port

<i>port-group-number</i>	Aggregate Port Aggregate Port

AP VLAN trunk port
native VLAN AP

1/3 AP 3

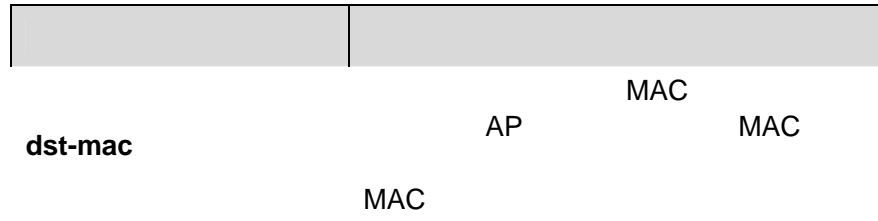
```
Ruijie(config)# interface gigabitethernet 1/3  
Ruijie(config-if)# port-group 3
```

aggregateport load-balance

AP no

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

no aggregateport load-balance



no name

<i>vlan-name</i>	VLAN

VLAN

VLAN

show vlan vlan

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

show vlan	VLAN

switchport mode

access port trunk port, switch port 802.1Q no

switchport mode {access | trunk}

no switchport mode

access	switch port access port
trunk	switch port trunk port

switch port access

trunkport

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

switchport mode	switch port
switchport trunk	trunkport native VLAN Trunk VLAN

switchport trunk

trunkport native VLAN Trunk VLAN
no trunk

switchport trunk {allowed vlan { all | [add | remove | except] vlan-list }| native vlan vlan-id}
no switchport trunk {allowed vlan | native vlan }

	Trunk VLAN
	vlan-list VLAN
	VLAN ID VLAN ID
	VLAN ID -
	10-20 ,
	1-10,20-25,30,33
allowed vlan vlan-list	all VLAN
	VLAN
	add

Native VLAN

```

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

VLAN

```

Trunk VLAN 1 4094
      Trunk VLAN VLAN
      Trunk
  
```

show interfaces switchport

```

VLAN 2 1/15
  
```

```

Ruijie(config)# interface fastethernet 1/15
Ruijie(config-if)# switchport trunk allowed vlan remove
2
Ruijie(config-if)# end
Ruijie# show interfaces fastethernet1/15 switchport
Switchport is1 TUuSed
Mode isltrunk port
Acsess vlan is11,Native vlan is11
Protected isldisUuSed
Vlan lists is1
1,3-4094
  
```

show interfaces	
switchport access	statics accessport VLAN

show vlan

VLAN

show vlan [id *vlan-id*]

<i>vlan-id</i>	VLAN ID

MAC

- ' **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-address-table aging-time

no

mac-address-table aging-time *seconds*

no mac-address-table aging-time

seconds

300

show mac-address-table aging-time

show mac-address-table dynamic

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

show mac-address-table aging-time	
show mac-address-table dynamic	

clear mac-address-table dynamic

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

clear mac-address-table filtering

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

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

show mac-address-table filtering

00d0.f800.0c0c

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

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

clear mac-address-table static

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

static	
address <i>mac-addr</i>	
interface <i>interface-id</i>	
vlan <i>vlan-id</i>	VLAN

show mac-address-table static

MAC 00d0.f800.073c

```
Ruijie# clear mac-address-table static address
00d0.f800.073c
```

mac-address-table static	
show mac-address-table static	

mac-address-table static

no

mac-address-table static *mac-addr* **vlan** *vlan-id* **interface** *interface-id*

no mac-address-table static *mac-addr* **vlan** *vlan-id* **interface** *interface-id*

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

%Hr ft H4w 8SHã H IÒ IÒ 2Hr fm H G m 2 G) ãn Hq 1e %2 Úf X)B K H (Ch G 42 PA 4 B, A, B, 5) RUIJIE A KÒ È V

show mac-address-table filtering

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

clear mac-address-table filtering	
show mac-address-table filtering	

mac-address-table notification

MAC no

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

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

interval <i>value</i>	MAC Trap 1
history-size <i>value</i>	MAC 50

1

50

MAC

Trap

snmp-server

enable traps mac-notification

MAC Trap

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

snmp-server enable traps	trap
show mac-address-table notification	MAC
snmp trap mac-notification	MAC

snmp trap mac-notification

MAC

no

snmp trap mac-notification {added | removed}

no snmp trap mac-notification {added | removed}

added	
removed	

show mac-address-table notification *interface*

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

mac-address-table notification	MAC
show mac-address-table notification	MAC

- ' **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 address

MAC

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

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

show mac-address-table aging-time

show mac-address-table aging-time

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

mac-address-table aging-time	

show mac-address-table count

show mac-address-table count

```
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
```

show mac-address-table static	
show mac-address-table filtering	
show mac-address-table dynamic	
show mac-address-table address	
show mac-address-table interface	
show mac-address-table vlan	VLAN

show mac-address-table dynamic

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

<i>mac-addr</i>	MAC
<i>vlan-id</i>	VLAN

<i>interface-id</i>	(AggregatePort)
---------------------	------------------

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

Vlan	MAC Address	Type	Interface
1	0000.0000.0001	DYNAMIC	gigabitethernet 1/1
1	0001.960c.a740	DYNAMIC	gigabitethernet 1/1
1	0007.95c7.dff9	DYNAMIC	gigabitethernet 1/1
1	0007.95cf.eee0	DYNAMIC	gigabitethernet 1/1
1	0007.95cf.f41f	DYNAMIC	gigabitethernet 1/1
1	0009.b715.d400	DYNAMIC	gigabitethernet 1/1
1	0050.bade.63c4	DYNAMIC	gigabitethernet 1/1

clear mac-address-table dynamic	

show mac-address-table filtering

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

<i>mac-addr</i>	MAC
<i>vlan-id</i>	VLAN

Ruijie# **show mac-address-table filtering**



<pre>show mac-address-table address</pre>	
---	--

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

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

show mac-address-table static

show mac-address-table static [a]dr [

show mac-address-table vlan

VLAN

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

<i>vlan-id</i>	VLAN ID

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

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

IGMP Snooping

deny

```
profile deny profile  
deny  
deny
```

deny	profile

```
profile deny
```

```
profile
```

```
profile range  
profile profile
```

```
profile deny permit
```

```
224.2.2.2 profile :
```

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

--	--

ip igmp profile	profile
range	

permit

profile profile permit
 profile

permit

permit	profile

profile deny

profile

profile range
 profile profile
 profile
 deny permit

224.2.2.2 profile :

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

ip igmp profile	profile
range	

range

```

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

low-ip-address
high-ip-address

```

```

profile

deny                               profile                               profile
                               profile                               profile

                               224.2.2.2~224.2.2.244       profile       :

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

```

ip igmp profile	profile	
deny	profile	deny
permit	profile	permit

ip igmp profile

```

profile-number       igmp profile

```

ip igmp profile *profile-number*
no ip igmp profile *profile-number*

profile-number profile 1-65535

profile

1 profile profile

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

range	profile
ip igmp snooping filter <i>profile-num</i>	

ip igmp snooping filter

profile no profile

ip igmp snooping filter *profile-number*
no ip igmp snooping filter *profile-number*

Profile-number profile

profile filter

0/1 profile 1

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

ip igmp profile	profile

ip igmp snooping ivgl

```

    igmp snooping          ivgl          ip
ip igmp snooping ivgl    no          igmp snooping
ip igmp snooping ivgl
no ip igmp snooping

```

disable

IGMP Snooping VLAN VLAN

igmp snooping ivgl

```
Ruijie(config)# ip igmp snooping ivgl
```

--	--

ip igmp snooping max-groups

```

ip igmp snooping max-groups number
no ip igmp snooping max-groups
    
```

number 0 – 4294967294

IGMP Report

0/1 100

```

Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip igmp snooping max-group 100
    
```

ip igmp snooping filter	

ip igmp snooping vlan mrouter interface profile

VLAN

IGMP Profile

```

ip igmp snooping vlan mrouter interface profile
interface profile no profile
ip igmp snooping vlan vid mrouter interface interface-id profile
profile-num
no ip igmp snooping vlan vid mrouter interface interface-id profile
    
```

vid

vlan id

interface-id

igmp snooping

```
Ruijie(config)# ip igmp snooping vlan 1 mrouter learn pim-dvmrp
```

ip igmp snooping vlan <i>vid</i> mrouter learn pim-dvmrp	

ip igmp snooping dyn-mr-aging-time

```
ip igmp snooping dyn-mr-aging-time time  
no ip igmp snooping dyn-mr-aging-time
```

time

300s

100s

```
Ruijie(config)# ip igmp snooping dyn-mr-aging-time 100
```


fast-leave

ip igmp snooping fast-leave enable

no ip igmp snooping fast-leave enable

disable

fast-leave

- ' **show ip igmp snooping** [gda-table | interface | mrouter]
- ' **show ip igmp profile** [*profile-number*]
- ' **debug igmp**

show ip igmp snooping

igmp snooping

show ip igmp snooping [gda-table | interfaces | mrouter/ statistics
[[i749 0

undebug igmp

EXEC


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

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

spanning-tree bpdudfilter

```
disabled BPDU filter enabled  
BPDU filter  
spanning-tree bpdudfilter [enabled | disabled]
```

```
enabled BPDU filter  
Disabled
```

spanning-tree bpduguard [enabled | disabled]

enabled	BPDU Guard
disabled	BPDU Guard

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

```
show spanning-tree interface STP
```

spanning-tree link-type

“ ” no

spanning-tree link-type [point-to-point | shared]

no spanning-tree link-type

point-to-point point-to-point.

Shared shared

shared point-to-point

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

```
show spanning-tree interface STP
```

spanning-tree max-hops

Count	BPDU Instance	BPDU Region	Max-hops
		no	

```
spanning-tree max-hops hop-count
```

```
no spanning-tree max-hops
```

<i>hop-count</i>	BPDU		1	40
------------------	------	--	---	----

<i>hop-count</i>	20			
------------------	----	--	--	--

Region	Root Bridge	BPDU	Hot Count
Root Bridge		Hop Count	1
BPDU		Hops	0
max-hops	Instance		

MST Instance	Max-hops	10
--------------	----------	----

```
Ruijie(config)# spanning-tree max-hops 10
```

```
show spanning-tree mst
```

```
show spanning-tree MSTP
```

spanning-tree mode

STP no

spanning-tree mode [stp | rstp | mstp]

no spanning-tree mode

stp Spanning tree protocol(IEEE 802.1d)

rstp Rapid spanning tree protocol(IEEE 802.1w)

mstp Multiple spanning tree protocol(IEEE 802.1s)

MSTP

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

show spanning-tree

spanning-tree mst configure

no MST MSTP Region
name revision vlan map

spanning-tree mst configuration

no spanning-tree mst configuration

instance vlan Vlan Instance 0
name
revision 0

end

```
Ruijie(config)#  
        VLAN 3 Instance 1 MST
```

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

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

```
show spanning-tree mst MST region  
instance instance-id vlan vlan-range Vlan MST Instance  
  
name MST  
revision MST  
show MST MST
```

spanning-tree mst cost

```
Instance no  
  
spanning-tree [mst instance-id] cost cost  
no spanning-tree [mst instance-id] cost
```

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

```
Instance-ID 0  
Interface
```

cost

Instance 3

400

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

```
Ruijie(config-if)# spanning-tree mst 3 cost 400
```

Region

Instance 20 Gigabitethernet 1/1
10

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

show spanning-tree mst instance interface *interface-id*

```
show spanning-tree mst           MSTP
spanning-tree mst cost
spanning-tree mst priority       Instance
```

spanning-tree mst priority

Instance no

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

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

```
instance-id Instance          0 64
priority                    0, 4096,8192, 12288, 16384, 20480,
24576, 28672, 32768, 36864, 40960, 45056, 49152,53248, 57344
61440 16                      4096
```

```
instance-id          0
```

```
priority            32768
```

Instance 20

8192

tx-hold-count TxHoldCount 1 10

3

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

show spanning-tree MSTP

spanning-tree pathcost method

no

spanning-tree pathcost method [long | short]

no spanning-tree pathcost method

long 802.1t path-cost

short 802.1d path-cost

802.1T Path-cost

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

show spanning-tree interface STP

spanning-tree portfast

```
Portfast disabled
Portfast
```

spanning-tree portfast [disabled]

```
disabled Portfast
```

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

```
show spanning-tree interface STP
```

spanning-tree portfast bpduguard default

```
BPDU guard no
BPDU guard
```

spanning-tree portfast bpduguard default

no spanning-tree portfast bpduguard default

BPDU Guard.

BPDU guard BPDU
error-disabled **show spanning-tree**

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

show spanning-tree interface STP

spanning-tree portfast bpdufilter default

BPDU filter no BPDU
filter

spanning-tree portfast bpdufilter default

no spanning-tree portfast bpdufilter default

BPDU filter

BPDU Filter BPDU **show**
spanning-tree

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

show spanning-tree interface STP

spanning-tree portfast default

Portfast no
Portfast

spanning-tree portfast default

no spanning-tree portfast default

Portfast

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

```
show spanning-tree interface STP
```

spanning-tree tc-protection tc-guard

tc-guard no tc-guard
tc-guard tc

spanning-tree tc-protection tc-guard

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

spanning-tree tc-guard

```
tc-guard no tc-guard  
tc-guard tc
```

```
spanning-tree tc-guard
```

```
no spanning-tree tc-guard
```

```
tc-guard
```

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

spanning-tree guard root

```
root guard no root guard  
root guard
```

```
spanning-tree guard root
```

```
no spanning-tree guard root
```

```
root guard
```

```
Ruijie(config-if)# spanning-tree guard root
```

spanning-tree loopguard default

```
loop guard no loop guard  
loop guard bpdu
```

```
spanning-tree loopguard default
```

```
no spanning-tree loopguard default
```

```
loop guard
```



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

```
show spanning-tree interface STP
```

bpdu src-mac-check

```
bpdu mac no
bpdu mac
bpdu src-mac-check H.H.H
no bpdu src-mac-check
```

```
H.H.H mac bpdu
no bpdu
```

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

clear spanning-tree detected-protocols

```
RSTP BPDU BPDU
clear spanning-tree detected-protocols [interface interface-id]
```

```
interface-id
```

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

```
show spanning-tree interface          STP
```

spanning-tree compatible enable

MSTI

```
spanning-tree compatible enable
```

```
no spanning-tree compatible enable
```

```
Ruijie(config-if)#spanning-tree compatible enable
```

show spanning-tree

```
show spanning-tree [summary | forward-time | hello-time |  
max-age | inconsistentports| tx-hold-count | pathcost method |  
max_hops]
```

```
summary          MSTP    instance
```

```
Inconsistentports
```

show spanning-tree interface

STP

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

interface-id

bpdufilter bpdufilter

portfast portfast

bpduguard bpduguard

link-type linktype

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

spanning-tree bpdufilter BPDU filter

spanning-tree portfast portfast

spanning-tree bpduguard BPDU guard

spanning-tree link-type

Instance

SPAN

monitor session

SPAN

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**]}

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**]

no monitor session all

<i>session_number</i>	SPAN
source interface <i>interface-id</i>	<i>interface-id</i> AP SVI
destination interface <i>interface-id</i>	<i>interface-id</i> AP SVI
mac source <i>mac-addr</i>	MAC
mac destination <i>mac-addr</i>	MAC
both	
rx	
tx	
all	
encapsulation	,
switch	tag

show monitor

SPAN 1

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

monitor session	SPAN

IP

ip address

ip address

IP

no

IP

ip address *ip-address network-mask*

no ip address *ip-address network-mask*

<i>ip-address</i>	32	IP	8
<i>network-mask</i>	32	8	"1" "0"

IP

IP IP IP
 IP IP IP
 32 IP IP
 1 IP IP
 0 IP
 A 255.0.0.0

IP

```
255.255.255.0          IP          10.10.10.1
ip address 10.10.10.1 255.255.255.0
```

show interface	

```
secondary          IP
```

arp

```
ARP          IP          MAC
```

IP

RGOS

ARP

32

IP

48

ARP

30s

arp retry interval 30

Arp retry times <i>number</i>	ARP

arp retry times

arp

IP

ARP

no

5 ARP

arp retry times *number*

no arp retry times

<i>number</i>	<p>ARP <1-100></p> <p>1 ARP</p>

ARP

ARP

5

ARP

ARP

ARP

arp retry times 1

ARP

1

arp retry times 2

arp retry interval <i>seconds</i>	arp

arp trusted NUM

ARP

no

arp trusted *number*

no arp trusted

<i>number</i>	ARP , <10-4096>

ARP

42117/TT1 Td8/T

arp trusted aging

ARP

no

arp trusted aging

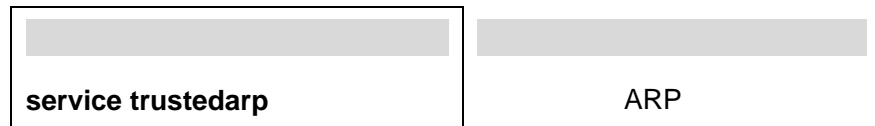
no arp trusted aging

GSN ARP

ARP

arp timeout

ARP



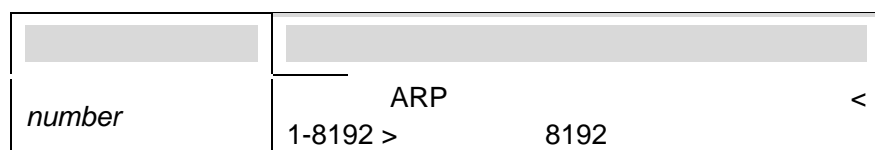
arp unresolve

ARP
8192

no

arp unresolve number

no arp unresolve



IP

SVI 1

IP



<i>Interface-type</i>	
<i>Interface-number</i>	

RGOS
RGOS
RGOS

UP

UP

show ip interface

```
Ruijie# show ip interface FastEthernet 0/1  
IP interface state is: UP  
IP interface type is: BROADCAST  
IP interface metric is: 0  
IP interface MTU is: 1500  
IP address is:  
192.168.5.133/24 (primary)  
IP address negotiate is: OFF  
Forward direct-boardcast is: ON  
ICMP mask reply is: ON  
Send ICMP redirect is: ON
```

IP interface state is:	"UP"
IP interface type is:	
IP interface MTU is:	MTU
IP address is:	IP
IP address negotiate is:	IP
Forward direct-boardcast is:	
ICMP mask reply is:	ICMP
Send ICMP redirect is:	ICMP
Send ICMP unreachable is:	ICMP
DHCP relay is:	DHCP
Fast switch is:	IP
Route horizontal-split is:	
Help address is:	helper IP
Proxy ARP is:	ARP
Outgoing access list is	
Inbound access list is	

show ip redirects

show ip redirects

show ip redirects

Ruijie# **show ip redirects**

Default Gateway: 192.168.195.1

ip default-gateway	

ip default-gateway

Ä

ip default-gateway



	DNS Server	IP	
DNS Server			Server
Server	DNS		
	6	DNS Server	
ip-address			DNS

```
Ruijie(config)# ip name-server 192.168.5.134
```


-IP

clear host *

show hosts	

RGNOS10.1

show hosts

DNS

show hosts

DNS

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

ip host	IP
ip name-server	DNS

RGNOS10.1

SNTP

- ' **sntp enable**
- ' **sntp server**
- ' **sntp interval**

sntp enable

SNTP **no**
 —Disable
[no] sntp enable

SNTP Disable

show sntp SNTP

RedGiant(config)# **sntp enable**

show sntp	SNTP
clock update-calendar	
clock set	

RGOS10.0

sntp server

Server	SNTP Server	SNTP	NTP
		internet	

seconds

60 --65535

1800s

show sntp

SNTP

RedGiant(config)# **sntp interval 3600**

sntp enable	SNTP
show sntp	SNTP
clock update-calendar	

RGOS10.0

:

show sntp**show sntp**

SNTP

show sntp

SNTP

```
RedGiant# show sntp
SNTP state           : Enable
SNTP server          : 192.168.4.12
SNTP sync interval  : 60
Time zone            : +8
```

snmp enable	SNTP
show snmp	SNTP

RGOS10.0

NTP

ntp server	NTP

ntp authenticate

NTP

NTP

ntp authentication-key

NTP

NTP

ntp disable

NTP

ntp disable

NTP

NTP

NTP

r 注意:

IP

NTP

no ntp

ntp server

NTP

NTP

ntp server *ip-addr* [**version** *version*] [**source** *if-name*] [**key** *keyid*] [**prefer**]

ntp serveTf 7 0 4id Ĩ – DAË â Đ-,rbáu-% p6.`... 1 PÜG&.ö R €`nsb

<i>version</i>	NTP 1-3 NTPv3
<i>if-name</i>	NTP
<i>keyid</i>	
prefer	Prefer

NTP

20

prefer

NTP
IP

NTP

NTP server

ntp server 192.168.210.222

no ntp	NTP

ntp synchronize

NTP

ntp synchronize

no ntp synchronize


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

ntp authenticate	
ntp authentication-key	NTP
ntp server	NTP

- ' **debug ntp**
- ' **show ntp status**

debug ntp

NTP

debug ntp

no debug ntp

NTP

NTP

NTP

debug ntp

show ntp status

NTP

show ntp status

NTP

NTP

NTP

show ntp status

SNMP

SNMP

```
' no snmp-server  
' show snmp  
' snmp-server chassis-id  
' snmp-server community  
' snmp-server contact  
' snmp-server enable traps  
' snmp-server host  
' snmp-server location  
' snmp-server packetsize  
' snmp-server queue-length  
' snmp-server system-shutdown  
' snmp-server trap-source  
' snmp-server trap-timeout
```

no snmp-server

SNMP

no snmp-server

no snmp-server

SNMP

SNMP

SNMP

Ruijie(config)# **no snmp-server**

snmp-server chassis-id

```

SNMP
chassis-id no snmp-server
snmp-server chassis-id text
no snmp-server chassis-id

```

text

60FF60

SNMP

show snmp

SNMP 123456:

Ruijie(config)# **snmp-server chassis-id 123456**

show snmp	SNMP

snmp-server community

```

SNMP
community no SNMP snmp-server
snmp-server community string [view view-name] [[ro | rw] [host
ipaddr] [ number ]
no snmp-server community string

```

string NMS SNMP

view-name

```

ro          NMS  MIB
rw          NMS  MIB
number     0-99
MIB  NMS
ipaddr     NMS          MIB  NMS
    
```

```

SNMP
MIB  NMS
SNMP          no snmp-server
    
```

```

MIB
192.168.12.1  NMS  MIB
Ruijie(config)# access-list 2 permit 192.168.12.1
Ruijie(config)# access-list 2 deny any
Ruijie(config)# snmp-server community public ro 2
    
```

access-list	

snmp-server contact

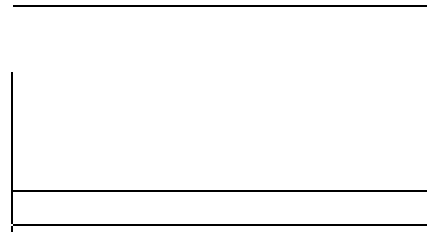
```

SNMP          snmp-server
contact       no          SNMP
snmp-server contact text
no snmp-server contact
text
    
```

SNMP

i-net800@i-net.com.cn

```
Ruijie(config)# snmp-server contact i-net800@i-net.com.cn
```



snmp-server enable traps SNMP NMS Trap **snmp-server enable traps**
no SNMP NMS Trap

snmp-server enable traps [snmp]

no snmp-server enable traps

snmp SNMP

snmp-server

SNMP

```
Ruijie(config)# snmp-server enable traps snmp
```

```
Ruijie(config)# snmp-server host public 2.219
```

show snmp-server

SNMP

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

snmp

	ÀÈ	Ög
snmp-server host	SNMP	

snmp-server host

snmp-server host SNMP NMS
no SNMP
snmp-server host *host-addr*

SNMP

SNMP

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

no snmp-server packetsize

byte-count 484 17876

1500

SNMP 1492

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

snmp-server queue-length	SNMP

snmp-server queue-length

snmp-server

queue-length

snmp-server queue-length *length*

length 1 1000

10

```
Ruijie(config)# snmp-server queue-length 4
```



```
md5 authpassstr priv des56 despassstr
```

show snmp user	SNMP

snmp-server group

SNMP
no

snmp-server group

```
snmp-server group groupname {v1 | v2c | v3 {auth | noauth | priv}}
[read readview][write writeview] [access {num | name}]
```

```
no snmp-server group groupname {v1 | v2c | v3 }
```

```
v1 | v2c | v3 (SNMP) | C_005072C838206 | 4074736280B4009819E7092836235
```

show snmp group	SNMP

snmp-server view

```

SNMP                                snmp-server view
no
snmp-server view view-name oid-tree {include | exclude}
no snmp-server view view-name [oid-tree]

view-name
oid-tree                MIB                MIB
include                  MIB
exclude                  MIB

                                default        MIB

                                MIB-2        oid  1.3.6.1
Ruijie(config)# snmp-server view mib2 1.3.6.1 include

```

show snmp view	SNMP

show snmp

```

SNMP                                show snmp
show snmp [mib | user | view | group]

```

show snmp SNMP
show snmp mib snmp mib
show snmp user snmp
show snmp view snmp
show snmp group snmp

SNMP

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

snmp-server <i>chassis-id</i>	SNMP

RMON

RMON

' **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*]

```
Ruijie(config-if)# rmon collection stats 1 zhansan
```

rmon collection history <i>index [owner owner-name]</i> buckets <i>bucket-number</i> interval <i>seconds</i>	

rmon collection history

no

```
rmon collection history index [owner ownername] [buckets  

bucket-number] [interval seconds]  

no rmon collection history index
```

```
owner buckets interval  

RGOS
```

1

```
Ruijie(config)# interface fast-Ethernet 0/1  

Ruijie(config-if)# rmon collection history 1 zhansan  

buckets 10 interval 10
```

rmon collection stats <i>index</i> [owner owner-name]	

rmon alarm

MIB no

rmon alarm *number variable interval {absolute | delta }
rising-threshold value [event-number] **falling-threshold** value
[event-number] [**owner** ownername]
no rmon alarm *number**

RGOS

variable	interval	absolute/delta	owner	interval
rising-threshold/falling-threshold			event	

MIB ifInNUcastPkts.6

```
Ruijie(config)# rmon alarm 10 1.3.6.1.2.1.2.2.1.12.6 30
delta rising-threshold 9.315 0 Td00 Td(rising-t30.377 -1.4
```

trap

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



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

```

Octets : 1884085
Pkts : 3096
BroadcastPkts : 161
MulticastPkts : 97
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 1200
Fragments : 0
Jabbers : 0
Collisions : 0
Pkts64Octets : 128
Pkts65to127Octets : 336
Pkts128to255Octets : 229
Pkts256to511Octets : 3
Pkts512to1023Octets : 0
Pkts1024to1518Octets : 1200
Owner : zhangsan
    
```

rmon collection stats <i>index</i> [owner owner-string]	

show rmon history

show rmon history

```

Ruijie# show rmon history
Entry : 1
Data source : Gil/1
Buckets requested : 65535
    
```

```

Buckets granted : 10
Interval : 1
Owner : zhangsan
Sample : 198
Interval start : 0d:0h:15m:0s
DropEvents : 0
Octets : 67988
Pkts : 726
BroadcastPkts : 502
MulticastPkts : 189
CRCAlignErrors : 0
UndersizePkts : 0
OversizePkts : 0
Fragments : 0
Jabbers : 0
Collisions : 0
Utilization : 0
    
```

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

show rmon alarm

show rmon alarm

```

Ruijie# show rmon alarm
Event : 1
    
```

Description : firstevent
Event type : log-and-trap
Community : public
Last time sent : 0d:0h:0m:0s
Owner : zhangsan
Log : 1
Log time : 0d:0h:37m:47s
Log description : ipttl
Log : 2
Log time : 0d:0h:38m:56s
Log description : ipttl

Rising threshold : 10
Falling threshold : 22
Rising event : 0
Falling event : 0
Owner : zhangsan

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

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

storm-control

no

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

```
no storm-control {broadcast | multicast
```

M

Gigabitethernet 1/1
shutdown

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# switchport port-security
Ruijie(config-if)# switchport port-security
violation shutdown
```

show port-security	

switchport port-security aging

no

```
switchport port-security aging {static | time time }
no switchport port-security aging {static | time }
```

--	--

Static

time time 0

```

no switchport port-security aging
time
port-security aging static
no switchport

```

show port-security

```

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

```

show port-security	

switchport port-security mac-address

no

```

switchport port-security [mac-address mac-address] [maximum
value]

```

```

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

```

mac-address mac-address	
maximum value	

802.1x

IP

IP

gigabitethernet 1/1

00d0.f800.073c

Ruijie# **configure terminal**

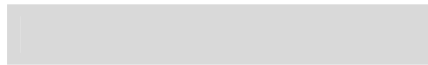
Ruijie(config)# **interface gigabitethernet 1/1**

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

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

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

mac-address 00d0.f800.073c



Interface Broadcast Control Multicast Control Unicast
Control

Gi1/1 Disabled Disabled Disabled

storm-control	

show port-security

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



switchport port-security aging	
switchport port-security mac-address	

802.1X

dot1x

dot1x

' dot1x auto-req

' dot1x auto-req p

```
Packet-Num : 0
Req-Interval: 30 Second
```

show dot1x auto-req	

dot1x auto-req packet-num

no

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

num

num = 0;

show dot1x**auto-req**

802.1x

```
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
```

--	--

<code>show dot1x auto-req</code>	
----------------------------------	--

dot1x auto-req req-interval

no

`dot1x auto-req req-interval interval`

`no dot1x auto-req req-interval`

dot1x auto-req user-detect

no

dot1x auto-req user-detect

no dot1x auto-req user-detect

show dot1x auto-req

```
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
```

show dot1x auto-req	

dot1x

dot1x

' **dot1x timeout quiet-period**

```
' dot1x timeout re-authperiod  
' dot1x timeout server-timeout  
' dot1x timeout supp-timeout  
' dot1x timeout tx-period
```

dot1x timeout quiet-period

no

```
dot1x timeout quiet-period seconds  
no dot1x timeout quiet-period
```

seconds

```
0 65535 s
```

10

show dot1x

1000s

```
Ruijie# configure terminal  
Ruijie(config)# dot1x timeout quiet-period 1000  
Ruijie(config)#
```

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

show dot1x	802.1x

dot1x timeout re-authperiod

no

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

show dot1x	802.1x

dot1x timeout server-timeout

```

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

```

show dot1x	802.1x

dot1x timeout supp-timeout

no

```

dot1x timeout supp-timeout seconds
no dot1x timeout supp-timeout

```

```

seconds                                0
65535

```

3

```

show dot1x

```

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

```

show dot1x	802.1x

dot1x timeout tx-period

no

```

dot1x timeout tx-period seconds
no dot1x timeout tx-period

```

```

seconds          0  65535

```

show dot1x

10s

```

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

```

```

802.1X Status:      Enabled
Authentication Mode: EAP-MD5
Authed User Number: 0
Re-authen Enabled:  Disabled
Re-authen Period:   1000 sec
Quiet Timer Period: 1000 sec
Tx Timer Period:    10 sec
Supplicant Timeout: 10 sec
Server Timeout:     10 sec
Re-authen Max:      3 times
Maximum Request:    3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Disabled
Eapol Tag Enable:   Disabled
Authorization Mode:  Group Server

```

show dot1x	802.1x

dot1x

- ' **dot1x re-authentication**
- ' **dot1x reauth-max**

dot1x re-authentication

no

[no] dot1x re-authentication**show dot1x**

```
Ruijie# configure terminal
Ruijie(config)# dot1x re-authentication
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:      3 times
Maximum Request:    3 times
Filter Non-RG Supp: Disabled
Client Oline Probe: Disabled
Eapol Tag Enable:   Disabled
Authorization Mode:  Group Server
```

show dot1x	802.1x

dot1x reauth-max

no

dot1x reauth-max *count*

no dot1x reauth-max

count

3

show dot1x

```
Ruijie# configure terminal
Ruijie(config)# dot1x reauth-max 5
Ruijie(config)# end
Ruijie# show dot1x

802.1X Status:           Enabled
Authentication Mode:    EAP-MD5
Authed User Number:    0
Re-authen Enabled:     Enabled
Re-authen Period:      1000 sec
Quiet Timer Period:    1000 sec
Tx Timer Period:       10 sec
Supplicant Timeout:    10 sec
Server Timeout:        10 sec
Re-authen Max:         5 times
Maximum Request:       3 times
Filter Non-RG Supp:    Disabled
Client Oline Probe:    Disabled
Eapol Tag Enable:      Disabled
Authorization Mode:     Group Server
```

show dot1x	802.1x

dot1x

- ' **dot1x probe-timer**
- ' **dot1x client-probe enable**

dot1x probe-timer

```
dot1x probe-timer{interval | alive}interval
no dot1x probe-timer
```

no

alive

interval

interval hello

Hello 20

 250

show dot1x 802.1x

hello 30 , 120

```
Ruijie# configure terminal
```

```
Ruijie(config)# dot1x probe-timer interval 30
```

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


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

list-name

AAA

AAA

AAA

dot1x

```

enable      AAA      aaa domain
             dot1x authentication auth
                                     auth

```

AAA

group radius

```

Ruijie# configure terminal
Ruijie(config)# aaa new-model
Ruijie(config)# aaa authentication dot1x default group
radius
Ruijie(config)# dot1x authentication default
Ruijie(config)# end
Ruijie#

```

aaa new-model	AAA
aaa authentication dot1x	

dot1x accounting

AAA

AAA

no

```

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

```

default*list-name*

AAA default

AAA dot1x

enable AAA dot1x accounting aaa domain

AAA

group radius

```
Ruijie# configure terminal  
Ruijie(config)# aaa new-model  
Ruijie(config)#aaa accounting network
```


dot1x dynamic-vlan enable

vlan no

```
dot1x dynamic-vlan enable
no dot1x dynamic-vlan enable
```

show dot1x dynamic-vlan

802.1x vlan

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

show dot1x	802.1x

dot1x eapol-tag

EAPOL TAG

```
dot1x eapol-tag
no dot1x eapol-tag
```

show dot1x

802.1X tag

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

show dot1x	802.1x

dot1x max-req

```
DOT1X DOT1X DOT1X  
DOT1X  
no
```

```
dot1x max-req count  
no dot1x max-req
```

count

3

show dot1x

802.1x 7

Ruijie# **configure terminal**


```
dot1x port-control-mode {mac-based | port-based}  
no dot1x port-control-mode
```

```
mac-based      mac  802.1X
```

```
port-based      802.1X
```

```
mac-based
```

```
show dot1x port-control      802.1x
```

```
802.1x
```

```
Ruijie(config)#
```

802.1x

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

dot1x

```
' show dot1x
' show dot1x auth-address-table
' show dot1x auto-req
' show dot1x private-supPLICANT-only
' show dot1x max-req
' show dot1x port-control
' show dot1x probe-timer
' show dot1x re-authentication
' show dot1x reauth-max
' show dot1x summary
' show dot1x timeout
' show dot1x user id
```

show dot1x

802.1x

show dot1x

```
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
Suppl1Eble66( 3600 )-103(se)-niod: 10 Supp(Tx )-103(Timer )-103(E
```

802.1X 认证失败原因

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

show dot1x auto-req

802.1x

show dot1x auto-req

```
Ruijie# show dot1x auto-req
```

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

--	--

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

show dot1x max-req

show dot1x max-req

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

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

show dot1x port-control

show dot1x port-control [*interface interface*]

interface

```
Ruijie# show dot1x port-control  
interface dyn-user static-user max-user qos
```



```
Ruijie# show dot1x probe-timer
```

```
Hello Interval: 20 Seconds
```

```
Hello Alive: 250 Seconds
```

```
Ruijie#
```

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

show dot1x re-authentication

```
show dot1x re-authentication
```

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

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

show dot1x reauth-max

show dot1x reauth-max

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

dot1x auth-mode	802.1x
dot1x max-req	
dot1x port-control auto	
dot1x reauth-max	

```

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

```

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

show dot1x user id

802.1X

dot1x port-control auto	
dot1x reauth-max	
dot1x re-authentication	
dot1x timeout quiet-period	
dot1x timeout re-authperiod	
dot1x timeout server-timeout	
dot1x timeout supp-timeout	
dot1x timeout tx-period	

show dot1x timeout

802.1X

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

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

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

default

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

AAA

AAA

aaa authentication

RDS_D1X AAA

RADIUS

RADIUS

Ruijie(config)# **aaa authentication dot1x rds_d1x group
radius local**

aaa new-model	AAA
dot1x authentication	DOT1x
ppp authentication	PPP
login authentication	Login
username	

RGOS

RADIUS

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

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

aaa accounting update

```
aaa accounting update  
no
```

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

AAA

AAA

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

aaa new-model	AAA

aaa accounting network

show aaa method-list

```
method-list EXEC show aaa  
show aaa method-list
```

EXEC

```
Ruijie# show aaa method-list
```

AAA

```
AAA  
' aaa domain enable  
' aaa domain {default | }  
' authentication  
' accounting  
' authorization  
' state {block | active}  
' username-format {without-domain | with-domain}  
' access-limit <1-1024>  
' show aaa domain [word]
```

aaa domain enable

```
AAA AAA no  
aaa domain enable  
no aaa domain enable
```


AAA

Ruijie(config-domain)#

Show aaa domain	
-----------------	--

accounting

no

accounting { update | network } { default | *methodlist* }**no accounting { update | network }****default:***methodlist*

default

```
Ruijie(config)# aaa domain ruijie.com  
Ruijie(config-domain)# accounting network default
```

aaa new-model	AAA
aaa domain enable	AAA
Show aaa domain	

authorization

no

authorization { ip-auth-mode | network } { default | *methodlist* }**no authorization { ip-auth-mode | network }**


```
Ruijie(config)# aaa domain ruijie.com  
Ruijie(config-domain)# state block
```

aaa new-model	AAA
aaa domain enable	AAA
Show aaa domain	

username-format

NAS

no

username-format {without-domain | with-domain}

no username-format

without-domain:

with-domain

NAS

```
Ruijie(config)# aaa domain ruijie.com  
Ruijie(config-domain)# username-domain without-domain
```

aaa new-model	AAA
aaa domain enable	AAA
Show aaa domain	

access-limit <1-1024>

1X

no

access-limit <1-1024>**no access-limit**

<1-1024>:

802.1X

```
Ruijie(config)# aaa domain ruijie.com  
Ruijie(config-domain)# access-limit 20
```

aaa new-model	AAA
aaa domain enable	AAA
Show aaa domain	

show aaa domain

EXEC **show aaa domain**

show aaa domain {Domain name|Default}

Domain name

Default:

EXEC

```
Ruijie(config)#show aaa domain ruijie.com
```

```
=====Domain ruijie.com=====
```

```
State: Active
```

```
Username format: Without-domain
```

```
Access limit: No limit
```

```
802.1X Access statistic: 0
```

```
Selected method list:
```

```
authentication login default
```

```
Ruijie(config)#
```

AAA

- ' **show aaa group**
- ' **aaa group server**
- ' **server ip-addr authen-port port1 acct-port port2**

show aaa group

AAA

show aaa group

AAA

```
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#
```

aaa group server	AAA

aaa group server

AAA

no

aaa group server radius *name*

no aaa group server radius *name*

AAA

name

"radius" "tacacs+"

AAA

Radius

Ruijie(config)#

```
Ruijie(config)# aaa group server radius ss
Ruijie(config-gs-radius)# server 192.168.4.12
acct-port 5 authen-port 6
Ruijie(config-gs-radius)# end
Ruijie# show aaa group
Group Name: ss
Group Type: radius
Referred: 2
Server List:
IP Address: 192.168.4.12
Authentication Port: 6
Accounting Port: 5
Referred: 1
Ruijie#
```

aaa group server	aaa
show aaa group	aaa

AAA

```
' aaa new-model
' debug aaa
' show aaa method-list
' aaa local authentication attempts
' aaa local authentication lockout-time
' show aaa user lockout
' clear aaa local user lockout
```


aaa new-model

```
RGOS AAA aaa
new-model AAA no AAA
aaa new-model
no aaa new-model
```

AAA

AAA
a new-model AAA AAA AAA AAA

AAA
ijie(config)# aaa new-model



AAA

AAA

```
Ruijie# show aaa method-list
Authentication method-list
aaa authentication login default group radius
aaa authentication ppp default group radius
aaa authentication dotlx default group radius
aaa authentication dotlx 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#
```

aaa authentication	
aaa authorization	
aaa accounting	

aaa local authentication attempts

login

```
aaa local authentication attempts <1-2147483647>
```

```
<1-2147483647>
```

3

login

Ruijie#**configure terminal**Ruijie(config)#**aaa local authentication attempts 6**

Ruijie0(config)#

Show running-config	
Show aaa lockout	login

aaa local authentication lockout-time

login

aaa local authentication lockout-time <1-2147483647>

<1-2147483647>

15

login

Ruijie#**configure terminal**Ruijie(config)#**aaa local authentication lockout-time 5**

Ruijie(config)#

Show running-config	
Show aaa logout	login

show aaa user logout

show aaa user logout {all | user-name <word>}

ID

ruijie#

Ruijie#**show aaa user logout all**

Show running-config	
Show aaa logout	login

clear aaa local user logout

clear aaa local user logout {all | user-name <word>}

ID

Ruijie# **clear aaa local user lockout all**

Show running-config	
Show aaa lockout	login

RADIUS

RADIUS

RADIUS

- ' **ip radius source-interface**
- ' **radius-server host**
- ' **radius-server key**
- ' **radius-server retransmit**
- ' **radius-server timeout**
- ' **radius-server dead-time**
- ' **radius attribute**
- ' **radius set qos cos**
- ' **radius vendor-specific extend**

ip radius source-interface

```
radius source-interface no ip radius RADIUS
ip radius source-interface interface
no radius source-interface
```

Interface radius

radius

```
radius nas
radius ip
radius
```

```

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

radius-server host	RADIUS
ip address	ip

radius-server host

```

RADIUS                                radius-server
no                                    RADIUS

radius-server host {hostname | ip-address} [auth-port port-number]
[acct-port port-number][key 0|7 text]
no radius-server host {hostname | ip-address}

hostname: RADIUS                        DNS
ip-address: RADIUS                       IP
auth-port: RADIUS                        UDP
port-number: RADIUS                       UDP                0

acct-port: Radius                        UDP
port-number: RADIUS                       UDP                0

text
0
7
    
```

RADIUS

RADIUS AAA
radius-server

RADIUS
RADIUS

0 7 0
0

7

service password-encryption

```

RADIUS
RADIUS
RADIUS
radius-server host ip key
0 7 0
0
service password-encryption RADIUS
7 show running RADIUS
show running RADIUS
RADIUS
aaa
Ruijie(config)#radius-server key aaa
    
```

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server timeout	RADIUS

radius-server retransmit

```

RADIUS
radius-server retransmit no
radius-server retransmit retries
no radius-server retransmit
    
```

retries RADIUS

3

AAA

RADIUS

4

Ruijie(config)# **radius-server retransmit 4**

radius-server host	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

radius-server timeout

RADIUS

radius-server timeout no

radius-server timeout *seconds*

no radius-server timeout

seconds

1-1000

5

10

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

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS

radius-server deadtime

```

t
t      t      RGOS      RADIUS
      deadtime
      radius-server deadtime
no
radius-server deadtime minutes
no radius-server deadtime

minutes      1-1000

5

```

10

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



radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

radius attribute

**radius ttribute{<id> | down-rate-limit | dscp | mac-limit |
up-rate-limit}**

RADIUS

15	file-name-4	15
----	-------------	----

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

max up-rate 211

Ruijie(config)# radius attribute 16 vendor-type 211

radius set qos cos	radius qos cos

radius set qos cos

radius qos cos

radius set qos cos

no radius set qos cos

qos dscp

qos cos dscp

Ruijie(config)# **radius set qos cos**

radius vendor-specific extend	Radius id

radius vendor-specific extend

id

radius vendor-specific extend

no radius vendor-specific extend

id

id

Ruijie(config)# **radius vendor-specific extend**

radius attribute	
radius set	qos cos

RADIUS

- ' **debug radius [event | detail]**
- ' **show radius server**
- ' **show radius parameter**
- ' **show radius vendor-specific**

debug radius

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

EXEC

show radius server

```
RADIUS
show radius server
```

radius

```
Ruijie# show radius server
server ip : 192.168.4.12
acct port: 23
```

RADIUS

authen port: 77

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

show radius vendor-specific

RADIUS

show radius vendor-specific

radius

```
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
```

RADIUS

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 privilige	22
23	login privilige	42
24	limit to user number	50

radius-server host	RADIUS
radius-server retransmit	RADIUS
radius-server key	RADIUS
radius-server timeout	RADIUS

TACACS+

TACACS+

TACACS+

```
' aaa group server tacacs+  
' ip tacacs source-interface  
' server(TACACS+)  
' tacacs-server host  
' tacacs-server key  
' tacacs-server timeout
```

aaa group server tacacs+

TACACS+

TACACS+

```
aaa group server tacacs+ group-name  
no aaa group server tacacs+ group-name
```

```
group-name TACACS+
```

TACACS+

TACACS+

```
tac1 TACACS+  
1.1.1.1 TACACS+  
Ruijie(config)# aaa group server tacacs+ tac1  
Ruijie(config-gs-tacacs)# server 1.1.1.1
```

server	TACACS+ server

server(TACACS+)

TACACS+

server *ip-address*

no server *ip-address*

ip-address TACACS+

TACACS+

aaa group server tacacs+

TACACS+

TACACS+

tacacs-server host

TACACS+

tac1 TACACS+

1.1.1.1 TACACS+

Ruijie(config)# **aaa group server tacacs+ tac1**

Ruijie(config-gs-tacacs+)# **server 1.1.1.1**

aaa group server tacacs+	TACACS+

ip tacacs source-interface

TACACS+

```
ip tacacs source-interface interface
```

```
no ip tacacs source-interface
```

```
Interface TACACS+
```

TACACS+

```
TACACS+
TACACS+
ip TACACS+
nas
```

```
TACACS+ fastEthernet 0/0 ip
TACACS+
```

```
Ruijie(config)# ip tacacs source-interface fastEthernet
0/0
```

tacacs-server host	TACACS+
ip address	ip

tacacs-server host

TACACS+ IP

```
tacacs-server host ip-address [port integer] [timeout integer] [key
string]
```

```
no tacacs-server host ip-address
```

```
ip-address TACACS+ IP
```

port *integer* TACACS+ TCP
timeout *integer* TACACS+
key *string* TACACS+ client

TACACS+

TACACS+ AAA TACACS+
tacacs-server TACACS+

TACACS+

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

aaa authentication	AAA
tacacs-server key	TACACS+
tacacs-server timeout	TACACS+

tacacs-server key

TACACS+

tacacs-server key [0 | 7] *string*
no tacacs-server key

string

0 | 7 0 7

TACACS+ TACACS+ TACACS+
host key key
key

TACACS+ aaa
Ruijie(config)#**tacacs-server key aaa**

tacacs-server host	TACACS+
tacacs-server timeout	TACACS+

tacacs-server timeout

TACACS+
tacacs-server timeout seconds
no tacacs-server timeout

seconds 1-1000

5

host timeout
timeout timeout

10

```
Ruijie(config)# tacacs-server timeout 10
```

tacacs-server host	TACACS+
tacacs-server key	TACACS+

TACACS+

- ' **debug tacacs+**
- ' **show tacacs**

debug tacacs+

```
TACACS+ no TACACS+  
debug tacacs+  
no debug tacacs+
```

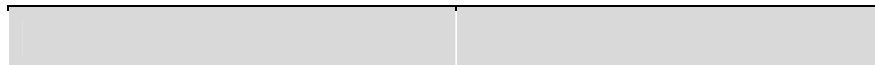
```
EXEC
```

show tacacs

```
TACACS+  
show tacacs
```

TACACS+

```
Ruijie# show tacacs  
Tacacs+ Server : 172.19.192.80/49  
Socket Opens: 0  
Socket Closes: 0  
Total Packets Sent: 0  
Total Packets Recv: 0  
Reference Count: 0
```



r 注意:

no crypto key generate

crypto key zeroize

Ruijie# configure terminal

Ruijie(config)# crypto key generate rsa

show ip ssh	SSH Server
crypto key zeroize {rsa dsa}	DSA RSA SSH Server

RGOS10.1

crypto key zeroize

SSH

crypto key zeroize {rsa / dsa}

rsa	RSA
dsa	DSA

DISABLE SSH Server SSH Server
service ssh-server **no enable**

```
Ruijie# configure terminal
Ruijie(config)# crypto key zeroize rsa
```

show ip ssh	SSH Server
crypto key generate {rsa dsa}	DSA RSA

RGOS10.1

ip ssh version

SSH server no

```
ip ssh version {1 / 2}
no ip ssh version
```

1	SSH Server	SSH1
2	SSH Server	SSH2

```
SSH SSH 1 2
no ip ssh version
```

```
SSH Server SSH
SSH Server SSH1 SSH2 SSH 1
SSH 2 1 2
SSH show ip ssh SSH Serv
er
```


show ip ssh	ssh-server

RGOS10.1

ip ssh authentication-retries

SSH Server

no

ip ssh authentication-retries *retry times***no ip ssh authentication-retries**

<i>retry times</i>	

3

no ip ssh**authentication-retries**

SSH Server

SSH

Server

show ip ssh

SSH Server

2

Ruijie# **configure terminal**Ruijie(config)# **ip ssh ssh authentication-retries 2**

show ip ssh	SSH Server

Ip ssh authentication-retries retry times	SSH Server
--	------------

RGOS10.1

show ssh

SSH

show ssh

SSH

VTY

SSH

Ruijie# **show ssh**

RGOS10.1

show crypto key mypubkey

SSH Server

show crypto key mypubkey {rsa/dsa}

--	--

rsa	RSA
dsa	DSA

SSH Server

Ruijie# **show crypto key mypubkey rsa**

crypto key generate {rsa dsa}	DSA RSA

RGOS10.1

disconnect ssh

SSH

disconnect ssh [vty] *session-id*

<i>session-id</i>	SSH

SSH

SSH
VTY SSH SSH

```
Ruijie# disconnect ssh 1  
Ruijie# disconnect ssh vty 1
```

```
07/16/2016 10:40:00 AM 4b58XFXAbBDPXA0P4H6E-H0(E-XEYfk U0vE)/A<cJL6
```

QoS

QoS

QoS

1 policy-map

IP-Precedence to DSCP

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

DSCP to CoS

DSCP	0	8	16	24	32	40	48	56
------	---	---	----	----	----	----	----	----

wrr-queue bandwidth *weight1 ... weightn*

no wrr-queue bandwidth

weight1...weightn n n

no

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

ip-prec-dscp maps

mls qos map dscp-cos

DSCP CoS

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

no mls qos map dscp-cos

dscp-list

cos 0 7

no

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

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

interface rate-limit

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

no rate-limit

input

output

bps

burst-size (Kbyte)dscp-list

no

weight1...weight8

no

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

show mls qos queueing

show mls qos interface

QoS

show mls qos interface *interface-id* [policers]

interface-id

policers

police

QOS

Ruijie# **show mls qos interface fastEthernet 0/1**

show mls qos queueing

QoS

(cos-to-queue map,wrr weight)

show mls qos queueing

```
Ruijie# show mls qos queueing
```

show mls qos scheduler

```
show mls qos scheduler
```

```
Ruijie# show mls qos scheduler
```

show mls qos maps

```
dscp-cos maps,dscp-cos maps ip-prec-dscp maps
```

```
show mls qos maps [cos-dscp | dscp-cos]
```

```
cos-dscp cos-dscp maps
```

```
dscp-cos dscp-cos maps
```

```
dscp-cos maps dscp-cos maps
```

```
Ruijie# show mls qos maps
```

show mls qos rate-limit


```
Ruijie(config)# rldp enable
```



no rldp detect-max

num , 2-10

2

5 :

Ruijie(config)# **rldp detect-max 5**

rldp detect-interval	

rldp port

rldp

**rldp port { unidirection-detect | bidirection-detect | loop-detect }
 { warning | shutdown-svi | shutdown-port | block }**

no rldp port { unidirection-detect | bidirection-detect | loop-detect }

unidirection-detect

bidirection-detect

loop-detect

warning

shutdown-svi shutdown svi

shutdown-port shutdown

block

RLDP

RLDP

fas 0/1

rldp

```
Ruijie(config)# interface fas 0/1
Ruijie(config-if)# rldp port loop-detect block
```

rldp enable	rldp

rldp reset

rldp shutdown disable

rldp

rldp reset

```
Ruijie# rldp reset
```

rldp enable	Rldp

RLDP

TPP

topology guard

[no] tp-guard port enable

CPU

(AP)

```
Ruijie(config-if)# tp-guard port enable  
Ruijie(config-if)# no tp-guard port enable
```

topology guard

TPP

show tpp

show tpp

tpp

```
Ruijie# show tpp
```

```
topology guard
```

-
- ' **cat**
 - ' **cd**
 - ' **cp**
 - ' **ls**
 - ' **makefs**
 - ' **mkdir**
 - ' **mv**
 - ' **pwd**
 - ' **rm**
 - ' **rmdir**

cat

cat type {bin | text} file path

cat file path type {bin | text}

bin	
text	
path	()

cp

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

DESTINE_FILE

DIRECTORY

SOURCE_FILE ()

r 注意:

cp

log.txt :

Ruijie# **cp sour** *log.txt* **dest** *../log_bak.txt*

ls

ls *PATHNAME*

PATHNAME

Ruijie# **ls**

tmp

Ruijie# **ls tmp**

makefs

makefs dev *DEVNAME fs FSNAME*

makefs fs *FSNAME dev 1 104B80 Tw 4.886T8 1 Tf-0. Tm4E1014E3081 E2C5F0E2C*

b

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

SOURCE_FILE

DESTINE_FILE/DIRECTORY

a (**type file**); b '?'
'? '

,

log.txt , config.txt,

,

Ruijie# **mv sour** tmp/log.txt **dest** ../config.txt

log.txt tmp

Ruijie# **mv dest** /mnt/tmp **sour** tmp/log.txt

pwd

pwd

pwd	

Ruijie# **pwd**

rm

rm *FILE*

rmdir

rmdir *DIRECTORY*

DIRECTORY ,

logging on

no

logging on

no logging on

RGOS Console VTU
Server FLASH Syslog
1 Log

Ruijie(config)# **no logging on**

logging buffered	
logging	Syslog Server
logging file flash:	FLASH

logging console

FLASH

trace.txt

64K,

6

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

logging on	
show logging	
more flash	FLASH

logging console

no

logging console *level*

no logging console

level

0 7

1

Debugging (7)

show logging

6

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

--	--

logging on	
show logging	

logging monitor

```

VTY telnet SSH
no VTY

```

logging monitor level

no logging monitor

level

1

Debugging (7)

```

VTY terminal
monitor VTY
logging monitor

```

Logging monitor VTY

VTY 6

Ruijie(config)# **logging monitor informational**

logging on	
show logging	

logging trap

```

                                Syslog Server
                                no
                                Syslog Server

logging trap level
no logging trap

level
                                1

Informational(6)
```

```

                                Syslog Server
                                logging
                                Syslog Server
                                logging trap

show logging

                                6
                                202.101.11.22
Syslog Server
Ruijie(config)# logging 202.101.11.22
Ruijie(config)# logging trap informational
```

no

logging source interface *interface-type interface-number*

no logging source interface

interface-type

interface-number

Syslog Server

Loopback 0

Syslog

Ruijie(config)# **logging source interface loopback 0**

logging	Syslog Server

logging source ip

no

logging source ip *A.B.C.D*

no logging source ip

A.B.C.D IP

Syslog Server

Loopback 0 Syslog

```
Ruijie(config)# logging source ip 192.168.1.1
```

logging	Syslog server

logging facility

1	user-level messages
2	mail system
3	system daemons
4	security/authorization messages
5	messages generated internally by syslogd
6	line printer subsystem
7	network news subsystem
8	UUCP subsystem
9	clock daemon

no service sequence-numbers

1

Ruijie(config)# **service sequence-numbers**

logging on	
service timestamps	

service timestamps

no

default

service timestamps *message-type* [*uptime* | *datetime*]

no service timestamps *message-type* [*uptime* | *datetime*]

default service timestamps *message-type* [*uptime* | *datetime*]

<i>message-type</i>		Log	Debug	Log
0 6		Debug		7
<i>uptime</i>		* *	* *	07:00:10:41

datetime
16:53:07

Jul 27

RTC

Uptime

Datetime

Log

Debug

Datetime

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

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

logging on	
service sequence-numbers	

service sysname

no

service sysname

no service sysname

```
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 S20 %SYS-5-CONFIG: Configured from
console by console
```

show logging	

more flash

FLASH

more flash:filename

Filename

FLASH

"/f2" "/f3"

FLASH

```
Ruijie# more flash://f2/log.txt
look up file in the extended flash://f2/log.txt
```

00004 2004-11-17 4:1:32 Ruijie: %5:Reload requested by Administrator. Reload Reason :Reload command

logging file flash:	FLASH

clear logging

clear logging

Ruijie# **clear logging**

logging on	
show logging	
logging buffered	

show logging

show logging

show logging

```
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
```

Syslog logging	disabled enabled,
Console logging	

Monitor logging	VTY
Buffer logging	
Timestamp debug messages	Debug
Timestamp log messages	Log
Sequence log messages	
Trap logging	Syslog Server
Log Buffer	

logging on	
clear logging	

show logging count

show logging count

count

show logging count

logging

```
=====
SYS          CONFIG_I          5  1          Jul 6 10:29:57
-----
SYS TOTAL                    1
```

logging count	
show logging	
clear logging	

- ' **device-priority**
- ' **device-description**
- ' **stack on**
- ' **show member**

device-priority

device-priority [*member*] *priority*

<i>member</i>	ID member 1
<i>priority</i>	[1, 10]

10 1 10

write

2 8

Ruijie(config)# **device-priority 2 8**

--	--

show member	
-------------	--

device-description

device-description [*member member*] *description*

member <i>member</i>	ID member 1
<i>description</i>	31

write

2 red-giant

Ruijie(config)# **device-description member 2 red-giant**



<i>member</i>	ID
---------------	----

Ruijie# **show member**

```

Member Mac Address      Priority Software Version
HardwareVersion Description
-----
1          00d0.f810.3323  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH
2          00d0.f822.33aa  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH
3          00d0.f822.33ae  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH
4          00d0.f822.33b0  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH
5          00d0.f822.33b2  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH
6          00d0.f824.23b4  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH
7          00d0.f833.44b4  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH
8          00d0.f855.33ae  1          RGOS 10.1.00(2),
Release(12889) 1.0          SWITCH

```