

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

```
Current configuration : 6659 bytes
```

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

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

```
switchport port-security
spanning-tree portfast
!
interface FastEthernet0/3
switchport access vlan 102
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/4
switchport mode dynamic desirable
!
interface FastEthernet0/5
switchport access vlan 104
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/6
switchport access vlan 105
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/7
switchport access vlan 106
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/8
switchport access vlan 109
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/9
switchport access vlan 17
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/10
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/11
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/12
switchport access vlan 123
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/13
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/14
```

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

```
no ip address
channel-group 12 mode on
!
interface GigabitEthernet0/1
switchport mode dynamic desirable
shutdown
!
interface GigabitEthernet0/2
switchport mode dynamic desirable
shutdown
!
interface Vlan1
no ip address
shutdown
!
interface Vlan10
ip address 10.2.1.1 255.255.255.0
ip helper-address 10.1.4.5
ip pim sparse-dense-mode
standby 10 ip 10.2.1.254
standby 10 priority 110
!
interface Vlan20
ip address 10.2.2.2 255.255.255.0
ip pim sparse-dense-mode
!
interface Vlan200
ip address 192.168.1.129 255.255.255.224
!
!
router eigrp 10
no auto-summary
eigrp router-id 6.6.6.6
network 10.1.4.6 0.0.0.0
network 10.2.1.1 0.0.0.0
network 10.2.2.2 0.0.0.0
network 10.2.4.13 0.0.0.0
!
router ospf 1
log-adjacency-changes
network 10.3.3.2 0.0.0.0 area 0
network 10.17.17.1 0.0.0.0 area 0
!
ip classless
ip http server
ip http secure-server
!
!
ip access-list standard DENY_10
deny 10.0.0.0 0.255.255.255
permit any
ip access-list standard DENY_ALL
deny any
ip access-list standard PERMIT_10
```

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

DSW1#
```

```
DSW1#ping 209.65.200.241
```

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

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

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 32/33/36 ms
```

```
DSW1#
```

```
DSW1#ping 209.65.200.226
```

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

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

```
!!!!!
```

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

DSW1#

DSW1#ping 209.65.200.225

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 209.65.200.225, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 64/71/96 ms

DSW1#


```
DSW1#ping 10.1.1.1
```

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

```
Sending 5, 100-byte ICMP Echos to 10.1.1.1, timeout is 2 seconds:
```

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.1.1.2
```

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

```
Sending 5, 100-byte ICMP Echos to 10.1.1.2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/67/76 ms
```

```
DSW1#
```

```
DSW1#ping 10.1.1.5
```

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

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

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/67/72 ms
```

```
DSW1#
```

```
DSW1#ping 10.1.1.6
```

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

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

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/130/132
ms
DSW1#
```

```
DSW1#ping 10.1.1.9
```

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

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

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.1.1.10
```

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

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

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/196/208  
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.10
```

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

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

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.1.4.9
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.6
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.4.6, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/194/196  
ms  
DSW1#
```

```
DSW1#ping 10.1.4.5
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.4.5, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/194/196  
ms  
DSW1#
```



```
DSW1#ping 10.2.1.1
```

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

```
Sending 5, 100-byte ICMP Echos to 10.2.1.1, timeout is 2 seconds:
```

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.2.2.2
```

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

```
Sending 5, 100-byte ICMP Echos to 10.2.2.2, timeout is 2 seconds:
```

```
!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/250/316  
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.1.254
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.4.14
```

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

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

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/196/204  
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.4.13
```

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

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

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/196/204  
ms
```

DSW1#

DSW1#ping 10.2.1.2

Type escape sequence to abort.

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

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 192/194/200
ms

DSW1#

```
DSW1#ping 10.2.2.1
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.1.4
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```

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

DSW1#

```
DSW1#show ip route
```

```
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP  
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area  
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2  
       E1 - OSPF external type 1, E2 - OSPF external type 2  
       i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS  
level-2  
       ia - IS-IS inter area, * - candidate default, U - per-user static  
route  
       o - ODR, P - periodic downloaded static route
```

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

```
10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks  
C       10.2.4.12/30 is directly connected, Port-channel12  
D EX    10.1.1.8/30 [170/261120] via 10.1.4.5, 00:36:24, FastEthernet0/1  
D       10.1.4.8/30 [90/28416] via 10.2.2.1, 00:36:24, Vlan20  
                [90/28416] via 10.2.1.2, 00:36:24, Vlan10  
C       10.2.1.0/24 is directly connected, Vlan10  
C       10.2.2.0/24 is directly connected, Vlan20  
C       10.1.4.4/30 is directly connected, FastEthernet0/1  
192.168.1.0/27 is subnetted, 1 subnets  
C       192.168.1.128 is directly connected, Vlan200  
D*EX 0.0.0.0/0 [170/261120] via 10.1.4.5, 00:36:24, FastEthernet0/1  
DSW1#
```


49	4	4477	0	0.00%	0.00%	0.00%	0 L2TM
Process							
50	4	4478	0	0.00%	0.00%	0.00%	0 L3TM
51	9664	6635	1456	0.47%	0.41%	0.41%	0 Vegas
Statistics							
52	4	31069	0	0.00%	0.00%	0.00%	0 HMATM
Learn proc							
53	0	2241	0	0.00%	0.00%	0.00%	0 HMATM Age
proces							
54	20	56	357	0.00%	0.00%	0.00%	0 VL2MM
55	0	2261	0	0.00%	0.00%	0.00%	0 L3MD
56	92	5610	16	0.00%	0.00%	0.00%	0 L3MD_STAT
57	0	1	0	0.00%	0.00%	0.00%	0 Vegas
Bridging							
58	416	27975	14	0.00%	0.00%	0.00%	0 VegasPM
59	24	1157	20	0.00%	0.00%	0.00%	0 VUR_MGR bg
proce							
60	0	2240	0	0.00%	0.00%	0.00%	0 PI MATM
Aging Pr							
61	0	1	0	0.00%	0.00%	0.00%	0 Switch
Backup In							
62	0	38	0	0.00%	0.00%	0.00%	0 MMN bkgrd
proces							
63	0	2	0	0.00%	0.00%	0.00%	0 Dot1x Mgr
Proces							
64	0	2	0	0.00%	0.00%	0.00%	0 802.1x
Accountin							
65	0	1	0	0.00%	0.00%	0.00%	0 MAB
Framework							
66	0	1	0	0.00%	0.00%	0.00%	0 802.1x
switch							
67	0	1	0	0.00%	0.00%	0.00%	0 802.1x
Webauth F							
68	80	914	87	0.00%	0.00%	0.00%	0 DTP
Protocol							
69	0	1	0	0.00%	0.00%	0.00%	0 EAP
Framework							
70	0	39	0	0.00%	0.00%	0.00%	0 Port-
Security							
71	0	12	0	0.00%	0.00%	0.00%	0 SpanTree
Flush							
72	0	21	0	0.00%	0.00%	0.00%	0 Switch IP
Host T							
73	0	227	0	0.00%	0.00%	0.00%	0 Ethchnl
74	4	2242	1	0.00%	0.00%	0.00%	0 UDLD
75	0	1	0	0.00%	0.00%	0.00%	0 Vegas IPSG
Proce							
76	0	21	0	0.00%	0.00%	0.00%	0 VMATM
Callback							
77	0	36	0	0.00%	0.00%	0.00%	0 HL3U PBR
bkgrd p							
78	0	19	0	0.00%	0.00%	0.00%	0 Vegas PBR
n-h re							
79	0	2	0	0.00%	0.00%	0.00%	0 AAA Server

80	0	1	0	0.00%	0.00%	0.00%	0	AAA ACCT
Proc								
81	0	1	0	0.00%	0.00%	0.00%	0	ACCT
Periodic Pr								
82	0	1	0	0.00%	0.00%	0.00%	0	AAA System
Acct								
83	0	1	0	0.00%	0.00%	0.00%	0	Auth-proxy
AAA B								
84	0	8	0	0.00%	0.00%	0.00%	0	IP Admin
SM Proc								
85	232	976	237	0.00%	0.00%	0.00%	0	CDP
Protocol								
86	1152	284	4056	0.23%	1.06%	0.32%	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	19	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	544	3433	158	0.00%	0.00%	0.00%	0	IP Input
92	0	1	0	0.00%	0.00%	0.00%	0	ICMP event
handl								
93	0	4381	0	0.00%	0.00%	0.00%	0	IP ARP
Track								
94	0	4	0	0.00%	0.00%	0.00%	0	ADJ
resolve proc								
95	184	5581	32	0.00%	0.00%	0.00%	0	Spanning
Tree								
96	0	2	0	0.00%	0.00%	0.00%	0	EAPoUDP
Process								
97	4	2	2000	0.00%	0.00%	0.00%	0	KRB5 AAA
98	0	40	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	31	0	0.00%	0.00%	0.00%	0	Cluster L2
101	0	225	0	0.00%	0.00%	0.00%	0	Cluster
RARP								
102	80	640	125	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	10	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	8	26	307	0.00%	0.00%	0.00%	0	L2MM
110	36	190	189	0.00%	0.00%	0.00%	0	MRD
111	28	191	146	0.00%	0.00%	0.00%	0	IGMP SN
112	0	1	0	0.00%	0.00%	0.00%	0	IGMP QR


```

178          0          10          0 0.00% 0.00% 0.00% 0 EIGRP:
Router
179          296         2297         128 0.00% 0.00% 0.00% 0 EIGRP-
IPv4:
180          8          2213          3 0.00% 0.00% 0.00% 0 OSPF-1
Router
181          192         3949          48 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
  1333 packets input, 97782 bytes, 0 no buffer
  Received 0 broadcasts (484 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  1443 packets output, 97633 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 00:00:01, 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
  589 packets input, 47059 bytes, 0 no buffer
  Received 0 broadcasts (486 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
```

```
    584 packets output, 43942 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 never, output 00:37:01, 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
    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
    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 00:00:02, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1031 packets input, 97041 bytes, 0 no buffer
    Received 656 broadcasts (492 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 653 multicast, 0 pause input
    0 input packets with dribble condition detected
    980 packets output, 94092 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 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
FastEthernet0/5 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e05 (bia
000d.bde3.6e05)
  MTU 1500 bytes, BW 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
FastEthernet0/6 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e06 (bia
000d.bde3.6e06)
  MTU 1500 bytes, BW 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
FastEthernet0/7 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 00:00:27, output 00:00:08, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    431 packets input, 44211 bytes, 0 no buffer
    Received 204 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 204 multicast, 0 pause input
    0 input packets with dribble condition detected
    1022 packets output, 91864 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 00:00:01, 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 0 bits/sec, 0 packets/sec
  2220 packets input, 180042 bytes, 0 no buffer
  Received 1961 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1961 multicast, 0 pause input
  0 input packets with dribble condition detected
  436 packets output, 43062 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 00:00:02, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    434 packets input, 44429 bytes, 0 no buffer
    Received 206 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 206 multicast, 0 pause input
    0 input packets with dribble condition detected
    1585 packets output, 125976 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 00:00:03, 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: 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
  1871 packets input, 158185 bytes, 0 no buffer
  Received 1633 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1614 multicast, 0 pause input
  0 input packets with dribble condition detected
  1931 packets output, 160301 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
    439 packets input, 48067 bytes, 0 no buffer
    Received 206 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 206 multicast, 0 pause input
    0 input packets with dribble condition detected
    439 packets output, 46680 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 00:00:06, 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
  433 packets input, 47543 bytes, 0 no buffer
  Received 205 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 205 multicast, 0 pause input
  0 input packets with dribble condition detected
  2726 packets output, 211412 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 00:00:08, 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
  965 packets input, 89965 bytes, 0 no buffer
  Received 629 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 628 multicast, 0 pause input
  0 input packets with dribble condition detected
  1047 packets output, 100618 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 00:00:09, output 00:00:05, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  270 packets input, 31056 bytes, 0 no buffer
  Received 41 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 41 multicast, 0 pause input
  0 input packets with dribble condition detected
  272 packets output, 30996 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 00:00:10, 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
    274 packets input, 31368 bytes, 0 no buffer
    Received 41 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 41 multicast, 0 pause input
    0 input packets with dribble condition detected
    272 packets output, 30996 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 00:00:01, 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
    1515 packets input, 152851 bytes, 0 no buffer
    Received 713 broadcasts (509 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 712 multicast, 0 pause input
    0 input packets with dribble condition detected
    1596 packets output, 163074 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 00:02:30, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 1000 bits/sec, 2 packets/sec
    2739 packets input, 253308 bytes, 0 no buffer
    Received 2037 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 2017 multicast, 0 pause input
    0 input packets with dribble condition detected
```

```
5104 packets output, 419477 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.bde3.6e11 (bia
000d.bde3.6e11)
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 00:00:01, 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 0 bits/sec, 0 packets/sec
  3097 packets input, 269584 bytes, 0 no buffer
  Received 2379 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 2379 multicast, 0 pause input
  0 input packets with dribble condition detected
  3056 packets output, 262860 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 00:00:04, output 00:00:12, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 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
  84 packets input, 13104 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
    90 packets output, 10308 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 00:00:07, output 00:00:13, 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
    85 packets input, 8160 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
    90 packets output, 15288 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	144	R S I	1841	Fas
DSW2 0/24	Fas 0/24	144	R S I	WS-C3550-	Fas
DSW2 0/23	Fas 0/23	144	R S I	WS-C3550-	Fas
DSW2 0/22	Fas 0/22	144	R S I	WS-C3550-	Fas
ASW1 0/21	Fas 0/21	142	S I	WS-C2950-	Fas
ASW1 0/20	Fas 0/20	142	S I	WS-C2950-	Fas
ASW1 0/19	Fas 0/19	142	S I	WS-C2950-	Fas

```
ASW2          Fas 0/18          142          S I          WS-C2950- Fas
0/18
ASW2          Fas 0/16          142          S I          WS-C2950- Fas
0/16
ASW2          Fas 0/17          142          S I          WS-C2950- Fas
0/17
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 : 138 sec
```

```
Version :
```

Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(25b), RELEASE SOFTWARE (fc1)
Technical Support: <http://www.cisco.com/techsupport>
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Wed 12-Aug-09 10:49 by prod_rel_team

advertisement version: 2
VTP Management Domain: ''
Duplex: full
Management address(es):

Device ID: DSW2
Entry address(es):
 IP address: 10.2.4.14
Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP
Interface: FastEthernet0/24, Port ID (outgoing port): FastEthernet0/24
Holdtime : 137 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=00000000FFFFFFFF0102250C0000000000000000BFD20BA00FF0000
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 : 136 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=00000000FFFFFFFF0102250C0000000000000000BFD20BA00FF0000
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 : 135 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 : 133 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 : 132 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 : 131 sec

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

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

Device ID: 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 : 130 sec

Version :
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE
SOFTWARE (fc1)
Copyright (c) 1986-2005 by cisco Systems, Inc.

Compiled Fri 16-Sep-05 10:46 by yenanh

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

Device ID: ASW2
Entry address(es):
IP address: 192.168.1.132
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP
Interface: FastEthernet0/16, Port ID (outgoing port): FastEthernet0/16
Holdtime : 130 sec

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

advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=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 : 129 sec

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

advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=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	38	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	38	0019.5578.1cb2	ARPA	
FastEthernet0/1					

```

Internet 10.2.1.2          38  000b.fd20.ba00  ARPA  Vlan10
Internet 10.2.2.1          38  000b.fd20.ba00  ARPA  Vlan20
Internet 10.2.1.4           11  001c.238e.dbbc  ARPA  Vlan10
Internet 192.168.1.129     -   000d.bde3.6e00  ARPA  Vlan200
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         38         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         38         0019.5578.1cb2 ARPA
FastEthernet0/1
Internet 10.2.1.2         38         000b.fd20.ba00 ARPA  Vlan10

```

```
Internet 10.2.2.1          38  000b.fd20.ba00  ARPA  Vlan20
Internet 10.2.1.4          11  001c.238e.dbbc  ARPA  Vlan10
Internet 192.168.1.129     -   000d.bde3.6e00  ARPA  Vlan200
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
10.2.1.255/32        receive                 Vlan10
10.2.2.0/24          attached                 Vlan20
10.2.2.0/32          receive                 Vlan20
10.2.2.1/32          attached                 Vlan20
10.2.2.2/32          receive                 Vlan20
10.2.2.255/32        receive                 Vlan20
10.2.4.12/30         attached                 Port-channel12
10.2.4.12/32         receive                 Port-channel12
10.2.4.13/32         receive                 Port-channel12
10.2.4.14/32         attached                 Port-channel12
10.2.4.15/32         receive                 Port-channel12
192.168.1.128/27     attached                 Vlan200
192.168.1.128/32     receive                 Vlan200
192.168.1.129/32     receive                 Vlan200
192.168.1.159/32     receive                 Vlan200
224.0.0.0/4          multicast
224.0.0.0/24         receive
240.0.0.0/4          drop
255.255.255.255/32   receive
DSW1#

```

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

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

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

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

```
Automatic network summarization is not in effect
```

```
Maximum path: 4
```

```
Routing for Networks:
```

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

```
Routing Information Sources:
```

Gateway	Distance	Last Update
10.2.4.14	90	00:38:58

```
10.1.4.5          90      00:38:58
10.2.1.2          90      00:38:58
10.2.2.1          90      00:38:58
Distance: internal 90 external 170
```

Routing Protocol is "ospf 1"

Outgoing update filter list for all interfaces is not set

Incoming update filter list for all interfaces is not set

Router ID 192.168.1.129

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

Maximum path: 4

Routing for Networks:

10.3.3.2 0.0.0.0 area 0

10.17.17.1 0.0.0.0 area 0

Routing Information Sources:

Gateway	Distance	Last Update
Distance: (default is 110)		

DSW1#

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

```
DSW1#
DSW1#show ip route eigrp
  10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D EX 10.1.1.8/30 [170/261120] via 10.1.4.5, 00:39:14, FastEthernet0/1
D    10.1.4.8/30 [90/28416] via 10.2.2.1, 00:39:14, Vlan20
      [90/28416] via 10.2.1.2, 00:39:14, Vlan10
```


D*EX 0.0.0.0/0 [170/261120] via 10.1.4.5, 00:39:14, 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          12 00:39:23    3     200    0
357
2   10.2.2.1                 V120          12 00:39:27    3     200    0
358
1   10.1.4.5                 Fa0/1         11 00:39:55    1     200    0
154
0   10.2.4.14                Po12          10 00:39:55    1     200    0
360
DSW1#
```

```
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
V110 0	1	0/0	3	0/1	50
V120 0	1	0/0	3	0/1	50
Po12 0	1	0/0	1	0/1	50

```
DSW1#
```



```

-----
-----
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		connected	routed	a-full	a-100	
10/100BaseTX						

Fa0/2	notconnect	101	auto	auto
10/100BaseTX				
Fa0/3	notconnect	102	auto	auto
10/100BaseTX				
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				
Po12	connected	routed	a-full	a-100
Po13	connected	trunk	a-full	a-100
Po14	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:41m:50s
```

```
-----
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:41m:50s
```

```
-----
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:41m:50s
```

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

```
-----
Port-channel: Po12
```

```
-----
Age of the Port-channel   = 0d:00h:41m:53s
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:41m:51s 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
State							

Fa0/19 SP 32768 0015.faac.46c0 18s 0x0 0x1 0x13
0x3C

Age of the port in the current state: 0d:00h:41m:45s

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	Admin Age	Oper key	Port Key	Port Number
Fa0/20 0x3C	SP		32768	0015.faac.46c0	5s	0x0	0x1	0x14

Age of the port in the current state: 0d:00h:41m:45s

Port: Fa0/21

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

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

Local information:

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

Partner's information:

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

Age of the port in the current state: 0d:00h:41m:45s

Port-channels in the group:

Port-channel: Po13 (Primary Aggregator)

Age of the Port-channel = 0d:00h:41m:57s
 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:41m:46s 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-Sl Gcchange = 0
Port-channel = Po14 GC = 0x000E0001 Pseudo port-channel =
Po14
Port index = 0 Load = 0x00 Protocol = PAgP

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

Local information:

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

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Cap.					
Fa0/16	ASW2	0015.fab8.2880	Fa0/16	19s	SC
20001					

Age of the port in the current state: 0d:00h:41m:51s

Port: Fa0/17

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

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

Local information:

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

Port	Flags	State	Timers	Interval	Count	Priority	Method	
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
Cap.				Flags
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	1s
20001				SC

Age of the port in the current state: 0d:00h:41m:53s

Port: Fa0/18

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

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

Local information:

Group	Flags	State	Timers	Interval	Count	Priority	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
Cap.				Flags
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	22s
20001				SC

Age of the port in the current state: 0d:00h:41m:53s

Port-channels in the group:

Port-channel: Po14

Age of the Port-channel = 0d:00h:42m:03s
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:41m:55s Fa0/18

DSW1#

```
DSW1#show standby
Vlan10 - Group 10
  State is Standby
    1 state change, last state change 00:41:02
  Virtual IP address is 10.2.1.254
  Active virtual MAC address is 0000.0c07.ac0a
    Local virtual MAC address is 0000.0c07.ac0a (v1 default)
  Hello time 3 sec, hold time 10 sec
    Next hello sent in 0.928 secs
  Preemption disabled
  Active router is 10.2.1.2, priority 20 (expires in 9.672 sec)
  Standby router is local
  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
Vl10	10	110		Standby	10.2.1.2	local	

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:43m:03s
```

```
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:43m:03s
```

```
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:43m:04s

Group: 13

Ports in the group:

Port: Fa0/19

```

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

```

```

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

```

Local information:

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

Partner's information:

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

Age of the port in the current state: 0d:00h:42m:57s

Port: Fa0/20

```

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

```

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

Local information:

Port	Flags	State	LACP port 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	22s	0x0	0x1	0x14

Age of the port in the current state: 0d:00h:42m:57s

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	19s	0x0	0x1	0x15

Age of the port in the current state: 0d:00h:42m:58s

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	7s	SC

Age of the port in the current state: 0d:00h:43m:03s

Port: Fa0/17

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

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

Local information:

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

Partner's information:

Group	Port	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
	Fa0/17	ASW2	0015.fab8.2880	Fa0/17	14s	SC

Age of the port in the current state: 0d:00h:43m:04s

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	Port	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
Cap.				Flags
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	11s
20001				SC

Age of the port in the current state: 0d:00h:43m:06s

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:43m:26s
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:43m:24s Fa0/24

Group: 13

Port-channels in the group:

Port-channel: Po13 (Primary Aggregator)

Age of the Port-channel = 0d:00h:43m:26s
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:43m:15s Fa0/21

Group: 14

Port-channels in the group:

Port-channel: Po14

Age of the Port-channel = 0d:00h:43m:27s
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:43m:20s Fa0/18

DSW1#

DSW1#show pagp neighbor

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

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

Channel group 14 neighbors

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Cap.					
Fa0/16	ASW2	0015.fab8.2880	Fa0/16	1s	SC
20001					
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	9s	SC
20001					
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	2s	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	13s	0x0	0x1	0x13
Fa0/20 0x3C	SP	32768	0015.faac.46c0	1s	0x0	0x1	0x14
Fa0/21 0x3C	SP	32768	0015.faac.46c0	24s	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#