

```
DSW1#
DSW1#show running-config
Building configuration...

Current configuration : 6679 bytes
!
version 12.2
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname DSW1
!
enable secret 5 $1$rODO$qAtdAg3h15SehH6GUuZwF/
!
no aaa new-model
ipv6 unicast-routing
ip subnet-zero
ip routing
!
ip multicast-routing
!
!
crypto pki trustpoint TP-self-signed-3185798656
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-3185798656
  revocation-check none
  rsakeypair TP-self-signed-3185798656
!
!
crypto pki certificate chain TP-self-signed-3185798656
  certificate self-signed 01
    3082023D 308201A6 A0030201 02020101 300D0609 2A864886 F70D0101 04050030
    31312F30 2D060355 04031326 494F532D 53656C66 2D536967 6E65642D 43657274
    69666963 6174652D 33313835 37393836 3536301E 170D3933 30333031 30303031
    30305A17 0D323030 31303130 30303030 305A3031 312F302D 06035504 03132649
    4F532D53 656C662D 5369676E 65642D43 65727469 66696361 74652D33 31383537
    39383635 3630819F 300D0609 2A864886 F70D0101 01050003 818D0030 81890281
    8100B5A7 E06E306F 8CE03E7C 7F0A5ED4 F3E83B4D 84C44C79 53FFBF4B AD0AA040
    6F1B5F48 450A6605 064E98C8 F383BF35 7B1E930A 50CE8941 983A7541 00257105
    B72F88B5 9EFA7F55 1555F03C BB445809 46675034 6907395C 62E3997D C6AD08DE
    D5DA2E7A F8F1BCBF F5279179 178DDC57 0F0FC565 3D690CC3 CC342B98 192CDE4C
    FE5B0203 010001A3 65306330 0F060355 1D130101 FF040530 030101FF 30100603
    551D1104 09300782 05445357 312E301F 0603551D 23041830 168014F8 76AF7B7F
    ED73BF2B 4B98E0FA 521E848A 8A439230 1D060355 1D0E0416 0414F876 AF7B7FED
    73BF2B4B 98E0FA52 1E848A8A 4392300D 06092A86 4886F70D 01010405 00038181
    008E47B1 A4F77ADB 27CF55C5 17BB031C 15FE5D6F 1FCD9212 D925F95C 90244899
    1F97EAD1 89880DA0 BD0CCAC2 5DDAC877 BC6A5756 4B6B7389 6F74FF8C 97F41CCB
    4EF0975B CA5E1343 C8682DA1 D2D3EF12 7A9CF7AB C9C4F367 831798CC 4D182B50
    4EF0D03C BBC28793 6A47C9D5 8E5960AD 8D4943CB 5D1A4B18 870DDEB6 E0DA2B3A
CB
quit
!
```

```
!  
!  
spanning-tree mode rapid-pvst  
spanning-tree extend system-id  
spanning-tree vlan 10,200 priority 4096  
spanning-tree vlan 20 priority 8192  
!  
vlan internal allocation policy ascending  
!  
!  
!  
!  
!  
!  
interface Tunnel46  
  no ip address  
  ipv6 address 2026::2:2/122  
  ipv6 enable  
  ipv6 rip RIPNG enable  
  tunnel source 10.1.4.6  
  tunnel destination 10.1.4.5  
!  
interface Tunnel67  
  no ip address  
  ipv6 address 2026::3:1/122  
  ipv6 enable  
  ipv6 rip RIPNG enable  
  tunnel source 10.2.4.13  
  tunnel destination 10.2.4.14  
!  
interface Port-channel12  
  no switchport  
  ip address 10.2.4.13 255.255.255.252  
  ip pim sparse-dense-mode  
!  
interface Port-channel13  
  switchport trunk encapsulation dot1q  
  switchport trunk allowed vlan 10,200  
  switchport mode trunk  
!  
interface Port-channel14  
  switchport trunk encapsulation dot1q  
  switchport trunk allowed vlan 20,200  
  switchport mode trunk  
!  
interface FastEthernet0/1  
  no switchport  
  ip address 10.1.4.6 255.255.255.252  
  ip pim sparse-dense-mode  
  spanning-tree portfast  
!  
interface FastEthernet0/2  
  switchport access vlan 101  
  switchport mode access
```

```
switchport port-security maximum 2
switchport port-security
spanning-tree portfast
!
interface FastEthernet0/3
switchport access vlan 102
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/4
switchport mode dynamic desirable
!
interface FastEthernet0/5
switchport access vlan 104
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/6
switchport access vlan 105
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/7
switchport access vlan 106
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/8
switchport access vlan 109
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/9
switchport access vlan 17
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/10
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/11
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/12
switchport access vlan 123
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/13
switchport mode access
spanning-tree portfast
!
```

```
interface FastEthernet0/14
  switchport mode access
  spanning-tree portfast
!
interface FastEthernet0/15
  switchport mode access
!
interface FastEthernet0/16
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 20,200
  switchport mode trunk
  channel-group 14 mode auto
!
interface FastEthernet0/17
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 20,200
  switchport mode trunk
  channel-group 14 mode auto
!
interface FastEthernet0/18
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 20,200
  switchport mode trunk
  channel-group 14 mode auto
!
interface FastEthernet0/19
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 10,200
  switchport mode trunk
  channel-group 13 mode active
!
interface FastEthernet0/20
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 10,200
  switchport mode trunk
  channel-group 13 mode active
!
interface FastEthernet0/21
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 10,200
  switchport mode trunk
  channel-group 13 mode active
!
interface FastEthernet0/22
  no switchport
  no ip address
  channel-group 12 mode on
!
interface FastEthernet0/23
  no switchport
  no ip address
  channel-group 12 mode on
!
interface FastEthernet0/24
```

```
no switchport
no ip address
channel-group 12 mode on
!
interface GigabitEthernet0/1
switchport mode dynamic desirable
shutdown
!
interface GigabitEthernet0/2
switchport mode dynamic desirable
shutdown
!
interface Vlan1
no ip address
shutdown
!
interface Vlan10
ip address 10.2.1.1 255.255.255.0
ip helper-address 10.1.4.5
ip pim sparse-dense-mode
standby 10 ip 10.2.1.254
standby 10 priority 110
standby 10 preempt
!
interface Vlan20
ip address 10.2.2.2 255.255.255.0
ip pim sparse-dense-mode
!
interface Vlan200
ip address 192.168.1.129 255.255.255.224
!
!
router eigrp 10
no auto-summary
eigrp router-id 6.6.6.6
network 10.1.4.6 0.0.0.0
network 10.2.1.1 0.0.0.0
network 10.2.2.2 0.0.0.0
network 10.2.4.13 0.0.0.0
!
router ospf 1
log-adjacency-changes
network 10.3.3.2 0.0.0.0 area 0
network 10.17.17.1 0.0.0.0 area 0
!
ip classless
ip http server
ip http secure-server
!
!
ip access-list standard DENY_10
deny 10.0.0.0 0.255.255.255
permit any
ip access-list standard DENY_ALL
```

```
deny any
ip access-list standard PERMIT_10
  permit 10.0.0.0 0.255.255.255
ip access-list standard PERMIT_ALL
  permit any
!
ipv6 router rip RIPNG
!
!
control-plane
!
!
line con 0
  exec-timeout 0 0
  logging synchronous
line vty 0 4
  password cisco
  login
line vty 5 15
  password cisco
  login
!
end

DSW1#
```

```
DSW1#ping 209.65.200.241
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 209.65.200.241, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 32/34/40 ms
```

```
DSW1#
```

DSW1#

DSW1#ping 209.65.200.226

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 209.65.200.226, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 32/36/56 ms

DSW1#



```
DSW1#  
DSW1#ping 209.65.200.225
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 209.65.200.225, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/64/68 ms  
DSW1#
```

```
DSW1#ping 10.1.1.1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.1, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/130/132  
ms  
DSW1#
```

```
DSW1#ping 10.1.1.2
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.1.2, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/66/68 ms  
DSW1#
```

```
DSW1#ping 10.1.1.5
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.5, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/66/68 ms
```

```
DSW1#
```

```
DSW1#ping 10.1.1.6
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.6, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/129/132
```

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.1.9
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.9, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/130/132  
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.1.10
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.1.10, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/193/196  
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.10
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.10, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/200
```

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.9
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.9, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/194/196
```

```
ms
```

```
DSW1#
```



```
DSW1#ping 10.1.4.6
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.6, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/200
```

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.5
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.1.4.5, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/193/196  
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.1.1
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.2.1.1, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/196  
ms  
DSW1#
```

```
DSW1#ping 10.2.2.2
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.2.2.2, timeout is 2 seconds:  
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/194/196
ms
DSW1#
```

```
DSW1#ping 10.2.1.254
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.1.254, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/196
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.4.14
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.4.14, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/196
```

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.4.13
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.4.13, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/196
```

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.1.2
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.1.2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/196/200  
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.2.1
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.2.1, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/200  
ms
```

```
DSW1#
```



```
DSW1#ping 10.2.1.4
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.2.1.4, timeout is 2 seconds:
```

```
.....
```

```
Success rate is 0 percent (0/5)
```

```
DSW1#
```

```

DSW1#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
Vlan1              unassigned     YES NVRAM  administratively down
down
Vlan10             10.2.1.1       YES NVRAM  up
up
Vlan20             10.2.2.2       YES NVRAM  up
up
Vlan200            192.168.1.129 YES NVRAM  up
up
FastEthernet0/1    10.1.4.6       YES NVRAM  up
up
FastEthernet0/2    unassigned     YES unset  down
down
FastEthernet0/3    unassigned     YES unset  down
down
FastEthernet0/4    unassigned     YES unset  down
down
FastEthernet0/5    unassigned     YES unset  down
down
FastEthernet0/6    unassigned     YES unset  down
down
FastEthernet0/7    unassigned     YES unset  down
down
FastEthernet0/8    unassigned     YES unset  down
down
FastEthernet0/9    unassigned     YES unset  down
down
FastEthernet0/10   unassigned     YES unset  down
down
FastEthernet0/11   unassigned     YES unset  down
down
FastEthernet0/12   unassigned     YES unset  down
down
FastEthernet0/13   unassigned     YES unset  down
down
FastEthernet0/14   unassigned     YES unset  down
down

```

FastEthernet0/15 down	unassigned	YES unset	down
FastEthernet0/16 up	unassigned	YES unset	up
FastEthernet0/17 up	unassigned	YES unset	up
FastEthernet0/18 up	unassigned	YES unset	up
FastEthernet0/19 up	unassigned	YES unset	up
FastEthernet0/20 up	unassigned	YES unset	up
FastEthernet0/21 up	unassigned	YES unset	up
FastEthernet0/22 up	unassigned	YES NVRAM	up
FastEthernet0/23 up	unassigned	YES NVRAM	up
FastEthernet0/24 up	unassigned	YES NVRAM	up
GigabitEthernet0/1 down	unassigned	YES unset	administratively down
GigabitEthernet0/2 down	unassigned	YES unset	administratively down
Port-channel12 up	10.2.4.13	YES NVRAM	up
Port-channel13 up	unassigned	YES unset	up
Port-channel14 up	unassigned	YES unset	up
Tunnel46 up	unassigned	YES NVRAM	up
Tunnel67 up	unassigned	YES NVRAM	up

DSW1#

```
DSW1#show ip route
```

```
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP  
D - EIGRP, EX - EIGRP external, 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  
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS  
level-2  
ia - IS-IS inter area, * - candidate default, U - per-user static  
route  
o - ODR, P - periodic downloaded static route
```

```
Gateway of last resort is 10.1.4.5 to network 0.0.0.0
```

```
10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks  
C 10.2.4.12/30 is directly connected, Port-channel12  
D EX 10.1.1.8/30 [170/261120] via 10.1.4.5, 01:30:22, FastEthernet0/1  
D 10.1.4.8/30 [90/28416] via 10.2.2.1, 01:34:12, Vlan20  
[90/28416] via 10.2.1.2, 01:34:12, Vlan10  
C 10.2.1.0/24 is directly connected, Vlan10  
C 10.2.2.0/24 is directly connected, Vlan20  
C 10.1.4.4/30 is directly connected, FastEthernet0/1  
192.168.1.0/27 is subnetted, 1 subnets  
C 192.168.1.128 is directly connected, Vlan200  
D*EX 0.0.0.0/0 [170/261120] via 10.1.4.5, 01:30:07, FastEthernet0/1  
DSW1#
```

```

DSW1#show processes cpu
CPU utilization for five seconds: 0%/0%; one minute: 1%; five minutes: 0%
  PID Runtime(ms)   Invoked    uSecs   5Sec   1Min   5Min  TTY Process
    1         0         9         0  0.00%  0.00%  0.00%  0 Chunk
Manager
    2         0       1151         0  0.00%  0.00%  0.00%  0 Load Meter
    3         0         1         0  0.00%  0.00%  0.00%  0 OSPF-1
Hello
    4       5076       692      7335  0.00%  0.06%  0.05%  0 Check
heaps
    5         0         7         0  0.00%  0.00%  0.00%  0 Pool
Manager
    6         0         2         0  0.00%  0.00%  0.00%  0 Timers
    7         0         1         0  0.00%  0.00%  0.00%  0 Crash
writer
    8         36       194      185  0.00%  0.00%  0.00%  0 ARP Input
    9         0         1         0  0.00%  0.00%  0.00%  0 CEF MIB
API
   10         0         1         0  0.00%  0.00%  0.00%  0
AAA_SERVER_DEADT

```





70	0	98	0	0.00%	0.00%	0.00%	0	Port-
Security								
71	0	8	0	0.00%	0.00%	0.00%	0	SpanTree
Flush								
72	4	33	121	0.00%	0.00%	0.00%	0	Switch IP
Host T								
73	0	578	0	0.00%	0.00%	0.00%	0	Ethchnl
74	0	5757	0	0.00%	0.00%	0.00%	0	UDLD
75	0	1	0	0.00%	0.00%	0.00%	0	Vegas IPSPG
Proce								
76	12	25	480	0.00%	0.00%	0.00%	0	VMATM
Callback								
77	0	48	0	0.00%	0.00%	0.00%	0	HL3U PBR
bkgrd p								
78	0	48	0	0.00%	0.00%	0.00%	0	Vegas PBR
n-h re								
79	0	2	0	0.00%	0.00%	0.00%	0	AAA Server
80	0	1	0	0.00%	0.00%	0.00%	0	AAA ACCT
Proc								
81	0	1	0	0.00%	0.00%	0.00%	0	ACCT
Periodic Pr								
82	0	1	0	0.00%	0.00%	0.00%	0	AAA System
Acct								
83	0	1	0	0.00%	0.00%	0.00%	0	Auth-proxy
AAA B								
84	0	20	0	0.00%	0.00%	0.00%	0	IP Admin
SM Proc								
85	532	2529	210	0.00%	0.00%	0.00%	0	CDP
Protocol								
86	1108	206	5378	0.23%	0.92%	0.31%	0	Exec
87	0	1	0	0.00%	0.00%	0.00%	0	Key Proc
88	0	2	0	0.00%	0.00%	0.00%	0	AAA
Dictionary R								
89	0	49	0	0.00%	0.00%	0.00%	0	DHCP
Snooping								
90	0	3	0	0.00%	0.00%	0.00%	0	CEF
switching ba								
91	1516	9300	163	0.00%	0.00%	0.00%	0	IP Input
92	0	1	0	0.00%	0.00%	0.00%	0	ICMP event
handl								
93	4	11245	0	0.00%	0.00%	0.00%	0	IP ARP
Track								
94	0	3	0	0.00%	0.00%	0.00%	0	ADJ
resolve proc								
95	404	11847	34	0.00%	0.00%	0.00%	0	Spanning
Tree								
96	0	2	0	0.00%	0.00%	0.00%	0	EAPoUDP
Process								
97	0	2	0	0.00%	0.00%	0.00%	0	KRB5 AAA
98	0	98	0	0.00%	0.00%	0.00%	0	CEF
background p								
99	0	1	0	0.00%	0.00%	0.00%	0	IP IRDP
100	0	74	0	0.00%	0.00%	0.00%	0	Cluster L2



101	0	577	0	0.00%	0.00%	0.00%	0 Cluster
RARP							
102	152	1501	101	0.00%	0.00%	0.00%	0 Cluster
Base							
103	0	1	0	0.00%	0.00%	0.00%	0 TCP Timer
104	0	1	0	0.00%	0.00%	0.00%	0 TCP
Protocols							
105	0	1	0	0.00%	0.00%	0.00%	0 Socket
Timers							
106	0	22	0	0.00%	0.00%	0.00%	0 HTTP CORE
107	0	1	0	0.00%	0.00%	0.00%	0 RARP Input
108	0	1	0	0.00%	0.00%	0.00%	0 802.1x
Critical							
109	16	45	355	0.00%	0.00%	0.00%	0 L2MM
110	60	484	123	0.00%	0.00%	0.00%	0 MRD
111	76	401	189	0.00%	0.00%	0.00%	0 IGMP SN
112	0	1	0	0.00%	0.00%	0.00%	0 IGMP QR
113	0	2	0	0.00%	0.00%	0.00%	0 L2TRACE
SERVER							
114	0	1	0	0.00%	0.00%	0.00%	0 Vegas wccp
manag							
115	4	4	1000	0.00%	0.00%	0.00%	0 Crypto ACL
116	44	116	379	0.00%	0.00%	0.00%	0 IP RIB
Update							
117	8	22	363	0.00%	0.00%	0.00%	0 DHCPD
Receive							
118	0	1	0	0.00%	0.00%	0.00%	0 Transport
Port A							
119	0	49	0	0.00%	0.00%	0.00%	0 DHCPD
Timer							
120	0	2	0	0.00%	0.00%	0.00%	0 Crypto
Support							
121	0	2	0	0.00%	0.00%	0.00%	0 LOCAL AAA
122	0	2	0	0.00%	0.00%	0.00%	0 ENABLE AAA
123	0	2	0	0.00%	0.00%	0.00%	0 LINE AAA
125	0	2	0	0.00%	0.00%	0.00%	0 TPLUS
126	0	1	0	0.00%	0.00%	0.00%	0 CRYPTO QoS
proce							
127	0	1	0	0.00%	0.00%	0.00%	0 Crypto INT
128	0	4	0	0.00%	0.00%	0.00%	0 Crypto
IKMP							
129	96	291	329	0.00%	0.00%	0.00%	0 IPSEC key
engine							
130	0	1	0	0.00%	0.00%	0.00%	0 IPSEC
manual key							
131	0	1	0	0.00%	0.00%	0.00%	0 Crypto PAS
Proc							
132	4	13	307	0.00%	0.00%	0.00%	0 crypto
engine pr							
133	24	4	6000	0.00%	0.00%	0.00%	0 Crypto CA
134	0	1	0	0.00%	0.00%	0.00%	0 Crypto
PKI-CRL							
135	0	1	0	0.00%	0.00%	0.00%	0 Crypto SSL



165	5992	34	176235	0.00%	0.00%	0.00%	0 crypto sw
pk pro							
166	28	516	54	0.00%	0.00%	0.00%	0 IPv6 Input
167	0	247	0	0.00%	0.00%	0.00%	0 IPv6 IDB
168	0	10	0	0.00%	0.00%	0.00%	0 IPv6 ND
169	24	878	27	0.00%	0.00%	0.00%	0 IPv6 RIP
170	0	5767	0	0.00%	0.00%	0.00%	0 DVMRP
Timers							
171	88	6236	14	0.00%	0.00%	0.00%	0 IGMP Input
172	132	7548	17	0.00%	0.00%	0.00%	0 PIM
Process							
173	0	57612	0	0.00%	0.00%	0.00%	0 Mwheel
Process							
174	136	1269	107	0.00%	0.00%	0.00%	0 PAgP
175	144	1885	76	0.00%	0.00%	0.00%	0 LACP
Protocol							
176	144	4005	35	0.00%	0.00%	0.00%	0 HSRP
(Standby)							
178	0	23	0	0.00%	0.00%	0.00%	0 EIGRP:
Router							
179	688	5575	123	0.00%	0.00%	0.00%	0 EIGRP-
IPv4:							
180	8	5659	1	0.00%	0.00%	0.00%	0 OSPF-1
Router							
181	480	10032	47	0.00%	0.00%	0.00%	0 EIGRP-
IPv4: Hell							
DSW1#							

DSW1#show interfaces

```
Vlan1 is administratively down, line protocol is down
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 1 interface resets
    0 output buffer failures, 0 output buffers swapped out
Vlan10 is up, line protocol is up
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  Internet address is 10.2.1.1/24
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:01, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    4010 packets input, 311295 bytes, 0 no buffer
    Received 0 broadcasts (1245 IP multicasts)
    0 runts, 0 giants, 0 throttles
```

```
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    3564 packets output, 241690 bytes, 0 underruns
    0 output errors, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
Vlan20 is up, line protocol is up
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  Internet address is 10.2.2.2/24
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:03, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1461 packets input, 114649 bytes, 0 no buffer
    Received 0 broadcasts (1241 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    1476 packets output, 109937 bytes, 0 underruns
    0 output errors, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
Vlan200 is up, line protocol is up
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  Internet address is 192.168.1.129/27
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 01:34:46, output 01:35:36, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1 packets input, 64 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    1 packets output, 60 bytes, 0 underruns
    0 output errors, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/1 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  Internet address is 10.1.4.6/30
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
```

```
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:03, output 00:00:02, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  2723 packets input, 253657 bytes, 0 no buffer
  Received 1742 broadcasts (1269 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1739 multicast, 0 pause input
  0 input packets with dribble condition detected
  3086 packets output, 296008 bytes, 0 underruns
  0 output errors, 0 collisions, 3 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/2 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e02 (bia
000d.bde3.6e02)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/3 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e03 (bia
000d.bde3.6e03)
```

```
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/4 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e04 (bia
000d.bde3.6e04)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output 01:36:14, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    11 packets output, 1436 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/5 is down, line protocol is down (notconnect)
```

```
Hardware is Fast Ethernet, address is 000d.bde3.6e05 (bia
000d.bde3.6e05)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/6 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e06 (bia
000d.bde3.6e06)
```

```
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
```



0 output buffer failures, 0 output buffers swapped out  
FastEthernet0/7 is down, line protocol is down (notconnect)  
Hardware is Fast Ethernet, address is 000d.bde3.6e07 (bia 000d.bde3.6e07)  
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,  
reliability 255/255, txload 1/255, rxload 1/255  
Encapsulation ARPA, loopback not set  
Keepalive set (10 sec)  
Auto-duplex, Auto-speed, media type is 10/100BaseTX  
input flow-control is off, output flow-control is unsupported  
ARP type: ARPA, ARP Timeout 04:00:00  
Last input never, output never, output hang never  
Last clearing of "show interface" counters never  
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0  
Queueing strategy: fifo  
Output queue: 0/40 (size/max)  
5 minute input rate 0 bits/sec, 0 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
0 packets input, 0 bytes, 0 no buffer  
Received 0 broadcasts (0 multicasts)  
0 runts, 0 giants, 0 throttles  
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored  
0 watchdog, 0 multicast, 0 pause input  
0 input packets with dribble condition detected  
0 packets output, 0 bytes, 0 underruns  
0 output errors, 0 collisions, 1 interface resets  
0 babbles, 0 late collision, 0 deferred  
0 lost carrier, 0 no carrier, 0 PAUSE output  
0 output buffer failures, 0 output buffers swapped out

FastEthernet0/8 is down, line protocol is down (notconnect)  
Hardware is Fast Ethernet, address is 000d.bde3.6e08 (bia 000d.bde3.6e08)  
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,  
reliability 255/255, txload 1/255, rxload 1/255  
Encapsulation ARPA, loopback not set  
Keepalive set (10 sec)  
Auto-duplex, Auto-speed, media type is 10/100BaseTX  
input flow-control is off, output flow-control is unsupported  
ARP type: ARPA, ARP Timeout 04:00:00  
Last input never, output never, output hang never  
Last clearing of "show interface" counters never  
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0  
Queueing strategy: fifo  
Output queue: 0/40 (size/max)  
5 minute input rate 0 bits/sec, 0 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
0 packets input, 0 bytes, 0 no buffer  
Received 0 broadcasts (0 multicasts)  
0 runts, 0 giants, 0 throttles  
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored  
0 watchdog, 0 multicast, 0 pause input  
0 input packets with dribble condition detected  
0 packets output, 0 bytes, 0 underruns  
0 output errors, 0 collisions, 1 interface resets

```
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/9 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e09 (bia
000d.bde3.6e09)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/10 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0a (bia
000d.bde3.6e0a)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
```

```
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/11 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0b (bia
000d.bde3.6e0b)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/12 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0c (bia
000d.bde3.6e0c)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
```

```
0 watchdog, 0 multicast, 0 pause input
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 PAUSE output
0 output buffer failures, 0 output buffers swapped out
FastEthernet0/13 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e0d (bia
000d.bde3.6e0d)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/14 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e0e (bia
000d.bde3.6e0e)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
```

```
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast, 0 pause input
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 PAUSE output
0 output buffer failures, 0 output buffers swapped out
FastEthernet0/15 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e0f (bia
000d.bde3.6e0f)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/16 is up, line protocol is up (connected)
Hardware is Fast Ethernet, address is 000d.bde3.6e10 (bia
000d.bde3.6e10)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:00, output 00:00:03, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
```

```
5545 packets input, 446503 bytes, 0 no buffer
Received 4941 broadcasts (0 multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 4940 multicast, 0 pause input
0 input packets with dribble condition detected
2572 packets output, 229226 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 PAUSE output
0 output buffer failures, 0 output buffers swapped out
FastEthernet0/17 is up, line protocol is up (connected)
Hardware is Fast Ethernet, address is 000d.bde3.6e11 (bia
000d.bde3.6e11)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:02, output 00:00:05, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  1089 packets input, 110360 bytes, 0 no buffer
  Received 509 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 509 multicast, 0 pause input
  0 input packets with dribble condition detected
  1088 packets output, 107052 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/18 is up, line protocol is up (connected)
Hardware is Fast Ethernet, address is 000d.bde3.6e12 (bia
000d.bde3.6e12)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:03, output 00:00:07, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
```

```
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  1088 packets input, 110270 bytes, 0 no buffer
  Received 508 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 508 multicast, 0 pause input
  0 input packets with dribble condition detected
  4025 packets output, 318977 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/19 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e13 (bia
000d.bde3.6e13)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:05, output 00:00:03, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  1560 packets input, 162210 bytes, 0 no buffer
  Received 508 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 508 multicast, 0 pause input
  0 input packets with dribble condition detected
  4680 packets output, 390284 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/20 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e14 (bia
000d.bde3.6e14)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:02, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
```

```
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 1000 bits/sec, 1 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  5383 packets input, 472602 bytes, 0 no buffer
  Received 4777 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 4518 multicast, 0 pause input
  0 input packets with dribble condition detected
  1215 packets output, 125244 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/21 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e15 (bia
000d.bde3.6e15)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:08, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1089 packets input, 118428 bytes, 0 no buffer
    Received 509 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 509 multicast, 0 pause input
    0 input packets with dribble condition detected
    6907 packets output, 534440 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/22 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:08, output hang never
```



```
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  2479 packets input, 224183 bytes, 0 no buffer
  Received 1666 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1663 multicast, 0 pause input
  0 input packets with dribble condition detected
  2487 packets output, 239257 bytes, 0 underruns
  0 output errors, 0 collisions, 3 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/23 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:02, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    676 packets input, 76864 bytes, 0 no buffer
    Received 100 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 100 multicast, 0 pause input
    0 input packets with dribble condition detected
    680 packets output, 75752 bytes, 0 underruns
    0 output errors, 0 collisions, 3 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/24 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
```

ARP type: ARPA, ARP Timeout 04:00:00  
Last input 00:00:04, output 00:00:02, output hang never  
Last clearing of "show interface" counters never  
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0  
Queueing strategy: fifo  
Output queue: 0/40 (size/max)  
5 minute input rate 0 bits/sec, 0 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
677 packets input, 77143 bytes, 0 no buffer  
Received 101 broadcasts (0 multicasts)  
0 runts, 0 giants, 0 throttles  
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored  
0 watchdog, 101 multicast, 0 pause input  
0 input packets with dribble condition detected  
680 packets output, 75752 bytes, 0 underruns  
0 output errors, 0 collisions, 3 interface resets  
0 babbles, 0 late collision, 0 deferred  
0 lost carrier, 0 no carrier, 0 PAUSE output  
0 output buffer failures, 0 output buffers swapped out

GigabitEthernet0/1 is administratively down, line protocol is down (disabled)

Hardware is Gigabit Ethernet, address is 000d.bde3.6e19 (bia 000d.bde3.6e19)

MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,  
reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

Keepalive not set

Auto-duplex, Auto-speed, link type is auto, media type is unknown  
input flow-control is off, output flow-control is off

ARP type: ARPA, ARP Timeout 04:00:00

Last input never, output never, output hang never

Last clearing of "show interface" counters never

Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0

Queueing strategy: fifo

Output queue: 0/40 (size/max)

5 minute input rate 0 bits/sec, 0 packets/sec

5 minute output rate 0 bits/sec, 0 packets/sec

0 packets input, 0 bytes, 0 no buffer

Received 0 broadcasts (0 multicasts)

0 runts, 0 giants, 0 throttles

0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored

0 watchdog, 0 multicast, 0 pause input

0 input packets with dribble condition detected

0 packets output, 0 bytes, 0 underruns

0 output errors, 0 collisions, 1 interface resets

0 babbles, 0 late collision, 0 deferred

0 lost carrier, 0 no carrier, 0 PAUSE output

0 output buffer failures, 0 output buffers swapped out

GigabitEthernet0/2 is administratively down, line protocol is down (disabled)

Hardware is Gigabit Ethernet, address is 000d.bde3.6e1a (bia 000d.bde3.6e1a)

MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,  
reliability 255/255, txload 1/255, rxload 1/255

```
Encapsulation ARPA, loopback not set
Keepalive not set
Auto-duplex, Auto-speed, link type is auto, media type is unknown
input flow-control is off, output flow-control is off
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
Port-channel12 is up, line protocol is up (connected)
  Hardware is EtherChannel, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  Internet address is 10.2.4.13/30
  MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  Members in this channel: Fa0/22 Fa0/23 Fa0/24
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:02, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 1000 bits/sec, 1 packets/sec
    3837 packets input, 378538 bytes, 0 no buffer
    Received 1869 broadcasts (1266 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 1866 multicast, 0 pause input
    0 input packets with dribble condition detected
    3852 packets output, 391555 bytes, 0 underruns
    0 output errors, 0 collisions, 4 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
Port-channel13 is up, line protocol is up (connected)
```

```
Hardware is EtherChannel, address is 000d.bde3.6e14 (bia
000d.bde3.6e14)
MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
Members in this channel: Fa0/19 Fa0/20 Fa0/21
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:04, output 00:00:00, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 1000 bits/sec, 2 packets/sec
  8029 packets input, 752724 bytes, 0 no buffer
  Received 5788 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 5530 multicast, 0 pause input
  0 input packets with dribble condition detected
  12813 packets output, 1050490 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
Port-channel14 is up, line protocol is up (connected)
Hardware is EtherChannel, address is 000d.bde3.6e10 (bia
000d.bde3.6e10)
```

```
MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
Members in this channel: Fa0/16 Fa0/17 Fa0/18
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:00, output 00:00:01, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 1000 bits/sec, 1 packets/sec
  7736 packets input, 668215 bytes, 0 no buffer
  Received 5966 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 5965 multicast, 0 pause input
  0 input packets with dribble condition detected
  7695 packets output, 656047 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
```

```
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
Tunnel46 is up, line protocol is up
  Hardware is Tunnel
  MTU 1514 bytes, BW 100 Kbit, DLY 50000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation TUNNEL, loopback not set
  Keepalive not set
  Tunnel source 10.1.4.6, destination 10.1.4.5
  Tunnel protocol/transport GRE/IP, key disabled, sequencing disabled
  Tunnel TTL 255
  Checksumming of packets disabled
  Last input 00:00:06, output 00:00:11, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/0 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    215 packets input, 32580 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    218 packets output, 25136 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
```

```
Tunnel67 is up, line protocol is up
  Hardware is Tunnel
  MTU 1514 bytes, BW 100 Kbit, DLY 50000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation TUNNEL, loopback not set
  Keepalive not set
  Tunnel source 10.2.4.13, destination 10.2.4.14
  Tunnel protocol/transport GRE/IP, key disabled, sequencing disabled
  Tunnel TTL 255
  Checksumming of packets disabled
  Last input 00:00:16, output 00:00:12, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 10
  Queueing strategy: fifo
  Output queue: 0/0 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    208 packets input, 19968 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
    225 packets output, 37396 bytes, 0 underruns
    0 output errors, 0 collisions, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
```

DSW1#

```
DSW1#show interfaces counters errors
```

Port	Align-Err	FCS-Err	Xmit-Err	Rcv-Err	UnderSize
Fa0/1	0	0	0	0	0
Fa0/2	0	0	0	0	0
Fa0/3	0	0	0	0	0
Fa0/4	0	0	0	0	0
Fa0/5	0	0	0	0	0
Fa0/6	0	0	0	0	0
Fa0/7	0	0	0	0	0
Fa0/8	0	0	0	0	0
Fa0/9	0	0	0	0	0
Fa0/10	0	0	0	0	0
Fa0/11	0	0	0	0	0
Fa0/12	0	0	0	0	0

Fa0/13	0	0	0	0	0
Fa0/14	0	0	0	0	0
Fa0/15	0	0	0	0	0
Fa0/16	0	0	0	0	0
Fa0/17	0	0	0	0	0
Fa0/18	0	0	0	0	0
Fa0/19	0	0	0	0	0
Fa0/20	0	0	0	0	0
Fa0/21	0	0	0	0	0
Fa0/22	0	0	0	0	0
Fa0/23	0	0	0	0	0
Fa0/24	0	0	0	0	0
Gi0/1	0	0	0	0	0
Gi0/2	0	0	0	0	0
Po12	0	0	0	0	0
Po13	0	0	0	0	0
Po14	0	0	0	0	0

Port	Single-Col	Multi-Col	Late-Col	Excess-Col	Carri-Sen	Runts
Giants						
Fa0/1	0	0	0	0	0	0
0						
Fa0/2	0	0	0	0	0	0
0						
Fa0/3	0	0	0	0	0	0
0						
Fa0/4	0	0	0	0	0	0
0						
Fa0/5	0	0	0	0	0	0
0						
Fa0/6	0	0	0	0	0	0
0						
Fa0/7	0	0	0	0	0	0
0						
Fa0/8	0	0	0	0	0	0
0						
Fa0/9	0	0	0	0	0	0
0						
Fa0/10	0	0	0	0	0	0
0						
Fa0/11	0	0	0	0	0	0
0						
Fa0/12	0	0	0	0	0	0
0						
Fa0/13	0	0	0	0	0	0
0						
Fa0/14	0	0	0	0	0	0
0						
Fa0/15	0	0	0	0	0	0
0						
Fa0/16	0	0	0	0	0	0
0						
Fa0/17	0	0	0	0	0	0
0						

Fa0/18	0	0	0	0	0	0
0						
Fa0/19	0	0	0	0	0	0
0						
Fa0/20	0	0	0	0	0	0
0						
Fa0/21	0	0	0	0	0	0
0						
Fa0/22	0	0	0	0	0	0
0						
Fa0/23	0	0	0	0	0	0
0						
Fa0/24	0	0	0	0	0	0
0						
Gi0/1	0	0	0	0	0	0
0						
Gi0/2	0	0	0	0	0	0
0						
Po12	0	0	0	0	0	0
0						
Po13	0	0	0	0	0	0
0						
Po14	0	0	0	0	0	0
0						
DSW1#						



```
DSW1#show cdp neighbors
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge  
S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
```

Device ID	Local Infrfce	Holdtme	Capability	Platform	Port
R4	Fas 0/1	170	R S I	1841	Fas
DSW2	Fas 0/24	150	R S I	WS-C3550-	Fas
DSW2	Fas 0/23	150	R S I	WS-C3550-	Fas
DSW2	Fas 0/22	150	R S I	WS-C3550-	Fas
ASW1	Fas 0/21	141	S I	WS-C2950-	Fas
ASW1	Fas 0/19	141	S I	WS-C2950-	Fas
ASW1	Fas 0/20	141	S I	WS-C2950-	Fas
ASW2	Fas 0/18	141	S I	WS-C2950-	Fas
ASW2	Fas 0/17	141	S I	WS-C2950-	Fas
ASW2	Fas 0/16	141	S I	WS-C2950-	Fas

```
DSW1#
```

```
DSW1#show cdp neighbors detail
```

```
-----
```

```
Device ID: R4
```

```
Entry address(es):
```

```
  IP address: 10.1.4.5
```

```
Platform: Cisco 1841, Capabilities: Router Switch IGMP
```

```
Interface: FastEthernet0/1, Port ID (outgoing port): FastEthernet0/0
```

```
Holdtime : 163 sec
```

```
Version :
```

```
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version  
12.4(25b), RELEASE SOFTWARE (fc1)
```

```
Technical Support: http://www.cisco.com/techsupport
```

```
Copyright (c) 1986-2009 by Cisco Systems, Inc.
```

```
Compiled Wed 12-Aug-09 10:49 by prod_rel_team
```

```
advertisement version: 2
```

```
VTP Management Domain: ''
```

```
Duplex: full
```

```
Management address(es):
```

```
-----
```

```
Device ID: DSW2
```

```
Entry address(es):
```

```
  IP address: 10.2.4.14
```

```
Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP
```

```
Interface: FastEthernet0/24, Port ID (outgoing port): FastEthernet0/24
```

```
Holdtime : 143 sec
```

Version :  
Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version  
12.2(44)SE6, RELEASE SOFTWARE (fc1)  
Copyright (c) 1986-2009 by Cisco Systems, Inc.  
Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF0102250C0000000000000000BFD20BA00FF0000  
VTP Management Domain: 'netlearning'  
Duplex: full  
Management address(es):  
IP address: 10.2.4.14

-----  
Device ID: DSW2  
Entry address(es):  
IP address: 10.2.4.14  
Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP  
Interface: FastEthernet0/23, Port ID (outgoing port): FastEthernet0/23  
Holdtime : 141 sec

Version :  
Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version  
12.2(44)SE6, RELEASE SOFTWARE (fc1)  
Copyright (c) 1986-2009 by Cisco Systems, Inc.  
Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF0102250C0000000000000000BFD20BA00FF0000  
VTP Management Domain: 'netlearning'  
Duplex: full  
Management address(es):  
IP address: 10.2.4.14

-----  
Device ID: DSW2  
Entry address(es):  
IP address: 10.2.4.14  
Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP  
Interface: FastEthernet0/22, Port ID (outgoing port): FastEthernet0/22  
Holdtime : 141 sec

Version :  
Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version  
12.2(44)SE6, RELEASE SOFTWARE (fc1)  
Copyright (c) 1986-2009 by Cisco Systems, Inc.  
Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF0102250C0000000000000000BFD20BA00FF0000

VTP Management Domain: 'netlearning'  
Duplex: full  
Management address(es):  
  IP address: 10.2.4.14

-----  
Device ID: ASW1  
Entry address(es):  
  IP address: 192.168.1.131  
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP  
Interface: FastEthernet0/21, Port ID (outgoing port): FastEthernet0/21  
Holdtime : 131 sec

Version :  
Cisco Internetwork Operating System Software  
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE  
SOFTWARE (fc1)  
Copyright (c) 1986-2005 by cisco Systems, Inc.  
Compiled Fri 16-Sep-05 10:46 by yenanh

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF010225010000000000000015FAAC46C0FF0000  
VTP Management Domain: 'netlearning'  
Native VLAN: 1  
Duplex: full  
Management address(es):  
  IP address: 192.168.1.131

-----  
Device ID: ASW1  
Entry address(es):  
  IP address: 192.168.1.131  
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP  
Interface: FastEthernet0/19, Port ID (outgoing port): FastEthernet0/19  
Holdtime : 130 sec

Version :  
Cisco Internetwork Operating System Software  
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE  
SOFTWARE (fc1)  
Copyright (c) 1986-2005 by cisco Systems, Inc.  
Compiled Fri 16-Sep-05 10:46 by yenanh

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF010225010000000000000015FAAC46C0FF0000  
VTP Management Domain: 'netlearning'  
Native VLAN: 1  
Duplex: full  
Management address(es):  
  IP address: 192.168.1.131

-----

Device ID: ASW1  
Entry address(es):  
  IP address: 192.168.1.131  
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP  
Interface: FastEthernet0/20, Port ID (outgoing port): FastEthernet0/20  
Holdtime : 129 sec

Version :  
Cisco Internetwork Operating System Software  
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE  
SOFTWARE (fc1)  
Copyright (c) 1986-2005 by cisco Systems, Inc.  
Compiled Fri 16-Sep-05 10:46 by yenanh

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF0102250100000000000000015FAAC46C0FF0000  
VTP Management Domain: 'netlearning'  
Native VLAN: 1  
Duplex: full  
Management address(es):  
  IP address: 192.168.1.131

-----  
Device ID: ASW2  
Entry address(es):  
  IP address: 192.168.1.132  
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP  
Interface: FastEthernet0/18, Port ID (outgoing port): FastEthernet0/18  
Holdtime : 128 sec

Version :  
Cisco Internetwork Operating System Software  
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE  
SOFTWARE (fc1)  
Copyright (c) 1986-2005 by cisco Systems, Inc.  
Compiled Fri 16-Sep-05 10:46 by yenanh

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF0102250200000000000000015FAB82880FF0000  
VTP Management Domain: 'netlearning'  
Native VLAN: 1  
Duplex: full  
Management address(es):  
  IP address: 192.168.1.132

-----  
Device ID: ASW2  
Entry address(es):  
  IP address: 192.168.1.132  
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP  
Interface: FastEthernet0/17, Port ID (outgoing port): FastEthernet0/17  
Holdtime : 128 sec

Version :  
Cisco Internetwork Operating System Software  
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE  
SOFTWARE (fc1)  
Copyright (c) 1986-2005 by cisco Systems, Inc.  
Compiled Fri 16-Sep-05 10:46 by yenanh

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF010225020000000000000015FAB82880FF0000  
VTP Management Domain: 'netlearning'  
Native VLAN: 1  
Duplex: full  
Management address(es):  
IP address: 192.168.1.132

-----  
Device ID: ASW2  
Entry address(es):  
IP address: 192.168.1.132  
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP  
Interface: FastEthernet0/16, Port ID (outgoing port): FastEthernet0/16  
Holdtime : 127 sec

Version :  
Cisco Internetwork Operating System Software  
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE  
SOFTWARE (fc1)  
Copyright (c) 1986-2005 by cisco Systems, Inc.  
Compiled Fri 16-Sep-05 10:46 by yenanh

advertisement version: 2  
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,  
value=00000000FFFFFFFFF010225020000000000000015FAB82880FF0000  
VTP Management Domain: 'netlearning'  
Native VLAN: 1  
Duplex: full  
Management address(es):  
IP address: 192.168.1.132

DSW1#

```

DSW1#show arp
Protocol Address           Age (min)  Hardware Addr   Type   Interface
Internet 10.2.4.13              -          000d.bde3.6e00  ARPA   Port-
channel12
Internet 10.2.4.14              96         000b.fd20.ba00  ARPA   Port-
channel12
Internet 10.2.2.2                -          000d.bde3.6e00  ARPA   Vlan20
Internet 10.2.1.1                -          000d.bde3.6e00  ARPA   Vlan10
Internet 10.1.4.6                -          000d.bde3.6e00  ARPA
FastEthernet0/1
Internet 10.1.4.5                97         0019.5578.1cb2  ARPA
FastEthernet0/1
Internet 10.2.2.1                96         000b.fd20.ba00  ARPA   Vlan20
Internet 10.2.1.2                29         000b.fd20.ba00  ARPA   Vlan10
Internet 10.2.1.5                65         0024.bec4.b0b9  ARPA   Vlan10
Internet 10.2.1.4                64         001c.238e.dbbc  ARPA   Vlan10
Internet 192.168.1.129          -          000d.bde3.6e00  ARPA   Vlan200
Internet 10.2.1.254             -          0000.0c07.ac0a  ARPA   Vlan10
DSW1#

```

```

DSW1#show ip arp
Protocol Address           Age (min)  Hardware Addr   Type   Interface
Internet 10.2.4.13                -   000d.bde3.6e00  ARPA   Port-
channel12
Internet 10.2.4.14                96   000b.fd20.ba00  ARPA   Port-
channel12
Internet 10.2.2.2                  -   000d.bde3.6e00  ARPA   Vlan20
Internet 10.2.1.1                  -   000d.bde3.6e00  ARPA   Vlan10
Internet 10.1.4.6                  -   000d.bde3.6e00  ARPA
FastEthernet0/1
Internet 10.1.4.5                97   0019.5578.1cb2  ARPA
FastEthernet0/1
Internet 10.2.2.1                96   000b.fd20.ba00  ARPA   Vlan20
Internet 10.2.1.2                29   000b.fd20.ba00  ARPA   Vlan10
Internet 10.2.1.5                65   0024.bec4.b0b9  ARPA   Vlan10
Internet 10.2.1.4                64   001c.238e.dbbc  ARPA   Vlan10
Internet 192.168.1.129           -   000d.bde3.6e00  ARPA   Vlan200
Internet 10.2.1.254              -   0000.0c07.ac0a  ARPA   Vlan10
DSW1#

```



```
DSW1#show ip interface
Vlan1 is administratively down, line protocol is down
  Internet protocol processing disabled
Vlan10 is up, line protocol is up
  Internet address is 10.2.1.1/24
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is 10.1.4.5
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.10
```

```
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Vlan20 is up, line protocol is up
Internet address is 10.2.2.2/24
Broadcast address is 255.255.255.255
Address determined by non-volatile memory
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
224.0.0.13
    224.0.0.10
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
```

```
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Vlan200 is up, line protocol is up
Internet address is 192.168.1.129/27
Broadcast address is 255.255.255.255
Address determined by non-volatile memory
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
FastEthernet0/1 is up, line protocol is up
Internet address is 10.1.4.6/30
Broadcast address is 255.255.255.255
Address determined by non-volatile memory
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
```

Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22  
224.0.0.13

224.0.0.10

Outgoing access list is not set  
Inbound access list is not set  
Proxy ARP is enabled  
Local Proxy ARP is disabled  
Security level is default  
Split horizon is enabled  
ICMP redirects are always sent  
ICMP unreachable are always sent  
ICMP mask replies are never sent  
IP fast switching is enabled  
IP CEF switching is enabled  
IP CEF switching turbo vector  
IP Null turbo vector  
IP multicast fast switching is enabled  
IP multicast distributed fast switching is disabled  
IP route-cache flags are Fast, CEF  
Router Discovery is disabled  
IP output packet accounting is disabled  
IP access violation accounting is disabled  
TCP/IP header compression is disabled  
RTP/IP header compression is disabled  
Probe proxy name replies are disabled  
Policy routing is disabled  
Network address translation is disabled  
BGP Policy Mapping is disabled  
WCCP Redirect outbound is disabled  
WCCP Redirect inbound is disabled  
WCCP Redirect exclude is disabled  
FastEthernet0/2 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/3 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/4 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/5 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/6 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/7 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/8 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/9 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/10 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/11 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/12 is down, line protocol is down  
Inbound access list is not set  
FastEthernet0/13 is down, line protocol is down

```
Inbound access list is not set
FastEthernet0/14 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/15 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/16 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/17 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/18 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/19 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/20 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/21 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/22 is up, line protocol is up
  Internet protocol processing disabled
FastEthernet0/23 is up, line protocol is up
  Internet protocol processing disabled
FastEthernet0/24 is up, line protocol is up
  Internet protocol processing disabled
GigabitEthernet0/1 is administratively down, line protocol is down
  Inbound access list is not set
GigabitEthernet0/2 is administratively down, line protocol is down
  Inbound access list is not set
Port-channel12 is up, line protocol is up
  Internet address is 10.2.4.13/30
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.10
  Outgoing access list is not set
  Inbound access list is not set
  Proxy ARP is enabled
  Local Proxy ARP is disabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachable are always sent
  ICMP mask replies are never sent
  IP fast switching is enabled
  IP CEF switching is enabled
  IP CEF switching turbo vector
  IP Null turbo vector
  IP multicast fast switching is enabled
  IP multicast distributed fast switching is disabled
  IP route-cache flags are Fast, CEF
  Router Discovery is disabled
```

```
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Port-channel13 is up, line protocol is up
Port-channel14 is up, line protocol is up
Tunnel46 is up, line protocol is up
  Internet protocol processing disabled
Tunnel67 is up, line protocol is up
  Internet protocol processing disabled
DSW1#
```

```

DSW1#show ip cef
Prefix                Next Hop                Interface
0.0.0.0/0            10.1.4.5                FastEthernet0/1
0.0.0.0/32           receive
10.1.1.8/30          10.1.4.5                FastEthernet0/1
10.1.4.4/30          attached                 FastEthernet0/1
10.1.4.4/32          receive                  FastEthernet0/1
10.1.4.5/32          attached                 FastEthernet0/1
10.1.4.6/32          receive                  FastEthernet0/1
10.1.4.7/32          receive                  FastEthernet0/1
10.1.4.8/30          10.2.1.2                Vlan10
                    10.2.2.1                Vlan20
10.2.1.0/24          attached                 Vlan10
10.2.1.0/32          receive                  Vlan10
10.2.1.1/32          receive                  Vlan10
10.2.1.2/32          attached                 Vlan10
10.2.1.4/32          attached                 Vlan10
10.2.1.5/32          attached                 Vlan10
10.2.1.254/32        receive
10.2.1.255/32        receive                  Vlan10
10.2.2.0/24          attached                 Vlan20
10.2.2.0/32          receive                  Vlan20
10.2.2.1/32          attached                 Vlan20
10.2.2.2/32          receive                  Vlan20
10.2.2.255/32        receive                  Vlan20
10.2.4.12/30         attached                 Port-channel12
10.2.4.12/32         receive                  Port-channel12
10.2.4.13/32         receive                  Port-channel12
10.2.4.14/32         attached                 Port-channel12
10.2.4.15/32         receive                  Port-channel12
192.168.1.128/27    attached                 Vlan200
192.168.1.128/32    receive                  Vlan200
192.168.1.129/32    receive                  Vlan200
192.168.1.159/32    receive                  Vlan200
224.0.0.0/4          multicast
224.0.0.0/24         receive
240.0.0.0/4          drop
255.255.255.255/32  receive
DSW1#

```

```
DSW1#show tcp statistics
Rcvd: 0 Total, 0 no port
      0 checksum error, 0 bad offset, 0 too short
      0 packets (0 bytes) in sequence
      0 dup packets (0 bytes)
      0 partially dup packets (0 bytes)
      0 out-of-order packets (0 bytes)
      0 packets (0 bytes) with data after window
      0 packets after close
      0 window probe packets, 0 window update packets
      0 dup ack packets, 0 ack packets with unsend data
      0 ack packets (0 bytes)
Sent: 0 Total, 0 urgent packets
      0 control packets (including 0 retransmitted)
      0 data packets (0 bytes)
      0 data packets (0 bytes) retransmitted
      0 data packets (0 bytes) fastretransmitted
      0 ack only packets (0 delayed)
      0 window probe packets, 0 window update packets
0 Connections initiated, 0 connections accepted, 0 connections
established
0 Connections closed (including 0 dropped, 0 embryonic dropped)
0 Total rxmt timeout, 0 connections dropped in rxmt timeout
```



```
0 Keepalive timeout, 0 keepalive probe, 0 Connections dropped in  
keepalive  
DSW1#
```

```
DSW1#show ip protocols  
*** IP Routing is NSF aware ***
```

```
Routing Protocol is "eigrp 10"  
  Outgoing update filter list for all interfaces is not set  
  Incoming update filter list for all interfaces is not set  
  Default networks flagged in outgoing updates  
  Default networks accepted from incoming updates  
  Redistributing: eigrp 10
```

Address Family Protocol EIGRP-IPv4:(10)  
EIGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0  
EIGRP maximum hopcount 100  
EIGRP maximum metric variance 1  
EIGRP NSF-aware route hold timer is 240  
Topologies : 0(base)

Automatic network summarization is not in effect  
Maximum path: 4

Routing for Networks:

10.1.4.6/32  
10.2.1.1/32  
10.2.2.2/32  
10.2.4.13/32

Routing Information Sources:

Gateway	Distance	Last Update
10.2.4.14	90	01:32:58
10.1.4.5	90	01:32:58
10.2.1.2	90	01:32:58
10.2.2.1	90	01:32:58

Distance: internal 90 external 170

Routing Protocol is "ospf 1"

Outgoing update filter list for all interfaces is not set

Incoming update filter list for all interfaces is not set

Router ID 192.168.1.129

Number of areas in this router is 1. 1 normal 0 stub 0 nssa

Maximum path: 4

Routing for Networks:

10.3.3.2 0.0.0.0 area 0  
10.17.17.1 0.0.0.0 area 0

Routing Information Sources:

Gateway	Distance	Last Update
Distance: (default is 110)		

DSW1#

```
DSW1#show access-lists
Standard IP access list DENY_10
  10 deny 10.0.0.0, wildcard bits 0.255.255.255
  20 permit any
Standard IP access list DENY_ALL
  10 deny any
Standard IP access list PERMIT_10
  10 permit 10.0.0.0, wildcard bits 0.255.255.255
Standard IP access list PERMIT_ALL
  10 permit any
DSW1#
```

```
DSW1#show ip route eigrp
      10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D EX   10.1.1.8/30 [170/261120] via 10.1.4.5, 01:33:29, FastEthernet0/1
D      10.1.4.8/30 [90/28416] via 10.2.2.1, 01:37:19, Vlan20
      [90/28416] via 10.2.1.2, 01:37:19, Vlan10
D*EX 0.0.0.0/0 [170/261120] via 10.1.4.5, 01:33:13, FastEthernet0/1
DSW1#
```

```

DSW1#show ip eigrp neighbors
EIGRP-IPv4:(10) neighbors for process 10
H   Address                Interface      Hold Uptime    SRTT    RTO   Q
Seq                                                    (sec)        (ms)          Cnt

Num
3   10.2.2.1                V120          13 01:37:31    1    200   0
71
2   10.2.1.2                V110          12 01:37:32    1    200   0
70
1   10.2.4.14               Po12          13 01:38:10    1    200   0
72
0   10.1.4.5                 Fa0/1         13 01:38:48    1    200   0
44
DSW1#

```

```
DSW1#show ip eigrp interfaces
EIGRP-IPv4:(10) interfaces for process 10
```

Pending Interface	Peers	Xmit Queue Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer
Fa0/1	1	0/0	1	0/1	50
0					
Vl10	1	0/0	1	0/1	50
0					
Vl20	1	0/0	1	0/1	50
0					
Pol2	1	0/0	1	0/1	50
0					

```
DSW1#
```

DSW1#show vlan

VLAN Name	Status	Ports
1 default	active	Fa0/4, Fa0/10, Fa0/11, Fa0/13 Fa0/14, Fa0/15, Gi0/1, Gi0/2
10 VLAN0010	active	
20 VLAN0020	active	
200 VLAN0200	active	
1002 fddi-default	act/unsup	
1003 trcrf-default	act/unsup	
1004 fddinet-default	act/unsup	
1005 trbrf-default	act/unsup	

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1 enet	100001	1500	-	-	-	-	-	0	0
10 enet	100010	1500	-	-	-	-	-	0	0
20 enet	100020	1500	-	-	-	-	-	0	0
200 enet	100200	1500	-	-	-	-	-	0	0
1002 fddi	101002	1500	-	-	-	-	-	0	0
1003 trcrf	101003	4472	1005	3276	-	-	srb	0	0
1004 fdnet	101004	1500	-	-	-	ieee	-	0	0
1005 trbrf	101005	4472	-	-	15	ibm	-	0	0

VLAN	AREHops	STEHops	Backup	CRF
1003	7	7	off	

Remote SPAN VLANs

-----  
-----

Primary Secondary Type Ports

-----  
-----

DSW1#

DSW1#show spanning-tree



VLAN0010

Spanning tree enabled protocol rstp  
Root ID Priority 4106  
Address 000d.bde3.6e00  
This bridge is the root  
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 4106 (priority 4096 sys-id-ext 10)  
Address 000d.bde3.6e00  
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec  
Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	-----	-----	-----	-----	-----
Po13	Desg	FWD	9	128.66	P2p Peer (STP)

VLAN0020

Spanning tree enabled protocol rstp  
Root ID Priority 4116  
Address 000b.fd20.ba00  
Cost 18  
Port 67 (Port-channel14)  
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 8212 (priority 8192 sys-id-ext 20)  
Address 000d.bde3.6e00  
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec  
Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	-----	-----	-----	-----	-----
Po14	Root	FWD	9	128.67	P2p Peer (STP)

VLAN0200

Spanning tree enabled protocol rstp  
Root ID Priority 4296  
Address 000d.bde3.6e00  
This bridge is the root  
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 4296 (priority 4096 sys-id-ext 200)  
Address 000d.bde3.6e00  
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec  
Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	-----	-----	-----	-----	-----
Po13	Desg	FWD	9	128.66	P2p Peer (STP)
Po14	Desg	FWD	9	128.67	P2p Peer (STP)

DSW1#

DSW1#show interfaces status

Port	Name	Status	Vlan	Duplex	Speed	Type
Fa0/1	10/100BaseTX	connected	routed	a-full	a-100	
Fa0/2	10/100BaseTX	notconnect	101	auto	auto	
Fa0/3	10/100BaseTX	notconnect	102	auto	auto	
Fa0/4	10/100BaseTX	notconnect	1	auto	auto	

Fa0/5	notconnect	104	auto	auto
10/100BaseTX				
Fa0/6	notconnect	105	auto	auto
10/100BaseTX				
Fa0/7	notconnect	106	auto	auto
10/100BaseTX				
Fa0/8	notconnect	109	auto	auto
10/100BaseTX				
Fa0/9	notconnect	17	auto	auto
10/100BaseTX				
Fa0/10	notconnect	1	auto	auto
10/100BaseTX				
Fa0/11	notconnect	1	auto	auto
10/100BaseTX				
Fa0/12	notconnect	123	auto	auto
10/100BaseTX				
Fa0/13	notconnect	1	auto	auto
10/100BaseTX				
Fa0/14	notconnect	1	auto	auto
10/100BaseTX				
Fa0/15	notconnect	1	auto	auto
10/100BaseTX				
Fa0/16	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/17	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/18	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/19	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/20	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/21	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/22	connected	routed	a-full	a-100
10/100BaseTX				
Fa0/23	connected	routed	a-full	a-100
10/100BaseTX				
Fa0/24	connected	routed	a-full	a-100
10/100BaseTX				
Gi0/1	disabled	1	auto	auto
unknown				
Gi0/2	disabled	1	auto	auto
unknown				
Pol2	connected	routed	a-full	a-100
Pol3	connected	trunk	a-full	a-100
Pol4	connected	trunk	a-full	a-100
DSW1#				

```
DSW1#show interfaces switchport
```

```
Name: Fa0/2  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 101 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none
```

Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/3  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 102 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/4  
Switchport: Enabled  
Administrative Mode: dynamic desirable  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none

Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/5  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 104 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/6  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 105 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled

Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/7  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 106 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/8  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate

Negotiation of Trunking: Off  
Access Mode VLAN: 109 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/9  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 17 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/10



Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/11  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled

Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/12  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 123 (Inactive)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/13  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled

Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/14  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/15  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none

Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/16  
Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk (member of bundle Po14)  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 20,200  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/17  
Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk (member of bundle Po14)  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none

Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 20,200  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/18  
Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk (member of bundle Po14)  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 20,200  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/19  
Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk (member of bundle Po13)  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On

Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 10,200  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/20  
Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk (member of bundle Po13)  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 10,200  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Fa0/21

Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk (member of bundle Po13)  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 10,200  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Gi0/1  
Switchport: Enabled  
Administrative Mode: dynamic desirable  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false

Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Gi0/2  
Switchport: Enabled  
Administrative Mode: dynamic desirable  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: ALL  
Pruning VLANs Enabled: 2-1001  
Capture Mode Disabled  
Capture VLANs Allowed: ALL

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Po13  
Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 10,200



Pruning VLANs Enabled: 2-1001

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none

Name: Po14  
Switchport: Enabled  
Administrative Mode: trunk  
Operational Mode: trunk  
Administrative Trunking Encapsulation: dot1q  
Operational Trunking Encapsulation: dot1q  
Negotiation of Trunking: On  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none  
Administrative private-vlan mapping: none  
Administrative private-vlan trunk native VLAN: none  
Administrative private-vlan trunk Native VLAN tagging: enabled  
Administrative private-vlan trunk encapsulation: dot1q  
Administrative private-vlan trunk normal VLANs: none  
Administrative private-vlan trunk associations: none  
Administrative private-vlan trunk mappings: none  
Operational private-vlan: none  
Trunking VLANs Enabled: 20,200  
Pruning VLANs Enabled: 2-1001

Protected: false  
Unknown unicast blocked: disabled  
Unknown multicast blocked: disabled  
Appliance trust: none  
DSW1#

```
DSW1#show interfaces trunk
```

Port	Mode	Encapsulation	Status	Native vlan
Po13	on	802.1q	trunking	1
Po14	on	802.1q	trunking	1

Port	Vlans allowed on trunk
Po13	10,200
Po14	20,200

Port	Vlans allowed and active in management domain
Po13	10,200
Po14	20,200

Port	Vlans in spanning tree forwarding state and not pruned
Po13	10,200
Po14	20,200

```
DSW1#
```

```
DSW1#show vtp status
VTP Version                : running VTP2
Configuration Revision     : 36
Maximum VLANs supported locally : 1005
Number of existing VLANs   : 8
VTP Operating Mode        : Server
VTP Domain Name           : netlearning
VTP Pruning Mode          : Disabled
VTP V2 Mode               : Enabled
VTP Traps Generation      : Disabled
MD5 digest                 : 0x3A 0xD8 0x7D 0x4B 0xF5 0x78 0x54 0xCE
Configuration last modified by 10.2.1.1 at 3-1-93 00:50:15
Local updater ID is 10.2.1.1 on interface Vl10 (lowest numbered VLAN
interface found)
DSW1#
```

```
DSW1#show vtp password
VTP Password: cisco
DSW1#
```

```
DSW1#show etherchannel detail
      Channel-group listing:
      -----
```

```
Group: 12
-----
```

```
Group state = L3
Ports: 3    Maxports = 8
Port-channels: 1 Max Port-channels = 1
Protocol:   -
Minimum Links: 0
```

```
      Ports in the group:
      -----
```

```
Port: Fa0/22
-----
```

```
Port state      = Up Mstr In-Bndl
Channel group   = 12           Mode = On           Gcchange = -
Port-channel    = Po12        GC   = -           Pseudo port-channel =
Po12
Port index      = 0           Load = 0x00           Protocol = -
```

```
Age of the port in the current state: 0d:01h:39m:52s
```

```
Port: Fa0/23
-----
```

```
Port state      = Up Mstr In-Bndl
Channel group   = 12           Mode = On           Gcchange = -
Port-channel    = Po12        GC   = -           Pseudo port-channel =
Po12
Port index      = 0           Load = 0x00           Protocol = -
```

```
Age of the port in the current state: 0d:01h:39m:53s
```

Port: Fa0/24

-----

```

Port state      = Up Mstr In-Bndl
Channel group  = 12          Mode = On          Gcchange = -
Port-channel   = Po12       GC   = -          Pseudo port-channel =
Po12
Port index     = 0          Load = 0x00          Protocol = -

```

Age of the port in the current state: 0d:01h:39m:53s

Port-channels in the group:

-----

Port-channel: Po12

-----

```

Age of the Port-channel = 0d:01h:40m:45s
Logical slot/port      = 1/0          Number of ports = 3
GC                     = 0x00000000  HotStandBy port = null
Passive port list     = Fa0/22 Fa0/23 Fa0/24
Port state             = Port-channel L3-Ag Ag-Inuse
Protocol               = -
Port security         = Disabled

```

Ports in the Port-channel:

Index	Load	Port	EC state	No of bits
0	00	Fa0/22	On	0
0	00	Fa0/23	On	0
0	00	Fa0/24	On	0

```

Time since last port bundled: 0d:01h:39m:53s Fa0/24
Time since last port Un-bundled: 0d:01h:39m:55s Fa0/24

```

Group: 13

-----

```

Group state = L2
Ports: 3    Maxports = 16
Port-channels: 1 Max Port-channels = 1
Protocol:   LACP
Minimum Links: 0

```

Ports in the group:

-----

Port: Fa0/19

-----

```

Port state      = Up Mstr Assoc In-Bndl
Channel group  = 13          Mode = Active      Gcchange = -
Port-channel   = Po13       GC   = -          Pseudo port-channel =
Po13
Port index     = 0          Load = 0x00          Protocol = LACP

```

Flags: S - Device is sending Slow LACPDUs F - Device is sending fast LACPDUs.  
 A - Device is in active mode. P - Device is in passive mode.

Local information:

Port	Flags	State	LACP port Priority	Admin Key	Oper Key	Port Number
Fa0/19 0x3D	SA	bndl	32768	0xD	0xD	0x10

Partner's information:

Port	Flags	Priority	LACP port Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/19 0x3C	SP	32768	0015.faac.46c0	13s	0x0	0x1	0x13

Age of the port in the current state: 0d:01h:40m:37s

Port: Fa0/20

-----

Port state = Up Mstr Assoc In-Bndl  
 Channel group = 13 Mode = Active Gcchange = -  
 Port-channel = Po13 GC = - Pseudo port-channel =  
 Po13  
 Port index = 0 Load = 0x00 Protocol = LACP

Flags: S - Device is sending Slow LACPDUs F - Device is sending fast LACPDUs.  
 A - Device is in active mode. P - Device is in passive mode.

Local information:

Port	Flags	State	LACP port Priority	Admin Key	Oper Key	Port Number
Fa0/20 0x3D	SA	bndl	32768	0xD	0xD	0x11

Partner's information:

Port	Flags	Priority	LACP port Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/20 0x3C	SP	32768	0015.faac.46c0	19s	0x0	0x1	0x14

Age of the port in the current state: 0d:01h:40m:40s

Port: Fa0/21

-----

Port state = Up Mstr Assoc In-Bndl  
Channel group = 13 Mode = Active Gcchange = -  
Port-channel = Po13 GC = - Pseudo port-channel =  
Po13  
Port index = 0 Load = 0x00 Protocol = LACP

Flags: S - Device is sending Slow LACPDUs F - Device is sending fast  
LACPDUs.  
A - Device is in active mode. P - Device is in passive  
mode.

Local information:

Port	Flags	State	LACP port Priority	Admin Key	Oper Key	Port Number
Fa0/21 0x3D	SA	bndl	32768	0xD	0xD	0x12

Partner's information:

Port	Flags	Priority	LACP port Dev ID	Admin Age	Oper key	Port Key	Port Number
Fa0/21 0x3C	SP	32768	0015.faac.46c0	8s	0x0	0x1	0x15

Age of the port in the current state: 0d:01h:40m:39s

Port-channels in the group:

-----

Port-channel: Po13 (Primary Aggregator)

-----

Age of the Port-channel = 0d:01h:40m:49s  
Logical slot/port = 1/1 Number of ports = 3  
HotStandBy port = null  
Port state = Port-channel Ag-Inuse  
Protocol = LACP  
Port security = Disabled

Ports in the Port-channel:

Index	Load	Port	EC state	No of bits
-----+-----+-----+-----+-----				



```

0      00      Fa0/19  Active          0
0      00      Fa0/20  Active          0
0      00      Fa0/21  Active          0

```

Time since last port bundled: 0d:01h:40m:40s Fa0/21

Group: 14

-----

```

Group state = L2
Ports: 3    Maxports = 8
Port-channels: 1 Max Port-channels = 1
Protocol:   PAgP
Minimum Links: 0

```

Ports in the group:

-----

Port: Fa0/16

-----

```

Port state      = Up Mstr In-Bndl
Channel group   = 14           Mode = Automatic-S1      Gcchange = 0
Port-channel    = Po14        GC   = 0x000E0001      Pseudo port-channel =
Po14
Port index      = 0           Load = 0x00           Protocol =   PAgP

```

```

Flags: S - Device is sending Slow hello.  C - Device is in Consistent
state.
      A - Device is in Auto mode.          P - Device learns on physical
port.
      d - PAgP is down.
Timers: H - Hello timer is running.       Q - Quit timer is running.
      S - Switching timer is running.     I - Interface timer is
running.

```

Local information:

Group	Port	Flags	State	Timers	Hello Interval	Partner Count	PAgP Priority	Learning Method	
	Fa0/16	SAC	U6/S7	HQ	30s	1	128	Any	33

Partner's information:

Group	Partner	Partner	Partner	Partner
Port	Name	Device ID	Port	Age Flags
Fa0/16	ASW2	0015.fab8.2880	Fa0/16	11s SC
20001				

Age of the port in the current state: 0d:01h:40m:43s

Port: Fa0/17

-----

Port state = Up Mstr In-Bndl  
Channel group = 14 Mode = Automatic-Sl Gcchange = 0  
Port-channel = Po14 GC = 0x000E0001 Pseudo port-channel =  
Po14  
Port index = 0 Load = 0x00 Protocol = PAgP

Flags: S - Device is sending Slow hello. C - Device is in Consistent  
state.  
A - Device is in Auto mode. P - Device learns on physical  
port.  
d - PAgP is down.  
Timers: H - Hello timer is running. Q - Quit timer is running.  
S - Switching timer is running. I - Interface timer is  
running.

Local information:

Group				Hello	Partner	PAgP	Learning	
Port	Flags	State	Timers	Interval	Count	Priority	Method	
Ifindex								
Fa0/17	SAC	U6/S7	HQ	30s	1	128	Any	33

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Cap.					
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	13s	SC
20001					

Age of the port in the current state: 0d:01h:40m:44s

Port: Fa0/18

-----

Port state = Up Mstr In-Bndl  
Channel group = 14 Mode = Automatic-Sl Gcchange = 0  
Port-channel = Po14 GC = 0x000E0001 Pseudo port-channel =  
Po14  
Port index = 0 Load = 0x00 Protocol = PAgP

Flags: S - Device is sending Slow hello. C - Device is in Consistent  
state.  
A - Device is in Auto mode. P - Device learns on physical  
port.  
d - PAgP is down.  
Timers: H - Hello timer is running. Q - Quit timer is running.  
S - Switching timer is running. I - Interface timer is  
running.

Local information:

Group				Hello	Partner	PAgP	Learning
-------	--	--	--	-------	---------	------	----------

Port	Flags	State	Timers	Interval	Count	Priority	Method	
Ifindex								
Fa0/18	SAC	U6/S7	HQ	30s	1	128	Any	33

Partner's information:

Group	Partner	Partner	Partner	Partner
Port	Name	Device ID	Port	Age
Cap.				Flags
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	21s
20001				SC

Age of the port in the current state: 0d:01h:40m:46s

Port-channels in the group:

-----

Port-channel: Po14

-----

Age of the Port-channel = 0d:01h:40m:55s  
 Logical slot/port = 1/2 Number of ports = 3  
 GC = 0x000E0001 HotStandBy port = null  
 Port state = Port-channel Ag-Inuse  
 Protocol = PAgP  
 Port security = Disabled

Ports in the Port-channel:

Index	Load	Port	EC state	No of bits
0	00	Fa0/16	Automatic-S1	0
0	00	Fa0/17	Automatic-S1	0
0	00	Fa0/18	Automatic-S1	0

Time since last port bundled: 0d:01h:40m:47s Fa0/18

DSW1#

```
DSW1#show standby
Vlan10 - Group 10
  State is Active
    2 state changes, last state change 01:39:56
  Virtual IP address is 10.2.1.254
  Active virtual MAC address is 0000.0c07.ac0a
    Local virtual MAC address is 0000.0c07.ac0a (v1 default)
  Hello time 3 sec, hold time 10 sec
    Next hello sent in 0.512 secs
  Preemption enabled
  Active router is local
  Standby router is 10.2.1.2, priority 20 (expires in 8.812 sec)
  Priority 110 (configured 110)
  IP redundancy name is "hsrp-Vl10-10" (default)
DSW1#
```

```
DSW1#show standby brief
```

```
          P indicates configured to preempt.
```

```
          |
Interface  Grp Prio P State      Active      Standby      Virtual
IP
Vl10      10  110 P Active    local      10.2.1.2
10.2.1.254
DSW1#
```

```
DSW1#show spanning-tree inconsistentports
```

Name	Interface	Inconsistency
-----	-----	-----

```
Number of inconsistent ports (segments) in the system : 0
```

```
DSW1#
```

```
DSW1#show spanning-tree summary
Switch is in rapid-pvst mode
Root bridge for: VLAN0010, VLAN0200
```

```
Extended system ID      is enabled
Portfast Default        is disabled
PortFast BPDU Guard Default is disabled
Portfast BPDU Filter Default is disabled
Loopguard Default       is disabled
EtherChannel misconfig guard is enabled
UplinkFast              is disabled
BackboneFast            is disabled
Configured Pathcost method used is short
```

Name	Blocking	Listening	Learning	Forwarding	STP Active
VLAN0010	0	0	0	1	1
VLAN0020	0	0	0	1	1
VLAN0200	0	0	0	2	2
3 vlans	0	0	0	4	4

DSW1#

```
DSW1#show uddl
```

```
Interface Fa0/1
```

```
---
```

```
Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown
```

```
Interface Fa0/2
```

```
---
```

```
Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown
```

```
Interface Fa0/3
```

```
---
```

```
Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown
```

```
Interface Fa0/4
```

```
---
```

```
Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown
```

```
Interface Fa0/5
```

```
---
```



Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/6

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/7

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/8

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/9

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/10

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/11

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/12

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/13

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/14

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/15

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/16

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/17

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/18

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/19

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/20

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/21

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/22

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/23

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Fa0/24

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Gi0/1

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

Interface Gi0/2

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown

DSW1#

DSW1#show etherchannel summary

Flags: D - down P - bundled in port-channel  
I - stand-alone s - suspended  
H - Hot-standby (LACP only)  
R - Layer3 S - Layer2  
U - in use f - failed to allocate aggregator

M - not in use, minimum links not met  
u - unsuitable for bundling  
w - waiting to be aggregated  
d - default port

Number of channel-groups in use: 3

Number of aggregators: 3

Group	Port-channel	Protocol	Ports		
12	Po12 (RU)	-	Fa0/22 (P)	Fa0/23 (P)	Fa0/24 (P)
13	Po13 (SU)	LACP	Fa0/19 (P)	Fa0/20 (P)	Fa0/21 (P)
14	Po14 (SU)	PAgP	Fa0/16 (P)	Fa0/17 (P)	Fa0/18 (P)

DSW1#

```
DSW1#show etherchannel protocol
      Channel-group listing:
      -----
```

```
Group: 12
```

```
-----
```

```
Protocol: - (Mode ON)
```

```
Group: 13
```

```
-----
```

```
Protocol: LACP
```

```
Group: 14
```

```
-----
```

```
Protocol: PAgP
```

```
DSW1#
```

DSW1#show etherchannel port

Channel-group listing:

-----

Group: 12

-----

Ports in the group:

-----

Port: Fa0/22

-----

Port state	= Up Mstr In-Bndl		
Channel group	= 12	Mode = On	Gcchange = -
Port-channel	= Po12	GC = -	Pseudo port-channel =
Po12			
Port index	= 0	Load = 0x00	Protocol = -

Age of the port in the current state: 0d:01h:41m:13s

Port: Fa0/23

-----

Port state	= Up Mstr In-Bndl		
Channel group	= 12	Mode = On	Gcchange = -
Port-channel	= Po12	GC = -	Pseudo port-channel =
Po12			
Port index	= 0	Load = 0x00	Protocol = -

Age of the port in the current state: 0d:01h:41m:13s

Port: Fa0/24

-----

```

Port state      = Up Mstr In-Bndl
Channel group  = 12          Mode = On          Gcchange = -
Port-channel   = Po12       GC   = -          Pseudo port-channel =
Po12
Port index     = 0          Load = 0x00        Protocol = -

```

Age of the port in the current state: 0d:01h:41m:14s

Group: 13

-----

Ports in the group:

-----

Port: Fa0/19

-----

```

Port state      = Up Mstr Assoc In-Bndl
Channel group  = 13          Mode = Active      Gcchange = -
Port-channel   = Po13       GC   = -          Pseudo port-channel =
Po13
Port index     = 0          Load = 0x00        Protocol = LACP

```

```

Flags: S - Device is sending Slow LACPDUs   F - Device is sending fast
LACPDUs.
      A - Device is in active mode.          P - Device is in passive
mode.

```

Local information:

Port	Flags	State	LACP port Priority	Admin Key	Oper Key	Port Number
Fa0/19 0x3D	SA	bndl	32768	0xD	0xD	0x10

Partner's information:

Port	Flags	Priority	LACP port Dev ID	Admin Age	Oper key	Port Key	Port Number
Fa0/19 0x3C	SP	32768	0015.faac.46c0	8s	0x0	0x1	0x13

Age of the port in the current state: 0d:01h:41m:57s

Port: Fa0/20

-----

```

Port state      = Up Mstr Assoc In-Bndl
Channel group  = 13          Mode = Active      Gcchange = -

```

Port-channel = Po13 GC = - Pseudo port-channel = Po13  
Port index = 0 Load = 0x00 Protocol = LACP

Flags: S - Device is sending Slow LACPDUs F - Device is sending fast LACPDUs.  
A - Device is in active mode. P - Device is in passive mode.

Local information:

Port	Flags	State	LACP port	Admin	Oper	Port
Port	Flags	State	Priority	Key	Key	Number
Fa0/20	SA	bndl	32768	0xD	0xD	0x11
0x3D						

Partner's information:

Port	Flags	State	LACP port	Admin	Oper	Port		
Port	Flags	State	Priority	Dev ID	Age	key	Key	Number
Fa0/20	SP		32768	0015.faac.46c0	12s	0x0	0x1	0x14
0x3C								

Age of the port in the current state: 0d:01h:41m:59s

Port: Fa0/21

-----

Port state = Up Mstr Assoc In-Bndl  
Channel group = 13 Mode = Active Gcchange = -  
Port-channel = Po13 GC = - Pseudo port-channel = Po13  
Port index = 0 Load = 0x00 Protocol = LACP

Flags: S - Device is sending Slow LACPDUs F - Device is sending fast LACPDUs.  
A - Device is in active mode. P - Device is in passive mode.

Local information:

Port	Flags	State	LACP port	Admin	Oper	Port
Port	Flags	State	Priority	Key	Key	Number
Fa0/21	SA	bndl	32768	0xD	0xD	0x12
0x3D						

Partner's information:

Port	Flags	State	LACP port	Admin	Oper	Port
------	-------	-------	-----------	-------	------	------



Port State	Flags	Priority	Dev ID	Age	key	Key	Number
Fa0/21 0x3C	SP	32768	0015.faac.46c0	4s	0x0	0x1	0x15

Age of the port in the current state: 0d:01h:41m:59s

Group: 14

-----

Ports in the group:

-----

Port: Fa0/16

-----

Port state = Up Mstr In-Bndl  
Channel group = 14 Mode = Automatic-S1 Gcchange = 0  
Port-channel = Po14 GC = 0x000E0001 Pseudo port-channel = Po14  
Port index = 0 Load = 0x00 Protocol = PAgP

Flags: S - Device is sending Slow hello. C - Device is in Consistent state.  
A - Device is in Auto mode. P - Device learns on physical port.  
d - PAgP is down.

Timers: H - Hello timer is running. Q - Quit timer is running.  
S - Switching timer is running. I - Interface timer is running.

Local information:

Group	Port	Flags	State	Timers	Interval	Partner Count	Partner Priority	Partner PAgP	Partner Learning Method
	Fa0/16	SAC	U6/S7	HQ	30s	1	128		Any 33

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
	Fa0/16	ASW2	0015.fab8.2880	Fa0/16	10s SC

Age of the port in the current state: 0d:01h:42m:02s

Port: Fa0/17

-----

Port state = Up Mstr In-Bndl  
Channel group = 14 Mode = Automatic-S1 Gcchange = 0

Port-channel = Po14 GC = 0x000E0001 Pseudo port-channel = Po14  
Port index = 0 Load = 0x00 Protocol = PAgP

Flags: S - Device is sending Slow hello. C - Device is in Consistent state.  
A - Device is in Auto mode. P - Device learns on physical port.  
d - PAgP is down.  
Timers: H - Hello timer is running. Q - Quit timer is running.  
S - Switching timer is running. I - Interface timer is running.

Local information:

Group	Port	Flags	State	Timers	Interval	Partner Count	PAgP Priority	Learning Method	
	Fa0/17	SAC	U6/S7	HQ	30s	1	128	Any	33

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	3s	SC
20001					

Age of the port in the current state: 0d:01h:42m:03s

Port: Fa0/18

-----

Port state = Up Mstr In-Bndl  
Channel group = 14 Mode = Automatic-Sl Gcchange = 0  
Port-channel = Po14 GC = 0x000E0001 Pseudo port-channel = Po14  
Port index = 0 Load = 0x00 Protocol = PAgP

Flags: S - Device is sending Slow hello. C - Device is in Consistent state.  
A - Device is in Auto mode. P - Device learns on physical port.  
d - PAgP is down.  
Timers: H - Hello timer is running. Q - Quit timer is running.  
S - Switching timer is running. I - Interface timer is running.

Local information:

Group	Port	Flags	State	Timers	Interval	Partner Count	PAgP Priority	Learning Method	
-------	------	-------	-------	--------	----------	---------------	---------------	-----------------	--

Fa0/18 SAC U6/S7 HQ 30s 1 128 Any 33

Partner's information:

Group	Partner	Partner	Partner	Partner
Port	Name	Device ID	Port	Age Flags
Fa0/18 Cap. 20001	ASW2	0015.fab8.2880	Fa0/18	15s SC

Age of the port in the current state: 0d:01h:42m:05s

DSW1#

```
DSW1#show etherchannel load-balance
EtherChannel Load-Balancing Configuration:
    src-mac
```

```
EtherChannel Load-Balancing Addresses Used Per-Protocol:
Non-IP: Source MAC address
    IPv4: Source MAC address
```

```
DSW1#
```

```
DSW1#show etherchannel port-channel
    Channel-group listing:
```

-----  
Group: 12  
-----

Port-channels in the group:  
-----

Port-channel: Po12  
-----

Age of the Port-channel = 0d:01h:42m:29s  
Logical slot/port = 1/0                      Number of ports = 3  
GC = 0x00000000                      HotStandBy port = null  
Passive port list = Fa0/22 Fa0/23 Fa0/24  
Port state = Port-channel L3-Ag Ag-Inuse  
Protocol = -  
Port security = Disabled

Ports in the Port-channel:

Index	Load	Port	EC state	No of bits
0	00	Fa0/22	On	0
0	00	Fa0/23	On	0
0	00	Fa0/24	On	0

Time since last port bundled: 0d:01h:41m:37s Fa0/24  
Time since last port Un-bundled: 0d:01h:41m:39s Fa0/24

Group: 13  
-----

Port-channels in the group:  
-----

Port-channel: Po13 (Primary Aggregator)  
-----

Age of the Port-channel = 0d:01h:42m:30s  
Logical slot/port = 1/1                      Number of ports = 3  
HotStandBy port = null  
Port state = Port-channel Ag-Inuse  
Protocol = LACP  
Port security = Disabled

Ports in the Port-channel:

Index	Load	Port	EC state	No of bits
0	00	Fa0/19	Active	0
0	00	Fa0/20	Active	0
0	00	Fa0/21	Active	0

Time since last port bundled: 0d:01h:42m:21s Fa0/21

Group: 14

-----

Port-channels in the group:

-----

Port-channel: Po14

-----

Age of the Port-channel = 0d:01h:42m:30s  
Logical slot/port = 1/2                      Number of ports = 3  
GC = 0x000E0001                      HotStandBy port = null  
Port state = Port-channel Ag-Inuse  
Protocol = PAgP  
Port security = Disabled

Ports in the Port-channel:

Index	Load	Port	EC state	No of bits
0	00	Fa0/16	Automatic-S1	0
0	00	Fa0/17	Automatic-S1	0
0	00	Fa0/18	Automatic-S1	0

Time since last port bundled:      0d:01h:42m:23s      Fa0/18

DSW1#

DSW1#show pagp neighbor

Flags: S - Device is sending Slow hello. C - Device is in Consistent state.

A - Device is in Auto mode. P - Device learns on physical port.

Channel group 14 neighbors

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Cap.					
Fa0/16	ASW2	0015.fab8.2880	Fa0/16	12s	SC
20001					
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	3s	SC
20001					
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	13s	SC
20001					

DSW1#

DSW1#show lacp neighbor

Flags: S - Device is requesting Slow LACPDUs

F - Device is requesting Fast LACPDUs

A - Device is in Active mode P - Device is in Passive mode

Channel group 13 neighbors

Partner's information:

Port	Flags	LACP port Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/19 0x3C	SP	32768	0015.faac.46c0	19s	0x0	0x1	0x13
Fa0/20 0x3C	SP	32768	0015.faac.46c0	23s	0x0	0x1	0x14
Fa0/21 0x3C	SP	32768	0015.faac.46c0	15s	0x0	0x1	0x15

DSW1#



DSW1#show port-security

Secure Port	MaxSecureAddr	CurrentAddr	SecurityViolation	Security
Action	(Count)	(Count)	(Count)	

-----				
--				
Fa0/2	2	0	0	
Shutdown				

-----

--  
Total Addresses in System (excluding one mac per port) : 0  
Max Addresses limit in System (excluding one mac per port) : 5120  
DSW1#

```
DSW1#show port-security address
      Secure Mac Address Table
```

---

Vlan	Mac Address	Type	Ports	Remaining Age (mins)
----	-----	----	----	-----

---

```
Total Addresses in System (excluding one mac per port) : 0
Max Addresses limit in System (excluding one mac per port) : 5120
DSW1#
DSW1#
```