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05 0 T6(25
shradius-s5TJ5(erverst71-69.5(.....0..)TJ35.0799 0 TD0.	
shrout-.5TJ5(a)-026(pio178291.....0..)TJ35.0799 0	

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CLI

keyword
value

[] [keyword] | {keyword1
{ | keyword2 | keyword3}
[{|}]
[{|keyword1 | keyword2}]

CLI

	CLI	CLI		interface gigabitEthernet
<i>number</i>	User EXEC			
	Privileged EXEC			
	Global configuration			
	Interface configuration			
	Config-vlan	VLAN		

1-1

switch

1-1

User EXEC		Switch>	exit	enable
Privileged EXEC	enable	Switch#		disable
Global configuration	configure	Switch(config)#	configure	exit
			end	Ctrl+C
Interface configuration	interface	Switch(config-if)#	interface	vlan
			VLAN	
			<i>vlan_id</i>	
			Ctrl+C	end
Config-vlan	vlan	Switch(config-vlan)#	interface	exit
VLAN	<i>vlan_id</i>		Ctrl+C	
				end
				exit

Exec

Exec

Exec

?

Switch> ?

?
Switch(config-if)# ?

end

Ctrl+C

exit

VLAN

aaa accounting server

show accounting AAA

aaa accounting server

no

aaa accounting server *ip-address* [backup]

no aaa accounting server [backup]

server *ip-address* IP

server *ip-address* **backup** IP

1.0

show accounting

Switch(config)# **aaa accounting server** 192.1.1.1

aaa accounting AAA

show accounting AAA

aaa accounting acc-port

UDP **no**

aaa accounting acc-port *acc-port*

no aaa accounting acc-port

acc-port *acc-port* UDP

UDP 1813

802.1x

1.0

802.1x 802.1x
show dot1x 802.1x

802.1x
Switch(config)# **aaa authentication dot1x**

radius-server	RADIUS
show dot1x	802.1x

aaa authorization ip-auth-mode

IP no

aaa authorization ip-auth-mode {disabled | dhcp-server | radius-server | supplicant }

no aaa authorization ip-auth-mode

disabled DISABLE

1.0

DISABLE IP

DHCP SERVER PC DHCP IP

DHCP RELAY DHCP SERVER

DHCP SERVER IP

RADIUS SERVER PC IP RADIUS SERVER

—IP IP

show ip-auth-mode IP

IP DHCP-SERVER

Switch#**configure terminal**

Switch(config)# **aaa authorization ip-auth-mode dhcp-ver**

Switch(config)#**end**

show ip-auth-mode IP

absolute

accept-lifetime

no

accept-lifetime *start-time* { **infinite** | *end-time* | **duration** *second* }

no accept-lifetime

start-time hh:mm:ss-mm/dd/yy

infinite

end-time hh:mm:ss-mm/dd/yy

duration *second*

end-time **duration** **infinite.**

1.0

show key chain

Switch(config-keychain-key)# **accept-lifetime** 00:00:00 08 26 2002 **duration**
100000

```

IP                MAC                IP
MAC
ip                3.3.3.3    mac    00d0.f811.1112
Switch(config)#address-bind 3.3.3.3 00d0.f811.1112

```

[show address-bind](#)

aggregateport load-balance

```

AP                no
aggregateport load-balance { dst-mac | src-mac | ip }
no aggregateport load-balance

```

```

dst-mac                MAC
AP                MAC
MAC

```

```

src-mac                MAC
AP

```

```

ip                IP    IP
IP— IP
IP— IP
IP— IP

```

MAC

1.0

show aggregateport

```
Switch(config)# aggregateport load-balance dst-mac
```

```
show aggregateport aggregateport
```

area authentication

no

area *area-id* **authentication** [message-digest]

no area *area-id* **authentication**

```
area-id IP
message-digest MD5
```

OSPF

1.0

router

no area *area-id* ()

Switch(config-router)# **area 0 authentication**

```
area nssa nssa
area stub stub
ip ospf authentication-key key
ip ospf message-digest-key MD5 key
area default-cost stub nssa metric
show ip ospf area
```

area default-cost

ghi V bggU aYhf]W bc

area *area-id* **default-cost** *cost*

no area *area-id* **default-cost**

```
area-id IP
cost ghi V bggU aYhf]W
. %* +++&%{
```

1

OSPF



Switch(config-router)# **area 2 nssa**

area stub stub

area authentication

area default-cost stub nssa metric

show ip ospf area

area range

no

area area-id range ip-address mask [advertise | not-advertise]

no area area-id range ip-address mask

area-id IP

ip-address ip

mask

advertise 3 LSA

no-advertise 3 LSA

OSPF

1.0

no area area-id ()

ABR

area *area-id* stub [no-summary]
no area *area-id* stub [no-summary]

<i>area-id</i>	IP
no-summary	LSA stub

stub

OSPF

1.0

no area *area-id* ()
no area *area-id* stub

Switch(config-router)# **area 1 stub**

area nssa nssa
area authentication

hello-interval

\Y`c

%*))')

%\$

retransmit-interval

%*))'))

transmit-delay

%*))') %

dead-interval

%*))')

hello-interval

"

authentication-key

,

message-digest-key *key-id md5 key*

A8)

_YmjX _Ym

_YmjX

% &)

_Ym

%*

OSPF

1.0

arp

ARP **no**

arp *ip-address hardware-address [type] interface-id*

no arp[*ip-address*] [*hardware-address*] [*type*] [*interface-id*]

600

1.0

arp timeout

show interfaces

Switch(config)#**interface vlan 1**
Switch(config-if)#**arp timeout 400**

show interfaces

auto-cost

no

bps02 3688.44033bTc235c< 212.4 1.506

class

policy map

no

class *class-map-name*

no class *class-map-name*

class-map-name class map

policy-map

1.0

show policy-map

policy map

class1

\$

```
Switch(config-ext-ipacl)# end
Switch(config)# class-map class1
Switch(config-cmap)# match access-group acl_1
Switch(config-cmap)# end
```

1.0

show interfaces

clear counters

Switch#**clear counters gigabitethernet 0/1**
Clear "show interface" counters on this interface [confirm] y
Switch#

show interfaces

clear gvrp statistics

GVRP

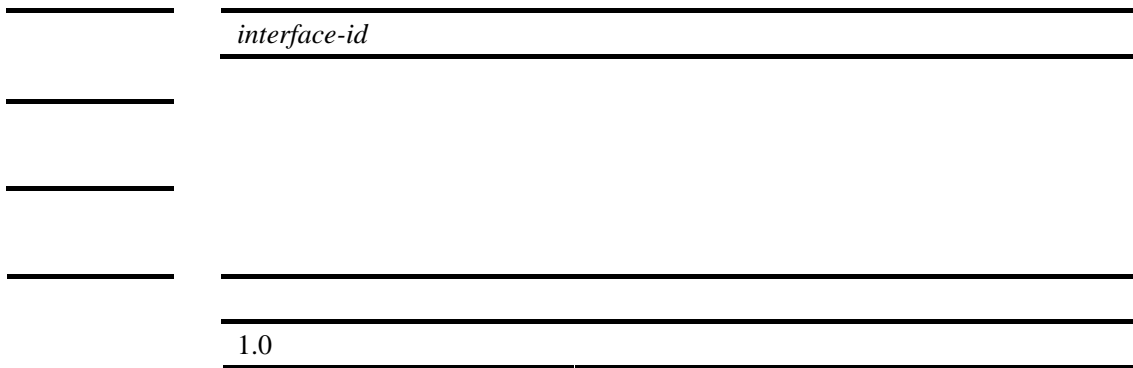
clear gvrp statistics {interface-id | **all**}

interface-id

ID

clear interface

clear interface *interface-id*



Aggregate port	Switch Port,L2	Aggregate port	,Routed port,L3
		\$	q\$

1.0

show running-config

230.0.0.0

Switch# **clear ip mroute** 230.0.0.0

show ip mroute

clear ip route

clear ip route {*network* [*mask*] | *}

network

mask

*

1.0

show ip route

Switch# **clear ip route** 192.168.65.0 255.255.255.0

show ip route

clear lldp counters

LLDP

clear lldp counters [*type number*]

Type

Number

1.0

fa0/1 LLDP
Switch#clear lldp counters fa0/1

[show lldp traffic](#) LLDP

clear lldp table

LLDP
clear lldp table

1.0

LLDP

LLDP
Switch#clear lldp table

[show lldp entry](#) LLDP

[show lldp neighbors](#) LLDP

clear logging

clear logging

```
1.0
```

```
show logging
```

```
Switch# clear logging configure
```

```
logging file
```

```
show logging
```

clear mac-address-table dynamic

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

```
dynamic
```

```
address mac-addr
```

```
interface interface-id
```

```
vlan vlan-id
```

```
VLAN
```

```
1.0
```

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

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

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

clear mac-address-table filtering

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

```
filtering
address mac-addr
vlan vlan-id                VLAN
```

```
1.0
```

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

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

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

clear mac-address-table static

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

```
static
address mac-addr
interface interface-id
vlan vlan-id                VLAN
```

1.0

MAC 00d0.f800.073c
Switch#clear mac-address-table static address 00d0.f800.073c

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

ocols

erface *interface-id*]

clock set

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

```
hh:mm:ss          24
day               1 31
month            1 12
year
```

```
1.0
```

```
show clock
```

```
Switch# clock set 10:45:30 22 2 2002
```

```
show clock
```

cluster commander-address

```
MAC              no              MAC
cluster commander-address mac-address [member number name name]
no cluster commander-address
```

```
mac-address          MAC          16
number              0-19
name
```

```
1.0
```

```
no
```

```
down
```

no

no cluster member

n

show cluster

cluster enable

no

cluster enable *name* [*command-switch-member-number*]

no cluster enable

<i>name</i>	16
<i>command-switch-member-number</i>	0-19

0

1.0

- 1.
- 2.

1. IP
2. LLDP

show cluster

clus0

3

Switch(config)#**cluster enable clus0 3**

[show cluster](#)

[show cluster candidates](#)

[show cluster members](#)

cluster holdtime

holdtime

holdtime

no holdtime 120

cluster holdtime *holdtime-in-secs*

no cluster holdtime

<i>holdtime-in-secs</i>	holdtime	1-300
-------------------------	-----------------	-------

120

1.0

show cluster

holdtime 25

Switch(config)#**cluster holdtime 25**

[show cluster](#)

cluster member

no

cluster member [*n*] **mac-address** *H.H.H* [**password** *enable-password*]

no cluster member *n*

<i>n</i>		0-19
<i>H.H.H</i>	MAC	16
<i>enable-password</i>		15

1.0

15

show cluster members

MAC 00d0.f8fe.1007 start

1

Switch(config)#**cluster member 1 mac-address 00d0.f8fe.1007 password start**

Switch(config)#**cluster member mac-address** 00d0.f8fe.1007

[show cluster](#)

[show cluster candidates](#)

[show cluster members](#)

cluster run

no

cluster run

no cluster run

1.0

show cluster

```
no timer 12
cluster timer interval-in-secs
no cluster timer
```

```
interval-in-secs timer 1-300
```

```
12
```

```
1.0
```

```
show cluster
```

```
timer 5
```

```
Switch(config)#cluster timer 5
```

```
show cluster
```

```
compatible
```

```
AS
```

```
RFC1583
```

```
RFC2328
```

```
compatible rfc1583
```

```
[no | default] compatible rfc1583
```

```
RFC1583
```

```
OSPF
```

```
1.0
```

```
no RFC2328 , default RFC1583
```

```
Switch(config-router)#compatible rfc1583
```

```
show ip ospf
```

```
ospf
```

configure

configure [terminal]

```
terminal
```

```
1.0
```

```
exit end
```

```
Ctrl+C
```

```
Switch# configure
```

```
end
```

```
exit
```

copy

copy

copy *source-url destination-url*

```
source-url
```

```
URL
```

```
destination-url
```

```
URL
```

```
1 URL
```

running-config

```
xmodem
```

```
xmodem
```

```
tftp:
```

```
tftp
```

```
flash:
```

startup-config

config.text

1.0

copy

dir

copy flash:filename1 flash:filename2

TFTP Xmodem copy flash: {tftp: |
xmodem:}

TFTP Xmodem copy {tftp: | xmodem:}
flash:

TFTP Xmodem copy running-config
{tftp: | xmodem:}

TFTP Xmodem copy {tftp: | xmodem}
running-config

copy running-config startup-config

more

TFTP

Switch# copy startup-config tftp:
Address or name of remote host []? 192.168.65.155
Destination filename [config.text]?
!!
2787 bytes copied in 1.320 secs (2787 bytes/sec)

delete

dir

more

default-information-originate(OSPF)

bc

default-information originate [always] [metric metric-value] [metric-type type-value]

[route-map map-name]

no default-information originate [always] [metric] [metric-type][route-map]

always

metric *metric-value*

fP% " %* +++&%@ t

%\$

metric-type *type-value*

&

route-map *map-name*

f ci hY! aUd

f ci hY! aUd

OSPF

1.0

ASBR

ASBR

OSPF

Switch(config-router)# **default-information originate metric 100**

show ip ospf

ospf

default-information originate(RIP)

F]d

bc

f ci hY! aUd

default-information originate [**route-map** *route-map-name*]

no default-information originate [**route-map**]

route-map-name

f ci hY! aUd

F=D

1.0

```
Switch(config-router)#default-information originate route-map uuu
Switch(config-router)# no default-information originate route-map
Switch(config-router)# no default-information originate
```

```
show ip protocols
```

default-metric(RIP)

```
      RIP      metric      no
default-metric number-value
no default-metric
```

```
number-value      RIP      metric      1      15
```

```
      1
```

```
RIP
```

```
1.0
```

```
show ip protocols      RIP
```

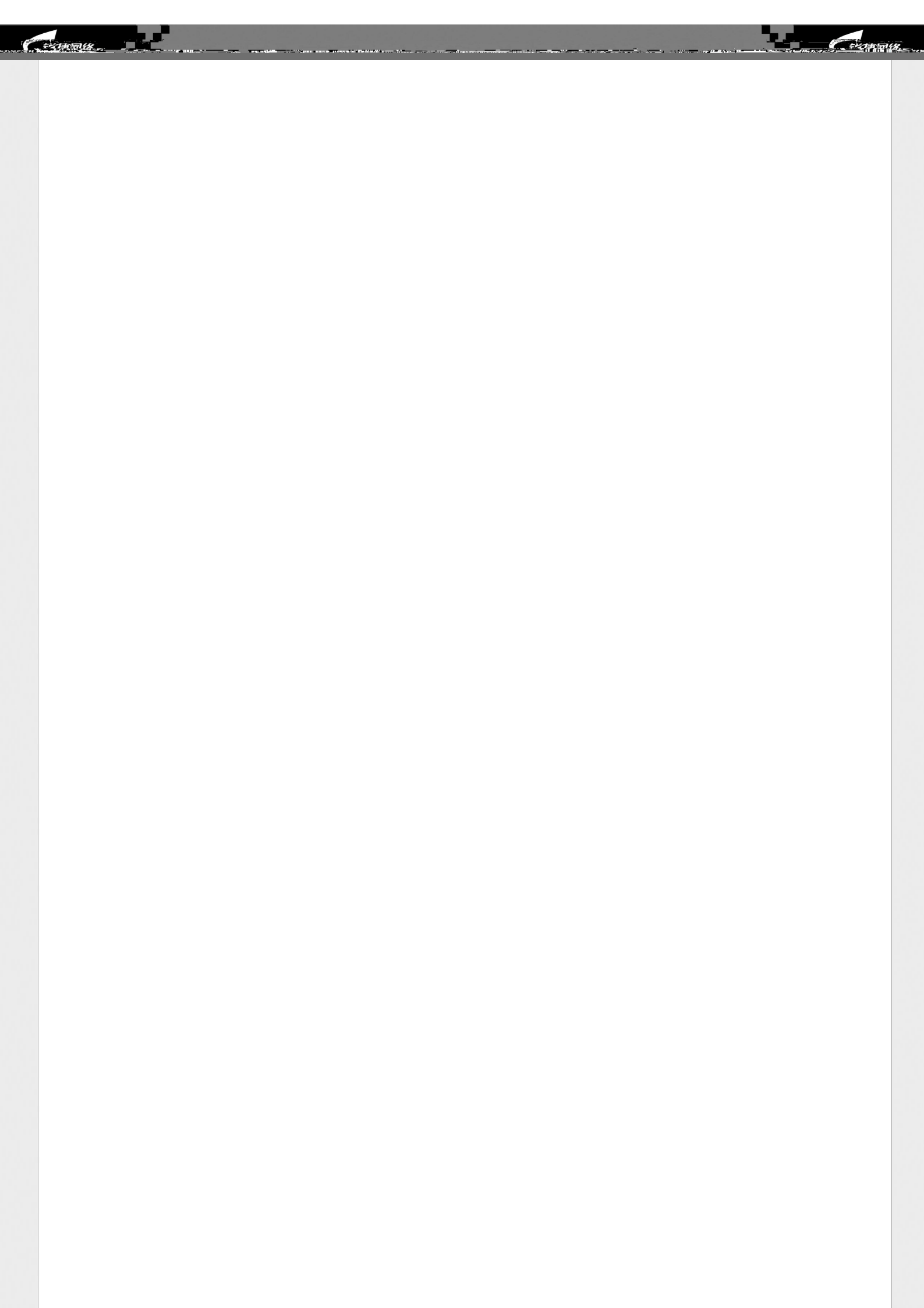
```
Switch(config)# ip routing
Switch(config)# router rip
Switch(config-router)# default-metric 2
```

```
ip routing
```

```
IP
```

```
IP
```

```
A'5B Ä
```



delete

delete

delete flash: *file-url*

```
flash: flash
file-url
```

```
1.0
```

dir

```
Switch# delete flash: config.text
```

1()T7 ET 111.24 687.92 345.1211.540f8 111.96 554.1

[Uf'd pUdd`YhU _ pXYWØYh!]j p =D
X] U[bcgh]W
pYhndY! *\$\$\$pYhndY! , \$(&p `Uh p
`Uj WgVW p
acd! Vøbgc`Ypacd! Xi ad p ai adg
pbYhV] cgpj] bYg! YWc p l bg!]XdQ

j]X		j`Ub	hfi b_ dcfh	
	hU[[YX		j]X	
	i bhU[[YX		bUh]j Y j`Ub	UWYgg
	dcfh	UWYg dcfh	j`Ub	
<i>source source-wildcard</i>		IP		
	<i>source</i>	IP		IP

host *source*

any

```

$$$Z, $$$( H7D
hVl %&%" $" $ "$&)" &) \cgh %&%" "%&'
Gk] hVl fMzbZ] [L# Yl dYfh UWWgg!` ]gh Yl hYbXYX Yl dYfh
Gk] hVl fMzbZ] [! Yl hl aUWk# XYbm hVl \cgh %&%" "%&' aUW
$$$Z, $$$( Ubm Ubm
Gk] hVl fMzbZ] [! Yl hl aUWk# dYfa] h Ubm Ubm Ubm Ubm
Gk] hVl fMzbZ] [! Yl hl aUWk# YbX
Gk] hVl # g\ck UWWgg!` ]ghg Yl dYfh
9 hYbXYX Yl dYfh UWWgg ` ]gh Yl dYfh
XYbm hVl \cgh %&%" "%&' aUW$$$Z, $$$( Ubm Ubm
permit any any any any

```

permit(expert access-list extended)	ACL	deny
show access-list	ACL	

deny (ip access-list extended)

```

ACL (deny) ACL
no IP ACL
deny protocol {source source-wildcard | host source | any}[operator port ][destination destination-wildcard | host destination | any ] [operator port] [h] aY! fUb[Y h] aY! fUb[Y! bLaYQ
no deny protocol {source source-wildcard | host source | any}[operator port ][destination destination-wildcard | host destination | any ] [operator port] [h] aY! fUb[Y h] aY! fUb[Y! bLaYQ

```

<i>protocol</i>	ip	tcp	udp	igmp	icmp
<i>source source-wildcard</i>	IP				
<i>source</i>	IP				IP
	<i>source-wildcard</i>				
host <i>source</i>	host <i>source</i>				source-wildcard
	0.0.0.0				
host <i>destination</i>	host <i>destination</i>				
	destination-wildcard	0.0.0.0			
any	any			source	0.0.0.0
	source-wild	255.255.255.255		any	
	destination	0.0.0.0	destination-wild		
	255.255.255.255				
<i>destination destination-wildcard</i>	IP				<i>source</i>
	IP		IP		
	<i>source-wildcard</i>				

```

operator port          TCP  UDP
                        operator  IP
                        TCP  UDP
                        operator  IP
                        TCP  UDP
                        0  65535
h] aY! fUb[ Y! bLaY   h] aY! fUb[ Y   "

```

ACL

ACL

1.0

Extended IP access lists IP IP

show ip access-lists

```

IP 192.1.1.1                      TCP                      100
1

```

```

Switch(config)# ip access-list extended 123
Switch(config-ext-nacl)# deny tcp host 192.1.1.1 eq 100 any
Switch(config-ext-nacl)# exit
Switch(config)# interface gigabitethernet 0/1
Switch(config-if)# ip access-group 133 in

```

```

permit (ip access-list      IP ACL      permit
extended)
show ip access-lists              IP ACL

```

deny (ip access-list standard)

(deny)

ACL

ACL

no

IP ACL

```

deny {source source-wildcard | host source | any} [h] aY! fUb[ Y h] aY! fUb[ Y! bLaYQ
no deny {source source-wildcard | host source | any} [h] aY! fUb[ Y h] aY! fUb[ Y! bLaYQ

```

```

source source-wildcard                      IP
source                      IP                      IP
source-wildcard
host source                      host source
source-wildcard      0.0.0.0

```

```

any          any          source  0.0.0.0
            source-wild  255.255.255.255
h]aY! fUb[Y! bUaY          h] aY! fUb[Y          "

```

ACL

ACL

1.0

```

Standard IP access lists      IP          IP
                              IP          IP

```

show ip access-lists

```

IP  192.1.1.1          1

```

```

Switch(config)# ip access-list standard 123
Switch(config-ext-nacl)# deny host 192.1.1.1
Switch(config-ext-nacl)# exit
Switch(config)# interface gigabitethernet 0/1
Switch(config-if)# ip access-group 133 in

```

```

permit (ip access-list IP ACL permit
standard)

```

```

show ip access-lists IP ACL

```

deny (mac access-list extended)

```

MAC          MAC          MAC          MAC
MAC ACL

```

host *dst-MAC-addr*

Uuf d pUdd` YhU _ pXYVWYh!]j p X] U[bcgh] W
pYhndY! *\$\$\$pYhndY! , \$(&p ` Uh p ` Uj WgVW p
acd! Vtbgc` Ypacd! Xi ad p ai adg
pbYhV] cgpj] bYg! YWxc p l bg!]XdQ

h] aY! fUb[Y! bLaY

h] aY! fUb[Y "

ACL

MAC ACL

1.0

show mac access-lists

MAC 00d0f8000c0c

100

1

Switch(config)#**mac access-list extended** mac1

Switch(config-ext-macl)# **deny host** 00d0f8000c0c **any** Uuf d

Switch(config-ext-macl)#**exit**

Switch(config)# **interface gigabitethernet** 0/1

Switch(config-if)# **mac access-group** mac1 **in**

permit (mac access-list MAC ACL permit
externed)

show mac access-lists MAC ACL

description(interface)

no

description *string*

no description

string

1.0

1.0

show privilege

Switch# **disable**

enable

show privilege

distance

no

distance weight
no distance

weight 1 255

RIP 120

OSPF 110

1.0

show ip protocols

RIP

OSPF

Switch(config)# **ip routing**

RIP

Switch(config)# **router rip**

Switch(config-router)# **distance** 100

Switch(config-router)# **exit**

OSPF

Switch(config)# **router ospf**

Switch(config-router)# **distance** 100

Switch(config-router)# **exit**

ip routing

IP

router rip	RIP	RIP
router ospf	OSPF	OSPF
show ip protocols		IP

distance ospf

bc XYZU`h

distance ospf {[intra-area *dist1*] [inter-area *dist2*] [external *dist3*]}

no distance ospf

intra-area *dist1*

fP% " &)) Ł

inter-area *dist2*

fP% " &)) Ł

external *dist3*

fP% " &)) Ł

dist1: 110

dist2: 110

dist3: 110

OSPF

1.0

0~255 OSPF

Switch(config-router)# **timers spf** 15 20

show ip ospf

ospf

distribute-list

bc

distribute-list { *access-list-name* | **gateway** *ip-prefix-list* | **prefix** *ip-prefix-list* [**gateway** *ip-prefix-list*]} { **in** | **out** }
 [*interface-id* | *protocol-type*]

no distribute-list { **in** | **out** } [*interface-id* | *protocol-type*]

dot1x accout-update-interval

802.1X **no**

dot1x accout-update-interval *value*

no dot1x accout-update-interval

value

1800S

1.0

<60-65535>

Switch(config)# **dot1x accout-update-interval 100**

show dot1x 802.1X

dot1x auth-address-table

802.1X **no**

dot1x auth-address-table address *mac-address* **interface** *interface-id*

no dot1x auth-address-table address *mac-address* **interface** *interface-id*

address *mac-address*

interface *interface-id*

1.0

802.1X

show dot1x

auth-address table

Switch(config)#**dot1x auth-address-table address** 00d0f8000000 **interface**
gigabitehternet 0/1

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

dot1x auth-mode

, \$&" %

```
dot1x auth-mode {eap-md5|chap}
```

```
no dot1x auth-mode
```

eap-md5	, \$&" %	95D! A8)
chap	, \$&" %	7<5D

```
Switch(config)# dot1x client-probe enable
```

```
Show dot1x dot1x
```

dot1x default

dot1x eapol-tag

eapol-tag

no

dot1x eapol-tag

no dot1x eapol-tag

Eapol-tag

eapol-tag

1.0

eapol-tag

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

Show dot1x

dot1x max-req

no

dot1x max-req *count*

no dot1x max-req

count

60

1.0

show dot1x

802.1x

Switch(config)# **dot1x max-req 30**

1.0

show dot1x 802.1x

Switch(config)# dot1x re-authentication

dot1x default 802.1x

dot1x max-req

dot1x port-control auto

dot1x reauth-max

dot1x timeout

quiet-period

dot1x timeout

re-authperiod

dot1x timeout

server-timeout

dot1x timeout

supp-timeout

dot1x timeout

tx-period

show dot1x 802.1x

dot1x reauth-max

no

dot1x reauth-max [count]

no dot1x reauth-max

1.0

show dot1x 802.1x

Switch(config)# **dot1x reauth-max 5**

dot1x default 802.1x

show dot1x 802.1x

Switch(config)# dot1x timeout quiet-period 1000

dot1x default 802.1x

dot1x max-req

dot1x port-control auto

dot1x reauth-max

dot1x re-authentication

dot1x timeout

re-authperiod

dot1x timeout

server-timeout

dot1x timeout

supp-timeout

dot1x timeout

tx-period

show dot1x 802.1x

dot1x timeout re-authperiod

no

dot1x timeout re-authperiod *seconds*

no dot1x timeout re-authperiod

seconds 0 65535

3600

1.0

show dot1x 802.1x

Switch(config)# dot1x timeout re-authperiod 1000

dot1x default 802.1x

dot1x max-req

dot1x port-control auto

dot1x reauth-max

dot1x re-authentication

dot1x timeout
quiet-period

dot1x timeout
server-timeout

dot1x timeout
supp-timeout

dot1x timeout

tx-period

show dot1x

dot1x **timeout**
re-authperiod

dot1x **timeout**
supp-timeout
dot1x **timeout**

dot1x timeout tx-period

no

dot1x timeout tx-period *seconds*

no dot1x timeout tx-period

	<i>seconds</i>	0	65535
	30		
	1.0		
	show dot1x	802.1x	
	Switch(config)# dot1x timeout tx-period 10		
	dot1x default	802.1x	
	dot1x max-req		
	dot1x port-control auto		
	dot1x reauth-max		
	dot1x re-authentication		
	dot1x	timeout	
	quiet-period		
	dot1x	timeout	
	re-authperiod		
	dot1x	timeout	
	server-timeout		
	dot1x	timeout	
	supp-timeout		
		802.1x	

duplex

no

duplex { auto | full | half

no duplex

auto

full

half

1.0

show interfaces

Switch(config-if)# duplex full

show interfaces

enable

enable [level]

level

15

1.0

enable secret
privilege

disable

show

10

Switch>enable 10

Switch#

enable secret

disable

show privilege

enable secret

no

enable secret [*level level*] {*encryption-type encrypted-password*}

no enable secret [*level level*]

level level 0

15 16

15

encryption-type 0 5

encrypted-password 0

5

15

1.0

15

Switch(config)#**enable secret level 10 0** 123456

Switch(config)#**enable secret level 10 5** \$[djf~k!Ja]s!had_98%sjfl=k`)j

enable

disable

show privilege

```

trap-type          trap          :
                   VirtIfStateChange
                   NbrStateChange
                   VirtNbrStateChange
                   IfConfigError
                   VirtIfConfigError
                   IfAuthFailure
                   VirtIfAuthFailure
                   IfRxBadPacket
                   VirtIfRxBadPacket
                   TxRetransmit
                   VirtIfTxRetransmit
                   OriginateLsa          LSA
                   MaxAgeLsa          LSA
                   LsdbOverflow          LSA
                   LsdbApproachOverflow  LSA

                   IfStateChange.

```

```

trap

```

```

OSPF

```

```

1.0

```

```

trap          trap          trap          trap
trap          <<          IP          >>
:
trap          trap,          trap
trap          trap

```

```

trap
Switch(config-router)#enable traps
trap
Switch(config-router)#enable traps IfAuthFailure
trap
Switch(config-router)# no enable traps

```

```

router ospf          ospf
show ip ospf traps status          ospf          trap

```



Switch #**show interfaces status**

Interface	Status	vlan	duplex	speed	type
Fa0/1	down	1		Unknown	Unknown
10/100BaseTX					
Fa0/2	down	1		Unknown	Unknown
10/100BaseTX					
Fa0/3	down	1		Unknown	Unknown
10/100BaseTX					
Fa0/4	down	1		Unknown	Unknown
10/100BaseTX					

Switch(config-if)# **errdisable recovery**

show interfaces

exec-timeout (console,vty)

default

exec-timeout *timeout*

no exec-timeout

default exec-timeout

timeout , 0-3600
,0

CONSOLE 10 ,TELNET 5 .

1.0

0. **show line console 0**

, **show line vty** telnet .

telnet 0

Switch(config)#**line vty**

Switch(config-line)#**timeout login response 0**

line

exit

exit

1.0

end

Switch(config-if)#exit

Switch(config)#

end

expert access-group

EXPERT ACL

no

Yl dYfh UWWgg! [fci d blAY o] bpci hq

no Yl dYfh access-group name o] bpci hq

Name	IP ACL
------	--------

l b	.
-----	---

ci h	.
------	---

1.0

57@
ci h GJ= show access-group

access-list accept_00d0f8xxxxxx_only Gigabit 1

Switch(config)# interface GigaEthernet 0/1
Switch (config-if)# expert access-group accept_00d0f8xxxxxx_only in

show access-group MAC ACL

expert access-list

ACL, no
Yl dYfh UWWgg! `]gh Yl hYbXYX bLaY
no Yl dYfh UWWgg! `]gh Yl hYbXYX bLaY

Name IP ACL

1.0

on

1.0

show interfaces

0/1

Switch(config)#interface gigabitethernet 0/1

Switch(config-if)# flowcontrol on

show interfaces

gvrp applicant state

GVRP

no

gvrp applicant state {normal | non-applicant}

no gvrp applicant state

GVRP

1.0

show gvrp configuration

Switch(config-if)#gvrp applicant state normal

show gvrp configuration GVRP

gvrp base-vlan-id

```
GVRP          VLAN          no
gvrp base-vlan-id [vlan-id]
no gvrp base-vlan-id
```

```
GVRP          VLAN 1
```

```
1.0
```

```
show gvrp configuration
```

```
Switch(config-if)#gvrp base-vlan-id 2
```

```
show          gvrp          GVRP
configuration
```

gvrp dynamic-vlan-creation

```
          vlan          no
gvrp dynamic-vlan-creation enable
no gvrp dynamic-vlan-creation enable
```

```
vlan
```

```
1.0
```

```
show gvrp configuration
```

```
Switch(config)# gvrp dynamic-vlan-creation enable
```





Switch(config)# **gvrp timer join 200**

show gvrp GVRP
configuration

help

help

1.0

help

Switch# **help**

hostname

no

hostname name
no hostname

name

Switch

1.0

```
Spanning-tree mst mst
configure
```

```
Show mst mst
```

```
Show spanning-tree mst
mst configuration
```

interface aggregateport

no

```
interface aggregateport port-number
```

```
no interface aggregateport port-number
```

```
port-number Aggregate port
```

```
aggregate port
```

```
1.0
```

```
aggregate port aggregate port
aggregate port
```

```
show interfaces show interfaces aggregateport
```

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

```
show interfaces
```

interface fastEthernet

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

```
mod-num/port-num /
```

1.0

no **show interfaces** **show interfaces**
fastEthernet

Switch(config)#**interface fastEthernet1/2**
Switch(config-if)#

show interfaces

interface gigabitEthernet

interface gigabitEthernet *mod-num/port-num*

mod-num/port-num /

1.0

no **show interfaces** **show**
interfaces gigabitEthernet

interface loopback

bc

```
interface loopback loopback-id  
no interface loopback loopback-id
```

```
loopback-id loopback (0-255)
```

```
loopback
```

```
1.0
```

```
OSPF          IP          ROUTER ID  
ROUTER ID  
IP          ROUTER ID          Loopback OSPF  
IP          Loopback OSPF  
Loopback IP loopback ip ospf  
ROUTER ID.
```

```
loopback
```

```
Switch(config)# interface loopback 1  
Switch(config-if)#
```

```
router-id fci hYf=8
```

```
show ip ospf interface ospf
```

interface range

```
interface range {port-range | macro macro_name}
```

```
port-range
```

```
macro macro_name
```

1.0

interface range

define interface-range

Switch(config)#**interface range** gigabitethernet 0/1-5,0/7,0/9-10
Switch(config-if-range)#

define interface-range

interface vlan

switch virtual interface SVI

no SVI

interface vlan *vlan-id*

no interface vlan *vlan-id*

vlan-id VLAN ID

1.0

show interfaces **show interfaces vlan**

ip access-group

```
ACL                                     no  
ip access-group name o] bpci hq  
no ip access-group name o] bpci hq
```

Name	IP ACL
] b	.
ci h	.

1.0

```
57@  
GJ=          ci h          show access-group
```

```
access-list deny_unknow_device 10/100M 1  
Switch(config)# interface gigabitethernet 0/1
```

1.0

show_ip_interface

ip broadcast-address

SVI

Routed port

no

ip broadcast-address *ip-address*

no ip broadcast-address

ip-address

IP

255.255.255.255

1.0

SVI Routed port

show interfaces **show**

interfaces vlan

Switch(config)#**interface vlan 3**

Switch(config-if)#**ip broadcast-address** 255.255.255.0

show_ip_interface

ip default-gateway

no

ip default-gateway *ip-address*

no ip default-gateway

ip-address

1.0

show ip redirects

Switch(config)# **ip default-gateway** 192.168.12.1

show ip redirects

ip deny spoofing-source

DOS **no**

ip deny spoofing-source

no ip deny spoofing-source

spoofing-source

1.0

show running-config

Switch(config-if)#ip deny spoofing-source

show running-config

ip dhcp relay information option dot1x

DHCP Relay Information **no**

ip dhcp relay information option dot1x

no ip dhcp relay information option dot1x

dot1x

802.1x

DHCP Relay

1.0

show running-config

Switch(config)# ip dhcp relay information option dot1x

show running-config

ip dhcp relay information option dot1x access group

DHCP Relay Information **no**

ip dhcp relay information option dot1x access-group word

no ip dhcp relay information option dot1x access-group word

word DHCP Relay Information
ACL

1.0

show running-config

Switch(config)# ip dhcp relay information option dot1x access-group aclname

show running-config

Switch(config-if)# ip dvmrp default-information

ip dvmrp metric DVMRP

ip dvmrp metric-offset

no

ip dvmrp metric-offset [in | out] metric-offset

no ip dvmrp metric-offset {in | out} metric-offset

in DVMRP

out DVMRP

metric-offset 1-31

in in 1 out 0

1.0

show running-config

DVMRP 1 1

DVMRP

DVMRP 10

Switch(config-if)# ip dvmrp metric-offset 10

ip dvmrp reject-non- pruners

DVMRP no

ip dvmrp reject-non-pruners

no ip dvmrp reject-non-pruners

reject-non-pruners

1.0

show running-config
DVMRP

DVMRP

Switch(config-if)# **ip dvmrp reject-non-pruners**

ip dvmrp routehog-notification

DVMRP

no

ip dvmrp routehog-notification *route-count*

no ip dvmrp routehog-notification

routehog-notification *route-count*

1~2147483647.

10000

1.0

show running-config

10000

DVMRP

DVMRP

Switch(config)# **ip dvmrp routehog-notification 20000**

ip dvmrp route-limit

no

ip dvmrp route-limit *count*

no ip dvmrp route-limit

route-limit count 0~2147483647

7000

1.0

show running-config
DVMRP 7000

Switch(config)# **ip dvmrp route-limit 8000**

ip dvmrp unicast-routing DVMRP

ip dvmrp unicast-routing

DVMRP no DVMRP

ip dvmrp unicast-routing
no ip dvmrp unicast-routing

unicast-routing DVMRP

1.0

show running-config DVMRP DVMRP
PIM PIM

Switch(config-if)# **ip dvmrp unicast-routing**

ip dvmrp route-limit

ip helper-address

DHCP relay server **no**

1.0

show ip igmp interface

IP

gigabitethernet0/1

240.1.1.1:

Switch(config)#**ip access-list standard** acc-group

Switch(Vt6Z) [! ghX! bUW)# **permit** 240.1.1.1 0.0.0.0

Switch(Vt6Z) [! ghX! bUW)#**exit**

Switch(config)# **interface** gigabitethernet0/1

Switch(config-if)# **ip igmp access-group** acc-group

ip igmp join-group

ip igmp join-group

no

ip igmp join-group *group-address*

no ip igmp join-group *group-address*

join-group *group-address*

1.0

show ip igmp interface

ICMP ECHO

Switch(config)#**interface** vlan 1

Switch(config-if)# **ip igmp join-group** 230.0.0.0

ip igmp access-group

ip igmp last-member-query-interval

```
Switch(config)#interface vlan 1
Switch(config-if)# ip igmp query-interval 150
```

```
show ip igmp groups
```

```
IGMP
```

```
response-time0(oups )Tj/TT31323f2.2
```

1.0

show ip igmp interface
IGMPv2

Switch(config)#**interface vlan 1**
Switch(config-if)#**ip igmp querier-timeout 300**

ip igmp query-interval

ip igmp snooping

IGMP-Snooping IGMP-Snooping **no** igmp

snooping

ip igmp snooping {ivgl | svgl [vlan *vlan-id*]}

no ip igmp snooping

ivgl

VLAN

IGMP

igmA'5B"R0Y2.995 Tf3.4757 0 TV789

ip igmp snooping
limit-ipmc

IPMC

ip igmp snooping mrouter

no

ip igmp snooping mrouter interface *interface-id*

no ip igmp snooping mrouter interface *interface-id*

```
interface interface-id Trunk
```

```
1.0
```

IGMP

IGMP

show ip igmp snooping mrouter

```
Switch(config)#ip igmp snooping mrouter interface gigabitethernet 0/1
```

```
ip igmp snooping IGMP-Snooping
ip igmp snooping / IP
source-check
ip igmp snooping IPMC IP
limit-ipmc
show ip igmp snooping igmp snooping
```

ip igmp snooping source-check

```
igmp snooping / IP no igmp snooping
/ IP
```

ip igmp snooping source-check [port][default-server *ip-address*]

no ip igmp snooping source-check [port] [default-server]

```
port
default-server IP
```

1.0

IP

IPMC

()

IP
Server

IPMC

IP

IPMC

IP

Server IP

Server

ip igmp snooping limit

IPMC

IP

show ip igmp snooping

IP

Switch(config)# **ip igmp snooping source-check port**

ip igmp snooping

IGMP-Snooping

ip igmp snooping

IPMC

IP

limit-ipmc

ip igmp snooping vlan

mrouter

show ip igmp snooping

igmp snooping

ip igmp static-group

no

ip igmp static-group *group-address*

no ip igmp static-group *group-address*

static-group *group-address*

1.0

show ip igmp interface

IGMP

```
Switch(config)#interface vlan 1
Switch(config-if)# ip igmp static-group 230.0.0.0
```

```
ip igmp join-group
```

ip multicast-routing

no

ip multicast-routing

no ip multicast-routing

```
multicast-routing
```

```
1.0
```

```
show running-config
```

PIM

```
Switch(config)# ip multicast-routing
```

ip multicast boundary

no

ip multicast boundary *access-list-name*

no ip multicast boundary

```
boundary access-list-name
```

1.0

show running-config

239.0.0.0 239.255.255.255

IP

fastethernet0/1

224.0.0.0

Switch(config)# **ip access-list standard mul-boun**

Switch(V&bZ) [! ghX! bUV)# **permit 224.0.0.0 0.0.0.0**

Switch(V&bZ) [! ghX! bUV)#**exit**

Switch(config)# **interface fastethernet0/1**

Switch(config-if)# **ip multicast boundary mul-boun**

ip multicast ttl-threshold

TTL time-to-live

no

ip multicast ttl-threshold *ttl-value*

no ip multicast ttl-threshold

ttl-threshold *ttl-value*

TTL

,

0~255

0

1.0

show running-config

TTL

0

TTL

TTL

Switch(config-if)# **ip multicast ttl-threshold 5**

ip multicast vlan

vlan id no

ip multicast vlan *vlan-id* **interface** *type number*

no ip multicast vlan interface *type number*

```
vlan vlan-id
type
number
```

native vlan

```
1.0
```

show running-config

```
Switch(config)# ip multicast vlan 5 interface fastEthernet0/1
```

ip ospf authentication

bc

ip ospf authentication [message-digest | null]

no ip ospf authentication

```
aYggU[ Y! X] [ Ygh
bi ``
```

```
% $
```

bc

```
ž ] bhYfZUW fUb[Y "
```

```
bi ``
```

Gk] hVWfMčbZ] [!] Zł#] d cgdZ Ui h\Ybh] Włh] cb

show ip ospf interface ospf

ip ospf authentication-key

bc

ip ospf authentication-key *password*

no ip ospf authentication-key

password

ž

% \$

ž

] bhYfZUW fUb[Y

Gk] hVWfMčbZ] [!] Zł#] d cgdZ Ui h\Ybh] Włh] cb! _Ym ZZZ

show ip ospf interface ospf

ip ospf cost

bc

ip ospf cost *cost*

no ip ospf cost

cost

. %*)')'

10

1.0

a17.05c24176>Tj/q26.507502 0 0 3.06 8023d4192354202c86 e837be087c4f6704cb087336d1182D0d402c867ed1

1.0

<Y`c

ž

]bhYfZUW fUb[Y

Switch(config-if)# ip ospf hello-interval 20

show ip ospf interface ospf

ip ospf message-digest-key

aX)

bc

ip ospf message-digest-key *key-id* md5 *key*

no ip ospf message-digest-key *key-id*

key-id A8) fP% " &)) Ł

key A8) _Ym %*

A8)

% \$

ž]bhYfZUW fUb[Y

Gk] hWfMtbZ] [!] ZŁ#]d cgdZ aYggU[Y! X] [Ygh! _Ym & aX) UUU
Gk] hWfMtbZ] [!] ZŁ#]d cgdZ aYggU[Y! X] [Ygh! _Ym &% aX) VVV
_Ym

Gk] hWfMtbZ] [!] ZŁ#bc]d cgdZ aYggU[Y! X] [Ygh! _Ym &
Gk] hWfMtbZ] [!] ZŁ#bc]d cgdZ aYggU[Y! X] [Ygh! _Ym &%

show ip ospf interface ospf

ip ospf network

bc

ip ospf network {broadcast | point-to-point}

no ip ospf network

broadcast

point-to-point

1.0

]bhYfZUW fUb[Y

Switch(config-router)# **ip ospf network point-to-point**

Switch(config-router)#**no ip ospf network**

show ip ospf interface

ospf

ip ospf priority

bc

ip ospf priority *number-value*

no ip ospf priority

number-value

. \$" " &))

1




```
priority 0~255 BSR BSR
IP BSR 0
```

```
1.0
```

```
show running-config PIM BSR BSR
```

```
30 10 bsr
```

```
Switch(config)# ip pim bsr-candidate gigabitethernet0/2 30 10
```

```
ip pim rp-candidate RP
```

```
show ip pim bsr BSR
```

```
show ip pim rp RP
```

ip pim dr-support-address-bound

```
DR no DR
```

```
ip pim dr-support-address-bound access-list-name
```

```
no ip pim dr-support-address-bound
```

```
dr-support-address-bound DR
```

```
access-list-name
```

```
1.0
```

```
show running-config PIM SM PIM SM-DM DR
```

```
DR
```

```
vlan2 DR 192.168.10.1/24
```

```
Switch(config)#ip access-list standard dr-supp
Switch(config-std-nacl)# permit 192.168.10.1 0.0.0.255
Switch(config-std-nacl)#exit
Switch(config)#interface vlan 2
Switch(config-if)# ip pim dr-support-address-bound dr-supp
```

ip pim lan-delay

```
LAN Delay          no          LAN Delay
ip pim lan-delay
no ip pim lan-delay
```

```
lan-delay          LAN Delay  PIM          hello
```

```
1.0
```

```
show running-config          LAN Delay  PIM          hello
```

```
vlan 2  LAN Delay
```

```
Switch(config)#interface vlan 2
Switch(config-if)# ip pim lan-delay
```

```
ip pim override-interval
```

ip pim neighbor-filter

```
no
ip pim neighbor-filter access-list-name
no ip pim neighbor-filter
```

```
neighbor-filter access-list-name
```

1.0

show running-config

PIM

vlan2 192.168.10.1/24

Switch(config)#**ip access-list standard** neigh-fil

Switch(config-std-nacl)# **permit** 192.168.10.1 0.0.0.255

Switch(config-std-nacl)#**exit**

Switch(config)#**interface vlan 2**

Switch(config-if)# **ip pim neighbor-filter** neigh-fil

ip pim override-interval

no

ip pim override-interval *interval*

no ip pim override-interval

override-interval *interval*

0~65535

2500

1.0

show running-config

PIM

3

override interval

Switch(config-if)# **ip pim override-interval** 1000

ip pim lan-delay

LAN Delay

ip pim query-interval

PIM Hello

no

ip pim query-interval *interval*

no ip pim query-interval

query-interval *interval*

0~65535

30

1.0

show running-config

PIM Hello

designated router DR

Switch(config-if)# **ip pim query-interval** 1000

ip pim rp-address

RP

no

RP

ip pim rp-address *ip-address* [**group-list** *access-list-name*] [**override**]

no ip pim rp-address *ip-address*

ip-address

RP

group-list *access-list-name*

IP

RP

RP

override

RP

RP

ip rip authentication mode

RIP

no

ip rip authentication mode {md5 | text }

no ip rip authentication mode

```
md5 md5
text
```

```
1.0
```

```
show ip protocols SVI RIP
```

```
Switch(config)#interface vlan 2
Switch(config-if)# ip rip authentication mode text
```

```
ip rip authentication RIP
key-chain
show ip protocols IP
```

ip rip authentication key-chain

RIP

no

ip rip authentication key-chain *key-chain*

no ip rip authentication key-chain

```
key-chain
```

```
1.0
```

RIP show key
chain show ip protocols SVI RIP

Switch(config)#interface vlan 2
Switch(config-if)# ip rip authentication key-chain key1

ip rip authentication	SVI	RIP
mode		
show key chain		
show ip protocols		IP

ip rip receive version

RIP no
ip rip receive version [1] [2]
no ip rip receive version

1	1	RIP
2	2	RIP
1 2		RIP

RIP

1.0

RIP RIP show ip protocols

2 RIP
Switch(config)#interface vlan 2
Switch(config-if)# ip rip receive version 2
1 2
Switch(config)#interface vlan 2
Switch(config-if)# ip rip receive version 1 2

ip rip send version	RIP
ip rip v2-broadcast	V2

```
version RIP
show ip protocols IP
```

ip rip send version

```
RIP no
ip rip send version [1] [2]
no ip rip send version
```

```
1 1 RIP
2 2 RIP
1 2 1 2 RIP
```

```
1 RIP
```

```
1.0
```

```
RIP RIP show ip protocols
```

```
2 RIP
Switch(config)#interface vlan 2
Switch(config-if)# ip rip send version 2
```

```
ip rip receive version RIP
ip rip v2-broadcast V2
version RIP
showS-10.0rols
```



1.0

show ip route IP

IP 192.168.65.1 255.255.255.0 IP
192.168.13.1 1
Switch(config)# **ip route** 192.168.65.1 255.255.255.0 192.168.13.1 1

show ip route IP

ip routing

IP **no**
ip routing
no ip routing

IP

1.0

IP 3 **show ip protocols**
IP

Switch(config)# **ip routing**

router RIP RIP

show ip protocols IP

ip ssh version

ssh server **no**

show ip ttl ip ttl

key

no

key *key-number*

no key *key-number*

key-number 0 2147483647.

1.0

show key chain

Switch(config-keychain)# **key** 11

Switch(config-keychain-key)#

show key chain key chain

key chain

no

key chain *name-of-chain*

no key chain *name-of-chain*

name-of-chain

1.0

show key chain

```
Switch(config)# key chain key-chain-list1
Switch(config-keychain)#
```

```
show key chain key chain
```

_Ym! ghf] b[

no

key-string *text*
no key-string

```
text 80
```

```
1.0
```

```
show key chain
```

```
Switch(config-keychain-key)# key-string star-net-rip
```

```
show key chain key chain
```

line

line {**console** *line-number*/**vty**}

```
console line-number
```

```
vty TELNET
```

1.0

telnet

S35

LLDP

Switch(config)# **no lldp run**

[show lldp](#)

LLDP timer

holdtime

lldp timer

LLDP timer

no

timer

60

lldp timer *seconds*

no lldp timer

seconds

timer

5-299

60

1.0

show lldp



1.0

level

7

1.0

show logging

A 1 " % V ... e l E V H 3 b A 8 ... (6 X i @ 5 @ C I X Q e 6 ` Y a K 0 5 1 5 @

!

Show logging
show running-config

logging facility

SYSLOG

no

show run

Switch(config)# **logging source address 1.1.1.1**

Show logging

show running-config

logging source interface

SYSLOG

no

logging source interface S*~~0~~

1.0

Telnet

RADIUS

HY` bYh

Gk] hVX#VtbZ] [i fY hYfa] bU

Gk] hVXfMtbZ] [t# fUX] i g! gYfj Yf \cgh %&"%*, "*"("%\$

Gk] hVXfMtbZ] [t# fUX] i g! gYfj Yf _Ym hYgh

Gk] hVXfMtbZ] [t# `] bY j hm

Gk] hVXfMtbZ] [! `] bYt# `c[] b Uf h\Ybh] WWh] cb fUX] i g

Gk] hVXfMtbZ] [! `] bYt#YbX

line

[show running-config](#)

loopback

no

loopback

interface *interface-id*

mac access-group

MAC ACL

no

mac access-group *name* o] bpci hq

no mac access-group *name* o] bpci hq

Name	IP ACL
] b	.
ci h	.

1.0

57@

5 €

1.0

mac ACL show mac access-lists
ACL

MAC extended ACL macext
Switch(config)# mac access-list extended macext

show mac access-lists MAC ACL

mac-address-table aging-time

no

mac-address-table aging-time *seconds*

no mac-address-table aging-time

seconds

300

1.0

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

Switch(config)# mac-address-table aging-time 150

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

mac-address-table filtering

no

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

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

mac-address

vlan *vlan-id* VLAN ID

1.0

show mac-address-table filtering

Switch(config)#**mac-address-table filtering** 00d0f8000000 **vlan** 1

clear

mac-address-table

filtering

show

mac-address-table

filtering

mac-address-table notification

MAC

no

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

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

interval *value*

MAC

Trap

1

history-size *value*

MAC

1

1

1

mac-address-table static

00d0.f800.073c VLAN 4

gigabitethernet 0/1

Switch(config)#**mac-address-table static** 00d0.f800.073c **vlan** 4 **interface**
gigabitethernet 0/1

show
mac-address-table
static

clear
mac-address-table
static

match access-group

class map **no** class map
match access-group *acl-name*
no match access-group *acl-name*

<i>acl-name</i>	ACL
-----------------	-----

match interface

bc

match interface *interface-id*

no match interface [*interface-id*]

```
interface-id aggregateport SVI
```

```
fci hY! aUd
```

```
1.0
```

```
Switch(config-route-map)# match interface vlan 4
```

```
bc
```

```
Switch(config-route-map)# no match interface
```

```
show route-map route-map
```

match ip address

bc

match ip address *access-list-name*

no match ip address [*access-list-name*]

```
access-list-name ACL
```

```
fci hY! aUd
```

```
1.0
```

```
57@
```

```
57@
```

```
57@
```

```
Switch(config-route-map)# match ip address acl_for_route_map
bc
Switch(config-route-map)# no match ip address
```

```
show route-map route-map
```

match ip next-hop

bc

```
match ip next-hop access-list-name
no match ip next-hop [access-list-name]
```

```
access-list-name ACL
```

```
fci hY! aUd
```

```
1.0
```

```
57@
```

```
57@
```

```
57@
```

```
Switch(config-route-map)# match ip next-hop acl_for_route_map
bc
Switch(config-route-map)# no match ip next-hop
```

```
show route-map route-map
```

match ip route-source

bc

```
match ip route-source access-list-name
no match ip route-source [access-list-name]
```

access-list-name

ACL

fci hY! aUd

1.0

57@

57@

57@

Switch(config-route-map)# **match ip route-source** acl_for_route_map
bc

Switch(config-route-map)# **no match ip route-source**

show route-map

route-map

match metric

bc

match metric *metric-value*

no match metric [*metric-value*]

metric-value

fP% &% +(, ' * (+L

fci hY! aUd

1.0

aYhf]W

aYhf]W

Switch(config-route-map)# **match metric** 4
bc

Switch(config-route-map)# **no match metric**

```
show route-map
```

```
route-map
```

match route-type

```
bc
```

```
match route-type { internal | external [type-1 | type-2] }
```

```
no match route-type
```

```
internal
```

```
CGD:
```

```
CGD:
```

```
"
```

```
external[type-1 | type-2]
```

```
6; D
```

```
CGD:
```

```
6; D
```

```
CGD:
```

```
ž
```

```
CGD:
```

```
hñdY! %
```

```
hñd! &
```

```
ž
```

```
YI hYf b! hñdY%
```

```
YI hYf b! hñdY&
```

```
"
```

```
fci hY! aUd
```

```
1.0
```

```
Switch(config-route-map)# match route-type external type-1
```

```
bc
```

```
Switch(config-route-map)# no match route-type
```

```
show route-map
```

```
route-map
```

match tag

```
hU[
```

```
bc
```

```
match tag tag-value
```

```
no match tag [tag-value]
```

```
tag-value hU[ f!$! &% +(, ' * ( +L
```

```
f ci hY! aUd
```

```
1.0
```

```
hU[
```

```
hU[
```

```
Switch(config-route-map)# match tag 4
```

```
bc
```

```
Switch(config-route-map)# no match tag
```

```
show route-map
```

```
route-map
```

medium-type

```
no
```

```
medium-type { fiber | copper }
```

```
no medium-type
```

```
fiber
```

```
copper
```

```
Ap SVI
```

```
1.0
```

```
S3550-12SFP/GT
```

```
Switch(config)#interface gigabitethernet 0/1
```

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


show mls qos interface

```

DSCP 7cG (
Switch(config)# interface gigabitEthernet 0/1
Switch(config-if)# mls qos trust cos
Switch(config-if)# mls qos cos 4
    
```

show mls qos interface QoS

mls qos map

```

CoS-to-DSCP Map DSCP-to-CoS Map no
mls qos map {cos-dscp dscp1...dscp8 / dscp-cos dscp-list to cos}
no mls qos map {cos-dscp | dscp-cos}
    
```

```

dscp1...dscp8 7cG $ + 8G7D 8G7D
$ž , ž %ž %*ž % ž &(ž &*ž ' &ž ' (ž ($ž (*ž
(, )*)
dscp-cos dscp-list to cos dscp-list DSCP DSCP
8G7D 0, 8, 10, 16, 18, 24,
26, 32, 34, 40, 46, 48,56
cos DSCP COS COS
0 7
    
```

CoS-to-DSCP Map 1-2 DSCP-to-CoS Map 1-3

1-2 CoS-to-DSCP Map

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

1-3 DSCP-to-CoS Map

DSCP	CoS
0	0
8,10	1
16,18	2
24,26	3
32,34	4
40,46	5
48	6
56	7

1.0

CoS-to-DSCP Map	CoS	DSCP	DSCP-to-CoS
-----------------	-----	------	-------------

show mls qos maps

switch# **configure terminal**

switch(config)#**mls qos map cos-dscp 56 48 46 40 34 32 26 24**

switch(config)# **end**

switch# **show mls qos maps cos-dscp**

cos-dscp map:

cos: 0 1 2 3 4 5 6 7

dscp: 56 48eW n0 58eW n0 5805.2(eW n0 54)-52()-5.8(3-52(2-0.6())-5.8(2)2.2(6)-0.6()254.8(2)

show mls qos interface

DSCP

Switch(config)# **interface fastEthernet 0/1**
Switch(config-if)# **mls qos trust dscp**

show mls qos interface

QoS

monitor session

SPAN

no

monitor session *session_number* {**source interface** *interface-id* [, | -] [**both** | **rx** | **tx**] | **destination interface** *interface-id* }
no monitor session *session_number* [**source interface** *interface-id* [, | -] [**both** | **rx** | **tx**] | **destination interface** *interface-id*]

<i>session_number</i>	SPAN	1
source	interface	<i>interface-id</i>
<i>interface-id</i>		AP
	SVI	
destination	interface	<i>interface-id</i>
<i>interface-id</i>		AP
	SVI	
,		1,2,5,8,10
-		1-10
both		
rx		
tx		

SPAN

1.0

SPAN Switched port routed port

SPAN

SPAN

disabled port

SPAN

show monitor

SPAN

1.0

Switch#mriinfo

Interface	Neighbor	Metric		Querier	Status	Type
Address	Address	Ttl	Offset			
-----	-----	---	-----	-----	-----	----
0.0.0.0	0.0.0.0	0	1	Yes	Down	Leaf
192.168.2.5	0.0.0.0	0	1	Yes	Down	Leaf
2.2.2.2	0.0.0.0	0	1	Yes	Down	Leaf
192.168.65.124	192.168.65.109	2	1	Yes	Up	None
192.168.66.66	0.0.0.0	0	1	Yes	Down	Leaf

name

VLAN
name *vlan-name*
no name

no

vlan-name VLAN

VLAN

VLAN

1.0

show vlan IP

Switch(config)# **vlan 10** **PE@BWNW@**

name(mst)

MST
name *mst-name*
no name

no

<i>mst-name</i>	Mst	32
-----------------	-----	----

Mst

1.0

spanning-tree mst configuration

show spanning-tree mst mst
configuration

spanning-tree mst mst
configuration

show Mst mst

neighbor

f]d bc

neighbor *ip-address*
no neighbor *ip-address*

<i>ip-address</i>]d
-------------------	----

f , A

```
Switch(config-router)# network 102.18.66.61
Switch(config-router)# no network 102.18.65.11
```

```
show ip protocols
```

network(OSPF)

```
no
network address wildcard-mask area area-id
no network address wildcard-mask area area-id
```

```
address ospf
wildcard-mask
area-id IP
```

```
OSPF
```

```
1.0
```

```
:
: network 0.0.0.0 0.0.0.0 area 2 2
network 192.168.65.123 255.255.255.255 area 3
192.168.65.123 3
```

```
Switch(config-router)#network 192.168.65.0 0.0.0.255 area 192.168.65.0
Switch(config-router)#network 192.168.1.0 0.0.0.255 area 1
Switch(config-router)#network 0.0.0.0 0.0.0.0 area 2
```

```
router ospf ospf
show ip protocols network
```

network(RIP)

F]d

bc

network *network-number*
no network *network-number*

network-number]d

F=D

1.0

Switch(config-router)#**network** 192.168.65.0
Switch(config-router)# **network** 192.168.66.0
Switch(config-router)# **no network** 192.168.65.0

show ip protocols

offset-list

f]d
ž bc

offset-list *access-list-name* {**in** | **out**} *offset* [*interface-id*]

no offset-list *access-list-name* {**in** | **out**} [*interface-id*]

access-list-name 57@

in 57@

out 57@

interface-id

aggregateport SVI

h] aY! fUb[Y

h] aY! fUb[Y

"

g\ck

h] aY! fUb[Y

Switch(config)# **time-range** bc! \hhd

Gk] hVWfMtbZ] [! h] aY! fUb[Y# dYf] cX] WkYY_XUng , . \$\$ hc % . \$\$

show time-range

time-range

absolute

host src-MAC-addr

any

destination destination-wildcard

IP

source

IP

IP

source-wildcard

host destination

host destination

destination-wildcard 0.0.0.0

any

any destination 0.0.0.0

destination-wild 255.255.255.255

host dst-MAC-addr

any

operator port

TCP UDP

operator

eq

operator

IP

TCP UDP

operator

IP

TCP UDP

0 65535

h] aY! fUb[Y! bUaY

h] aY! fUb[Y "

ACL

EXPERT ACL

1.0

show access-lists

9l dYf h 9l hYbXYX 57@

Yl dYf h

57@

=D

% &" %%, "%&"'

A57

\$\$X\$ " Z, \$\$" \$\$((H7D

hVd % &" %%, "\$" \$ "\$" &)" &)" \cgh %&" %%, "%&"'

Gk] hV\fm\zbZ] [L# Yl dYf h U\W\gg!`] gh Yl hYbXYX Yl dYf h

Gk] hV\fm\zbZ] [! Yl h! aUW\# XYbm hVd \cgh % &" %%, "%&"' aUW

\$\$X\$ " Z, \$\$" \$\$((Ubm Ubm

Gk] hV\fm\zbZ] [! Yl h! aUW\# dYf a] h Ubm Ubm Ubm Ubm

Gk] hV\fm\zbZ] [! Yl h! aUW\# YbX

Gk] hV\ # g\ck U\W\gg!`] ghg Yl dYf h

9l hYbXYX Yl dYf h U\W\gg `] gh Yl dYf h

XYbm hVd \cgh % &" %%, "%&"' aUW \$\$X\$ " Z, \$\$" \$\$((Ubm Ubm

permit any any any any

[deny\(expertaccess-list extended \)](#)

ACL deny

permit (ip access-list extended)

(permit)

ACL

ACL

no

IP ACL

permit *protocol* {*source source-wildcard* | **host** *source* | **any**}[*operator port*]{*destination destination-wildcard* | **host** *destination* | **any** } [

```
Switch(config)# ip access-list extended 123
Switch(config-ext-nacl)# permit tcp host 192.1.1.1 eq 100 any
Switch(config-ext-nacl)#exit
Switch(config)# interface gigabitEthernet 0/1
Switch(config-if)# ip access-group 133 in
```

```
Switch(config-ext-nacl)#exit
Switch(config)# interface gigabitethernet 0/1
Switch(config-if)# ip access-group 133 in
```

```
deny (ip access-list IP ACL deny
standard)
```

```
show ip access-lists IP ACL
```

permit (mac access-list extended)

	MAC	MAC	MAC	MAC
	MAC ACL		ACL	
no	MAC ACL			
permit {any host src-MAC-addr} {any host dst-MAC-addr} [Uf d pUdd` YhU _ pXYWbYh!]j p X] U[bcgh] W pYhndY! *\$\$\$pYhndY! , \$(&p `Uh p `Uj WgWU p acd! Vtbgc` Ypacd! Xi ad p ai adg pbYhV] cgpj] bYg! YWc p l bg!]XdQ [h] aY! fUb[Y h] aY! fUb[Y! bUaYQ				
no permit {any host src-MAC-addr} {any host dst-MAC-addr} Uf d pUdd` YhU _ pXYWbYh!]j p X] U[bcgh] W pYhndY! *\$\$\$pYhndY! , \$(&p `Uh p `Uj WgWU p acd! Vtbgc` Ypacd! Xi ad p ai adg pbYhV] cgpj] bYg! YWc p l bg!]XdQ [h] aY! fUb[Y h] aY! fUb[Y! bUaYQ				

```
any
```

```
host src-MAC-addr
```

```
any
```

```
host dst-MAC-addr
```

```
Uf d pUdd` YhU _ pXYWbYh! ]j p X] U[bcgh] W
pYhndY! *$$$pYhndY! , $(&p `Uh p `Uj WgWU p
acd! Vtbgc` Ypacd! Xi ad p ai adg
pbYhV] cgpj ] bYg! YWc p l bg! ]XdQ
```

```
h] aY! fUb[Y! bUaY
```

```
h] aY! fUb[Y
```

```
"
```

```
ACL
```

```
MAC ACL
```

```
1.0
```

```
show mac access-lists
```

```
MAC 00d0f8000c0c
```

```
100
```

```
1
```

```
Switch(config)#mac access-list extended mac1
```

```
Switch(config-ext-macl)# permit host 00d0f8000c0c any type Uf d
```

```
Switch(config-ext-macl)#exit  
Switch(config)# interface gigabitethernet 0/1  
Switch(config-if)# mac access-group mac1 in
```

```
deny (mac access-list          MAC ACL  deny  
externed )
```

```
show mac access-lists          MAC ACL
```

ping

ping

ping [*system-address*]

```
system-address                IP
```

ping

police

class

policer

policer

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

<i>rate-bps</i>	1M	1000Mbsp
<i>burst-byte</i>	byte	16384,
	20480 , 28672, 40960 ,	77824, 143360, 274432,
	536576	

exceed-action drop

exceed-action dscp <i>dscp-value</i>	DSCP	<i>dscp-value</i>
	0, 8, 10, 16, 18, 24, 26, 32, 34, 40, 46, 48, 56.	

policer

class

1.0

dc]Wf

fUy! Vdg

VmY 1M 1000Mbsp 16384, 20480 , 28672, 40960 , 77(96)-5.1(0 d.)TJ/T.23394 Tw[. .

policy-map

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

```
_____
| policy-map-name                      policy map |
|_____
|
|                      policy map |
|_____
|
|_____
|
|_____
| 1.0 |
|_____
|
|                      show policy-map |
|_____
|
|                      policy1    policy-map                      policy-map |
| Switch(config)# policy-map policy1 |
| Switch(config-pmap)# |
|_____
|
| show policy-map                      QoS policy map |
|_____
|_____
```

port-group

Aggregate Port no Aggregate Port

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

```
_____
| port-group-number                      Aggregate Port |
|                      Aggregate Port |
|_____
|
|                      Aggregate Port |
|_____
|
|_____
|
|_____
| 1.0 |
|_____
|
|                      AP                      VLAN                      trunk port |
|                      native VLAN                      AP |
|_____
|
|                      0/3    0/4                      AP 3 |
| Switch(config)#interface range gigabitethernet 0/3-4 |
```

Switch(config-if-range)#**port-group 3**

priority-queue

priority-queue [out]	SP	no	SP	WRR
no priority-queue [out]				
out			W	

reset command

15

1

1.0

0

disable, enable, exit, help, logout

guest

AAA

enable secret

configure 14

Switch(config)#**privilege exec level 14** configure

configure

Switch(config)# **privilege exec reset** configure

2-2

configure	
exec	
interface	gigabitEthernet aggregateport SVI

enable secret

1.0

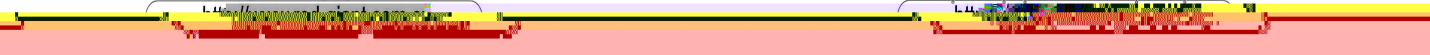
22) (22
Switch

Switch(config)#**prompt** myswitch
myswitch(config)#

redistribute(RIP)

bc

redistribute *protocol* [**metric** *metric-value*] [**route-map** *map-tag*]
no redistribute





1.0

Switch# **reload**

rename

rename flash:filename1 flash:filename2

filename1

filename2

1.0

dir

Switch# **rename flash:aaa.txt flash:bbb.txt**

dir

revision

no

revision version

no revision

version

MST

0 65535

0

Mst

1.0

Spanning-tree mst configure

Spanning-tree mst mst configure

Show mst mst

Show spanning-tree mst mst configuration

route-map

f ci hY! aUd f ci hY! aUd f ci hY! aUd aUhW
gYh f ci hY! aUd bc f ci hY! aUd

route-map map-tag [permit | deny] sequence-number
no route-map map-tag [sequence-number]

map-tag f ci hY aUd ' &
permit | deny route map dYfa] h gYh
XYbm "
dYfa] h
sequence-number f ci hY! aUd
f(\$" " *)')') Ł

route-map

1.0

```

route-map 100 route-map , 100 route-map
100 route-map route-map 100

Switch(config)# route-map abc permit 10

Switch(config-route-map)#match tag 7

Switch(config-route-map)#set metric 7
XYbm fci hY! aUd

Switch(config)# route-map abc deny 11
dYf a] h fci hY! aUd

Switch(config)# no route-map abc permit 10
fci hY! aUd

Switch(config)# no route-map abc

```

```

show route-map route-map

```

router

no

```

router protocol
no router protocol

```

```

protocol ospf. rip

```

```

RIP OSPF

```

```

1.0

```

```

show ip protocols RIP OSPF

```

```

Switch(config)# ip routing
Switch(config)# router rip
Switch(config-router)#
Switch(config-router)#exit
Switch(config)# router ospf
Switch(config-router)#

```

```

ip routing IP
show ip protocols IP

```

router-id

```

router-id router-id
no router-id

```

```

Router-id ID ip

```

```

OSPF

```

```

1.0

```

```

ip router ROUTER ID router ROUTER ID
ROUTER ID ospf ROUTER ID LSA

```

```

Switch(config-router)#router-id 192.168.65.123

```

```

router ospf ospf
interface loopback loopback
show ip ospf ospf

```

rmon alarm

```

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

```

```

number alarm 1
65535

```

variable

MIB

interval

1 4294967295 .

delta

MIB

absoulte

MIB

Vaal

|

1

1800

10.

1.0

end-time duration infinite.

1.0

show key chain

Switch(config-keychain-key)# **send-lifetime** 00:00:00-08 26 2002 **duration**
100000

show key chain key chain

service-policy

policy map

service-policy input *policy-map-name*

policy-map-name policy map

policy map

1.0

show mls qos interface

policy1 policy-map policy-map

gigabitethernet 1/1
Switch(config)# **policy-map** policy1
Switch(config-pmap)# **class** class1
Switch(config-pmap-c)# **set ip dscp** 48
Switch(config-pmap-c)# **exit**
Switch(config-pmap)# **exit**
Switch(config)#**interface** gigabitethernet 1/1
Switch(config-if)#**switchport mode** trunk
Switch(config-if)#**mls qos trust** cos
Switch(config-if)#**service-policy input** policy1

policy-map policy map policy map

class policy map

set ip dscp =D ip dscp

show mls qos interface QoS

service dhcp

```
DHCP relay agent          DHCP relay agent          no
service dhcp
no service dhcp
_____
_____
_____
DHCP relay agent
_____
_____
_____
1.0
_____
_____
DHCP relay agent          DCHP
DHCP relay agent          show running-config
DHCP relay agent
_____
Switch(config)# service dhcp
_____
_____
ip helper-address          DHCP relay server
show running-config
_____
```

services telnet host

```
telnet                    no
services telnet host host-ip
no services telnet host host-ip
_____
_____
host-ip                    telnet                    IP
_____
_____
_____
```

1.0

show running-config

Switch(config)# services telnet host 192.168.12.54

show running-config

services web host

telnet

no

services web host *host-ip*

no services web host *host-ip*

host-ip

web

IP

onfig

es web host 192.168.12.54

ip dscp

IP

dscp

class

1.0

IP

show policy-map

```
Switch(config)# policy-map policy1 policy-map, ip dscp 48
Switch(config-pmap)# class class1
Switch(config-pmap-c)# set ip dscp 48
Switch(config-pmap-c)#
```

show route-map

route-map

set level

bc

set level {stub-area | backbone }

no set level

stub-area

bggU

backbone

f ci hY! aUd

1.0

Switch(config-route-map)# **set level stub-area**

bc

Switch(config-route-map)# **no set level**

show route-map

route-map

set metric

bc

set metric [+ | -] metric-value

no set metric

Žp!

Ž.

!.

metric-value

fP% &P% (+, ' *(+Ł

Ž !



end

Use this configuration? [yes/no]: y

Building configuration...

Use the enabled mode 'configure' command to modify this configuration.

Press RETURN to get started.

show running-config

show configuration

show

mst

show

Mst

1.0

Spanning-tree mst configure

show spanning-tree	MST region
mst	
instance <i>instance-id</i> vlan <i>Vlan</i>	MST instance
<i>vlan-range</i>	
name	mst
revision	mst
show	mst MST

show access-group

ACL

show [ip | mac] access-group [interface *interface-id*]

interface *interface-id*

```
Switch# show access-lists
Standard IP access list: ipstd1
Standard IP access list: ipstd2
Standard IP access list: ipstd3
Extended IP access list: ipext001
Extended IP access list: ipext1
Extended IP access list: ipext2
Extended MAC access list: macext1
Extended MAC access list: macext2
Extended MAC access list: macext3
```

ip access-list	IP ACL	IP ACL
mac access-list extended	MAC ACL	

show accounting

AAA

```
show accounting
```

```
1.0
```

```
Switch# show accounting
Accounting status      : Disabled
Accounting server     : 192.168.12.1
Accounting backup server : 192.168.12.2
Accounting UDP port    : 1813
```

aaa accounting server	
aaa accounting	AAA

Switch(config)#show aggregateport summary

5[[fY[UhYDcfh AU Dcfhg Gk] hV\X Dcfh AcXY Dcfhg

!!!!!!!!!!!!!! !!!!!!!!!! !!!!!!!!!!! !!!!!!! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!

5[% , 9bUV YX 5VVVgg ;] \$#% ž ;] \$#& ž ;] \$#
;] \$#(ž ;] \$#) ž ;] \$#*
;] \$#+ ž ;] \$#,

Switch(config)#show aggregateport load-balance

load-balance : Source MAC address

class-map-name QoS class map

class map

1.0

Switch# **show class-map**

class-map class map class map

show clock

show clock

1.0

Switch# **show clock**
System clock : 2002-10-15 20:12:26 Tuesday

clock set

show cluster

show cluster

1.0

MAC

Switch#show cluster

```
Cluster: clus0 <Command switch>
Total number of members: 3
Status: 1 members are unreachable
Time of last status change: 0 days, 1 hours, 5 minutes
Cluster timer: 12
Cluster holdtime: 120
Cluster discovery hop count: 3
```

Switch(config)#show cluster

```
Cluster: clus0 <Member switch>
Member number: 3
Command switch mac address: 00d0.f8fe.1007
```

[cluster enable](#)

[show cluster candidates](#)

[show cluster members](#)

show cluster candidates

show cluster candidates [detail | mac-address H.H.H]

detail

H.H.H

MAC

16

1.0

Switch#show cluster candidates

MAC	Name	Hop	LcPor	UpSN	UpMAC	UpPort
00d0.f8fe.43d2	switch-2	1	Fa0/2	0	00d0.f8fe.1007	Fa0/3
00d0.f8fe.a861	switch-3	2	Fa0/5		00d0.f8fe.43d2	Fa0/12

[cluster enable](#)

[show cluster members](#)

show cluster members

show cluster members [*n* | detail]

n

detail

1.0

Switch#show cluster members

SN	MAC	Name	Hop	State	LcPor	UpSN	UpMAC	UpPort
0	00d0.f8fe.1007	Switch	0	up<Cmdr>				
1	00d0.f8fe.43d2	switch-2	1	up	Fa0/2	0	00d0.f8fe.1007	Fa0/3
2	00d0.f8fe.a861	switch-3	2	up	Fa0/5	1	00d0.f8fe.43d2	Fa0/12

[cluster enable](#)

[show cluster candidates](#)

show configuration

show configuration

1.0

more config.text

Switch# **show configuration**

.....

enable secret level 1 5 %3R:>H.YW4_ ;C,tZ5U0<D+S(Uj9=G1X)

enable secret level 15 5 !:>H.Y*T7;C,tZ[V0<D+S(\W9=G1X)sv

hostname Switch

dot1x re-authentication

interface gigabitEthernet 0/1

rmon collection stats 1 owner monitor

!

.....

more

setup

show running-config

write memory

show cpu

cpu

show cpu

1.0

Switch# **show cpu**

CPU utilization for five seconds: 3%

```
Switch# show dot1x
IEEE 802.1X Status      : Disabled
Authentication mode : CHAP
Authentication user number : 0
Current user number      : 0
```

```
reauth-enabled      : Enabled
reauth-period       : 3600
quiet-period        : 5
tx-period           : 30
supp-timeout        : 30
server-timeout      : 30
reauth-max          : 2
max-req             : 2
```

```
dot1x default                802.1x
dot1x auth-mode              802.1x
dot1x max-req
dot1x port-control auto
dot1x reauth-max
dot1x re-authentication
dot1x timeout quiet-period

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

show dot1x auth-address-table

802.1X

```
show dot1x auth-address-table [address mac-address ][interface interface-id ]
```

```
address mac-address
interface interface-id
```

1.0

Switch(config)#**show dot1x auth-address-table**

Interface	Address

Gi0/5	00d0.f800.000c
Gi0/2	00d0.f800.1201
Gi0/2	00d0.f800.1a01
Gi0/1	00d0.f800.8899
Gi0/2	00d0.f800.fa0c

dot1x auth-address table	802.1X
---------------------------------	--------

show dot1x statistics

802.1X

show dot1x statistics

1.0

Switch(config)#**show dot1x statistics**

show dot1x summary	802.1X
---------------------------	--------

show dot1x summary

802.1X

show dot1x summary

```
1.0
```

```
Switch(config)#show dot1x summary
```

```
show dot1x statistics 802.1X
```

show file systems

show file systems

```
1.0
```

```
Switch#show file systems
```

Size(b)	Free(b)	Type	Flags	State
33472512	23022157	flash	rw	-

show gvrp configuration

GVRP

show gvrp configuration

1.0

Switch# **show gvrp configuration**

Global GVRP Configuration:

GVRP Feature : enabled

GVRP dynamic VLAN creation : enabled

GVRP base vlan id is 1.

Join Timers(ms) : 200

Leave Timers(ms) : 600

LeaveAll Timers(ms) : 1000

Port based GVRP Configuration:

Port	Applicant Status	Registration Status
------	------------------	---------------------

-----	-----	-----
-------	-------	-------

Gi0/1-2	Disable	Normal
---------	---------	--------

Gi0/3-4	Disable	Disable
---------	---------	---------

show gvrp statistics

GVRP

show gvrp statistics {interface-id | all}

<i>interface-id</i>	ID
---------------------	----

1.0

Switch# **show gvrp statistics gigabitethernet 0/1**

Join Empty Received: 0
Join In Received: 0
Empty Received: 0
LeaveIn Received: 0
Leave Empty Received: 0
Leave All Received: 40
Join Empty Transmitted: 156
Join In Transmitted: 0
Empty Transmitted: 0
Leave In Transmitted: 0
Leave Empty Transmitted: 0
Leave All Transmitted: 41
Valid Pdu Received: 1
Invalid Pdu Received: 1
Pdu Transmitted: 1
Join Indicated: 1
Leave Indicated: 1
Join Propagated: 1
Leave Propagated: 1

clear gvrp statistics

GVRP

show gvrp status

GVRP	VLAN	VLAN
------	------	------

show gvrp status

1.0



ip access-list

IP ACL

IP ACL

show ip arp

ARP

show ip arp

1.0

Switch#	show ip arp	Address	Age (min)	Hardware Addr	Type	Interface
192.168.65.1	0	00d0.f8f9.801e	arpa	VL1		
192.168.65.237	0	0009.b71 2d40	arpa	VL1		

1.0

Switch# **show ip igmp groups**

Group Address	Interface	Uptime	Expires	Last Reporter
224.1.1.1	FastEthernet 0/12	00:27:41	-	192.168.2.5
230.0.0.0	FastEthernet 0/12	00:27:41	-	192.168.2.5
230.0.0.0	AggreatePort 1	00:27:41	-	2.2.2.2
230.0.0.0	Vlan 1	00:24:46 1d12h		192.168.65.124

ip igmp query-interval

show ip igmp interface

IGMP

show ip igmp interface [type number]

type

number

1.0

igmp

IGMP

Switch# **show ip igmp interfaces vlan 1**

Vlan 1 State : up
Internet address : 192.168.65.124/24
IGMP Status : Enabled
Current IGMP host version : 2
Current IGMP router version : 2
IGMP query interval : 65535 (seconds)
IGMP querier timeout : 300 (seconds)
IGMP max query response time: 25 (seconds)
Last member query response interval : 65500(ms)
Inbound IGMP access group :
IGMP activity joins : 2
IGMP activity leaves : 0
Multicast routing Status : Enabled
Multicast TTL threshold : 2
Multicast designated router (DR) : 192.168.65.124

DVMRP unicast routing Status: Enabled
DVMRP routes received : 0
DVMRP poison-reverse routes received : 0
Unicast routes last advertised by DVMRP : 0
DVMRP routes last advertised by DVMRP : 0
DVMRP default route on interface : None
Multicast groups joined :
230.0.0.0

ip igmp access-group

ip igmp query-interval

ip multicast ttl-threshold TTL time-to-live

show ip mroute

1.0061 Tc<0a5104b8rT3 13 0 0 9 20004 Tc<284d141b94b8095a0940e4f6a20f509b803d7Tj/TT2 1 Tf5.002

Switch#**Show ip multicast-routing**
The Status of Multicast-routing: Enable

ip multicast-routing	IP
-----------------------------	-----------

show ip ospf

cgdZ

LsaGroupPacing : 240
Administrative distance : 110
Inter-area Distance : 110
Intra-area Distance : 110
External Distance : 110
RFC1583Compatibility flag : Enabled
Default-information originate : Disabled
Neighbor Changes Log : Enabled
Auto-Cost Status : Enabled
Auto-Cost reference-bandwidth : 100 Mbps
Redistribute Default Metric : 20

Area information:

Area : 0.0.0.0

Area type : BackBone Area
Number of interfaces in this area : 2
Area authentication : none
SPF algorithm executed times : 11
Number of LSA : 12
Checksum Sum : 0x60071
Number os Area Border Routers : 0
Number of AS Border Routers : 0

Area Range information:

Area	Range	Advertising
------	-------	-------------

Switch#show ip ospf area

Area : 0.0.0.0

Area type : BackBone Area
Number of interfaces in this area : 2
Area authentication : none
SPF algorithm executed times : 11
Number of LSA : 12
Checksum Sum : 0x60071
Number os Area Border Routers : 0
Number of AS Border Routers : 0

Switch#show ip ospf area-range

Area	Range	Advertising
0.0.0.1	192.168.65.0/24	advertise
0.0.0.1	192.168.165.0/24	advertise

show ip ospf border-routers

56F 5G6F

show ip ospf border-routes

	1.0

Switch#show ip ospf border-routes

Type : (Type of Router)

ABR - Area border router , ASBR - Autonomous System boundary router ,

BOTH - ABR and ASBR

RteType : (Type of route)

INTRA - Intra-area pe TD0.03 9pshw2Tj--rea-T ----- INTRAIntra----- -----

```

show ip ospf [area-id] database [network][link-state-id]
show ip ospf [area-id] database [network] [link-state-id] [adv-router ip-address]
show ip ospf [area-id] database [network] [link-state-id] [self-originate]

show ip ospf [area-id] database [summary] [link-state-id]
show ip ospf [area-id] database [summary] [link-state-id] [adv-router ip-address]
show ip ospf [area-id] database [summary] [link-state-id] [self-originate]

show ip ospf [area-id] database [asbr-summary] [link-state-id]
show ip ospf [area-id] database [asbr-summary] [link-state-id] [adv-router ip-address]
show ip ospf [area-id] database [asbr-summary] [link-state-id] [self-originate]

show ip ospf [area-id] database [external] [link-state-id]
show ip ospf [area-id] database [external] [link-state-id] [adv-router ip-address]
show ip ospf [area-id] database [external] [link-state-id] [self-originate]

show ip ospf [area-id] database [nssa-external] [link-state-id]
show ip ospf [area-id] database [nssa-external] [link-state-id] [adv-router ip-address]
show ip ospf [area-id] database [nssa-external] [link-state-id] [self-originate]

```

```

UFYU UFYU JX @G5 ž @G5
UFYU JX ]d
external @G5g ž
adv-router ip-address @G5
link-state-id =8 @G5
=8 =D
self-originate fl ł @G5
database-summary @G5
router Fci hYf @G5g
network BYhkcf_ @G5g
summary Gi aaUf m @G5g
asbr-summary 5G6F Gi aaUf m @G5g
external 9l hYf bU @G5g
nssa-external BggU 9l hYf bU @G5g

```

1.0

LSA

Switch#show ip ospf database

Router Link States (Area 0.0.0.0)

Link ID	ADV Router	Age	Seq#	Checksum	Link-Count
---------	------------	-----	------	----------	------------

LS age : 1478
Options : 0x2
LS Type : Router Links
Link State ID : 1.1.1.1
Advertising Router : 1.1.1.1
LS Seq Number : 80000010
Checksum : 0x4CB9
Length : 36
Number of Links : 1

Link connected to : transit network
(Link ID) Network/subnet number: 192.168.65.110
(Link Data) Network Mask : 192.168.65.114
Number of TOS metrics : 0
TOS 0 Metrics : 1

LS age : 1698
Options : 0x2
LS Type : Router Links
Link State ID : 1.1.1.5
Advertising Router : 1.1.1.5
LS Seq Number : 8000000E
Checksum : 0xEA79
Length : 36
Number of Links : 1

Link connected to : transit network
(Link ID) Network/subnet number: 192.168.122.2
(Link Data) Network Mask : 192.168.122.1
Number of TOS metrics : 0
TOS 0 Metrics : 6

LS age : 3317
Options : 0x22
LS Type : Router Links
Link State ID : 1.1.1.6
Advertising Router : 1.1.1.6
LS Seq Number : 80000015
Checksum : 0xC07B
Length : 48
Number of Links : 2

Link connected to : stub network
(Link ID) Network/subnet number: 192.168.120.0
(Link Data) Network Mask : 255.255.255.0
Number of TOS metrics : 0

TOS 0 Metrics : 6

Link connected to : transit network

(Link ID) Network/subnet number: 192.168.125.2

(Link Data) Network Mask : 192.168.125.1

Number of TOS metrics : 0

TOS 0 Metrics : 7

LS age : 1687

Options : 0x2

LS Type : Router Links

Link State ID : 1.1.1.7

Advertising Router : 1.1.1.7

LS Seq Number : 80000018

Checksum : 0x17E8

Length : 36

Number of Links : 1

Link connected to : transit network

(Link ID) Network/subnet number: 192.168.65.110

(Link Data) Network Mask : 192.168.65.100

Number of TOS metrics : 0

TOS 0 Metrics : 1

LS age : 1473

Options : 0x2

LS Type : Router Links

Link State ID : 1.1.1.8

Advertising Router : 1.1.1.8

LS Seq Number : 8000000B

Checksum : 0x648F

Length : 36

Number of Links : 1

Link connected to : transit network

(Link ID) Network/subnet number: 192.168.65.110

(Link Data) Network Mask : 192.168.65.123

Number of TOS metrics : 0

TOS 0 Metrics : 1

LS age : 1421

Options : 0x2

LS Type : Router Links

Link State ID : 1.1.1.10

Advertising Router : 1.1.1.10

LS Seq Number : 80000173
Checksum : 0x3A7A
Length : 60
Number of Links : 3

Link connected to : stub network
(Link ID) Network/subnet number: 1.1.1.10
(Link Data) Network Mask : 255.255.255.255
Number of TOS metrics : 0
TOS 0 Metrics : 1

Link connected to : transit network
(Link ID) Network/subnet number: 192.168.65.110
(Link Data) Network Mask : 192.168.65.110
Number of TOS metrics : 0
TOS 0 Metrics : 1

Link connected to : transit network
(Link ID) Network/subnet number: 192.168.108.2
(Link Data) Network Mask : 192.168.108.1
Number of TOS metrics : 0
TOS 0 Metrics : 3

LS age : 337
Options : 0x2
LS Type : Router Links
Link State ID : 1.1.1.11
Advertising Router : 1.1.1.11
LS Seq Number : 80000006
Checksum : 0xE180
Length : 48
Number of Links : 2

Link connected to : stub network
(Link ID) Network/subnet number: 1.1.1.11
(Link Data) Network Mask : 255.255.255.255
Number of TOS metrics : 0
TOS 0 Metrics : 1

Link connected to : transit network
(Link ID) Network/subnet number: 192.168.108.2
(Link Data) Network Mask : 192.168.108.2
Number of TOS metrics : 0
TOS 0 Metrics : 2

Switch#**show ip ospf database network**

Network Link States(Area 0.0.0.0)

LS age : 1457
Options : 0x2
LS Type : Network Links
Link State ID : 192.168.65.110(address of Designated Router)
Advertising Router : 1.1.1.10
LS Seq Number : 80000004
Checksum : 0xA55D
Length : 40
Network Mask : 255.255.255.0
attached router : 1.1.1.1
attached router : 1.1.1.7
attached router : 1.1.1.8
attached router : 1.1.1.10

LS age : 374
Options : 0x2
LS Type : Network Links
Link State ID : 192.168.108.2(address of Designated Router)
Advertising Router : 1.1.1.11
LS Seq Number : 80000004
Checksum : 0xEa t 2 S e sum r a 8 k 0xE 5 () - 1 . 9 () - 1 . . 1 (8 k) h A Q 3 6 4 7

Advertising Routf : 10

Link State ID: 155.187.245.1 (AS Boundary Router address)

Advertising Router: 155.187.241.5

LS Seq Number: 0x80000072

Checksum: 0x3548

Length: 28

```

Summary Net    0          0          0
Summary ASBR  0          0          0
Type-7 Ext    0          0          0
Subtotal      9          0          0

```

Total :

LSA Type	Count	Delete	Maxage
Router	7	0	0
Network	2	0	0
Summary Net	0	0	0
Summary ASBR	0	0	0
type-5 Ext	1	0	0
Type-7 Ext	0	0	0
Total	10	0	0

```

show ip ospf                                ospf

```

```

show ip protocols

```

show ip ospf interface

cgdZ

```

show ip ospf interface [interface-id]

```

interface-id	aggregateport	SVI
1.0		

1.0

```

Switch#show ip ospf interface vlan 1

```

```

FastEthernet 0/48 State : Up

```

```

Internet address      : 192.168.65.123/24

```

```

Area                  : 0.0.0.0

```

```

Router ID             : 1.1.1.8

```

1.1.1.1 1 2Way/DROTHER 00:00:35 192.168.65.114 Fa0/48

Switch#**show ip ospf neighbor detail 1.1.1.7 fa 0/48**

Neighbor RouterId : 1.1.1.7
interface address : 192.168.65.100
In the area : 0.0.0.0
via interface : FastEthernet 0/48
Neighbor priority : 1
State : full
State changes times : 5
DR : 192.168.65.100
BDR : 192.168.65.123
Options : 0x2
Dead timer due in : 00:00:35
Neighbor up time : 00:03:46
retransmission queue length : 0
number of retransmission : 0

show ip protocols

show ip ospf summary-address

show ip ospf summary-address

1.0

Switch#**show ip ospf summary-address**

Summary Address	Summary Mask	Advertise
-----	-----	-----
192.168.2.0	255.255.255.0	advertise
192.168.5.0	255.255.255.0	not-advertise

show ip protocols

show ip ospf traps status

cgdZ hfUd

show ip ospf traps status

1.0

Switch#**show ip ospf traps status**

ospf trap type	status

IfStateChange	Disabled
VirtIfStateChange	Disabled
NbrStateChange	Disabled
VirtNbrStateChange	Disabled
IfConfigError	Disabled
VirtIfConfigError	Disabled
IfAuthFailure	Disabled
VirtIfAuthFailure	Disabled
IfRxBadPacket	Disabled
VirtIfRxBadPacket	Disabled
TxRetransmit	Disabled
VirtIfTxRetransmit	Disabled
OriginateLsa	Disabled
MaxAgeLsa	Disabled
LsdbOverflow	Enabled
LsdbApproachOverflow	Enabled

show ip protocols

show ip ospf virtual-links

show ip ospf virtual-links

1.0

Switch#show ip ospf virtual-links

Virtual Link to router : 192.168.100.2

Virtual Link state : up
Transit area : 0.0.0.1
Via interface : vlan 1
Interface State : POINT_TO_POINT
Cost of using : 10
Transmit Delay : 1
Hello : 10
Dead : 40
Wait : 40
Retransmit : 5
Authentication : none
Hello due in : 0:00:10

show ip protocols

show ip pim bsr-router

Bootstrap Router (BSR)

show ip pim bsr-router

Bsr-router

Bootstrap Router

Switch#show ip pim interface

Address	Interface	Mode	Nbrs	QueryIntval	DR Address
192.168.2.5	FastEthernet 0/12	Spa-Den	0	30	192.168.2.5
2.2.2.2	AggregatePort 1	Dense	0	30	2.2.2.2
192.168.65.124	Vlan 1	Sparse	1	65535	192.168.65.124

ip pim PIM

show ip pim neighbor PIM

show ip pim neighbor

PIM

show ip pim neighbor [*type number*]

type

number

1.0

PIM

Switch#show ip pim neighbor

mapping

RP

BSR

1.0

PIM RP

Switch#sh ip pim rp mapping

Group(s) Or Acl	RP Address	Uptime	Expires	Status
224.0.0.0/4	192.168.65.109	00:06:19	00:03:14	-
230.0.0.0/24	192.168.65.124	01:03:12	00:02:18	-
abc	1 1.1.1.1	-	-	Static
224.0.0.0/4	2.2.2.2	-	-	IsOverride
224.0.0.0/4	4.4.4.4	-	-	Static
224.0.0.0/4	8.3.3.3	-	-	Static

show ip prefix-list

show ip prefix-list *prefix-list-name* [*seq seq-number* | *ip-prefix*]

```

prefix-list-name
seq seq-number
ip-prefix
] d
] d! df YZ] l
<bYhkcf_>#<` Yb[ h\>ž
. ')" "$" $" $#,

```

1.0

Switch(config-router)#**show ip prefix-list**

ip prefix-list name : pre3

ip prefix-list name : pre4

ip prefix-list a1:

seq 5 permit 1.0.0.0/11
seq 10 deny 1.0.0.0/11
seq 15 deny 192.0.0.0/11
seq 20 permit 192.0.0.0/11
seq 25 permit 0.0.0.0/4

Switch(config-router)#**show ip prefix-list a1**

ip prefix-list a1:

seq 5 permit 1.0.0.0/11
seq 10 deny 1.0.0.0/11
seq 15 deny 192.0.0.0/11
seq 20 permit 192.0.0.0/11
seq 25 permit 0.0.0.0/4

ip prefix-list

show ip protocols

IP

**show ip protocols [rip | ospf | status] [routing-network | redistribute-info |
| routing-information-source]**

f] d	f] d	cgdZ	ž
cgdZ	ghUhi g] d
ghUhi g	f ci h] b["	

routing-network

redistribute-info

routing-information-source

1.0

"

Gk] hVW#g\ck]d dfchcW`g

Routing Protocol : ospf

Distribute-list Configuration

Interface : all interface

Filter Direct : out

Filter Type : access-list

Redistribute Default Metric : 20

Routing for networks

Network Number	Inverse Mask	Area

192.168.65.0	0.0.0.255	0.0.0.0

Routing Information Sources

Gateway	Distance	Last Update
192.168.65.1	120	00:00:24
192.168.65.110	120	00:00:25

ip rip authentication mode	SVI	RIP
ip rip authentication key-chain	RIP	
ip rip receive version	RIP	
ip rip send version	RIP	
ip routing	IP	
router		
timer basic	RIP	
version	RIP	
show ip ospf	ospf	
show ip rip	rip	

show ip redirects

show ip redirects

1.0

Switch(config)# show ip redirects

ip default-gateway

Switch(config-router)#**show ip rip interface**

Interface : VL1
RIP authentication mode : none
Key-chain :
RIP send version : 2
RIP receive version : 12
Passive status : Disabled
V2 broadcast : Disabled

show ip protocols IP

show ip rip neighbor

f]d bY][\Vcf

show ip rip neighbor

1.0

Switch(config-router)#**show ip rip neighbor**

Neighbor

192.168.68.1

show ip protocols IP

show ip rip offset-list

f]d cZZgYh!`]gh

show ip rip offset-list

Type: C - connected, S - static, R - RIP, O - OSPF, IA - OSPF inter area
 N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
 E1 - OSPF external type 1, E2 - OSPF external type 2

Type	Destination IP	Next hop	Interface	Distance	Metric	Status
C	20.10.2.0/24	192.168.65.8	VL1	1	0	Active
S	20.10.3.0/24	192.168.65.8	VL1	1	0	Active
R	20.10.4.0/24	192.168.65.8	VL1	1	0	Active
O	192.168.65.0/24	0.0.0.0	VL1	0	0	Active
O N1	192.168.4.0/24	192.168.65.40	VL1	200	21	Active
O N2	192.168.5.0/24	192.168.65.50	VL1	200	21	Active
O IA	192.168.6.0/24	192.168.65.60	VL1	200	21	Active
O E1	192.168.7.0/24	192.168.65.70	VL1	200	21	Active
O E2	192.168.66.0/24	0.0.0.0	VL1	0	0	Active

```
ip route IP
```

show ip rpf

RPF

show ip rpf source-address

```
source-address rpf
```

1.0

RPF

Switch#**show ip rpf 100.0.0.30**

RPF interface : FastEthernet 0/14
RPF neighbor : 0.0.0.0
RPF route/mask : 100.0.0.0/24
RPF type : Unicast

show ip ttl

ip ttl

show ip ttl

1.0

Switch# **show ip ttl**

ip ttl	time-to-live	TTL	IP

show ip-auth-mode

IP

show ip-auth-mode

1.0

DISABLE

IP

DHCP SERVER

IP

DHCP SERVER

DHCP SERVER

IP

IP

RADIUS SERVER

IP

RADIUS SERVER

RADIUS SERVER

IP

Switch#**show ip-auth-mode**

ip authorization mode : radius-server

i

key chain

show line

telnet

show line {console number|vty}

console number	S35
----------------	-----

vty	telnet
-----	--------

1.0

S35 0 vty telnet .

Switch# **show line console 0**

Baud rate : 57600

Timeouts: 00:10:00

line

speed(console)

exec-timeout(console,vty)

show lldp

LLDP timer

holdtime

show lldp

á&Dx6h#dyH6BTDÄ

Switch# **show lldp**

Sending LLDP packets interval(seconds): 10

Sending a holdtime value(seconds): 20

[show lldp entry](#)

LLDP

[show lldp neighbors](#)

LLDP

show lldp entry

LLDP

show lldp entry {* |*device-name*[*]}[**detail**]

*

device-name[*]

*

detail

1.0

fa0/3

Switch# **show lldp neighbors fa0/3 detail**

Local Port: Fa0/3
Host Name: switch-2
Mac Address: 00d0.f8fe.43d2
Cluster Name: clus0
Cluster Mode: Member Switch
Cluster Status: enabled
Remote Port: Fa0/2

show lldp	LLDP timer	holdtime
show lldp entry		LLDP

show lldp traffic

LLDP

show lldp traffic [*type number*]

type
number

1.0

fa0/3 LLDP

Switch# **show lldp traffic fa0/3**

Interface	InGoodPkts	InErrors	OutPkts
-----	-----	-----	-----
Fa0/3	22	0	16

lldp enable	LLDP
clear lldp counters	LLDP

show logging

show logging

1.0

Switch#show logging

Syslog logging: enabled (0 message flushes)

Console logging: level debugging

Monitor logging: disabled

Buffer logging: level debugging

File logging: enabled

File name: flash:log.text

File max size: 4096

level : warnings(4)

0001:*Mar 1 09:07:26: 5-CONFIG_I: Configured from console by console

0002:*Mar 1 09:08:15: 5-CONFIG_I: Configured from console by console

(log.text)

Switch#more flash:log.text

0001: *Mar 1 10:18:42: %SYS-5-CONFIG_I: Configured from console by console

0002: *Mar 1 10:22:52: %LINK-3-UPDOWN: Interface GigabitEthernet0/9, changed state to down

clear logging

logging console

logging file

logging monitor

logging on

show mac access-lists

MAC ACL

show mac access-lists [*name*]

Vlan	MAC Address	Type	Interface
1	00d0.f800.1001	STATIC	Gi0/1

show mac-address-table static

show mac-address-table filtering

show mac-address-table dynamic

show mac-address-table interface

show mac-address-table vlan VLAN

show mac-address-table count

show mac-address-table aging-time

show mac-address-table aging-time

1.0

Switch# **show mac-address-table aging-time**

Aging time : 300

mac-address-table aging-time

show mac-address-table count

show mac-address-table count

1.0

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

Vlan	MAC Address	Type	Interface
1	0000.0000.0001	DYNAMIC	Gi0/2
1	0001.960c.a740	DYNAMIC	Gi0/2
1	0007.95c7.dff9	DYNAMIC	Gi0/2
1	0007.95cf.eee0	DYNAMIC	Gi0/2
1	0007.95cf.f41f	DYNAMIC	Gi0/2
1	0009.b715.d400	DYNAMIC	Gi0/2
1	0050.badc.63c4	DYNAMIC	Gi0/2

Q, Tf -3.28

1	00d0.f801.1001	FILTER	-
1	00d0.f801.1002	FILTER	-
1	00d0.f801.1003	FILTER	-
1	00d0.f801.1004	FILTER	-
1	00d0.f801.1005	FILTER	-
1	00d0.f801.1006	FILTER	-
1	00d0.f801.1007	FILTER	-
1	00d0.f801.1008	FILTER	-
1	00d0.f801.1009	FILTER	-
1	00d0.f801.1010	FILTER	-
1	00d0.f801.1011	FILTER	-
1	00d0.f801.1012	FILTER	-
1	00d0.f801.1013	FILTER	-
1	00d0.f801.1014	FILTER	-
1	00d0.f801.1015	FILTER	-
1	00d0.f801.1016	FILTER	-
1	00d0.f801.1017	FILTER	-
1	00d0.f801.1018	FILTER	-
1	00d0.f801.1019	FILTER	-

--More--

```
clear mac-address-table
filtering
mac-address-table filtering
```

show mac-address-table interface

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

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

1.0

Switch#show mac-address-table interface gigabitethernet 0/1

Vlan	MAC Address	Type	Interface
1	00d0.f800.1001	STATIC	Gi0/1
1	00d0.f800.1002	STATIC	Gi0/1
1	00d0.f800.1003	STATIC	Gi0/1
1	00d0.f800.1004	STATIC	Gi0/1

show mac-address-table static

show mac-address-table filtering

show mac-address-table dynamic

show mac-address-table address

show mac-address-table vlan VLAN

show mac-address-table count

show mac-address-table notification

MAC

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

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

MAC

1.0

Switch#**show mac-address-table notification interface**

Interface MAC Added Trap MAC Removed Trap

-----245tch44>5.7<45ee2db9087336d14192354205b5164301c4>]TJ/TT2 1 Tf10.9

Maximum Number of entries configured in History Table : 1
Current History Table Length : 0
MAC Notification Traps : Enabled

Switch# **show mac-address-table notification history**

History Index : 0
Entry Timestamp : 16715794
MAC Changed Message :
Operation: Added Vlan: 1 MAC Addr: 0007.95cf.f41f Interface: Gi 0/1
Operation: Added Vlan: 1 MAC Addr: 00d0.f800.3c88 Interface: Gi 0/1
Operation: Added Vlan: 1 MAC Addr: 00d0.f808.3d5e Interface: Gi 0/1

History Index : 1
Entry Timestamp : 16718095
MAC Changed Message :
Operation: Deleted Vlan: 1 MAC Addr: 00d0.f808.3d5e Interface: Gi 0/1

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

show mac-address-table static

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

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

1.0

Switch#**show mac-address-table static**

Vlan	MAC Address	Type	Interface
------	-------------	------	-----------

1	00d0.f800.1001	STATIC	Gi0/1
1	00d0.f800.1002	STATIC	Gi0/1
1	00d0.f800.1003	STATIC	Gi0/1

mac-address-table static

clear mac-address-table static

show mac-address-table vlan

VLAN

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

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

1.0

Switch#show mac-address-table vlan 1

Vlan	MAC Address	Type	Interface
1	00d0.f800.1001	STATIC	Gi0/1
1	00d0.f800.1002	STATIC	Gi0/1
1	00d0.f800.1003	STATIC	Gi0/1
1	00d0.f800.1004	STATIC	Gi0/1

show mac-address-table static

show mac-address-table filtering

show mac-address-table dynamic

show mac-address-table address

show mac-address-table interface

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

```
show memroy
```

```
show memory
```

```
1.0
```

```
Switch# show memory
```

```

AYacfndcc` BUaY      7i ffYbhl h]` ]nUh] cb @ckYghl h]` ]nUh] cb @Uf[Yghl h]` ]nUh] cb
!!!!!!!!!!!!!!!!!!!! !!!!!!!!!!!!!!!!!!!!! !!!!!!!!!!!!!!!!!!!!! !!!!!!!!!!!!!!!!!!!!!
GYGA9A                & %                & %                & %
` Uf[Y dU              $%                $%                $%
8A5 AYac              & %                & %                & %
:]` YAYa              $%                $%                $%
UfdDcc`              $%                $%                $%
Bl : fU[ DU           $%                $%                $%
`] b_SDUF            $%                $%                $%
i XdSaYa              ' &%                (%                ' &%
hVdSaYa              &%                $%                +%

```

```
show mls qos queueing
```

```
QoS
show mls qos queueing
```

```
Qos
```

1.0

Switch# **show mls qos queueing**

wrr-queue bandwidth

wrr-queue cos-map cos-map

show mls qos interface

QoS

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

interface-id

policers

policer

queueing

queueing

Qos

1.0

Switch# **show mls qos interface policer**

mls qos cos

7cG

mls qos trust

Qos

show mls qos maps

cos-to-dscp map dscp-to-cos map

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

cos-dscp

cos-to-dscp map

dscp-cos

dscp-to-cos map

Qos map



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

```
-----  
policy-map-name                QoS policy map  
class class-name                policy map          class  
-----
```

policy map

```
-----  
1.0  
-----
```

```
-----  
Switch# show policy-map  
-----
```

```
-----  
policy-map                policy map          policy map  
-----
```

show port-security

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

```
-----  
address  
interface interface-id  
-----
```

```
-----  
1.0  
-----
```

```
-----  
Switch# show port-security address  
Secure Port  MaxSecureAddr(count) CurrentAddr(count) Security Action  
-----  
Gi0/9        128                0                Protect  
-----
```

```
-----  
switchport port-security  
switchport      port-security  
aging  
-----
```

switchport	port-security
mac-address	

enable

enable secret

disable

show radius-server

RADIUS

show radius-server

RADIUS

1.0

Switch(config)#**show radius-server**
Radius server : 192.168.23.33
Radius backup server : 192.168.23.45
Authentication UDP port : 1812

radius-server

1.0

Switch#**show rmon alarms**

Alarm : 1
Interval : 1
Variable : 1.3.6.1.2.1.4.2.0
Sample type : absolute
Last value : 64
Startup alarm : 3
Rising threshold : 10
Falling threshold : 22
Rising event : 0
Falling event : 0
Owner : zhangsan

Switch#**show rmon events**

Event : 1
Description : firstevent
Event type : log-and-trap
Community : public
Last time sent : 0d:0h:0m:0s
Owner : zhangsan

Log : 1

Pkts : 726
BroadcastPkts : 502
MulticastPkts : 189
CRCAAlignErrors : 0
UndersizePkts : 0
OversizePkts : 0
Fragments : 0
Jabbers : 0
Collisions : 0
Utilization : 0

.....

Switch#**show rmon statistics**

Statistics : 1
Data source : Gi0/1
DropEvents : 0
Octets : 1884085
Pkts : 3096
BroadcastPkts : 161
MulticastPkts : 97
CRCAAlignErrors : 0
UndersizePkts : 0
OversizePkts : 1200
Fragments : 0
Jabbers : 0
Collisions : 0
Pkts64Octets : 128
Pkts65to127Octets : 336
Pkts128to255Octets : 229
Pkts256to511Octets : 3
Pkts512to1023Octets : 0
Pkts1024to1518Octets : 1200
Owner : zhangsan

rmon alarm	RMON
rmon collection history	RMON
rmon collection stats	RMON
rmon event	RMON

show route-map

fci hY! aUd

show route-map [route-map-name]

route-map-name

fci hY! aUd

interface

interface-id

1.0

Switch# **show running-config**

Building configuration...

enable secret level 1 5 %3R:>H.YW4_ ;C,tZ5U0<D+S(Uj9=G1X)

enable secret level 5 5 !:>H.Y*T7;C,tZ[V0<D+S(\W9=G1X)sv

enable secret level 15 5 !.tj9=G17/7R:>H.,1u_ ;C,t-8U0<D+S

hostname Switch

radius-server host 192.168.23.33

interface gigabitEthernet 0/9

enable 8

show services

1.0

Switch# **show services**
Snmp-agent : Enabled
Telnet-server : Enabled
Web-server : Enabled

enable services snmp agent telnet server web server

show snmp

snmp server

show snmp

1.0

Switch# **show snmp**
Switch#sh snmp
Hostname : Switch
Contact : 353000.star
Location : switch.i-net.com.cn

SNMP packets input: 0

Switch#**show snmp-server traps**

Traps	Status

coldStart	Disabled
warmStart	Disabled
linkDown	Disabled
linkUp	Disabled
authenFailure	Disabled
newRoot	Disabled
topoChange	Disabled
hardChangeDetected	Disabled
portSecurityViolate	Disabled
stormViolationAlarm	Disabled
mac-notification	Disabled
vrrp-newmaster	Disabled
vrrp-authfailure	Disabled
power-state-trans	Disabled
fans-state-trans	Disabled
ospf	Disabled
pim	Disabled
igmp	Disabled
dvmrp	Disabled

snmp-server community	community
------------------------------	-----------

snmp-server enable traps	trap
---------------------------------	------

snmp-server host	trap
-------------------------	------

show spanning-tree

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

forward-time	BridgeForwardDelay
---------------------	--------------------

hello-time	BridgeHelloTime
-------------------	-----------------

max-age	BridgeMaxAge
----------------	--------------

Max-hops	instance
-----------------	----------

tx-hold-count	TxHoldCount
----------------------	-------------

pathcost method	
------------------------	--

1.0

MST

Switch# **show spanning-tree hello-time**

instance

Switch# **show spanning-tree**

SysStpStatus : Enabled

BaseNumPorts : 24

MaxAge : 20

HelloTime : 2

ForwardDelay : 15

BridgeMaxAge : 20

BridgeHelloTime : 2

BridgeForwardDelay : 15

MaxHops : 20

TxHoldCount : 3

PathCostMethod : long

BPDUGuard : Disabled

BPDUFilter :Disabled

MST00 vlans mapped: 1-9, 21-4094

BridgeAddr : 0002.4b29.7a00

Priority : 32768

Spanning-tree		
spanning-tree	max-hops	instance
Spanningtree	pathcost	
method		
spanning-tree tx-hold-count	STP	TxHoldCount

show spanning-tree interface

STP

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

<i>interface-id</i>	
bpdudfilter	bpdudfilter
portfast	portfast
bpduguard	bpduguard
link-type	linktype

1.0

Switch# **show spanning-tree interface gigabitethernet 0/1 bpdudfilter**

PortBPDUFilter : Disabled

gigabitethernet 0/5

Switch# **show spanning-tree interface gigabitethernet 0/5**

PortAdminPortfast : Disabled

PortOperPortfast : Disabled

PortAdminLinkType : auto

PortOperLinkType : shared

PortBPDUGuard: Enabled

PortBPDUFilter: Disabled

MST00 vlans mapped: 1-9 21-4095

PortPriority : 128

PortState : discarding

PortDesignatedRoot : 800000D0F8DDDD08
 PortDesignatedCost : 0
 PortDesignatedBridge : 800000D0F8DDDD08
 PortDesignatedPort : 0000
 PortAdminPathCost : 0
 PortOperPathCost : 0
 PortRole : disabledPort
 PortForwardTransitions : 0

MST01 vlans mapped: 10-20

PortPriority : 128
 PortDesignatedRoot : 800000D0F8DDDD08
 PortDesignatedCost : 0
 PortDesignatedBridge : 800000D0F8DDDD08
 PortDesignatedPort : 0000
 PortAdminPathCost : 0
 PortOperPathCost : 0
 PortRole : disabledPort
 PortForwardTransitions : 0

spanning-tree bpdupfilter	BPDU filter
spanning-tree portfast	portfast
spanning-tree bpduguard	BPDU guard
spanning-tree link-type	“ ”

show spanning-tree mst

mst instance

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

	configuration	mst
	<i>instance-id</i>	Instance
	<i>interface-id</i>	

instance

		.
	1.0	
		MST

Switch# **show spanning-tree mst configuration**

Multi spanning tree protocol : enabled

Name : region1

Revision : 1

Instance Vlans Mapped

0 1-2,4,11-4094

1 3,5-10

instance 1

Switch# **show spanning-tree mst 1**

MstpStatus : Enabled

BaseNumPorts : 24

MaxAge : 20

HelloTime : 2

ForwardDelay : 15

BridgeMaxAge : 20

BridgeHelloTime : 2

BridgeForwardDelay : 15

MaxHops : 20

TxHoldCount : 3

PathCostMethod : long

BPDUGuard : Disabled

BPDUFilter : Disabled

MST01 vlans mapped: 10-20

BridgeAddr : 0002.4b29.7a00

Priority : 32768

TimeSinceTopologyChange : 0d:0h:39m:30s

TopologyChanges : 0

DesignatedRoot : 800000D0F8DDDD08

RootCost : 200038

RootPort : Gi0/1

Remain Hops : 20

instance 0 **gigaethernet0/1**

Switch# **show spanning-tree mst 0 interface gigabitethernet 0/5**

PortAdminPortfast : Disabled

PortOperPortfast : Disabled

PortAdminLinkType : auto

PortOperLinkType : shared

PortBPDUGuard: Enabled

PortBPDUFilter: Disabled

MST00 vlans mapped: 1-9,21-4094

PortPriority : 128

PortState : discarding

PortDesignatedRoot : 800000D0F8DDDD08

```

PortDesignatedCost : 0
PortDesignatedBridge : 800000D0F8DDDD08
PortDesignatedPort : 0000
PortAdminPathCost : 0
PortOperPathCost : 0
PortRole : disabledPort
PortForwardTransitions : 0

```

spanning-tree mst configuration		MST region
spanning-tree mst cost		instance
Spanning-tree mst max-hops	mst	instance
Spanning-tree mst priority		instance
Spanning-tree port-priority	mst	instance

show standby

VRRP

show standby [*interface-id* [*group-number*]]

<i>interface-id</i>	ID
<i>group-number</i>	VRRP ID

1.0

Switch(config-if)# **show standby** 5 1

if	group	state	priority	preempt	interval	virtual IP	auth
VLAN1	255	Backup	105	may	3	192.168.165.111	
Gi10/10	0	Master	105	no	3	192.168.165.111	12345678

show storm-control

show storm-control [*interface-id*]

interface-id

1.0

Switch# show storm-control gigabitethernet 0/1

Interface	Broadcast Control	Multicast Control	Unicast Control
-----	-----	-----	-----
Gi0/1	Disabled	Disabled	Disabled

storm-control

show time-range

time-range

show time-range [*acl-name*]

acl-name ACL

1.0

Gk] hW#g\ck h] aY! fUb[Y
time-range name: no-http
periodic Weekdays 8:00 to 18:00

time-range name: no-udp
periodic Tuesday 15:30 to 16:30

[absolute](#)
[periodic](#)

show version

show version [devices | slots]

devices
slots

1.0

Switch# **show version**

System description : Gigabit Routing Switch(S3550-12G)
System uptime : 0d:0h:30m:25s
System hardware version : 1.0
CPU: PVR-80811014, Vendor-1057, Device-0006, Revision-12
Flash-1: Id-10f , Memory Room: fff00000-fff7ffff
Flash-2: Id-ec75 , Memory Room: f0000000-f1ff3fff
Unit-0: DevId:S35XX-00, RevId:00000001
System software version : 2.0 Build Apr 29 2003 Debug
System BOOT version : STAR-S3550B-BOOT01-01-01
System CTRL version : STAR-S3550B-CTRL01-01-01
Running Switching Image : Layer3

Switch#**show version devices**

Device Slots Description

```
-----
1          1          S3550-12G
```

Switch#**show version slots**

Device	Slot	Ports	Max Ports	Module
1	0	12	12	S3550-12G_Static_Module

show vlan

VLAN

show vlan [id vlan-id]

id vlan-id	VLAN ID
1.0	

Switch# **show vlan id 1**

VLAN Name	Status	Ports
1 default	active	Gi0/1 , Gi0/2 , Gi0/3 , Gi0/4 Gi0/5 , Gi0/6 , Gi0/7 , Gi0/8 Gi0/9 , Gi0/10 , Gi0/11 , Gi0/12

name	VLAN
switchport access	Vlan

show wrr-queue bandwidth

WRR

show wrr-queue bandwidth

1.0

Switch# show wrr-queue bandwidth

wrr-queue bandwidth

show wrr-queue cos-map

cos-to-queue map

show wrr-queue cos-map

1.0

Switch# show wrr-queue cos-map

wrr-queue cos-map cos-map

shutdown

no

shutdown

no shutdown

1.0

Ap SVI

show interfaces

Ap 1

Switch(config)#**interface aggregateport 1**

Switch(config-if)#**shutdown**

Ap 1

Switch(config)#**interface aggregateport 1**

Switch(config-if)#**no shutdown**

clear interface

show interfaces

snmp-server community

community

Simple Network Management Protocol SNMP

no

IP

snmp-server community *string* [**ro** | **rw**] [**host** *host-ip*]

no snmp-server community *string* [**host**]

string

ro

rw

host *host-ip*

IP

public

1.0

IP IP SNMP
host IP

Switch(config)# **snmp-server community** private ro

show snmp-server SNMP Server

snmp-server contact

contact no

snmp-server contact *string*

no snmp-server contact

string

1.0

show snmp-server

Switch(config)# **snmp-server contact** abcdefg

show snmp-server SNMP Server

snmp-server enable traps

trap no trap

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

no snmp-server enable traps [*notification-type*]

notification-type

trap

community-string

1 trap

1.0

trap **show snmp-server host**

Switch(config)# **snmp-server host 64.1.1.1 traps version 1 public**

show snmp-server SNMP Server

snmp-server location

location **no**

snmp-server location *string*

no snmp-server location

string

1.0

show version

Switch(config)# **snmp-server location** sssss123

show snmp-server SNMP Server

1.0

forward-time hello-time max-age

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

show spanning-tree

spanning-tree
Switch(config)# **spanning-tree**
BridgeForwardDelay
Switch(config)# **spanning-tree forward-time 10**

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

spanning-tree bpdudfilter

BPDU filter

enabled disabled

BPDU filter

spanning-tree bpdudfilter [enabled | disabled]

enabled	BPDU filter
Disabled	BPDU filter

1.0

show spanning-tree interface *interface-id*

Switch(config)# **interface gigabitethernet 0/1**
Switch(config-if)# **spanning-tree bpdudfilter enable**

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

spanning-tree bpduguard

BPDU guard

enabled disabled

BPDU guard

spanning-tree bpduguard [enabled | disabled]

enabled	BPDU guard
disabled	BPDU guard

1.0

show spanning-tree interface *interface-id*

```
Switch(config)# interface gigabitethernet 0/1
Switch(config-if)# spanning-tree bpduguard enable
```

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

spanning-tree link-type

“ ” no

spanning-tree link-type [point-to-point | shared]
no spanning-tree link-type

point-to-point	point-to-point.
Shared	shared

point-to-point

shared.

spanning-tree mode

stp no

spanning-tree mode [stp | rstp | mstp]

no spanning-tree mode

	stp	Spanning tree protocol(IEEE 802.1d)
	rstp	Rapid spanning tree protocol(IEEE 802.1w)
	mstp	Multiple spanning tree protocol(IEEE 802.1s)
	MSTP	
	1.0	
	Switch(config)# spanning-tree mode stp	
	show spanning-tree	

spanning-tree mst configure

mst

mstp region

end

Ctrl+C

exit

MST

instance	<i>instance-id</i>	vlan	<i>vlan-range</i>	Vlan	MST instance
<i>instance-id</i>	0	64	vlan	1	4095 <i>vlan-range</i>
vlan		vlan		vlan	
	vlan				

	show	mst	MST
--	-------------	-----	-----

spanning-tree mst cost

instance

no

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

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

Instance-id:	Instance	0	63
Cost:		1	200 000 000

spanning-tree mst instance-id port-priority priority

no spanning-tree mst instance-id port-priority

	<i>Instance-id</i>	Instance	0	63							
	<i>priority</i>		0	16	32	48	64	80	96		
			112	128	144	160	176	192	208	224	240
			16				16				

	<i>priority</i>	128
--	-----------------	-----

--	--	--

	1.0	

	region	
--	--------	--

	instance 20	gigabitethernet 0/1	10
	Switch(config)# interface gigabitethernet 0/1		
	Switch(config-if)# spanning-tree mst 20 port-priority 0		
	show spanning-tree mst instance interface interface-id		

	show spanning-tree mst	MSTP
	spanning-tree mst cost	
	spanning-tree mst priority	instance

spanning-tree mst priority

instance

no

spanning-tree mst instance-id priority priority

no spanning-tree mst instance-id priority

	<i>Instance-id</i>	Instance	0	63
	<i>priority</i>		\$Z (\$- *Z, % &Z %&&, Z %*, (Z	
			&\$(\$Z &()+*Z & *+&Z ' &+*, Z ' *, *(Z (\$- *\$Z ()\$)*Z	
			(-%)&Z)' &(, Z)+' ((*%(\$	
			16	4096

	<i>priority</i>	32768
	1.0	
	instance 20	8192
	Switch(config-if)# spanning-tree mst 20 priority 8192	
	show spanning-tree mst instance interface interface-id	
	show spanning-tree mst	MSTP
	spanning-tree mst cost	
	spanning-tree mst port-priority	instance

spanning-tree reset

spanning-tree **no**
spanning-tree reset

	1.0	
	show spanning-tree	STP
	Switch(config)# spanning-tree reset	
	show spanning-tree	STP
	show spanning-tree interface	STP

spanning-tree tx-hold-count

STP

TxHoldCount

BPDU

no

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

no spanning-tree tx-hold-count

```
Switch(config-if)# spanning-tree pathcost method long
```

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

spanning-tree portfast

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

```
disabled portfast
```

```
1.0
```

```
show spanning-tree interface interface-id
```

```
Switch(config)# interface gigabitethernet 0/1  
Switch(config-if)# spanning-tree portfast
```

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

spanning-tree portfast bpduguard default

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

```
BPDU guard.
```

1.0

BPDU guard BPDU error-disabled
show spanning-tree

Switch(config)# **spanning-tree portfast bpduguard default**

show spanning-tree STP
interface

spanning-tree portfast bpduguard default

BPDU filter no BPDU filter
spanning-tree portfast bpduguard default
no spanning-tree portfast bpduguard default

BPDU filter

1.0

BPDU filter BPDU show
spanning-tree

Switch(config)# **spanning-tree portfast bpduguard default**

show spanning-tree STP
interface

spanning-tree portfast default

portfast no portfast
spanning-tree portfast default
no spanning-tree portfast default

portfast

1.0

show spanning-tree interface *interface-id*

Switch(config)# **spanning-tree portfast default**

show spanning-tree STP
interface

speed

no

speed {10 | 100 | 1000 | auto }

no speed

10 10 /

100 100 /

1000 1000 /

auto

Ap

1.0

show interfaces

speed(console)

no

S35

speed *number*

no speed

<i>number</i>	9600	19200	38400
	57600		BPS

9600

1.0

show line console

57600BPS

Switch(config)#**line console 0**

Switch(config-line)#**speed 57600**

line

show line console

standby authentication

VRRP

no

standby [*group-number*] **authentication** *string*

no standby [*group-number*] **authentication**

<i>group-number</i>	VRRP	ID	1-255
---------------------	------	----	-------

<i>string</i>		8	
---------------	--	---	--

1.0

Switch(config-if)# **show 1 authentication** start

show standby VRRP

standby ip

VRRP , **no**
standby [group-number] **ip** ip-address
no standby [group-number] **ip**

<i>group-number</i>	VRRP	ID	1-255
<i>ip-address</i>	VRRP	IP	

VRRP ID 0

[^Av

standby preempt

standby [*group-number*] [**priority** *priority*] **preempt**
no standby [*group-number*][**priority**] **preempt**

<i>group-number</i>	VRRP	ID	1-255
<i>priority</i>			

1.0

show standby

Switch(config-if)# **standby 1 preempt**

show standby VRRP

standby priority

standby [*group-number*] **priority** *priority*[**preempt**]
no standby [*group-number*] **priority** [**preempt**]

<i>group-number</i>	VRRP	ID	1-255
<i>priority</i>		1-255	

100

1.0

1.0

show storm-control

gigabitethernet 0/1

Switch# **configure terminal**
Switch(config)# **interface gigabitethernet 0/1**
Switch(config-if)# **storm-control multicast**

show storm-control

summary-address

bc

summary-address *address mask* [**advertise** | **not-advertise**]

no summary-address *address mask*

address IP

mask

advertise

not-advertise

OSPF

1.0

```
Switch(config-router)# summary-address 211.0.0.0 255.0.0.0
```

```
area nssa nssa  
redistribute  
show ip ospf summary-address  
area default-cost stub nssa  
metric
```

switchport

```
no switchport 3 switchport 2  
switchport  
no switchport
```

```
1.0
```

```
switchport
```

```
2 3 2
```

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

switchport access

```
statics accessport
```

```
VLAN
```

```
no
```

```
VLAN
```

```
switchport access vlan vlan-id
```


switch port

trunk

VLAN



```
Switch(config-if)# switchport port-security
Switch(config-if)# switchport port-security violation shutdown
```

```
show port-security
```

switchport port-security aging

no

```
switchport port-security aging {static | time time }
```

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

```
static
```

```
time time
```

```
0 1440
```

```
0
```

```
1.0
```

```
no switchport port-security aging time
```

```
no switchport port-security
```

```
aging static
```

```
show port-security
```

```
Switch(config)# interface gigabitethernet 0/1
```

```
Switch(config-if)# switchport port-security aging time 8
```

```
Switch(config-if)# switchport port-security aging static
```

```
show port-security
```

switchport port-security mac-address

no

switchport port-security [**mac-address** *mac-address* [**ip-address** *ip-address*]] | [**maximum** *value*]

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

mac-address *mac-address*

ip-address *ip-address* IP

maximum *value*

1.0

24 IP MAC
120 IP MAC
IP MAC

ACL

ACL 802.1x IP
IP

gigabitethernet 0/1

00d0.f800.073c IP 192.168.12.202

Switch# **configure terminal**

Enter configuration commands, one per line. End with CNTL/Z.

Switch(config)# **interface gigabitethernet 0/1**

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

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

Switch(config-if)#**switchport port-security mac-address** 00d0.f800.073c

ip-address 192.168.12.202

show port-security

switchport priority

802.1q

no

switchport priority default

default	<i>priority</i>	0	7
----------------	-----------------	---	---

0

1.0

show interfaces

switchport trunk

trunkport

native VLAN

Trunk

VLAN

no

VLAN 2 0/1

```
Switch(config)# interface gigabitethernet 0/1
Switch(config-if)# switchport trunk allowed vlan remove 2
Switch(config-if)# end
Switch# show interfaces gigabitethernet 0/1 switchport
Name: Gi0/1
Switchport          : Enabled
Administrative Mode  : trunk
Access Mode VLAN    : 2
Trunking Native VLAN : 1
Trunking VLANs Enabled : 1,3-4094
```

show interfaces

switchport access	statics accessport
	VLAN

telnet

exit

telnet ip-address

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

1.0

terminal monitor

exit

IP	192.168.65.1	Switch#terminal monitor
----	--------------	-------------------------

Switch# telnet 192.168.65.1

terminal monitor

no

terminal monitor

no terminal monitor

1.0

terminal monitor

Switch#**terminal monitor**

show logging

timers basic

RIP

no

timers basic *update invalid holddown*

no timers basic

update

invalid

update

holddown

update 30 invalid 180 holddown 120

RIP

1.0

show ip protocols RIP

 update 20 invalid 80 flush 200

Switch(config)# **ip routing**

Switch(config)# **router rip**

Switch(config-router)# **timers basic 20 80 200**

1.0

HfUWfci hY

=D

†

Gk]hW>hfUWfci hY %&"%*, "*"("%\$

HndY YgW#7H@RW#7H@R#e hc UVcfh"

% %ag %ag %ag %&"%*, "*"("%

% %ag %ag %ag %&"%*, "*"("%\$

HfUWV Wtad`YhY gi WYggZi ``m†

validate-update-source

IP

no

IP

validate-update-source

no validate-update-source

IP

RIP

1.0

show ip protocols

RIP

Switch(config)# **ip routing**

Switch(config)# **router rip**

Switch(config-router)# **validate-update-source**

ip routing

IP

router

RIP

RIP

show ip protocols

IP

version

RIP
version *version*
no version

no

<i>version</i>	1	1	RIP
	2	2	RIP

RIP	1	2	1
-----	---	---	---

RIP

1.0

RIP
RIP

show ip protocols

RIP

2 RIP

Switch(config)#router rip

Switch(config-router)# **version 2**

ip rip receive version RIP

ip rip send version RIP

show ip protocols IP

vlan

vlan *vlan-id*
no vlan *vlan-id*

VLAN

no

VLAN

1.0

end

Ctrl+C

exit

show

vlan

V

L

A

write memory

n

o

write [memory]

config.text

1.0

config.text

copy

delete

show configuration

wrr-queue bandwidth

n

o

