

```
DSW2#
DSW2#show running-config
Building configuration...

Current configuration : 5972 bytes
!
! No configuration change since last restart
!
version 12.2
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname DSW2
!
!
no aaa new-model
ipv6 unicast-routing
ip subnet-zero
ip routing
!
ip multicast-routing
vtp domain netlearning
vtp mode transparent
!
!
crypto pki trustpoint TP-self-signed-4246780416
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-4246780416
  revocation-check none
  rsakeypair TP-self-signed-4246780416
!
!
crypto pki certificate chain TP-self-signed-4246780416
  certificate self-signed 01
    3082023D 308201A6 A0030201 02020101 300D0609 2A864886 F70D0101 04050030
    31312F30 2D060355 04031326 494F532D 53656C66 2D536967 6E65642D 43657274
    69666963 6174652D 34323436 37383034 3136301E 170D3933 30333031 30303031
    30345A17 0D323030 31303130 30303030 305A3031 312F302D 06035504 03132649
    4F532D53 656C662D 5369676E 65642D43 65727469 66696361 74652D34 32343637
    38303431 3630819F 300D0609 2A864886 F70D0101 01050003 818D0030 81890281
    8100D699 D2A8BD0D A26CE645 B2CE1EC4 EF83204E CBA4D34A B03BC30C 7BF013B1
    5BDEC621 F3CE12CC BC929D9C 463A59DC D49CEF76 3D5193FD 7992F7FF 660F179F
    54CA6370 902081BB ABB71246 5DC79E39 D241B749 11CB4812 07CF1238 A25C59F6
    740464A7 6B3EAE02 6B6B0C13 9B534C70 85BD199E E52D4FB2 AB4C4B5F 678ECD24
    17B30203 010001A3 65306330 0F060355 1D130101 FF040530 030101FF 30100603
    551D1104 09300782 05445357 322E301F 0603551D 23041830 168014A7 8C27C43F
    00BEB401 3F63B68A 9CD582EF D7B15430 1D060355 1D0E0416 0414A78C 27C43F00
    BEB4013F 63B68A9C D582EFD7 B154300D 06092A86 4886F70D 01010405 00038181
    00B9A060 055A57EE 0EE7C450 128718FA 07A5DCE4 8EABE33F 56BA385F 8F9477E8
    191A361C EBEBFB296 6A2E4637 11BB4D89 CDFA4DDB 7229B8F1 856DCE18 DF11CA57
    180C3686 28E9079C F004E71B A9F11040 7C952427 573ED2F5 AB38C4D9 768156A4
```

```
C597E2E3 B9D4C611 F902BEA8 A18209DD 239160AE E6AC24DE 41AD980B 261778F5
AA
quit
!
!
!
spanning-tree mode pvst
spanning-tree extend system-id
spanning-tree vlan 10,200 priority 8192
spanning-tree vlan 20 priority 4096
!
vlan internal allocation policy ascending
!
vlan 10,20,200
!
!
!
!
!
!
interface Tunnel67
no ip address
ipv6 address 2026::3:2/122
ipv6 enable
ipv6 rip RIPNG enable
tunnel source 10.2.4.14
tunnel destination 10.2.4.13
!
interface Port-channel12
no switchport
ip address 10.2.4.14 255.255.255.252
ip pim sparse-dense-mode
!
interface Port-channel23
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 10,200
switchport mode trunk
!
interface Port-channel24
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 20,200
switchport mode trunk
!
interface FastEthernet0/1
no switchport
ip address 10.1.4.10 255.255.255.252
ip pim sparse-dense-mode
!
interface FastEthernet0/2
switchport mode access
shutdown
!
interface FastEthernet0/3
switchport mode access
```

```
!  
interface FastEthernet0/4  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/5  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/6  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/7  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/8  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/9  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/10  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/11  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/12  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/13  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/14  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/15  
  switchport mode access  
!  
interface FastEthernet0/16  
  switchport trunk encapsulation dot1q  
  switchport trunk allowed vlan 20,200  
  switchport mode trunk  
  channel-group 24 mode desirable  
!
```

```
interface FastEthernet0/17
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 20,200
  switchport mode trunk
  channel-group 24 mode desirable
!
interface FastEthernet0/18
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 20,200
  switchport mode trunk
  channel-group 24 mode desirable
!
interface FastEthernet0/19
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 10,200
  switchport mode trunk
  channel-group 23 mode active
!
interface FastEthernet0/20
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 10,200
  switchport mode trunk
  channel-group 23 mode active
!
interface FastEthernet0/21
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 10,200
  switchport mode trunk
  channel-group 23 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 10.2.1.2 255.255.255.0
 ip helper-address 10.1.4.9
 ip pim sparse-dense-mode
 standby 10 ip 10.2.1.254
 standby 10 priority 20
!
interface Vlan20
 ip address 10.2.2.1 255.255.255.0
 ip pim sparse-dense-mode
!
interface Vlan200
 ip address 192.168.1.130 255.255.255.224
!
!
router eigrp 10
 no auto-summary
 network 10.1.4.10 0.0.0.0
 network 10.2.1.2 0.0.0.0
 network 10.2.2.1 0.0.0.0
 network 10.2.4.14 0.0.0.0
!
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
 login
line vty 5 15
 login
!
```

```
ntp clock-period 17179871
ntp server 10.1.1.1
end
```

```
DSW2#
```

```
DSW2#
DSW2#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 0 percent (0/5)
```

DSW2#

DSW2#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 0 percent (0/5)

DSW2#

```
DSW2#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 0 percent (0/5)
```

```
DSW2#
```



```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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  
DSW2#
```

```
DSW2#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  
DSW2#
```



```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```
DSW2#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
```

```
DSW2#
```

```

DSW2#
DSW2#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
Vlan1              unassigned     YES NVRAM  administratively down
down
Vlan10            10.2.1.2       YES NVRAM  up
up
Vlan20            10.2.2.1       YES NVRAM  up
up
Vlan200           192.168.1.130  YES NVRAM  up
up
FastEthernet0/1   10.1.4.10      YES NVRAM  up
up
FastEthernet0/2   unassigned     YES unset  administratively down
down
FastEthernet0/3   unassigned     YES unset  down
down
FastEthernet0/4   unassigned     YES unset  administratively down
down
FastEthernet0/5   unassigned     YES unset  administratively down
down
FastEthernet0/6   unassigned     YES unset  administratively down
down
FastEthernet0/7   unassigned     YES unset  administratively down
down
FastEthernet0/8   unassigned     YES unset  administratively down
down
FastEthernet0/9   unassigned     YES unset  administratively down
down
FastEthernet0/10  unassigned     YES unset  administratively down
down
FastEthernet0/11  unassigned     YES unset  administratively down
down
FastEthernet0/12  unassigned     YES unset  administratively down
down
FastEthernet0/13  unassigned     YES unset  administratively down
down
FastEthernet0/14  unassigned     YES unset  administratively down
down
FastEthernet0/15  unassigned     YES unset  down
down
FastEthernet0/16  unassigned     YES unset  up
up
FastEthernet0/17  unassigned     YES unset  up
up
FastEthernet0/18  unassigned     YES unset  up
up

```


FastEthernet0/19	unassigned	YES	unset	up
up				
FastEthernet0/20	unassigned	YES	unset	up
up				
FastEthernet0/21	unassigned	YES	unset	up
up				
FastEthernet0/22	unassigned	YES	NVRAM	up
up				
FastEthernet0/23	unassigned	YES	NVRAM	up
up				
FastEthernet0/24	unassigned	YES	NVRAM	up
up				
GigabitEthernet0/1	unassigned	YES	unset	administratively down
down				
GigabitEthernet0/2	unassigned	YES	unset	administratively down
down				
Port-channel12	10.2.4.14	YES	NVRAM	up
up				
Port-channel23	unassigned	YES	unset	up
up				
Port-channel24	unassigned	YES	unset	up
up				
Tunnel67	unassigned	YES	NVRAM	up
up				
DSW2#				

DSW2#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 10.1.4.9 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 10.1.4.9, 00:44:56, FastEthernet0/1
C 10.1.4.8/30 is directly connected, FastEthernet0/1
C 10.2.1.0/24 is directly connected, Vlan10
C 10.2.2.0/24 is directly connected, Vlan20
D 10.1.4.4/30 [90/28416] via 10.2.2.2, 00:44:56, Vlan20
[90/28416] via 10.2.1.1, 00:44:56, Vlan10
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 10.1.4.9, 00:44:56, FastEthernet0/1
DSW2#


```
181          4          55          72 0.00% 0.00% 0.00% 0 EIGRP:
Router
182          912         8317         109 0.00% 0.00% 0.00% 0 EIGRP-
IPv4:
183          476         10915         43 0.00% 0.00% 0.00% 0 EIGRP-
IPv4: Hell
DSW2#
```

```
DSW2#show interfaces
Vlan1 is administratively down, line protocol is down
  Hardware is EtherSVI, address is 000b.fd20.ba00 (bia 000b.fd20.ba00)
  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 000b.fd20.ba00 (bia 000b.fd20.ba00)
  Internet address is 10.2.1.2/24
  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 00:00:02, 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
    3988 packets input, 309821 bytes, 0 no buffer
    Received 0 broadcasts (1241 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    3941 packets output, 273419 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 000b.fd20.ba00 (bia 000b.fd20.ba00)
  Internet address is 10.2.2.1/24
  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 00:00:02, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 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
    1533 packets input, 124657 bytes, 0 no buffer
    Received 0 broadcasts (1253 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    1868 packets output, 142492 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 000b.fd20.ba00 (bia 000b.fd20.ba00)
Internet address is 192.168.1.130/27
MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not supported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:49:28, output 01:43:17, 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
    2 packets input, 128 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 000b.fd20.ba00 (bia
000b.fd20.ba00)
Internet address is 10.1.4.10/30
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 00:00:00, 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: 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
    2789 packets input, 234958 bytes, 0 no buffer
    Received 1896 broadcasts (1401 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 1893 multicast, 0 pause input
    0 input packets with dribble condition detected
    2794 packets output, 259729 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 administratively down, line protocol is down
(disabled)
```

```
Hardware is Fast Ethernet, address is 000b.fd20.ba02 (bia
000b.fd20.ba02)
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 000b.fd20.ba03 (bia
000b.fd20.ba03)
```

```
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 administratively down, line protocol is down
(disabled)
Hardware is Fast Ethernet, address is 000b.fd20.ba04 (bia
000b.fd20.ba04)
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 administratively down, line protocol is down
(disabled)
Hardware is Fast Ethernet, address is 000b.fd20.ba05 (bia
000b.fd20.ba05)
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 administratively down, line protocol is down
(disabled)
  Hardware is Fast Ethernet, address is 000b.fd20.ba06 (bia
000b.fd20.ba06)
  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 administratively down, line protocol is down
(disabled)
  Hardware is Fast Ethernet, address is 000b.fd20.ba07 (bia
000b.fd20.ba07)
  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 administratively down, line protocol is down
(disabled)
  Hardware is Fast Ethernet, address is 000b.fd20.ba08 (bia
000b.fd20.ba08)
  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 administratively down, line protocol is down
(disabled)
  Hardware is Fast Ethernet, address is 000b.fd20.ba09 (bia
000b.fd20.ba09)
  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 administratively down, line protocol is down
(disabled)
  Hardware is Fast Ethernet, address is 000b.fd20.ba0a (bia
000b.fd20.ba0a)
  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 administratively down, line protocol is down
(disabled)
  Hardware is Fast Ethernet, address is 000b.fd20.ba0b (bia
000b.fd20.ba0b)
  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 administratively down, line protocol is down
(disabled)

Hardware is Fast Ethernet, address is 000b.fd20.ba0c (bia
000b.fd20.ba0c)
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 administratively down, line protocol is down
(disabled)

Hardware is Fast Ethernet, address is 000b.fd20.ba0d (bia
000b.fd20.ba0d)
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 administratively down, line protocol is down
(disabled)
```

```
Hardware is Fast Ethernet, address is 000b.fd20.ba0e (bia
000b.fd20.ba0e)
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 000b.fd20.ba0f (bia
000b.fd20.ba0f)
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 000b.fd20.ba10 (bia
000b.fd20.ba10)
    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 00:00:17, output 00:00:02, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
    1176 packets input, 118775 bytes, 0 no buffer
    Received 550 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 550 multicast, 0 pause input
    0 input packets with dribble condition detected
    3058 packets output, 276418 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 000b.fd20.ba11 (bia
000b.fd20.ba11)
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 00:00:18, 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
  5694 packets input, 465062 bytes, 0 no buffer
  Received 4987 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 4978 multicast, 0 pause input
  0 input packets with dribble condition detected
  1190 packets output, 119168 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 000b.fd20.ba12 (bia
000b.fd20.ba12)
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 00:00:04, 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
  1176 packets input, 118775 bytes, 0 no buffer
  Received 550 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 550 multicast, 0 pause input
  0 input packets with dribble condition detected
  4607 packets output, 365000 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 000b.fd20.ba13 (bia
000b.fd20.ba13)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:04, output 00:00:04, 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 1000 bits/sec, 2 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  11499 packets input, 913006 bytes, 0 no buffer
  Received 10786 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 10519 multicast, 0 pause input
  0 input packets with dribble condition detected
  5156 packets output, 434945 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 000b.fd20.ba14 (bia
000b.fd20.ba14)
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 00:00:07, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  1362 packets input, 143871 bytes, 0 no buffer
  Received 552 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 552 multicast, 0 pause input
  0 input packets with dribble condition detected
  1297 packets output, 136266 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 000b.fd20.ba15 (bia
000b.fd20.ba15)
  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 00:00:19, 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
    1178 packets input, 127733 bytes, 0 no buffer
    Received 552 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 552 multicast, 0 pause input
    0 input packets with dribble condition detected
    1728 packets output, 166566 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 000b.fd20.ba00 (bia
000b.fd20.ba00)
  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 00:00:40, output 00:00:07, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    2805 packets input, 271376 bytes, 0 no buffer
    Received 1856 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 1848 multicast, 0 pause input
    0 input packets with dribble condition detected
```

```
2801 packets output, 262784 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 000b.fd20.ba00 (bia
000b.fd20.ba00)
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 00:00:41, 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
  693 packets input, 80971 bytes, 0 no buffer
  Received 119 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 119 multicast, 0 pause input
  0 input packets with dribble condition detected
  737 packets output, 86144 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 000b.fd20.ba00 (bia
000b.fd20.ba00)
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 00:00:43, output 00:00:09, 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
  693 packets input, 80692 bytes, 0 no buffer
  Received 119 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
```

```
0 watchdog, 119 multicast, 0 pause input
0 input packets with dribble condition detected
742 packets output, 86520 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 000b.fd20.ba19 (bia
000b.fd20.ba19)
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 000b.fd20.bala (bia
000b.fd20.bala)
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 000b.fd20.ba00 (bia
000b.fd20.ba00)
Internet address is 10.2.4.14/30
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 00:00:01, 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
  4194 packets input, 432992 bytes, 0 no buffer
  Received 2097 broadcasts (1326 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 2089 multicast, 0 pause input
  0 input packets with dribble condition detected
  4280 packets output, 435462 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-channel23 is up, line protocol is up (connected)
Hardware is EtherChannel, address is 000b.fd20.ba13 (bia
000b.fd20.ba13)
MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
Members in this channel: Fa0/19 Fa0/20 Fa0/21
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:01, output 00:46:42, output hang never
Last clearing of "show interface" counters never
```

```
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 1000 bits/sec, 2 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  14042 packets input, 1184358 bytes, 0 no buffer
  Received 11887 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 11620 multicast, 0 pause input
  0 input packets with dribble condition detected
  8163 packets output, 735621 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-channel24 is up, line protocol is up (connected)
  Hardware is EtherChannel, address is 000b.fd20.ba11 (bia
000b.fd20.ba11)
  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
    8049 packets input, 702922 bytes, 0 no buffer
    Received 6084 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 6076 multicast, 0 pause input
    0 input packets with dribble condition detected
    8854 packets output, 760514 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
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 10.2.4.14, destination 10.2.4.13
  Tunnel protocol/transport GRE/IP, key disabled, sequencing disabled
  Tunnel TTL 255
```

```
Checksumming of packets disabled
Last input 00:00:04, output 00:00:21, 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
  243 packets input, 38548 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
  239 packets output, 22912 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 output buffer failures, 0 output buffers swapped out
DSW2#
```

```
DSW2#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	1	0
Fa0/24	0	0	0	0	0
Gi0/1	0	0	0	0	0
Gi0/2	0	0	0	0	0
Po12	0	0	0	0	0
Po23	0	0	0	0	0
Po24	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						
Po23	0	0	0	0	0	0
0						
Po24	0	0	0	0	0	0
0						
DSW2#						

```
DSW2#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 0/1	Fas 0/1	123	R S I	1841	Fas
DSW1 0/24	Fas 0/24	174	R S I	WS-C3550-	Fas
DSW1 0/23	Fas 0/23	174	R S I	WS-C3550-	Fas
DSW1 0/22	Fas 0/22	174	R S I	WS-C3550-	Fas
ASW1 0/18	Fas 0/21	172	S I	WS-C2950-	Fas
ASW1 0/17	Fas 0/20	172	S I	WS-C2950-	Fas
ASW1 0/16	Fas 0/19	172	S I	WS-C2950-	Fas
ASW2 0/21	Fas 0/18	172	S I	WS-C2950-	Fas
ASW2 0/19	Fas 0/16	172	S I	WS-C2950-	Fas
ASW2 0/20	Fas 0/17	172	S I	WS-C2950-	Fas

```
DSW2#
```

```
DSW2#show cdp neighbors detail
```

```
-----
```

```
Device ID: R4
```

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

```
  IP address: 10.1.4.9
```

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

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

```
Holdtime : 175 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: DSW1
```

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

IP address: 10.2.4.13
Platform: Cisco WS-C3550-24, Capabilities: Router Switch IGMP
Interface: FastEthernet0/24, Port ID (outgoing port): FastEthernet0/24
Holdtime : 165 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=00000000FFFFFFFFF0102250C0000000000000000DBDE36E00FF0000
VTP Management Domain: 'netlearning'
Duplex: full
Management address(es):
IP address: 10.2.4.13

Device ID: DSW1
Entry address(es):
IP address: 10.2.4.13
Platform: Cisco WS-C3550-24, Capabilities: Router Switch IGMP
Interface: FastEthernet0/23, Port ID (outgoing port): FastEthernet0/23
Holdtime : 164 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=00000000FFFFFFFFF0102250C0000000000000000DBDE36E00FF0000
VTP Management Domain: 'netlearning'
Duplex: full
Management address(es):
IP address: 10.2.4.13

Device ID: DSW1
Entry address(es):
IP address: 10.2.4.13
Platform: Cisco WS-C3550-24, Capabilities: Router Switch IGMP
Interface: FastEthernet0/22, Port ID (outgoing port): FastEthernet0/22
Holdtime : 164 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=00000000FFFFFFFFF0102250C0000000000000000DBDE36E00FF0000
VTP Management Domain: 'netlearning'
Duplex: full
Management address(es):
IP address: 10.2.4.13

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): FastEthernet0/18
Holdtime : 162 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=00000000FFFFFFFFF0102250200000000000000015FAAC46C0FF0000
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): FastEthernet0/17
Holdtime : 160 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=00000000FFFFFFFFF0102250200000000000000015FAAC46C0FF0000
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): FastEthernet0/16
Holdtime : 160 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=00000000FFFFFFFFF0102250200000000000000015FAAC46C0FF0000
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): FastEthernet0/21
Holdtime : 159 sec

Version :
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE
SOFTWARE (fc1)
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Compiled Fri 16-Sep-05 10:46 by yenanh

advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFFF0102250100000000000000015FAB82880FF0000
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): FastEthernet0/19
Holdtime : 158 sec

Version :
Cisco Internetwork Operating System Software
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(22)EA4a, RELEASE
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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): FastEthernet0/20
Holdtime : 157 sec

Version :
Cisco Internetwork Operating System Software
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VTP Management Domain: 'netlearning'
Native VLAN: 1
Duplex: full
Management address(es):
IP address: 192.168.1.132

DSW2#

```

DSW2#show arp
Protocol Address           Age (min)  Hardware Addr   Type   Interface
Internet 10.2.4.13             47         000d.bde3.6e00  ARPA   Port-
channel12
Internet 10.2.4.14             -          000b.fd20.ba00  ARPA   Port-
channel12
Internet 10.1.4.10             -          000b.fd20.ba00  ARPA
FastEthernet0/1
Internet 10.1.4.9              105        0019.5578.1cb3  ARPA
FastEthernet0/1
Internet 10.2.1.1              42         000d.bde3.6e00  ARPA   Vlan10
Internet 10.2.2.2              46         000d.bde3.6e00  ARPA   Vlan20
Internet 10.2.2.1              -          000b.fd20.ba00  ARPA   Vlan20
Internet 10.2.1.2              -          000b.fd20.ba00  ARPA   Vlan10
Internet 10.2.1.4              19         001c.238e.dbbc  ARPA   Vlan10
Internet 192.168.1.130        -          000b.fd20.ba00  ARPA   Vlan200
Internet 10.2.1.254           -          0000.0c07.ac0a  ARPA   Vlan10
DSW2#

```

```

DSW2#show ip arp
Protocol Address           Age (min)  Hardware Addr   Type   Interface
-----
Internet 10.2.4.13             47    000d.bde3.6e00  ARPA   Port-
channel12
Internet 10.2.4.14             -     000b.fd20.ba00  ARPA   Port-
channel12
Internet 10.1.4.10             -     000b.fd20.ba00  ARPA
FastEthernet0/1
Internet 10.1.4.9              105   0019.5578.1cb3  ARPA
FastEthernet0/1
Internet 10.2.1.1              42    000d.bde3.6e00  ARPA   Vlan10
Internet 10.2.2.2              46    000d.bde3.6e00  ARPA   Vlan20
Internet 10.2.2.1              -     000b.fd20.ba00  ARPA   Vlan20
Internet 10.2.1.2              -     000b.fd20.ba00  ARPA   Vlan10
Internet 10.2.1.4              19    001c.238e.dbbc  ARPA   Vlan10
Internet 192.168.1.130        -     000b.fd20.ba00  ARPA   Vlan200
Internet 10.2.1.254           -     0000.0c07.ac0a  ARPA   Vlan10
DSW2#

```

```
DSW2#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 10.2.1.2/24
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is 10.1.4.9
  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 10.2.2.1/24
  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 192.168.1.130/27
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 10.1.4.10/30
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 administratively 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 administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/5 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/6 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/7 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/8 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/9 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/10 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/11 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/12 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/13 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/14 is administratively 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 10.2.4.14/30
  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
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  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-channel23 is up, line protocol is up
Port-channel24 is up, line protocol is up
```

```
Tunnel67 is up, line protocol is up
  Internet protocol processing disabled
DSW2#
```

```
DSW2#show ip cef
Prefix          Next Hop          Interface
0.0.0.0/0       10.1.4.9          FastEthernet0/1
0.0.0.0/32      receive
10.1.1.8/30     10.1.4.9          FastEthernet0/1
10.1.4.4/30     10.2.1.1          Vlan10
                10.2.2.2          Vlan20
10.1.4.8/30     attached          FastEthernet0/1
10.1.4.8/32     receive          FastEthernet0/1
10.1.4.9/32     attached          FastEthernet0/1
10.1.4.10/32    receive          FastEthernet0/1
10.1.4.11/32    receive          FastEthernet0/1
10.2.1.0/24     attached          Vlan10
10.2.1.0/32     receive          Vlan10
10.2.1.1/32     attached          Vlan10
```

10.2.1.2/32	receive	Vlan10
10.2.1.4/32	attached	Vlan10
10.2.1.254/32	receive	
10.2.1.255/32	receive	Vlan10
10.2.2.0/24	attached	Vlan20
10.2.2.0/32	receive	Vlan20
10.2.2.1/32	receive	Vlan20
10.2.2.2/32	attached	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	attached	Port-channel12
10.2.4.14/32	receive	Port-channel12
10.2.4.15/32	receive	Port-channel12
192.168.1.128/27	attached	Vlan200
192.168.1.128/32	receive	Vlan200
192.168.1.130/32	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	

DSW2#

```
DSW2#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
DSW2#
```

```
DSW2#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:
```

```
  10.1.4.10/32
  10.2.1.2/32
  10.2.2.1/32
  10.2.4.14/32
```

```
Routing Information Sources:
```

Gateway	Distance	Last Update
10.2.4.13	90	00:47:28
10.1.4.9	90	00:47:28
10.2.1.1	90	00:47:28
10.2.2.2	90	00:47:28

```
Distance: internal 90 external 170
```

```
DSW2#
```

```
DSW2#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
DSW2#
```

```
DSW2#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 10.1.4.9, 00:47:42, FastEthernet0/1
D      10.1.4.4/30 [90/28416] via 10.2.2.2, 00:47:42, Vlan20
          [90/28416] via 10.2.1.1, 00:47:42, Vlan10
D*EX 0.0.0.0/0 [170/261120] via 10.1.4.9, 00:47:42, FastEthernet0/1
DSW2#
```



```
DSW2#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	10.2.1.1	Vl10	13	00:47:52	816	4896	0
40							
2	10.2.2.2	Vl20	12	00:47:56	2	200	0
39							
0	10.2.4.13	Po12	11	00:48:24	1	200	0
38							
1	10.1.4.9	Fa0/1	12	01:46:15	1	200	0
155							

```
DSW2#
```

```
DSW2#show ip eigrp interfaces
EIGRP-IPv4:(10) interfaces for process 10
```

Pending Interface Routes	Peers	Xmit Queue Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer
Fa0/1 0	1	0/0	1	0/1	50
Vl10 0	1	0/0	816	0/1	5108
Vl20 0	1	0/0	2	0/1	50
Po12 0	1	0/0	1	0/1	50

DSW2#

DSW2#show vlan

VLAN Name	Status	Ports
1 default	active	Fa0/2, Fa0/3, Fa0/4, Fa0/5 Fa0/6, Fa0/7, Fa0/8, Fa0/9 Fa0/10, Fa0/11, Fa0/12, Fa0/13 Fa0/14, Fa0/15, Gi0/1, Gi0/2
10 VLAN0010	active	
20 VLAN0020	active	
200 VLAN0200	active	
1002 fddi-default	act/unsup	
1003 trcrf-default	act/unsup	
1004 fddinet-default	act/unsup	
1005 trbrf-default	act/unsup	

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1 enet	100001	1500	-	-	-	-	-	0	0
10 enet	100010	1500	-	-	-	-	-	0	0
20 enet	100020	1500	-	-	-	-	-	0	0
200 enet	100200	1500	-	-	-	-	-	0	0
1002 fddi	101002	1500	-	-	-	-	-	0	0
1003 trcrf	101003	4472	1005	3276	-	-	srbr	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
---------	-----------	------	-------

DSW2#

DSW2#show spanning-tree

VLAN0010

Spanning tree enabled protocol ieee

Root ID Priority 4106
Address 000d.bde3.6e00
Cost 18
Port 66 (Port-channel23)
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 8202 (priority 8192 sys-id-ext 10)
Address 000b.fd20.ba00
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	-----	-----	-----	-----	-----

Po23 Root FWD 9 128.66 P2p

VLAN0020

Spanning tree enabled protocol ieee
Root ID Priority 4116
 Address 000b.fd20.ba00
 This bridge is the root
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 4116 (priority 4096 sys-id-ext 20)
 Address 000b.fd20.ba00
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
Po24	Desg	FWD	9	128.67	P2p

VLAN0200

Spanning tree enabled protocol ieee
Root ID Priority 4296
 Address 000d.bde3.6e00
 Cost 18
 Port 66 (Port-channel23)
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 8392 (priority 8192 sys-id-ext 200)
 Address 000b.fd20.ba00
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
Po23	Root	FWD	9	128.66	P2p
Po24	Altn	BLK	9	128.67	P2p

DSW2#

```
DSW2#show interfaces status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
Fa0/1		connected	routed	a-full	a-100	
10/100BaseTX						
Fa0/2		disabled	1	auto	auto	
10/100BaseTX						
Fa0/3		notconnect	1	auto	auto	
10/100BaseTX						
Fa0/4		disabled	1	auto	auto	
10/100BaseTX						
Fa0/5		disabled	1	auto	auto	
10/100BaseTX						
Fa0/6		disabled	1	auto	auto	
10/100BaseTX						
Fa0/7		disabled	1	auto	auto	
10/100BaseTX						
Fa0/8		disabled	1	auto	auto	
10/100BaseTX						
Fa0/9		disabled	1	auto	auto	
10/100BaseTX						
Fa0/10		disabled	1	auto	auto	
10/100BaseTX						
Fa0/11		disabled	1	auto	auto	
10/100BaseTX						
Fa0/12		disabled	1	auto	auto	
10/100BaseTX						
Fa0/13		disabled	1	auto	auto	
10/100BaseTX						
Fa0/14		disabled	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
Po23	connected	trunk	a-full	a-100
Po24	connected	trunk	a-full	a-100
DSW2#				

DSW2#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: 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: Fa0/3
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: Fa0/4
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: Fa0/5
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: Fa0/6
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: Fa0/7
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: Fa0/8
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: Fa0/9

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: Fa0/10
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: 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: Fa0/13
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 Po24)
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 Po24)
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 Po24)
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 Po23)
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 Po23)
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 Po23)
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: Po23
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: Po24
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
DSW2#

DSW2#show interfaces trunk

Port	Mode	Encapsulation	Status	Native vlan
Po23	on	802.1q	trunking	1
Po24	on	802.1q	trunking	1

Port	Vlans allowed on trunk
Po23	10,200

Po24 20,200

Port Vlans allowed and active in management domain

Po23 10,200

Po24 20,200

Port Vlans in spanning tree forwarding state and not pruned

Po23 10,200

Po24 20

DSW2#

DSW2#show vtp status

VTP Version : running VTP2

Configuration Revision : 0

Maximum VLANs supported locally : 1005

Number of existing VLANs : 8

VTP Operating Mode : Transparent

VTP Domain Name : netlearning

VTP Pruning Mode : Disabled

```
VTP V2 Mode : Enabled
VTP Traps Generation : Disabled
MD5 digest : 0x99 0xF7 0xCE 0x74 0x55 0xA6 0x6A 0xC7
Configuration last modified by 0.0.0.0 at 0-0-00 00:00:00
DSW2#
```

```
DSW2#show vtp password
VTP Password: cisco1
DSW2#
```

```
DSW2#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           Gchange = -
Port-channel    = Po12         GC   = -           Pseudo port-channel =
Po12
Port index      = 0           Load = 0x00         Protocol = -
```

```
Age of the port in the current state: 0d:00h:54m:25s
```

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

```
Port state      = Up Mstr In-Bndl
```


Channel group = 12 Mode = On Gcchange = -
Port-channel = Po12 GC = - Pseudo port-channel =
Po12
Port index = 0 Load = 0x00 Protocol = -

Age of the port in the current state: 0d:00h:54m:25s

Port: Fa0/24

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

Age of the port in the current state: 0d:00h:54m:25s

Port-channels in the group:

Port-channel: Po12

Age of the Port-channel = 0d:01h:52m:18s
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:54m:26s Fa0/24

Time since last port Un-bundled: 0d:00h:54m:41s Fa0/24

Group: 23

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  = 23          Mode = Active          Gcchange = -
Port-channel   = Po23      GC   = -              Pseudo port-channel =
Po23
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	0x17	0x17	0x10

Partner's information:

Port	Flags	State	LACP port Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/19 0x3D	SA		32768	0015.faac.46c0	7s	0x0	0x2	0x10

Age of the port in the current state: 0d:01h:52m:07s

Port: Fa0/20

```

Port state      = Up Mstr Assoc In-Bndl
Channel group  = 23          Mode = Active          Gcchange = -
Port-channel   = Po23      GC   = -              Pseudo port-channel =
Po23
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	0x17	0x17	0x11

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/20	SA	32768	0015.faac.46c0	28s	0x0	0x2	0x11	0x3D

Age of the port in the current state: 0d:01h:52m:07s

Port: Fa0/21

Port state = Up Mstr Assoc In-Bndl
Channel group = 23 Mode = Active Gcchange = -
Port-channel = Po23 GC = - Pseudo port-channel = Po23
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	SA	bndl	32768	0x17	0x17	0x12	0x3D

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/21	SA	32768	0015.faac.46c0	16s	0x0	0x2	0x12	0x3D

Age of the port in the current state: 0d:01h:52m:08s

Port-channels in the group:

Port-channel: Po23 (Primary Aggregator)

Age of the Port-channel = 0d:01h:52m:23s
Logical slot/port = 1/1 Number of ports = 3
HotStandBy port = null
Port state = Port-channel Ag-Inuse

Protocol = LACP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:52m:09s Fa0/21

Group: 24

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 = 24 Mode = Desirable-S1 Gcchange = 0
Port-channel = Po24 GC = 0x00180001 Pseudo port-channel = Po24
Port index = 0 Load = 0x00 Protocol = PAgP

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

Local information:

Group	Port	Flags	State	Timers	Hello Interval	Partner Count	PAgP Priority	Learning Method
	Fa0/16	SC	U6/S7	H	30s	1	128	Any 32

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
-------	--------------	-------------------	--------------	-------------	---------------

Fa0/16 ASW2 0015.fab8.2880 Fa0/19 8s SC
10001

Age of the port in the current state: 0d:01h:52m:12s

Port: Fa0/17

Port state = Up Mstr In-Bndl
Channel group = 24 Mode = Desirable-S1 Gcchange = 0
Port-channel = Po24 GC = 0x00180001 Pseudo port-channel =
Po24
Port index = 0 Load = 0x00 Protocol = PAgP

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

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

d - PAgP is down.

Timers: H - Hello timer is running. Q - Quit timer is running.

S - Switching timer is running. I - Interface timer is
running.

Local information:

Group	Flags	State	Timers	Hello Interval	Partner Count	PAgP Priority	Learning Method	
Fa0/17	SC	U6/S7	H	30s	1	128	Any	32

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
Fa0/17 10001	ASW2	0015.fab8.2880	Fa0/20	21s	SC

Age of the port in the current state: 0d:01h:52m:13s

Port: Fa0/18

Port state = Up Mstr In-Bndl
Channel group = 24 Mode = Desirable-S1 Gcchange = 0
Port-channel = Po24 GC = 0x00180001 Pseudo port-channel =
Po24
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	SC	U6/S7	H	30s	1	128	Any 32

Partner's information:

Group	Partner Port	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
	Fa0/18	ASW2	0015.fab8.2880	Fa0/21	10s	SC

Age of the port in the current state: 0d:01h:52m:14s

Port-channels in the group:

Port-channel: Po24

Age of the Port-channel = 0d:01h:52m:28s
 Logical slot/port = 1/2 Number of ports = 3
 GC = 0x00180001 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	Desirable-S1	0
0	00	Fa0/17	Desirable-S1	0
0	00	Fa0/18	Desirable-S1	0

Time since last port bundled: 0d:01h:52m:16s Fa0/18

DSW2#

```
DSW2#show standby
Vlan10 - Group 10
  State is Active
    11 state changes, last state change 00:56:50
  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 0.288 secs
  Preemption disabled
  Active router is local
  Standby router is 10.2.1.1, priority 110 (expires in 8.548 sec)
  Priority 20 (configured 20)
  IP redundancy name is "hsrp-Vl10-10" (default)
DSW2#
```

DSW2#show standby brief

P indicates configured to preempt.

Interface	Grp	Prio	P	State	Active	Standby	Virtual
Vl10	10	20		Active	local	10.2.1.1	

IP
10.2.1.254
DSW2#


```
DSW2#show power inline
Available:360(w) Used:0(w) Remaining:360(w)
```

Interface	Admin	Oper	Power (Watts)	Device	Class	Max
Fa0/1	auto	off	0.0	n/a	n/a	15.4
Fa0/2	auto	off	0.0	n/a	n/a	15.4
Fa0/3	auto	off	0.0	n/a	n/a	15.4
Fa0/4	auto	off	0.0	n/a	n/a	15.4
Fa0/5	auto	off	0.0	n/a	n/a	15.4
Fa0/6	auto	off	0.0	n/a	n/a	15.4
Fa0/7	auto	off	0.0	n/a	n/a	15.4
Fa0/8	auto	off	0.0	n/a	n/a	15.4
Fa0/9	auto	off	0.0	n/a	n/a	15.4
Fa0/10	auto	off	0.0	n/a	n/a	15.4
Fa0/11	auto	off	0.0	n/a	n/a	15.4
Fa0/12	auto	off	0.0	n/a	n/a	15.4
Fa0/13	auto	off	0.0	n/a	n/a	15.4
Fa0/14	auto	off	0.0	n/a	n/a	15.4
Fa0/15	auto	off	0.0	n/a	n/a	15.4
Fa0/16	auto	off	0.0	n/a	n/a	15.4
Fa0/17	auto	off	0.0	n/a	n/a	15.4
Fa0/18	auto	off	0.0	n/a	n/a	15.4
Fa0/19	auto	off	0.0	n/a	n/a	15.4
Fa0/20	auto	off	0.0	n/a	n/a	15.4
Fa0/21	auto	off	0.0	n/a	n/a	15.4
Fa0/22	auto	off	0.0	n/a	n/a	15.4
Fa0/23	auto	off	0.0	n/a	n/a	15.4
Fa0/24	auto	off	0.0	n/a	n/a	15.4

```
DSW2#
```

```
DSW2#show spanning-tree inconsistentports
```

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

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

```
DSW2#
```

DSW2#show spanning-tree summary

Switch is in pvst mode

Root bridge for: VLAN0020

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	1	0	0	1	2
3 vlans	1	0	0	3	4

DSW2#

```
DSW2#
DSW2#show udld

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

DSW2#

DSW2#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)
23	Po23 (SU)	LACP	Fa0/19 (P)	Fa0/20 (P)	Fa0/21 (P)
24	Po24 (SU)	PAGP	Fa0/16 (P)	Fa0/17 (P)	Fa0/18 (P)

DSW2#


```
DSW2#show etherchannel protocol
      Channel-group listing:
      -----
```

```
Group: 12
-----
Protocol:  - (Mode ON)
```

```
Group: 23
-----
Protocol:  LACP
```

```
Group: 24
-----
Protocol:  PAgP
```

```
DSW2#
```

```
DSW2#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:55m:55s
```

```
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:55m:55s
```

```
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:55m:56s
```

```
Group: 23
-----
```

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

```
Port: Fa0/19
-----
```

```

Port state      = Up Mstr Assoc In-Bndl
Channel group  = 23          Mode = Active          Gcchange = -
Port-channel   = Po23      GC   = -              Pseudo port-channel =
Po23
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	Oper	Port
Port	State	Flags	Priority	Key	Key	Number	Number
Fa0/19 0x3D	SA	bndl	32768	0x17	0x17	0x10	0x10

Partner's information:

Port	Flags	State	LACP port	Priority	Dev ID	Age	Admin	Oper	Port
Port	State	Flags	Priority	Key	Key	Number	key	Key	Number
Fa0/19 0x3D	SA	32768	0015.faac.46c0	17s	0x0	0x2	0x10	0x10	0x10

Age of the port in the current state: 0d:01h:53m:36s

Port: Fa0/20

```

Port state      = Up Mstr Assoc In-Bndl
Channel group  = 23          Mode = Active          Gcchange = -
Port-channel   = Po23      GC   = -              Pseudo port-channel =
Po23
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	Oper	Port
Port	State	Flags	Priority	Key	Key	Number	Number
Fa0/20 0x3D	SA	bndl	32768	0x17	0x17	0x11	0x11

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/20	SA		32768	0015.faac.46c0	4s	0x0	0x2	0x11

Age of the port in the current state: 0d:01h:53m:36s

Port: Fa0/21

Port state = Up Mstr Assoc In-Bndl
Channel group = 23 Mode = Active Gcchange = -
Port-channel = Po23 GC = - Pseudo port-channel = Po23
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	SA	bndl		32768	0x17	0x17	0x12

Partner's information:

Port	Flags	State	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/21	SA			32768	0015.faac.46c0	20s	0x0	0x2	0x12

Age of the port in the current state: 0d:01h:53m:37s

Group: 24

Ports in the group:

Port: Fa0/16

Port state = Up Mstr In-Bndl
Channel group = 24 Mode = Desirable-S1 Gcchange = 0

Port-channel = Po24 GC = 0x00180001 Pseudo port-channel = Po24
Port index = 0 Load = 0x00 Protocol = PAgP

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

Local information:

Group	Port	Flags	State	Timers	Interval	Partner Count	Partner Priority	PAgP	Learning Method
	Fa0/16	SC	U6/S7	H	30s	1	128		Any 32

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Fa0/16	ASW2	0015.fab8.2880	Fa0/19	13s	SC
10001					

Age of the port in the current state: 0d:01h:53m:40s

Port: Fa0/17

Port state = Up Mstr In-Bndl
Channel group = 24 Mode = Desirable-S1 Gcchange = 0
Port-channel = Po24 GC = 0x00180001 Pseudo port-channel = Po24
Port index = 0 Load = 0x00 Protocol = PAgP

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

Local information:

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

Fa0/17 SC U6/S7 H 30s 1 128 Any 32

Partner's information:

Group	Partner	Partner	Partner	Partner
Port	Name	Device ID	Port	Age Flags
Fa0/17	ASW2	0015.fab8.2880	Fa0/20	24s SC
10001				

Age of the port in the current state: 0d:01h:53m:41s

Port: Fa0/18

Port state = Up Mstr In-Bndl
Channel group = 24 Mode = Desirable-S1 Gcchange = 0
Port-channel = Po24 GC = 0x00180001 Pseudo port-channel = Po24
Port index = 0 Load = 0x00 Protocol = PAgP

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

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

Local information:

Group	Flags	State	Timers	Hello Interval	Partner Count	PAgP Priority	Learning Method
Fa0/18	SC	U6/S7	H	30s	1	128	Any 32

Partner's information:

Group	Partner	Partner	Partner	Partner
Port	Name	Device ID	Port	Age Flags
Fa0/18	ASW2	0015.fab8.2880	Fa0/21	16s SC
10001				

Age of the port in the current state: 0d:01h:53m:43s

DSW2#

```
DSW2#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
```

```
DSW2#
```

```
DSW2#show etherchannel port-channel
      Channel-group listing:
      -----
```

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

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

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

```
Age of the Port-channel    = 0d:01h:54m:09s
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:56m:17s    Fa0/24
Time since last port Un-bundled: 0d:00h:56m:32s    Fa0/24
```


Group: 23

Port-channels in the group:

Port-channel: Po23 (Primary Aggregator)

Age of the Port-channel = 0d:01h:54m:10s
Logical slot/port = 1/1 Number of ports = 3
HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = LACP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:53m:56s Fa0/21

Group: 24

Port-channels in the group:

Port-channel: Po24

Age of the Port-channel = 0d:01h:54m:11s
Logical slot/port = 1/2 Number of ports = 3
GC = 0x00180001 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	Desirable-S1	0
0	00	Fa0/17	Desirable-S1	0
0	00	Fa0/18	Desirable-S1	0

Time since last port bundled: 0d:01h:53m:59s Fa0/18

```
DSW2#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 24 neighbors
```

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Cap.					
Fa0/16	ASW2	0015.fab8.2880	Fa0/19	13s	SC
10001					
Fa0/17	ASW2	0015.fab8.2880	Fa0/20	23s	SC
10001					
Fa0/18	ASW2	0015.fab8.2880	Fa0/21	14s	SC
10001					

```
DSW2#
```

DSW2#show lacp neighbor

Flags: S - Device is requesting Slow LACPDU's

F - Device is requesting Fast LACPDU's

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

Channel group 23 neighbors

Partner's information:

Port	Flags	LACP port Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/19 0x3D	SA	32768	0015.faac.46c0	0s	0x0	0x2	0x10
Fa0/20 0x3D	SA	32768	0015.faac.46c0	16s	0x0	0x2	0x11
Fa0/21 0x3D	SA	32768	0015.faac.46c0	2s	0x0	0x2	0x12

DSW2#

```
DSW2#show port-security
Secure Port  MaxSecureAddr  CurrentAddr  SecurityViolation  Security
Action
                (Count)        (Count)        (Count)
-----
--
-----
--
Total Addresses in System (excluding one mac per port)      : 0
Max Addresses limit in System (excluding one mac per port) : 5120
DSW2#
```

```
DSW2#show port-security address
      Secure Mac Address Table
```

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

```
Total Addresses in System (excluding one mac per port) : 0
Max Addresses limit in System (excluding one mac per port) : 5120
DSW2#
```

```
DSW2#show ntp status
Clock is synchronized, stratum 6, reference is 10.1.1.1
nominal freq is 250.0000 Hz, actual freq is 249.9999 Hz, precision is
2**18
reference time is CFB0E75E.5291E20D (14:21:18.322 UTC Wed Jun 2 2010)
clock offset is 0.9567 msec, root delay is 154.80 msec
root dispersion is 1.92 msec, peer dispersion is 0.61 msec
DSW2#
DSW2#
```

```
DSW2#show ntp associations
```

```
      address          ref clock      st  when  poll reach  delay  offset
disp
*~10.1.1.1           127.127.1.1      5   14    64  377   154.8   0.96
0.6
 * master (syncd), # master (unsyncd), + selected, - candidate, ~
configured
DSW2#
DSW2#
```