# STAR-S5610

## ʒ ¨Ą V2.0

Ω Ν

1.2.1 [illegible]



[illegible]

[illegible]

[illegible]

[illegible]



[illegible]

# ϡ ¨Ą

## 1.1

### 1.1.1

STAR-S5610 ˅ ˘ ˘ ϡ Â ˅
˘ Â

### 1.1.2 Telnet

Telnet ˘ ˘ ÿ Â

### 1.1.3

¸ Л Telnet ˘ Ь ˘ ╠ ˜Ω Â

¸ Л ˘ ˘ Â

˘ ≠ Â

### 1.1.4

Ю˝ Л Telnet ╖ ˅˘ Telnet 10ϒ
Ю ˜Ω Â ˅ ˩Л Â Л ˘
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## 1.2

### 1.2.1 EXEC User EXEC Mode

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˄ˆ >˜ Â Ю˝ ˩Л Â a ˘ a
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### 1.2.2 EXEC Privileged EXEC Mode

Ю enable Ь ч л ь ч л л л
ь Ц Л^ #~ Â Ю disable Ь ч л Â

Ю л Л ь ' л Л ь
Â

Ю ч й ь
Â Ґ è a Ё Â

### 1.2.3 Global Configuration Mode

Ю Ґ config Ь ч л Â
Л è ч Л Ґ config Ь ь Ў ў л Л ь
Ц Л Â ь ь Ю<Ctrl-z> exit ч
л Â

ч Ю Â Ґ
Ь ь ¨І ь Ю ч ^
~ Â ь ў л ╟ Ь Â
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### 1.2.4 (Subconfiguration Modes)

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л ч ≠ a л Â

Ю л exit ч Â 1-1 Â

1-1

| | | | |
|---|---|---|---|
| 1 | VLAN | | |

| | | | |
|---|---|---|---|
| 5 | gigabitethernet | interface gigabitethernet x ˘ à gigabitethernet ^ ~ Â | switch(config-if-g iga 1/2)# |
| 6 | VLAN | vlan database ˘ … à vlan super-vlanÂ | switch(vlan)# ò Ô |
| 7 | QoS | QoS ˘ à QoS Â | switch(config-qos) # |
| 8 | Route map | route- mapx à route map Â | switch(config-rout e-map)# |
| 9 | OSPF | route-map Â à ospf Â | target(config-ospf)# |

'

VLAN

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## 1.3

(1) ҂ ă

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҂ ˩ ă ш˘ ҂Â ˩ ă ш ˩Л∪ ˘ ѝ 10Â ˩Л∪ ҂ N ˚ ˘ ˩ Â ҂˘ ҂ ˩ 256 Â

(2) ҂ ˝Ω a

a Ћ Ю˘ ҂ ҂ ˝Ω ˩Л∪a Â ' ÿ ˘ ш˙ è ҂ ˝Ω ˩Â

(3) Tab

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ϡ ˇΩ Æ Ϊ Ŀ ˘ ╟ ϡ
ˇΩ ╟ , Æ ϡ Æ ˘ ‡ Ю
˩ ϡ Â

(5) ϡ

| | | |
|---|---|---|
| 1 | <Ctrl-B> <LEFT> | ″ı ˩ ╟ |
| 2 | <RIGHT> | ″ı ˩ ˩ ╟ |
| 3 | <Esc><B> | ″ı ˩ |
| 4 | <Esc><F> | ″ı ˩ ˩ |
| 5 | <Ctrl-A> | ″ı ϡ ϡ |
| 6 | <Ctrl-E> | ″ı ϡ ϡ |
| 7 | <Ctrl—P> <UP> | ″ı ϡ ˩ ă ш Э ϡ |
| 8 | <Ctrl-N> <DOWN> | ″ı ϡ ˩ ă ш Ю ϡ |
| 9 | <BACKSPACE> <Ctrl-H> | ˩ ˆ ˥ ˜ |
| 10 | <Ctrl-D> <Delete> | ″ı |
| 11 | <Ctrl-w> | ˩ |
| 12 | <Esc><D> | ˩ ˩ |
| 13 | <Ctrl-U> <Ctrl-X> | ˩ ˆ ˥ ˜ |
| 14 | <Ctrl-K> | ˩ ˩ |
| 15 | <Ctrl-Y> | ă ш ˥ ϡ ˘ ϡ è ″ı Æ |
| 16 | <Esc><Y> | ă ш Ю • |
| 17 | <Ctrl-R> <Ctrl-L> | ϡ |
| 18 | <Ctrl-T> | |
| 19 | <Esc><U> | |
| 20 | <Esc><L> | |
| 21 | <Esc><C> | |
| 22 | <Ctrl-Z> | ÿ |
| 23 | !! | ˩ ϡ |
| 24 | ! | ϡ Ϊ Ŀ ˩ ϡ |

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1.4

| | | | | |
|---|---|---|---|---|
| | INTEGER<min-max> | Âmin ˘ max Â | mtu INTEGER<0~1500> | |
| ч ˚ Ώ | XX.XX.XX.XX.XX.XX | MAC Â | mac-address XX.XX.XX.XX.XX.XX | |
| HEX | HEX | Ώ ,Л0x ˘ 9Æ Â | 0xB4 | |
| | WORD<min~max> | Âmin ˘ max ˘ a 256˝ a 1Â | hostname WORD<1~16> | |
| LINE | LINE0 | ˘ з ҂ Л Â | enable password LINE0 | |
| | LINE1 | ÿ ˆ ~ ˘ ˘ ╠ Â ≠ ҂ Л Â | interface LINE1 | |
| IP (Version4) | A.B.C.D | IP ˘ IPv4Â | ip_address A.B.C.D | IPV4 |
| ˚ ˆ й40 ~ | OID | й ulong ˘ * | OID 11.2.*.8.458 | |
| | SLOT/PORT | SLOT: 1~10 PORT 1~32 | interface SLOT/PORT | |

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## 2.1

### 2.1.1 user add

*username password level*

EXEC

| | | | |
|---|---|---|---|
| *username* | WORD | 1~15 | ˩ |
| *password* | WORD | 1~15 | ˩ |
| *level* | INTEGER | 0~15 | |

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и 10 Â

: manager zy01 15
switch# manager zy01 15

### 2.1.2 user delete

*username*

EXEC

| | | | |
|---|---|---|---|
| *username* | WORD | 1~15 | ˛ |

˘ ╕ ȝ ˘ ȝ

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ş manager

switch# manager

### 2.1.3 user password

EXEC

ş admin 1 ¢

```
switch#user privilege admin 1
User admin default access level changed OK!
```

### 2.1.5 configure

EXEC

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15 Â

ş

```
switch#configure
switch(config)#
```

### 2.1.6 enable

[*level*]

EXEC

| | | | |
|---|---|---|---|
| *level* | INTEGER | 0~15 | |

ǂ 15 ˘ ˩ ˘ ˩ ˥ ˘
Â ȝ Â
0 Â

**user add**

ş 10 ¢
switch>enable 10
Password:******
switch#

### 2.1.7 exectime-out

[*time*]

EXEC

| | | | |
|---|---|---|---|
| *time* | INTEGER | 1~65535 | ╠ Â( æ' ↑ ) |

╠ ˘ Console ˘ a ,
Telnet ˘ ˘ и 10↑ Â ┘Л
ϡ ̃Ω ╖ ˘ a Â a ‡
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### 2.1.8 level password

*level password*

| | | | |
|---|---|---|---|
| *level* | INTEGER | 0~15 | |
| *password* | WORD | 1~15 | ? |

```
  ş                  ¢
switch>show client
admin             Console
user              192.168.0.124
```

### 2.1.10 show exec-timeout

Â

```
  Ş                    ¢
switch> show exec-timeout
telnet client timeout value is 10 minutes
```

### 2.1.11 show manager

EXEC

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```
  Ş                 ¢
switch#show manager
Name           Level
admin          15
user            0
```

## 2.2

### 2.2.1 clock set

ϟ STAR-S5610 Â

*hour:minute:second year-month-day*

EXEC

| | | | |
|---|---|---|---|
| *hour* | INTEGER | 0~24 | |
| *minut* | INTEGER | 0~60 | |
| *second* | INTEGER | 0~60 | |
| *year* | INTEGER | 2000~2099 | |
| *month* | INTEGER | 1~12 | |
| *day* | INTEGER | 1~31 | |

EXEC

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ɹ Л∪ Ю˘ ʒ˘ Æ Â

ş STAR-S5610 ¢

```
switch#reboot
Confirm to reboot(y/n)y
rebooting ... ...
```

### 2.2.4 show version

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ɹ Л∪ Ю ʒ˘ Â

˚ Л è à ˚ Л à BootRom Л Л∪ Â

ş ¢

```
switch#show version
   STAR-S5610 Software Version : V1.0R01.06.0101
    STAR-S5610  CM Hardware Version: 1
  SoftWare Version : V1.0R01.06.0101
  Compiled Jan  7 2003, 17:04:33
    BootRom Version : SRTBtromR01.1202
  STAR-S5610  04SX Hardware Version: 1
  STAR-S5610  16fmts Hardware Version : 1
  STAR-S5610  32T Hardware Version : 1
switch#
```

### 2.2.5 show system uptime

╟╠Л ˘ ѝ dd' hh' mm' ss Â

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ѝ dd:hh:mm:ss Â

ş STAR-S5610 ¢

```
switch#show system uptime
0:0:13:20
switch#
```

## 2.3

### 2.3.1 erase startup-config

EXEC

˚ ˘ ˚ ϟ write running-configÂ

ş

```
switch# erase startup-config
Delete config file <Y/N>Y
Delete config file OK!
switch#
```

### 2.3.2 write running-config

EXEC

Л∪ show running-config

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```
switch# write running-config
Build config file <Y/N>Y
Build config file OK!
switch#
```

### 2.3.3 show startup-config

startup-config

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ş ¢

```
switch# show startup-config
```

## 2.4

### 2.4.1 ping address

*address* [*number*] [ *bytes*] [ *seconds*]

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| | | | |
|---|---|---|---|
| *address* | A.B.C.D | IP | ˆ ˩ ˜ ў IP |
| *number* | INTEGER | 1~10000 | ˆ ˩ ˜ ping Â 1 10000ˇ и4Â |
| | KEYWORD | size | ˆ ˩ ˜ ping Â |
| *bytes* | INTEGER | 40~2000 | ˆ ˩ ˜ ping Â 40 2000ˇ и56Â |
| | KEYWORD | timeout | ˆ ˩ ˜ Л˘ ˇ AOS ping Â |

| | | | |
|---|---|---|---|
| | | | |

## 2.5 SNMP

### 2.5.1 snmp-server community

ﻝ ﻝ ﻍ Â

*string* [ *view-name*] [ ] [number]

*string*

| | | | |
|---|---|---|---|
| *string* | WORD | 1~31 | 1~31 ﻝ ﻝ |
| | KEYWORD | | ″ا في |
| view-name | WORD | 1~31 | 1~31 في ﻝ |
| | KEYWORD | | ﻝ |
| | KEYWORD | | ﻝ |
| number | INTEGER | 1~32 | 1~32 ﻝ ў ﻡ |

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' ﻝ في ﻝ ة في ة ﻝﻣ ﻝ ў Â

في ﻝ ' في ﻝ ﻭ internet Â

'

ﻝ ў ﻡ ' 0

1ş public public ¢

```
switch#snmp-server community public view public ro
```

2ş private private ¢

```
switch#snmp-server community private view private rw
```

### 2.5.2 snmp-server access-list

à ˘ 32 IP

*number manager-address*

*number* [*manager-address*]

| | | | |
|---|---|---|---|
| *number* | INTEGER | 1~32 | /\ |
| *Manager -address* | A.B.C.D | IP | ў ip |

ĵ IP ˘ 32 IP Â

˘ ÿ IP Â

Set up the manager-address to permit access to the specified access list.The form of this command removes the specified manager-address.

```
  1ş            ip    192.168.0.224            1   ¢
switch(config)# snmp-server access-list 1 192.168.0.224
  2ş               4          ip       ¢
switch(config)#no snmp-server access-list 4
  3ş            ip    192.168.0.224         4      ¢
switch(config)#no snmp-server access-list 4 o snmp-server access-list 4
192.168.0.224
```

### 2.5.3 snmp-server view

في

*view-name oid-tree* {  }

*view-name*

| | | | |
|---|---|---|---|
| *view-name* | WORD | 1~31 | لـ في |
| *oid-tree* | OID | 1˙ 40 | في a ˘ oid Â oid *1.3.6.2.4* |
| | KEYWORDS | included | oid في |
| | KEYWORDS | excluded | oid a في |

ˆفي 32 ˜ Â

```
  1ş    1.3.4    public     ¢
switch(config)# snmp-server view public 1.3.4 included
  2ş    public    ¢
switch(config)# no snmp-server view public
  3ş    mib1       1.3.6.7         1.3.6   ¢
switch(config)# snmp-server view  mib1 1.3.6 included
switch(config)# snmp-server view mib1 1.3.6.7 excluded
```

### 2.5.4 [no]snmp-server enable traps

traps

| | | | |
|---|---|---|---|
| | KEYWORDS | snmp | ѝ snmp |
| | KEYWORDS | entity | entiry |
| | KEYWORDS | stp | |
| | KEYWORDS | radius | radius |

trap ˘ no ϡ trap ˘ a trap ˘
‡ trap ϡ Â Ю trap Â

| | | | |
|---|---|---|---|
| *host-address* | A.B.C.D | IP | ў IP |
| | KEYWORDS | Snmpv1\|snmp v2 | snmp |
| *community-string* | WORD | 1~31 | trap ل ل |
| *udp-port* | INTEGER | 1~65535 | trap UDP Â |
| | KEYWORDS | snmp | и snmp |
| | KEYWORDS | entity | entiry |
| | KEYWORDS | stp | |
| | KEYWORDS | radius | radius |

trap ў ў ˘ 32 ў Â ў ip ˘
ل ў trap snmp ˘ udp ˘32

| | | | |
|---|---|---|---|
| *str1* | WORD<1-31> | 1-31 | Æ |
| *str2* | WORD<1-31> | 1-31 | ˆ ˩ ˜ Æ |
| … | KEYWORD | … | |
| *str15* | WORD<1-31> | 1-31 | ˆ ˩ ˜ Æ Ч |

Æ ˘ 15 ˘ 31 Â

ş location fuzhou,fujian¢
switch(config)# snmp-server location fuzhou,fujian

## 2.5.8 show snmp-server statistics

snmp

EXEC à EXEC à

ş snmp ¢

```
switch# show snmp-server statistics
```

### 2.5.9 show snmp-server system

snmp

EXEC à EXEC à

ş snmp ¢

```
switch# show snmp-server system
```

### 2.5.10 show snmp-server community

snmp ⊿

[*string*]

EXEC à EXEC à

| | | | |
|---|---|---|---|
| *string* | WORD | 1~31 | ل ل |

' Â

snmp-server community

ş ¢
switch(config)# show snmp-server community

## 2.5.11 show snmp-server view

snmp في

[*view-name*]

EXEC à EXEC à

| | | | |
|---|---|---|---|
| *host-address* | A.B.C.D IP ~ | 0.0.0.0-255.255.255.255 | ў ip |

snmp trap ў snmp server Э Â ў ip ˇ ‡ ў Â

host

ş 192.168.2.60 trap ¢
switch(config)# show snmp-server host 192.168.2.60

## 2.5.13 show snmp-server access-list

*[number]*

EXEC à EXEC à

| | | | |
|---|---|---|---|
| *number* | INTEGER | 1~32 | Л |

snmp

# 2.6

## 2.6.1 show memory

Â

[ ]

EXEC

| | | | |
|---|---|---|---|
| | KEYWORD | free | ^ ˩ ~ |

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```
  Ş          ¢
show memory free
FREE LIST:
     num    addr     size
     --- ---------- ----------
       1   0x3fee18        16
       2   0x3b1434        20
       3    0x4d188    2909400
   SUMMARY:
    status   bytes    blocks   avg block  max block
```

```
 ------ --------- -------- ---------- ----------
current
   free   2909436       3    969812   2909400
  alloc    969060   16102        60       -
cumulative
  alloc   1143340   16365        69       -
```

### 2.6.2 memory edit

˘ ⅃Ⅱ Â

mem-address

EXEC

| | | | |
|---|---|---|---|
| | | | |

*mem-address*

```
02000030  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000040  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000050  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000060  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000070  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................

-e 0x02000000 11 22 33 44 55 66 77 88 99 aa bb cc dd
-w
Save change<y/n>?
y
-d 0x02000000
02000000  11 22 33 44 55 66 77 88 99 AA BB CC DD 00 00 00   ."3DUfw.........
02000010  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000020  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000030  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000040  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000050  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000060  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................
02000070  00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00   ................

-q
switch#
```

### 2.6.3 show processes

ϵ Â

[ *slot-number* [ [ *process-name* [ ] ] | [ [ ] ] ] ]

EXEC

| | | | |
|---|---|---|---|
| *slot-number* | INTEGER | 1~10 | ( ) Æ/ |
| *process-name* | WORD | 1~32 | ( ) ȷ |
| | KEYWORD | Detailed | ( ) |
| | KEYWORD | cpu | ( ) cpu . |

| | | | |
|---|---|---|---|
| | KEYWORD | 5 | ( ) 5 cpu |
| | KEYWORD | 60 | ( ) 1 cpu |
| | KEYWORD | 300 | ( ) 5 cpu |

˘ ´ ¶ '

Æ'

˩ƖU ˆ Æ˜ ˘ cpu '

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˩ƖU Â

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1ş ¢

```
switch#show processes
NAME     ENTRY   TID       PRI STATUS    PC     SP     ERRNO  DELAY
tExcTask  excTask  3bff0b8  0  PEND   30d318  3bfefc8    0   0
value = 0 = 0x0
```

2ş tExcTask ¢

```
switch#show processes 1 tExcTask
NAME       ENTRY    TID    PRI   STATUS   PC     SP  ERRNO  DELAY
tExcTask  excTask  3bff0b8   0    PEND 30d318  3bfefc8   0   0
value = 0 = 0x0
```

3ş tExcTask ¢

```
switch#show processes 1 tExcTask  detailed
NAME     ENTRY    TID    PRI   STATUS    PC   SP  ERRNO  DELAY
---------- ----------- -------- --- ---------- -------- -------- tExcTask
excTask  3bff0b8   0   PEND    30d318 3bfefc8  0   0
stack: base 0x3bff0b8  end 0x3bfd178  size 7984   high 304   margin 7680
options: 0x7
VX_SUPERVISOR_MODE VX_UNBREAKABLE VX_DEALLOC_STACK
```

```
r0    =       0   r1/sp  =  3bfefc8   r2    =       0   r3    =       0
r4    =       0   r5    =       0   r6    =       0   r7    =       0
r8    =       0   r9    =       0   r10   =       0   r11   =       0
value = 0 = 0x0
```

4ş 5 cpu

```
------------ ------------ -------- ----- ----- ----- ------
        a          1          1     1000   234   900   100
```

### 2.6.5 trace processes

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[*slot-number* [ [*frequence*]]]

EXEC

| | | | |
|---|---|---|---|
| *slot-number* | INTEGER | 1~10 | ( ) Æ |
| | KEYWORD | cpu | cpu . |
| *frequence* | INTEGER | 1~300 | ( ) cpu ˆ |

frequence: Â Â

' 1 300 Â

Ю 3 Â

1ş 3 ¢

switch trace processes

2ş 5 3 ¢

switch trace processes 5

3ş 5 5 ¢

```
switch  trace processes 5 cpu 5
```

# 3

## 3.1

### 3.1.1 negotiate

speed à duplex flowcontrol ╟ ˘ è
FastEthernet ( M5610-32T M5610-16FMT/-S ) ╟
Â

***speed*** | ***duplex*** | ***flowcontrol***

***speed*** | ***duplex*** | ***flowcontrol***

ʏ IK8× Èô P ˜ G

|

|

ş STAR-S5610 8 2 ¢

```
switch(config-if-fast 8/2)# negotiate speed
```

### 3.1.2 speed

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|

| | | |
|---|---|---|
| | KEYWORD | 10 | ѝ10Mbps |
| | KEYWORD | 100 | ѝ100Mbps |

Ю ⅃Л ʒ Â à ¨I Л 10Mbit/s
100Mbit/s ч ˘ ⅃Л Â ' NAT94 241.2203 Tm0.04140c15.d5d40W536b

ş STAR-S5610 8 2 100Mbps¢

```
switch(config-if-fast 8/2)# speed 100
```

### 3.1.3 duplex

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no shutdown ʒ ╟ ' ˘ ⅃ Л ˝I ˜Ω ˘ ⅄ ¨Ą ╟˘
⅃ Â

ş STAR-S5610 8 2 ¢
switch(config-if-fast 8/2)# shutdown

### 3.1.6 priority

ʒ ˝I ˘ ʒ no ˝I ŕ Â

***value***

| | | | |
|---|---|---|---|
| *value* | INTEGER | 0~3 | ˝I |

Ю ⅃ Л∪ ϡ Â

¨I , ¨I Â

ş STAR-S5610 8 2 2 ¢

```
switch(config-if-fast 8/2)# priority 2
```

### 3.1.7 broadcast suppression

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{*threshold*}

| | | | |
|---|---|---|---|
| *threshold* | INTEGER | 1~100 | ⅃ Л∪ ˘ Л∪1488 и Æ Â |

Ю ⅃ Л∪ ϡ Â

ϡ Э ˘ Л˘

˘ ÿ Ł˘ æ

Â ϡ no Э Â

ş STAR-S5610 8 2 50ŏ1488 ¢
switch(config-if-fast 8/2)# broadcast suppression 50

### 3.1.8 no broadcast suppression

ˇΩ ╖ Â

ЮO ˧ Л∪ ҂ Â

*threshold*

ş STAR-S5610 8 2 ¢
switch(config-if-fast 8/2)# no broadcast suppression

### 3.1.9 lock

/ ╟ ˗ ╖ Â

Ю ⅃ Л ч ⁊ Â

a ˘ a ' no ⁊ ‡ a
a ˘ a Â

ş STAR-S5610 8 Ạ m 28 #

| | | | |
|---|---|---|---|
| | KEYWORD | FastEthernet | 10/100Mbps |
| | KEYWORD | GigabitEthernet | 1000Mbps |
| *slot* | Slot/ port | 1~4 7~10 | Æ Ñ |
| *port* | Slot/ port | 1~32 | Ñ |

| | | | |
|---|---|---|---|
| | KEYWORD | address | ╟ MAC Â |
| *Mac_addr* | XX.XX.XX.XX.XX.XX | 00:00:00:00:00:00 – FF:FF:FF:FF:FF:FF | MAC ˘ ' a1:bc:00:12:34:4d |
| | KEYWORD | Interface | Æ ╟ MAC |
| \| | KEYWORD | FastEthernet \| GigabitEthernet | ˘ 10/100Mbps˘ 1000Mbps |
| *Slot* | INTEGER | 1~4 ,7~10 | Æ /\ |
| *Port* | INTEGER | 1~32 | /\ |
| | KEYWORD | Vlan | vlan ╟ MAC |
| *vlan_id* | INTEGER | 1~4094 | Vlan /\ |

Ю ┘Л ч Â

† ˘ ^ ⌐ ~ Ю MAC ˘ ѝ ╟ ˘ ѝ ѝ MAC Â

ч ╟ MAC ˘ ╟ MAC ˘ VLAN ╟ MAC Â

ş STAR-S5610 VLAN28 MAC ¢

```
switch(config)# clear mac-address-table dynamic vlan 28
```

### 3.2.2 mac-address-table aging-time

MAC ˘ Л ѝ Æ˘ ѝ 150 Â

Ю ⅃ Л∪ ⅋ Â

*seconds*

ş STAR-S5610 MAC ¢
switch(config)# no mac-address-table aging-time

### 3.2.4 mac-address-table static

╗ MAC Â

*mac_addr vlan_id1 [ - vlan_id2 ] slot/port*
|

| | | | |
|---|---|---|---|
| *mac_addr* | XX.XX.XX.XX.XX.XX | 00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF | MAC ˘ ' 00:09:a0:cd:01:dd |
| *vlan_id1* | INTEGER | 1~4094 | VLAN /ł, VALN VLAN /ł |
| *vlan_id2* | INTEGER | 1~4094 | VALN VLAN /ł |
| *Slot* | Slot/ Port | 1~4 7~10 | Æ /ł |
| *Port* | Slot/ Port | 1~32 | /ł |

| | | | |
|---|---|---|---|
| | KEYWORD | tagged | 802.1q tag |
| | KEYWORD | untagged | a 802.1q tag |

Ю Л Л ч Â

и ˘ a ˘ Æ ˘

mac address table Â ч MAC Л ╠ ╗ VLAN Â

*mac_addr vlan_id*

: STAR-S5610 MAC MAC 00:06:bf:8d:64:00 3 4 VLAN 258 ¢

```
switch(config)# mac-address-table static 00:06:bf:8d:64:00 258 3/4 tagged
```

### 3.2.5 no mac-address-table static

MAC Â

*mac_addr vlan_id*

| | | | |
|---|---|---|---|
| *mac_addr* | XX.XX.XX.XX.XX.XX | 00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF | MAC |
| *vlan_id* | INTEGER | 1~4094 | VLAN |

Ю Л Ц ђ Â

ÿ mac-address-table MAC Â

ş STAR-S5610 MAC 00:06:bf:8d:64:00 MAC ¢

```
switch(config)# no mac-address-table static 00:06:bf:8d:64:00 25
```

### 3.2.6 show mac-address-table aging-time

MAC Â

EXEC

EXEC Ю Л Ц ђ Â

ş STAR-S5610MAC ¢

```
switch# show mac-address-table aging-time
```

### 3.2.7 show mac-address-table address

MAC MAC

*mac_addr*

EXEC

| | | | |
|---|---|---|---|
| *mac_addr* | XX.XX.XX.XX.XX.XX | 00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF | MAC |
| | KEYWORD | Ditail | ^ ˩ ~ |

EXEC ЮЛЛ ҂ Â

MAC mac address table ˘ ‡ MAC VLAN˘ ˘ ╟ ' MAC cpu MAC ˘ ‡ MAC cpu Â detail ˘ ‡ MAC mac-address-table Â

ş STAR-S5610 MAC 00-06-bf-8d-64-00 MAC ¢

```
switch# show mac-address-table address 00-06-bf-8d-64-00 detail
```

### 3.2.8 show mac-address-table count

MAC Â

[{ *vlan_id*} | { | *slot*/port}]

EXEC

| | | | |
|---|---|---|---|
| *vlan_id* | INTEGER | 1~4095 | MAC VLAN MAC Â*vlan_id* ↓ и 1-4094Â |
| | KEYWORD | ˘ 10/100Mbps˘ 1000Mbps | |
| | KEYWORD | ˘ 10/100Mbps˘ 1000Mbps | |
| *Slot* | INTEGER | 1~4 7~10 | Æ /\| |
| *Port* | INTEGER | 1~32 | /\| |

EXEC Ю ↓ Л∪ ҂˘ a ҂ MAC Â

҂ MAC VLAN MAC MAC Â

ş STAR-S5610 vlan 100 MAC ¢
switch# show mac-address-table count vlan 100

### 3.2.9 show mac-address-table dynamic

MAC ╟ ˉ Â

[ ]

EXEC

| | | | |
|---|---|---|---|
| | KEYWORD | Datial | ˆ ˩ ˜ |

EXEC ЮЛЛ ҄ Â

mac 2 ˘ ╟ ˘ MAC
ǐ MAC ˘ ˉ ˘ aging time MAC
˘ ‡ MAC ˘ ’ ˥ MAC ˘ MAC
a ˘ MAC Â

҄ MAC ╟ MAC Â detail ˘ ‡ ╟
MAC Â

ş STAR-S5610MAC ¢
switch# show mac-address-table dynamic

### 3.2.10 show mac-address-table static

MAC

[ ]

EXEC

| | | | |
|---|---|---|---|
| | KEYWORD | Detail | ˆ ˩ ˜ |

EXEC ЮЛЏ ҂ Â

҂ MAC MAC Â detail ˘ ‡
MAC Â

ş STAR-S5610 MAC ¢

```
switch# show mac-address-table static
```

### 3.2.11 show mac-address-table interface

MAC Â

|

*slot/port* [ ]

EXEC

| | | | |
|---|---|---|---|
| | KEYWORD | FastEthernet | ˘ 10/100MbpsstEthernet |

| | | | |
|---|---|---|---|
| *mac-group-address* | XX.XX.XX.XX.XX.XX | 01:00:5e:00:00:00 ~ 01:00:5e:FF:FF:FF | MAC ˘ è ù xx:xx:xx:xx:xx:xx˘ ↓ ù 3 ù01-00-5eÂ |

˘Ω Detail é Ç 2

EXEC Ю ⅃ Л Ч ⅁ Â

MAC MAC ^ ╟ MAC ~ Â

ş STAR-S5610 MAC ¢

```
switch# show mac-address-table all
```

## 3.3 VLAN

### 3.3.1 VLAN

VLAN˜ Virtual Local Area Network˜ ˘

a ł ÿ ὰ Â

VLAN LAN ł a ⅃ ^ LAN˜ VLAN˜˜

VLAN ⅃ ˘ б Э LAN ⅃

Â a ł ˘ Л Ч ⅃ VLAN

⅃ ˘ a ⅃ LAN Â VLAN

a è VLAN ˘ ÿ ╟ ầ ầ

ầ Â

VLAN й ᾱ Л Ч ˘ Л Ч Э

╗ VLAN ˘ VLAN ID ł й ˘ a ⅃

˘ Â ⅃ Л Ч ˘

˘ ╟ Â VLAN Â

STAR-S5610 AMS IEEE 802.1q ł VLAN ł VLAN:

1. IEEE 802.1q VLAN

IEEE 1999 802.1Q ˘ VirtualBridgedLocalAreaNetwork

˘ VLAN ﻑ ˘ ÿ a ⅃ VLAN й ⅃ Â

802.1Q ł˘ ﺗ

ч ^ TCI--Tag Control Information˜˜ TPID IEEE Ⱨ
˘ ╗ 802.1Q Â

˘ 802.1Q VLAN˝
˘ VLAN è Â ˘ Ⱨ 1
VLAN 2˝ 1 ⅄˘ 802.1Q ˘
ѫ˘ 1 VLAN 2˝ ╠ ╗ VLAN 2 ˘
⅄ ̈Ạ ˘
VLAN ˘ ⅄ ˘ ˘
ᾱ Â Tag ˘ ‡
˘ ‡ ‡ Â Ю˝ ч Tag ˘
Â

## 2. VLAN

ǂ VLAN Л ǂ ˘ ⅃ VLAN ⅃Л a
˘ ˘ ˘ ⅃Л 1 1 – 5 2 1
ỳ ⅃ VLAN˝ ⅃ VLAN ⅃Л Л ˘ ǂ Ⱨ VLAN
˘ IEEE 802.1Q Л ǂ VLAN ف
Â

ǂ Ⱨ VLAN ˘ Ⱨ Ю
⅃Л Â VLAN A ˘
˘ ѫ Ⱨ Â

Æ a ⅃ Э Э ǂ ˘ ╗
Э б LAN ⅃˘ ⅃Л ÂVLAN б LAN
˘ έ ЛЮ '

(1) ╠ ⅃ ʒ˙ ˘ ╠ ˘ ≠ ÿ Æ
╠ ⅄ Æ ˘ a ˘ ╠ ˘ ╠
˘ ˘ ˘
a ˘ Â ˘ a VLAN
Ⱨ Â

(2) ˘ VLAN ˘ ˘ ˘
⅃ ⅃ LAN Э ˘ ˘ ˘ ⅃ ˘
≠ LAN

˘ ˘ ˘ VLAN˘ ж˘
˘ VLAN è
˘ a ˘ ˘ VLAN Â
Э ⅃Л∪ Â

(4) ˘ VLAN ⅄˘ VLAN a ⅄ VLAN˘ ˘
è VLAN Э a VLAN ˘ VLAN
a è VLAN ˘ ÿ Â

### 3.3.2 vlan default

PVID Â

*vlan-id*

| | | | |
|---|---|---|---|
| *vlan-id* | INTEGER | 1~4094 | VLAN ⅄ |

Ю⅃Л∪ ҂ Â

҂ *vlan-id* STAR-S5610 802.1q Tag=0
a Tag ˘ ‡ ѝ MAC VLAN-ID ѝ *vlan-id* VLAN Â

ş STAR-S5610 4 3 PVID 36¢
switch(config-if-fast 4/3)# vlan default *36*

### 3.3.3 vlan allowed

vlan Â

*vlan_id1* [ - *vlan_id1*]

| | | | |
|---|---|---|---|
| vlan_id1 | INTEGER | VLAN ûþ 1~4094 | VLAN /I , VLAN |

*vlan-id-range*

ş STAR-S5610 VLAN 100 4 3 ¢
switch(config-if-fast 4/3)# no vlan allowed *100*

### 3.3.7 no vlan tagged

a 802.1q Tag Â

*vlan_id*

| | | | |
|---|---|---|---|
| *vlan_id* | INTEGER | 1~4094 | VLAN /\ |

Ю ⅃ Л∪ ҄ Â

҄ *vlan_id* ˘ a Tag Â

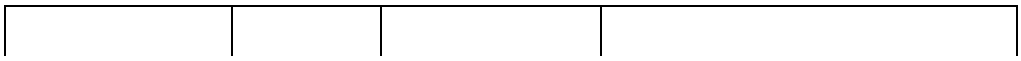
ş STAR-S5610 4 3 802.1q Tag ¢
switch(config-if-fast 4/3)# no vlan tagged

### 3.3.8 vlan

VLAN Â

*vlan-id1* [- *vlan-id2* ]

VLAN



VLAN

| | | | |
|---|---|---|---|
| *vlan-id1* | INTEGER | 1~4094 | Vlan id Ѧ VLAN vlan id |
| *vlan-id2* | INTEGER | 1~4094 | VLAN VLAN ID |
| | KEYWORD | All | VLAN |

VLAN Ю ┤Л┐ Ђ Â

ş STAR-S5610 vlan 128¢

```
switch(vlan)# no vlan 128
```

vlan tag vlan id ¢

## 3.3.10 show

VLAN Â

*vlan-id*

EXEC

| | | | |
|---|---|---|---|
| *vlan-id* | INTEGER | 1~4094 | Vlan Ѧ |

EXEC Ю ⅃ Л∪ ϡ Â

ϡ VLAN ˘ Л∪ Tagged UnTagged Â

ş STAR-S5610 vlan 36 ¢
switch(vlan)# show vlan 36

## 3.4

### 3.4.1 trap igmp

IGMP [ a ] cpu Â

*slot/port*

| | | | |
|---|---|---|---|
| *slot* | INTEGER | 1~4 7~10 | Æ /\| |
| *port* | INTEGER | 1~32 | /\| |

Ю ⅃ Л∪ ϡ Â

ϡ IGMP ˘ cpu˘ cpu Â

```
  ş    STAR-S5610   1        8       igmp       CPU¢
switch(config)# trap igmp 1/8
```

### 3.4.2 trap arp

ARP [a] cpuÂ

ЮЈЛ Ъ ђÂ

ђ ARP ˘ cpuў cpu Â

```
  ş    STAR-S5610   1        8       ARP        CPU¢
switch(config-if-fast 1/8)# trap arp
```

### 3.4.3 trap bpdu

BPDU [a] cpuÂ

*slot/port*

| | | | |
|---|---|---|---|
| *mac_addr* | XX.XX.XX.XX.XX.XX | 00:00:00:00:00:00 ~ FF:FF:FF:FF:FF:FF | MAC :00:6d:88:12:e3:09 |
| *vlan-id* | INTEGER | 1~4094 | VLAN |

Ю Л Ъ ђ Â

ђ MAC VLAN ID cpu cpu Â

ş STAR-S5610 MAC 00:06:bf:8d:64:00 VLAN 28 CPU ¢

```
switch(config)# trap addr 00:06:bf:8d:64:00 28
```

## 3.5

### 3.5.1 spanning-tree enable

˘ ╖ no ϡ Â ЮЎ Â

1ş ¢

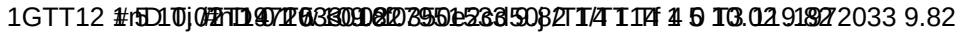
```
switch(config)#spanning-tree enable
```

2ş

```
  1ş        2/3          100¢
switchõconfig-if-fast 2/3Ŏ#spanning-tree port-priority 100

  2ş        2/3            ¢
switchõconfig-if-fast 2/3Ŏ#no spanning-tree port-priority
```

### 3.5.3 spanning-tree cost

1GTT12  2033 9.82

2ş 2/3 ¢

```
switchõconfig-if-fast 2/3Õ#no spanning-tree cost
```

### 3.5.4 spanning-tree priority

*bridge_priority*

| | | | |
|---|---|---|---|
| *bridge_priority* | INTEGER | 1-65535 | ѝ32768 |

″I Â no ҁ ˘ 32768 Â
″I ˘ ‡ ″I ѝ ″I Â

1ş 8000¢

```
switch(config)#spanning-tree priority 8000
```

2ş ¢

```
switch(config)#no spanning-tree priority
```

### 3.5.5 spanning-tree hello-time

*hello_time*

| | | | |
|---|---|---|---|
| *hello_time* | INTEGER | 1~10 | Â ù2 |

hello Âno ¾ ˘ 2 Â hello ˘ ‡ hello Â

1ş hello 7 ¢
switch(config)# spanning-tree hello-time 7

2ş hello ¢
switch(config)# no spanning-tree hello-time

### 3.5.6 spanning-tree forward-time

*forward_time*

| | | | |
|---|---|---|---|

| | | | |
|---|---|---|---|
| *forward_time* | INTEGER | 4~30 | Â ŭ15 |

forward delay Âno ʒ ˘ 15 Â
forward delay ˘ ‡ forward delay Â

1ş STAR-S5610 forward delay 20 ¢
switch(config)#spanning-tree forward-time 20

2: STAR-S5610 forward delay ¢
switch(config)#no spanning-tree forward-time

### 3.5.7 spanning-tree max-age

*max_age*

ˇΩ ˘ Æ /\ /\ ˘ ‡ Æ ˘
‡ Æ Â detail ˇΩ ˘ ˘ ‡
Â

1ş 2/3 ¢
switch(config)# show spanning-tree 2/3

2ş 2/3 ¢
switch(config)# show spanning-tree 2/3 detail

3ş ¢
switch(config)# show spanning-tree

### 3.5.9 spanning-tree root

*seconds*

| | | | |
|---|---|---|---|
| *seconds* | INTEGER | 1~10 | ^ ˩ ~ |
| | KEYWORD | secondary | ^ ˩ ˇΩ ~ ˇΩ STAR-S5610 и |

STAR-S5610 ϶ ˘ ⸗⸦⸗ hello Â secondary ˝Ω ˘ STAR-S5610 ϶ ˘ ‡ ϶ Âno ʒ ″I ϶ ˘ 32768Â

1ş STAR-S5610 ¢

```
switch(config)# spanning-tree root
```

2ş STAR-S5610 hello 3 ¢

```
switch(config)# spanning-tree root hello-time 3 secondary
```

3ş STAR-S5610 ¢

```
switch(config)# no spanning-tree root
```

### 3.5.10 default spanning-tree

STAR-S5610 б ˝Ω ϶ Â ″I ˘ hello ˘ max age ˘ forward delay ˘ ″I ˘ Â

```
switch(config)# default spanning-tree
```

## 4.1 IP

### 4.1.1 ip address

*ip_address* [ *netmask* | *netmask-length* ] [ ]

*ip_address*

| | | | |
|---|---|---|---|
| *ip_address* | A.B.C.D | IP | IP Â |
| *Netmask:* | A.B.C.D | | Â |
| *netmask-length'* | INTEGER | 0~32 | Â |
| : | KEYWORD | Secondary | ŭ Ю Â |

IP ˘ Â

ş vlan 3 192.168.0.12 255.255.255.0¢
switch(config-if-vlan 3)#ip addr 192.168.0.12 255.255.255.0

### 4.1.2 hostname

*hostname*

| | | | |
|---|---|---|---|
| hostname | WORD | 1~16 | ў Â |

ў ˇ ╖ Л й ҂ Â

ş STAR¢
```
switch(config)#hostname STAR
STAR (config)#
```

### 4.1.3 show hostname

EXEC

ў ɻ

```
Flags: (0x8863) UP BROADCAST MULTICAST ARP RUNNING
Type: NewUnkownType
Internet address: 192.168.3.1
Broadcast address: 192.168.3.255
Netmask 0xffffff00 Subnetmask 0xffffff00
Net 0xc0a80300 Subnet 0xc0a80300
ARP Proxy On
ARP Open
Ethernet address is 00:06:bf:00:00:31
Metric is 0
Maximum Transfer Unit size is 1500
It's a SW(inbands) interface, and MibII2233 info is:
6151588 octets received
1137306 octets sent
8927 packets received
42949680095 packets sent
1144 broadcast packets received
91 broadcast packets sent
24 multicast packets received
0 multicast packets sent
0 input discards
0 input unknown protocols
0 input errors
0 output errors
```

## 4.2 ARP

### 4.2.1 ip arp

*internet-address hardware-address*

*internet-address* [*hardware-address*]

| | | | |
|---|---|---|---|
| internet-address | A.B.C.D | IP | ARP IP Â |

| | | | |
|---|---|---|---|
| hardware-address | xx:xx:xx:xx:xx:xx | MAC | ARP MAC Â |

╗ ARP Â

ş IP 192.168.0.106¢

```
switch(config)# ip arp 192.168.0.106 00:d0:f3:44:23:05
OK to add this ARP entry!
```

### 4.2.2 ip arp arpa

[ no ]

Ω ARP ARP Ω ˘ ‡ a ˘ a ARP Â

ş vlan 3 ARP ¢

```
switch(config-if-vlan 3)# ip arp arpa
VLAN 3 enable ARP OK
```

### 4.2.3 clear arp-cache

[*host-address*]

EXEC

| | | | |
|---|---|---|---|
| host-address | A.B.C.D | IP | ARP IP Â |

ARP ˘ ў ˘ ‡ ARP ˘ ‡ ARP Â

ş ARP ¢

```
switch# clear arp-cache
Dynamic arp table entrie(s) deleted!
```

### 4.2.4 show ip arp

[*address*]

EXEC

| | | | |
|---|---|---|---|
| address | A.B.C.D | IP | ÿ IP Â |

ARP ˘ ÿ ˘ Â

ş ARP ¢
switch#clear arp-cache

## 4.3 ARP

### 4.3.1 ip proxy-arp

[ no ]

ˆ interface vlan interface super-vlan˜

ˇΩ ARP ˀ ˇΩ Â Super-vlan ˀ ARP ˇΩ ˊ ˋ Л∪
sub-vlan ˘ vlan Э ARP ˀ Â

ş ARP ¢
switch(config-if-super-vlan)#ip proxy-arp

## 4.4

### 4.4.1 [ no ] ip localhost

*{hostname ip-address}*

| | | | |
|---|---|---|---|
| hostname | WORD | 1~31 | ў ˊ **Â** |
| ip-address | A.B.C.D | IP | IP Â |

ў ˊ IP Â

ş IP 192.168.0.1 ZY01¢
switch(config)#ip localhost ZY01 192.168.0.1

### 4.4.2 show ip localhosts

[*hostname*]

EXEC

| | | | |
|---|---|---|---|
| *hostname* | WORD | 1~31 | ў ў ⅄Â |
| *ip-address* | A.B.C.D | IP | IP Â |

ў ⅄ IP ˜Ω ˘ a ў ⅄˘ ‡ Â

ş IP ¢
switch#show ip localhosts

## 4.5 NAT

### 4.5.1 nat enable

(interface vlan)

VLAN NAT ж Â

ş vlan 3 NAT ¢

```
switch(config-vlan 3)# nat enable
```

## 4.6 VLAN

### 4.6.1 Super-vlan

*sup-vid1 [– supvid2]*

vlan

| | | | |
|---|---|---|---|
| *sup-vid1* | INTEGER | 1~32 | … ( ) super-vlanÂ |
| - | KEYWORD | - | super-vlan Â |
| *sup-vid2* | INTEGER | 1~32 | sup-vid1 super-vlan Â |

… ˆ ˜ super-vlan

ş super-vlan 1 2 3¢
switch(vlan)# super-vlan 1 – 3

### 4.6.2 allow vlan

*vid1* [ – *vid2*]

{{*vid1* [ – *vid2*]} | }

Ǫ

| | | | |
|---|---|---|---|
| *vid1* | INTEGER | 1~4094 | ╗ ( ) |

Super-VLAN ˘ a Super-VLAN˘ Sup-VID1
Super-VLAN ˘ sup-VID1 sup-VID2 ˘ ‡ Super-VLAN
Â

ş Super-VLAN ¢
switch#show super-vlan

## 4.7 IP

### 4.7.1 [ no ] ip tos-field

[ | | |
| ]

```
Set TOS of TCP socket-- tos:normal, (PCB:0x7a77478 , so-fd:16).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a774fc , so-fd:17).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a773f4 , so-fd:15).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a77370 , so-fd:14).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a772ec , so-fd:13).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a77268 , so-fd:12).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a771e4 , so-fd:11).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cce0 , so-fd:9).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cc5c , so-fd:8).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cbd8 , so-fd:7).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cb54 , so-fd:6).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4cad0 , so-fd:5).
Set TOS of UDP socket-- tos:normal, (PCB:0x7a4c9c8 , so-fd:4).
switch(config)#
```

### 4.7.2 show ip tos-field

Â

ToS Â

Ь ^ Ь socket˜ ' raw ip socketàTCP socketàUDP socketÂ

ş ToS ¢ raw ip¡tcp¡udp¢

```
switch(config)# show ip tos-field
```

```
No RAW type socket!
Get TOS of TCP socket-- tos:normal, (PCB:0x7a77580 , so-fd:18).
Get TOS of TCP socket-- tos:normal, (PCB:0x7a77478 , so-fd:16).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a774fc , so-fd:17).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a773f4 , so-fd:15).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a77370 , so-fd:14).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a772ec , so-fd:13).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a77268 , so-fd:12).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a771e4 , so-fd:11).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cce0 , so-fd:9).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cc5c , so-fd:8).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cbd8 , so-fd:7).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cb54 , so-fd:6).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4cad0 , so-fd:5).
Get TOS of UDP socket-- tos:normal, (PCB:0x7a4c9c8 , so-fd:4).
switch(config)#
```

### 4.7.3 show ip netbuf-pool

```
                    [              |              |      |
port_num0x74 1 f4 0 D-0.0001603 t31213  a86030 74 D0.2.94676003 t0 W01cf1ff51
```

ж ă ш Â

ă ш Ю' à

à mbuf à и mblk'

a ‵Ω ˘ à

à mbuf Ь ă ш '

```
IFADDR  :     0
CONTROL :     0
OOBDATA :     0
IPMOPTS :     0
IPMADDR :     0
IFMADDR :     0
MRTABLE :     0
TOTAL   :   400
number of mbufs: 400
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0
```

CLUSTER POOL TABLE

| size | clusters | free | usage |
|---|---|---|---|
| 64 | 4741 | 3427 | 45249 |
| 128 | 100 | 100 | 194097 |
| 256 | 40 | 39 | 1697 |
| 512 | 40 | 40 | 256 |
| 1024 | 25 | 25 | 103 |
| 2048 | 25 | 25 | 1735 |

NETWORK STACK SYSTEM POOL( mBlk&clusters Used Only For Sys Struct) STATISTICS:

| type | number |
|---|---|
| FREE | 8297 |
| DATA | 0 |
| HEADER | 0 |
| SOCKET | 14 |
| PCB | 16 |
| RTABLE | 140 |
| HTABLE | 0 |
| ATABLE | 0 |
| SONAME | 0 |
| ZOMBIE | 0 |
| SOOPTS | 0 |
| FTABLE | 0 |
| RIGHTS | 0 |
| IFADDR | 1321 |
| CONTROL | 0 |
| OOBDATA | 0 |
| IPMOPTS | 0 |

```
number of times waited for space: 0
number of times drained protocols for space: 0
```

CLUSTER POOL TABLE

| size | clusters | free | usage |
|---|---|---|---|
| 64 | 4741 | 3427 | 45249 |
| 128 | 100 | 100 | 194110 |
| 256 | 40 | 39 | 1697 |
| 512 | 40 | 40 | 256 |
| 1024 | 25 | 25 | 103 |
| 2048 | 25 | 25 | 1735 |

3: ¢

```
switch(config)# show ip netbuf-pool data-transfer
```

NETWORK STACK DATA POOL( mBlk&clusters Used Only For Data Trasfer) STATISTICS:

| type | number |
|---|---|
| FREE | 399 |
| DATA | 1 |
| HEADER | 0 |
| SOCKET | 0 |
| PCB | 0 |
| RTABLE | 0 |
| HTABLE | 0 |
| ATABLE | 0 |
| SONAME | 0 |
| ZOMBIE | 0 |
| SOOPTS | 0 |
| FTABLE | 0 |
| RIGHTS | 0 |
| IFADDR | 0 |
| CONTROL | 0 |
| OOBDATA | 0 |
| IPMOPTS | 0 |
| IPMADDR | 0 |
| IFMADDR | 0 |
| MRTABLE | 0 |
| TOTAL | 400 |

```
number of mbufs: 400
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0
```

```
CLUSTER POOL TABLE
```

| size | clusters | free | usage |
|---|---|---|---|
| 64 | 4741 | 3427 | 45249 |
| 128 | 100 | 100 | 194086 |
| 256 | 40 | 39 | 1697 |
| 512 | 40 | 40 | 256 |
| 1024 | 25 | 25 | 103 |
| 2048 | 25 | 25 | 1735 |

4ş ¢

```
show ip net buf-pool sys
```

```
NETWORK STACK SYSTEM POOL( mBlk&clusters Used Only For Sys Struct) STATISTICS:
```

| type | number |
|---|---|
| FREE : | 8297 |
| DATA : | 0 |
| HEADER : | 0 |
| SOCKET : | 14 |
| PCB : | 16 |
| RTABLE : | 140 |
| HTABLE : | 0 |
| ATABLE : | 0 |
| SONAME : | 0 |
| ZOMBIE : | 0 |
| SOOPTS : | 0 |
| FTABLE : | 0 |
| RIGHTS : | 0 |
| IFADDR : | 1321 |
| CONTROL : | 0 |
| OOBDATA : | 0 |
| IPMOPTS : | 0 |
| IPMADDR : | 6 |
| IFMADDR : | 0 |
| MRTABLE : | 0 |
| TOTAL : | 9794 |

```
number of mbufs: 9794
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0
CLUSTER POOL TABLE
```

```
size    clusters  free     usage
-------------------------------------------------------------------
64      64       0        644
128     4705     3334     2872
256     64       20       1105
512     64       46       1430

  5:         mbuf                        ¢
switch(config)# show ip netbuf-pool mbuf
```

```
NETWORK STACK DATA POOL( Distribution of mbuf) STATISTICS:
-------------------------------------------------------------------
type       number
---------   ------
FREE    :    399
DATA    :      1
HEADER  :      0
SOCKET  :      0
PCB     :      0
RTABLE  :      0
HTABLE  :      0
ATABLE  :      0
SONAME  :      0
ZOMBIE  :      0
SOOPTS  :      0
FTABLE  :      0
RIGHTS  :      0
IFADDR  :      0
CONTROL :      0
OOBDATA :      0
IPMOPTS :      0
IPMADDR :      0
IFMADDR :      0
MRTABLE :      0
TOTAL   :    400
number of mbufs: 400
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0
```

```
CLUSTER POOL TABLE
-------------------------------------------------------------------
size    clusters  free     usage
-------------------------------------------------------------------
64      4741     3427     45249
128     100      100      194002
```

```
256     40       39       1697
512     40       40       256
1024    25       25       103
2048    25       25       1735

  6:            250      mblk              ¢
switch(config)# show ip netbuf-pool driver-mblk 250
DRIVER MBLK POOL( Distribution of mbuf) STATISTICS:
------------------------------------------------------------------------
type       number
---------   ------
FREE    :    20
DATA    :     0
HEADER  :     0
SOCKET  :     0
PCB     :     0
RTABLE  :     0
HTABLE  :     0
ATABLE  :     0
SONAME  :     0
ZOMBIE  :     0
SOOPTS  :     0
FTABLE  :     0
RIGHTS  :     0
IFADDR  :     0
CONTROL :     0
OOBDATA :     0
IPMOPTS :     0
IPMADDR :     0
IFMADDR :     0
MRTABLE :     0
TOTAL   :    20
number of mbufs: 20
number of times failed to find space: 0
number of times waited for space: 0
number of times drained protocols for space: 0
_____________________________________________________
CLUSTER POOL TABLE
_____________________________________________________________________________
size    clusters  free     usage
-------------------------------------------------------------------------
0PM1DP5Sh------------------------- -1.1  0
```

### 4.7.4 show ip statistics

{ | | | | | | }

| | | | |
|---|---|---|---|
| | KEYWORD | ip | IP Ω Â |
| | KEYWORD | tcp | TCP Ω Â |
| | KEYWORD | icmp | ICMP Ω Â |
| | KEYWORD | igmp | IGMP Ω Â |
| | KEYWORD | udp | UDP Ω Â |
| | KEYWORD | socket | SOCKET Ω Â |
| | KEYWORD | route | ROUTE Ω Â |

IP/ICMP/IGMP/UDP/TCP/SOCKET/ROUTE Ω Â

Â

1: ¢

```
switch(config)# show ip statistics ?
 ip                - ip statistics
 tcp               - tcp statistics
 icmp              - icmp statistics
 igmp              - igmp statistics
 udp               - udp statistics
 socket             - socket statistics
 route             - route statistics
```

2: IP ¢

```
switch(config)# show ip statistics ip
IP STATISTICS:
            total 47944
           badsum    0
         tooshort    0
         toosmall    0
          badhlen    0
           badlen    0
       infragments    0
       fragdropped    0
       fragtimeout    0
          forward 3339
       cantforward    0
      redirectsent    0
    unknownprotocol  267
         nobuffers    0
       reassembled    0
      outfragments    0
          noroute    0
```

3ş ICMP ¢

```
switch(config)# show ip statistics icmp
ICMP STATISTICS:
  1809 calls to icmp_error
  0 error not generated because old message was icmp
  Output histogram:
      echo reply: 17902
      destination unreachable: 1809
  0 message with bad code fields
  0 message < minimum length
  0 message with bad length
  Input histogram:
      echo reply: 15
      destination unreachable: 265
      echo: 17902
      address mask request: 2
  17902 message responses generated
```

4ş IGMP ¢

```
switch(config)# show ip statistics igmp
IGMP STATISTICS:
  0 invalid queries received
  0 invalid reports received
  0 bad checksums received
  0 reports for local groups received
  0 membership queries received
```

```
  0 membership reports received
  0 short packets received
  0 total messages received
  0 membership reports sentr
```

5ş UDP ¢

```
switch(config)# show ip statistics udp
UDP STATISTICS:
  96068 total packets
  15370 input packets
  80698 output packets
  0 incomplete header
  0 bad data length field
  0 bad checksum
  0 broadcasts received with no ports
  0 full socket
  15361 pcb cache lookups failed
  1809 pcb hash lookups failed
```

6ş TCP ¢

```
switch(config)# show ip statistics tcp
TCP STATISTICS:
      14432 packets sent
          10521 data packets (3282963 bytes)
            683 data packets (30498 bytes) retransmitted
           2984 ack-only packets (37 delayed)
              0 URG only packet
              0 window probe packet
            185 window update packets
             59 control packets
      11057 packets received
           5760 acks (for 2330694 bytes)
             88 duplicate acks
              0 ack for unsent data
           2807 packets (328144 bytes) received in-sequence
             25 completely duplicate packets (470 bytes)
              0 packet with some dup. data (0 byte duped)
             66 out-of-order packets (0 byte)
              0 packet (0 byte) of data after window
              0 window probe
             16 window update packets
              0 packet received after close
              0 discarded for bad checksum
              0 discarded for bad header offset field
              0 discarded because packet too short
         0 connection request
       947 connection accepts
```

```
        939 connections established (including accepts)
        947 connections closed (including 861 drops)
          0 embryonic connection dropped
       4349 segments updated rtt (of 4891 attempts)
         87 retransmit timeouts
             2 connections dropped by rexmit timeout
          0 persist timeout
          0 keepalive timeout
              0 keepalive probe sent
              0 connection dropped by keepalive
          0 pcb cache lookup failed
```

7ş SOCKET ¢

```
switch(config)# show ip statistics sock
ACTIVE INTERNET CONNECTIONS (including servers)
```

| PCB | Proto | Recv-Q | Send-Q | Local Address | Foreign Address | (state) |
|---|---|---|---|---|---|---|
| 7a77580 | TCP | 0 | 0 | 0.0.0.0.23 | 0.0.0.0 | |
| 7a77478 | TCP | 0 | 0 | 0.0.0.0.80 | 0.0.0.0 | |
| 7a774fc | UDP | 0 | 0 | 0.0.0.0.7000 | 0.0.0.0 | |
| 7a773f4 | UDP | 0 | 0 | 0.0.0.0.1025 | 0.0.0.0 | |
| 7a77370 | UDP | 0 | 0 | 0.0.0.0.0 | 0.0.0.0 | |
| 7a772ec | UDP | 0 | 0 | 0.0.0.0.1813 | 0.0.0.0 | |
| 7a77268 | UDP | 0 | 0 | 0.0.0.0.1812 | 0.0.0.0 | |
| 7a771e4 | UDP | 0 | 0 | 192.168.9.5.2000 | 0.0.0.0 | |
| 7a4cce0 | UDP | 0 | 0 | 192.168.9.5.3000 | 0.0.0.0 | |
| 7a4cc5c | UDP | 0 | 0 | 192.168.9.5.3005 | 0.0.0.0 | |
| 7a4cbd8 | UDP | 0 | 0 | 127.0.0.1.1024 | 127.0.0.1.17185 | |
| 7a4cb54 | UDP | 0 | 0 | 0.0.0.0.17185 | 0.0.0.0 | |
| 7a4cad0 | UDP | 0 | 0 | 0.0.0.0.161 | 0.0.0.0 | |
| 7a4c9c8 | UDP | 0 | 0 | 0.0.0.0.69 | 0.0.0.0 | |

8: ROUTE ¢

```
switch(config)# show ip statistics route
ROUTING STATISTICS:
0     bad routing redirect
0     dynamically created route
0     new gateway due to redirects
4     destinations found unreachable
0     use of a wildcard route
```

# 5.1

## 5.1.1 [ no ] ip route

*ip-address* { *mask* | *mask-length* } { *interface-type* *interface-number* | } [ *value*] [ | ]

*ip-address* { *mask* | *mask-length* } [ *interface-type* *interfacce-number* | ] [ *value*]

| | | | |
|---|---|---|---|
| *ip-address* | A.B.C.D | IP | IP Â |
| *mask* | A.B.C.D | | Â |
| *mask-length* | INTEGER | 0~32 | Â |
| *interface-type* | WORD | 1~8 | Â |
| *interface-number* | INTEGER | 1~4094 | Â |
| | A.B.C.D | IP | Â |
| | KEYWORD | cost | ( ) Â |
| *value* | INTEGER | 0~15 | ( ) Â |
| | KEYWORD | Reject | ( ) RTF_REJECTÂ |
| | KEYWORD | blackhole | ( ) RTF_BLCKHOLEÂ |

˚ Â

1ş 192.168.1.1 32 192.168.0.57 ¢

```
switch(config)#ip route 192.168.1.1 32 192.168.0.57
```

## 5.2.2 [ no ] hw route

```
          slot/port  dest-ip-address  dest-mac-address  vlan-id
[dest-tag| [        src-mac-address] | [      net-mask] |
|  [    src-dev-num ]| [     cmd-num ]  ]

            dest-ip-address [      net-mask] [    src-dev-num ]
```

| | | | |
|---|---|---|---|
| *Slot* | SLOT/PORT | 1~10 | Æ /ı |
| port | SLOT/PORT | 1~32 | /ı |
| *dest-ip-address* | A.B.C.D | IP | IP Â |
| *Dest-mac-address* | xx:xx:xx:xx:xx:xx | MAC | MAC Â |
| *vlan-id* | INTEGER | 1~4094 | Vlan /ı Â |
| *dest-tag* | INTEGER | 0~1 | ( ˩ ) tagˇ ѝ a tag Â |
| | KEYWORD | srcmac | ( ˩ ) MAC ˝Ω Â |
| *src-mac-address* | xx:xx:xx:xx:xx:xx | MAC | ( ˩ ) MAC ˇ ѝ MAC Â |
| | KEYWORD | mask | ( ˩ ) ˝Ω Â |
| *net-mask* | A.B.C.D | MAC | ( ˩ ) ˇ ѝ ў Â |
| | KEYWORD | static | ( ˩ ) ˝Ω ˇ ѝ ╟ ˩ Â |
| | KEYWORD | dev | ( ˩ ) ˝Ω Â |
| *src-dev-num* | INTEGER | 0~31 | ( ˩ ) /ı˘ ‡ Â |
| | KEYWORD | cmd | ( ˩ ) ȝ˝Ω Â |

| | | | |
|---|---|---|---|
| *cmd-num* | INTEGER | 0~7 | ( ↓ )0- 1- ↓ ↑ 2- ↓ ˅ 3- ↓ ↑ Ą ˅ 4- 5- CPU 6, 7 ˇ ŕ0Â |

ŕ ˅ ╕ ˅ ˇ NO ŕ ˅ Â

1ş 192.168.0.5 MAC 00:00:00:00:00:01 8/1 VID 4 ¢

```
switch (config)#hw route 8/1 192.168.0.5 00:00:00:00:00:01 4
```

2ş 192.168.0.0 MAC 00:00:00:00:00:01 8/1 VID 4 255.255.255.0.0 ¢

```
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 4 mask
255.255.0.0
```

3ş 192.168.0.5 MAC 00:00:00:00:00:01 8/1 VID 4 CPU ¢

```
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 4 cmd 5
```

4ş 192.168.0.5 MAC 00:00:00:00:00:01 8/1 VID 4 ¢

```
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 4 static
```

5ş 192.168.0.5 MAC 00:00:00:00:00:01 8/1 VID 4 20 ¢

```
switch (config)#hw route 8/1 192.168.0.0 00:00:00:00:00:01 dev 20
```

6ş ɾ ɣ ɤ

### 5.2.3 show hw route

[[ [*dest-ip-address*]]|[ [*dest-ip-address*] [ *net-mask*]]]

ʖ

| | | | |
|---|---|---|---|
| | KEYWORD | host | ( ˩ ) ў Ὼ Â |
| *dest-ip-address* | A.B.C.D | IP | ( ˩ ) IP Â |
| | KEYWORD | network | ( ˩ ) Ὼ Â |
| *net-mask* | A.B.C.D | | ( ˩ ) Â |

˯ ˘ ˩ Ὼ ˯ Â

1ş ¢
switch# show hw route

2ş ¢
switch# show hw route host

3ş 192.168.1.1 ¢
switch# show hw route host 192.168.1.1

4ş ¢
switch# show hw route network

ş natpool1 natpool2 NAT natpool1 ¢
172.16.10.1 172.16.10.2 napoll2 172.16.20.1 172.16.20.3
24 ¢

```
switch(config)# ip nat pool aaa 172.16.10.1 172.16.10.2 255.255.255.0
switch(config)# ip nat pool ccc 172.16.20.1 172.16.20.3 24
```

### 5.3.2 [no] ip nat static

*local-ip global-ip*

| | | | |
|---|---|---|---|
| *local-ip* | A.B.C.D | IP | NAT |
| *global-ip* | A.B.C.D | IP | NAT Ω |

ʒ / NAT ˜Ω ˘ STAR-S5610 ˩Л∪ 128
NAT Â

ş 192.168.0.2 202.112.1.10 ¢

```
switch(config)# ip nat static 192.168.0.2 202.112.1.10
```

### 5.3.3 ip nat translation

{ | | } *seconds*

| | | | |
|---|---|---|---|
| *seconds* | INTEGER | 1~0xffffffff | NAT ˘ Æ |

STAR-S5610 NAT Þ ' TCP à UDP ICMP Â ϧ Þ a ˩
NAT ˘ NAT ˘
ж NAT Â

1ş UDP NAT 300 ¢
switch(config)# ip nat translation udp-timeout 300
2ş ICMP NAT 30 ¢
switch(config)# ip nat translation icmp-timeout 30

### 5.3.4 [no] original-list

*orig-list-number* {
*local-pool-name*} | { *start-ip end-ip* }

*orig-list-number*

| | | | |
|---|---|---|---|
| *orig-list-number* | INTEGER | 1~65535 | IP ID |
| *local-pool-name* | WORD | 1~15 | RADIUS |
| *start-ip* | A.B.C.D | IP | DHCP |
| *end-ip* | A.B.C.D | IP | DHCP |

NAT

NAT IP

orig-list-number

permit local-pool local-pool-name

DHCP permit range start-ip end-ip

orig-list

no original-list orig-list-number

1 DHCP SERVER DHCP 192.168.1.0 192.168.1.100 list 1

```
switch(config)#original-list 1 permit range 192.168.1.0  192.168.1.100
```

### 5.3.5 [no] ip nat original-list

*orig-list-number* *name*

| | | | |
|---|---|---|---|
| *orig-list-number* | INTEGER | 1~65535 | IP ID |
| *name* | WORD | 1~15 | NAT |

NAT IP
NAT NAT
NAT NAT

NAT natpool1 original-list 1

```
switch(config)#ip nat original-list 1 pool natpool1
```

### 5.3.6 [no] ip nat free-to

*ip-address*

| | | | |
|---|---|---|---|
| *ip-address* | A.B.C.D | IP | a NAT IP |

ʒ IP a NAT STAR-S5610 ┘Л∪
8 a NAT ˘ и 192.168.0.59Â

ş 192.168.0.59 IP NAT¢
switch(config)#ip nat free-to 192.168.0.59

### 5.3.7 [no] ip nat bind

*ip-address mac-addr vlan-id*

| | | | |
|---|---|---|---|
| *ip-address* | A.B.C.D | IP | NAT IP |
| *mac-addr* | xx' xx' xx' xx' xx' xx | MAC | NAT MAC |
| *vlan-id* | INTEGER | 1~4095 | NAT VLAN ID |

NAT Ю ў Ј IP ў ˘ и
˘ STAR-S5610 è MAC VLAN ID, Л ҳ

| | | | |
|---|---|---|---|
| *slot* | SLOT/PORT | 1~10 | NAT Æ /\ |

ʒ Æ Э NAT NAT ˘ a
Æ /\˘ ʁ NAT Э Â

ʒ ╟ NAT ˘ ' ╟ NAT
ɻ ˘ ˘ ˚ ˘ NAT NAT Æ /ˡ Â

ʂ NAT ¢

```
switch#show ip nat pool
Total NAT IP pools number is :2.

NAT pool 0's name is :taigu-nat.
NAT pool 0's size is :1.
NAT pool 0's startip is :61.152.154.34.
Dynamic ip 61.152.154.34 is allocated to STAR-NAT on slot: 2.

NAT pool 1's name is :natpool.
NAT pool 1's size is :5.
NAT pool 1's startip is :61.152.154.1.
Dynamic ip 61.152.154.1 is NOT allocated.
Dynamic ip 61.152.154.2 is NOT allocated.
Dynamic ip 61.152.154.3 is NOT allocated.
Dynamic ip 61.152.154.4 is NOT allocated.
Dynamic ip 61.152.154.5 is NOT allocated.
```

### 5.3.10 show ip nat static

ʒ Â

ʒ NAT Â

ş NAT ¢

```
switch#show ip nat static
NAT static pairs number:1.
static pair 0's global ip address:202.112.1.1.
static pair 0's private ip address:192.168.0.1.
this static pair is allocated to STAR-NAT on slot: 2.
```

### 5.3.11 show ip nat statistics

ʒ

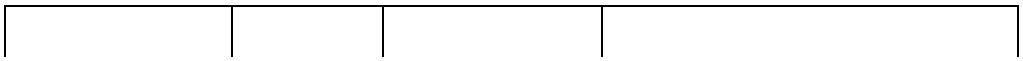
ʒ Ь NAT Â

ş NAT ¢

```
switch#show ip nat statistics
Current TCP link timeout value:1000 seconds.
Current UDP link timeout value:10 seconds.
Current ICMP link timeout value:1 seconds.
```

### 5.3.12 show original-list

*orig-list-number*]



### 5.3.13 show ip nat free-to

ʖ

ʖ a NATÂ

ş NAT IP ¢

```
switch#show ip nat free-to
Ip nat free-to address : 192.168.8.8 .
```

## 5.4 OSPF

### 5.4.1 [no] router ospf enable

1.

[ ]

Â

ϡ ╟ OSPF ˘ ϡ no OSPF Â

2.

3.

1ş OSPF ¢

```
switch (config)# router ospf enable
```

### 5.4.2 [no] network area

1.

[ ] *area-id ip-address wildcard-mask*

OSPF

| | | | |
|---|---|---|---|
| *area-id* | A.B.C.D<br>INTEGER | IP ѡ ʌ<br>0-65535 | ѡ IDÂ |
| *ip-address* | A.B.C.D | IP | OSPF IP Â |
| *wildcard-mask* | A.B.C.D | ѵ ѵ | б*ip-address* Â |

OSPF ϡ˘ ϡ Э OSPF ˘
ѡ ˘ no ϡ ѵ Э OSPF Â

2.

3.

1ş OSPF ¢

```
switch (config-ospf)# network area 0.0.0.0 192.168.0.1 0.0.255.255
```

### 5.4.3 router-id

1.

*ip-address*

OSPF

| | | | |
|---|---|---|---|
| *ip-address* | A.B.C.D | IP ʁ ʌ | IDÂ |

ID ʕˇ ʕ STAR-S5610 ╟ OSPF ʌˇ
- IDˇ ʕ no ʓ IDÂ

2.

3.

1ş ID 1.1.1.1¢

```
switch (config-ospf)# router-id 1.1.1.1
```

2ş ID¢

```
switch (config-ospf)# no router-id
```

## 5.4.4 area stub

1.

*area-id* [ ]

*area-id*

OSPF

| | | | |
|---|---|---|---|
| *area-id* | A.B.C.D<br>INTEGER | IP ш Л<br>0~65535 | stubш ID Â |
| no-summary | keyword | | ш ˇ ABR Л<br>ш summary LSAs Â |

stub ш ϡˇ ϡ ш ӈ stub ш ˇ ϡ no ч
ш ӈ stub ш Â

2.

3.

```
  1ş       0.0.0.1         ¢
switch (config-ospf)# area stub 0.0.0.1
  2ş       10            ¢
switch (config-ospf)# area stub 10 no-summary
  3ş       10            ¢
switch (config-ospf)# no area stub 10
```

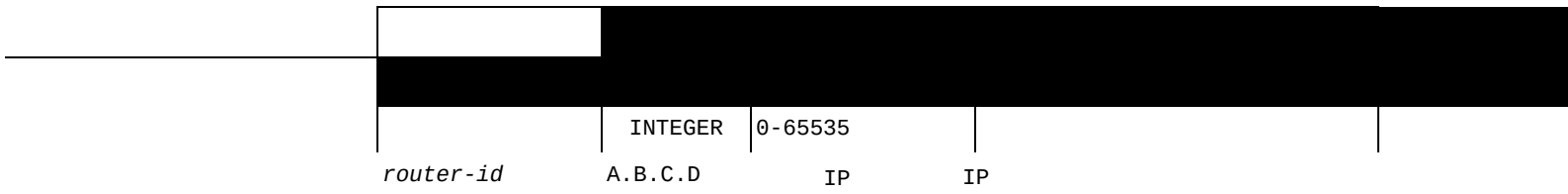
## 5.4.5 area virtual-link

1.

*area-id router-id* [ *seconds*]
[ *seconds*] [ *seconds*]
[ *seconds*] [[ *password*]|
[ *keyid* *key*]]

*area-id router-id*

OSPF



2.

3.

```
  1ş          0.0.0.1   Router ID   10.1.1.1                ¢
switch (config-ospf)# area virtual-link 0.0.0.1 10.1.1.1
  2ş             Hello Interval   Dead Interval¢
switch (config-ospf)# area virtual-link 0.0.0.1 10.1.1.1 hello-interval
10 dead-interval 40
  3ş                    ¢
switch    (config-ospf)#    area    virtual-link    0.0.0.1    10.1.1.1
authentication-key hello
  4ş                    ¢
switch    (config-ospf)#    area    virtual-link    0.0.0.1    10.1.1.1
message-digest-key 2 md5 welcome
  5ş             ¢
switch (config-ospf)# no area virtual-link 0.0.0.1 10.1.1.1
```

### 5.4.6 area default-cost

1.

*area-id cost*

*area-id*

OSPF

| | | | |
|---|---|---|---|
| *area-id* | A.B.C.D<br>INTEGER | IP ʁ /ʃ<br>0~65535 | ʁ IDÂ |
| cost | INTEGER | 1~4294967295 | ʁ Â |

stub ʁ ʒˇ ʒ OSPF stub ʁ
ˇ ʒ no ʒ ˇ ʒ stub ʁ
Â

2.

3.

```
  1ş          11              10¢
switch (config-ospf)# area default-cost 11 10
  2ş          0.0.1.1                 ¢
switch (config-ospf)# no area default-cost 0.0.1.1
```

### 5.4.7 area range

1.

*area-id ip-address mask*

*area-id ip-address mask*

OSPF

| | | | |
|---|---|---|---|
| *area-id* | A.B.C.D<br>INTEGER | IP ʁ ʌ<br>0~65535 | ʁ IDÂ |
| *ip-address* | A.B.C.D | IP | IP Â |
| *mask* | A.B.C.D | | |
| advertise | keyword | | ʌ ˆ ˜ |
| nonadvertise | keyword | | ʌ a |

ʀˇ ʀ ʁ Э ˇ ʀ no ˬ ˥ Â

2.

3.

1ş 100 192.168.0.0/24¡192.168.1.0/24¡192.168.2.0/24¡192.168.3.0/24 1 ¢

```
switch (config-ospf)# area range 100 192.168.0.0 22
```

2ş 173.6.1.1 ¢

```
switch (config-ospf)# no area range 173.6.1.1 192.168.0.0 22
```

### 5.4.8 area authentication

1.

*area-id* [ ]

*area-id*

OSPF

| | | | |
|---|---|---|---|
| *area-id* | A.B.C.D<br>INTEGER | IP ʁ ʌ<br>0~65535 | ʁ IDÂ |
| message-diges | keyword | | ʁ |

ʒˇ ʒ OSPF ʁ ˇ ʒ no ↓ ʁ Â

2.

3.

1ş 10.0.0.0 ¢

```
switch (config-ospf)# area authentication 10.0.0.0
```

2ş 100.0.0.0 ¢

```
switch (config-ospf)# area authentication 100.0.0.0 message-digest
```

3ş 100 ¢

```
switch (config-ospf)# no area authentication 100
```

### 5.4.9 ip ospf cost

1.

*cost*

| | | | |
|---|---|---|---|
| *cost* | INTEGER | 1~65535 | Â |

ʒˇ ʒ Э ˇ no ʒ
ˇ ╟ ˇ 100000000/ Â

2.

3.

```
1ş 100¢
switch (config-if-vlan 1)# ip ospf cost 100
```

### 5.4.10 ip ospf hello-interval

1.

*seconds*

| | | | |
|---|---|---|---|
| *seconds* | INTEGER | 1~65535 | hello Â |

hello ʒˇ ʒ Э hello
ˇ no ʒ Â

2.

3.

1ş hello 100 ¢
switch (config-if-vlan 1)# ip ospf hello-interval 100

### 5.4.11 ip ospf dead-interval

1.

*seconds*

| | | | |
|---|---|---|---|
| *seconds* | INTEGER | 1~65535 | Э hello ʌ<br>hello ˇ ‡<br>ѝ Â |

ʒˇ ʒ ˇ

hello ‡ ѝ ˇ no ʒ Â ⅃

Â

2.

3.

ş dead-interval 400 ¢

switch (config-if-vlan 1)# ip ospf dead-interval 400

### 5.4.12 ip ospf priority

1.

*number*

MTU ╖ ϡ˘ ϡ MTU ╖ Â

2.

3.

1ş MTU ¢

```
switch (config-if-vlan 1)# ip ospf mtu-enable
```

2: MTU ¢

```
switch (config-if-vlan 1)# no ip ospf mtu-enable
```

### 5.4.18 show ip ospf

1.

EXEC ϡ

OSPF ў ϡ˘ ϡ OSPF ў Â

2.

3.

ş OSPF ¢
switch# show ip ospf

## 5.4.19 show ip ospf cumulative

1.

EXEC ʒ

OSPF ʒˇ ʒ OSPF Â

2.

3.

ş OSPF ¢
switch# show ip ospf cumulative

## 5.4.20 show ip ospf database

1.

*link-state-id*

EXEC ¦

| | | | |
|---|---|---|---|
| external | KEYWORD | | external-LSA |
| network | KEYWORD | | network-LSA |
| router | KEYWORD | | router-LSA |
| summary | KEYWORD | | summary-LSA |
| asbr-summary | KEYWORD | | asbr-summary-LSA |
| *link-state-id* | A.B.C.D | IP | é link-state-id LSA |
| database -summary | KEYWORD | | |

¦˘ ¦ LSA ˜Ω Â

2.

3.

```
  1ş                      network-LSA¢
switch# show ip ospf database network

  2ş                link-state-id   192.168.1.1   router-LSA¢
switch# show ip ospf database router 192.168.1.1

  3ş                        ¢
switch# show ip ospf database database-summary
```

## 5.4.21 show ip ospf error

1.

2.

3.

```
  1ş    STAR-S5610            OSPF            ¢
switch# show ip ospf interface

  2ş    VLAN2   OSPF          ¢
switch# show ip ospf interface vlan 2
```

### 5.4.23 show ip ospf neighbor

1.

[ *number*][*neighbor-id*]
[ ]

EXEC ȝ

| | | | |
|---|---|---|---|
| | | | N Â |

*number*

3.

1ş STAR-S5610 OSPF ¢

```
switch# show ip ospf neighbor
```

2ş VLAN2 OSPF ¢

```
switch# show ip ospf neighbor vlan 2
```

## 5.4.24 show ip ospf border-routers

1.

EXEC ϡ

ϡ OSPF Â

2.

3.

ş OSPF η ¢

```
switch# show ip ospf border-routers
```

EXEC ¾

| | | | |
|---|---|---|---|
| vlan | KEYWORD | vlan | ^ ˩ ~ VLAN |

| | | | |
|---|---|---|---|
| vlan | KEYWORD | vlan | ˆ ˩ ˜ VLAN Â |
| *number* | INTEGER | 1~4094 | ˆ ˩ ˜ VLAN ˥ Â |
| supper-vlan | KEYWORD | supper-vlan | ˆ ˩ ˜ Supper-VLAN Â |
| *number* | INTEGER | 1~32 | ˆ ˩ ˜ Supper-VLAN ˥ |
| *nbr-id* | A.B.C.D | IP | ˆ ˩ ˜ router-ID |

ϧ OSPF Â

2.

3.

1ş STAR-S5610 OSPF ¢

```
switch# show ip ospf retransmission-list
```

2ş 10.0.0.1 ¢

```
switch# show ip ospf retransmission-list 10.0.0.1
```

## 5.4.27 show ip ospf virtual-link

1.

EXEC ϧ

ϡ OSPF Â

2.

3.

ş OSPF ¢

```
switch# show ip ospf virtual-link
```

## 5.4.28 show ip ospf routing

1.

EXEC ϡ

ϡ OSPF Â

2.

3.

ş OSPF ¢

```
switch# show ip ospf routing
```

## 5.5 ACL

### 5.5.1 access-list

ʖ , Â

*listnumber* { } [ ]{{*source-address wildcard-mask*} | { *source-address*} | } [ ] [ *time-range-name*]

| |
|---|
| ʌ˘ ÿ 1~99 |
| t ʅ |
| ʅ |

mal ‡

˘ ℸ ǂ Â

, ˘ IP
ˆ source-address˜ Æˆ wildcard-mask˜ Â

/ listnumber 1~99 ˘ Â

ℸ б
√ Â ˘ 0 ǁ ┐ Ŀ ˚ ˘ 1 ǁ a ˜Ω
Ŀ ˚ Â ˘ Ю IP ∤ ┐ 198.78.46.0/24
Â

| | | | |
|---|---|---|---|
| listnumber | INTEGER | 100-200 | /\˘ ÿ 100 200 |
| | KEYWORD | permit | KEYWORDpermit ┐ |
| | KEYWORD | deny | KEYWORDdeny ┐ |
| protocol | WORD | 1~4 | WORD |
| protocol-key | INTEGER | 0~255 | |
| external | KEYWORD | external | KEYWORDextermal ‡ ў |
| source-address | A.B.C.D | IP | |
| wildcard-mask | A.B.C.D | | , ℸ б √ Â ˘ 0 ľ ┐ Ŀ ˚ ˘ 1 ľ a ĵΩ Ŀ ˚ Â |
| | KEYWORD | host | host ┐ ˘ è ѝ 0.0.0.0Â |
| | KEYWORD | any | KEYWORDany IP ˘ 0.0.0.0 255.255.255.255 |
| | KEYWORD | port | KEYWORDport è ﾉ /\ |
| source-port_string | WORD | 1~6 | WORD /\ |
| source-port | INTEGER | 0~65535 | /\ |

| | | | |
|---|---|---|---|
| destination-port_string | WORD | 1~8 | WORD Л |
| destination-port | INTEGER | 0~65535 | Л |
| | KEYWORD | log | KEYWORDlog ┐ |
| | KEYWORD | time-range | KEYWORD |
| time-range-name | WORD | 1~16 | ┘ |

IP ˘ IP Ю

' à à Â

Л list number 100 200 ˘

Â

Л ˘ ┘ и ˘

WORD ˘ ЛЬЮ ACL WORD б

ЎΩ '

| WORD | |
|---|---|
| IP | 0 |
| ICMP | 1 |
| IGMP | 2 |
| TCP | 6 |
| UDP | 17 |

WORЯD Л б WORD ЎΩ '

| WORD | |
|---|---|
| FTP | 21 |
| Telnet | 23 |

ş 101 SMTP TCP
198.78.46.8¢ 202.192.19.* IP
198.78.46.3¢ www http 80 smtp
25¢

```
switch (config)# access-list 101 permit tcp any host 198.78.46.8 port smtp
switch (config)# access-list 101 permit ip 202.192.19.0 0.0.0.255 host
198.78.46.3 port www
```

### 5.5.3 access-list

ʖ ʅ ˘ ACL ‡ Â

*listnumber* [*remark_string*]

| | | | |
|---|---|---|---|
| listnumber | INTEGER | 1~200 | ʃʅ Â |
| remark | KEYWORD | | ╕ Â |
| remark_string | WORD | 1~256 | WORD Â |

ʅ ʃʅ ʌ˘ è ʌ Â
ʅ ˩ Л∪ ʅ ʌ ' ѝ ˘
Æ Â

˘ 60 ˘ è ≠
˘ б a 60 Â

ş 101 ¢

```
switch (config)# access-list 101 remark allow traffic to 198.78.46.8 by
smtp
switch (config)# access-list 101 permit tcp any host 198.78.46.8 port smtp
switch (config)# access-list 101 remark allow traffic to 198.78.46.3 by
www
switch (config)# access-list 101 permit tcp any host 198.78.46.3 port www
switch (config)# access-list 101 remark allow traffic to 198.78.46.9 by
pop3
switch (config)# access-list 101 permit tcp any host 198.78.46.9 port 110
```

### 5.5.4 show access-list

ʒ list number Â

[*listnumber*]

EXEC ,XAK,X

1ş ¢

```
switch > show access-list
      1
      101
      105
```

2ş 101 ¢

```
switch > show access-list 101
switch > access-list 101 remark allow traffic to 198.78.46.8 by smtp
switch > access-list 101 permit tcp any host 198.78.46.8 port smtp
switch > access-list 101 remark allow traffic to 198.78.46.3 by www
switch > access-list 101 permit tcp any host 198.78.46.3 port www
switch> access-list 101 remark allow traffic to 198.78.46.9 by pop3
switch > access-list 101 permit tcp any host 198.78.46.9 port 110
```

### 5.5.5 access-list default

ACL Â

{ | }

╗ ˇ ⅃ ℨΩ SIPˇ aℨΩ ὲ ˇ
ϯ ㄱ Ɔˇ ÿ ⅂Ⴎ ⅄ QoS Â

ş ACL ¢
switch(config)# access-list default permit

### 5.5.6 show access-list default

ʒ ACL Â

EXEC

ACL Â

ş ACL¢
switch> show access-list default
permit

### 5.5.7 no access-list

ৡ Â

*listnumber*

Ş

ō1Ŏ show 1

```
switch(config)# show access-list 1
 1   permit host 198.78.46.20
 2   permit host 198.78.46.21
```

ō2Ŏ

```
switch(config)# access-list insert 1 permit host 198.78.46.10 2
```

ō3Ŏ show 1

```
switch(config)# show access-list 1
 1   permit host 198.78.46.20
 2   permit permit host 198.78.46.10
 3   permit host 198.78.46.21
```

| | | | |
|---|---|---|---|
| protocol | WORD | 1~4 | ^ WORD |
| protocol-keyWORD | INTEGER | 0~255 | |
| | KEYWORD | external | KEYWORDextermal ‡ ў |
| source-address | A.B.C.D | IP | |
| wildcard-mask | A.B.C.D | | , Ⅱ б ч Â ˘ 0 Ґ ч Ł ˚ ˘ 1 Ґ a Ω Ł ˚ Â |
| | KEYWORD | host | host ч ˘ è ѝ 0.0.0.0Â |
| | KEYWORD | any | KEYWORDany IP ˘ 0.0.0.0 255.255.255.255 |
| | KEYWORD | port | KEYWORDport è ﾉ ﾊ |
| source-port_string | WORD | 1~8 | WORD ﾊ |
| source-port | INTEGER | 0~65535 | ﾊ |
| destination -address | A.B.C.D | IP | |
| wildcard-mask | A.B.C.D | | , Ⅱ Ɔ |

INSERT

no access-list insert ACL

listnumber 100~200

ō1Ŏ show 101

```
switch(config)# show access-list 101
   1   permit tcp any host 198.78.46.20 port smtp
   2   permit tcp any host 198.78.46.20 port www
```

ō2Ŏ

```
switch(config)# access-list insert 101 permit tcp any host 198.78.46.10
2
```

ō3Ŏ show 101

```
switch(config)# show access-list 101
   1   permit tcp any host 198.78.46.20 port smtp
   2   permit tcp any host 198.78.46.20 port www
   3   permit tcp any host 198.78.46.10
```

## 5.5.10 no access-list insert

| | | | |
|---|---|---|---|
| listnumber | INTEGER | 1~200 | ʌ |
| exiting-subitem | INTEGER | 1~55 | ʌ |

ʌ˘ ˩ ˘ INSERT
ɂ ˘ ʌ ˘ ˘
ɯ ╖ Â

ɂ Â ɂ б access-list
insert ˩ ɯ ACL ɂ ╖ Â

ɂ ˩Л˩ ˘ Лu listnumber ˩Лu
1~200 Â

ʌ˘ è ʌ ʌ ╟ ʌ Â

Ş
ō1Ŏ show 101
switch(config)# show access-list 101
1 permit tcp any host 198.78.46.20 port smtp
2 permit tcp any host 198.78.46.20 port www
ō2Ŏ
switch(config)# no access-list 101 2
ō3Ŏ show 101
switch(config)# show access-list 101
1 permit tcp any host 198.78.46.20 port smtp

## 5.5.11 access-group

ʈ ACL ʌ VLANÂ

*acl-id*

| | | | |
|---|---|---|---|
| *acl-id* | INTEGER | 100~200 | Л |

Э˘ VLAN Super-VLAN Â
STAR-S5610 й Ь ˘ Э ACL ‡
Â

ACL ˘ ÿ Э
Â

ş ACL 1 VLAN 2¢
6610(config-if-vlan 2)# access-group 101

## 5.5.12 no access-group

ч ţ VID б ACL ID ˜Ω ˜Ω Â

no access-group

ş ACL

```
switch> show access-group vlan 5
      101
switch> show access-group super-vlan 2
      102
```

### 5.5.14 access-list enable

╟ ACL ╖ Â

╟ ACL ╖ ˘ ʒ Â ʒ ѝ ᾱ ACL ╖

┘ Â

ş ACL ¢

```
switch ō config Ŏ access-list enable
```

### 5.5.15 no access-list enable

ȓΩ ACL ╖ Â

ȓΩ ACL ╖ ˘ ȝ Â ȝ ѝ ᾱ ACL ╖
ɻ Â

ş ACL ¢

```
switch ō config Ŏ  no access-list enable
```

ϡ

# 6.1

## 6.1.1 flow aging-time

ϡ Â ѓ ‡ ѝ
Â ѿ a ѯ ˘ IP, ѓ ˘ IP ѯ ɜ
ѓ ≠ ѯ ˘ ѝ ѯ Â

*time*

QoS

| | | | |
|---|---|---|---|
| time | INTEGER | 1~3600 | ˘ Æ |

QoS ѯ Ѧ ϡ Â ϡ Â '
IP ѝ 192.168.0.1˘ ѝ 21˘ ѝ 100 ˘
ѝ 150 ˘ ‡ ч Â

Ş ¢
switch#qos
switch(config-qos )# flow aging-time 300

### 6.1.2 ip-session-threshold

ʒ ʒ Э Â

*threshold*

QoS

| | | | |
|---|---|---|---|
| threshold | INTEGER | 1~65536 | ˘<br>˘<br>Â |

QoS ˩Л ʒ Â ʒ ʒ Э Â
' ʒ Э и 5˜ и 10˜
≠ 5 Л Â

ş ¢
switch#qos
switch(config-qos )# ip-session-threshold 500

### 6.1.3 monitor-time

ʒ ʒ Â

*time*

QoS

| | | | |
|---|---|---|---|
| time | INTEGER | 1~3600 | Â Æ' Â |

QoS ┘Л∪ ╕ Â ∧ ˘
╕ ∧˘ Â

ş ¢
switch#qos
switch(config-qos)# monitor-time 300

### 6.1.4 flow monitor

╕ ╟╕ ┗Â

{ *usernum* *vid1* [– *vid2*]} [ *bulk-num* ]

QoS

| | | | |
|---|---|---|---|
| usernum | INTEGER | 1~100 | Â |
| Vid1 | INTEGER | 1~4095 | ЛUVLAN ˘ VLAN IDÂ |
| Vid2 | INTEGER | 1~4095 | VLAN ˘ VLAN ID˘ VLAN ID2 >= VLAN ID1Â Â |
| bulk-num | INTEGER | 1~10 | ⅃ Â ⅃ Â |

QoS ⅃Л ϡ Â è ΈΩ IP ÂVLAN ⅃Л VLAN( ) Â 100 Â

1ş 20 5 ¢
switch(config-qos)# flow monitor ip 20 bulk-num 5

2ş vlan 2 – 5 5 ¢
switch(config-qos)# flow monitor vlan 2 – 5 bulk-num 5

### 6.1.5 no flow monitor

ϡ ϡ ┗Â

QoS

QoS ┘Л ╕Â ╕ ╕ ╘Â

ゟ ゟ

ş ¢

```
switch#qos
switch(config-qos)# show monitor-log
```

## 6.2 DHCP

### 6.2.1 debug dhcpr

ˇΩ DHCP debug ˇΩ

EXEC

ɂ ˇΩ DHCP ˇΩ.

' dhcp debug ˇΩˇΩ

1ş DHCP

```
switch# debug dhcp
```

2ş DHCP

```
switch# no debug dhcp
```

### 6.2.2 dhcp relay enable

˜Ω DHCP relay agent

ˆ VLAN/SUPER VLAN˜

ȝ ̀ DHCP relay agent ƟŸ VLAN/super VLAN ƟO ˜Ω DHCP relay agent Â DHCP relay agentˇ ˩Ո ȝ no trap dhcp Â ՈˇȝˇʹI trap dhcp ȝ DHCP ՚ .

: no dhcp relay enable

1ş VLAN 2 DHCP

```
target(config-if-vlan 2)# dhcp relay enable
Enable DHCP relay agent in vlan 2!
```

2ş super VLAN 3 DHCP

```
target(config-if-super-vlan 3)# dhcp relay enable
Enable DHCP relay agent in super vlan 3!
```

3ş VLAN 3 DHCP relay agent

```
target(config-if-super-vlan 2)# no dhcp relay enable
Disable DHCP relay agent in super vlan 2!
```

### 6.2.3 dhcp relay hops

DHCP relay agent

{ *hops* | }

| | | | |
|---|---|---|---|
| *hops* | INTEGER | 1~16 | DHCP relay relay |
| | KEYWORD | Default | DHCP relay й |

ҳ DHCP relay agent Â DHCP relay agent
DHCP HOPS a ˘ Â HOPS й 4 Â

' dhcp relay hops default

1ş DHCP relay hops 6

```
switch (config)# dhcp relay hops 6
```

```
Set DHCP hops to 6

  2ş    DHCP relay hops
switch (config)# dhcp relay hops default
Set DHCP hops to 4
```

### 6.2.4 dhcp relay size

DHCP ў

*address number*

^ VLAN/Super VLAN~

| | | | |
|---|---|---|---|
| *address number* | INTEGER | 0~255 | ┘Л DHCP relay |
| | KEYWORD | default | ┘Л DHCP |

ҙ VLAN/Super VLAN Ю DHCP ў
ˇ Л VLAN/Super VLAN Ю DHCP Â
VLAN/super VLAN Ю ˇ ‡ ┘ VLAN/Super VLAN Ю è DHCP ў Â

б DHCP server ˇ a VLAN/Super VLAN DHCP server ^ ~˜ ‡ ┘ a Â

' VLAN/Super VLAN Ю й 100

1ş VLAN 3 20

```
switch (config-if-vlan 3)# dhcp relay size address 20
Set relay-size to 20 in vlan 3!
```

2ş VLAN 3

```
switch (config-if-vlan 3)# dhcp relay size default
Set relay-size to 100 in vlan 3!
```

### 6.2.5 dhcp server

DHCP ┗

{*ip address*}

| | | | |
|---|---|---|---|
| *ip address* | A.B.C.D | IP | ╗DHCP server ┗ ip |
| *index* | INTEGER | 1~65535 | DHCP server ╣ ~ |
| | KEYWORD | all | ╗DHCP server ┗ ~ |

ҳ IP ╗ ┗ ╗DHCP relay agent DHCP ServerÂ ╣ DHCP Ю ÿ DHCP Server ў ˘ a ÿ è DHCPserver Э ў Â ҳ б attach dhcp server ҳ ˘ ┘ VLAN/Super VLAN Ю ╣ ╣ DHCP serverÂ ┘Л show dhcp server ҳ DHCP server Â

' ┗ й DHCP Server

1ş IP 20.12.192.133 DHCP Server

```
switch (config)# dhcp server 20.12.192.133
Assign the server[20.12.192.133] for DHCP successful!
```

2ş IP 20.12.192.133 DHCP server

```
switch (config)# no dhcp server 20.12.192.133
The specified server[20.12.192.133] has been removed!
```

3ş DHCP Server

```
switch (config)# no dhcp server 1
DHCP servers[200.2.12.13] have been removed!
```

### 6.2.6 attach dhcp server

VLAN/super VLAN б DHCP Server ˜Ω

{*ip address* | *index*}

ˆ VLAN/SUPER VLAN˜

| | | | |
|---|---|---|---|
| *ip address* | A.B.C.D | IP | ѝDHCP Server Ł ip |
| *index* | INTEGER | 1~255 | DHCP Server Л˘ Л Ъ ˝І Л ѝ ˘ ╟ |

ҙ VLAN/Super VLAN DHCP Server˘
VLAN/Super VLAN Ю ÿ DHPC Server ў Â
DHCP Server˘ ‡ Client ў б DHCP Server ¦
client ЋΩ˘ DHCP server ˘ ‡ client ˝І ┘
DHCP server Â┘Л Ъ show dhcp server ҙ VLAN/Super VLAN
б DHCP server ЋΩ Â

' VLAN/Super VLAN DHCP Server Â

1: VLAN 3 DHCP server 100.2.133.2
switch (config-if-vlan 3)# attach dhcp server 100.2.133.2
Vlan 3 has attached on server[100.2.133.2]!

2ş VLAN 3 DHCP server 100.2.133.2
switch (config-if-vlan 3)# no attach dhcp server 100.2.133.2
Vlan 3 has detached on server[100.2.133.2]!

3ş VLAN 3 DHCP server
switch (config-if-vlan 3)# no attach dhcp server 2
Detaching from server [200.2.2.2] successful!

DHCP server

{*ip address*}

| | | | |
|---|---|---|---|
| *ip address* | A.B.C.D | IP | ѝ DHCP server ┗ IP |

ʒ IP ѝ ┗ ѝ DHCP relay agent DHCP Server Â DHCP Server ˘ Л∪ DHCP ˚ ˆ Л ˜ Â

' Â

1ş IP 100.1.2.3 DHCP server

```
switch (config)# dhcp temp server 100.3.3.3
Assigning the server[100.3.3.3] for DHCP successful!
```

2ş IP 100.3.3.3 DHCP server

```
switch (config)# no dhcp temp server 100.3.3.3
The specified server[100.3.3.3] has been removed!
```

### 6.2.7 show dhcp server

DHCP server

{*ip address* | *index* [**-** *index*]}

| | | | |
|---|---|---|---|
| *ip address* | A.B.C.D | IP | DHCP server ip |
| *index* | INTEGER | 1~ 255 | DHCP server |

ʒ DHCP server IP ˘ server ( ѝ server)˘ server VLAN/Super VLAN Â

' Â

1ş DHCP server 100.1.2.3

```
switch (config)# show dhcp server 100.1.2.3
  DHCP Server:  100.1.2.3
  Temporary server: No
  Attaching gateway : NONE

  Send Packets:
     .......offer    : 0
     .......ack      : 0
     .......nak      : 0
     .......forcerenew: 0
  Receive Packets:
     .......discovery : 0
     .......request   : 0
     .......decline   : 0
```

```
   .......inform    : 0
   .......release   : 0
Configurate ip addresses : 0
```

2ş

ʒ

ʒ DHCP ˘ DHCP VLAN/Super VLAN
˘ VLAN/Super VLAN DHCP relay agent
˘ DHCP server˘ Client Server UDP /ˆ˘
ˆ HOPS˜˜ DHCP Â

' Â

ş DHCP relay agent

```
switch (config)# show dhcp relay config
trap dhcp ş Yes
enable relaying in super vlans : none
enable relaying in vlans(1):
  2(0/100);
assigned DHCP serveres(2) :
1  100.1.2.3
2  200.2.2.2
server port     : 67
client port     : 68
hops           : 4
```

# 7.1 Cos

## 7.1.1 queue-alg sp

[illegible]

[illegible] STAR-S5610 4 [illegible]
^ 1,2,3,4~ ~ è 4 [illegible] ~ 1 æ Â

[illegible]

(1) [illegible] [illegible] a [illegible] [illegible]
æ [illegible] [illegible] [illegible] Â

(2) [illegible] [illegible] [illegible] a [illegible] ~ a
[illegible] Â

ş ¢

```
switch(config)# queue-alg sp
```

### 7.1.2 queue-alg wrr

ʒ ″I ˘ ѝ ╗ Â ″I ѝ ″I
ǂ ˘ a ˩ ″I ǂ ʒ Â ˘ ѝ
Â

*weight1 weight2 weight3 weight4*

| | | | |
|---|---|---|---|
| weight1 | INTEGER | 10~50 | ″I ˘ ″I 1Â<br>Æ ˩ ã Weght Unit ˘<br>˩ЛЛpacket ѝ Æ˘ ≠ ˩Л ѝbyte<br>Æ Â |
| weight2 | INTEGER | 10~50 | ″I ˘ ″I 2 |
| weight3 | INTEGER | 10~50 | ″I ˘ ″I 3 |
| weight4 | INTEGER | 10~50 | ″I ˘ ″I 4 |

˩Л ʒ ÂWRR ╗ ÂWRR ˩Л æ ″I
Ľ Ŀ ˘ έ Ὼ Â

ş 4 10 10 20 50¢

```
switch(config)# queue-alg wrr 10 10 20 50
```

ş1ş1ş2ş5¢

### 7.1.3 queue-alg hybrid

ʒ ˝I ˘ ˝I ( ˝I ш ˝I ʌ

) Â ˝I ǂ ˘ è ˝I ǂ WRR Â

*weight1 weight2 [weight3]*

| | | | |
|---|---|---|---|
| weight1 | INTEGER | 10~50 | ˝I ˘ ˝I 1<br>Æ ↓ ă WeightUnit<br>,↓ЛЪЛЪpacket ѝ Æ,≠↓ЛЪѝ<br>byte Æ |
| weight2 | INTEGER | 10~50 | ˝I ˘ ˝I 2 |
| weight3 | INTEGER | 10~50 | ˝I ˘ ˝I 3 |

↓ЛЪ ʒ Â *weight1˘ weight2* ‡

1 ѝ *weight1˘* 2 ѝ *weight2Â* 3 4 ш ″I Â

1ş 4 sp 1/2/3 wrr 3 ¢
switch (config)# queue-alg hybrird 10 20 30
4 1¡2¡3 1ş2ş3 ¢

2ş 3/4 sp 1/2 wrr 2 .
switch (config)# queue-alg hybrid 30 40
3¡4 1¡2 3ş4 ¢

### 7.1.4 weight-unit

ҙ WRR hybrid ˘ ″I Æ Â
˘ Â

| | | | |
|---|---|---|---|
| | KEYWORD | packet | ЛU |
| | kEYWORD | byte | ЛUbyte |

↵ Л∪ ⅋ Â ″I и WRR hybrid
˘ ⅋˘ ᾱ ˘
Â

ş ¢

```
switch (config)# weight-unit  packet
```

### 7.1.5 show queue-alg

⅋ ″I Æ Â

↵ Л∪ ⅋ Â

```
  Ş                    ¢
switch (config)# show queue-alg

****************              *************
          WRR
    1:  50        packets
    2:  100       packets
    3:  150       packets
    4:  200       packets
*****************************************
```

### 7.1.6 queue-hol configure

ʒ ˘ ˩Л∪ Â ὲ hard
˘ ˘ soft
˘ ˘ ʁ ὶ ˘ ὲ
Â

| | | | |
|---|---|---|---|
| queue | INTEGER | 1~4 | 4 ˇ 4 ˇ 1 æ |
| holvalue | INTEGER | HOL Threshold : 0-4080 | |

1ş 1 256 ¢

```
switch (config)# queue-hol configure  hard 1 256
```

2ş 2 256 ¢

```
switch (config# queue-hol configure  soft 2 512
```

### 7.1.7 [no] queue-hol enable

/ HOL

ㄴЛ∪ ㄋ Â

ş HOL ¢
switch (config)# queue-hol enable

### 7.1.8 show queue-hol

ㄋ HOL Â

ㄴЛ∪ ㄋ Â

```
  Ş            HOL       ¢
switch (config)# show queue-hol
****************    HOL        *************
       HOL
      1:
      Hard HOL :  200   packets
      Soft HOL :  100   packets
      2:
      Hard HOL :  200   packets
      Soft HOL :  100   packets
      3:
      Hard HOL :  200   packets
      Soft HOL :  100   packets
      4:
      Hard HOL :  200   packets
      Soft    HOL:    100   packets
****************************************
```

### 7.1.9 vpt-to-prio configure

ϟ VLAN vlan priority tag ″I (1/2/3/4) ˜Ω ,

é a ﻝ vlan priority tag ˘ a ﻝ ˝ I Â
ﻭ vpt 0˝ 1 ˙ queue 1’ vpt 2˝ 3 ˙ queue 2’ vpt 4˝ 5 ˙ queue 3’ vpt 6˝ 7 ˙ queue 4 Â ﻝ ˜Ω ˘ ‡ ﻍ Â

1ş vlan priority 0 1¢
switch (config)# vpt-to-prio configure 0 1

2ş vlan priority 7 3¢
switch (config)# vpt-to-prio configure 7 3

### 7.1.10 no vpt-to-prio configure

ﻍ VLAN vlan priority tag ˝ I (1/2/3/4) ˜Ω Â ﻭ vpt 0˝ 1 ˙ queue 1’ vpt 2˝ 3 ˙ queue 2’ vpt 4˝ 5 ˙ queue 3’ vpt 6˝ 7 ˙ queue 4 Â

ş VLAN vlan priority tag (1/2/3/4)
¢

```
switch(config)# no vpt-to-prio configure
```

### 7.1.11 show vpt-to-prio

ʒ vlan priority tag ˮI (1/2/3/4) ˝Ω Â

˩Л∪ ʒ Â

ş vlan priority tag (1/2/3/4) ¢

```
switch(config)# show vpt-to-prio
************vpt   priority        ***********
```

```
    vpt    priority
vpt : 0    priority queue:  1
vpt : 1    priority queue:  1
vpt : 2    priority queue:  2
vpt : 3    priority queue:  2
vpt : 4    priority queue:  3
vpt : 5    priority queue:  3
vpt : 6    priority queue:  4
vpt : 7    priority queue:  4
*********************************************
```

### 7.1.12 prio-to-vpt configure

ҙ ¨I (1/2/3/4) valn vlan priority tag ¯Ω ,

vlan priority tag a„dØ÷Õi„dŏ•PĐ@# ] ŏ¸K•° I“↓Λ•» ° Э1 2 •± • vla2 •± • `È ! ¸ ò C1 2 •

1ş 1 vlan priority tag 0¢
switch (config)# prio-to-vpt configure 1 0

2ş 3 vlan priority tag 7¢
switch (config)# prio-to-vpt configure 3 7

### 7.1.13 no prio-to-vpt configure

ʒ ¨I (1/2/3/4) VLAN vlan priority tag ˜Ω
 Â ˜Ω queue 1 – vpt 0,1; queue 2– vpt 2,3; queue 2 – vpt 4,5; queue 4 – vpt 6,7 Â

˩Л ʒ Â

ş (1/2/3/4) VLAN vlan priority tag ¢
switch (config)# no prio-to-vpt configure

## 7.1.14 show prio-to-vpt

ʒ ¨I VLAN VPT ˜Ω Â

ɻ Л ʒ Â

```
  ş              vlan   vpt         ¢
switch (config-if)# show prio-to-vpt
***********priority queue   vpt        ******
    vpt    priority
priority queue:  1--- vpt : 0
priority queue:  1--- vpt : 1
priority queue:  2--- vpt : 2
priority queue:  2--- vpt : 3
priority queue:  3--- vpt : 4
priority queue:  3--- vpt : 5
priority queue:  4--- vpt : 6
priority queue:  4--- vpt : 7
*********************************************
```

## 7.1.15 tos-to-cos configure

ϡ IP ToS ″I CoS ˜Ω Â

*tos cos*

| | | | |
|---|---|---|---|
| tos | INTEGER | 0~255 | ip tos |
| cos | INTEGER | 0~7 | cos ″I ˘ ″I ˘ ″I ˘ vlan priority tagЬ Â 7ϧ ˘ 0ϧ æÂ<br>Cos 0-7 ₩'<br>0à1' ″I ϧ1' ″I ϧ hard˙ ˜ ' vlan priority tagϧ cos Â<br>2à3' ″I ϧ2' ″I ϧ hard˙ ˜ ' vlan priority tagϧ cos Â<br>4à5' ″I ϧ3' ″I ϧ soft ˜' vlan priority tagϧ cos Â<br>6à7' ″I ϧ4' ″I ϧ soft ˜' vlan priority tagϧ cos Â |

˩Л∪ ϡ Â

ɛ a ˩ IP ToS ˘ a ˩ ″I Â
ϧ' ToS 0-255˜ 8 ϯ ˘ ϯ CoS 0-7Â ToS 0-31

CoS 0˜ ToS 32-63 CoS 1˘ Л∪ ˘ ToS 224-255 CoS 7 Â
˩ ˜Ω ˘ ‡ ३ Â

ş ToS CoS ¢

```
switch (config)# no tos-to-cos  configure
```

### 7.1.17 show tos-to-cos

QoS

enable flow Â

no enable flow ' ˜Ω Â

ş ¢
switch (config-qos)# enable flow

### 7.2.3 default

ʒ ˆ ˜ QoS Â

*[slot/port]*

QoS

| | | | |
|---|---|---|---|
| slot | SLOT/PORT | 1~10 | ʌˇ ˩ʃ∩a |
| port | SLOT/PORT | 1~32 | Э ʌˇ ˩ʃ∩a |

QoS , ˆ ˜ QoS Â

a SLOT/PORT Â

' QoS Â ˘ ‡
QoS Â

ş 3 2 QoS ¢
switch#qos
switch (config-qos)# default 3/2

## 7.2.4 [no] user

ʒ ĦѪ Â

*userid*

QoS

| | | | |
|---|---|---|---|
| *userid* | INTEGER | 0~1999 | ʌ˘ ʁ Â |

QoS , ĦѪ/ Â

1ş ¢
switch (config-qos)# user 3

QoS

QoS , ϡ QoS ˘ ╟ Â

ş qos
switch (config-qos)# mode
Current flow state is şEnable.

## 7.2.7 service-policy user

ϡ й Э Â

*slot/port1 [ port2]*

QoS

| | | | |
|---|---|---|---|
| | | | |

| | | | |
|---|---|---|---|
| slot | SLOT/ PORT | 1~10 | |
| port1 | SLOT/ PORT | 1~32 | port1 |
| port2 | SLOT/PORT | 1-32 | port2 port2> port1 |

3 ' Э ( ),Ю ( )

QoS , ѝ ĵ Â ѝ
Л ˇ Ą ˝ à ˇ Э
˝ Â

ş 1 M5610-16FMT 8 ¢
switch (config-qos)# service-policy user 1/1 - 8

### 7.2.8 service-policy net

ʒ ѝ Ю Â

*slot/port1 [ port2]*

QoS

| | | | |
|---|---|---|---|
| slot | SLOT/ PORT | 1~10 | Л˘ ↓Лъa |
| port1 | SLOT/ PORT | 1~32 | Л1 |
| port2 | SLOT/ PORT | 1~32 | ˘ ↓Лъ port2˜ port2> port1˜ |

З ' Э ( ),Ю ( )Â

QoS , ѝ ѓ Â ѝ
ЛъЛ˘ Ѧ ˝І à ˘ Э
˝І Â

ş 1 M5610-16FMT 9 ¢
switch (config-qos)# service-policy net 1/9

## 7.2.9 priority

ҙ ˝І Â

{ *userid* | *vlan1* [ - *vlan2* ]| *slot/port* [ – *port2* ] | *protocolname* | *protocolno* | *tcpportno* | *udpport* } [{ | | | }]

QoS

| | | | |
|---|---|---|---|
| user | KEYWORD | user | ˜Ω ˘ DHCP ˝ı |
| userid | INTEGER | 0~999 | DHCP ˝ı , idÂ |
| vlan | KEYWORD | vlan | ˜Ω ˘ vlan ˝ı |
| vlan1 | INTEGER | 1~4094 | vlan ˝ı ˘ vlan id |
| vlan2 | INTEGER | 1~4094 | vlan ˝ı ˘ vlan2˝ vlan2 >= vlan1 |
| | KEYWORD | interface | ˜Ω ˘ ˝ı |
| slot | INTEGER | 1~10 | Æ ſı Â |
| port | INTEGER | 1~32 | ſı Â |
| port2 | INTEGER | 1~32 | ˘ ˩ Ɲ port2˜ port2> port1˜ Â |
| low \| normal\| middle \| high | KEYWORD | low \| normal\| middle \| high | 4 ˝ı ˛ æ˘ ˘ ˘ 4 ˝ı Â |

QoS , ˩ Ɲ ѝ ˘ ˝ı Â VLAN˜

## 7.2.10 no priority

ʢ ↓ QoS ˝I Â

{ *userid* | *vlan1* [ - *vlan2* ]| *slot/port* [ – *port2* ] | *protocolname* | *protocolno* | *tcpportno* | *udpport* }

QoS

| | | | |
|---|---|---|---|
| | KEYWORD | user | ˇΩ ˘ ˝I |
| userid | INTEGER | 0~1999 | ˝I ˘ ID |
| | KEYWORD | vlan | ˇΩ ˘ VLAN ˝I |
| vlan1 | INTEGER | 1~4094 | VLAN ˝I ˘ VLAN ID |
| vlan2 | INTEGER | 1~4094 | VLAN ˝I ˘ vlan2˝ vlan2 >= vlan1 |
| | KEYWORD | interface | ˇΩ ˘ ˝I |
| slot | SLOT/PORT | 1~10 | Æ /I |
| port | SLOT/PORT | 1~32 | /I |
| port2 | SLOT/PORT | 1~32 | ˘ ↓Л∪ port2ˆ port2> port1˜ |

QoS , ↓Л∪ ʢ ↓ QoS ˝I Â ʢ ˝I ˘ ʢ ˘ apply ʢ Â

1ş 3 ¢

```
switch (config-qos)# priority user 3  high
```

2

| | | | |
|---|---|---|---|
| | | ЭЮ Â | |
| burst-max | INTEGER | 1k byte – 128 M byte<br>é Л<br>ЭЮ Â | ă ˘ Æ Â<br>, : 2M, 2K, 2G ,<br>Æ : 200. ‡ й K byte |
| | KEYWROD | drop | Ѣ ˘ ¦ |
| late-drop | KEYWROD | late-drop | Ѣ ˘ ¦ a<br>˘ ă |

QoS , Â ҄ ¨I ˘ ҄ ˘ apply ҄ Â

1 ş 2 2

```
switch (config-qos)#police interface 2/1 100K 2M drop
```

```
  7 ş        2/1          ¢
switch (config-qos)#no police interface 2/1
```

```
  8 ş        2/1          ¢
switch (config-qos)#police interface 2/1
```

### 7.2.13 Apply

ȝ  ˝l  Â

{ [*vlan1]* | *[userid]* | *[protocolname ]*| *[slot/port]* | *[protocolno]* | *[tcpport]* | *[udpport ]*} [ ]

QoS

| | | | |
|---|---|---|---|
| | KEYWORD | vlan | ˁΩ ˘ VLAN ˝l |
| vlan1 | INTEGER | 1~4094 | VLAN ˝l ˘ VLAN ID˘ ˘ ‡ VLAN Â |
| | KEYWORD | user | ˁΩ ˘ ˝l |
| userid | INTEGER | 0~1999 | ˝l , id |
| | KEYWORD | interface | ˁΩ ˘ ˝l |
| *slot* | SLOT/PORT | 1~10 | Æ ʌ Â ˩ ˘ ‡ |
| *port* | SLOT/PORT | 1~32 | ʌ Â ˩ ˘ ‡ |
| | KEYWORD | force | ˁΩ , ˘ Ɲ Э è QoS˝ ‡ Ɲ , Ɲ Э б a ˩ QoS ˘ з ˁΩ ˘ ‡ qos a ˘ Ɲ QoS |

QoS , ¾ ”I Â

1ş user 6 ¢
switch (config-qos)# apply user 6 force

2ş VLAN 5 ¢
switch (config-qos)# apply vlan 5 force

3ş interface 6/2 ¢
switch (config-qos)# apply interface 6/2 force

## 7.2.14 show qos

¾ QoS Â

{ *[userid]* | *[slot/port]*| *[vlanid]*| }

QOS

| | | | |
|---|---|---|---|
| user-dhcp | KEYWORD | user-dhcp | ”Ω ˘ Â |
| userid | INTEGER | 0~1999 | QoS ˘ |

| | | | |
|---|---|---|---|
| slot | SLOT/PORT | 1~10 | Æ ⁄ Â ˩ ˘ ‡ Â |
| port | SLOT/PORT | 1~32 | ⁄ Â ˩ ˘ ‡ Â |
| vlan | KEYWORD | vlan | ˝Ω ˘ vlan Â |
| vlanid | INTEGER | 1~4094 | VLAN ID˝ ˩ ˘ ‡ VLAN Â |

QoS , ⅋ ˩ ⁄Ո QoS Â