RG-S2300

RGOS 10.2(5)

RGOS®

锐捷®

RGOS®10.2(5)

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،

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1.

5

Courier New 5

2.

Arial

[ ] [ ]

{ x | y | ... }

[x | y | ...]

//

3.

&

&

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
Ruijieig)# 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
globle configure mode alias:
def-route          ip route 0.0.0.0 0.0.0.0 192.168.1.1
```

anizedd-string

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

&

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

，

EXEC

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** { [illegible]

15

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

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	

telnet

telnet EXEC

telnet

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

Host IP

Port TCP 23

Keyword

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

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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

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

clock clock

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

exec-timeout

LINE **exec-timeout**
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 [*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 cpu	CPU

show memory

show memory

slot-number

```
  1     1
Ruijie# show memory slot 1
Physical Memory: 256M total
 Image: 45M
 Application Memory: 211M (55M used  156M available)
 Utilization: 39.1%


  2
ruijie# show memory slot
slot 1 memory information
 Physical Memory: 256M total
  Image: 45M
  Application Memory: 211M (55M used  156M available)
  Utilization: 39.1%
slot 3 memory information
 Physical Memory: 256M total
  Image: 45M
  Application Memory: 211M (57M used  154M available)
  Utilization: 39.8%
```

show memory	

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

banner motd *c message c*

c

message

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

banner login

banner login

no banner login

banner login *c message c*

c
message

memory

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

show running-config	
copy	

LINE

LINE

line

LINE

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

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

LINE

LINE VTY 1 3 LINE

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

line vty

VTY **no** VTY

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** Line **default transport input** LINE

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

default transport input

all	Line
ssh	Line SSH
telnet	Line Telnet

none	Line

VTY TTY
NONE
default transport input

Line

Line VTY

VTY **show running** Line

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

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

access-list-number	access-list
in	
out	

Line

Line

Line

access-class

access list **show running**

Line

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**:// l*ocation* / *filename*

copy tftp:// l*ocation*/*filename* **flash:** *filename*

filename

TFTP TFTP

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

```
Ruijie# copy tftp://192.168.12.1/confg.bak flash:
config.text
Ruijie# copy flash: swhich.bin tftp://192.168.12.1/
```

- **ping**
- **traceroute**

ping

]

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

ip-address	IPv4
length	
times	
timeout	
data	
source	IPv4

2 5 100Byte
IP ‘ ! ’
‘ . ’ ping
ping
ping
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
```

Ip-address	IPv4
number	
source-address	IPV4
seconds	
minimum maximum	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 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 **show interfaces show interfaces aggregateport**

mod-num/port-num /

no **show interfaces**
show interfaces gigabitEthernet

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

show interfaces	

interface vlan

switch
virtual interface SVI **no**
SVI.

interface vlan *vlan-id*

no interface vlan *vlan-id*

vlan-id VLAN ID

show interfaces **show interfaces vlan**

```
Ruijie(config)# interface vlan 2
Ruijie(config-if)#
```


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	

SFP 10/100/1000M BASE-T

descriptioin

no .

description *string*

no description

string

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

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

1500

mtu

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

show interfaces	

carrier-delay

carrier-delay

no

carrier-delay [*seconds*]

no carrier-delay

seconds 1 60

2

DCD Down Up

DCD

DCD

DCD

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(coinfig)# carrier-delay 5
```

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

Switch Port,L2 Aggregrate port ,Routed port,L3 Aggregate port

shutdown **no shutdown**

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

shutdown	

switchport

switchport

2 **no switchport**

3

switchport

no switchport

2

switchport

2 3 2

```
Ruijie(config-if)# switchport
```

show interfaces	

switchport mode

switch port

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

switchport mode {**access | trunk**}

no switchport mode

access	switch port access port
trunk	switch port trunk port

switch port access

switch port access VLAN
switchport access vlan VLAN

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

```
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

VLAN ID VLAN ID
VLAN VLAN
VLAN ID VLAN

trunkport

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


switchport mode

```
Protected is disabled
Vlan lists is
1,3-4094
```


show interfaces

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

Interface : GigabitEthernet 0/1
start cable-diagnoses,please wait...
cable-daignoses end!this is result:
4 pairs
pair state     length(meters)
---- ---------- --------------
A    Ok        1
pair state     length(meters)
---- ---------- --------------
B    Ok        2
pair state     length(meters)
---- ---------- --------------
C    Short     1
pair state     length(meters)
---- ---------- --------------
D    Short     1
```

pairs	

Aggregate Port

port-group

Aggregate Port no
Aggregate Port

port-group *port-group-number*

no port-group

Aggregate Port

port-group-number	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

dst-mac	MAC AP MAC MAC `

no name

vlan-name	VLAN

VLAN

VLAN

show vlan vlan

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

show vlan	VLAN

switchport mode

switch port
access port trunk port, 802.1Q no

switchport mode {**access** | **trunk**}

no switchport mode

access	switch port access port
trunk	switch port trunk port

switch port access

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** }

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

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 is1trunk port
Acsess vlan is11,Native vlan is11
Protected is1disUuSed
Vlan lists is1
1,3-4094
```

show interfaces	
switchport access	statics accessport VLAN

show vlan

VLAN

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

vlan-id	VLAN ID

PrivateVLAN

- **private-vlan type**
- **private-vlan association**
- **private-vlan mapping**
- **switchport mode private-vlan**
- **switchport private-vlan host-association**
- **switchport private-vlan mapping**

private-vlan type

VLAN VLAN

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

community	community VLAN
isolated	isolated VLAN
primary	primary VLAN
no	VLAN

VLAN

VLAN

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

show vlan private-vlan

RGOS10.1

private-vlan association

secondary VLAN primary VLAN

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

no private-vlan association

svlist secondary VLAN list

no primary VLAN secondary VLAN

Primary VLAN

```
Ruijie(config)# vlan 22
Ruijie(config-vlan)# private-vlan association add 24-26
```

show vlan private-vlan

RGOS10.1

private-vlan mapping

secondary VLAN SVI

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

no private-vlan mapping

svlist secondary VLAN list

no

Primary VLAN

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

show vlan private-vlan

RGOS10.1

switchport mode private-vlan

private VLAN

switchport mode private-vlan{**host**|**promiscuous**}
no switchport mode

host VLAN
promiscuous VLAN
no VLAN

```
Ruijie(config)# interface gigabitEthernet0/2
Ruijie(config-if)# switchport mode private-vlan host
```

show vlan private-vlan

RGOS10.1

switchport private-vlan host-association

private VLAN primary VLAN secondary VLAN

switchport private-vlan host-association *p_vid s_vid*
no switchport private-vlan host-association

p_vid: primary VID
s_vid : secondary VID

no: VLAN

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

show vlan private-vlan

RGOS10.1

switchport private-vlan mapping

private VLAN secondary VLAN

switchport private-vlan mapping *p_vid* {*svlist*|**add** *svist* |**remove** *svlist*}

no switchport private-vlan mapping

p_vid primary VID

svlist secondary VLAN list

no secondaryVLAN

secondary VLAN

VLAN

```
Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# switchport mode private-vlan
promiscuous
Ruijie(config-if)# switchport private-vlan mapping 22
add 23-25
```

show vlan private-vlan

RGOS10.1

- **show vlan private-vlan**

show vlan private-vlan

private VLAN

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

primary	primary VLAN
community	community VLAN
isolated	isolated VLAN

private VLAN

```
Ruijie# show vlan private-vlan
```

RGOS10.1

Hybrid

- **switchport mode hybrid**
- **switchport hybrid native vlan**
- **switchport hybrid allowed vlan**

switchport mode hybrid

switchport mode hybrid

no switchport mode

hybrid

no hybrid

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

õ ã

rõã

switchport hybrid allowed vlan

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

no switchport hybrid allowed vlan

hybrid

no hybrid

```
Ruijie(config-if)# switchport hybrid allowed vlan add
untagged 3-5
```

RGOS10.1

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 *mac-addr*	
vlan *vlan-id*	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 *mac-addr*	
interface *interface-id*	
vlan *vlan-id*	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*

mac-addr	MAC
vlan-id	VLAN
interface-id	(AggregatePort)

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 *value*	MAC Trap 1
history-size *value*	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

address-bind

ip mac .

address-bind *ip-address mac-address*

no address-bind *ip-address*

ip-address	IP
mac-address	mac

IP MAC IP
IP MAC IP
MAC

ip 3.3.3.3 mac 00d0.f811.1112

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

show address-bind	

address-bind ip-address

ip mac .

address-bind *ip-address mac-address*

no address-bind *ip-address*

ip-address	IP
mac-address	mac

IP MAC
IP IP MAC IP
MAC

ip 3.3.3.3 mac 00d0.f811.1112

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

IP MAC

IP IP MAC IP

MAC

(address-bind install)

RGOS10.1

- **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**

show mac-address-table address

MAC

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

address *mac-addr*	MAC
interface *interface-id*	
vlan *vlan-id*	VLAN

```
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	

```
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*]

mac-addr	MAC
vlan-id	VLAN

clear mac-address-table filtering

show mac-address-table count	

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

vlan-id	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	

show address-bind

show address-bind

```
Ruijie# show address-bind
Total Bind Addresses in System : 2
IP Address     Binding MAC Addr
-----------    -----------------
3.3.3.3        00d0.f811.1112
3.3.3.4        00d0.f811.1117
```

address-bind	

show address-bind summary

address-bind install

show address-bind summary

```
Ruijie# show address-bind summary
Total Bind Addresses in System : 0
Max Bind Addresses limit in System : 1000
System Address bind status:SUCCESS
```

address-bind	

show address-bind [ip-address *ip* | mac-address *MAC*]

IP MAC

show address-bind [ip-address ip | mac-address MAC]

DHCP Snooping

DHCP snooping

DHCP snooping

- **ip dhcp snooping**
- **ip dhcp snooping bootp-bind**
- **ip dhcp snooping verify mac-address**
- **ip dhcp snooping binding**
- **ip dhcp snooping database write-delay**
- **ip dhcp snooping database write-to-flash**
- **ip dhcp snooping information option**

ip dhcp snooping

DHCP Snooping
no DHCP snooping

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

DHCP snooping **show ip dhcp snooping**
DHCP snooping

DHCP snooping

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping
Ruijie(config)# end
Ruijie# show ip dhcp snooping
```

```
Ruijie# show ip dhcp snooping

Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                    Trusted
-----------------------      -------
FastEthernet0/11             yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping verify mac-address

MAC

no MAC

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

MAC DHCP CLIENT

MAC DHCP CLIENT MAC

MAC

DHCP MAC

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping verify mac-address
Ruijie(config)# end
```

```
Ruijie# show ip dhcp snooping

Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                    Trusted
-----------------------      -------
FastEthernet0/11             yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping binding

DHCP snooping

no

[**no**] **ip dhcp snooping binding** *mac-address* **vlan** *vlan-id* **ip** *ip-address* **interface** *interface-id*

mac-address	MAC
vlan-id	VLAN
ip-address	IP
interface-id	

DHCP snooping

DHCP

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping binding 00d0.f801.0101
```

```
vlan 1 ip 192.168.4.243 interface fastethernet 0/1
Ruijie(config)# end
Ruijie# show ip dhcp snooping binding
Total number of bindings: 1
MacAddress   IpAddress  Lease  Type  VLAN  Interface
-----------------------------------------------------
00d0.f801.0101 192.168.1.1 - static 1 fastethernet 0/1
```


```
DHCP snooping Support Bootp bind status: ENABLE
Interface                    Trusted
-------------------------    -------
FastEthernet0/11             yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping database write-delay

DHCP Snooping
FLASH no
FLASH

ip dhcp snooping database write-delay *time*

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

time DHCP snooping FLASH

FLASH

DHCP Snooping FLASH
IP

flash 3600

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping database write-delay
3600
Ruijie(config)# end
Ruijie# show ip dhcp snooping

Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
```

```
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                    Trusted
-----------------------      -------
FastEthernet0/11             yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping database write-to-flash

DHCP Snooping

FLASH

ip dhcp snooping database write-to-flash

DHCP Snooping

FLASH

DHCP flash

```
Ruijie# configure terminal
Ruijie(config)# ip dhcp snooping database
write-to-flash
Ruijie(config)# end
```

DHCP snooping

DHCP snooping

ip dhcp snooping trust

ip dhcp snooping address-bind

ip dhcp snooping trust

DHCP snooping TRUST
no UNTRUST

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

UNTRUST

DHCP TRUST
TRUST DHCP UNTRUST
DHCP

fastethernet *0/1* TRUST

```
Ruijie# configure terminal
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ip dhcp snooping trust
Ruijie(config-if)# end
Ruijie# show ip dhcp snooping

Switch DHCP snooping status   ENABLE
Verification of hwaddr field status   DISABLE
DHCP snooping database write-delay time: 0 seconds
DHCP snooping option 82 status: ENABLE
DHCP snooping Support Bootp bind status: ENABLE
Interface                    Trusted
-----------------------      -------
```

```
FastEthernet0/11              yes
```

show ip dhcp snooping	DHCP snooping

ip dhcp snooping address-bind

no

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

DHCP Snooping IP MAC IP VLAN ID

fastethernet 0/1

```
Ruijie# configure terminal
Ruijie(config)# interface fastethernet 0/1
Ruijie(config-if)# ip dhcp snooping address-bind
Ruijie(config-if)# end
```

DHCP snooping

- **show ip dhcp snooping**
- **show ip dhcp snooping binding**

show ip dhcp snooping binding

DHCP Snooping

show ip dhcp snooping binding

DHCP Snooping

```
Ruijie# show ip dhcp snooping binding
Total number of bindings: 1
MacAddress    IpAddress  Lease  Type  VLAN  Interface
------------------------------------------------------
00d0.f801.0101 192.168.1.1 - static 1 fastethernet 0/1
```

ip dhcp snooping binding	DHCP snooping
clear ip dhcp snooping binding	DHCP snooping

DHCP snooping

DHCP Snooping

clear ip dhcp snooping binding

debug ip dhcp snooping

clear ip dhcp snooping binding

DHCP Snooping DHCing

DHCP snooping

DHCP snooping

```
Ruijie# debug ip dhcp snooping event
Ruijie# debug ip dhcp snooping packet
```

IGMP Snooping

deny

profile 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

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

profile
deny 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 *profile-num*	

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 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** no

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

, **ip igmp snooping vlan mrouter interface** no

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

ip igmp snooping source-check port	

ip igmp snooping vlan mrouter interface profile

VLAN

IGMP Profile

ip igmp snooping vlan mrouter interface profile ä ئو

profile profile

profile

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

ip igmp snooping vlan mrouter interface	

ip igmp snooping vlan mrouter learn pim-dvmrp

IGMP query/dvmrp PIM

ip igmp snooping vlan mrouter learn no

ip igmp snooping vlan *vid* **mrouter learn pim-dvmrp**

no ip igmp snooping vlan *vid* **mrouter learn pim-dvmrp**

vid vlan id

igmp snooping

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


ip igmp snooping vlan *vid*
mrouter learr2w0 Td( )Tj/58vmrp1 Tf0 Tc 0 Tw 10.617 0 Td19Td/TT1 1 Tf-2 Tr 10.5 re

no ip igmp snooping vlan *vid* **static** *ip-addr* **interface** *interface-id*

vid vlan id

ip-addr

interface-id id

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

ip igmp snooping vlan mrouter interface	

ip igmp snooping fast-leave enable

igmp snooping fast-leave **ip igmp snooping fast-leave enable** no igmp snooping fast-leave

ip igmp snooping fast-leave enable

no ip igmp snooping fast-leave enable

disable

fast-leave IGMP leave

igmp snooping fast-leave

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

ip igmp snooping suppression enable

igmp snooping suppression **ip igmp snooping suppression enable** no igmp snooping suppression

ip igmp snooping suppression enable

no ip igmp snooping suppression enable

disable

suppression IGMP v1/v2 report

igmp snooping suppression

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

ip igmp snooping query-max-resposne-time

query

ip igmp snooping query-max-resposne-time *time*
no ip igmp snooping query-max-resposne-time

time

10s

query

query

100s

Ruijie(config)# **ip igmp snooping query-max-resposne-time** *100*

ip igmp snooping	

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

MSTP

spanning-tree

MSTP MSTP MSTP no spanning-tree no spanning tree

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

no spanning-tree [**forward-time** | **hello-time** | **max-age**]

forward-time *seconds*

hello-time *seconds* BPDU

max-age *seconds* BPDU

spanning-tree

forward-time hello-time max-age

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

spanning-tree

```
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 bpdufilter

BPDU filter enabled disabled BPDU filter

spanning-tree bpdufilter [**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

poinit-to-point point-to-point.

Shared shared

point-to-point

shared

```
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

BPDU Max-hops Count BPDU Region Instance no

spanning-tree max-hops *hop-count*

no spanning-tree max-hops

hop-count BPDU 1 40

hop-count 20

.

Region Root Bridge BPDU Hot Count Root Bridge Hop Count 1 0 BPDU Hops 0 BPDU

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

MST MSTP Region
no name revision vlan map

spanning-tree mst configuration

no spanning-tree mst configuration

instance vlan Vlan Instance 0

name

revision 0

.

end Ctrl+C

exit

MST

instance *instance-id* v**lan** *vlan-range* Vlan MST Instance instance-id 0 64 vlan 1 4095 vlan-range vlan VLAN ID VLAN ID ‘ ’

```
Ruijie(config-mst)# exit
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

• 1000 Mbps—20000

• 100 Mbps—200000

• 10 Mbps—2000000

.

cost

Instance 3 400

```
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# spanning-tree mst 3 cost 400
```

show spanning-tree mst interface interface-id

show spanning-tree mst MSTP

spanning-tree mst port-priority

spanning-tree mst priority instance

spanning-tree mst port-priority

Instance

Region

no

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

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

Instance-id Instance 0 64

priority 0 16 32 48 64 80 96 112 128 144 160 176 192 208 224 240 16 16

Instance-id 0

priority 128

.

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

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

show spanning-tree mst instance interface interface-id

show spanning-tree mst MSTP

spanning-tree mst cost

spanning-tree mst port-priority Instance

spanning-tree reset

spanning-tree no

spanning-tree reset

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

show spanning-tree STP

show spanning-tree interface STP

spanning-tree tx-hold-count

STP TxHoldCount BPDU
no

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

no spanning-tree tx-hold-count

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
```

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

switch	

switch port routed port SPAN
SPAN disabled
port SPAN

show monitor SPAN

SPAN 1.
1 1
8

```
Ruijie(config)# no monitor session
```

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 no IP

ip address *ip-address network-mask*

no ip address *ip-address network-mask*

ip-address 32 IP 8 בּ A א

IP 10.10.10.1
255.255.255.0

```
ip address 10.10.10.1 255.255.255.0
```


show interface

RGOS ARP 32 IP 48 MAC

ARP ARP **clear arp-cache** ARP

ARP

```
arp 1.1.1.1 4e54.3800.0002 arpa
```

clear arp-cache	ARP

arp retry interval

arp IP 2 ARP no 1 ARP

arp retry interval *seconds*

no arp retry interval

seconds	<1-3600>,ARP 1 ——3600 1

ARP 1

ARP ARP ARP

ARP 30s

```
arp retry interval 30
```

Arp retry times *number*	ARP

arp retry times

arp IP

ARP **no**

5 ARP

arp retry times *number*

no arp retry times

	ARP <1-100>
number	1 ARP
	1 ARP

arp retry interval *seconds*	arp

arp trusted NUM

ARP no

arp trusted *number*

no arp trusted

number	ARP , <10-4096>

ARP ARP
ARP

1000 ARP

```
arp trusted 1000
```

service trustedarp	ARP

arp trusted aging

ARP no

arp trusted aging

no arp trusted aging

GSN ARP

ARP ARP
arp timeout

service trustedarp	ARP

arp unresolve

ARP no
8192

arp unresolve *number*

no arp unresolve

number	ARP 1-8192 > 8192

ARP 8192

ARP

500

```
arp unresolved 500
```

arp gratuitous-send interval

arp no

arp gratuitous-send interval *seconds*

no arp gratuitous-send


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

arp timeout

ARP ARP

no

arp timeout *seconds*

no arp timeout

seconds	0-2147483

3600

ARP IP MAC

ARP ARP

ARP

FastEthernet 0/0 ARP

120

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

IP

clear arp-cache

ARP ARP IP
clear arp-cache

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

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 address is:	IP
IP address negotiate is:	IP
Forward direct-boardcast is:	
ICMP mask reply is:	ICMP
Send ICMP redirect is:	ICMP
Send ICMP unreachabled 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

ip default-gateway

no

ip default-gateway

no ip default-gateway

DHCP Relay

DHCP Relay

DHCP

- **service dhcp**
- **ip helper-address**

service dhcp

DHCP s**ervice dhcp** no DHCP

service dhcp

no service dhcp

DHCP

DHCP DHCP
DHCP DHCP DHCP

DHCP

```
service dhcp
```

ip helper-address *A.B.C.D*	DHCP server

ip helper-address

DHCP no

DHCP

/

dhcp DHCP

61.154.26.49

```
ip helper-address 61.154.26.49
```

service dhcp	DHCP

ip dhcp relay information option dot1x

dhcp option dot1x no
dhcp option dot1x

DHCP relay 802.1x

```
Ip dhcp relay information option dot1x
```

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

ip dhcp relay information option dot1x access-group

dhcp option dot1x acl no **dhcp option dot1x acl**

ACL

ACL ACE

```
Ip dhcp relay information option dot1x access-group
acl-name
```

service dhcp	DHCP
ip dhcp relay information option dot1x	DHCP option dot1x

ip dhcp relay information option82

ip dhcp relay information option82 no **ip dhcp relay information option82**

option dot1x

ip dhcp relay suppression

DHCP no
DHCP DHCP relay

DHCP request relay

1 relay

```
Ruijie#
Ruijie# configure terminal
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-if)# ip dhcp relay suppression
Ruijie(config-if)# exit
Ruijie(config)#
```

0/1

DNS

ip domain-lookup

DNS no DNS

ip domain-lookup

no ip domain-lookup

DNS

DNS DNS

DNS

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

show hosts	DNS

RGOS10.1

ip name-server

IP

no

ip name-server *ip-address*

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

ip-address	IP

DNS Server IP
DNS Server Server
Server DNS

6 DNS Server
ip-address DNS

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

show hosts	DNS

_0 1 Tf 0.

host-name	
ip-address	IP

no ip host host-name ip-address

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

show hosts	DNS

RGOS10.1

clear host

clear host [*host-name*]

host-name	“*”

1 ip host 2
DNS DNS

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

SNTP Server SNTP NTP
Server 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
```

sntp enable	SNTP
show sntp	SNTP

RGOS10.0

ntp server	NTP

ntp authenticate

NTP NTP

ntp authentication-key

NTP NTP

ntp disable

NTP

ntp disable

NTP

NTP

NTP

IP

NTP

`no ntp`

ntp server

NTP NTP

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

version	NTP 1-3 NTPv3
if-name	NTP
keyid	
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

ž

```
ntp authentication-key 6 md5 wooooop
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

```
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

SNMP

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

snmp-server chassis-id

SNMP **snmp-server chassis-id** **no**

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 **snmp-server community** **no** SNMP

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 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 192.168.12.219
```

show snmp-server SNMP

snmp

snmp-server host	SNMP

snmp-server host

SNMP NMS

snmp-server host **no** SNMP

snmp-server host *host-addr* **traps** [**version** {**1** | **2c** | **3** [**auth** | **noauth** | **priv**]] *community-string* [**udp-port** *port-num*][*notification-type*]

no snmp-server host *host-addr*

host-addr SNMP

version snmp V1 V2C V3

auth | **noauth** | **priv** V3

community-string V3

port-num snmp

notification-type snmp

SNMP

snmp-server enable traps

NMS

SNMP

vrf

[vrf]

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

4

4

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

md5 *authpassstr* **priv des56** *despassstr*

show snmp user	SNMP

snmp-server group

SNMP **snmp-server group**
no

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** |

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

b#21Ä · Ķ ì

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 *chassis-id*	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 *index* [**owner** *owner-name*] **buckets** *bucket-number* **interval** *seconds*	

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 *index* [**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-threadhold/falling-threadhold event

MIB ifInNUcastPkts.6

```
Ruijie(config)# rmon alarm 10 1.3.6.1.2.1.2.2.1.12.6 30
delta rising-threshold 100 1 falling-threshold 0 owner test
```

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*]	Ė ` ß ı ר

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

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

show rmon history

show rmon history

```
Ruijie#  show rmon history
Entry : 1
Data source : Gi1/1
Buckets requested : 65535
```

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

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

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 *number* [**log**] [**trap** *community*] [*description-string*]	

- **strom-control**
- **switchport protected**
- **switchport port-security**
- **switchport port-security aging**
- **switchport port-security mac-address**
- **port-security arp-check**

strom-control

no

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

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

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

show interfaces	

switchport port-security

no

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

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

port-security	
violation protect	
violation restrict	trap
violation shutdown	Trap

MAC

IP( ) (

)

1

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 1440 0

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

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* [**ip-address** **ip-address**]] | [**maximum** *value*]

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

mac-address *mac-address*	
ip-address *ip-address*	IP
maximum *value*	

IP MAC

ACL

ACL 802.1x IP

IP

gigabitethernet 1/1

00d0.f800.073c IP 192.168.12.202

```
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 ip-address 192.168.12.202
```

show port-security	

arp-check

ARP no

[**no | default**] **arp-check** [**cpu | auto**]

cpu CPU

auto

Arp-check

Arp arp

```
Ruijie(config-if)# arp-check
```

show port-security	

- **show storm-control**
- **show port-security**

show storm-control

show storm-control [*interface-id*]

interface-id	

```
Ruijie# show storm-control gigabitethernet 1/1
Interface Broadcast Control Multicast Control Unicast
Control
---------------------------------- --------------
Gi1/1 Disabled Disabled Disabled
```

storm-control	

show port-security

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

address	
interface *interface-id*	

```
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
```

switchport port-security	
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
```


show dot1x auto-req	

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

3

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
```

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

AAA **aaa domain enable** **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

AAA **aaa domain enable dot1x accounting**

“

AAA ”

group radius

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

802.1X **show dot1x auth-address table**

```
Ruijie# configure terminal
Ruijie(config)# dot1x auth-address-table address
00d0f8000000 interface ehternet 1/1
Ruijie(config)# end
Ruijie#
```

show dot1x auth-address-table	802.1X

dot1x auth-mode

802.1x

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

no dot1x auth-mode

eap-md5 802.1x EAP-MD5

chap 802.1x CHAP

pap 802.1x PAP

EAP-MD5

show dot1x 802.1x

802.1x

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
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
Suppl>Tj61-3
```

A5BÄdtlÈxxAxfXGÃ
dot1x timeout server-timeout

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	Ă Ť

802.1x
802.1x

HTTP IP 172.16.0.1

```
Ruijie# configure terminal
Ruijie(config)# http redirect 172.16.0.1
Ruijie(config)# end
```

show http redirect	HTTP

http redirect direct-site

no

http redirect direct-site *ip-address* [*ip-mask]* [**arp**]

no http redirect direct-site *ip-address* [*ip-mask*] [**arp**]

ip-address IP

ip-mask IP

arp ARP CHECK
ARP **arp**

802.1x

50

IP 172.16.0.1

```
Ruijie# configure terminal
Ruijie(config)# http redirect direct-site 172.16.0.1
```

http redirect port *port-num*

no http redirect port *port-num*

80 HTTP

HTTP

HTTP

80 HTTP

PC HTTP

10 80

PC 8080 HTTP

```
Ruijie# configure terminal
Ruijie(config)# http redirect port 8080
```

show http redirect	HTTP

http redirect session-limit

session-num HTTP 1-10

HTTP 3

HTTP TCP
HTTP

HTTP
HTTP HTTP
1

HTTP 4

```
Ruijie# configure terminal
Ruijie(config)# http redirect session-limit 4
```

show http redirect	HTTP

http redirect timeout

no

3

http redirect timeout *seconds*

no http redirect timeout

seconds 1-10

3

HTTP GET/HEAD HTTP
GET/HEAD
TCP

4

```
Ruijie# configure terminal
Ruijie(config)# http redirect timeout 4
```

show http redirect	HTTP

show http redirect

HTTP

show http redirect

HTTP

```
Ruijie# show http redirect
HTTP redirection settings:
  server:         192.168.32.123
  port:            80  8000
  homepage: http://192.168.32.123:8888/ePortal/index.jsp
  session-limit: 10
  timeout:        5

Direct sites:
  Address           MASK             ARP Binding
  ---------------- ---------------- -----------
```

```
61.233.3.215     255.255.255.255    On
61.233.3.220     255.255.255.255    Off
192.168.5.140    255.255.255.255    Off
218.30.66.101    255.255.0.0        Off
218.30.66.101    255.255.255.255    Off
```

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

RGOS RADIUS

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

aaa accounting network

aaa accounting network no

aaa accounting network {**default** | *list-name*} **start-stop group radius**

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

network DOT1X PPP

resource

list-name

start-stop

group

radius RADIUS

RGOS

start-stop

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

EXEC **show aaa methold-list**

show aaa method-list

EXEC

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

AAA

AAA

- **aaa domain enable**
- **aaa domain {default |** *WORD***}**
- **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

```
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**
- **ip vrf forwarding**

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*

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

ip vrf forwarding

AAA vrf no

ip vrf forwarding *vrf_name*

no ip vrf forwarding

vrf_name vrf

vrf

```
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#
```

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 AAA
aaa new-model AAA AAA AAA

AAA

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

aaa authentication	

debug aaa

AAA no

debug aaa

no debug aaa

EXEC

show aaa method-list

AAA

show aaa method-list

AAA

AAA

```
Ruijie# show aaa method-list
Authentication method-list
aaa authentication login default group radius
aaa authentication ppp default group radius
aaa authentication dot1x default group radius
aaa authentication dot1x san-f local  group angel group
rain none
aaa authentication enable default group radius
Accounting method-list
aaa accounting network default start-stop group radius
Authorization method-list
aaa authorizating network default group radius
Ruijie#
```

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

Show running-config	
Show aaa lockout	login

show aaa user lockout

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

ID

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

Show running-config	
Show aaa lockout	login

RADIUS

RADIUS

RADIUS

- **ip raius 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 **ip radius source-interface** **no** RADIUS

ip radius source-interface *interface*

no radius source-interface

Interface radius

radius

radius nas

radius ip 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
radius-server RADIUS

0 7 0 7
0

service password-encryption

7

RADIUS

RADIUS RADIUS

RADIUS

radius-server host *ip* **key**

0 7 0 7

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 deadtime RGOS RADIUS

radius-server deadtime

no

radius-server deadtime *minnutes*

no radius-server deadtime

minnutes 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**}

15	file-name-4	15

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

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
```

```
            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-diractory       9
10    file-count            10
11    file-name-0           11
12    file-name-1           12
13    file-name-2           13
14    file-name-3           14
15    file-name-4           15
```

```
16   max up-rate           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**
- **ip vrf forwarding(TACACS+)**
- **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
ip vrf forwarding	TACACS+ VRF

server(TACACS+)

TACACS+

server *ip-address*

no server *ip-address*

ip-address TACACS+

TACACS+

aaa group server tacacs+

TACACS+

TACACS+

tacacs-server host

Ò O k

ip vrf forwarding	TACACS+ VRF

ip vrf forwarding(TACACS+)

TACACS+ vrf (VRF)

ip vrf forwarding *vrf-name*

no ip vrf forwarding

vrf-name vrf

TACACS+

TACACS+ vrf

TACACS+ VRF vpn1

```
Ruijie(config)# aaa group server tacacs+ tac1
Ruijie(config-gs-radius)# server 1.1.1.1
Ruijie(config-gs-radius)# ip vrf forwarding vpn1
```

aaa group server tacacs+	TACACS+
server	TACACS+ server

Interface TACACS+

TACACS+

TACACS+ nas
TACACS+
ip TACACS+

TACACS+ fastEthernet 0/0 ip
TACACS+

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

R06D! r T R06A c s c r

TACACS+ AAA TACACS+
tacacs-server TACACS+

tacacs-server key	TACACS+

TACACS+

- **debug tacacs+**
-

```
Socket Closes: 0
Total Packets Sent: 0
Total Packets Recv: 0
Reference Count: 0
```

tacacs-server host	TACACS+

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

SSH Server

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

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 SSH Server SSH1

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

retry times	

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

RGOS10.1

SSH

SSH

- **show ip ssh**
- **show ssh**
- **show crypto key mypubkey**
- **disconnect ssh**

show ip ssh

SSH Server

show ip ssh

SSH Server SSH Server

SSH

SSH

Ruijie# **show ip ssh**

Ip ssh version {**1** | **2**}	SSH Server
ip ssh time-out time	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*

session-id	SSH

SSH SSH
VTY SSH SSH

Ruijie# **disconnect ssh** *1*
Ruijie# **disconnect ssh vty** *1*

U0vE}/A<c1

DAI

VLAN DAI

， **ip arp inspection vlan**

ip arp inspection vlan vlan-id

vlan-id VLAN DAI
no *vlan-id* VLAN DAI
vlan-id VLAN DAI

ip arp inspection vlan *vlan-id*

no ip arp inspection vlan [*vlan-id*]

vlan-id	vlan

VLAN DAI

DAI

VLAN 1 ARP

```
Ruijie(config)# ip arp inspection
Ruijie(config)# ip arp inspection vlan 1
```


show ip arp inspection vlan	VLAN DAI

ip arp inspection trust

ip arp inspection trust **no**

ip arp inspection trust

no ip arp inspection trust

ARP DAI

ARP

gigabitEthernet 0/19

```
Ruijie(config)# interface gigabitEthernet 0/19
Ruijie(config-if)# ip arp inspection trust
```

show ip arp inspection interface	DAI

ARP

, **ip arp inspection limit-rate**

ip arp inspection limit-rate limit-rate

ARP **ip arp inspection limit-rate** **no**

ip arp inspection limit-rate {*limit-rate* | **none** }

no ip arp inspection limit-rate

none	
limit-rate	1 2048

15 ARP /

0

DAI

VLAN 2 gigabitEthernet 0/2

10 ARP /

```
Ruijie(config)# ip arp inspection
Ruijie(config)# interface gigabitEthernet 0/2
Ruijie(config-if)# ip arp inspection limit-rate 10
```

DHCP Snooping

VLAN DAI ARP

ARP

DHCP Snooping .

DHCP Snooping DHCP Snooping

arp

arp

arp

anti-arp-spoofing ip

anti-arp-spoofing ip

,

Ruijie(config)#tag-support enable

ACL

E	DSAP( )	18	S	ip	42
F	SSAP( )	19	T	TCP	46
G	Ctrl	20	U	TCP	48
H	Org Code	21	V		50
I		24	W		54
J	IP	26	XY	IP	58
K	TOS	27	Z	flags	59
L	IP	28	a	Windows size	60
M	ID	30	b		62
N	Flags	32			

SNAP tag 802.3

- **access-list**
- **ip access-list**
- **mac access-list**
- **ipv6 access-list**
- **ip access-list resequence**

ACL

- **deny**
- **permit**
- **list-remark text**
- **no sn**

- **ip access-group**
- **mac access-group**
- **ipv6 traffic-filter**

access-list

no

1) 1 IP 1 - 99 1300 - 1999

access-list

source-wildcard | **host** *source* | **any**} {**host** *source-mac-address* | **any** } {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

access-list *id* {**deny** | **permit**} **tcp** [**VID** [*out*][**inner** *in*]]{*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } [**operator** port [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [**operator port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

access-list *id* {**deny** | **permit**} **udp**[**VID** [*out*][**inner** *in*]] {*source source –wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } [**operator port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**}{**host** *destination-mac-address* | **any**} [**operator port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

5)

access-list *list-remark text*

id 1-99 100-199 1300-1999 2000-2699 2700 – 2899 700 - 799

deny

permit

source

source-wildcard 0.255.0.32

protocol IP EIGRP GRE IPINIP IGMP NOS OSPF ICMP UDP TCP IP IP 0-255 ICMP/TCP/UDP

destination

destination-wildcard
0.255.0.32

fragments

precedence

precedence 0-7

time-range

time-range-name

tos

tos 0-15

icmp-type ICMP 0-255

icmp-code ICMP 0-255

icmp-message ICMP

operator lt- eq- gt- neq- range-

port [*port*] *range*

host *source-mac-address*

host *destination-mac-address*

VID *vid* vid

ethernet-type

match-all *tcp flag*

tcp-flag tcp flag

ACL

access-list

IP 1-99 1300-1999

IP 100-199 2000-2699

MAC 700-799 MAC

Expert 2700-2899

VLAN ID

TCP Flag

- **urg**
- **ack**
- **psh**
- **rst**

- **syn**
- **fin**

- **critical**
- **flash**
- **flash-override**
- **immediate**
- **internet**
- **network**
- **priority**
- **routine**

- **max-reliability**
- **max-throughput**
- **min-delay**
- **min-monetary-cost**
- **normal**

ICMP

- **administratively-prohibited**
- **dod-host-prohibited**
- **dod-net-prohibited**
- **echo**

- **net-redirect**
- **net-tos-redirect**
- **net-tos-unreachable**
- **net-unreachable**
- **network-unknown**
- **no-room-for-option**
- **option-missing**
- **packet-too-big**
- **parameter-problem**
- **port-unreachable**
- **precedence-unreachable**
- **protocol-unreachable**
- **redirect**
- **router-advertisement**
- **router-solicitation**
- **source-quench**
- **source-route-failed**
- **time-exceeded**
- **timestamp-reply**
- **timestamp-request**
- **ttl-exceeded**
- **unreachable**

TCP TCP

- **bgp**
- **chargen**
- **cmd**
- **daytime**
- **discard**
- **domain**
- **echo**
- **exec**
- **finger**
- **ftp**
- **ftp-data**
- **gopher**
- **hostname**
- **ident**

- **irc**
- **klogin**
- **kshell**
- **login**
- **nntp**
- **pim-auto-rp**
- **pop2**
- **pop3**
- **smtp**
- **sunrpc**
- **syslog**
- **tacacs**
- **talk**
- **telnet**
- **time**
- **uucp**
- **whois**
- **www**

UDP UDP

- **biff**
- **bootpc**
- **bootps**
- **discard**
- **dnsix**
- **domain**
- **echo**
- **isakmp**
- **mobile-ip**
- **nameserver**
- **netbios-dgm**
- **netbios-ns**
- **netbios-ss**
- **ntp**
- **pim-auto-rp**
- **rip**
- **snmp**
- **snmptrap**

- **sunrpc**
- **syslog**
- **tacacs**
- **talk**
- **tftp**
- **time**
- **who**
- **xdmcp**

Ethernet-type

- **aarp**
- **appletalk**
- **decnet-iv**
- **diagnostic**
- **etype-6000**
- **etype-8042**
- **lat**
- **lavc-sca**
- **mop-console**
- **mop-dump**
- **mumps**
- **netbios**
- **vines-echo**
- **xns-idp**

1) IP

IP 192.168.1.64 - 192.168.1.127

```
Ruijie(config)# access-list 1 permit 192.168.1.64
0.0.0.63
```

2) IP

IP DNS ICMP

```
Ruijie(config)# access-list 102 permit tcp any any eq
domain
Ruijie(config)# access-list 102 permit udp any any eq
domain
Ruijie(config)# access-list 102 permit icmp any any echo
Ruijie(config)# access-list 102 permit icmp any any
```

echo-reply

3) MAC

MAC 00d0f8000c0c
100 1

```
Ruijie(config)# access-list 702 deny host 00d0f8000c0c
any aarp
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mac access-group 702 in
```

4) Expert

Expert Extended ACL ACL
IP 192.168.12.3 MAC 00d0.f800.0044
TCP

```
Ruijie(config)# access-list 2702 deny tcp02Tst
192.168.12.3 mac 00d0.f800.0044 any any
Ruijie(config)# access-list 2702 permit any any any any
Ruijie(config)# show access-lists
expert access-list extended 2702
10 deny tcp  2Tst  192.168.12.3 mac 00d0.f800.0044 any
any
10 permit any any any any
```

show access-lists	
mac access-group	MAC

S2300 ACL ACL

ip access-list

IP ACL IP ACL
no ACL

ip access-list {**extended** | **standard**} {*id* | *name*}

no ip access-list {**extended** | **standard**} {*id* | *name*}

id IP 1-99 1300-1999 100-199 2000-2699

name IP

ACL

ACL ACL **deny** **permit** **show ip access-lists** ACL

ACL

```
Ruijie(config)# ip access-list extended 123
Ruijie(config-ext-nacl)# show ip access-lists
ip access-list extended 123
Ruijie(config-ext-nacl)#
```

ACL

```
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# show ip access-lists
ip access-list standard std-acl
Ruijie(config-std-nacl)#
```

show ip access-lists	IP

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MAC access-list

MAC ACL **no** ACL

mac access-list extended {*id* | *name*}

no mac access-list extended {*id* | *name*}

id MAC 700-799

name MAC

MAC ACL

name ACL

show access-lists ACL

IPV6 ACL

```
Ruijie(config)# ipv6 access-list v6-acl
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)#
```

show access-lists ACL

ACL

```
Ruijie# show access-lists
ip access-list standard 1
10 permit host 192.168.4.12
20 deny any any
Ruijie# config
Ruijie(config)# ip access-list resequence 1 21 43
Ruijie(config)# exit
Ruijie# show access-lists
ip access-list standard 1
21 permit host 192.168.4.12
64 deny any any
Ruijie#
```

show access-lists	

RGOS10.0

deny

(deny)

ACL ACL

1) IP

[*sn*] **deny** {*source source-wildcard* | **host** *source* | **any**}

2) IP

[*sn*] **deny protocol** *source source-wildcard destination destination-wildcard* [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

IP

Internet Control Message Protocol (ICMP)

[*sn*] **deny icmp** {*source source-wildcard* | **host** *source* | **any**}

{*destination destination-wildcard* | **host** *destination* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

[*sn*] **deny tcp** {*source source-wildcard* | **host** *Source* | **any**} [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} [*operator* **port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**time-range** *time-range-name*]

destination-wildcard | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

[*sn*] **deny tcp** [[**VID** [*out*][**inner** *in*]]]{*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

[*sn*] **deny udp** [[**VID** [*out*][**inner** *in*]]]{*source source –wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**}{**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

5) 5 IPV6

[*sn*] **deny protocol**{*source-ipv6-prefix*/*prefix-length* | **any** | **host** *source-ipv6-address*} {*destination-ipv6-prefix / prefix-length* | **any** | *hostdestination-ipv6-address*} [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**time-range** *time-range-name*]

IPV6

Internet Control Message Protocol (ICMP)

[*sn*]**deny icmp** {*source-ipv6-prefix / prefix-length* | *any source-ipv6-address* | **host**} {*destination-ipv6-prefix* / *prefix-length* | **host** *destination-ipv6-address* | **any**} [*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**dscp** *dscp*] [**flow-label** *] [***flow-label** *] [*

any}[*operator* **port** [*port*]] [**dscp** *dscp*] [**flow-label** *flow-label*] [**fragments**] [**time-range** *time-range-name*]

access-list

Sn ACL

source-ipv6-prefix IPv6 .

destination-ipv6-prefix IPv6

prefix-length

source-ipv6-address IPv6

destination-ipv6-address IPv6

dscp

dscp 0-63.

flow-label

flow-label 0-1048575.

protocol IPV6 IPV6 | icmp | tcp | udp <0-255>

ACL

ACL ACL

Expert Extended ACL ACL IP 192.168.4.12 MAC 001300498272 TCP

```
Ruijie(config)# expert access-list extended 2702
Ruijie(config-exp-nacl)# deny tcp  host
192.168.4.12 host 0013.0049.8272 any any
Ruijie(config-exp-nacl)# permit any any any any
Ruijie(config-exp-nacl)# show access-lists
expert access-list extended 2702
10 deny tcp  host  192.168.4.12 host 0013.0049.8272 any
any
20 permit any any any any
Ruijie(config-exp-nacl)#
```

IP ACL IP 192.168.4.12 TCP 100 1

show access-lists	
ipv6 traffic-filter	IPV6
ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	ACL
ipv6 access-list	IPV6 ACL
permit	

RGOS10.0

permit

(**permit**)

ACL ACL

1) IP

[*sn*] **permit** {*source source-wildcard* | **host** *source* | **any**}

2) IP

[*sn*] **permit protocol** *source source-wildcard destination*

destination-wildcard [**precedence** *precedence*] [**tos** *tos*] [**fragments**]

[**time-range** *time-range-name*]

IP

Internet Control Message Protocol (ICMP)

[*sn*] **permit icmp** {*source source-wildcard* | **host** *source* | **any**}
{*destination destination-wildcard* | **host** *destination* | **any**}
[*icmp-type*] [[*icmp-type* [*icmp-code*]] | [*icmp-message*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

Transmission Control Protocol (TCP)

[*sn*] **permit tcp** {*source source-wildcard* | **host** *Source* | **any**

Transmission Control Protocol (TCP)

[*sn*] **permit tcp** [**VID** [*out*][**inner** *in*]]{*source source-wildcard* | **host** *Source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedence** *precedence*] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*] [**match-all** *tcp-flag*]

User Datagram Protocol (UDP)

[*sn*] **permit udp** [**VID** [*out*][**inner** *in*]]{*source source –wildcard* | **host** *source* | **any**} {**host** *source-mac-address* | **any** } [*operator* **port** [*port*]] {*destination destination-wildcard* | **host** *destination* | **any**} {**host** *destination-mac-address* | **any**} [*operator* **port** [*port*]] [**precedence precedence**] [**tos** *tos*] [**fragments**] [**time-range** *time-range-name*]

5) IPV6

[*sn*] **permit protocol** {*source-ipv6-prefix* / *prefix-length* | **any** | **host** *source-ipv6-address*} {*destination-ipv6-prefix* / *prefix-length* | **any** | *hostdestination-ipv6-address*} [**dscp** *dscp*] [**flow-label**] [

]

Internet CoT0 1ntr0 TM-0.age Pr Tf 0 0026 Tc 0.00

deny

ACL

ACL ACL

Expert Extended ACL ACL
IP 192.168.4.12 MAC 001300498272
TCP

```
Ruijie(config)# expert access-list extended exp-acl
Ruijie(config-exp-nacl)# permit tcp  host
192.168.4.12 host 0013.0049.8272 any any
Ruijie(config-exp-nacl)# deny any any any any
Ruijie(config-exp-nacl)# show access-lists
expert access-list extended exp-acl
10 permit tcp  host  192.168.4.12 host 0013.0049.8272 any
any
20 deny any any any any
Ruijie(config-exp-nacl)#
```

IP ACL IP 192.168.4.12
TCP 100 1

```
Ruijie(config)# ip access-list extended 102
Ruijie(config-ext-nacl)# permit tcp host 192.168.4.12
eq 100 any
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 102
10 permit tcp host 192.168.4.12 eq 100 any
Ruijie(config-ext-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ip access-group 102 in
Ruijie(config-if)#
```

MAC ACL MAC 0013.0049.8272
ѣ 1

```
mac access-list extended
10 permit host 0013.0049.8272 any aarp702
Ruijie(config-mac-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# mac access-group 702 in
```

ip ACL IP 192.168.4.12
1

```
Ruijie(config)# ip access-list standard std-acl
Ruijie(config-std-nacl)# permit host 192.168.4.12
Ruijie(config-std-nacl)# show access-lists
ip access-list standard std-acl
10 permit host 192.168.4.12
Ruijie(config-std-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ip access-group std-acl in
```

IPV6 ACL IP 192.168.4.12
1

```
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# 11 permit ipv6
host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
11 permit ipv6 host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)# exit
Ruijie(config)# interface gigabitethernet 1/1
Ruijie(config-if)# ipv6 traffic-filter v6-acl in
```

show access-lists	
ipv6 traffic-filter	IPV6
ip access-group	IP ACL
mac access-group	MAC ACL
ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	ACL
ipv6 access-list	IPV6 ACL
deny	ACL

RGOS10.0

list-remark text

ACL **no**

list-remark *text*

Text

ACL

ACL

```
Ruijie# ip access-list extended 102
Ruijie(config-ext-nacl)# list-remark this acl is to
filter the host 192.168.4.12
Ruijie(config-ext-nacl)# show access-lists
ip access-list extended 102
deny ip host 192.168.4.12 any
1000 hits
this acl is to filter the host 192.168.4.12
Ruijie(config-ext-nacl)#
```

show access-lists	
ip access-list	IP

RGOS10.0

no sn

ACL

no *sn*

sn ACL

ACL

ACL ACL

```
Ruijie(config)# ipv6 access-list extended v6-acl
Ruijie(config-ipv6-nacl)# permit ipv6
host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)# 12 deny ipv6 host any any
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
10 permit ipv6 host ::192.168.4.12 any
12 deny ipv6 any any
Ruijie(config-ipv6-nacl)# no 12
Ruijie(config-ipv6-nacl)# show access-lists
ipv6 access-list extended v6-acl
10 permit ipv6 host ::192.168.4.12 any
Ruijie(config-ipv6-nacl)#
```

show access-lists	
ip access-list	ip ACL
ipv6 access-list	IPV6 ACL
deny	ACL
permit	ACL

RGOS10.0

ip access-group

ip

access-group no

ip access-group {*id* | *name*} {**in** | **out**}

no ip access-group { *id* | *name*} {**in** | **out**}

id	IP	1-199	1300-2699	*1-1BT*

id	MAC	700-799
name	MAC	
in		
out		

IPV6 ACL

ACL

show ipv6 traffic-filter

access-list v6-acl Gigabit 1

```
Ruijie(config)# interface GigaEthernet 0/1
Ruijie(config-if)# ipv6 traffic-filter v6-acl in
```

show access-group	ACL

RGOS10.0

:

- **show access-lists**
- **show ip access-group**
- **show mac access-group**
- **show ipv6 traffic-filter**
- **show expert access-group**
- **show access-group**

show access-lists

ACL ACL

show access-lists [*id* | *name*]

id

name

acl *id* *name* ACL

```
Ruijie# show access-lists n_acl
ip access-list standard n_acl
Ruijie# show access-lists 102
ip access-list extended 102
Ruijie# show access-lists
ip access-list standard n_acl
ip access-list extended 101
mac access-list extended mac-acl
expert access-list extended exp-acl
ipv6 access-list extended v6-acl
```

ip access-list	IP ACL
mac access-list	MAC ACL
expert access-list	Expert ACL
ipv6 access-list	IPv6 ACL

RGOS10.0

show ip access-group

IP ACL

show ip access-group[**interface** <*interface*>]

<*interface*>

IP ACL IP ACL

```
Ruijie# show ip access-group interface gigabitethernet 0/1
ip access-group aaa in
Applied On interface GigabitEthernet 0/1.
```

ip access-list	IP ACL

RGOS10.0

show mac access-group

MAC

show mac access-group[**interface** <*interface*>]

<*interface*>

MAC ACL
MAC ACL

```
Ruijie# show mac access-group interface gigabitethernet 0/3
mac access-group mm in
Applied On interface GigabitEthernet 0/3.
```

mac access-list	MAC ACL

RGOS10.0

ACL ACL

```
Ruijie# show access-group
ip access-list standard ipstd3
Applied On interface GigabitEthernet 0/1.
ip access-list standard ipstd4
Applied On interface GigabitEthernet 0/2.
ip access-list extended 101
Applied On interface GigabitEthernet 0/3.
ip access-list extended 102
Applied On interface GigabitEthernet 0/8.
```

ip access-group	ip
mac access-group	MAC
expert access-group	Expert
ipv6 traffic-filter	IPV6

RGOS10.0

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
CoS	0	1	2	3	4	5	6	7

mls qos trust

Qos

mls qos trust [**cos** | **dscp** | *ip-precedence*]

no mls qos trust

cos	Qos	CoS
dscp	Qos	DSCP
ip-precedence	Qos	IP-PRE

no

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

show mls qos interface *interface-id*

mls qos cos

CoS

mls qos cos *default-cos*

no mls qos cos

default-cos 0 7

no

CoS 0

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

show mls qos interface *interface-id*

Class Maps

ACL

acl-id ACL id

class-map-name class map

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

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

MAC ACL, 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, cm

```
Ruijie(config)# class-map cm
```

ACL

```
Ruijie(config-cmap)# match access-group me
```

class-map

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

show mac access-lists

show ip access-lists

show class-map

Policy Maps

policy map policymap

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

policy map class-map ,

[**no**] **class** *class-map-name*

IP ipdscp IP

set ip dscp *new-dscp*

no set ip dscp

police *rate-bps burst-byte*[**exceed-action** {**drop** | **dscp** *dscp-value*}]

no police

policy-map-name policymap

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

class-map-name class map

no class *class-map-name*

new-dscp DSCP

rate-bps kbps

burst-byte kbyte

drop

dscp-value DSCP

policy map, po

```
Ruijie(config)# policy-map po
```

class-map cm

```
Ruijie(config-pmap)# class cm
```

dscp 10

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

1M, 4096k, dscp 16

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

show policy-map

service-policy

policy map

service-policy {**input** | **output**} *policy-map-name*

no service-policy {**input** | **output**}

policy-map-name policymap

no policy map

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

show mls qos interface

priority-queue

[**no**] **priority-queue**

WRR

```
Ruijie(config)# no priority-queue
```

show mls qos queueing

priority-queue cos-map

CoS

priority-queue cos-map *qid cos0* [*cos1* [*cos2* [*cos3* [*cos4* [*cos5* [*cos6* [*cos7*]]]]]]]

no priority-queue cos-map

qid id

cos0 ... cos7 CoS

no

```
Ruijie(config)# priority-queue cos-map 1 0 1
```

show mls qos queueing

wrr-queue bandwidth

WRR

wrr-queue bandwidth *weight1 ... weightn*

no wrr-queue bandwidth

weight1...weightn n n

no

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

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

show mls qos queueing

mls qos map cos-dscp

CoS DSCP

mls qos map cos-dscp *dscp1...dscp8*

no mls qos map cos-dscp

dscp

no

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

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

p cos-dsp (J/[illegible] 10.006 0 Td<1173.88 679.4003 Tm2741801.)1mmj

wrr

```
Ruijie(config)# mls qos scheduler wrr
```

show mls qos scheduler

mls qos map ip-prec-dscp

ippre DSCP

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

no mls qos map ip-prec-dscp

dscp

no

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

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

show class-map

class map

show class-map [*class-name*]

class-name class map

class map

```
Ruijie# show class-map
```

show policy-map

QoS policy map [class class-name]

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

policy-name policy name

class-name class map

policy name

```
Ruijie# show policy-map
```

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,drr 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

show mls qos rate-limit [**interface** *interface-id*]

interface interface-id rate-limit

```
Ruijie# show mls qos rate-limit
```

RLDP

RLDP

```
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

topology guard

no

[**no**] **topology guard**

cpu topology-limit

```
Ruijie(config)# topology guard
Ruijie(config)# no topology guard
```

tp-guard port enable

cpu topology-limit CPU

tp-guard port enable

no

[**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 ( )

---

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**

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 VTY
FLASH Syslog
Server
1 Log

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

logging buffered	
logging	Syslog Server
logging file flash:	FLASH

logging console

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

no logging buffered

buffer-size		4K	128K Bytes
levelI	0	7	

4k Bytes

7

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**]

message-type Log Debug Log
0 6 Debug 7

uptime * * * * 07:00:10:41

datetime Jul 27 16:53:07

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 S3250 %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	**enabled**, **disabled**
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

logging count **show logging count**

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

logging count	
show logging	
clear logging	

- **device-priority**
- **device-description**
- **show member**

device-priority

device-priority [*member*] *priority*

member	ID member 1
priority	[1, 10]

1 10

10 1

write

2 8

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

show member	

device-description

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

member *member*	ID member 1
description	31

write

show member