

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

Current configuration : 6819 bytes
!
! No configuration change since last restart
!
version 12.2
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname DSW1
!
no logging console
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
metric weights 0 1 1 1 1 1
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  
!  
ntp clock-period 17179991  
ntp server 10.1.1.1  
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:
```

```
U.U.U
```

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

```
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:
```

```
U.U.U
```

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

```
DSW1#
```

```
DSW1#ping 209.65.200.225
```

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

```
U.U.U
```

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

```
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 = 192/195/196  
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 = 128/131/132  
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 = 128/132/140  
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 = 64/64/68 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 = 64/65/68 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 = 1/2/4 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 = 4/4/4 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 = 1/2/4 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 = 1/1/4 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 = 1/2/4 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 = 1/1/4 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 = 1/2/4 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 = 1/1/4 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 = 4/4/4 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 = 1/1/4 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 = 4/4/4 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 = 4/4/4 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 100 percent (5/5), round-trip min/avg/max = 1/2/4 ms
```

```
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  unassigned     YES unset  down
down
FastEthernet0/16  unassigned     YES unset  up
up
FastEthernet0/17  unassigned     YES unset  up
up
FastEthernet0/18  unassigned     YES unset  up
up
FastEthernet0/19  unassigned     YES unset  up
up
FastEthernet0/20  unassigned     YES unset  up
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 [170/1023] via 10.1.4.5, 00:44:57, FastEthernet0/1

D 10.1.4.8/30 [90/111] via 10.2.2.1, 00:48:13, Vlan20  
[90/111] via 10.2.1.2, 00:48:13, 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 [170/1023] via 10.1.4.5, 00:44:43, FastEthernet0/1

DSW1#







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	11	0	0.00%	0.00%	0.00%	0	IP Admin
SM Proc								
85	292	1334	218	0.00%	0.01%	0.00%	0	CDP
Protocol								
86	1140	657	1735	0.23%	0.14%	0.17%	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	26	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	1524	9294	163	0.00%	0.02%	0.01%	0	IP Input
92	0	1	0	0.00%	0.00%	0.00%	0	ICMP event
handl								
93	0	5857	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	324	8227	39	0.00%	0.01%	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	52	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	40	0	0.00%	0.00%	0.00%	0	Cluster L2
101	0	301	0	0.00%	0.00%	0.00%	0	Cluster
RARP								
102	80	794	100	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	13	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	28	251	111	0.00%	0.00%	0.00%	0	MRD
111	36	263	136	0.00%	0.00%	0.00%	0	IGMPSN
112	0	1	0	0.00%	0.00%	0.00%	0	IGMPQR
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







```
181          12          2954          4  0.00%  0.00%  0.00%  0 OSPF-1
Router
182          200          5285          37  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 00:00:00, 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
  2174 packets input, 170372 bytes, 0 no buffer
  Received 0 broadcasts (646 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  1940 packets output, 132815 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 00:00:03, 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
  811 packets input, 65247 bytes, 0 no buffer
  Received 0 broadcasts (649 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  796 packets output, 59908 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 00:48:50, output 00:49:40, 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 00:00:01, 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: 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
    3763 packets input, 450246 bytes, 0 no buffer
    Received 927 broadcasts (676 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 924 multicast, 0 pause input
    0 input packets with dribble condition detected
    6654 packets output, 688071 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 00:50:18, 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
  12 packets output, 1821 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 00:00:04, 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
  577 packets input, 58872 bytes, 0 no buffer
  Received 273 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 273 multicast, 0 pause input
  0 input packets with dribble condition detected
  2931 packets output, 235608 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 00:00:00, 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
  578 packets input, 58962 bytes, 0 no buffer
  Received 274 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 274 multicast, 0 pause input
  0 input packets with dribble condition detected
  575 packets output, 56808 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 00:00:01, 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
  2966 packets input, 241539 bytes, 0 no buffer
  Received 2592 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 2592 multicast, 0 pause input
  0 input packets with dribble condition detected
  577 packets output, 56974 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 00:00:09, 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
  2873 packets input, 253331 bytes, 0 no buffer
  Received 2520 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 2404 multicast, 0 pause input
  0 input packets with dribble condition detected
  2644 packets output, 220187 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 00:00:04, 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
    3692 packets input, 321357 bytes, 0 no buffer
    Received 271 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 271 multicast, 0 pause input
    0 input packets with dribble condition detected
    593 packets output, 64972 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 00:00:12, output 00:00:06, 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
  575 packets input, 62986 bytes, 0 no buffer
  Received 271 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 271 multicast, 0 pause input
  0 input packets with dribble condition detected
  3628 packets output, 281204 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 00:00:05, 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
    3387 packets input, 412951 bytes, 0 no buffer
    Received 884 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 881 multicast, 0 pause input
    0 input packets with dribble condition detected
    3399 packets output, 418074 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 00:00:07, output 00:00:04, 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
  355 packets input, 40864 bytes, 0 no buffer
  Received 54 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 54 multicast, 0 pause input
  0 input packets with dribble condition detected
  364 packets output, 41578 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 00:00:08, output 00:00:06, 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
    355 packets input, 40864 bytes, 0 no buffer
    Received 54 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 54 multicast, 0 pause input
    0 input packets with dribble condition detected
    359 packets output, 40988 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 00:00:03, 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
  4099 packets input, 494835 bytes, 0 no buffer
  Received 994 broadcasts (670 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 991 multicast, 0 pause input
  0 input packets with dribble condition detected
  4128 packets output, 501064 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.bde3.6e13 (bia
000d.bde3.6e13)
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 00:04:59, 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 1000 bits/sec, 2 packets/sec
5 minute output rate 1000 bits/sec, 2 packets/sec
  7155 packets input, 638592 bytes, 0 no buffer
  Received 3055 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 2939 multicast, 0 pause input
  0 input packets with dribble condition detected
  6867 packets output, 565955 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.bde3.6e12 (bia
000d.bde3.6e12)
  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 0 bits/sec, 0 packets/sec
    4125 packets input, 359617 bytes, 0 no buffer
    Received 3137 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 3136 multicast, 0 pause input
    0 input packets with dribble condition detected
    4091 packets output, 350028 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 00:00:25, output 00:00:22, 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
    2161 packets input, 267148 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
    2173 packets output, 268348 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 00:00:15, output 00:00:23, 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
  2163 packets input, 265160 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
  2171 packets output, 270004 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
Pol2	0	0	0	0	0
Pol3	0	0	0	0	0
Pol4	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 Intrfce	Holdtme	Capability	Platform	Port
R4 0/0	Fas 0/1	160	R S I	1841	Fas
DSW2 0/24	Fas 0/24	142	R S I	WS-C3550-	Fas
DSW2 0/23	Fas 0/23	142	R S I	WS-C3550-	Fas
DSW2 0/22	Fas 0/22	142	R S I	WS-C3550-	Fas
ASW1 0/21	Fas 0/21	133	S I	WS-C2950-	Fas
ASW1 0/20	Fas 0/20	133	S I	WS-C2950-	Fas
ASW1 0/19	Fas 0/19	133	S I	WS-C2950-	Fas
ASW2 0/16	Fas 0/16	133	S I	WS-C2950-	Fas

ASW2	Fas 0/17	133	S I	WS-C2950- Fas
0/17				
ASW2	Fas 0/18	133	S I	WS-C2950- Fas
0/18				
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 : 151 sec

Version :  
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version  
12.4(25b), RELEASE SOFTWARE (fc1)  
Technical Support: <http://www.cisco.com/techsupport>

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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 : 133 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 : 132 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 : 132 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=00000000FFFFFFFFF0102250C00000000000000BFD20BA00FF0000  
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 : 122 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 : 121 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 : 120 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: 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 : 119 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: FastEthernet0/17, Port ID (outgoing port): FastEthernet0/17  
Holdtime : 119 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: FastEthernet0/18, Port ID (outgoing port): FastEthernet0/18  
Holdtime : 118 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             50         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             51         0019.5578.1cb2  ARPA
FastEthernet0/1
Internet 10.2.1.2             39         000b.fd20.ba00  ARPA   Vlan10
Internet 10.2.2.1             50         000b.fd20.ba00  ARPA   Vlan20
Internet 10.2.1.4             0          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 51 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 51 0019.5578.1cb2 ARPA
FastEthernet0/1
Internet 10.2.1.2 40 000b.fd20.ba00 ARPA Vlan10
Internet 10.2.2.1 50 000b.fd20.ba00 ARPA Vlan20
Internet 10.2.1.4 0 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
10.2.1.254/32	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=1, K3=1, K4=1, K5=1
  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	00:47:24
10.1.4.5	90	00:47:24

```
10.2.1.2          90      00:47:24
10.2.2.1          90      00:47:24
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 [170/1023] via 10.1.4.5, 00:47:54, FastEthernet0/1
D 10.1.4.8/30 [90/111] via 10.2.2.1, 00:51:10, Vlan20
  [90/111] via 10.2.1.2, 00:51:10, Vlan10
D*EX 0.0.0.0/0 [170/1023] via 10.1.4.5, 00:47:39, 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   10.2.1.2                 V110          14 00:51:19    1    200   0
86
2   10.2.2.1                 V120          14 00:51:20    1    200   0
87
1   10.2.4.14                Po12          10 00:52:00    1    200   0
89
0   10.1.4.5                 Fa0/1         12 00:52:37    1    200   0
48
DSW1#

```

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

Pending Interface Routes	Peers	Xmit Queue Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer
Fa0/1 0	1	0/0	1	0/1	50
Vl10 0	1	0/0	1	0/1	50
Vl20 0	1	0/0	1	0/1	50
Po12 0	1	0/0	1	0/1	50

```
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
-----	-----	-----	-----	-----	-----
-----					
Pol3	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
-----	-----	-----	-----	-----	-----
-----					
Pol4	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	notconnect	1	auto	auto
10/100BaseTX				
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:00h:53m:34s

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:00h:53m:35s

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:00h:53m:35s

Port-channels in the group:

-----

Port-channel: Po12

-----

Age of the Port-channel = 0d:00h:54m:27s  
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:00h:53m:36s Fa0/24  
 Time since last port Un-bundled: 0d:00h:53m:37s 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	SA	bndl	32768	0xD	0xD	0x10
0x3D						

Partner's information:

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

Age of the port in the current state: 0d:00h:54m:17s

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	Admin Age	Oper key	Port Key	Port Number
Fa0/20 0x3C	SP	32768	0015.faac.46c0	3s	0x0	0x1	0x14

Age of the port in the current state: 0d:00h:54m:18s

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 0x3E	SA	bndl	32768	0xD	0xD	0x11

Fa0/21 SA bndl 32768 0xD 0xD 0x12  
0x3D

Partner's information:

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

0x3C

Age of the port in the current state: 0d:00h:54m:19s

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

Port-channel: Po13 (Primary Aggregator)

-----

Age of the Port-channel = 0d:00h:54m:31s  
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:00h:54m:21s 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 Gchange = 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 Port	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
	Fa0/16	ASW2	0015.fab8.2880	Fa0/16	12s	SC

Age of the port in the current state: 0d:00h:54m:24s

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	Port	Flags	State	Timers	Hello 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	9s	SC
20001					

Age of the port in the current state: 0d:00h:54m:26s

Port: Fa0/18

-----

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	Flags	State	Timers	Hello 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	ASW2	0015.fab8.2880	Fa0/18	12s	SC
20001					

Age of the port in the current state: 0d:00h:54m:27s

Port-channels in the group:

-----

Port-channel: Po14

-----

Age of the Port-channel = 0d:00h:54m:37s

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:00h:54m:28s    Fa0/16

DSW1#

DSW1#show standby

```
Vlan10 - Group 10
  State is Active
    2 state changes, last state change 00:53:33
  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 2.136 secs
  Preemption enabled
  Active router is local
  Standby router is 10.2.1.2, priority 20 (expires in 9.952 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:00h:54m:41s
```

```
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:00h:54m:41s
```

```
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:00h:54m:42s

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	State	LACP port Priority	Dev ID	Admin Age	Oper key	Port Key	Port Number
Fa0/19 0x3C	SP		32768	0015.faac.46c0	24s	0x0	0x1	0x13

Age of the port in the current state: 0d:00h:55m:23s

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	State	LACP port Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/20 0x3C	SP		32768	0015.faac.46c0	10s	0x0	0x1	0x14

Age of the port in the current state: 0d:00h:55m:24s

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	State	LACP port Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/21 0x3C	SP		32768	0015.faac.46c0	2s	0x0	0x1	0x15

Age of the port in the current state: 0d:00h:55m:25s

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	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 Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
Fa0/16	ASW2	0015.fab8.2880	Fa0/16	22s	SC

20001

Age of the port in the current state: 0d:00h:55m:29s

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

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	15s	SC

Age of the port in the current state: 0d:00h:55m:30s

Port: Fa0/18

-----

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	Flags	State	Timers	Hello 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
Cap. Fa0/18 20001	ASW2	0015.fab8.2880	Fa0/18	22s	SC

Age of the port in the current state: 0d:00h:55m:32s

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:00h:55m:57s
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:00h:55m:05s Fa0/24  
Time since last port Un-bundled: 0d:00h:55m:07s Fa0/24

Group: 13

-----

Port-channels in the group:

-----

Port-channel: Po13 (Primary Aggregator)

-----

Age of the Port-channel = 0d:00h:55m:58s  
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:00h:55m:47s Fa0/21

Group: 14

-----

Port-channels in the group:

-----

Port-channel: Po14

-----

Age of the Port-channel = 0d:00h:55m:58s  
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:00h:55m:50s Fa0/16

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
Cap.				Flags
Fa0/16	ASW2	0015.fab8.2880	Fa0/16	20s SC
20001				
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	14s SC
20001				
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	20s 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	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/19 0x3C	SP	32768	0015.faac.46c0	8s	0x0	0x1	0x13
Fa0/20 0x3C	SP	32768	0015.faac.46c0	21s	0x0	0x1	0x14
Fa0/21 0x3C	SP	32768	0015.faac.46c0	12s	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  
-----  
-----  
-----  
-----  
-----
```

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

DSW1#