1 CLI

1.1

1.1.1 alias

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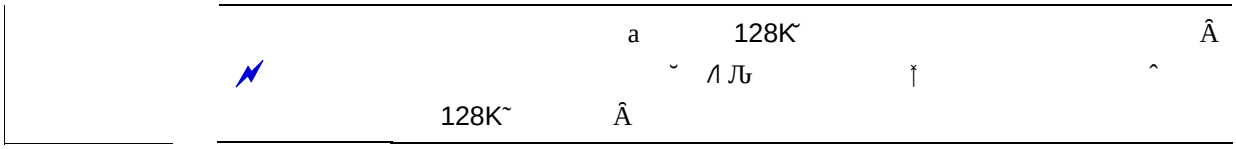
alias *mode command-alias original-command*

no alias *mode*

mode



Ю line_rcms_script.text˝ Э

Telnet

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lock ३˘ ३’

३˘ Л ЛЬ Â ł˘ ३˘

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Э в ╖ ˘ line Ю lockable ३˘

line Э в Â

Ю ѝ в

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

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lockable	Э в Â

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2.1.12 lockable

Э lock ३˘ Л ЛЬ line Ю lockable ३˘

Ю a lock ३ Â no ३ Л Â

lockable

no lockable

Ю reload ٦ è ٦ 1 1 й ˆ ٦
й ”test”˜ ˙

```
Ruijie# configure terminal
Ruijie(config)# privilege exec all level 1 reload
Ruijie(config)# enable secret level 1 0 test
Ruijie(config)# end
```

1 ˘ Л Љ ٦ ٦˙

```
Ruijie# disable 1
Ruijie> reload ?
at                  reload at a specific time/date
cancel               cancel pending reload scheme
in                  reload after a time interval
<cr>
```

Ю reload ٦ è ٦ й ˙

```
Ruijie# configure terminal
Ruijie(config)# privilege exec all reset reload
Ruijie(config)# end
```

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2.1.17 password

line ٦˘ line ٦ **password** Â ٦ **no** line ٦ Â

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

no password

password	line ٦ Â
0|*7*	٦ ╗ ˘ 0 ╗ ˘ 7 ╗ Â
encrypted-password	٦ Â

line

line

Ю line red

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

login	Э

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2.1.18 service password-encryption

service password-encryption no

a

service password-encryption

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```
Ruijie(config)# service password-encryption
```

enable password	a

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2.1.19 telnet

Telnet EXEC **telnet**

telnet *host* [*port*] [**/source** {**ip** *A.B.C.D* **| ipv6** *X:X:X:X::X* **| interface** *interface-name}*]

Host	Telnet IPV4 IPV6
Port	Telnet TCP 23
/source	Telnet IP
ip *A.B.C.D*	Telnet IPV4
ipv6 *X:X:X:X::X*	Telnet IPV6
interface *interface-name*	Telnet

telnet

1 Ю telnet IPV4 192.168.1.1 Gi 0/1

```
Ruijie# telnet 192.168.1.1 /source interface gigabitEthernet 0/1
```

2 Ю telnet IPV6 2AAA:BBBB::CCCC

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

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ip telnet source-interface	Э IP ѝ Telnet ,
show sessions	Telnet ,
exit	,

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2.1.20 username

ॅ ॅ ३ username Â

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

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

no username *name*

name	ॅ Â
password	३ Â
0|7	३ ╗ ॅ 0 ╗ ॅ 7 ╗ Â
encrypted-password	३ Â
privilege-level	Â

३ ॅ Â

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Ю ॅ ३ॅ ѝ 15 ‘

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

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2.2.2 banner motd

˘ Ю ३ **banner motd** Â ४

˘ **no banner motd** ३ Â

banner motd *c message c*

c	↑ ˘ a
message	

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no boot system

url	Â

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1 à ҙ flash URL˘ flash Э
й ╟ ‟ Â
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Boot ROM Â

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```
Ruijie#show mainfile
MainFile name: rgos.bin

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

Ruijie(config)# boot system flash:s5750_10_4.bin
Ruijie(config)# show mainfile
MainFile name: s5750_10_4.bin
```

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show mainfile	Â

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2.2.4 clock set

˘ ८ ℼ ३ **clock set**

2.2.5 clock update-calendar

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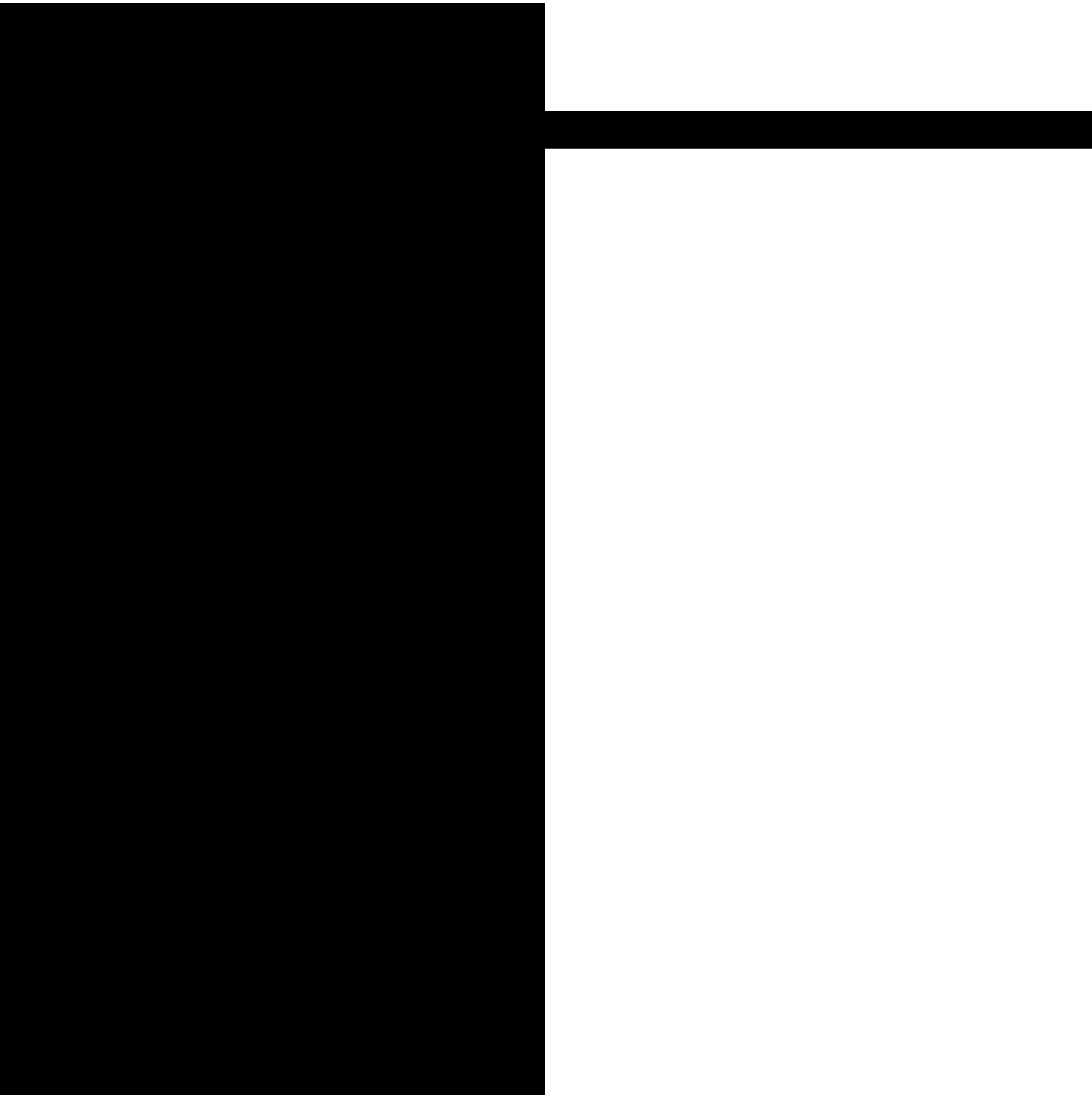
2.2.9 reload

reload

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

text	1-255
in [*hh:*] *mm*	24
at *hh:mm*	



Speed	˘ Æ bps Â ˘ ù 9600 ã19200 ã38400 ã57600 à 115200 ˘ 9600 Â

9600

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Ю ù 57600 bps˙
```
Ruijie(config)# line console 0
Ruijie(config-line)# speed 57600
```

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2.2.12 write

ˆ running-config˜ Æ Â

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

memory	NVRAM˜ ˚ **copy running-config startup-config** Â
network	TFTP Ł Э˘ ˚ **copy running-config tftp** Â
terminal	˘ ˚ **show running-config** Â

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

copy	
show running-config	

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2.3

2.3.1 show mainfile

show mainfile

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Ruijie# show mainfile
MainFile name: /rgos.bin

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boot system	╟ ў ¨

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2.3.2 show clock

ˇ ३ **show clock** Â

show clock

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Ю **show clock** ३

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

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clock set	

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2.3.3 show line

˘ Ю ३ **show line** Â

show line {**console** *line-num*

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2.3.4 show reload

Ю **show reload**

show reload

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

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2.4

2.4.1 user-manage help

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user-manage help

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CLI Э ╠˘ ` CLI Л Â
Л Ц ϡ **user-manage help\smng help\login help\line help˘** Л
╠ **user-manage help'**

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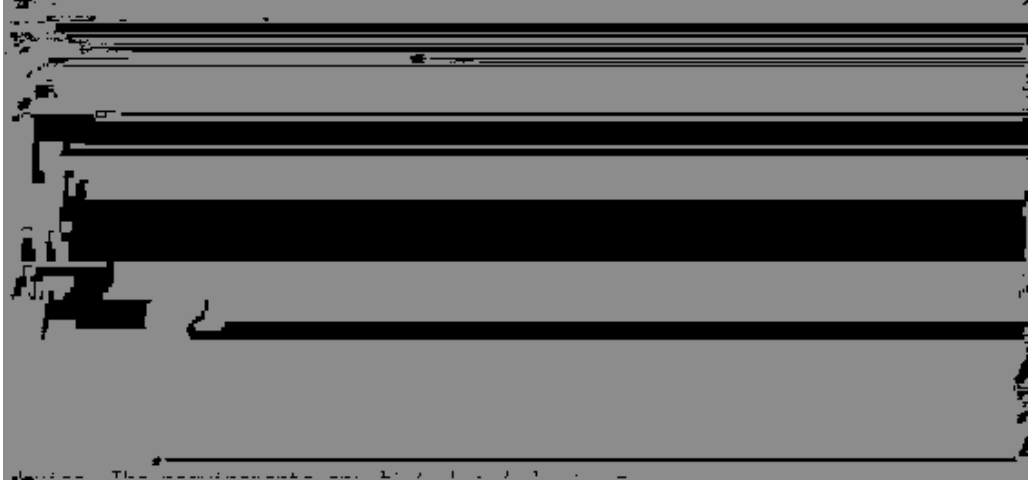
```
Ruijie#user-manage help

---------------------------------- 配置需求 ----------------------------------
为了便于远程管理，网管员要对新设备进行设置。要求1）低于15级的用户想切换到15
级进行相关配置时需要输入口令；2）对于vty 0-4，连接超过30分钟自动断开、登陆时
需要口令、应用ACL对进来的连接进行过滤；3）禁止web服务；4）口令以密文显示；

---------------------------------- 配置步骤 ----------------------------------
Ruijie(config)#enable secret level 15 w
//指定低于15级的用户切换到15级的口令为w

Ruijie(config)#line vty 0 4
Ruijie(config-line)#exec-timeout 30 0
//配置连接超时时间为30分钟0秒
Ruijie(config-line)#password 1234rewq
//配置登陆口令（针对login登陆认证方式，其它登陆认证方式参见login help）
Ruijie(config-line)#exit

Ruijie(config)#ip access-list standard 99
Ruijie(config-std-nacl)#permit host 202.198.31.106
Ruijie(config-std-nacl)#permit host 202.98.18.49
Ruijie(config-std-nacl)#exit
//配置访问控制列表99
Ruijie(config)#line vty 0 4
Ruijie(config-line)#access-class 99 in
```

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

```
Ruijie#user-manage help

---------------------------------- Configuration Requirements----------------------------------
```



```
Ruijie(config)#ip access-list standard 99
Ruijie(config-std-nacl)#permit host 202.198.31.106
Ruijie(config-std-nacl)#permit host 202.98.18.49
Ruijie(config-std-nacl)#exit
//Configure the access control list 99.
Ruijie(config)#line vty 0 4
Ruijie(config-line)#access-class 99 in
Ruijie(config-line)#exit
//Apply the access control list 99 to filter the incoming connection.

Ruijie(config)#no enable service web-server
//Disable the web service.

Ruijie(config)#service password-encryption
```


Ю language {chinese | english}

view user-manage	SMNG

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2.5

2.5.1 enable help

enable

enable help

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```
Ruijie(config)#enable help

命令举例：
------------------------------------------------------------------------------
>enable password li8110

设置15级别权限的简单口令为li8110。
------------------------------------------------------------------------------
>enable secret level 1 njau2008

设置1级别权限的安全口令为njau2008。
1：权限级别；              njau2008：口令字符串；
------------------------------------------------------------------------------
>enable service telnet-server

开启telnet服务功能。
------------------------------------------------------------------------------
```

```
Ruijie(config)#enable help

Examples:
------------------------------------------------------------------------------
>enable password li8110

Configure the simple password of li8110 for privilege level 15.
------------------------------------------------------------------------------
>enable secret level 1 njau2008

Configure the secure password of li8110 for privilege level 1.
1: privilege level;         njau2008: password string;
------------------------------------------------------------------------------
>enable service telnet-server

Enable telnet service.
------------------------------------------------------------------------------
```

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2.5.2 username help

username

username help

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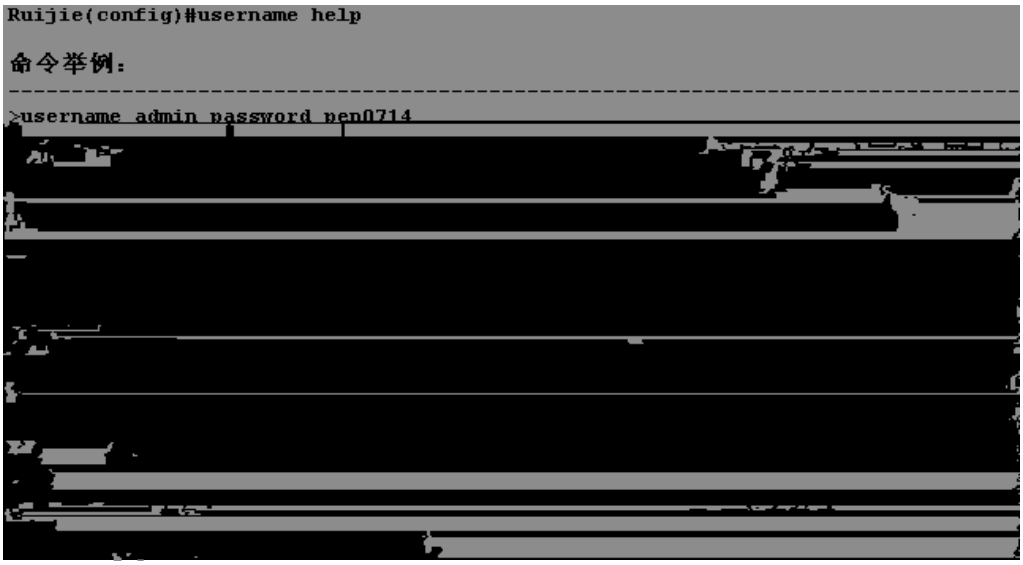

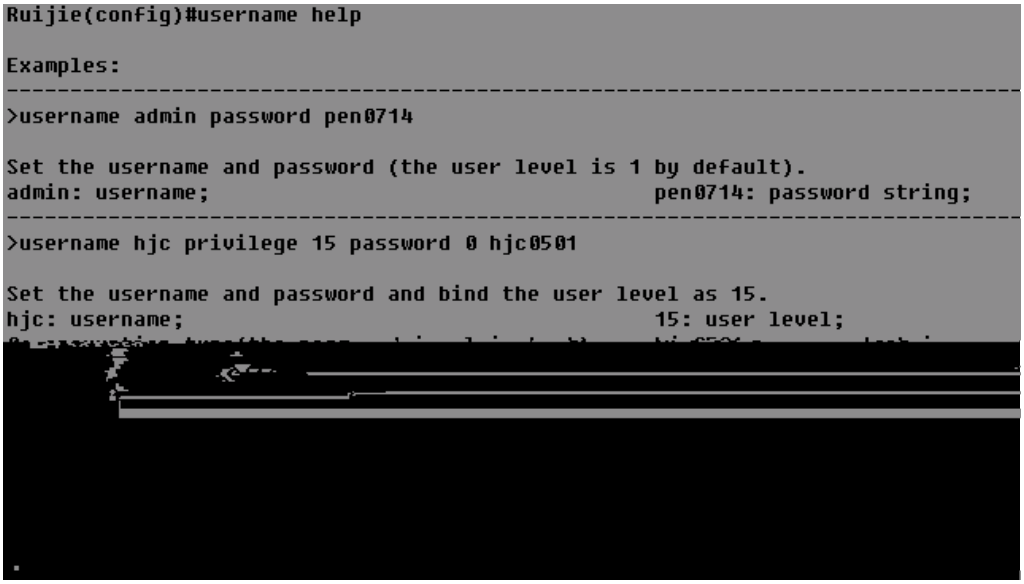

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user-manage help	SMNG ή
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2.5.3 login help

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login help

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AAA Ю ‘

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

命令举例：
------------------------------------------------------------------------------
>login

在AAA关闭的情况下，采用简单口令登陆认证方式。必须配置简单口令。
------------------------------------------------------------------------------
>login local

在AAA关闭的情况下，采用本地用户登陆认证方式。必须配置本地用户列表（参见
username help）。
------------------------------------------------------------------------------
```

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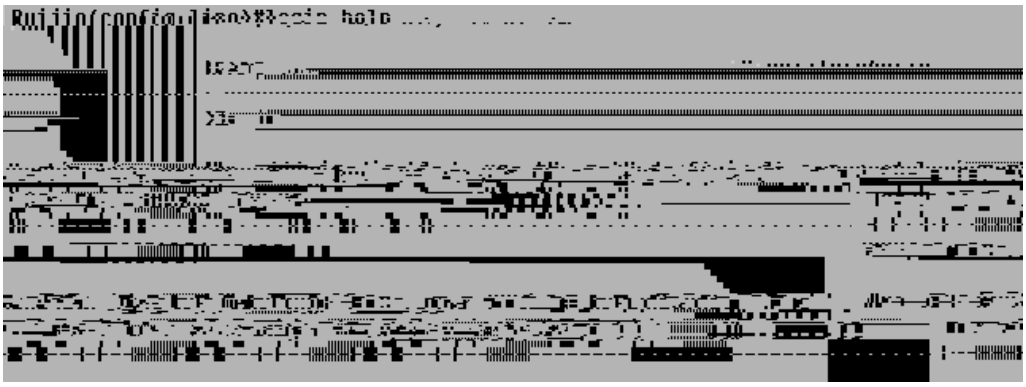

AAA Ю ‘

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

命令举例：
------------------------------------------------------------------------------
>login authentication sjtunet

在AAA开启的情况下，采用AAA登陆认证方式，认证方法列表为sjtunet。
------------------------------------------------------------------------------
>login authentication default

在AAA开启的情况下，采用AAA登陆认证方式，采用默认的方法列表default。
------------------------------------------------------------------------------
```

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

Examples:
------------------------------------------------------------------------------
>login authentication sjtunet

When AAA is enabled, use the method of AAA login authentication. The
authentication list is 'sjtunet'.
------------------------------------------------------------------------------
>login authentication default

When AAA is enabled, use the method of AAA login authentication, and use the
default list of 'default'.
------------------------------------------------------------------------------
```

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user-manage help	SMNG ή

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2.5.4 privilege help

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privilege help

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```
Ruijie(config)#privilege help

命令举例：
------------------------------------------------------------------------------
>privilege exec level 1 show ip route

指定show ip route命令的权限级别为1（即允许级别大于等于1的用户执行该命令）。
Exec：被授权命令所在的模式；                1：权限级别（范围0-15）；
show ip route：被授权的命令；
------------------------------------------------------------------------------
>privilege config all level 2 arp

指定arp命令及其子命令权限级别为2（即允许级别大于等于2的用户执行该命令及其子
命令）。
config：被授权命令所在的模式；              all：包括所有子命令；
2：用户的级别（范围0-15）                    arp：被授权的命令
```

```
Ruijie(config)#privilege help

Examples:
------------------------------------------------------------------------------
>privilege exec level 1 show ip route

Specify the privilege level of command 'show ip route' to 1 (namely this command
can be executed by users with privilege level higher than or equal to 1).
exec: the mode that the authorized command is in;
1: privilege level (range: 0-15);
show ip route: the command authorized;
------------------------------------------------------------------------------
>privilege config all level 2 arp

Specify the privilege level of command 'arp' and its subcommands to 2 (namely
this command and its subcommands can be executed by users with privilege level
higher than or equal to 2).
config: the mode that the authorized command is in;
all: including all subcommands;
2: privilege level of user (range: 0-15);
arp: the command authorized;
------------------------------------------------------------------------------
>privilege config reset hostname

Reset the privilege level of command 'hostname'.

config: the mode that the command to be reset is in;
hostname: the command with privilege level to be reset;
------------------------------------------------------------------------------
```

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10.4 3	

2.5.5 banner help

banner Â

banner help

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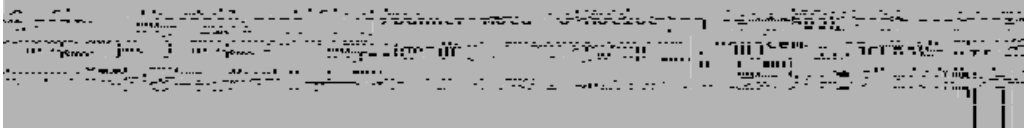
```
Ruijie(config)#banner help

Examples:
------------------------------------------------------------------------------
>banner login ^C Please enter your password ^C

Configure the login banner message as 'Please enter your password'. ^c is the
start mark and end mark of message (mainly some routine prompting messages
displayed upon login).
------------------------------------------------------------------------------
>banner motd ^C Notice: system will shutdown on July 6th ^C
```



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2.6

2.6.1 show line summary

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show line summary

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show ip ssh

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SSH VTY SSH

Ruijie# **show ssh**

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RGOS10.1

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```
Ruijie#ssh help

------------------------------------ 案例菜单 ------------------------------------
1、SSH的本地线路认证配置案例
2、SSH的AAA认证配置案例

--------------------------------------------------------------------------------
择您要查看的案例编号（按ESC键退出）                                          请选
```

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```
Ruijie#ssh help

------------------------------------ 案例菜单 ------------------------------------
1、SSH的本地线路认证配置案例
2、SSH的AAA认证配置案例

--------------------------------------------------------------------------------
请选择您要查看的案例编号（按ESC键退出）：1

------------------------------------ 配置需求 ------------------------------------
为了提高数据信息的安全性，某网络中心仅允许通过SSH协议登陆设备，要求1）采用
线路口令认证方式；2）启用0-5这6条线路，线路口令为pass；

------------------------------------ 配置步骤 ------------------------------------
1、ssh server端配置（要登陆的交换机）
Ruijie(config)# enable service ssh-server
//开启ssh server功能（默认处于关闭状态）

Ruijie(config)#crypto key generate rsa
//生成RSA密钥（这里会有交互信息，只需按提示输入信息）更多信息查看crypto help

Ruijie(config)#interface vlan 1
Ruijie(config-if-VLAN 1)#ip address 10.10.10.10 255.255.255.0
Ruijie(config-if-VLAN 1)#exit
//配置vlan 1的接口地址，客户端将通过该地址连接ssh服务器
```

```
Ruijie(config)#interface vlan 1
Ruijie(config-if-VLAN 1)#ip address 10.10.10.10 255.255.255.0
Ruijie(config-if-VLAN 1)#exit
''''//配置vlan 1的接口地址，客户端将通过该地址连接ssh服务器

    e(config)#interface vty 0 5
  ----e(config-if-VLAN 1)#password pass
    e(config-if-VLAN 1)#privilege level 15
_____e(config-if-VLAN 1)#                                                    ku
    //配置0-5线路的口令

    2: 验证配置是否成功
  _ e(config)#interview ssh
---- --------------------------------------------------------------------------
```

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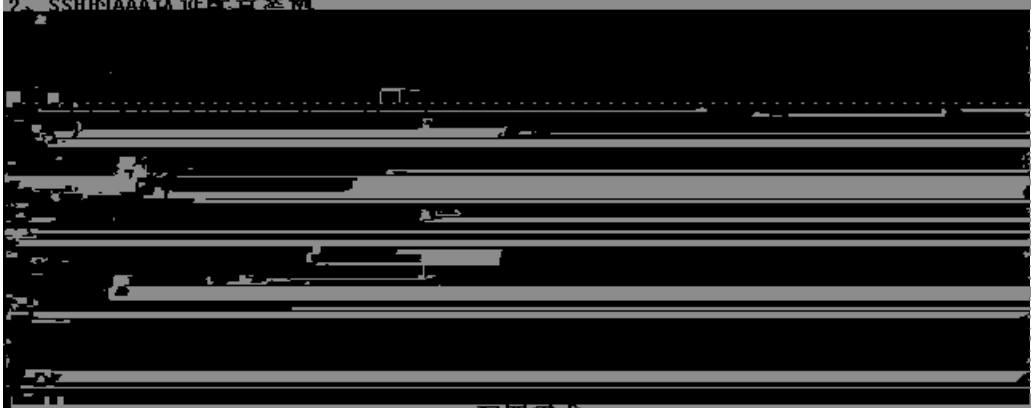
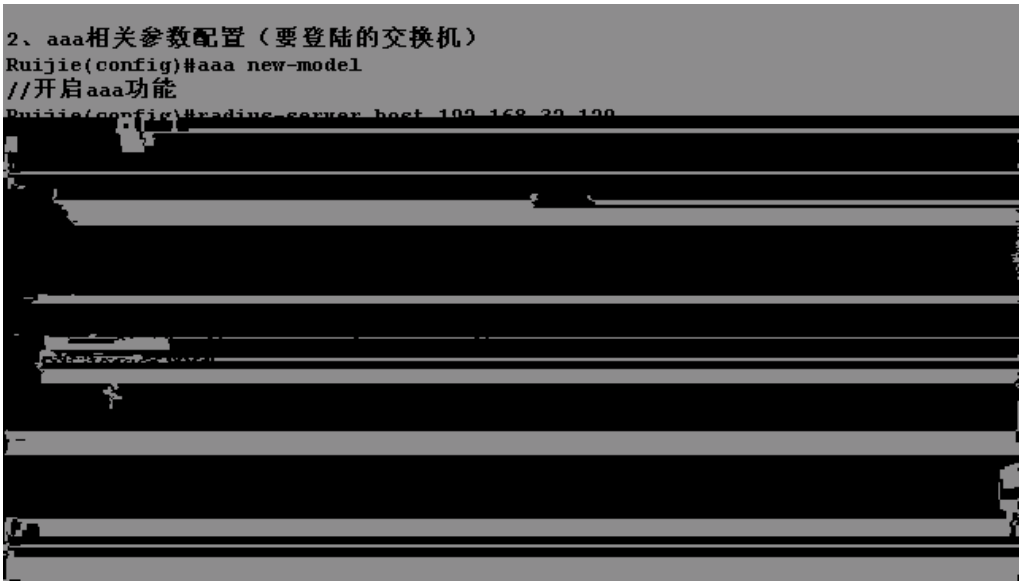
```
Ruijie#ssh help

------------------------------------ 案例菜单 ------------------------------------
1、SSH的本地线路认证配置案例
2、SSH的AAA认证配置案例
```



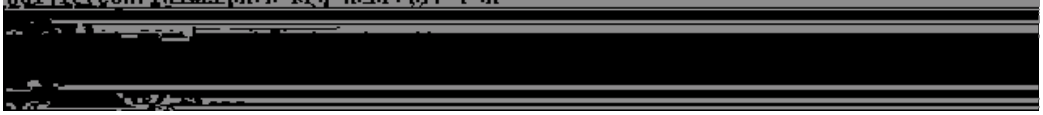
```
------------------------------------ 配置需求 ------------------------------------
为了提高数据信息的安全性，某网络中心仅允许通过SSH协议登陆交换机，要求1）采
用AAA认证方式；2）AAA认证方法列表中配置Radius服务器认证和本地认证两种方法，
优先采用Radius服务器；
```

```
2、aaa相关参数配置（要登陆的交换机）
Ruijie(config)#aaa new-model
//开启aaa功能
Ruijie(config)#radius-server host 192.168.22.120
```



```
Ruijie#ssh help

------------------------------------ Example Menu ------------------------------------
1. SSH local line authentication configuration example
2. SSH AAA authentication configuration example

--------------------------------------------------------------------------------------
Please choose the number you want to view (Press the ESC key to exit):
```

```
Ruijie#ssh help

------------------------------------ Example Menu -------------------------------
1. SSH local line authentication configuration example
2. SSH AAA authentication configuration example

---------------------------------------------------------------------------------
Please choose the number you want to view (Press the ESC key to exit): 1

---------------------------- Configuration Requirements -------------------------
To improve the data security,login on the device only through the SSH protocol.
The requirements are listed as below:
1) Use the line password authentication
2) Enable line0-5 with password pass

---------------------------- Configuration Steps --------------------------------
1.Configuring the ssh server for the switch to login
Ruijie(config)# enable service ssh-server
//Enable the ssh server function (disabled by default)

Ruijie(config)#crypto key generate rsa
```



```
Ruijie(config-if-VLAN 1)#ip address 10.10.10.10 255.255.255.0
Ruijie(config-if-VLAN 1)#exit
```

л ѝ 2

```
Ruijie#ssh help

------------------------------------ Example Menu -------------------------------
1. SSH local line authentication configuration example
2. SSH AAA authentication configuration example

---------------------------------------------------------------------------------
Please choose the number you want to view (Press the ESC key to exit): 2

---------------------------- Configuration Requirements -------------------------
To improve the data security,login on the switch only through the SSH protocol.
The requirements are listed as below:
1)Use the AAA authenticaion;
2)Configure the Radius server authentication and local authentication in the AAA
authentication method list(Give the Radius server authentication the preference)

---------------------------- Configuration Steps --------------------------------
1.Configuring the ssh server for the switch to login
Ruijie(config)# enable service ssh-server
//Enable the ssh server function (disabled by default)

Ruijie(config)#crypto key generate dsa
//Generate DSA key (There will be interactions here, just enter the information
following the prompt). For more information,see the crypto help.
```

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	10.4(3)	३

3.4.2 ip ssh help

Л ip ssh ३ Â

ip ssh help

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˘ ╠ ў ˘

⁄ Â

```
Ruijie(config)#ip ssh help

Examples:
------------------------------------------------------------------------------
>ip ssh authentication-retries 4

Specify the SSH Server user authentication retry times as 4 (default: 3).
------------------------------------------------------------------------------
>ip ssh time-out 30

Configure the timeout value of SSH Server user authentication as 30s
(range: 1-120s; default: 120s).
------------------------------------------------------------------------------
>ip ssh version 2

Configure SSH server version as SSH2 (default:SSH1 and SSH2 Compatible).
------------------------------------------------------------------------------
```

‘ Ю language {chinese | english} ३ ˘ Л Ц ˚ Â

३

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ssh help	**ssh** ђ

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10.4(3)	३

3.5

3.5.1 view ssh

ssh Â

view ssh

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CLI ३ ˚ ˘

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view ssh\view secure-shell view ssh

ssh help	**ssh**

10.4(3)	

4 LINE

4.1 LINE

4.1.1 access-class

Line Ю ACL^ ˜ Â **access-class** { *access-list-number* | *access-list-name* } { **in | out** } ৡ Line Ю Â **no access-class** { *access-list-number* | *access-list-name* } {**in | out**} ৡ ৲ LINE Ю ACL Â

access-class { *access-list-number* | *access-list-name* } {**in | out**}

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

access-list-number | *access-list-name*	access-list Â
in	৲ Â
out	Â

˘ Line Ю Â ৲ ˘ Â

ৡ Line Â

ৡ Line Ю Â Ю ৲ б ˘ a Â **access-class** ł˘ access list ˘ ৸ Л ৡ ╖ Â **show running** ৡ Line Ю Â

line vty 0 4 Ю˝ ৲ access-list ѝ 10˝

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

ৡ	
show running	Â

ʌ RGOS10.1 ЛЪ Э

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4.1.2 line

LINE ˘ ЛЪЮ ৡ'

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

console	
vty	˘ telnet/ssh
First-line	first-line ʌ
Last-line	last-line ʌ

ৡ

LINE Â

LINE VTY 1 3 LINE '

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

ৡ

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4.1.3 line vty

¦ Л Л¬ ¬ Л Л¬ VTY Â ¦ **no** Л Л¬ Л Л¬ VTY Â

line vty *line-number*

no line vty *line-number*

-	-

Ю Л VTY й 5 Л й 0--4Â

¦

¬ Л VTY ˇ Л Л¬ Э ¦ Â

1 Л VTY ¬ 20 Л VTY Л й 0--19Â

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

2 Л VTY 10 Л VTY Л й 0—9Â

```
Ruijie(config)# no line vty 10
```

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4.1.4 transport input

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

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

default transport input

all	Line Ю Â
ssh	Line Ю SSH Â

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5.1.3 traceroute

traceroute ३˘ ʌ Лъ ÿ .

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

Ip-address	IPv4 Â
number	
source	IPv4 Â è ˘ ˆ 127.0.0.1˜ a ѝ Â
seconds	
minimum maximum	TTL

३

Traceroute ३ ў ˘ ˘ Æ
Æ Â ¨ ℸ ˘ ¨ Ь ˘ é DNS ↑ Â

ЛЬЮ ѝ traceroute ` - ʁ ʒ

```
5     202.101.143.130    4 msec  16 msec  8 msec
6     202.101.143.154   12 msec  8 msec  24 msec
7     61.154.22.36      12 msec  8 msec  22 msec
```

ÿ Э ˘ Л Љ ˘ ÿ IP ѝ 61.154.22.36 ў ˘
ˆ 1˙ 6˜ ˘ ˚ ˘

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

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5.1.4 traceroute ipv6

traceroute ipv6 ¾˘ Л Ц ÿ
Â

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

Ip-address	IPv6 ¨ Â
number	
seconds	
minimum maximum	TTL

ʒ

Traceroute ipv6 ʒ ў ˘ ˘ Æ
Æ Â ¨ ˘ ¨ Ь ˘ é DNS
ʃ Â

ЛЬЮ ѝ traceroute ipv6 ˘ ѝ ˘ ѝ
a Â

1˙ traceroute ipv6 ˙

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

ў Э Л Лъ ˘ ў IP ѝ 3004::1 ў ˘
ˆ 1˙ 4˜ ˘ ˚ ˘ ʃ ˘
Â

2˙ a traceroute ipv6 ˙

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

ў Э Л Лъ ˘ ў IP ѝ 3004::1 ў ˘
ˆ 1˙ 5˜ ˘ 4 Â

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1 Ӆ Ѣ ҳ

2 MAC ѵ ѧ Ѣ ҳ

3 Aggregate Port Ѣ ҳ

4 LACP Ѣ ҳ

5 VLAN Ѣ ҳ

6 Private VLAN Ѣ ҳ

7 MAC VLAN Ѣ ҳ

8 Share VLAN Ѣ ҳ

9 Voice VLAN Ѣ ҳ

10 MSTP Ѣ ҳ

11 GVRP Ѣ ҳ

12 QinQ Ѣ ҳ

1

1.1

1.1.1 carrier-delay

ҩ Ѧ Ю G Ѣ ҂

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1.1.2 clear counters

Ѧ ЂЎ

clear counters [*interface-id*]

Ѧ	
interface-id	Ѧ ҳ n Ѧ Ѧ Â

Ъ ҳ Â

G Ѧ h Ѧ Л Ъ Ъ ҳ **show interfaces** ˇ ҳ Ю G **clear counters** Ъ ҳ ˇ Ѧ Л Ъ Ѧ h Â a Ѧ ˇ ‡ Ѧ ЂЎ Â

w R

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

Ъ ҳ	
show interfaces	Ѧ n ə Â

Ѧ

Ѧ	
-	-

1.1.3 clear interface

Ѧ ˇ Æ

clear interface *interface-id*

Ѧ	
interface-id	Ѧ ҳ n Ѧ Ѧ Â

Ѣ ҁ

G Ѣ ҁ Ѧ Switch Port,L2 Aggregrate port Ц Ѧ ,Routed port,L3 Aggregate port
Ц Ѧ Â Ѣ ҁ ¥ Ѧ **shutdown** n **no shutdown** Ѣ ҁ Â

w R

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

Ѿ Ѣ ҁ

Ѣ ҁ	
shutdown	Ѿ Ѧ

Ѧ

Ѣ ҁ Ѵ Ѧ

Ѧ	
-	-

1.1.4 descriptioin

Ѧ ⁞ Â G Ѣ ҁ no h Â

description *string*

no description

Ѧ

Ѧ	
string	Ѧ ⁞ Â

⁞ Â

Ѣ ҁ Ѧ

G G **show interfaces** Ѣ ҁ Ѧ ҷ ˘ ˆ ⁞ Â

w R

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

Ѿ Ѣ ҁ

Ѣ ҁ	
show interfaces	Ѧ n ҷ Â

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Ђ ђ Ў Ѝ

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1.1.5 duplex

ћф Ѝ Ю G Ђ ђ Ѝ ў Â G Ђ ђ **no**
ѝ ḣ Â

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

no duplex

ў

ў	
auto	ŏ ў p´ ў Â
full	ŏ ў Â
half	´ ў Â

ŏ ў p´ ў Â

Ђ ђ Ѝ

G Ѝ ў б Ѝ ћш ЎΩ Â Ѝ Љ G **show interfaces** Ђ ђ Ѝ ў Â

w R

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

ЎΩ Ђ ђ

Ђ ђ	
show interfaces	Ѝ p ą Â

Ѝ

Ђ ђ Ў Ѝ

Ѝ	
-	-

1.1.6 flowcontrol

Ъ ђ Ў ¤ Â G Ъ ђ no ѝ ћ Â

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

no flowcontrol

Ѓ	
auto	~ ѕ ¤ Â
off	Ў ¤ Â
on	¤ Â
receive	¤ ё
send	¤ Ѓ ё

í ¤ Â

Ъ ђ Ѓ

G G **show interfaces** Ѓ ¤ p ¤ Â

’ ”I Л 1/1 ¤ ‘

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

Ъ ђ	
show interfaces	Ѓ p ѧ Â

Ѓ

Ѓ	
-	-

1.1.7 interface aggregateport

Ъ ђ Ъ ђ … У э Ѓ ю Ѓ Â G Ъ ђ no ї Ѓ Â

interface aggregateport *port-number*

Ѓ	

port-number	Aggregate port

Ф

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G

Л Л У ‡ è ы Л ╗ ώ У э aggregate port è Âaggregate port Ц Л й У э е Ц Л aggregate port ā Â G **show interfaces** **show interfaces aggregateport** Ф Л Â

w R

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

Ω Ф

Ф	
show interfaces	Л р ą Â

Л

Ф Ч Л

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1.1.8 interface fastEthernet

Ф Ф Л ώ Л Â

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

Л

Л	
mod-num/port-num	Л /

-	-

1.1.10 interface vlan

Ъ ђ Ъ ђ ˇ … У э ╠ Ц Ѓ switch virtual interface ˇ SVI ˜ ˇ
ώ Ѓ Â G Ъ ђ **no** ╖ SVI Â

interface vlan *vlan-id*

no interface vlan *vlan-id*

Ѓ	
vlan-id	VLAN ID ˇ ﻧ ā α Â

Ъ ђ ŏ ώ

G G **show interfaces** **show interfaces vlan** Ъ ђ Ѓ Â

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

Ъ ђ

-

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	

	length	˘ ` æ ѝ Â ⺁ state ѝ OK Â ⺆ ˘ ɣ ҽ ⺁ . ˘ Лъ ⺁ ҩ У Â ѝ Short Open length ⺁⍐ Â

⺁

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1.1.12 medium-type

⺁ ҩ Â G Ƀ ҂ **no** ḣ Â

medium-type { **auto-select [prefer [fiber | copper]] | fiber | copper** }

no medium-type

	⺁	
⺁	**auto-select**	⺁ Ў ╟
	**prefer [fiber	copper]**	⺁ Ў ╟ . ″I Ў
	fiber	⁸ ″I ⺁
	copper	⁸ ⺁

⺁ Â

Ƀ ҂ ⺁ ^ ⺁˘ a ^ Ap ⨑ SVl˜

˚ У ⺁ ⺁ Лъ ″I ⺁ ⨑ ⺁ ч Ў ҩ˘ ⺁ G ė è ǯ У Â У Ў
ҩ ǯ ł˘ ҩ ⺁ ˘ R à ⺆ à ⁸ ⨑ ˘ ⺁ ṁ
ҩ Â ⺆ ⺁ ҩ ł˘ ҩ ⺁ ѝ ė ˘ ⺁ Лъ
Â
G
⺁ Ў ╟ ˘ ҩ ⺁ ⺁ У Ў Э ˘ G ṁ Ş R Ⅎ ⍹

ѯф ӆ è˘ G Ѣ ҳ ЎΩ ӆ Â G Ѣ ҳ **no** ӆ Â

shutdown

no shutdown

ӆ	

snmp trap link-status

no snmp trap link-status

Ѓ	

	ą Ю ╗ ˇ Ѓ Ѓ Link Ѓ □ˇ SNMP Ѓ LinkTrap Â
Ѣ ђ	Ѓ Â
G	¥ Ѓ Л Ѓ à Ap Ѓ à SVI Ѓ ~ ˇ Ѣ ђ ў Ѓ Ѓ LinkTrapˇ ╗ ˇ Ѓ Ѓ Link Ѓ □ˇ SNMP Ѓ LinkTrap, Ѓ ѓ ‡ a Ѓ Â

w R

R 1ˇ Ю Ѓ й a Ѓ Link trapˇ

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

R 2ˇ Ю Ѓ й Ѓ Link trapˇ

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

Ѣ ђ	
Ω Ѣ ђ link tra	Ruijie(config-if)# **snmp trap link-status** Ѓ Ѓ link trap ╗ Â

1000	Л	й 1000Mbps Â
10G	Л	й 10Gbps Â
auto	Л	й Â

G	ώ У э VLAN ID Â ώ У э VLAN ID ‡ ˛ … У э VLAN Ѧ й VLAN Ц Â ώ ӂ VLAN ID ‡ ╗ VLAN Ц Ѧ Â Ѧ У э trunkport ‡ Э ˙ ı Э Â

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

Ѿ Ѣ ҁ	Ѣ ҁ	
	switchport mode	У э ү Ѧ switch port Â
	switchport trunk	й У э trunkport У э native VLAN n э Trunk Ѧ Ѧ VLAN " Â

Ѧ

Ѣ ҁ Ч Ѧ		
	Ѧ	
	-	-

1.1.18 switchport mode

G Ѣ ҁ У э ү Ѧ switch port ˘ Ѧ Л Ѧ Ѧ й access port й trunk port, й 802.1Q Â G Ѣ ҁ **no** Ѧ й ḣ Â

switchport mode {**access | trunk**}

no switchport mode

Ѧ	Ѧ	
	access	У э switch port й access port Â
	trunk	У э switch port й trunk port Â

switch port й access

Ѣ ҁ Ѧ

G У э switch port access ‡ Ѧ Ѧ й У э VLAN Ц Â Ѧ Л Ѧ G **switchport access vlan** Ѣ ҁ Ѧ Ч У э VLAN Ц Â У э switch port trunk ‡ Ѧ Ѧ Л Ѧ э VLAN Ц Â Ѧ Ѧ Л Ѧ

native vlan *vlan-id*	Native VLAN Â

Л VLAN " all Native VLAN ‡ VLAN 1

Ъ ъ Л

Native VLAN

Э й Trunk э Л Ц У э native VLAN Â native VLAN фа э Л Э Л UNTAG й Ц э VLAN Â э Л VLAN ID ^ IEEE 802.1Q è PVID native VLAN VLAN ID Â фа Trunk Э Л Ц native VLAN ‡ UNTAG Â

Л VLAN "

У э Trunk Л Л Л VLAN 1 4094 Â П ≠ Л Л Trunk Л Л VLAN " 8 VLAN a э Trunk Л Â

G **show interfaces switchport** Ъ ъ Â

Ю У э VLAN 2 ÿ Л 1/15 è R

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

Ъ ъ	
show interfaces	Л ą Â
switchport access	У э Л й statics accessport й У э VLAN Ц Л Â

Л

Л	
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1.2

1.2.1 show interfaces

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

```
Encapsulation protocol is Bridge, loopback not set
Keepalive interval is 10 sec , set
Carrier delay is 2 sec
RXload is 1 ,Txload is 1
Queueing strategy: FIFO
  Output queue 0/0, 0 drops;
  Input queue 0/75, 0 drops
Switchport attributes:
  interface's description:""
  medium-type is copper
  lastchange time:0 Day: 0 Hour: 0 Minute:13 Second
  Priority is 0
  admin duplex mode is AUTO, oper duplex is Unknown
  admin speed is AUTO, oper speed is Unknown
```

```
  Encapsulation protocol is Bridge, loopback not set
  Keepalive interval is 10 sec , set
  Carrier delay is 2 sec
  RXload is 1 ,Txload is 1
  Queueing strategy: FIFO
    Output queue 0/0, 0 drops;
    Input queue 0/75, 0 drops
  Switchport attributes:
    interface's description:""
    medium-type is copper
    lastchange time:0 Day: 0 Hour: 0 Minute:13 Second
    Priority is 0
    admin duplex mode is AUTO, oper duplex is Unknown
    admin speed is AUTO, oper speed is Unknown
    flow receive control admin status is OFF,flow send control admin status is
OFF,flow receive control oper status is Unknown,flow send control oper status is
Unknown
    broadcast Storm Control is OFF,multicast Storm Control is
OFF,unicast Storm Control is OFF
  Port-type: access
    Vlan id : 2                          //Access Ѧ       VLAN ID
  5 minutes input rate 0 bits/sec, 0 packets/sec
  5 minutes output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer, 0 dropped
    Received 0 broadcasts, 0 runts, 0 giants
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 abort
    0 packets output, 0 bytes, 0 underruns , 0 dropped
    0 output errors, 0 collisions, 0 interface resets
```

R 3 Gi0/1 и Hybrid Ѧ ˘ Ѧ ү ә

```
SwitchA#show interfaces gigabitEthernet 0/1
Index(dec):1 (hex):1
GigabitEthernet 0/1 is DOWN  , line protocol is DOWN
Hardware is Broadcom 5464 GigabitEthernet
Interface address is: no ip address
  MTU 1500 bytes, BW 1000000 Kbit
  Encapsulation protocol is Bridge, loopback not set
  Keepalive interval is 10 sec , set
  Carrier delay is 2 sec
```

interface aggregateport	… У э ˊ ⊀˘ ώ ⊀ Â
interface vlan	… У э ╟ Ң ⊀ ˆ switch virtual interfaceˇ SVI˜ ˘ ώ ⊀ Â
shutdown	϶ ⊀ è˘ G Ѣ ҳ ˇΩ ⊀ Â
speed	⊀ Â
switchport priority	802.1q ⊀ . ˝I Â
switchport protected	⊀ ѝ ҷ ⊀ Â

2 MAC

2.1

2.1.1 address-bind

У э ip п mac Â

address-bind *ip-address mac-address*

no address-bind *ip-address*

	ip-address	IP Â
	mac-address	mac Â

ŏ

æ У э IP п У э MAC ˘ ‡ ˛ IP й э IP ˘ MAC а й э IP MAC ˘ э ˚ x Â

Ю R ip й 3.3.3.3 п mac 00d0.f811.1112

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

show address-bind	

-	-

2.1.2 address-bind install

address-bind install

no address-bind install

-	-

w

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

show add0D 362.-(sho)18(w)25(add)6(1 Tf)1811.Tr 10 Tw 2.749 0 Td[30C32 g52 D0167C419211E0

Ѣ ҂	ѽ
ɢ	ѫ У э IP ѫ ѭ ŋ У э MAC ѫ ѭ ˘ ‡ Ң ĺ IP ѫ ѭ ѝ э IP ѫ ѭ ˘ MAC ѫ ѭ а ѝ э IP ѫ ѭ MAC ˘ э ˛ Ң x Â
ᴡ ᴿ	Ю ᴿ ip ѫ ѭ ѝ 3.3.3.3 ŋ mac ѫ ѭ 00d0.f811.1112 Ruijie(config)# **address-bind** *3.3.3.3 00d0.f811.1112*

‴Ω Ѣ ҂	Ѣ ҂	
	show address-bind	ѫ ѭ

ѧ

Ѣ ҂ Ч ѧ	ѧ	
	-	-

2.1.4 address-bind ipv6-mode

ip ѫ ѭ IP

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address-bind ipv6-mode compatible

address-bind ipv6-mode loose

ш

address-bind ipv6-mode strict

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Ъ ч ŏ

w R

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

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show mac-address-table dynamic	╟ ə Â

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2.1.8 clear mac-address-table static

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

Л	
static	Â
address *mac-addr*	Â
interface *interface-id*	Â
vlan *vlan-id*	VLAN Â

Б

G Л G **show mac-address-table stati**

no mac-address-table aging-time

seconds	

ḣ 300

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- **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	

-	-

2.1.10 mac-address-table filtering

no

mac-address-table filtering *mac-address* **vlan** *vlan-id* [source | destination]

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

mac-address	

vlan

destination	MAC VLAN MAC MAC

MAC MAC MAC source destination VLAN MAC MAC MAC

show mac-address-table filtering MAC

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

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

G

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

w R

```
Ruijie(config)# mac-address-table static 00d0.f800.073c vlan 4
interface gigabitethernet 1/1
```

Ω

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

-	-

2.1.13 snmp trap mac-notification

MAC

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

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

added	
removed	

G **show mac-address-table notification** *interface*

w R

```
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
	-	
	-	

2.1.14 mac-address-learning

mac-address-learning

	a	

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

2.2

2.2.1 show address-bind

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G

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

address-bind uplink	R

-

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2.2.3 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

G

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

1 00d0.f800.1001 STATIC Gi1/1

Ф	
show mac-address-table static	Â
show mac-address-table filtering	Â
show mac-address-table dynamic	╟ Â
show mac-address-table interface	Â
show mac-address-table vlan	VLAN
show mac-address-table count	è Â
show mac-address-table static	Â
show mac-address-table filtering	Â

Ф
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2.2.4 show mac-address-table aging-time

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show mac-address-table aging-time

-

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

	show mac-address-table vlan	VLAN Â

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2.2.6 show mac-address-table dynamic

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

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

Ф

G

```
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
```

Ф
clear mac-address-table dynamic

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2.2.7 show mac-address-table filtering

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

mac-addr
vlan-id

MAC Â
VLAN Â

```
Ruijie# show mac-address-table filtering
Vlan       MAC Address         Type     Interface
------  ------------------- -------- -----------
1     0000.2222.2222         FILTER   Not available
```

Ф
clear mac-address-table filtering
mac-address-table filtering

Â
Â

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2.2.8 show mac-address-table interface

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

	interface-id	AggregatePort)
	vlan-id	VLAN

2.2.9 show mac-address-table notification

MAC

show mac-address-table notification [**interface**[*interface-id*] **| history**]

2.2.10 show mac-address-table static

Â

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

	mac-addr	MAC Â
	vlan-id	VLAN Â
	interface-id	^ AggregatePort)

G

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

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

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2.2.11 show mac-address-table vlan

VLAN Â

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

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```
Ruijie#address-bind help

---------------------------------- 配置需求 ----------------------------------
学校实验室的交换机作为接入设备，要求只能特定的IP和MAC绑定用户才能上网，用户不能
盗用他人IP上网，并且绑定的用户可以在不同的端口正常上网。

---------------------------------- 配置步骤 ----------------------------------
Ruijie(config)#address-bind install
//使IP和MAC地址绑定生效

Ruijie(config)#address-bind 1.1.1.1 0000.0000.1111
//配置IPv4地址：1.1.1.1和MAC地址：0000.0000.1111绑定
Ruijie(config)#address-bind 6:6:6::6 0000.0000.6666
//配置IPv6地址：6:6:6::6和MAC地址：0000.0000.6666绑定

Ruijie(config)#address-bind uplink GigabitEthernet 0/4
//配置交换机的上联口Gi0/4为地址绑定的例外端口
------------------------------------------------------------------------------

Ruijie#
```

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```
Ruijie#address-bind help

------------------------------ Configuration Requirements ------------------------
The switch in school lab serves as the access device. It is required that only
users with specific IP and MAC addresses can access network. Network users
cannot use other user's IP address to access network. The bound user can access
network through different ports.

-------------------------------- Configuration Steps -----------------------------
Ruijie(config)#address-bind install
//Effect IP-MAC binding

Ruijie(config)#address-bind 1.1.1.1 0000.0000.1111
//Configure to bind IPv4 address 1.1.1.1 with MAC address 0000.0000.1111
Ruijie(config)#address-bind 6:6:6::6 0000.0000.6666
//Configure to bind IPv6 address 6:6:6::6 with MAC address 0000.0000.6666

Ruijie(config)#address-bind uplink GigabitEthernet 0/4
//Configure the switch uplink port Gi0/4 as the exclude port of address binding
------------------------------------------------------------------------------

Ruijie#
```

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ѪѢ ҁ **view address-bind**	address-bind ѣ ў ↓ ә

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2.4

2.4.1 address-bind help

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address-bind help

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10.4 3˜

3 Aggregate Port

3.1

3.1.1 aggregateport load-balance

У э AP Â G Ъ ъ no ѝ ћ Â

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

no aggregateport load-balance

ы	
dst-mac	ώ MAC ка ма ў Âъфа AP л è˘ MAC ка ма ˘ ў ˘ ы˘ MAC a˘ ў ў a˘ ы Â
src-mac	ώ MAC ка ма ў Â ъфа AP л è˘ a˘ MAC ка ма ў ў a˘ ы˘ ˘ MAC ка ма G ˘ ы Â
src-dst-ip	IP б IP ў Â a˘ IP—— IP a˘ ы ы˘˘ У IP—— IP ˘ ы Â ъфа Ь ˘ Ю Â
dst-ip	ώ IP ка ма ў Âъфа AP л è˘ IP ка ма ˘ ў ˘ ы˘ IP a˘ ў ў a˘ ы Â
src-ip	ώ IP ка ма ў Âъфа AP л è˘ a˘ IP ка ма ў ў a˘ ы˘ ˘ IP ка ма G ˘ ы Â
src-dst-mac	MAC б MAC ў Â a˘ MAC—— MAC a˘ ы ы˘ ˘ У MAC—— MAC ˘ ы Â

ы ώ p MAC ка ма ў Â

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3.2

3.2.1 show aggregateport

aggregateport ф Â

ч	
aggregate-port-number	Aggregate Port ч ч Â
load-balance	aggregaye port Â
summary	aggregate port è ф Â

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G	aggregate port ч ч‘ ‡ aggregate port ф Â

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```
Ruijie# show aggregateport 1 summary
AggregatePort  MaxPorts       SwitchPort Mode   Ports
-------------  --------       --------------   ------
Ag1              8                Enabled     ACCESS
```

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aggregateport load-balance	У э AP Â

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3.3

3.3.1 aggregateport help

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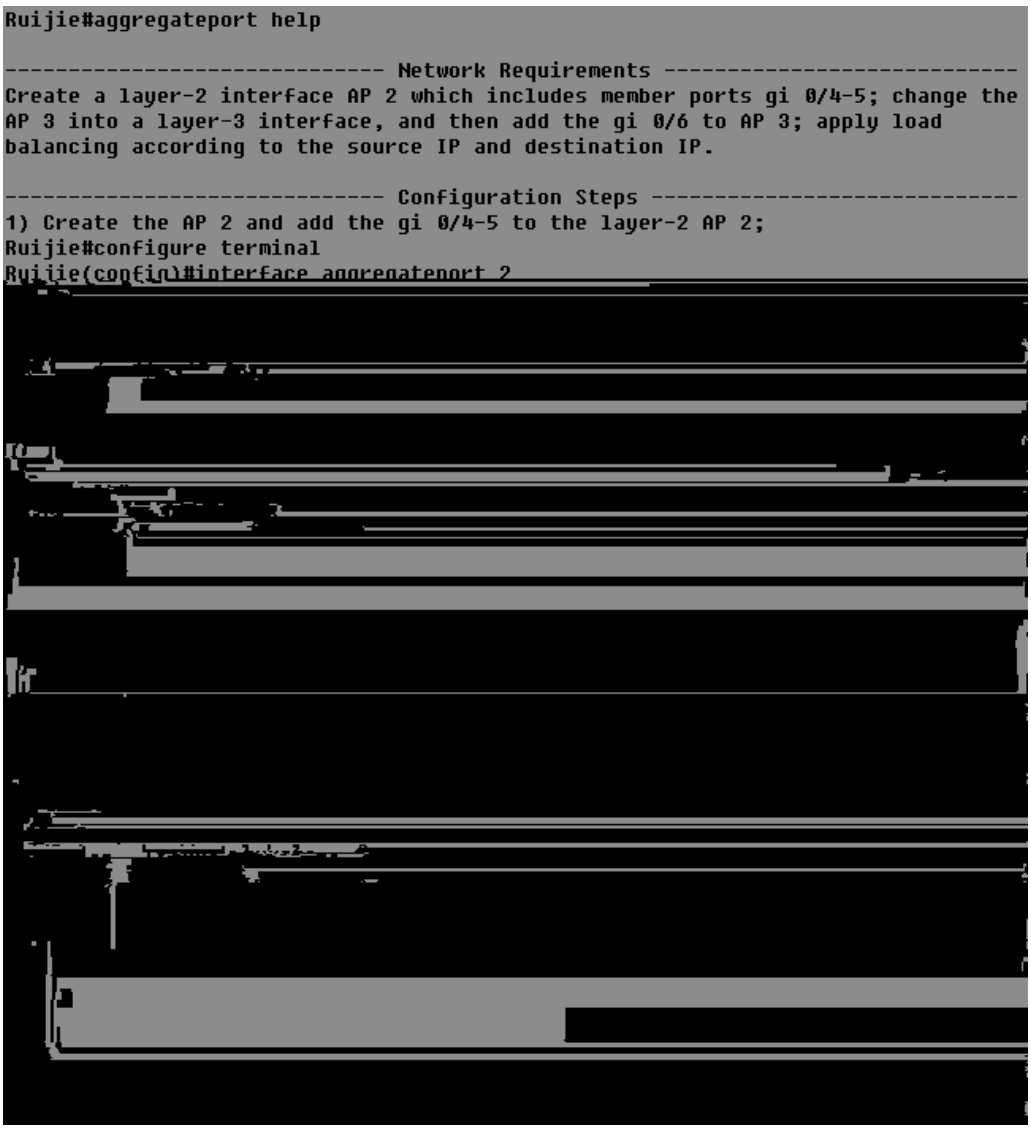
```
Ruijie#aggregateport help

---------------------------------- 配置需求 ----------------------------------
创建包含成员口gi 0/4-5的二层接口AP 2，将AP 3变为三层接口，之后添加gi 0/6到AP 3，
根据源IP与目的IP进行流量分配。

---------------------------------- 配置步骤 ----------------------------------
1）创建AP 2，并将gi 0/4-5加入二层AP 2
Ruijie#configure terminal
Ruijie(config)#interface aggregateport 2
//创建AP 2
Ruijie(config-AggregatePort 2)#exit
//退回到全局配置模式
Ruijie(config)#interface range gi 0/4-5
//进入接口范围配置
Ruijie(config-if)#port-group 2
//将接口gi 0/4-5加入AP 2
Ruijie(config-if)#exit

2）将二层接口AP 3变为三层接口，并将gi 0/6加入三层接口AP 3
Ruijie#configure terminal
Ruijie(config)#interface aggregateport 3
//进入AP 3
Ruijie(config-if)#no switchport
//创建三层接口AP 3
Ruijie(config-if)#exit

Ruijie(config)#interface gi 0/6
```



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3.4.1 aggregateport load-balance help

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aggregateport load-balance help

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3.5

3.5.1 view aggregateport

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ы ǐ ˇΩ ɨ ɳ ɻ ў ə ˘ ɯ ˇΩ
ч ə ˊ У Â

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```
Ruijie(config)#view aggregateport

L2 AP number:       3
L3 AP number:       2
Total AP number:    5
Max AP number:    128
More information, refer to: show aggergateport summary

Load balance: Source MAC address

Ruijie(config)#
```

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	10.4 3˜	Ъ ҳ

4.1.3 lacp system-priority

show lacp summary [*key*]

↓	
key	id a ˘ ҽ

Â

```
Ruijie# show LACP summary
Flags:S - Device is sending Slow LACPDUs   F - Device is sending fast
LACPDUs.
A - Device is in active mode.   P - Device is in passive mode.
Aggregate port 3:
Local information:
                    LACP port      Oper    Port     Port
Port    Flags    State    Priority    Key    Number  State
-------------------------------------------------------------
Gi0/1     SA       bndl       4096        0x3     0x1      0x3d
Gi0/2     SA       bndl       4096        0x3     0x2      0x3d
Gi0/3     SA       bndl       4096        0x3     0x3      0x3d
Partner information:
                    LACP port        Oper    Port     Port
Port    Flags    Priority    Dev ID     Key    Number   State
-------------------------------------------------------------
Gi0/1    SA    61440    00d0.f800.0002   0x3    0x1     0x3d
Gi0/2    SA    61440    00d0.f800.0002   0x3    0x2     0x3d
Gi0/3    SA    61440    00d0.f800.0002   0x3    0x3     0x3d
```

Local information	↓ LACP ҽ Â
Port	ϙ ↓ ID Â
Flags	↓ y Ҷ ‘ ļ S’ LACP ϧ ˘ ¥ ↓ LACPPDU ’ ’A’ ↓ ¥ ў ╟ Â

State	Л ˊ ə ˋ l' bndl Ł Л ¥ ˊ ɷ˘ Down Л ¥ ˘ susp Л ¥ ˊ Â
LACP Port Priority	Л LACP . ˝I ə Â
Oper Key	Л ɔ Key Â
Port Number	Л Л ⁄ Â
Port State	Л LACP ˜ Æ ə Â
Partner infomation	ı ɸ Ȯ

R 2 ё VLAN200 è ╗ ώ GigabitEthernet 0/1~ GigabitEthernet 0/10 ∧

```
Ruijie# configure terminal
SwitchA(config)#vlan 200
SwitchA(config-vlan)#add interface range GigabitEthernet 0/1-10
Ruijie# show vlan
SwitchA#show vlan
VLAN Name        Status                    Ports
---- -------    ------------    ---------------------------
1  VLAN0001       STATIC     Gi0/11,Gi0/12,Gi0/13,Gi0/14,Gi0/15,
                             Gi0/16,Gi0/17,Gi0/18,Gi0/19,Gi0/20,
                             Gi0/21, Gi0/22, Gi0/23, Gi0/24
200    VLAN0200    STATIC         Gi0/1,Gi0/2,Gi0/3,Gi0/4,Gi0/5,
                                  Gi0/6,Gi0/7,Gi0/8,Gi0/9,Gi0/10
```

R 3ё ё VLAN20 è ╗ ώ AggregatePort 10 ∧

```
Ruijie# configure terminal
SwitchA(config)#vlan 20
SwitchA(config-vlan)#add interface aggregateport 10
Ruijie# show interface aggregateport 10 switchport
Interface  Switchport   Mode  Access  Native Protected  VLAN lists
----------  --------      -----  -----  ---- ---------- -------
AggregatePort 10 enabled  ACCESS  20   1   Disabled  ALL
```

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ч	
vlan-name	VLAN ¨

VLAN ¨ ѝ VLAN¯ VLAN ID˘ VLAN 2 ¨ ѝ ”VLAN0002”

Ъ ђ VLAN

G G **show vlan** Ъ ђ vlan

w R

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

Ъ ђ	
show vlan	VLAN Ц ч ә Â

[redacted] ї â" V…•(A˜â!•bd#" •R„ Ž R B9!U Nâ` …•d$F BA–# B`Â Â C“%

Л У э trunk port a э

w R

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

Ъ ч

Ъ ч	
switchport mode	У э у Л switch port Â
switchport trunk	й У э trunk port У э native VLAN n э Trunk Л Л VLAN " Â

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У э switch port access ‡ л л ий У э VLAN Ш Â л Л G
switchport access vlan Ъ ч л ы У э VLAN Ш Â

У э switch port trunk ‡ л л Л э VLAN Ш Â л л Л
ц ы Ф VLAN л л VLAN " ā ˇ trunk port л VLAN " è
VLAN Ш Â л Л G **switchport trunk** Ъ ч Нж л л VLAN "

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

Ъ Ω Ъ ч

Ъ ч	
switchport access	У э л ий access port ий У э VLAN Ш л Â
switchport trunk	ий У э trunk port У э native VLAN n э Trunk л л VLAN " Â

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5.1.5 switchport trunk

ий У э trunk port У э native VLAN n э Trunk л л VLAN " Â G Ъ ч **no** л trunk ий ḣ Â

switchport trunk {**allowed vlan** { **all** | [**add** | **remove** | **except**] *vlan-list* }| **native vlan** *vlan-id*1291.6 466394.98 1.5 ref66.T02 0 0 rJ/TT1 1 T8 Tf-0.00} 10(e)2(d vlan)]TJ/10 Tc 0 T2 0 Td- T8 Tfc

э Trunk л л VLAN " Â л vlan-list
л Л У э VLAN ≠ л Л У " VLAN Л
VLAN ID ˇ Л VLAN ID ˇ è ^ -˜
л Â ' 10-20 Â ǯ л Л ^ ,˜ л ˇ
' 1-10,20-25,30,33

allowed vlan *vlan-list*

all ǔ Н л VLAN " ˆ ǔ VLAN'
add VLAN " ╗ ώ л VLAN " '
remove VLAN " ÿ л VLAN " è
╖ '
except " VLAN " ɔ VLAN " ﻉ

5.2

5.2.1 show vlan

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

Ѓ	
vlan-id	VLAN ID Ѓ Â

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G ي ˇ ѓ **end** Ъ ъ ˇ ѓ **Ctrl+C** ˊ Â
ي ѓ ˇ ѓ **exit** Ъ ъ

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

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name	VLAN ¨ Â
switchport access	Ѓ ╗ ѓ У э Vlan Â

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5.3

5.3.1 vlan help

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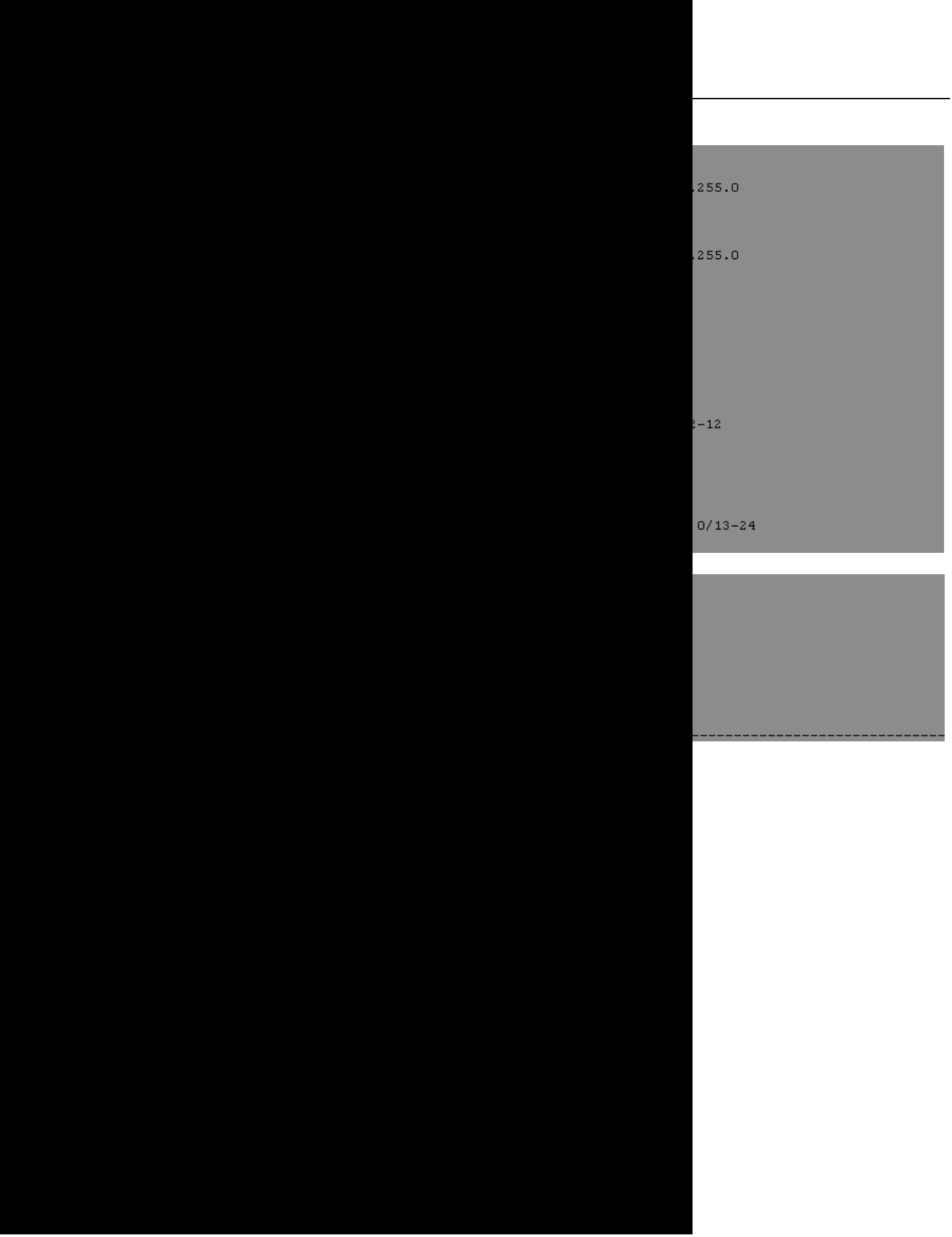
```
Ruijie#vlan help

---------------------------------- 配置需求 ----------------------------------
通过VLAN将由一台接入交换机（SwitchB）和一台核心交换机（SwitchA）组成的用户内网划
分为两个IP子网。两个VLAN通过三层核心交换机的IP转发能力实现子网互连。

---------------------------------- 配置步骤 ----------------------------------
1）核心交换机上的配置
SwitchA#configure terminal
SwitchA(config)#vlan 10
//创建VLAN 10
SwitchA(config-vlan)#vlan 20
//创建VLAN 20
SwitchA(config-vlan)#exit

2）核心交换机上配置各下连trunk口，指定许可vlan列表
SwitchA(config)#interface range GigabitEthernet 0/2
SwitchA(config-if)#switchport mode trunk
//配置该端口Gi 0/2为trunk口
SwitchA(config-if)#switchport trunk allowed vlan remove 1-4094
//将所有vlan从该端口的许可vlan中删除
SwitchA(config-if)#switchport trunk allowed vlan add 10,20
//重新添加该端口的许可vlan为10、20
SwitchA(config-if)#exit

3）核心交换机上创建SVI口，指定IP地址
```


.255.0
.255.0
2-12
0/13-24

```
3) Create the SVI on the core switch and set the IP address
SwitchA(config)#interface vlan 10
//Create the SVI 10
SwitchA(config-if)#ip address 192.168.10.1 255.255.255.0
//Set the IP address for SVI 10
SwitchA(config-if)#interface vlan 20
//Create the SVI 20
SwitchA(config-if)#ip address 192.168.20.1 255.255.255.0
//Set the IP address for SVI 20

4) Create the VLAN on the access switch
SwitchB#configure terminal
SwitchB(config)#vlan 10
SwitchB(config-vlan)#vlan 20
SwitchB(config-vlan)#exit

5) Allocate the access ports to the vlan on the access switch
SwitchB(config)#interface range GigabitEthernet 0/2-12
//Set the interface range of Gi 0/2-12
SwitchB(config-if)#switchport mode access
//Set the interface Gi 0/2-12 as the access port
```

```
SwitchB(config-if)#interface range GigabitEthernet 0/13-24
SwitchB(config-if)#switchport mode access
SwitchB(config-if)#switchport access vlan 20
//Allocate the interface Gi 0/13-24 to the VLAN 20
SwitchB(config-if)#exit

6) Set the trunk port of the uplink core switch
SwitchB(config)#interface GigabitEthernet 0/1
SwitchB(config-if)#switchport mode trunk
//Set the interface Gi 0/1 as the trunk port
SwitchB(config-if)#exit
```

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5.4

5.4.1 switchport help

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

命令举例：
------------------------------------------------------------------------------
>switchport mode accsee

指定该端口的端口类型为ACCESS口。
------------------------------------------------------------------------------
>switchport access vlan 2

将该端口设置为access口，并指派其为vlan 2的成员口。
------------------------------------------------------------------------------
>switchport trunk allowed vlan remove 2

设置该trunk口的许可vlan列表，禁止vlan 2的流量通过该trunk口。
------------------------------------------------------------------------------
>switchport port-security binding 0000.0000.0001 vlan 2 192.168.5.113

将端口配置一个源IP与源MAC组合模式的安全地址绑定。
0000.0000.0001：MAC地址；      2：VLAN号；      192.168.5.113：IP地址；
------------------------------------------------------------------------------

Ruijie(config-if)#
```

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ѫ ñ ɲ ˘ ╠ ѫ ў У Ҷ ˘ ң
ʌ Â

è :

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

命令举例:
------------------------------------------------------------------------------
>switchport trunk allowed vlan remove 2

设置该trunk口的许可vlan列表，禁止vlan 2的流量通过该trunk口。
------------------------------------------------------------------------------
>switchport trunk native vlan 3

指定该trunk口的NATIVE VLAN为vlan 3，默认为vlan 1。
------------------------------------------------------------------------------
```

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

Examples:
------------------------------------------------------------------------------
>switchport trunk allowed vlan remove 2

Set the allowed-VLAN list for the trunk port and prevent the traffic of vlan2
from transmitting on the trunk port.
------------------------------------------------------------------------------
>switchport trunk native vlan 3

Set the native vlan of the trunk port: vlan 3; vlan 1 by default
------------------------------------------------------------------------------
```

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10.4 3˘	Ъ ъ

5.5

5.5.1 view vlan

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view vlan

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ы Л Л ú Ъ Ъ ъ ə ˘ a ₰ G Â
— ъ Ъ ə ˍ Ъ

6 Private VLAN

6.1

6.1.1 private-vlan association

ћ secondary VLAN б primary VLAN Ъ ъ

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

no private-vlan association

ч		
ч	*svlist*	й secondary VLAN list
	no	ч primary VLAN б secondary VLAN ћ

ћ

Ъ ъ Primary VLAN

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

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show vlan private-vlan	-

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-	-

6.1.2 private-vlan mapping

secondary VLAN Ь SVI л Ъ ъ

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

no private-vlan

	VLAN
Ъ ч	VLAN
G	
w R	Ruijie(config)# **vlan** *22* Ruijie(config-vlan)# **private-vlan primary**

Ъ ч	
show vlan private-vlan	-

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6.1.4 switchport mode private-vlan

Л й private VLAN

switchport mode private-vlan{**host**host

swZ8 ÑDF PCUPC 8HAD$3 R2 Sz20 Td (-

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w R	Ruijie(config-if)# **switchport hybrid native vlan** *3*

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-	-

6.3.3 switchport mode hybrid

switchport mode hybrid

no switchport mode

⊿ й hybrid ⊿

ч	
no	ˉ hybrid

Ъ ч	⊿
G	
w R	Ruijie(config-if)# **switchport mode hybrid**

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7 MAC VLAN

7.1

7.1.1 mac-vlan enable

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mac-vlan enable

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G ѓ Э Í MAC VLAN Ћ ы ő MAC VLAN ѓ Э Â MAC VLAN ╖ Θ ѓ hybrid Э Í ˘ è a Â

w R

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# interface fastethernet 0/10
Ruijie(config-if)# mac-vlan enable
Ruijie(config-if)# no mac-vlan enable
Ruijie(config-if)# end
```

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Ъ ъ	
show mac-vlan interface	Í MAC VLAN Ѓ “

Ѓ

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7.1.2 mac-vlan mac-address

Ь ч У MAC VLAN Â ф ŏ Ю G Ь ч

mac-vlan mac-address *mac-address* [**mask** *mac-mask*] **vlan** *vlan-id* [**priority** *pri_val*]

ч	ч	
	mac-address *mac-address*	MAC ь ь
	mask *mac-mask*	MAC ь ь ˘ ɣ 8 Æ ù 1Â ù ŏ FÂ
	vlan *vlan-id*	MAC ь ь VLAN˝ ч ĥ ù 1˙ 4094
	priority *pri_val*	MAC ь ь VLAN 802.1p ˛ ˝I ˘ ч ĥ ù 0˙ 7˝ ĥ ù 0

MAC VLAN Â

Ь ч ŏ

G **mac-vlan mac-address** Ь ч MAC ь ь VLAN Л ч è ˛ ˝I Â **no mac-vlan** Ь ч ĵ MAC ь ь б VLAN ˇΩ ˇΩ Â

```
Ruijie# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Ruijie(config)# mac-vlan mac-address 0001.0001.0001 vlan 100
priority 3
Ruijie(config)# mac-vlan mac-address 0002.0002.0000 mask
ffff.ffff.0000 vlan 200 priority 5
Ruijie# show mac-vlan all
  The following MAC VLAN address exist:
  S: Static   D: Dynamic
  MAC ADDR         MASK            VLAN ID   PRIO   STATE
  ----------------------------------------------------------
  0002.0002.0000   ffff.ffff.0000   200       5      S
  0001.0001.0001   ffff.ffff.ffff   100       3      S
  Total MAC VLAN address count: 2
```

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7.2

7.2.1 show mac-vlan

G Ъ ч MAC VLAN Â

```
0000.0000.0005   ffff.ffff.ffff   500      5      S&D
0000.0000.0006   ffff.ffff.ffff   600      6      S
0000.0000.0007   ffff.ffff.ffff   700      7      S&D
Total MAC VLAN address count: 7
```

Ъ ч	
mac-vlan mac-address *mac-address* [**mask** *mac-mask*] **vlan** *vlan-id* [**priority** *pri_val*]	MAC VLAN

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7.2.2 show mac-vlan interface

G Ъ ч í MAC VLAN ╖ ч " Â

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-	-

Ъ ч

G ф ч Э í MAC VLAN ╖ ł ˘ G Ъ ч ў ╖

```
Ruijie# show mac-vlan interface
  MAC VLAN is enabled on following interface:
  ---------------------------------------
  fastethernet 0/3
  fastethernet 0/10
```

Ъ ч	
mac-vlan enable	لجي ¥ ч í MAC VLAN ╖

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8 SHARE VLAN

8.1

8.1.1 share

G Ъ ч share vlan Â

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-	-

Ъ ч vlan

G ч share vlan **no share** Ъ ч Â
ي ً ώ **end** Ъ ч˘ ώ Ctrl+C ́ Â
ي ً ώ **exit** Ъ ч Â

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```
Ruijie(config)#vlan 2
Ruijie(config-vlan)#share
```

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8.2

8.2.1 show mac-address-table share

G Ъ ч ам ˘ ам Status original ‡ ам ч ам’
ам Status duplicated ‡ ам 8 ам’ ам Status
й ˘ ‡ share vlan Â

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Ъ ч .

G يٌ ˘ ώ **end** Ъ ч˘ ώ Ctrl+C ˊ Â
يٌ ŏ ˘ ώ **exit** Ъ ч

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

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9 Voice VLAN

9.1

9.1.1 voice vlan

ŏ G Voice VLAN У э VLAN й Voice VLAN Â Л Л G Ъ ъ **no** Ъ Ω Voice VLAN ╖ Â

voice vlan *vlan-id*

no voice vlan

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vlan-id	Voice VLAN ID Â

Ъ Ω Â

Ъ ъ ŏ

G G Ъ ъ G Voice VLAN ╖ ˘ ˚ Voice VLAN ID Â

1˜ Voice VLAN ʒ ɱ˘ ˝I … VLAN Â

2˜ VLAN 1 VLAN˘ … ˘ ⊓ VLAN 1 a й Voice VLAN Â

3˜ a ĭ э VLAN˚ й Voice VLAN б Super VLAN Â

4˜ ώ Л Э í ɕ 802.1x VLAN ╠ ╖ ˘ й ɖ ╖ G ˘ a Ю Ч VID й Voice VLAN ID Â

5˜ a RSPAN Remote VLAN б Voice VLAN ˚ 1 э VLAN˘ ў ‡ Л ˛ ⊾ Л ę ╖ б Voice VLAN ╖ Â

G

w R

R 1˙ ŏ G Voice VLAN ╖ ˘ VLAN2 й Voice VLAN Â

```
Ruijie(config)# vlan 2
Ruijie(config-vlan)# exit
Ruijie(config)# voice vlan 2
```

Ω Ъ ъ	Ъ ъ	

	show voice vlan	Voice VLAN ъ б м Â

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Ъ ч Ч Л

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10.4	Ъ ч

9.1.2 voice vlan aging

ŏ Voice VLAN □ Â Л Л G Ъ ч **no** □ ĺ h Â

voice vlan aging *minutes*

no voice vlan aging

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minutes	Voice VLAN □ Â

minutes Ч h й 1440ĺ Â

Ъ ч ŏ

G Л жф Э Voice VLAN □ ˘ жф □ ğ˘ ÿ ώ Л ĺ ˙ ĺ ˘ Л ÿ Voice VLAN è ĺ Â

□ Θ ╟ Â

w R R 1˙ Voice VLAN □ й 10ĺ

```
Ruijie(config)# voice vlan aging 5
```

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Ъ ч	
show voice vlan	Voice VLAN ъ б м Â

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Ъ ч Ч Л

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10.4	Ъ ч

9.1.3 voice vlan cos

ŏ Voice VLAN CoS ḣ Â Л Л G Ъ ъ **no** ĵ ḣ Â

voice vlan cos *cos-value*

no voice vlan cos

ч		
	cos-value	Voice VLAN CoS ḣ Â

cos-value ч ḣ и 6 Â

Ъ ъ ŏ

G g Voice VLAN CoS б DSCP ḣ . ˝I ˘ ф Â

w R R 1˙ Voice VLAN . ˝I ˘ CoS и 5

```
Ruijie(config)# voice vlan cos 5
```

Ъ ъ	
show voice vlan	Voice VLAN ą б m Â

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Ъ ъ Ч Л	Л	
	10.4	Ъ ъ

9.1.4 voice vlan dscp

ŏ Voice VLAN DSCP ḣ Â Л Л G Ъ ъ **no** ĵ ḣ Â

voice vlan dscp *dscp-value*

no voice vlan dscp

ч	ч	

	dscp-value	Voice VLAN DSCP ћ Â
	dscp-value ч ћ и 46 Â	
Ъ ъ	ѿ	
G	g Voice VLAN CoS б DSCP ћ . ″I ˘ ф Â	
W R	R 1‘ Voice VLAN . ″I ˘ DSCP и B2ĝgt@	

w R	R 1 OUI 0012.3400.0000 Voice VLAN Company A Ruijie(config)# **voice vlan mac-address** *0012.3400.0000* **mask** *ffff.ff00.0000* **description** *Company A*

Ь ч	
show voice vlan oui	OUI OUI

Ь ч	
10.4	Ь ч

9.1.7 voice vlan mode auto

Voice VLAN Voice VLAN **no** Voice VLAN

voice vlan mode auto

no voice vlan mode auto

	Voice VLAN
Ь ч	
G	Voice VLAN Voice VLAN IP Voice VLAN

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╗ ώ Voice VLAN˝ ф Voice VLAN ╖ Â
2˜ Л э ц ╠ ˘ и ф ╖ ˘ a
Л native VLAN и Voice VLAN Â
3˜ ц ъ Trunk Port/Hybrid Port Л Л VLAN ˘
˝I Voice VLAN ÿ Л VLAN Л ‟ è ˘ Ą Voice
VLAN ╖ ˘ Л ф Л a ¸ ╗ ώ Voice VLAN˝
a G Л У ф Voice VLAN è Â

1˜ Л G ц Voice VLAN ╖ ł˘ a ĭ ╠ Ţ ╠
ƒ ˘ ƒ ˘ ˝I Ž Л Voice VLAN ╖ Â
2˜ ╠ Ю a ĭ Ъ ч Л ╗ ώ Voice VLAN
ÿ Voice VLAN è ƒ Â

R 1˙ Л FastEthernet 0/1 Voice VLAN и ╠ Â

w R
```
Ruijie(config)# interface fastEthernet 0/1
Ruijie(config-vlan)# voice vlan mode auto
```

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ѝ ɕ к б ǐ · ˘ Л Л Voice VLAN ő Â
ő ł ˚ MAC к ѧ ˘ MAC к ѧ Л ⋮
Voice VLAN OUI к ѧ ˘ ї ɲ Voice VLAN ǫ· ˘ ў ‡ x Â

G

a ɲ Voice VLAN è˚ · p н Ь Â
˘ Voice VLAN ő ˜Ω Â

ő Ю Θ untagged ɻ Voice VLAN tag
MAC к ѧ ˘ ¥ ѐ Voice VLAN tag ˘
VLAN ‡ Л p x ˘ a Л Voice VLAN ő/
ъ Â

w R

R 1˙ Voice VLAN ő Â

```
Ruijie(config)# voice vlan security enable
```

Ъ ч	
show voice vlan	Voice VLAN ą б ɱ Â

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10.4	Ъ ч

9.2

9.2.1 show voice vlan

Voice VLAN ą б ɱ ˘ ˆ G Voice VLAN ╖ Л ɔ Â

show voice vlan

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Ъ ч

G Ъ ч Л Voice VLAN ә б м Voice VLAN ╖ Л Ɔ Â

w R 1 м Voice VLAN

```
Ruijie(config)# show voice vlan
Voice VLAN status: ENABLE            //Voice VLAN G
Voice VLAN ID: 2                     //Voice VLAN ID
Voice VLAN security mode: Security   //  ŏ      ŭ
Voice VLAN aging time: 5 minutes     //  □
Voice VLAN cos: 6                    //      CoS ћ
Voice VLAN dscp: 46                  //      DSCP ћ
Current voice vlan enabled port mode: // G  Voice VLAN    Л б
PORT                    MODE
--------------------------------------------------
Fa0/1                   Auto
```

Ъ ч

Ъ ч	
voice vlan *vlan-id*	ŏ G Voice VLAN У э VLAN и Voice VLAN Â
voice vlan aging *minutes*	Voice VLAN □ Â
voice vlan cos *cos-value*	Voice VLAN CoS ћ Â
voice vlan dscp *dscp-value*	Voice VLAN DSCP ћ Â
voice vlan enable	G Л Voice VLAN ╖ Â
voice vlan mode auto	Л Voice VLAN Ɔ Â
voice vlan security enable	Voice VLAN ŏ Â

Л

Ъ ч Ч Л

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10.4	Ъ ч

9.2.2 show voice vlan oui

м OUI ѕ ѡ à OUI ѕ ѡ à ә Â

show voice vlan oui

v	

S x

G S x˘ / m OUI a h Â

R 1˙ Voice VLAN OUI a h

```
Ruijie(config)# show voice vlan oui
OUI             Mask             Description
--------------- ---------------- --------------- ---------
0001.e300.0000  ffff.ff00.0000  Siemens phone
0003.6b00.0000  ffff.ff00.0000  Cisco phone
0004.0d00.0000  ffff.ff00.0000  Avaya phone
0060.b900.0000  ffff.ff00.0000  Philips/NEC phone
00d0.1e00.0000  ffff.ff00.0000  Pingtel phone
00e0.7500.0000  ffff.ff00.0000  Polycom phone
00e0.bb00.0000  ffff.ff00.0000  3com phone
```

show voice vlan oui S x a ˙

OUI	OUI a h˘ MAC a h Â
Mask	OUI a h ˘ OUI a h ˘ Â
Description	OUI a h

S x	
voice vlan mac-address *mac-addr* **mask** *oui-mask* **[description** *text***]**	Voice VLAN / ⋮ OUI a h Â

/

/	
10.4	S x

8 Л Л RSTP BPDU BPDU 8 Â

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

Л	
interface-id	Л

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Ъ ч

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

Ъ ч	
show spanning-tree interface	m Л STP Â

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Ъ ч Ч Л

10.1.3 spanning-tree

MSTP Л Л فز MSTP MSTP ώ اجي Â G Ъ ч no ΅Ω spanning-tree ╖ no Ъ ч Л Л Л 8 n a ΅Ω spanning tree Â

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

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

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

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Ъ ч	
show spanning-tree interface	STP ә Â

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10.1.5 spanning-tree bpdufilter

э Л BPDU filter Â Л Л Ъ Ъ ч enabled disabled Â Л BPDU filter Â

spanning-tree bpdufilter [**enabled** | **disabled**]

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enabled	Л BPDU filter Â
disabled	Â Л BPDU filter Â

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w R

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

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Ъ ч	
show spanning-tree interface	STP Л ә Â

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10.1.6 spanning-tree bpduguard

э л BPDU Guard ˇΩ Â л Л Ф ч enabled disabled
ˇΩ л BPDU Guard ˇΩ Â

spanning-tree bpduguard [**enabled** | **disabled**]

	л	
л	**enabled**	л BPDU Guard ˇΩ Â
	disabled	ˇΩ л BPDU Guard ˇΩ Â
	ˇΩ Â	
Ф ч	л Â	
G		
w R	Ruijie(config)# **interface gigabitethernet** *1/1* Ruijie(config-if)# **spanning-tree bpduguard enable**	
ˇΩФ ч	**Ф ч**	
	show spanning-tree interface	STP л ą Â
л		
Ф ч Ч л	**л**	
	-	-

10.1.7 spanning-tree compatible enable

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ц Â

spanning-tree compatible enable

no spanning-tree compatible enable

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w R	Ruijie(config-if)#**spanning-tree compatible enable**

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л root guard Â G Ф ч no ˜Ω root guard Â í root guard ╖
˘ ˛ m ѕ Æ ∧ ◘ Â

spanning-tree guard root

no spanning-tree guard root

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˜Ω root guard ╖ Â

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w R Ruijie(config-if)# **spanning-tree guard root**

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10.1.11 spanning-tree link-type

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

no spanning-tree link-type

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poinit-to-point	8 л ъ и point-to-point.
shared	8 л ъ и shared

л ъ и ѻ ч ˘ л ъ и point-to-point˙ л ъ и ´ ч л ъ и shared.

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10.1.13 spanning-tree max-hops

ж ŏ Ю G Ф ч л Л Ц BPDU ^ Max-hops Count˜ ˇ
ɷ BPDU ж У э Region ǫ̈ л ł x ˇ Instance Â G no
л Л Ц Ф ч *hop-count* **spanning-tree max-hops**

no spanning-tree max-hops

ч	ч	
	hop-count	BPDU ж x ǯ ɱ л Л Ц ˇ ɲ и 1 · 40

	hop-count ḣ и 20
Ф ч	ŏ
G	ж Region ǫ̈ˇ Root Bridge ∧ BPDU ˆ ŭ У э Hot Count ˇ ÿ Root Bridge ˇ У э ˇ Hop Count ˛ ˜ 1˜ ˆ и 0 ‡ BPDU ə ˇ ˆ Hops ḣ и 0 BPDU x Â л max-hops ѣ Instance Â
w R	Ю R MST Instance Max-hops ḣ и 10̋ Ruijie(config)# **spanning-tree max-hops** *10* ≠ л Л Ц ώ **show spanning-tree mst** Ф ч Э

Ф ч	

10.1.14 spanning-tree mode

instance ц vlan ћΩ Vlan ф Instance 0 è Â
name й s Â
revision й 0 Â

Ъ ъ ŭ .

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```
-----------------------------------
Ruijie(config-mst)# exit
Ruijie(config)#
        VLAN 3 ÿ Instance 1 è ˇ ж ώ MST ч ˇ Ю
Ruijie(config-mst)# no instance 1 vlan 3
         э Instance 1 ˇ Ю
Ruijie(config-mst)# no instance 1
```

Instance-ID ћ й 0

ћ й Interface ╠ Â

• 1000 Mbps—20000

• 100 Mbps—200000

• 10 Mbps—2000000

Ф ч л .

G cost ћ

У э р Instance 3 ЎΩ л ћ й 400 Ю

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

≠ л Л ώ **show spanning-tree mst interface interface-id** Ф ч Э

Ф ч	
show spanning-tree mst	л MSTP ə Â
spanning-tree mst port-priority	л. ″I
spanning-tree mst priority	й instance . ″I

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10.1.17 spanning-tree mst port-priority

ж л Ю G Ф ч л Л л a˘ Instance Л a˘ л. ″I ˘ ь Region ǫ è ١ э л˛ Ų Ν Â G no л Л Ф ч ћ Â

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

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

л	
Instance-id	Instance л˘ ز й 0 64

priority	Л. ”I ˘ Л 0 16 32 48 64 80 96 112 128 144 160 176 192 208 224 240 ”Ω 16 э ˘ ¢ й 16 ¨ Â

Instance-id ћ й 0
priority ћ й 128

Ъ ъ Л .

G ж Region ц ˘ . ”I . ”I Л Ц Л Л Л Â. ”I ˚ ˘ Л Ц

w R

Ю R ж Instance 20 è Gigabitethernet 1/1 Л . ”I ћ ћ й 10

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

Л Л Ц ώ **show spanning-tree mst instance interface** *interface-id* Ъ ъ Э Â

	priority	. ″I ˇ Л 0, 4096,8192, 12288, 16384, 20480, 24576, 28672, 32768, 36864, 40960, 45056, 49152,53248, 57344 ҧ 61440 Â″Ω 16 э ˇ ₡ѝ й 4096 ˝ Â

	instance-id ḣ ѝ й 0
Ѣ ҷ	*priority* ḣ ѝ й 32768
G	ѽ .

Ю ʀ ˇ Instance 20 . ″I ḣ ѝ й 8192ˇ

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

Л Лъ ώ **show spanning-tree mst instance interface interface-id** Ѣ ҷ Э Â

G4\€ѵG ʀQQN

Ѣ ҷ	
show spanning-tree mst	Л MSTP ҽ Â
spanning-tree mst cost	Â
spanning-tree mst port-priority	ˇ Instance Л . ″I Â

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	802.1T ñ Path-cost ḣ Â
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w R	Ruijie(config-if)# **spanning-tree pathcost method long**

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show spanning-tree interface	STP Л Â

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10.1.20 spanning-tree portfast

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10.1.21 spanning-tree portfast bpdufilter default

ŏ BPDU filter Â Л Л Ъ ч no ŏ ˜Ω BPDU filter Â

spanning-tree portfast bpdufilter default

no spanning-tree portfast bpdufilter default

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	˜Ω BPDU filter
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G	BPDU Filter ł ˘ Л ˛ a Ч ≠ a BPDU Â G **show spanning-tree** Ъ ч Â
w R	Ruijie(config)# **spanning-tree portfast bpdufilter default**

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Ъ BPDU Guard.

Ъ ч ш Â

G BPDU guard ж ы Э ї BPDU ‡ ю error-disabled Â G **show spanning-tree** Ъ ч Â

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

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show spanning-tree interface	STP ш

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10.1.23 spanning-tree portfast default

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spanning-tree portfast default

no spanning-tree portfast default

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show spanning-tree interface	STP ќ Â

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10.1.24 spanning-tree reset

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spanning-tree reset

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w R Ruijie(config)# **spanning-tree reset**

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spanning-tree tc-guard

no spanning-tree tc-guard

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

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w R Ruijie(config-if)# **spanning-tree ignore tc**

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10.1.27 spanning-tree tc-protection

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spanning-tree tc- protection

no spanning-tree tc- protection

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

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10.1.28 spanning-tree tc-protection tc-guard

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spanning-tree tc-protection tc-guard

no spanning-tree tc-protection tc-guard

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	˜Ω tc- guard ˜Ω Â
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w R	Ruijie(config)# **spanning-tree tc-protection tc-guard**

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10.1.29 spanning-tree tx-hold-count

STP ŏ TxHoldCount ˘ ч BPDU э Â G Ъ ч no ḣ Â

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

no spanning-tree tx-hold-count

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Љ Ӈ -MSTP

pathcost method	Â

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

Ъ ч	
spanningtree pathcost method	
spanning-tree forward-time	

Ъ ч Â

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

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Ъ ч	
spanning-tree bpdufilter	э л BPDU filter ЋЩ Â
spanning-tree portfast	э л portfast ЋЩ Â
spanning-tree bpduguard	э л BPDU guard ЋЩ Â
spanning-tree link-type	л шъ a “ ” Â

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10.2.3 show spanning-tree mst

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

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configuration	mst
instance-id	*Instance л*
interface-id	л л

Instance Â

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w R Ruijie# **show spanning-tree mst configuration**

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spanning-tree mst configuration	ώ MST region
spanning-tree mst cost	instance
spanning-tree mst max-hops	instance
spanning-tree mst priority	instance ″I
spanning-tree mst port-priority	instance Ѧ ″I

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10.3 STP

10.3.1

10.3.1.1 stp help

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```
Ruijie#stp help

---------------------------------- 配置需求 ----------------------------------
核心层设备SwitchA、SwitchB和接入层设备SwitchC、SwitchD两两互连，SwitchC上有
Vlan10，SwitchD上有Vlan20。通过MSTP使Vlan10的数据沿实例1（SwitchA为根桥，SwitchB
为备份根桥）转发，Vlan20的数据沿实例2（SwitchB为根桥，SwitchA为备份根桥）转发；

---------------------------------- 配置步骤 ----------------------------------
1）配置Switch A
Ruijie#configure terminal
Ruijie(config)#vlan range 10,20
Ruijie(config-vlan-range)#exit
//创建vlan

Ruijie(config)#spanning-tree mst configuration
//进入MST配置模式
Ruijie(config-mst)#instance 1 vlan 10
//配置VLAN 10 映射到Instance 1
Ruijie(config-mst)#instance 2 vlan 20
//配置VLAN 20 映射到Instance 2
Ruijie(config-mst)# exit

Ruijie(config)#spanning-tree mst 1 priority 4096
//通过设置优先级来配置instance 1 以SwitchA 作为根桥
Ruijie(config)#spanning-tree mst 2 priority 8192
```

```
Ruijie(config-mst)#exit
//配置VLAN 10 映射到Instance 1，将VLAN 20 映射到Instance 2

Ruijie(config)#spanning-tree mode mstp
Ruijie(config)#spanning-tree
//配置生成树为MSTP 模式,并开启生成树协议
```

ъ

```
Ruijie#stp help

--------------------------------- Configuration Requirements --------------------
Interconnect the SwitchA and SwitchB in the core-layer with the SwitchC and
SwitchD in the access-layer.
Configure the SwitchC in the Vlan10, and the SwitchD in the Vlan20.
Enable the MSTP to forward the vlan10 data in the instance1
(SwitchA: root bridge; SwitchB: backup root bridge), and forward the vlan20 data
 in the instance2 (SwitchB: root bridge; SwitchA: backup root bridge)

--------------------------------- Configuration Steps----------------------------
1) SwitchA Configuration
Ruijie#configure terminal
Ruijie(config)#vlan range 10,20
Ruijie(config-vlan-range)#exit
//Create the vlans

Ruijie(config)#spanning-tree mst configuration
//Enter the MST configuration mode
Ruijie(config-mst)#instance 1 vlan 10
//Map the VLAN 10 to the Instance 1
Ruijie(config-mst)#instance 2 vlan 20
//Map the VLAN 20 to the Instance 2
Ruijie(config-mst)#exit
```

```
Ruijie(config)#spanning-tree mst 1 priority 4096

//Configure the priority for instance 1 to use the SwitchA as root bridge
Ruijie(config)#spanning-tree mst 2 priority 8192
```

```
Ruijie(config-mst)#instance 1 vlan 10
Ruijie(config-mst)#instance 2 vlan 20
Ruijie(config-mst)#exit
//Map the VLAN 10 to the Instance 1 and map the VLAN 20 to the Instance 2

Ruijie(config)#spanning-tree mode mstp
//Map the VLAN 10 to the Instance 1 and map the VLAN 20 to the Instance 2
```

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10.3.2

10.3.2.1 spanning-tree help

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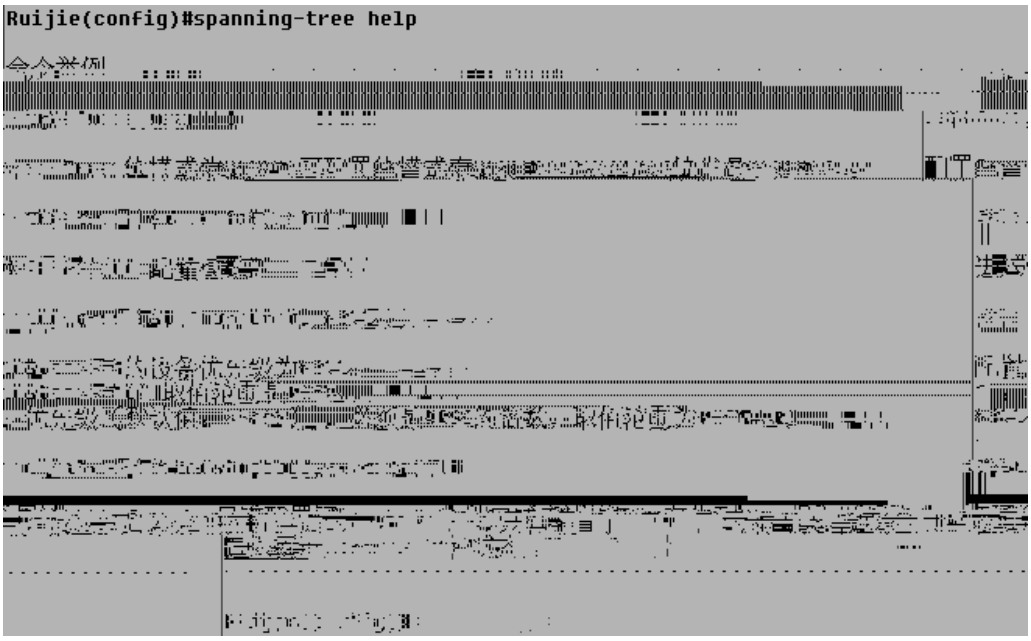

‘

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

Examples:
------------------------------------------------------------------------------
>spanning-tree mode mstp

Set the Spanning-Tree mode as MSTP. The configurable mode: MSTP/RSTP/STP, MSTP
by default.
------------------------------------------------------------------------------
>spanning-tree mst configuration

Enter the MSTP Region configuration mode.
------------------------------------------------------------------------------
>spanning-tree mst 1 priority 8192

Set the priority of the instance 1 device as 8192
1 : instance id; in the range of 0-64
8192: priority value (default:32768)which must be the multiple of 4096 ranging
from 0 to 61440
------------------------------------------------------------------------------
>spanning-tree portfast bpduguard default

After enabling the global BPDU Guard, if the BPDU message is received, only the
portfast-enabled port or edge port will enter the error-disabled status.
------------------------------------------------------------------------------

Ruijie(config)#
```

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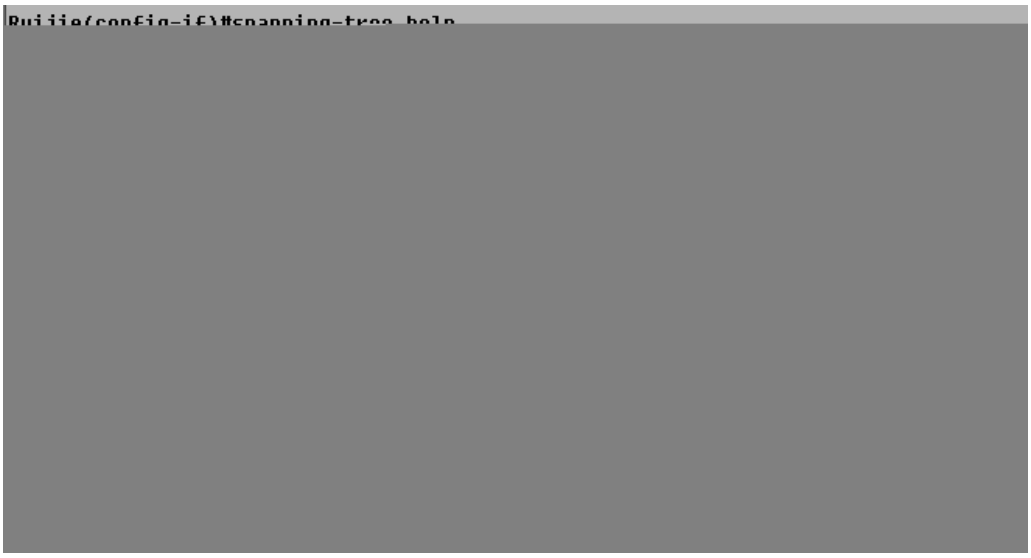
Ruijie(config-if)#spanning-tree help

10.3.2.2 bpdu help

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10.3.2.3 clear spanning-tree help

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```
Ruijie#clear spanning-tree help

命令举例：
------------------------------------------------------------------------------
>clear spanning-tree detected-protocols

强制接口发RSTP BPDU，对BPDU帧执行强制检查。
------------------------------------------------------------------------------

Ruijie#
```

‘

```
Ruijie#clear spanning-tree help

Examples:
------------------------------------------------------------------------------
>clear spanning-tree detected-protocols
Force to send the RSTP BPDU on the port, and check the BPDU frame forcibly.
------------------------------------------------------------------------------
```

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```
Ruijie(config)#view stp

Created instance number:     5
Remaining instance number:   60
Max instance number:         65
Common spanning tree root:   YES
More information, refer to: show spanning-tree

Instance     Region root      TopologyChanges  Last TopologyChange occurred
```

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view spanning-tree р view mstp ˜ ˚ Э Â

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10.4 3˜	Ѣ ҁ NÃlc5ѐT,_)g<##_P#"—tvĐUU#BDR3

```
Ruijie(config)#spanning-tree priority ?
<0-61440>  Bridge priority in increments of 4096    (default value: 32768)
```

```
Ruijie(config)#spanning-tree mst priority ?
<0-61440>  Bridge priority in increments of 4096    (default value: 32768)
```

2˜ STP ŏ TxHoldCount ˘ Л BPDU э Â

```
Ruijie(config)#spanning-tree tx-hold-count ?
<1-10>  Number of tx-hold-count for the spanning tree (default value: 3)
```

3˜ ж ŏ Ю G Ъ ъ Л Лъ BPDU ˆ Max-hops Count˜

```
Ruijie(config)#spanning-tree max-hops ?
<1-40>  Maximum number of hops a BPDU is valid  (default value: 20)
```

4˜ BPDU

```
Ruijie(config)#spanning-tree max-age ?
<6-40>  Maximum number of seconds the information in a BPDU is valid
        (default value: 20)
```

5) Л BPDU

```
Ruijie(config)#spanning-tree hello-time ?
<1-10>  Number of seconds between generation of config BPDUs  (default value: 2)
```

11 GVRP

11.1

11.1.1 gvrp applicant state

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no gvrp dynamic-vlan-creation enable

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G G **show gvrp configuration** Ъ ч

w R Ruijie(config)# **gvrp dynamic-vlan-creation enable**

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show gvrp configuration	GVRP ə

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11.1.3 gvrp enable

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gvrp enable

no gvrp enable

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G G **show gvrp configuration** Ъ ч

w R Ruijie(config)# **gvrp enable**

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show gvrp configuration	GVRP ә

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11.1.4 gvrp registration mode

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gvrp registration mode {**normal** | **disabled**}

no gvrp registration mode

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Ъ ч

G G **show gvrp configuration** Ъ ч

w R Ruijie(config-if)# **gvrp registration mode normal**

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show gvrp configuration	GVRP ә

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11.1.5 gvrp timer

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gvrp timer {**join** | **leave** | **leaveall**} *timer_value*

no gvrp timer

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join *timer_value*	8 Л Н ъ м Н ъф 0 Ў Ã
leave *timer_value*	8 Л ъф Ў Leave Message ъ Л ё VLAN è Ў м ъф э ф Л Ў Join Message ‡ Л VLAN Ц ъ Ё ё ф ёЎ м ё Ў Join Message ‡ Л Л и

11.2

11.2.1 clear gvrp statistics

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clear gvrp statistics { *interface-id* | **all**}

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interface-id	ы ID

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G G **show gvrp statistics** Ъ ч ḣ

w R Ruijie# **clear gvrp statistics all**

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show gvrp statistics	GVRP ḣ ə

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11.2.2 show gvrp configuration

GVRP ə

show gvrp configuration

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G G **show gvrp configuration** Ъ ч ə

```
Ruijie# show gvrp configuration
Global GVRP Configuration:
GVRP Feature:enabled
GVRP dynamic VLAN creation:enabled
Join Ti#tee# 0Tf24 20.4Po20bas1 TD(GVRP Feature:enabled )Tj0 -1.754Po2:Giga
```

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У э л л GVRP ћ

show gvrp statistics {*interface-id* | **all**}

л	
interface-id	л ID

Ф ч

G G **show gvrp statistics** У э л л GVRP ћ

```
Ruijie# show gvrp statistics gigabitethernet 1/1
Interface      GigabitEthernet 3/1
RecValidGvrpPdu        0
RecInvalidGvrpPdu      0
RecJoinEmpty    0
RecJoinIn      0
RecEmpty       0
RecLeaveEmpty   0
RecLeaveIn     0
RecLeaveAll    0
SentGvrpPdu    0
SentJoinEmpty   0
SentJoinIn     0
SentEmpty      0
SentLeaveEmpty  0
SentLeaveIn    0
SentLeaveAll   0
JoinIndicated   0
LeaveIndicated  0
JoinPropagated  0
LeavePropagated  0
```

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clear gvrp statistics	У э л л GVRP ћ

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11.2.4 show gvrp status

GVRP ╟ VLAN Ш ы р ╕ ώ VLAN ╟ Ш ы Â

show gvrp status

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G	G **show gvrp status** Ъ ъ GVRP

w R	Ruijie# **show gvrp status**

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12 QinQ

12.1

12.1.1 dot1q-Tunnel cos inner-cos-value remark-cos outer-cos-value

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dot1q-Tunnel cos inner-cos-value remark-cos outer-cos-value

no dot1q-Tunnel cos inner-cos-value remark-cos outer-cos-value

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no	∧ ∧ . ″I

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```
ruijie# configure
ruijie(config)# interface gigabitEthernet 0/2
ruijie(config-if)# dot1q-Tunnel cos 3 remark-cos 5
ruijie(config-if)# end
```

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show interface intf-name remark	-

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12.1.2 frame-tag tpid tpid

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frame-tag tpid <*tpid*>

no frame-tag tpid

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no	٨ tpid

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Ю R ٱ ى tpid ѝ 0x9100

```
ruijie(config)# interface g 0/3
ruijie(config-if)# frame-tag tpid 0x9100
ruijie(config-if)# end
ruijie# show frame-tag tpid
Ports   tpid
------  ---------
Gi0/3    0x9100
```

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show frame-tag tpid	-

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)# interface gigabitEthernet *0/2*

if)# **inner-priority-trust enable**

if)#**end**

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ty-trust	-

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Ъ ٣ stp

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```
ruijie#configure
ruijie(config)# l2protocol-tunnel stp
ruijie(config)# l2protocol-tunnel gvrp
ruijie(config)#end
```

Ъ ч	
show l2protocol-tunnel {**gvrp**|**stp**}	-

RGOS10.3 Л Э

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12.1.5 l2protocol-tunnel *proto-type* enable

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l2protocol-tunnel { **stp**|**gvrp** } **enable**

no l2protocol-tunnel { **stp**|**gvrp** } **enable**

stp	· stp
gvrp	· gvrp
no	·

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```
ruijie# configure
```

```
ruijie(config)# interface fa 0/1
ruijie(config-if)# l2protocol-tunnel gvrp enable
ruijie(config-if)# end
```

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```
ruijie#configure
ruijie(config-if)#l2protocol-tunnel gvrp tunnel-dmac 011AA9 000005
ruijie(config-if)#end
```

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Ф ч	
show l2protocol-tunnel { **gvrp|stp** }	-

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12.1.7 switchport mode dot1q-tunnel

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switchport mode dot1q-tunnel

no switchport mode

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no	dot1q-tunnel Л

dot1q-tunnel Л

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```
ruijie(config)# interface gigabitEthernet 0/1
ruijie(config-if)# switchport mode dot1q-tunnel
ruijie(config)# end
```

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	show vlan	-

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12.1.8 switchport mode uplink

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switchport mode uplink

no switchport mode

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	no	Л uplink Л

	uplink Л
Ф ч	Л
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w R	Ю R Л й uplink Л ruijie(config)#**interface gigabitEthernet** *0/1* ruijie(config-if)#**switchport mode uplink** ruijie(config)#**end**

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	show vlan	-

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12.1.9 switchport dot1q-tunnel allowed vlan

dot1q-tunnel л vlan

switchport dot1q-tunnel allowed vlan [**add**] {**tagged|untagged**} *v_list*

switchport dot1q-tunnel allowed vlan remove *v_list*

no switchport dot1q-tunnel allowed vlan

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tagged	tag
untagged	a tag
v_list	vlan id "
no	л

л vlan 1˘ untagged

Ф ч л

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Ю R dot1q-tunnel л vlan 3-6 ù л vlan˘ tag

```
ruijie(config)#interface gigabitEthernet 0/1
ruijie(config-if)#switchport dot1q-tunnel allowed vlan tagged 3-6
ruijie(config)#end
```

Ф ч	
show interface dot1q-tunnel	-

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12.1.10 switchport dot1q-tunnel native vlan

dot1q-tunnel vlan id

switchport dot1q-tunnel native vlan *vid*

no switchport dot1q-tunnel native vlan

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vid	vlan id
no	vlan ь 1

vlan ь 1

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Ю R dot1q-tunnel ы vid ь 8

w R

```
ruijie(config)# interface gigabitEthernet 0/1
ruijie(config-if)# switchport dot1q-tunnel native vlan 8
ruijie(config)#end
```

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Ъ ъ	
show interface dot1q-tunnel	-

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```
Ruijie# configure
Ruijie# vlan range 3-8
Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# switchport mode trunk
Ruijie(config-if)# vlan-mapping-in vlan 3-7 remark 8
Ruijie(config-if)# end
```

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show interface[*intf-id*] **vlan-mapping**	-

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Ю R ώ Tag è VID и 3 ˘ è 4 Ą Ν

```
Ruijie# configure
Ruijie# vlan range 3-4
Ruijie(config)# interface gigabitEthernet 0/1
Ruijie(config-if)# switchport mode trunk
Ruijie(config-if)# vlan-mapping-out vlan 3 remark 4
Ruijie(config-if)# end
```

Ω Ф ч

Ф ч	
show interface[*intf-id*] **vlan-mapping**	-

Λ ˚ RGOS10.4 Л Э

Ф ч Ч Λ

Λ	
-	-

12.2

12.2.1 show dot1q-tunnel

Λ dot1q-tunnel ŭ

show dot1q-tunnel [**interface** *intf-id*]

Ч

Ч	
intf-id	Λ

Ф ч

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w R

```
ruijie# show dot1q-tunnel
Ports   Dot1q-tunnel
-----   ---------
Gi0/1   Enable
```

Ъ ч	
-	-

RGOS10.3 Л Э

Ъ ч ч

-	-

12.2.2 show frame-tag tpid

tpid

show frame-tag tpid [**interface** *intf-id*]

intf-id	

tpid

Ъ ч

G

```
ruijie# show frame-tag tpid
Ports  tpid
-----  ---------
Gi0/1   0x9100
```

Ъ ч	
-	-

RGOS10.1 Л Э

Ъ ч ч

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12.2.3 show inner-priority-trust

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show inner-priority-trust

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a 8

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w R

```
ruijie# show inner-priority-trust
Ports  inner-priority-trust
----   ----------
Gi0/1   enable
```

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-	-

↗ ˚ RGOS10.1 Л Э

↗	
-	-

12.2.4 show interface dot1q-tunnel

dot1q-tunnel ↓

show interface [*intf-id*] **dot1q-tunnel**

↓	
intf-id	↓

Ъ ч

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w R

```
ruijie# show interface dot1q-tunnel
Interface: Gi0/3
Native vlan: 10
Allowed vlan list: 4-6 10 30-60
Tagged vlan list: 4 6 30-60
```

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Ъ ч

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Л	˚ RGOS10.1 Л Э

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12.2.6 show l2protocol-tunnel

Y ·

show l2protocol-tunnel{gvrp|stp}

Ч	Ч	
	gvrp	· gvrp
	stp	· stp

‵Ω

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G

w R

```
ruijie# show l2protocol-tunnel stp
Destination mac      : 01d0f8000005
L2protocol-tunnel : Stp Enable
ruijie# show l2protocol-tunnel gvrp
Destination mac      : 01d0f8000006
L2protocol-tunnel : gvrp Disable
```

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Л	˚ RGOS10.3 Л Э

Ѣ ҂ Ν Л	Л	

	-	-

-IP

ᚾ ’Ą IP ЛЮ '

1 IP ᚋ

2 IP Ŀ ᚋ

3 IPv6 ᚋ

4 DHCP Client ᚋ

5 DHCP Relay ᚋ

6 DUP-Helper ᚋ

7 DNS ᚋ

8 FTP Server ᚋ

ʌ ў Â ў 254 ʌ C a ʃ ʃ
C Â ЛЧ IP Â
ʃ Â IP ʖ ЛЧ
IP Â IP Â
ʖ ЛЧ
IP Â a
ЛЧ Э Â

Ю **ip default-gateway** ʒ Â
ʖ telnet IP б Â
ip address **ip default-gateway** ʒ è ʌ
Ї̣ ˆ ѝ ʖ ˜ Â Ю
ip address ʒ **gateway** ʖ IP б Â**gateway**
a show running config **ip default-gateway** ʒ
Â

ip-address	б MAC IP ŧ ѝ 8 Â
MAC-address	48 Â
type	ARP Â Л∪ ѝ arpa Â

ARP ă Â

३ Â

RGOS ARP ă 32 IP 48 MAC Â ў ╟ ARP Л∪ a ARP Â **clear**

३ Â

ỳ Ю Ю ỳ ┘Л
ARP Ὼ Â

1' ЛЬЮ SVI 1 ARP Â

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

2' ЛЬЮ SVI 1 ARP

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

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a ╟ ARP Â

ЛЬЮ ARP ѝ 30s

```
arp retry interval 30
```

٦	
arp retry times *number*	ARP

٨

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1.2.4 arp retry times

٦ ٨Л arp ٨ IP ARP
Â ٦ no ٨Л 5 ARP Â

arp retry times *number*

no arp retry times

number	٨ ARP <1-100> Â ѝ 1 a ARP ٨ 1 ARP Â

ARP ARP 5 ٨ Â

٦ Â

ARP è ٨Л ARP
a Â

1' ЛЬЮ ARP a Â

```
arp retry times 1
```

2' ЛЬЮ ARP 1 Â

```
arp retry times 2
```

३	

1.4.1 clear arp-cache

ÿ ARP ă ╟ ARP ٣ clear arp-cache Â

clear arp-cache [**trusted**] [*ip* [*mask*]] | **interface** *interface-name*]

trusted	┘ ARP
ip	IP IP ARP **trusted** ┘ ARP ы ╟ ARP
mask	mask ы ARP IP ; trusted ┘ ARP ╟ ARP Â
interface *interface-name*	╟ ARP

٣

┘Л٥ ٣ ⁹ ARP Â

NFPP(Network Foundation Protection Policy ,)
Э mac (IP) ┘ ARP
clear arp 1s ┘
ARP a Â

1' ЛЬЮ ARP ╟ ă Â

```
clear arp-cache
```

2' ЛЬЮ ╟ ARP 1.1.1.1

```
clear arp-cache 1.1.1.1
```

3' ЛЬЮ SVI1 Ю ╟ ARP

```
clear arp-cache interface Vlan 1
```

٣	
arp	ARP ╗ Â

┘

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	-	-

1.4.2 show arp counter

ARP arp Â

show arp counter

	-	-

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	ЛЬЮй **show arp counter** '
	Ruijie# **show arp counter**
	The Arp Entry counter:0
	The Unresolve Arp Entry:0

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	-	-

✓

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	-	-

1.4.3 show arp packet statistics

३ ARP Â

show arp packet statistics [*interface-name***]**

interface-name Э ARP

३ ⊣ Л∪ IP Â ३ Ю'

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


```
IP address negotiate is: OFF
Forward direct-broadcast is: OFF
ICMP mask reply is: ON
Send ICMP redirect is: ON
Send ICMP unreachabled is: ON
DHCP relay is: OFF
Fast switch is: ON
Help address is:
Proxy ARP is: OFF
ARP packet input number:          0
   Request packet:               0
   Reply packet:                 0
   Unknown packet:               0
TTL invalid packet number:          0
ICMP packet input number:          0
   Echo request:                 0
   Echo reply:                   0
   Unreachable:                  0
   Source quench:                0
   Routing redirect:               0
```

Ю'

IP interface state is:	↲ è ˚ ѝ “UP” Â
IP interface type is:	Â
IP interface MTU is:	MTU Â
IP address is:	IP Â
IP address negotiate is:	IP Â
Forward direct-boardcast is:	Â
ICMP mask reply is:	ICMP Â
Send ICMP redirect is:	ICMP Â
Send ICMP unreachabled is:	ICMP a ↲ Â
DHCP relay is:	DHCP Â
Fast switch is:	IP ╗ Â

Route horizontal-split is:	̄ ѝ Â
Help address is:	helper IP Â
Proxy ARP is:	३ ARP Â
ARP packet input number: 0	Э ARP '
Request packet: 0	ARP
Reply packet: 0	ARP
Unknown packet: 0	
TTL invalid packet number:	Э TTL
ICMP packet input number: 0	Э ICMP Ю '
Echo request: 0	Echo
Echo reply: 0	Echo
Unreachable: 0	a ↵
Source quench: 0	8
Routing redirect: 0	
Outgoing access list is	Â
Inbound access list is	Â

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-	-

show ip interface10.4 — 8 ±b/žÐ,P

10.4ˆ 3˜

show ip redirects

-	-

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৻

Ю й **show ip redirects** Â

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

৻	
ip default-gateway	Â

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1.5 命令举例 示命令

1.5.1 arp help（全局配 ）

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arp help

-	-

৻ Â

```
Ruijie(config)#arp help

命令举例：
------------------------------------------------------------------------------
>arp 1.1.1.1 0000.0000.0001 arpa

配置静态ARP表项。
1.1.1.1：IP地址；          0000.0000.0001：MAC地址；
arpa：ARP封装类型
------------------------------------------------------------------------------
>arp retry interval 2

解析一个IP地址时，连续两次发送ARP请求的时间间隔是2秒（默认值：1秒）。
------------------------------------------------------------------------------
>arp retry times 3

解析一个IP地址时，连续发送3次ARP请求（默认值：5）。
------------------------------------------------------------------------------
```

```
Ruijie(config)#arp help

Examples:
------------------------------------------+-----------------------------------
                                          | >arp 1.1.1.1 0000.0000.0001 arpa

                                          | Set the static ARP entry.
).0001: MAC address;                      | 1.1.1.1: IP address;          0000.000
                                          | arpa: ARP encapsulation type
------------------------------------------+-----------------------------------
                                          | >arp retry interval 2

terval for sending successive ARP requests| While resolving an IP address, the in
                                          | is 2 seconds (default: 1 second).
------------------------------------------+-----------------------------------
                                          | >arp retry times 3

successive ARP requests will be sent      | While resolving an IP address, three
                                          | (default: 5).
------------------------------------------+-----------------------------------
```

' *KO* *l' language {Chinese|English} L:* ; *√Ju*

/' Â

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३ Л∪ l' arp Ł ३ Â

arp help

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RP请求的时间间隔是2秒（默认值：1秒）。

P请求（默认值：5）。

the interval for sending successive ARP requests

>arp retry t

ive ARP requests will be sent

While resolv
(default: 5)

anguage {Chinese|English}

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10,4(3)	?

1.5.4 ip address help

? ЛЬ Ї' ip address Ł ? Â

ip address help

-	-

?

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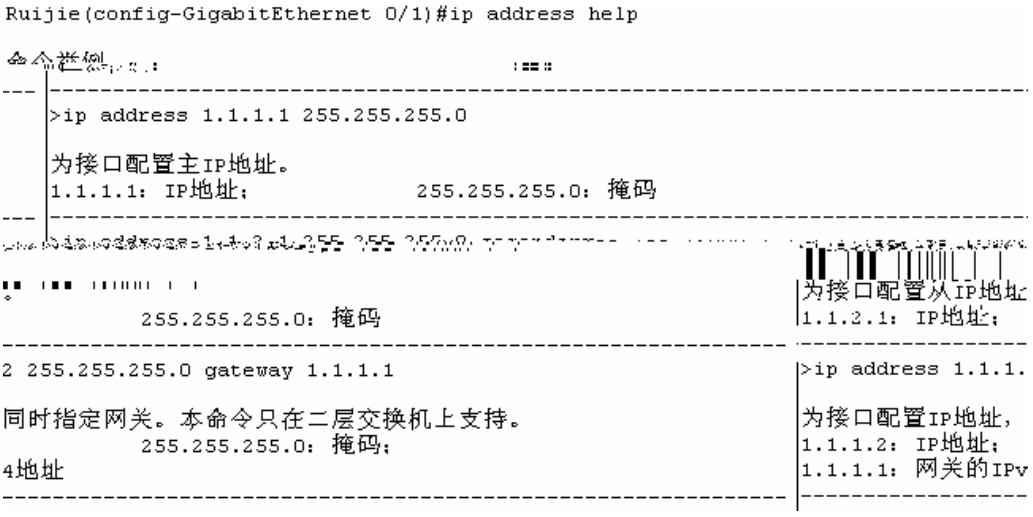

```
Ruijie(config-GigabitEthernet 0/1)#ip address help
       Examples:
------ ------------------------------------------------------------------------
       >ip address 1.1.1.1 255.255.255.0

       Configure the master IP address for the interface.
       1.1.1.1: IP address;                  255.255.255.0: mask
------ ------------------------------------------------------------------------
       >ip address 1.1.2.1 255.255.255.0 secondary

       Configure the slave IP address for the interface.
       1.1.2.1: IP address;                  255.255.255.0: mask
------ ------------------------------------------------------------------------
       >ip address 1.1.1.2 255.255.255.0 gateway 1.1.1.1

ommand Configure the IP address for the interface and specify the gateway. This c
```

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10,4(3)	?

1.5.5 ip help（全局配 ）

? /U l' ip L ? Â

ip help

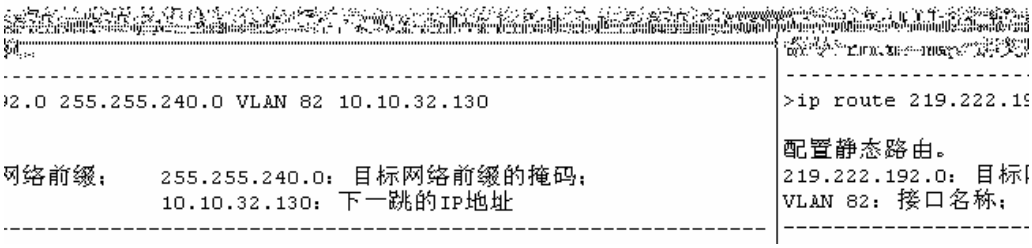
-	-

? Â

```
Ruijie(config)#ip help

命令举例：
------------------------------------------------------------------------------
>ip default-gateway 10.19.18.1

配置网关10.19.18.1，该命令只在二层交换机上支持。
------------------------------------------------------------------------------
>ip local policy route-map example
```



```
2.0 255.255.240.0 VLAN 82 10.10.32.130

网络前缀：    255.255.240.0：目标网络前缀的掩码；
              10.10.32.130：下一跳的IP地址
```

```
>ip route 219.222.19

配置静态路由。
219.222.192.0：目标
VLAN 82：接口名称；
```

```
Ruijie(config)#ip help

Examples:
------------------------------------------------------------------------------
>ip default-gateway 10.19.18.1

Configure the gateway 10.19.18.1. This command is only supported on layer-2
switches.
------------------------------------------------------------------------------
>ip local policy route-map example

Apply the policy-based routing to packets sent locally according to rule defined
 in route map example. The route map is defined by the global configuration
command "route-map".
------------------------------------------------------------------------------
>ip route 219.222.192.0 255.255.240.0 VLAN 82 10.10.32.130

Configure the static route.
219.222.192.0: prefix of destination network;
255.255.240.0: mask of destination network;
VLAN 82: interface name;                    10.10.32.130: IP address of next hop.
------------------------------------------------------------------------------
```

' IO l' language {Chinese|English} L ʒ √/U

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10,4(3)	ʒ

1.5.6 ip help（接口配 ）

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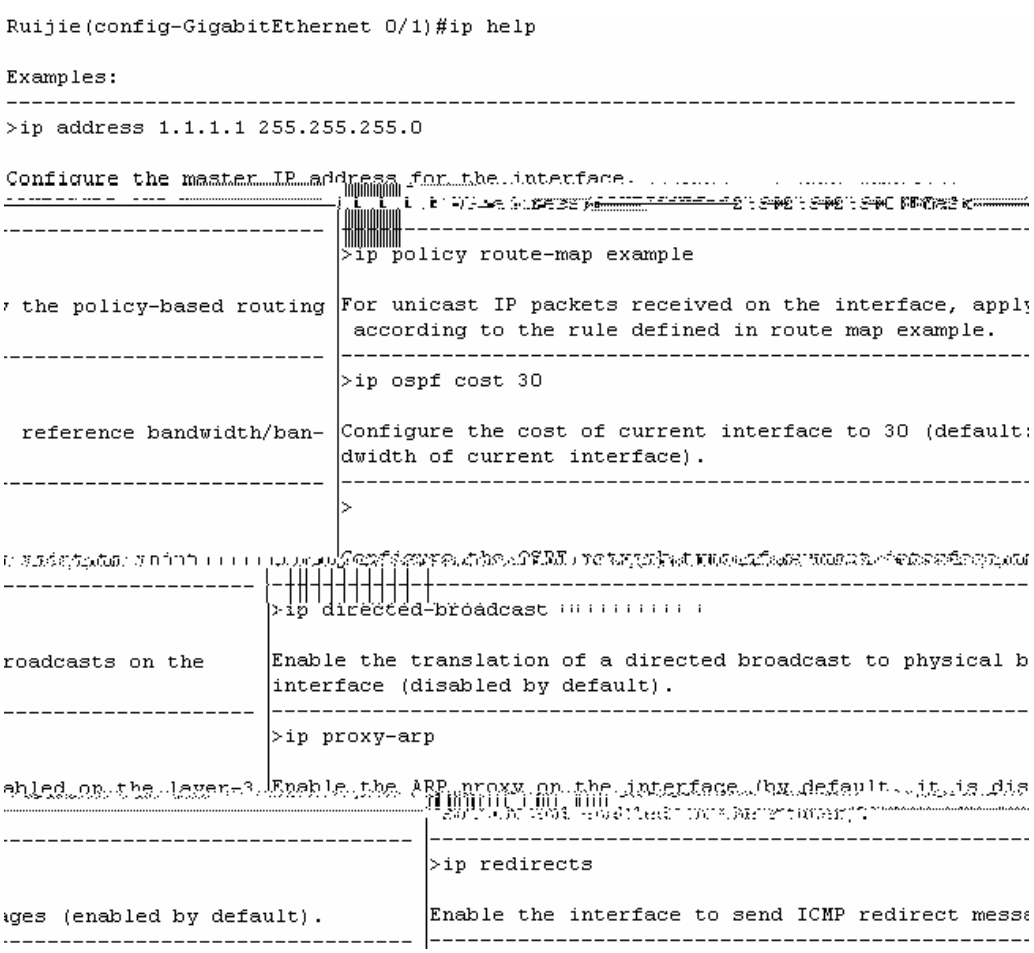
ip help



' IO l' language {Chinese|English} L ¾ √Ju

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10,4(3)	¾

1.6 态信 示命令

1.6.1 view arp

¾ ARP Â

view arp

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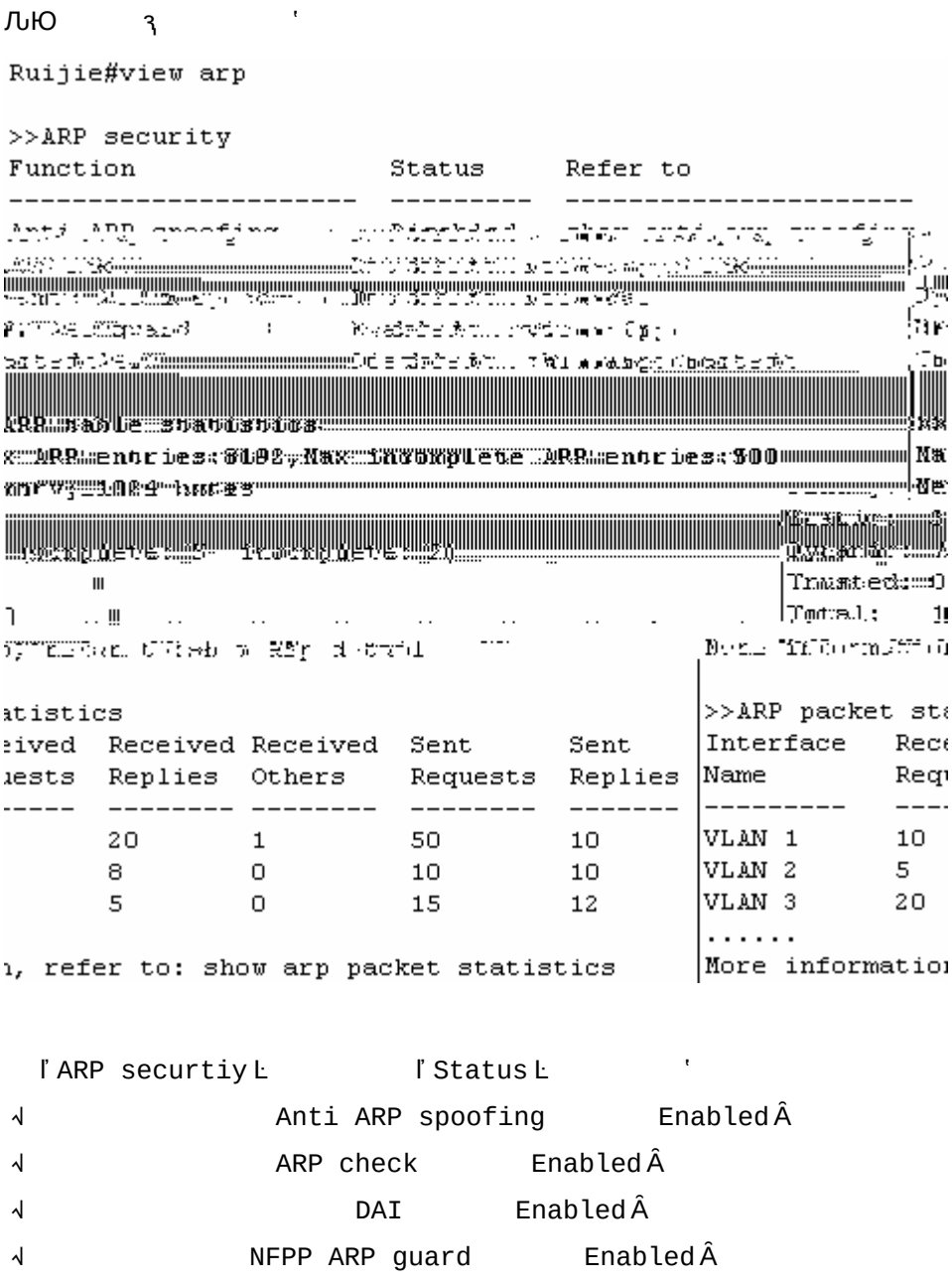
Ruijie#view arp
>>ARP security
Function
Status
Refer to
>>ARP packet
Interface
Name
VLAN 1
VLAN 2
VLAN 3
Received Replies
Received Others
Sent Requests
Sent Replies
20 1 50 10
8 0 10 10
5 0 15 12
refer to: show arp packet statistics
More information
Anti ARP spoofing Enabled
ARP check Enabled
DAI Enabled
NFPP ARP guard Enabled

IP

```
Ruijie#view ip

>>IP address
Max IP addresses: 2000
IP address count: 10
Interface  IP-Address(Pri)    IP-Address(Sec)    Status
---------  ---------------    ---------------    ------
VLAN 1     2.2.2.2/24         3.3.3.3/24         DOWN
VLAN 2     4.4.4.4/24         no address         DOWN
VLAN 3     5.5.5.5/24         no address         DOWN
......
More information, refer to: show ip interface brief

>>IP packet statistics
Total
  Received 1000 packets, 1000000 bytes
    Unicast:1000,Multicast:0,Broadcast:0
    Discards:0
      HdrErrors:0(BadChecksum:0,TTLExceeded:0,Others:0)
      NoRoutes:0
      Others:0
  Sent 100 packets, 6000 bytes
    Unicast:50,Multicast:50,Broadcast:0
More information, refer to: show ip packet statistics

>>IP route statistics
IP routing table count: 1
Total
  Memory: 1000 bytes
```

IP è ľMax IP addressesŁ ل IP
ľIP address countŁ IP Â
IP ľTotalŁ Э IP
ľReceivedŁ Э IP è ľDiscardsŁ
IP ل ŷ IP è ^
˜ ľHdrErrorsŁ IP IP ľBadChecksumŁ
IP ľTTLExceededŁ TTL IP ľNoRoutesŁ
ŷ IP ' ľSentŁ Э IP
ÿ Л IP IP Â
Ь IP ' IP
Â

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IP

2 IP服 命令

2.1 IP服 配 命令

2.1.1 ip default-gateway

Э ٦ **ip default-gateway** Â ٦ no Â

ip default-gateway

no ip default-gateway

	-	-

٦	
	a Â ٦ **show ip redirects** ٦ Â
	ЛЬЮ й 192.168.1.1 Â `ip default-gateway 192.168.1.1`

٦		
٦	**show ip redirects**	Â

٨	٦ ٨ Э Â

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3 IPv6 命令

3.1 配 关命令

3.1.1 ping ipv6

? IPV6 Â

ping ipv6 [*ipv6-address*]

ipv6-addres	*s*

?

? a ﻠﺎ é Â

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

ping ﻬﻧ ﻫ

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3.1.2 ipv6 address

й IPV6 , ʒ no Â

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

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

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

no ipv6 address

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

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

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

ipv6-address	IPV6 RFC4291 Ьж 16 Ώ ⁸ .
ipv6-prefix	IPV6 RFC4291 Ьж 16 Ώ ⁸ .
prefix-length	IPV6 IPV6 ʒ ĭ Â
prefix-name	ɻ Â Â
sub-bits	б ў Â б

IPV6 ѝ UP ѫ ѝ ╟
Â
IPv6 ≠ ┘Л IPv6 = ľ Ŀ +
ľ Ŀ + ľ ў Ŀ Â ┘Л **ipv6 general-prefix** ֽ ≠ ┘
DHCPv6 PD ~ ╖ ˆ ľ DHCPv6 Ŀ ~ Â ľ
Ŀ + ľ ў Ŀ ֽ *sub-bits/prefix-length* Â
no ipv6 address a έ ѫ Â
no ipv6 address *ipv6-prefix*/*prefix-length* **eui-64** ┘Л ֽ **ipv6 address** *ipv6-prefix*/*prefix-length* **eui-64** Â

1' Ю IPv6 Â

```
Ruijie(config-if)# ipv6 address 2001:1::1/64
Ruijie(config-if)# no ipv6 address 2001:1::1/64
Ruijie(config-if)# ipv6 address 2002:1::/64 eui-64
Ruijie(config-if)# no ipv6 address 2002:1::/64 eui-64
```

2' Ю Â

```
Ruijie(config-if)# ipv6 address my-prefix 0:0:0:7272::72/64
```

my-prefix 2001:1111:2222::/48 ѫ IPv6 2001:1111:2222:7272::72/64 Â

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default	٫ Â Э ⌘ ╟ Â ٫ ٫ Ь **default** Â

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╟ RA^ Ὼ ~ ٫ Л∪ RA
╟ EUI-64 Â
RA ľ è Ŀ ⌘ DHCPv6 ٫
ľ è Ŀ Â ľ è Ŀ DNS Ł IPv6 à NTP Ł
Â

autoconfig ٪ Э IPv6 Â

```
Ruijie(config-if)# ipv6 address autoconfig default
Ruijie(config-if)# no ipv6 address autoconfig
```

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[**eui-64**]	IPv6

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RGOS10.4	٪ ÿ RGOS10.4 Â

3.1.4 ipv6 enable

٪ IPv6 ╖ ٪ no ٫ Л∪ IPv6 ╖ Â

ipv6 enable

no ipv6 enable

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IPv6 ╖ Â

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2 ⅃ Л∪ Э IPv6 ╖ Ю **ipv6 enable** ʒ,
Ю IPv6 Â

Э IPv6 ѫ IPv6 ╖ ╟
no ipv6 enable ≠ a IPV6 ╖ Â

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

ʒ	
show ipv6 interface	

⅄

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3.1.5 ipv6 general-prefix

IPv6 Ю **ipv6 general-prefix** ʒ Â ʒ
Ю'

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

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

prefix-name	⅄ Â
ipv6-prefix	Â RFC4291 Â
prefix-length	Â

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⅃ Л∪ Â й Ьѫ
⅃ Л∪ Â ⅃ ⅃ Â

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ɹ Л∪ Â

IPv6 Э Â

Ю ɻ my-prefix Â

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

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

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RGOS10.4	ʒ ÿ RGOS10.4 Â

3.1.6 ipv6 hop-limit

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ipv6 hop-limit *value*

no ipv6 hop-limit

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

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3.1.7 ipv6 nd dad attempts

ֽ Э й IPV6 ă (NS)
Â ֽ no Â

ipv6 nd dad attempts *value*

no ipv6 nd dad attempts

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

1

ֽ

Э IPV6 й ╠ ă
”tentative”( ) Â ă
ă ѫ ┘Л ă
EUI-64 ѫ Э ѫ
╠ (Э IPV6)
Ѧ down/up ╠ ă Â Ю
ÿ down ┘ й up й Э ╠ ă Â

```
Ruijie(config-if)# ipv6 nd dad attempts 3
```

ֽ

ֽ	
show ipv6 interface	Â

ֽ

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3.1.8 ipv6 nd managed-config-flag

ʒ Ὼ “**managed address configuration**”
ʒ no Â

ipv6 nd managed-config-flag

no ipv6 nd managed-config-flag

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Ὼ Â

ʒ Â

ᾱ Ὼ ў ╟ ↓
Â ╟ a Â

```
Ruijie(config-if)# ipv6 nd managed-config-flag
```

ʒ	
show ipv6 interface	ra-info Â

ʒ

↓

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ʒ

3.1.9 ipv6 nd other-config-flag

ʒ Ὼ “**other stateful configuration**” ʒ
no Â

ipv6 nd other-config-flag

no ipv6 nd other-config-flag

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Ὼ (RA) ѝ 0( ) ѝ
ѝ 1000ms(1) Â

٦

Ὼ (RA) ⅃ ≠ Â a
Â

```
Ruijie(config-if)# ipv6 nd ns-interval 2000
```

٦	
show ipv6 interface	

⅄

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3.1.11 ipv6 nd prefix

٦ Ὼ (RA) ٦ no
Â

ipv6 nd prefix {*ipv6-prefix*/*prefix-length* | **default** }[[*valid-lifetime preferred-lifetime*] | [**at** *valid-date preferred-date*] | [**infinite** | *preferred-lifetime*]] [**no-advertise**] | [[**off-link**] [**no-autoconfig**]]

no ipv6 nd prefix {*ipv6-prefix/prefix-length* | **default** }[[**off-link**] [**no-autoconfig**] | [**no-advertise**]]

no-advertise	a Ὼ Â ў IPV6 ⌠ @ *f* ū ґ ċ

off-link

	show ipv6 interface	ra-info
✓		
३		
	-	-

3.1.12 ipv6 nd ra-lifetime

३ Э Ώ (RA) ľ Ŀ ३ no
Â

ipv6 nd ra-lifetime *seconds*

-	-

3.1.14 ipv6 nd ra-hoplimit

ʒ Э Ώ (RA) ʒ no
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ipv6 nd ra-hoplimit *value*

no ipv6 nd ra-hoplimit

3.1.15 ipv6 nd ra-mtu

¾ Э Ѝ (RA) MTU ¾ no
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ipv6 nd ra-mtu *value*

no ipv6 nd ra-mtu

milliseconds	ѝ ۍ Л ѝ ' 0-3600000

Ѽ (RA) ѝ 0( ) ѝ ѝ ۍ ѝ 30000ms(30)

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Ruijie(config-if)# **ipv6 nd reachable-time** *1000000*

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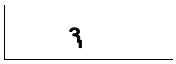
show ipv6 interface	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ipv6 source-route

no ipv6 source-route

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IPv6 Â

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

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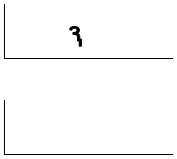

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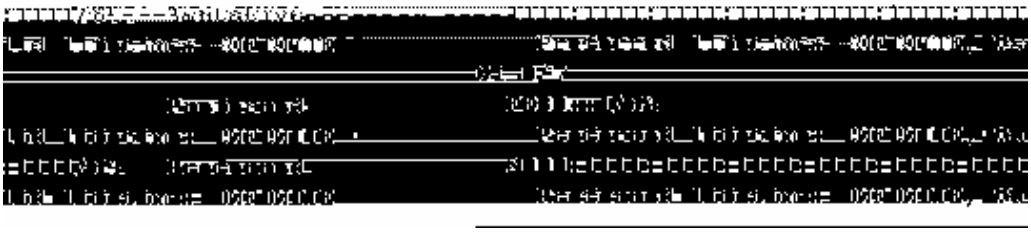
```
Ruijie#show ipv6 address
Global unicast address limit: 1024, Global unicast address count: 3
Tentative address count: 2,Duplicate address count: 1
Preferred address count: 3,Deprecated address count: 0
Gi 0/5
Secured                 FE80::1/64                                      Pref
INFINITE                  Preferred lifetime: INFINITE, Valid lifetime:
Climate                 1000::1/64                                      Dup
INFINITE                  Preferred lifetime: INFINITE, Valid lifetime:
                      Gi 0/6
Native                  FE80::1/64                                      Tent
INFINITE                  Preferred lifetime: INFINITE, Valid lifetime:
```



2' GigabitEthernet 0/1 Э IPv6 Â

```
Ruijie#show ipv6 address Gi 0/5
Global unicast address count: 3
Tentative address count: 0,Duplicate address count: 1
Preferred address count: 1,Deprecated address count: 0
FE80::1/64                                        Preferred
  Preferred lifetime: INFINITE, Valid lifetime: INFINITE
1000::1/64                                        Duplicate
  Preferred lifetime: INFINITE, Valid lifetime: INFINITE
```

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3.2.3 show ipv6 general-prefix

show ipv6 general-prefix ʒ Â ʒ Ю'

show ipv6 general-prefix

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show ipv6 general-prefix ʒ Â б DHCPv6 Â

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```
Ruijie# show ipv6 general-prefix
There is 1 general prefix.
IPv6 general prefix my-prefix, acquired via Manual configuration
       2001:1111:2222::/48
       2001:1111:3333::/48
```

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ipv6 general-prefix	

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3.2.4 show ipv6 interface

IPV6 Â

show ipv6 interface [*interface-id*] [**ra-info**]

interface-id	ˆ Л ъ à aggregateport à SVI ˜
ra-info	Э RA Â

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২ ১ Л৬ IPV6 Э à ND Л৬ Â

```
Ruijie# show ipv6 interface vlan
```

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

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IP -IPv6

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INCMP(Incomplete)—

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State

Interface	
State	' STATE Ю' ACTIVE— ╟ INACTIVE— a ╟ IPV6 б Э a ٦ ^ a б ă ˜ a ╟ a mac Â

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ipv6 neighbor	

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3.2.6 show ipv6 neighbors statistics

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show ipv6 neighbors statistics

ЛЬЮ ३ IPv6 '

show ipv6 neighbors statistics all

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```
Ruijie#show ipv6 neighbors statistics
Memory: 1000 bytes
Entries: 10
  Static: 1,Dynamic: 9,Local: 0
  Incomplete:1, Reachable:5, Stale:1, Delay:1, Probe:1
```

2' Â

```
Ruijie#show ipv6 neighbors statistics all
IPv6 neighbor table count: 2
Static neighbor count: 4(2 active, 2 inactive)
Total
  Memory: 2000 bytes
  Entries: 20
    Static: 2,Dynamic: 18,Local: 0
    Incomplete:2, Reachable:10, Stale:2, Delay:2, Probe:2

Global
  Memory: 1000 bytes
  Entries: 10
    Static: 1,Dynamic: 9,Local: 0
    Incomplete:1, Reachable:5, Stale:1, Delay:1, Probe:1

VRF1
  Memory: 1000 bytes
  Entries: 10
```

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3.2.7 show ipv6 packet statistics

³ IPv6 '

show ipv6 packet statistics [total | *interface-name***]**

total	
interface-name	ȷ

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1' IPv6 Э Â

```
Ruijie#show ipv6 packet statistics
Total
  Received 1000 packets, 1000000 bytes
    Unicast:1000,Multicast:0
    Discards:0
      HdrErrors:0(HoplimitExceeded
      NoRoutes:0
      Others:0
  Sent 100 packets, 6000 bytes
    Unicast:50,Multicast:50
VLAN 1
  Received 1000 packets, 1000000 b
    Unicast:1000,Multicast:0
    Discards:0
      HdrErrors:0(HoplimitExceeded
      NoRoutes:0
      Others:0
  Sent 100 packets, 6000 bytes
    Unicast:50,Multicast:50
```

2' IPv6 Â

```
Ruijie#show ipv6 packet statistics total
Received 1000 packets, 1000000 bytes
  Unicast:1000,Multicast:0
  Discards:0
    HdrErrors:0(HoplimitExceeded:0,Others:0)
    NoRoutes:0
    Others:0
Sent 100 packets, 6000 bytes
  Unicast:50,Multicast:50
```

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3.3 命令举例 示命令

3.3.1 ipv6 address help（全局配 ）

ʒ ʃυ ǀ' ipv6 address ʟ ʒ '

ipv6 address help

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```
Ruijie(config-GigabitEthernet 0/1)#ipv6 address help

命令举例：
------------------------------------------------------------------------------
>ipv6 address 1000::1/64

配置IPv6地址1000::1，前缀长度是64。如果接口没有开启IPv6功能，配置IPv6地址后，将
自动开启IPv6功能。
```

```
Ruijie(config-GigabitEthernet 0/1)#ipv6 address help

Example:
------------------------------------------------------------------------------
>ipv6 address 1000::1/64

Configure IPv6 address to 1000::1, configure prefix length to 64. That simultan-
eously enables IPv6 protocol even if IPv6 was disable in current interface
before.
------------------------------------------------------------------------------
>ipv6 address 1000::/64 eui-64

Configure IPv6 address prefix to 1000::/64, generate the interface identifier by
```

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3.3.2 ipv6 help（全局配 ）

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ipv6 help

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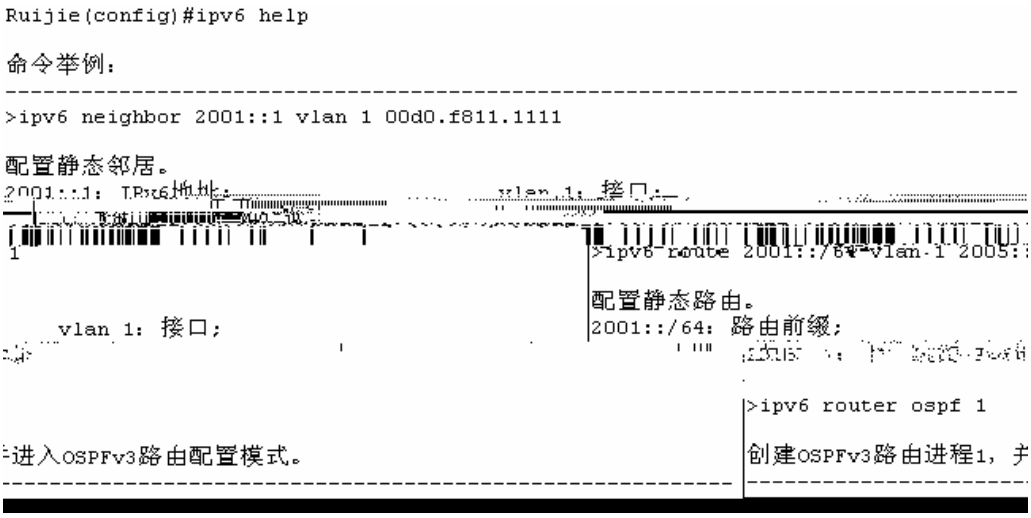

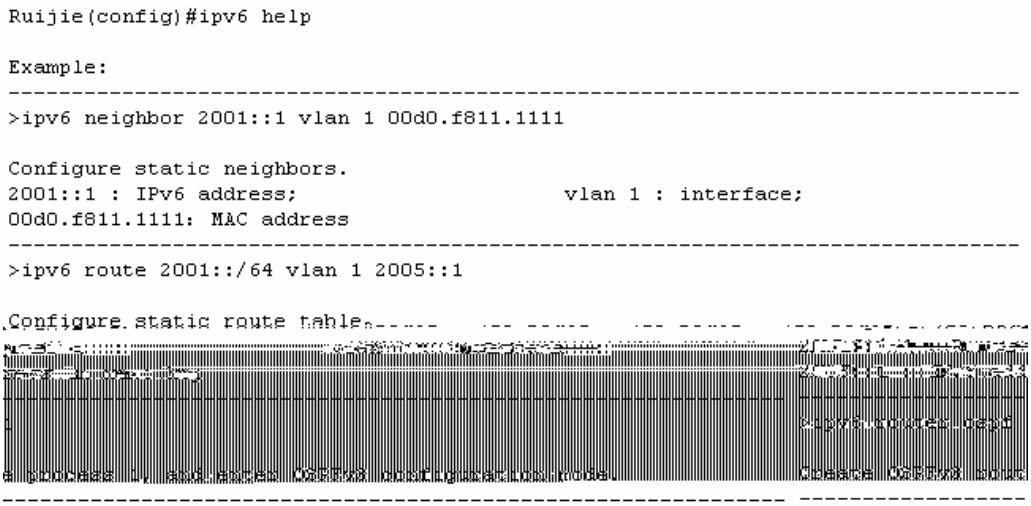

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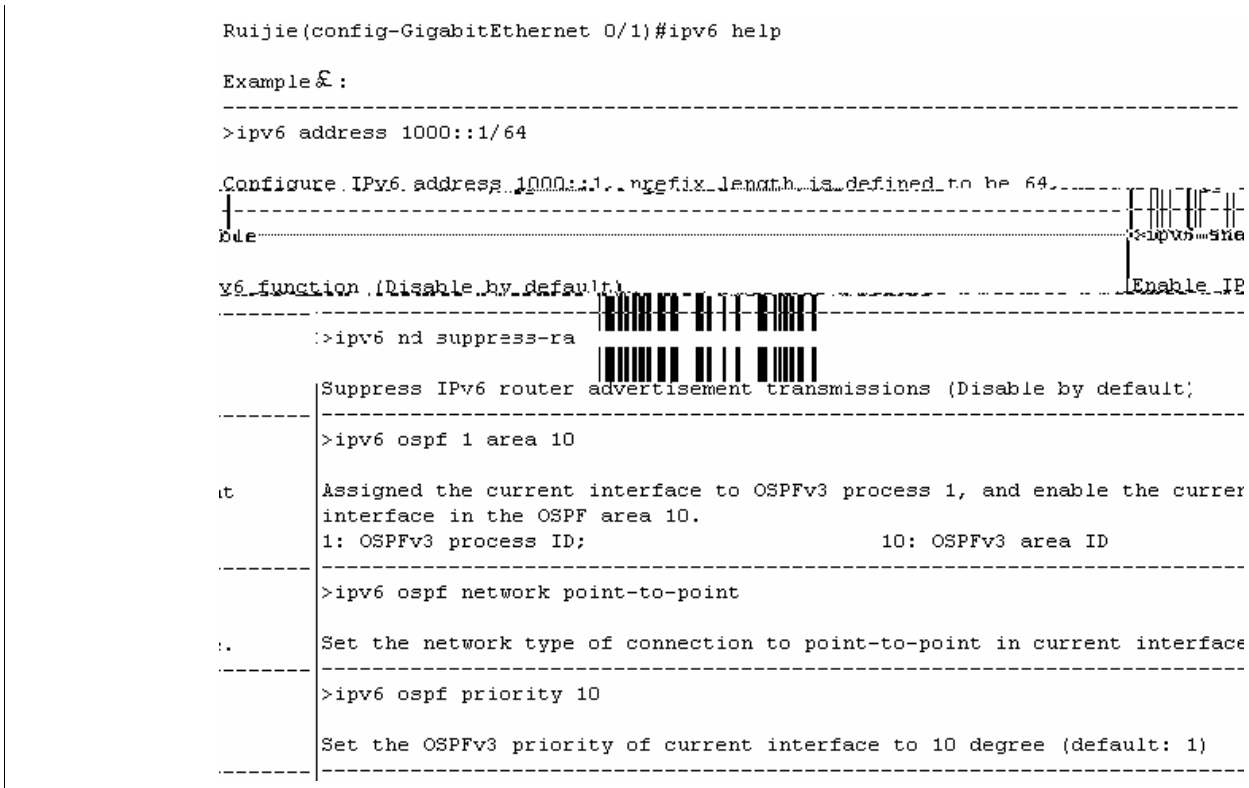

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3.3.4 ipv6 nd help

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[illegible]	[illegible]
	命令举例：
----------	----------
	>ipv6 nd managed-config-flag
?设置），M标志位表示通过DHCPv6协议获取IPv6	设置路由器公告中的M标志位（默认不 地址。
----------	----------
	>ipv6 nd other-config-flag
?设置），O标志位表示通过DHCPv6协议获取DNS服	设置路由器公告中的O标志位（默认不 务器等其它信息。
----------	----------
	>ipv6 nd ra-interval 30
30秒（默认值：200秒）。	把发送路由器公告的时间间隔设置成
----------	----------
	>ipv6 nd ra-lifetime 3600
设置成3600秒（默认值：1800秒）。	把发送路由器公告中的路由器生命期
----------	----------
	>ipv6 nd suppress-ra
（默认关闭）。	在接口上关闭发送路由器公告的功能
----------	----------

```
Ruijie(config-GigabitEthernet 0/1)#ipv6 nd help

Example:
------------------------------------------------------------------------------
>ipv6 nd managed-config-flag

et the 'M' tag of the router advertisements(which is unset by default), that   S
-------------------------------------------------------------- ----------------
-config-flag                                                    >ipv6 nd other-

; of the router advertisements(which is unset by default), that   Set the 'O' tag
nt interface gets its DNS information by DHCPv6 protocol.        means the curre
------------------------------------------------- ------------------------------
                                                   >ipv6 nd ra-interval 30

 sending router advertisements to 30s(default:     Configure the time interval of
                                                   200s)
------------------------------------------------- ------------------------------
                                                   >ipv6 nd ra lifetime 2500

ter in router advertisements to 3600s(default:    Configure the life cycle of rou
                                                   200s)
------------------------------------------------- ------------------------------
                                                   >ipv6 nd suppress-ra

in current interface.(Disable by default)         Suppress router advertisements
------------------------------------------------- ------------------------------
```

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3.3.5 ipv6 route help

? ?? ipv6 route ? ? '

ipv6 route help

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```
Ruijie(config)#ipv6 route help

命令举例：
--------------------------------------------------------------------------------
>ipv6 route 2001::/64 vlan 1 2005::1

配置静态路由，管理距离是2。
2001::/64：路由前缀；                    vlan 1：接口；
2005::1：下一跳的IPv6地址；              2：管理距离（默认值：1）
--------------------------------------------------------------------------------
>ipv6 route 2001::/64 vlan 1 2005::1 3

配置静态路由，权重是3。
2001::/64：路由前缀；                    vlan 1：接口；
2005::1：下一跳的IPv6地址；              3：权重（默认值：1）
--------------------------------------------------------------------------------
```

```
Ruijie(config)#ipv6 route help

Example:
-----------------------------------------|-----------------------------------------
                                         |>ipv6 route 2001::/64 vlan 1 2005::1

                                         |Configure static route.
   vlan 1: interface;                    |2001::/64: route prefix;
                                         |2005::1: nexthop IPv6 address
-----------------------------------------|-----------------------------------------
                                         |>ipv6 route 2001::/64 vlan 1 2005::1 2

/e distance to 2.                        |Configure static route, set administrativ
nterface;                                |2001::/64: route prefix;       vlan 1: in
strative distance(default: 1)            |2005::1: nexthop IPv6 address  2: adminis
-----------------------------------------|-----------------------------------------
ght 3                                    |>ipv6 route 2001::/64 vlan 1 2005::1 weig

                                         |Configure static route, set weight to 3
    vlan 1: interface;                   |2001::/64: route prefix;
    3: weight(default: 1)                |2005::1: next hop IPv6 address
-----------------------------------------|-----------------------------------------
```

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3.4 态信 示命令

3.4.1 view ipv6

? IPv6 IPv6 IPv6 IPv6 '

view ipv6

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ˆ ˜ ľHdrErrorsŁ IPv6 IPv6
ľHoplimitExceededŁ ⁸ 1 IPv6 ľNoRoutesŁ
ѝ IPv6 ' ľSentŁ Э IPv6
ÿ ɹ IPv6 IPv6 Â
Ь IPv6 ľMax static neighborsŁ ɻ
ľStatic neighbor countŁ ľIPv6
neighbor table countŁ IPv6 ľTotalŁ IPv6
† Â
IPv6 ľIPv6 routing table countŁ IPv6
ľTotalŁ IPv6 † Â

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4.1.2 debug ip dhcp client

DHCP Client **debug ip dhcp client** ¾ Â

debug ip dhcp client

no debug ip dhcp client

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ЛЬЮ ѝ **show dhcp lease** Â

```
Ruijie# show dhcp lease
Temp IP addr: 192.168.5.71  for peer on Interface: FastEthernet0/0
Temp  sub net mask: 255.255.255.0
DHCP Lease server: 192.168.5.70, state: 3 Bound
DHCP transaction id: 168F
Lease: 600 secs,  Renewal: 300 secs,  Rebind: 525 secs
Temp default-gateway addr: 192.168.5.1
Next timer fires after: 00:04:29
Retry count: 0   Client-ID: redgaint-00d0.f8fb.5740-Fa0/0
```

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5 DHCP Relay 命令

5.1 配 关命令

5.1.1 ip dhcp relay check server-id

DHCP Relay check server-id ╖ ┘Л∪ ¢ Â ¢ no
DHCP Relay check server-id ╖ Â

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

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¢ DHCP Relay DHCP option server-id
DHCP ╘ Â ¢ DHCP ╘ DHCP
Â

ЛυЮ DHCP relay check server-id ╖ Â

```
Ruijie# configure terminal
Ruijie(config)#
```

DHCP Relay option dot1x ╖ ┘Л℧ ३ Â ३ no ╖ Â

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

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३ DHCP ╖ 802.1x Â

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٦ ACL б Э ACL ACE a ٦ ŏ Â

ЛЬЮ dhcp option dot1x acl Â

```
Ruijie# configure terminal
Ruijie(config)# ip access-list extended DenyAccessEachOtherOfUnauthrize
Ruijie(config-ext-nacl)# permit ip any host 192.168.3.1
//
Ruijie(config-ext-nacl)# permit ip any host 192.168.4.1
Ruijie(config-ext-nacl)# permit ip any host 192.168.5.1
Ruijie(config-ext-nacl)# permit ip host 192.168.3.1 any
//  IP  ŭ
Ruijie(config-ext-nacl)# permit ip host 192.168.4.1 any
Ruijie(config-ext-nacl)# permit ip host 192.168.5.1 any
Ruijie(config-ext-nacl)# deny ip 192.168.3.0 0.0.0.255 192.168.3.0 0.0.0.255
//
Ruijie(config-ext-nacl)# deny ip 192.168.3.0 0.0.0.255 192.168.4.0 0.0.0.255
Ruijie(config-ext-nacl)# deny ip 192.168.3.0 0.0.0.255 192.168.5.0 0.0.0.255
Ruijie(config-ext-nacl)# deny ip 192.168.4.0 0.0.0.255 192.168.4.0 0.0.0.255
Ruijie(config-ext-nacl)# deny ip 192.168.4.0 0.0.0.255 192.168.5.0 0.0.0.255
Ruijie(config-ext-nacl)# deny ip 192.168.5.0 0.0.0.255 192.168.5.0 0.0.0.255
Ruijie(config-ext-nacl)# deny ip 192.168.5.0 0.0.0.255 192.168.3.0 0.0.0.255
Ruijie(config-ext-nacl)# deny ip 192.168.5.0 0.0.0.255 192.168.4.0 0.0.0.255
Ruijie(config-ext-nacl)# exit
Ruijie(config)# ip dhcp relay information option dot1x access-group DenyAccessEachOtherOfUnauthrize
```

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service dhcp

Э DHCP Relay ⁸ ╗ ┘Л∪ ३ Â ३ no
DHCP relay ⁸ ╗ Â

[**no**] **ip dhcp relay suppression**

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DHCP Ю DHCP Relay DHCP ,

DHCP DHCP Relay Э

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1 192.168.1.1'

```
Ruijie# configure terminal
Ruijie(config)# ip helper-address 192.168.1.1
```

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service dhcp	DHCP Â

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5.1.7 service dhcp

Э DHCP ╖ ⅃Л ʒ Â ʒ no

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[**no**] **service dhcp**

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DHCP ╖ ⅃Л DHCP DHCP DHCP

DHCP DHCP Â

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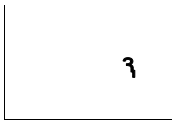
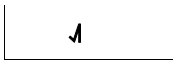
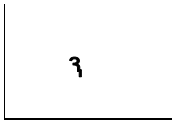
```
Ruijie# configure terminal
Ruijie(config)# service dhcp
```



ip helper-address	DHCP





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5.2 配 案例 示命令

5.2.1 dhcp-relay help

dhcp relay **dhcp-relay help**

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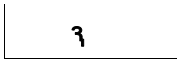

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```
Ruijie#dhcp-relay help

------------------------------ 配置需求 ------------------------------
10.10.0.0/16网段中的客户端PC需要通过DHCP中继设备从IP地址为2.1.1.1/24的DHCP服务器
                                    配置步骤
1) 配置DHCP Server
Ruijie(config)#interface gigabitEthernet 0/2
Ruijie(config-if)#no switchport
Ruijie(config-if)#ip address 2.1.1.1 255.255.255.0
Ruijie(config-if)#exit
//配置DHCP Relay的接口GI 0/2的IP地址
Ruijie(config)#service dhcp
//启用DHCP服务器
Ruijie(config)#ip dhcp pool mypool
//配置地址池mypool,并进入地址池配置模式
Ruijie(dhcp-config)#network 10.10.0.0 255.255.0.0
//配置DHCP地址池被访问
//配置客户端缺省网关
//配置DNS服务器地址
Ruijie(dhcp-config)#view dhcp-server
//查看DHCP服务器信息

2) 配置DHCP Relay
Ruijie(config)#server dhcp
//启用DHCP中继代理
Ruijie(config)#ip helper-address 2.1.1.1
//添加一个全局的DHCP服务器的地址
Ruijie(config)#interface gigabitEthernet 0/2
Ruijie(config-if)#no switchport
Ruijie(config-if)#ip address 2.1.1.2 255.255.255.0
连接的端口的IP地址
Ruijie(config-if)#i
//配置与Server设备连

rface gigabitEthernet 0/3
Ruijie(config)#inte
.1 255.255.0.0)
10.10.0.
//配置与客户端设备连接的端口的IP地址
Ruijie(config-if)#view dhcp-relay
//查看DHCP中继信息
------------------------------------------------ ------------------------------------

Ruijie#


Ruijie#dhcp-relay help

------------------------------ Configuration Requirements ------------------------
The client PCs in the network segment of 10.10.0.0/16 need to apply for the IP
addresses from DHCP server 2.1.1.1/24 through DHCP relay.

-------------------------------- Configuration Steps -----------------------------
1) Configure the DHCP Server
Ruijie(config)#interface gigabitEthernet 0/2
Ruijie(config-if)#no switchport
Ruijie(config-if)#ip address 2.1.1.1 255.255.255.0
Ruijie(config-if)#exit
//Configure the IP address of the interface Gi 0/2 that connects with the DHCP
  Relay

Ruijie(config)#service dhcp
//Enable the DHCP server
Ruijie(config)#ip dhcp excluded-address 10.10.0.1 10.10.0.10
//Configure the DHCP excluded addresses which won't be allocated to clients
Ruijie(config)#ip dhcp pool mypool
//Configure the address pool named "mypool" and enter the address pool
  configuration mode
Ruijie(dhcp-config)#network 10.10.0.0 255.255.0.0
//Configure the range of the DHCP address pool
Ruijie(dhcp-config)#default-router 10.10.0.1
```

```
//Configure the default gateway of the client
Ruijie(dhcp-config)#dns-server 10.10.0.2
//Configure the DNS server address
```

```
2) Configure the DHCP Relay
Ruijie(config)#service dhcp
//Enable the DHCP relay agent
Ruijie(config)#ip helper-addr
//Add a global DHCP server ad
Ruijie(config)#interface giga
Ruijie(config-if)#no switchpo
Ruijie(config-if)#ip address
//Configure the IP address fo

Ruijie(config)#interface giga
Ruijie(config-if)#no switchpo
Ruijie(config-if)#ip address
//Configure the IP address fo
Ruijie(config-if)#view dhcp-r
//View the DHCP relay informa
```

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view dhcp-relay	dhcp relay

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5.3 命令举例 示命令

5.3.1 ip dhcp relay help

DHCP ╠

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Ruijie(config)#ip dhcp relay help

	命令举例：
	>ip dhcp relay check server-id
y仅将DHCP请求报文转	打开DHCP relay的check server-id功能。配置此功能后，DHCP Relay 发到option server-id中指定的服务器。
	>ip dhcp relay information option dot1x access-group myacl
制低权限用户之间的互 互相访问。	控制未认证或低权限的IP只有访问特定的一些IP地址的权限，以及限 相访问。myacl为预先配置的ACL，主要是用于禁止未认证用户之间的
	>ip dhcp relay information option82
	>ip dhcp relay information option vpn
通过指定option选项使能VRF环境下的	在DHCP中继设备上启用DHCP Relay Aware VRF功能 DHCP中继部署场景。
	Ruijie(config)#

```
Ruijie(config)#ip dhcp relay help

Examples:
------------------------------------------------------------------------------
>ip dhcp relajy check server-id

Enable the check server-id function of the DHCP relay. After configuring this
function, the DHCP relay will only forward the DHCP request packets to the
server specified in the option server-id.
------------------------------------------------------------------------------
>ip dhcp relay information option dot1x access-group myacl

Only allow the unauthenticated or low-privilege IPs to access certain IP
addresses, and restrict the mutual access between low-privilege users.
The "myacl" is the preconfigured ACL, and is mainly used to prohibit the
mutual access between unauthenticated users.
------------------------------------------------------------------------------
>ip dhcp relay information option82

Enable the DHCP relay option82 function. The server can allocate different IP
addresses to users according to the option82 information. This function will
conflict with the option dot1x. They can not be configured at the same time.
------------------------------------------------------------------------------
>ip dhcp relay information option vpn
```

IP -DHCP Relay ३

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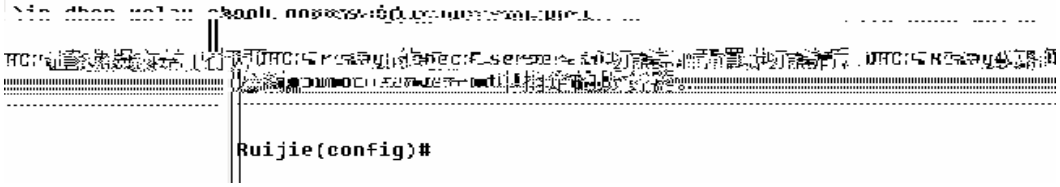
```
Ruijie(config)#ip dhcp relay check help
命令举例：
------------------------------------------------------------------------------
>ip dhcp relay check server-id

Enable the check server-id function of the DHCP relay. After configuring this
```

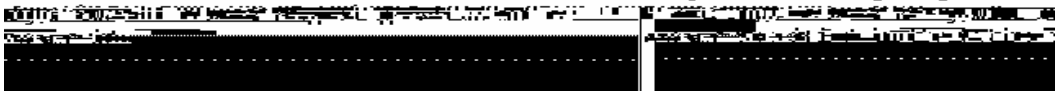


'

```
Ruijie(config)#ip dhcp relay check help

Examples:
------------------------------------------------------------------------------
>ip dhcp relay check server-id

Enable the check server-id function of the DHCP relay. After configuring this
```



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5.3.3 ip dhcp relay information help

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Ruijie(config)#ip dhcp relay information help

命令举例：

>ip dhcp relay information option dot1x access-group myacl

[redacted]

>ip dhcp relay information option82

不同 打开DHCP中继设备的option82功能。服务器可以根据option82更精确的信息给用户分配
权限的IP。该功能与option dot1x功能互斥，不可同时配置。

>ip dhcp relay information option vpn

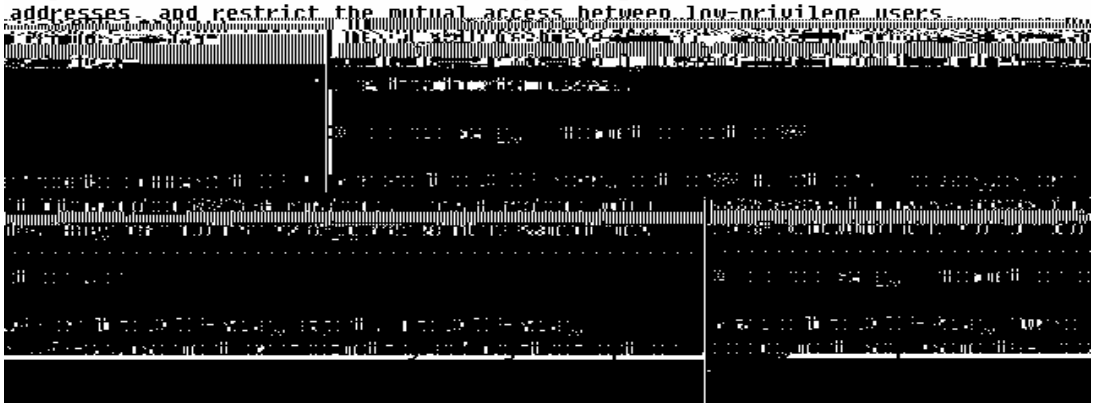
的 在DHCP中继设备上启用DHCP Relay Aware VRF功能。通过增加option选项满足VRF环境下
DHCP中继部署需求。

Ruijie(config)#

```
Ruijie(config)#ip dhcp relay information help

Examples:
------------------------------------------------------------------------------
>ip dhcp relay information option dot1x access-group myacl

Only allow the unauthenticated or low-privilege IPs to access certain IP
addresses, and restrict the mutual access between low-privilege users.
```



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5.4 态信 示命令

5.4.1 view dhcp-relay

DHCP relay

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```
Ruijie#view dhcp-relay

dhcp client net      dhcp relay information     dhcp server      user number
---------------      ----------------------     -----------      -----------
1/16          option dot1x              36.6.6.2         26           16.16.1.
1/16          option dot1x              30.0.0.2         10           20.20.1.
1/16          option dot1x              30.0.0.2         20           20.21.1.
                                                                      ......
ormation  refer to: show ip dhcp relay user                           More inf
Ruijie#
```

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6 UDP-Helper 命令

6.1 配 关命令

6.1.1 ip forward-protocol

? UDP Â ? **no** ? UDP
? Â

ip forward-protocol udp [*port* | **tftp | domain | time | netbios-ns | netbios-dgm | tacacs**]

no ip forward-protocol udp [*port* | **tftp | domain | time | netbios-ns | netbios-dgm | tacacs**]

port	a 69,53,37,137,138,49 Â
tftp	Trivial File Transfer Protocol(69) UDP ? 69 Â
domain	Domain Name System(53) UDP ? 53 Â
time	Time service(37) UDP ? 37 Â
netbios-ns	NetBIOS Name Service(137) UDP ? 137 Â

netbios-dgm

Ruijie(config)# **ip forward-protocol udp** *134*

udp-helper enable	UDP
ip forward-protocol	UDP

-	-

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6.1.3 udp-helper enable

udp-helper enable ¾ ╟ UDP ╖ Â **no udp-helper enable** ¾ UDP ╖ Â

ÞO UDP Â

udp-helper enable

no udp-helper enable

-	-

UDP

UDP-Helper ╖ 69,53,37,137,138,49 UDP Â

ÞO ╟ UDP ╖ '

```
Ruijie(config)# udp-helper enable
```

¾	
ip forward-protocol	UDP

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7 DNS 命令

7.1 配 关命令

7.1.1 ip domain-lookup

╟ DNS ⅃ Â ৻ no DNS ⅃ ╖ Â

ip domain-lookup

no ip domain-lookup

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ѝ DNS ⅃ ╖ Â

৻

৻ ѝ DNS ⅃ ╖ ৻ ╟ DNS ⅃ Â

Ю DNS ⅃ ╖ '

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

৻	
show hosts	DNS Â

⅄

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7.1.2 ip name-server

৻ ⅃ ⊧ IP/IPv6 Â ⅄ ⅃ ⊧ ╟ ⅃ Â
৻ no ⅃ ⊧ Â

IP

	ip-address	IP

ǔ ˩˧ **no ip host** *host-name ip-address* ३ Â

7.2.2 show hosts

DNS Â

show hosts [*hostname*]

8 FTP Server 命令

8.1 配 关命令

8.1.1 debug ftpserver

FTP ? no Â

debug ftpserver

no debug ftpserver

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? Â

debug ftpserver ? ? FTP ? Â

1' ?? ? '

```
Ruijie# debug ftpserver
FTPSRV_DEBUG:(RECV)  SYST
FTPSRV_DEBUG:(REPLY)  215 RGOS Type: L8
FTPSRV_DEBUG:(RECV)  PORT 192,167,201,82,7,120
FTPSRV_DEBUG:(REPLY)  200 PORT Command okay.
```

2' ?? ? '

```
Ruijie# no debug ftpserver
```

?	
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?

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8.1.2 ftp-server enable

FTP Ł ʒ no FTP Ł Â

ftp-server enable

no ftp-server enable

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FTP Ł FTP ˩ЛЪ б ˚ Э Ю Â

˩ ʒ **ftp-server topdir** ʒ FTP
FTP Ł Э ˚ Â

1' ЛЪЮ ╠ FTP Ł ⁸ syslog '

```
Ruijie(config)# ftp-server topdir /syslog
Ruijie(config)# ftp-server enable
```

2' ЛЪЮ FTP Ł '

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

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8.1.3 ftp-server password

FTP Ł ʒ no ˩ Â

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

no ftp-server password

type	0 7, 0 7
password	

FTP

1 pass
```
Ruijie(config)# ftp-server password pass
```
```
Ruijie(config)# ftp-server password 0 pass
```
2 8001
```
Ruijie(config)# ftp-server password 7 8001
```
3
```
Ruijie(config)# no ftp-server password
```

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8.1.4 ftp-server topdir

FTP Â no
FTP Â

ftp-server topdir *directory*

no ftp-server topdir

directory	FTP

a Â

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FTP Â
FTP FTP Â
FTP Â

1
```
Ruijie(config)# ftp-server topdir /syslog
Ruijie(config)# ftp-server enable
```
2
```
Ruijie(config)# no ftp-server topdir
```

-	-

FTP ^ Session idle timeout˜ ¾ no ù ^ 30¦ ˜ Â

ftp-server timeout *time*

no ftp-server timeout

time	^ ' ¦ ' ' 1-3600˜

ù 30¦ Â

¾ Â

FTP Â ^ ˜
FTP Ł ˩ ù б Â

FTP ÿ Э FTP Л Ю
FTP Â Ł FTP ¾ Ł Л^
˚ Л˜ ÿ 0 ' Ю ¾
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˚ Â

1' ЛЪЮ ù 5¦ '
```
Ruijie(config)# ftp-server timeout 5
```
2' ЛЪЮ ù ^ 30¦ ˜ '
```
Ruijie(config)# no ftp-server timeout
```

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8.1.6 ftp-server username

FTP Ł ˩ ¾ no ˩ ˩ Â

ftp-server username *username*

no ftp-server username

username	

Â

Â

FTP Â Â

Â FTP Â

FTP a Â

1' ЛЬЮ ий user'

```
Ruijie(config)# ftp-server username user
```

2' ЛЬЮ '

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

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8.2 示 关命令

8.2.1 show ftp-server

FTP Â

show ftp-server

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FTP

IP à Port˜

ÿ IP à Port˜

ЛЮ FTP

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

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1 SNMP

2 RMON

3 NTP

4 SNTP

5 SPAN

1 SNMP

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1.1.1 no snmp-server

SNMP ¾ ¶ ¾ **no snmp-server** Â

no snmp-server

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SNMP ¾ ¶ TÃA6hPT>GtBSG(¶ÕB

aclnum	∧ MIB ipv4 NMS Â
aclname	¨ MIB ipv4 NMS Â
ipv6-aclname	ipv6 ¨ MIB ipv6 NMS Â
ipaddr	NMS MIB NMS Â

text	

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Ю SNMP ѝ i-net800@i-net.com.cn '

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

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show snmp-server	SNMP
no snmp-server	SNMP ʒ ╖

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1.1.5 snmp-server enable traps

SNMP ў ╟ NMS Trap

ʒ **snmp-server enable traps** Â ʒ no SNMP NMS ў ╟ Trap Â

snmp-server enable traps [**snmp**]

no snmp-server enable traps

snmp	SNMP Â

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३ б ३ **snmp-server host** Â

Ю ў ╟ SNMP

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

३	
snmp-server host	SNMP ў

/

/	
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1.1.6 snmp-server group

SNMP ३ **snmp-server group** Â ३ no Â

snmp-server group *groupname* { **v1** | **v2c** | **v3** { **auth** | **noauth** | **priv** } } [**read** *readview*] [**write** *writeview*] [**access** { **ipv6** *ipv6-aclname* | *aclnum* | *aclname* }]

no snmp-server group *groupname* { **v1** | **v2c** | **v3** {**auth** | **noauth** | **priv**} }

v1	**v2c** |**v3**	SNMP Â
auth	a v3 Â
noauth	a a v3 Â
priv	˘ v3 Â
readview	Â
writeview	Â
aclnum	/ MIB ipv4 NMS Â
aclname	¨ MIB ipv4 NMS Â

ipv6-aclname	ipv6 ¨ MIB ipv6 NMS Â

¾

IO

```
Ruijie(config)# snmp-server group mib2user v3 priv read mib2
```

¾	
show snmp group	SNMP

/

/	
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1.1.7 snmp-server host

SNMP ÿ ^ NMS˜ ¾ **snmp-server host** Â
¾ no / SNMP ÿ Â

snmp-server host { *host-addr* | **ipv6** *ipv6-addr* } [**vrf** *vrfname*] [**traps**] [**version** { **1** | **2c** | **3** { **auth** | **noauth** | **priv** }] *community-string* [**udp-port** *port-num*] [*notification-type*]

no snmp-server host { *host-addr* | **ipv6** *ipv6-addr* } [**vrf** *vrfname*] [**traps**] [**version** { **1** | **2c** | **3** { **auth** | **noauth** | **priv** }] *community-string* [**udp-port** *port-num*]

host-addr	SNMP ÿ
ipv6-addr	SNMP ÿ ^ ipv6˜
vrfname	vrf ¨
version	snmp V1 ã V2C ã V3
auth	**noauth**	**priv**	V3 Â

community-string	¨ ^ V3 ~ Â
port-num	snmp ў

notification-type

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

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snmp-server contact	SNMP

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1.1.9 snmp-server packetsize

SNMP ३ **snmp-server packetsize** Â

३ no Â

snmp-server packetsize *byte-count*

no snmp-server packetsize

byte-count	ÿ 484 17876 Â

1472

३

Ю SNMP ѝ 1492

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

३	
snmp-server queue-length	SNMP

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1.1.10 snmp-server queue-length

३ **snmp-server queue-length** Â

snmp-server queue-length *length*

length	ÿ 1 1000 Â

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

३	
snmp-server packetsize	SNMP

SNMP ¶ ¾ **snmp-server system-shutdown** Â
¾ **no** SNMP ¶ Â

snmp-server system-shutdown

no snmp-server system-shutdown

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Ю SNMP ÿ IP ѝ
ѝ Л Љ ҳ IP ѝ SNMP
Â

Ю Љ 0/1 IP ѝ SNMP ‘
Ruijie(config)# **snmp-server trap-source fastethernet** 0/1

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snmp-server enable traps	ÿ ╟
snmp-server host	NMS ÿ

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1.1.13 snmp-server trap-timeout

ҳ **snmp-server trap-timeout** Â
ҳ no Â

snmp-server trap-timeout *seconds*

no snmp-server trap-timeout

seconds	Æ ѝ Л ‘ 1 – 1000 Â

30

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Ю ѝ 60 ‘
Ruijie(config)# **snmp-server trap-timeout** *60*

३	
snmp-server queue-length	
snmp-server host	NMS ў

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1.1.14 snmp-server user

SNMP ३ **snmp-server user** Â ३ no Â

snmp-server user *username groupname* {**v1** | **v2c** | **v3** [**encrypted**] [**auth** {**md5** | **sha**} *auth-password*] [**priv des56** *priv-password*]} [**access** {**ipv6** *ipv6-aclname* | *aclnum* | *aclname*}]

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

username	Â
groupname	
v1	**v2c**	**v3**	SNMP Â v3 ł Â ù Â Љ Â Љ

encrypted

priv-password	ঌ ╗ ঽ ^ a 32 ~ Â ঽ ╗ Â
aclnum	ﾉ MIB ipv4 NMS Â
aclname	¨ MIB ipv4 NMS Â
Ipv6-aclname	ipv6 ¨ MIB ipv6 NMS Â

Â

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Ю snmpV3 md5 DES ╗ '

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

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ঽ	
show snmp user	SNMP

ﾉ

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1.1.15 snmp-server view

SNMP ঽ **snmp-server view** Â ঽ no Â

snmp-server view *view-name oid-tree* {**include** | **exclude**}

no snmp-server view *view-name* [*oid-tree*]

view-name	¨ Â

oid-tree	MIB MIB Â
include	MIB Â
exclude	MIB Â

default MIB Â

ৡ

Ю MIB-2 ˆ oid и 1.3.6.1˜ ‘

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

ৡ	
show snmp view	SNMP

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1.2

1.2.1 show snmp

SNMP ৡ **show snmp** Â

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

-	-

ৡ

show snmp ৡ SNMP ’

show snmp mib snmp mib ’

show snmp user snmp ’

show snmp view snmp ’

show snmp group snmp ’

show snmp host ’

IO SNMP ‘

```
Ruijie# show snmp
Chassis: 60FF60
0 SNMP packets input
0 Bad SNMP version errors
0 Unknown community name
0 Illegal operation for community name supplied
0 Encoding errors
0 Number of requested variables
0 Number of altered variables
0 Get-request PDUs
0 Get-next PDUs
0 Set-request PDUs
0 SNMP packets output
0 Too big errors (Maximum packet size 1472)
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
```

३	
snmp-server *chassis-id*	SNMP ⁄

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```
Ruijie#snmp help

---------------------------------- 案例菜单 ----------------------------------
1、SNMP v1/v2典型配置案例
2、SNMP v3典型配置案例

------------------------------------------------------------------------------
请选择您要查看的案例编号（按ESC键退出）：1

---------------------------------- 配置需求 ----------------------------------
某实验室希望通过网管软件管理网络设备，要求1）使用共同体public可以对所有MIB节点进
行读写操作；2）网管软件能监测到网络设备主动发送的trap消息；3）设置基本系统信息；

---------------------------------- 配置步骤 ----------------------------------
1、配置代理功能
Ruijie(config)#snmp-server community public rw
//配置共同体public，允许对所有MIB节点进行读写操作，若仅对指定MIB节点进行操作，先
```

```
Ruijie(config)#snmp-server location fuzhou
//配置系统所处的位置
Ruijie(config)#snmp-server contact abc.com.cn
//配置系统维护的联系方式
Ruijie(config)#snmp-server chassis-id 1234567890
//配置系统的序列码

3、验证配置结果
Ruijie#view snmp

友情提示：若要关闭SNMP代理功能，执行no enable service snmp-agent命令
------------------------------------------------------------------------------
```

2

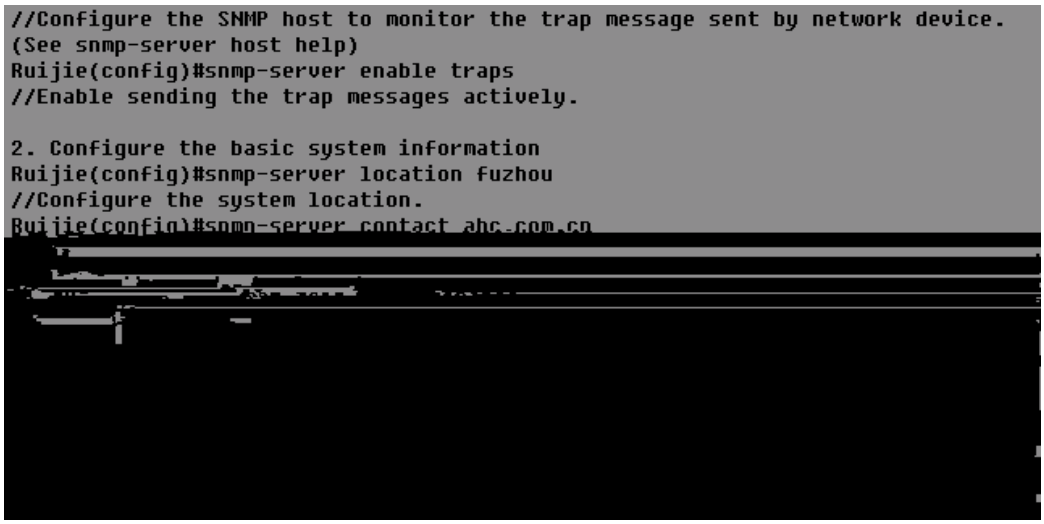
```
Ruijie#snmp help

---------------------------------- 案例菜单 ----------------------------------
1、SNMP v1/v2典型配置案例
2、SNMP v3典型配置案例

------------------------------------------------------------------------------
请选择您要查看的案例编号（按ESC键退出）：2

---------------------------------- 配置需求 ----------------------------------
某实验室希望通过网管软件管理网络设备，要求1）用户user1只能对1.3.6.1.2.1.1节点进
```

```
//配置SNMP主机，使其能够监测到网络设备发送的trap消息（见snmp-server host help）
Ruijie(config)#snmp-server enable traps
```

```
Ruijie#snmp help

---------------------------------- Example Menu ----------------------------------
1. SNMP v1/v2 typical configuation example
2. SNMP v3 typical configuation example

--------------------------------------------------------------------------------
Please choose the number you want to view (Press the ESC to exit):
```

1

```
Ruijie#snmp help

---------------------------------- Example Menu ----------------------------------
1. SNMP v1/v2 typical configuation example
2. SNMP v3 typical configuation example

--------------------------------------------------------------------------------
Please choose the number you want to view (Press the ESC to exit):1

--------------------------- Configuration Requirements ---------------------------
One lab wants to manage the network device through software, the requirements
are listed as below:
1) The community public can read&write all the nodes;
2) The network management soft can monitor the trap message sent actively by
   network device;
3) Set the basic system information;

------------------------------ Configuration Steps ------------------------------
1. Configure the angent function
Ruijie(config)#snmp-server community public rw
//Configure the community public that all MIB nodes can be read&written by it.
If the MIB node is specified, create the view (See the snmp-server view help)
before associate the view (See the snmp-server community help).

Ruijie(config)#snmp-server host 192.168.3.2 traps version 2c public
//Configure the SNMP host to monitor the trap message sent by network device.
```


//Configure the SNMP host to monitor the trap message sent by network device.
(See snmp-server host help)
Ruijie(config)#snmp-server enable traps
//Enable sending the trap messages actively.
2. Configure the basic system information
Ruijie(config)#snmp-server location fuzhou
//Configure the system location.
Ruijie(config)#snmp-server contact abc.com.cn

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view snmp	**snmp** Â

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1.4.1 snmp-server help

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snmp-server help

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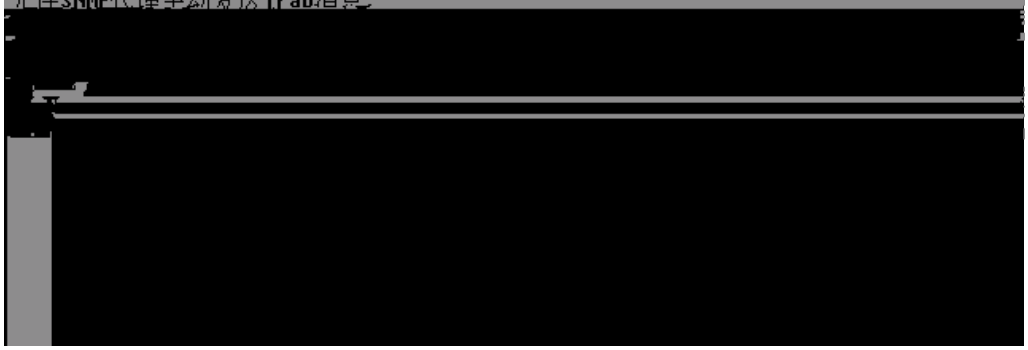
```
Ruijie(config)#snmp-server help

命令举例：
------------------------------------------------------------------------------
>snmp-server community public rw

创建SNMP共同体public，并赋予读写权限。
public：共同体名；          rw：读写权限；
------------------------------------------------------------------------------
>snmp-server enable traps

允许SNMP代理主动发送Trap消息。
```



```
user1: SNMP user name;          group1: SNMP group name;
------------------------------------------------------------------------------
```

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

Examples:
------------------------------------------------------------------------------
>snmp-server community public rw

Create the SNMP community public and set the read&write authority.
public: community name;          rw: read&write authority;
------------------------------------------------------------------------------
>snmp-server enable traps

Enable the SNMP agent sending the trap message actively.
------------------------------------------------------------------------------
>snmp-server host 1.1.1.1 version 2c public

Enable the SNMP host 1.1.1.1 receiving the SNMPv2 trap message(The message
contains the community public).
1.1.1.1: host IP address;        public: community name;
------------------------------------------------------------------------------
>snmp-server group group1 v2c

Create the SNMPv2 group group1.
------------------------------------------------------------------------------
>snmp-server user user1 group1 v2c

Create the SNMPv2 user user1 and designate it as the member of the group1.
user1: SNMP user name;           group1: SNMP group name;
------------------------------------------------------------------------------
```

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1.4.2 snmp-server host help

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snmp-server host help

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```
Ruijie(config)#snmp-server host help

Examples:
------------------------------------------------------------------------------
>snmp-server host 1.1.1.1 traps version 2c linpeng

Enable the SNMP host 1.1.1.1 receiving the SNMPV2 trap message (This message
contains the community linpeng).
1.1.1.1: host IP address;         linpeng: SNMP community name;
------------------------------------------------------------------------------
>snmp-server host 1.1.1.1 informs version 3 priv lipingsnmp

Enable the SNMP host 1.1.1.1 receiving the SNMPV3 inform message (This message
contains the uername lipingsnmp).
1.1.1.1: host IP address;
priv: security level for authentication and encryption;
lipingsnmp: SNMP user name;
------------------------------------------------------------------------------
```

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1.4.3 snmp-server community help

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snmp-server community help

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```
Ruijie(config)#snmp-server community help

命令举例：
------------------------------------------------------------------------------
>snmp-server community public ro

创建SNMP共同体public，允许对所有MIB节点进行读操作。
public：共同体名称；                ro：只读；
------------------------------------------------------------------------------
>snmp-server community public view view1 rw
```

```
202.121.64.120：IP地址；
------------------------------------------------------------------------------
```

```
Ruijie(config)#snmp-server community help

Examples:
------------------------------------------------------------------------------
>snmp-server community public ro

Create the SNMP community public, all MIB nodes can be read.
public: community name;             ro: read only;
------------------------------------------------------------------------------
>snmp-server community public view view1 rw

Create the SNMP community public, only the nodes defined by the related view
view1 can be read&written.r
public: community name;             view1: view name;
rw: read&write;
------------------------------------------------------------------------------
>snmp-server community public acl1

Create the SNMP community, all MIB nodes can be read. And use the ACL acl1 to
filter the community users.
public: community user;             acl1: ACL name;
------------------------------------------------------------------------------
>snmp-server community liping ro host 202.121.64.120

Create the SNMP community, all MIB nodes can be read. And specify the community
user as 202.121.64.120.
liping: community user;             ro: read only;
202.121.64.120: IP address;
------------------------------------------------------------------------------
```

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snmp help	snmp

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```
Ruijie(config)#snmp-server group help

命令举例：
------------------------------------------------------------------------------
>snmp-server group group1 v1 read default write default

创建SNMPv1组group1，并指定读写视图为缺省视图。
group1：SNMP组名称；          default：读/写视图名称（缺省视图）；
------------------------------------------------------------------------------
>snmp-server group group2 v3 priv read view1 write view2

创建SNMPv3组group2，并指定安全级别及读写视图。
group2：SNMP组名称；          priv：安全级别（既认证又加密）；
view1：读视图名称；           view2：写视图名称；
------------------------------------------------------------------------------
```

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```
Ruijie(config)#snmp-server group help

Examples:
------------------------------------------------------------------------------
>snmp-server group group1 v1 read default write default

Create the SNMPv1 group group1 and specify the default read&write view.
group1: SNMP group name;   default: read&write view name(default view);
------------------------------------------------------------------------------
>snmp-server group group2 v3 priv read view1 write view2

Create the SNMPv3 group group2 and specify the security level and read&write view.
group2: SNMP group name;   priv: security level for authentication and encryption;
view1: read view name;     view2: write view name;
------------------------------------------------------------------------------
```

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1.4.5 snmp-server user help

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snmp-server user help

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```
Ruijie(config)#snmp-server user help

命令举例：
------------------------------------------------------------------------------
>snmp-server user user1 group1 v3 auth md5 authpwd priv des56 privpwd

创建SNMPv3用户user1，指定其为group1组的成员，使用md5认证和des56加密。
user1：SNMP用户名称；          group1：SNMP组的名称；
authpwd：认证密码；            privpwd：加密密钥；
```

```
Ruijie(config)#snmp-server user help

Examples:
------------------------------------------------------------------------------
>snmp-server user user1 group1 v3 auth md5 authpwd priv des56 privpwd

Create the SNMPv3 user user1 and designate it as the member of group1. The md5
authentication and des56 encryption are used.
user1: SNMP user name;                    group1: SNMP group name;
authpwd: authentication password;         privpwd: encryption key;
------------------------------------------------------------------------------
>snmp-server user user2 group2 v3 encrypted

Create the SNMPv3 user user2 and designate it as the member of group2. The
password is cipher-text.
user2: SNMP user name;                    group2: SNMP group name;
------------------------------------------------------------------------------
```

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snmp help	snmp

```
Ruijie(config)#snmp-server view help

Examples:
------------------------------------------------------------------------------
>snmp-server view view1 1.3.6.1 include

Create the SNMP view view1, the MIB object 1.3.6.1 can be accessed(include its
sub-nodes).
view1: view name;           1.3.6.1: MIB object;
include: accessible;
------------------------------------------------------------------------------
>snmp-server view systemmib 1.3.6.1.2.1.1 exclude

Create the SNMP view systemmib, the MIB object 1.3.6.1.2.1.1 cannot be accessed
(include its sub-nodes).
systemmib: view name;       1.3.6.1.2.1.1: MIB object;
exclude: inaccessible;
------------------------------------------------------------------------------
```

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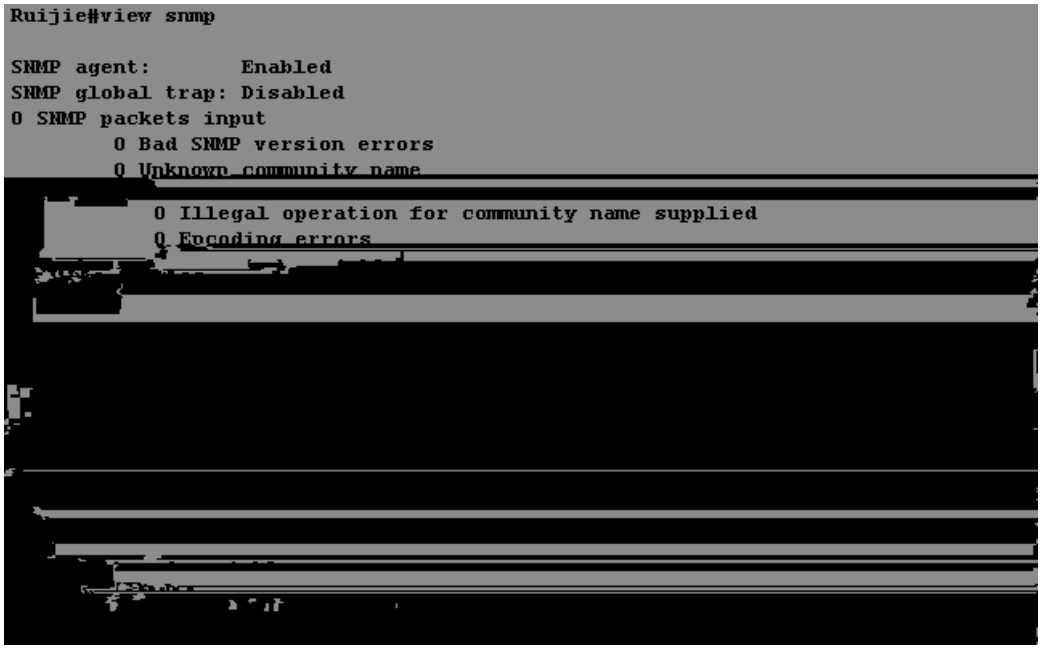


```
SNMP trap-timeout:     30 seconds
SNMP trap-queuelength: 10

SNMP community: maxnum 15, count 1
More information, refer to: show run | include snmp-server community

SNMP host: maxnum 10, count 1
More information, refer to: show snmp host

SNMP user count: 2
More information, refer to: show snmp user

SNMP group count: 1
More information, refer to: show snmp group

SNMP view count: 2
More information, refer to: show snmp view
```

snmp help	**snmp**

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2 RMON

2.1

2.1.1 rmon alarm

MIB ৲ ৡ Â no ৸ Â

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

no rmon alarm *number*

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RGOS Ɱ variable ä absolute/delta ä owner ä interval ä rising-threadhold/falling-threadhold event a Ю ,

ƱЮ MIB ৲ ifInNUcastPkts.6 Â

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

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rmon event *number* [**log**] [**trap** *community*] [**description** *description-string*] [**owner** *owner-string*]	╕

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2.1.2 rmon collection history

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

no rmon collection history *index*

rmon collection stats *index* [**owner** *ownername*]

no rmon collection stats *index*

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

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

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2.1.4 rmon event

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

[**owner** *owner-name*]

no rmon alarm *number*

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```
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*]	╕

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2.2.1 show rmon alarm

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show rmon alarm

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```
Ruijie#  show rmon alarm
rmon alarm table:
                index: 10,
                interval: 30,
                oid = 1.3.6.1.2.1.2.2.1.12.6
                sampleType: 2,
                alarmValue: 0,
```

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```
Ruijie#  show rmon event
rmon event table:
                index = 1
                description = ifInNUcastPkts
                type = 4
                community = rmon
                lastTimeSent = 0 d:0 h:0 m:0 s
                owner = zhangsan
                status = 1
```

rmon event *number* [**log**] [**trap** *community*] [**description** *description-string*] [**owner** *ownername*]	

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2.2.3 show rmon history

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show rmon history

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```
Ruijie#  show rmon history
rmon history control table:
                index = 1
                interface = FastEthernet 0/1
                bucketsRequested = 10
                bucketsGranted = 10
                interval = 1800
                owner = zhangsan
                stats = 1

rmon history table:
                index = 1
                sampleIndex = 198
                intervalStart = 0d:14h:0m:47s
                dropEvents = 0
                octets = 67988
                pkts = 726
                broadcastPkts = 502
                multiPkts = 189
                crcAllignErrors = 0
                underSizePkts = 0
                overSizePkts = 0
                fragments = 0
                jabbers = 0
                collisions = 0
                utilization = 0
```


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2.2.4 show rmon statistics

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show rmon statictics

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```
Ruijie#  show rmon statistics
ether statistic table:
                index = 1
                interface = FastEthernet 0/1
                owner = zhangsan
                status = 0
                dropEvents = 0
                octets = 1884085
                pkts = 3096
                broadcastPkts = 161
                multiPkts = 97
                crcAllignErrors = 0
                underSizePkts = 0
                overSizePkts = 1200
                fragments = 0
                jabbers = 0
                collisions = 0
                packets64Octets = 128
```

```
packets65To127Octets = 336
packets128To255Octets = 229
packets256To511Octets = 3
packets512To1023Octets = 0
packets1024To1518Octets = 1200
```

rmon collection stats *index* [**owner** *ownername*]	

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3 NTP

3.1 NTP

3.1.1 no ntp

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no ntp

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

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

peer	NTP Ь б ˚ ^ ˜ Â
serve	NTP Ь a б ˚ Â
serve-only	NTP Ь Â
query-only	NTP Ь Â
access-list-number	IP л’ ѝ 1 99 1300 1999
access-list-name	IP ¨ Â

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

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3.1.3 ntp authenticate

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ntp authenticate

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ntp authentication-key ä **ntp trusted-key** Â

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```
Ruijie(config)# ntp authentication-key 6 md5 wooooop
Ruijie(config)# ntp trusted-key 6
Ruijie(config)# ntp authenticate
```

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3.1.4 ntp authentication-key

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

no ntp authentication-key *key-id*

key-id	ID’
key-string	’
enc-type	^ Л ~ ╗ 0 ╗ 7 ╗ ’

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md5 ╗ key-id

Л Љ **ntp trusted-key** key-id ѝ Â

Э ѝ 1024 ┗ Â

ЉЮ ID ѝ 6

```
Ruijie(config)# ntp authentication-key 6 md5 wooooop
```

ntp disable

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```
Ruijie(config)# ntp master 12
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3.1.7 ntp server

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

no ntp server *ip-addr*

ip-addr	NTP ┗ IP IPv4 IPv6’
version	^ Л ~ NTP ^ 1-3˜ NTPv3 ,
if-name	^ Л ~ NTP ^ Ь ~’
keyid	^ Л ~ б ┗ ╗

prefer	^ Л ~ Ь й Prefer Ь

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```
Ruijie(config)# ntp synchronize
```

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3.1.9 ntp trusted-key

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ntp trusted-key *key-id*

no ntp trusted-key *key-id*

key-id	ID Â

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Ruijie(config)# **ntp server** *192.168.210.222* **key** *6*

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ntp authenticate	Â
ntp authentication-key	NTP Â
ntp server	NTP Â

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3.1.10 ntp update-calendar

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ntp update-calendar

no ntp update-calendar

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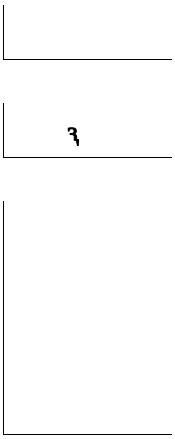

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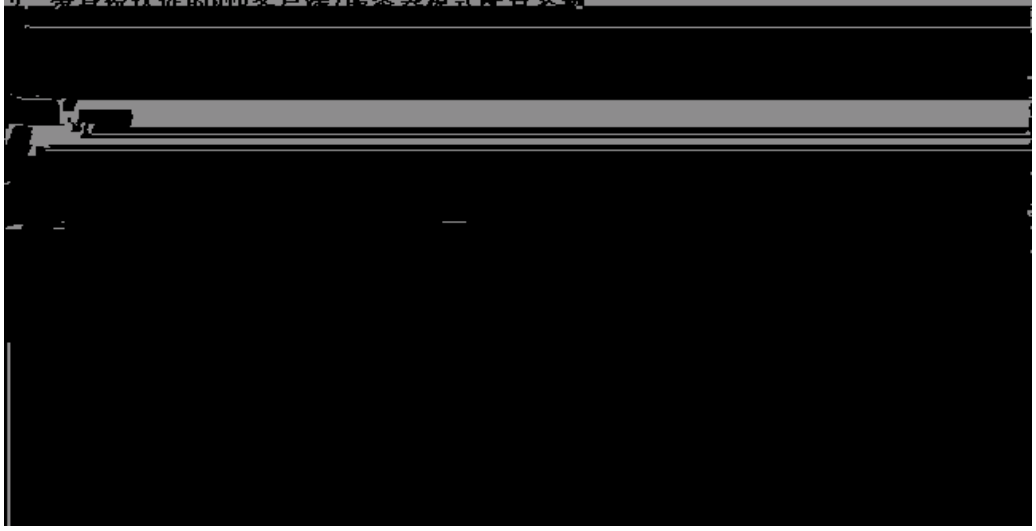
```
Ruijie#ntp help

---------------------------------- 案例菜单 ----------------------------------
1、NTP客户端/服务器模式配置案例
2、带身份认证的NTP客户端/服务器模式配置案例
```



```
//设置本地时钟为参考时钟（时钟层数为12），开启ntp server功能。时钟层数决定了
时钟的准确度，范围1-15，默认值为8，值越小准确度越高。
DeviceA(config)#show clock
//查看服务器当前的时间

2、NTP客户端配置
DeviceB(config)#ntp authenticate
DeviceB(config)#ntp authentication-key 5 md5 helloword
DeviceB(config)#ntp trusted-key 5
//配置NTP身份认证，这里使用的信任密钥必须与要通讯的服务器一致

DeviceB(config)#show clock
//查看客户端未同步前的时间
DeviceB(config)#ntp server 1.1.1.1 key 5
//指定设备A为设备B的时钟源（即服务器），开启ntp client功能，同时指定与服务器
```

```
Ruijie#ntp help

---------------------------------- Example Menu ----------------------------------
1. NTP client/server mode configuration example
2. NTP client/server ID authentication mode configuration example
```

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```
Ruijie#ntp help

---------------------------------- Example Menu ----------------------------------
1. NTP client/server mode configuration example
2. NTP client/server ID authentication mode configuration example

--------------------------------------------------------------------------------
Please choose the number you want to view (Press the ESC to exit):1

--------------------------- Configuration Requirements ---------------------------
Synchronize the clock of newly-purchased deviceB based on deviceA and set the
synchronized time to the hardware of deviceB. Set the deviceA IP address 1.1.1.1
and clock layer 12.

------------------------------ Configuration Steps -------------------------------
1. NTP server configuration
DeviceA(config)#interface vlan 1
DeviceA(config-vlan 1)#ip address 1.1.1.1 255.255.255.0
DeviceA(config-vlan 1)#exit
//Configure the IP address of server.
DeviceA(config)#ntp master 12
//Set the local clock as reference clock(clock layer 12) and enable the ntp
server function. The number of clock layer determines the clock accuracy, in the
range of 1-15 (default:8). Smaller layer means the higher accuracy.
DeviceA(config)#show clock
//View current time of the server.

2. NTP client configuration
DeviceB(config)#show clock
//View the device B time before synchronization.
DeviceB(config)#ntp server 1.1.1.1
//Designate the deviceA as clock source of deviceB (namely server), enable the
ntp client function.
DeviceB(config)#view ntp
//View whether the synchronization is successful.

DeviceB(config)#ntp update-calendar
//Enable NTP hardware clock update to synchronize the hardware time.
--------------------------------------------------------------------------------
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```
Ruijie#ntp help

---------------------------------- Example Menu ----------------------------------
1. NTP client/server mode configuration example
2. NTP client/server ID authentication mode configuration example

--------------------------------------------------------------------------------
Please choose the number you want to view (Press the ESC to exit):2

--------------------------- Configuration Requirements ---------------------------
Synchronize the clock of newly-purchased deviceB based on deviceA and set the ID
authentication for the communication between the two devices. Set the deviceA IP
address 1.1.1.1 and clock layer 12.

------------------------------ Configuration Steps -------------------------------
1. NTP server configuration
DeviceA(config)#ntp authenticate
DeviceA(config)#ntp authentication-key 5 md5 helloword
DeviceA(config)#ntp trusted-key 5
//Configure the NTP ID authentication.

DeviceA(config)#interface vlan 1
DeviceA(config-vlan 1)#ip address 1.1.1.1 255.255.255.0
DeviceA(config-vlan 1)#exit
//Configure the IP address of the server.
```

```
DeviceA(config)#ntp master 12
//Set the local clock as reference clock(clock layer 12) and enable the ntp
server function. The number of clock layer determines the clock accuracy, in the
range of 1-15 (default: 8). Smaller layer means the higher accuracy.
DeviceA(config)#show clock
//View cunrrent time of the server.

2. NTP client configuration
DeviceB(config)#ntp authenticate
```

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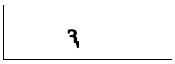
3.4.1 ntp help

Љ ntp