

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

Current configuration : 6118 bytes
!
! Last configuration change at 03:34:10 UTC Wed Jun 9 2010
! NVRAM config last updated at 03:34:12 UTC Wed Jun 9 2010
!
version 12.2
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname DSW2
!
no logging console
!
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
spanning-tree guard root
!
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  
  metric weights 0 1 1 1 1 1  
  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 17179953
 ntp server 10.1.1.1
 end
```

```
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 100 percent (5/5), round-trip min/avg/max = 224/227/228
ms
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 100 percent (5/5), round-trip min/avg/max = 224/225/228
ms
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 100 percent (5/5), round-trip min/avg/max = 192/196/200
ms
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 = 192/194/196  
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 = 128/129/132  
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 = 128/136/156  
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 = 64/65/68 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 = 64/65/68 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 = 1/2/4 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 = 1/1/4 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 = 1/2/4 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 = 1/3/4 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 = 1/3/4 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:
```

```
U.U.U
```

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

```
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 = 1/3/4 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:  
U.U.U  
Success rate is 0 percent (0/5)  
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 = 1/1/4 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 = 4/4/4 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:
```

```
U.U.U
```

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

```
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 = 1/1/1 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:
```

```
U.U.U
```

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

```
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
down
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<br>down    | unassigned | YES unset | administratively down |
| FastEthernet0/9<br>down    | unassigned | YES unset | administratively down |
| FastEthernet0/10<br>down   | unassigned | YES unset | administratively down |
| FastEthernet0/11<br>down   | unassigned | YES unset | administratively down |
| FastEthernet0/12<br>down   | unassigned | YES unset | administratively down |
| FastEthernet0/13<br>down   | unassigned | YES unset | administratively down |
| FastEthernet0/14<br>down   | unassigned | YES unset | administratively down |
| FastEthernet0/15<br>down   | unassigned | YES unset | down                  |
| FastEthernet0/16<br>up     | unassigned | YES unset | up                    |
| FastEthernet0/17<br>up     | unassigned | YES unset | up                    |
| FastEthernet0/18<br>up     | unassigned | YES unset | up                    |
| FastEthernet0/19<br>up     | unassigned | YES unset | up                    |
| FastEthernet0/20<br>up     | unassigned | YES unset | up                    |
| FastEthernet0/21<br>up     | unassigned | YES unset | up                    |
| FastEthernet0/22<br>up     | unassigned | YES NVRAM | up                    |
| FastEthernet0/23<br>up     | unassigned | YES NVRAM | up                    |
| FastEthernet0/24<br>up     | unassigned | YES NVRAM | up                    |
| GigabitEthernet0/1<br>down | unassigned | YES unset | administratively down |
| GigabitEthernet0/2<br>down | unassigned | YES unset | administratively down |
| Port-channel12<br>up       | 10.2.4.14  | YES NVRAM | up                    |
| Port-channel23<br>up       | unassigned | YES unset | up                    |
| Port-channel24<br>up       | unassigned | YES unset | up                    |
| Tunnel67<br>up             | unassigned | YES NVRAM | 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, 5 subnets, 2 masks  
C      10.2.4.12/30 is directly connected, Port-channel12  
D EX   10.1.1.8/30 [170/1023] via 10.1.4.9, 00:19:02, FastEthernet0/1  
C      10.1.4.8/30 is directly connected, FastEthernet0/1  
C      10.2.2.0/24 is directly connected, Vlan20
```

```
D      10.1.4.4/30 [90/111] via 10.2.2.2, 00:19:02, Vlan20
      192.168.1.0/27 is subnetted, 1 subnets
C      192.168.1.128 is directly connected, Vlan200
D*EX 0.0.0.0/0 [170/1023] via 10.1.4.9, 00:19:00, FastEthernet0/1
DSW2#
```

```
DSW2#show processes cpu
CPU utilization for five seconds: 0%/0%; one minute: 0%; five minutes: 0%
  PID Runtime(ms)   Invoked    uSecs   5Sec   1Min   5Min  TTY Process
    1         0         8         0  0.00%  0.00%  0.00%  0 Chunk
Manager
    2         0        385         0  0.00%  0.00%  0.00%  0 Load Meter
```













|            |     |       |     |       |       |       |   |            |
|------------|-----|-------|-----|-------|-------|-------|---|------------|
| 159        | 0   | 2     | 0   | 0.00% | 0.00% | 0.00% | 0 | STP FAST   |
| TRANSIT    |     |       |     |       |       |       |   |            |
| 160        | 0   | 2     | 0   | 0.00% | 0.00% | 0.00% | 0 | STP STACK  |
| TOPOLO     |     |       |     |       |       |       |   |            |
| 161        | 0   | 2     | 0   | 0.00% | 0.00% | 0.00% | 0 | CSRT RAPID |
| TRANS      |     |       |     |       |       |       |   |            |
| 163        | 0   | 3     | 0   | 0.00% | 0.00% | 0.00% | 0 | SSH Event  |
| handle     |     |       |     |       |       |       |   |            |
| 164        | 0   | 14    | 0   | 0.00% | 0.00% | 0.00% | 0 | IPv6 RIB   |
| Redistr    |     |       |     |       |       |       |   |            |
| 165        | 24  | 2577  | 9   | 0.00% | 0.00% | 0.00% | 0 | CEF: IPv4  |
| proces     |     |       |     |       |       |       |   |            |
| 166        | 0   | 2     | 0   | 0.00% | 0.00% | 0.00% | 0 | ADJ        |
| background |     |       |     |       |       |       |   |            |
| 167        | 20  | 96    | 208 | 0.00% | 0.00% | 0.00% | 0 | IP         |
| Background |     |       |     |       |       |       |   |            |
| 168        | 4   | 107   | 37  | 0.00% | 0.00% | 0.00% | 0 | IPv6 Input |
| 169        | 4   | 125   | 32  | 0.00% | 0.00% | 0.00% | 0 | IPv6 IDB   |
| 170        | 0   | 4     | 0   | 0.00% | 0.00% | 0.00% | 0 | IPv6 ND    |
| 171        | 8   | 230   | 34  | 0.00% | 0.00% | 0.00% | 0 | IPv6 RIP   |
| 172        | 0   | 1935  | 0   | 0.00% | 0.00% | 0.00% | 0 | DVMRP      |
| Timers     |     |       |     |       |       |       |   |            |
| 173        | 16  | 2035  | 7   | 0.00% | 0.00% | 0.00% | 0 | IGMP Input |
| 174        | 96  | 2454  | 39  | 0.00% | 0.00% | 0.00% | 0 | PIM        |
| Process    |     |       |     |       |       |       |   |            |
| 175        | 4   | 19317 | 0   | 0.00% | 0.00% | 0.00% | 0 | Mwheel     |
| Process    |     |       |     |       |       |       |   |            |
| 176        | 68  | 441   | 154 | 0.00% | 0.00% | 0.00% | 0 | PAgP       |
| 177        | 56  | 656   | 85  | 0.00% | 0.00% | 0.00% | 0 | LACP       |
| Protocol   |     |       |     |       |       |       |   |            |
| 178        | 0   | 230   | 0   | 0.00% | 0.00% | 0.00% | 0 | HSRP       |
| (Standby)  |     |       |     |       |       |       |   |            |
| 180        | 8   | 2008  | 3   | 0.00% | 0.00% | 0.00% | 0 | NTP        |
| 181        | 0   | 546   | 0   | 0.00% | 0.00% | 0.00% | 0 | DHCPD      |
| Database   |     |       |     |       |       |       |   |            |
| 182        | 0   | 20    | 0   | 0.00% | 0.00% | 0.00% | 0 | EIGRP:     |
| Router     |     |       |     |       |       |       |   |            |
| 183        | 332 | 2010  | 165 | 0.07% | 0.00% | 0.00% | 0 | EIGRP-     |
| IPv4:      |     |       |     |       |       |       |   |            |
| 184        | 160 | 3123  | 51  | 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 down
```

```
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 00:24:22, output 00:24:22, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 13
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
    415 packets input, 40879 bytes, 0 no buffer
    Received 0 broadcasts (57 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    305 packets output, 22425 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 00:00:03, output 00:00:03, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
    551 packets input, 44834 bytes, 0 no buffer
    Received 0 broadcasts (429 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    589 packets output, 45074 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 never, output 00:23:55, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 8
```

```
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
  2 packets output, 120 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 00:00:02, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1013 packets input, 90074 bytes, 0 no buffer
    Received 569 broadcasts (427 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 563 multicast, 0 pause input
    0 input packets with dribble condition detected
    1144 packets output, 111327 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 00:00:07, 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
  376 packets input, 38273 bytes, 0 no buffer
  Received 180 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 180 multicast, 0 pause input
  0 input packets with dribble condition detected
  976 packets output, 88632 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 00:00:04, 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
  376 packets input, 38273 bytes, 0 no buffer
  Received 180 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 180 multicast, 0 pause input
  0 input packets with dribble condition detected
  1359 packets output, 108744 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 00:00:10, output 00:00:05, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    2124 packets input, 171305 bytes, 0 no buffer
    Received 1676 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 1674 multicast, 0 pause input
    0 input packets with dribble condition detected
    384 packets output, 38838 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 00:00:09, 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
  547 packets input, 56899 bytes, 0 no buffer
  Received 181 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 181 multicast, 0 pause input
  0 input packets with dribble condition detected
  687 packets output, 66343 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 00:00:11, 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
    3334 packets input, 284916 bytes, 0 no buffer
    Received 3109 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 2766 multicast, 0 pause input
    0 input packets with dribble condition detected
    451 packets output, 46836 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 00:00:00, 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
  378 packets input, 41628 bytes, 0 no buffer
  Received 182 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 182 multicast, 0 pause input
  0 input packets with dribble condition detected
  383 packets output, 41500 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 00:00:51, 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
    911 packets input, 87636 bytes, 0 no buffer
    Received 586 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 584 multicast, 0 pause input
    0 input packets with dribble condition detected
    922 packets output, 84266 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 00:00:53, 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  
231 packets input, 25528 bytes, 0 no buffer  
Received 34 broadcasts (0 multicasts)  
0 runts, 0 giants, 0 throttles  
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored  
0 watchdog, 34 multicast, 0 pause input  
0 input packets with dribble condition detected  
233 packets output, 27008 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 00:00:54, 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

231 packets input, 25528 bytes, 0 no buffer

Received 34 broadcasts (0 multicasts)

0 runts, 0 giants, 0 throttles

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

0 watchdog, 34 multicast, 0 pause input

0 input packets with dribble condition detected

234 packets output, 27072 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 00:00:00, 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
  1376 packets input, 139042 bytes, 0 no buffer
  Received 656 broadcasts (451 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 654 multicast, 0 pause input
  0 input packets with dribble condition detected
  1397 packets output, 139906 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.ba14 (bia
000b.fd20.ba14)
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 00:00:00, output 00:25:10, 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
  4249 packets input, 382833 bytes, 0 no buffer
  Received 3456 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 3115 multicast, 0 pause input
  0 input packets with dribble condition detected
  1491 packets output, 151671 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.ba12 (bia
000b.fd20.ba12)
  MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  Members in this channel: Fa0/16 Fa0/17 Fa0/18
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:00, 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
    2881 packets input, 249350 bytes, 0 no buffer
    Received 2031 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 2029 multicast, 0 pause input
    0 input packets with dribble condition detected
    2718 packets output, 236224 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 00:00:05, 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: 0/0 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    78 packets input, 12756 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
```

```
79 packets output, 7552 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 | 0 | 0 |
| Fa0/24 | 0 | 0 | 0 | 0 | 0 |
| Gi0/1  | 0 | 0 | 0 | 0 | 0 |
| Gi0/2  | 0 | 0 | 0 | 0 | 0 |
| Po12   | 0 | 0 | 0 | 0 | 0 |
| 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 |
|-----------|---------------|---------|------------|-----------|------|
| ID        |               |         |            |           |      |
| R4        | Fas 0/1       | 135     | R S I      | 1841      | Fas  |
| 0/1       |               |         |            |           |      |
| DSW1      | Fas 0/24      | 162     | R S I      | WS-C3550- | Fas  |
| 0/24      |               |         |            |           |      |
| DSW1      | Fas 0/23      | 162     | R S I      | WS-C3550- | Fas  |
| 0/23      |               |         |            |           |      |
| DSW1      | Fas 0/22      | 162     | R S I      | WS-C3550- | Fas  |
| 0/22      |               |         |            |           |      |
| ASW1      | Fas 0/21      | 151     | S I        | WS-C2950- | Fas  |
| 0/18      |               |         |            |           |      |
| ASW1      | Fas 0/19      | 151     | S I        | WS-C2950- | Fas  |
| 0/16      |               |         |            |           |      |
| ASW1      | Fas 0/20      | 151     | S I        | WS-C2950- | Fas  |
| 0/17      |               |         |            |           |      |
| ASW2      | Fas 0/17      | 151     | S I        | WS-C2950- | Fas  |
| 0/20      |               |         |            |           |      |
| ASW2      | Fas 0/16      | 151     | S I        | WS-C2950- | Fas  |
| 0/19      |               |         |            |           |      |
| ASW2      | Fas 0/18      | 151     | S I        | WS-C2950- | Fas  |
| 0/21      |               |         |            |           |      |
| 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 : 127 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 : 154 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 : 153 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 : 152 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 : 141 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 : 140 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 : 139 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: FastEthernet0/17, Port ID (outgoing port): FastEthernet0/20  
Holdtime : 138 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=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 : 137 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=00000000FFFFFFFFF010225010000000000000015FAB82880FF0000  
VTP Management Domain: 'netlearning'  
Native VLAN: 1  
Duplex: full  
Management address(es):  
  IP address: 192.168.1.132

-----  
Device ID: ASW2  
Entry address(es):  
  IP address: 192.168.1.132  
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP  
Interface: FastEthernet0/18, Port ID (outgoing port): FastEthernet0/21  
Holdtime : 136 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=00000000FFFFFFFFF010225010000000000000015FAB82880FF0000  
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              33    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               21    0019.5578.1cb3  ARPA
FastEthernet0/1
Internet 10.2.2.2               32    000d.bde3.6e00  ARPA   Vlan20
```

```
Internet 10.2.1.2 - 000b.fd20.ba00 ARPA Vlan10
Internet 10.2.2.1 - 000b.fd20.ba00 ARPA Vlan20
Internet 192.168.1.130 - 000b.fd20.ba00 ARPA Vlan200
DSW2#
```

```
DSW2#show ip arp
Protocol Address Age (min) Hardware Addr Type Interface
Internet 10.2.4.13 33 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          21 0019.5578.1cb3  ARPA
FastEthernet0/1
Internet 10.2.2.2          33 000d.bde3.6e00  ARPA  Vlan20
Internet 10.2.1.2          - 000b.fd20.ba00  ARPA  Vlan10
Internet 10.2.2.1          - 000b.fd20.ba00  ARPA  Vlan20
Internet 192.168.1.130     - 000b.fd20.ba00  ARPA  Vlan200
DSW2#
```

```
DSW2#show ip interface
Vlan1 is administratively down, line protocol is down
```

```
Internet protocol processing disabled
Vlan10 is up, line protocol is down
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
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Port-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    10.2.2.2         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
10.2.2.0/24    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=1, K3=1, K4=1, K5=1  
EIGRP maximum hopcount 100  
EIGRP maximum metric variance 1  
EIGRP NSF-aware route hold timer is 240  
Topologies : 0(base)

Automatic network summarization is not in effect  
Maximum path: 4

Routing for Networks:

10.1.4.10/32  
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       | 00:21:37    |
| 10.1.4.9  | 90       | 00:21:37    |
| 10.2.1.1  | 90       | 00:31:24    |
| 10.2.2.2  | 90       | 00:21:37    |

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, 5 subnets, 2 masks
D EX   10.1.1.8/30 [170/1023] via 10.1.4.9, 00:21:55, FastEthernet0/1
D      10.1.4.4/30 [90/111] via 10.2.2.2, 00:21:55, Vlan20
D*EX 0.0.0.0/0 [170/1023] via 10.1.4.9, 00:21:53, 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
0   10.1.4.9                 Fa0/1         13 00:22:01    1    200    0
19
2   10.2.2.2                 V120         11 00:34:08    1    200    0
108
1   10.2.4.13                Po12         13 00:34:46    1    200    0
107
DSW2#

```

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

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

```
DSW2#
```

DSW2#show vlan

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

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

| VLAN | AREHops | STEHops | Backup | CRF |
|------|---------|---------|--------|-----|
| 1003 | 7       | 7       | off    |     |

Remote SPAN VLANs

| Primary | Secondary | Type | Ports |
|---------|-----------|------|-------|
|---------|-----------|------|-------|

DSW2#



DSW2#show spanning-tree

VLAN0010

Spanning tree enabled protocol ieee

Root ID      Priority      8202  
              Address      000b.fd20.ba00  
              This bridge is the root  
              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      | Desg | BKN*9 |      | 128.66   | P2p *ROOT_Inc |

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            67 (Port-channel24)  
              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               Desg BKN*9      128.66  P2p *ROOT_Inc
Po24               Root FWD 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 | none   |
| Po24 | 20,200   |

```
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          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:36m:23s

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:36m:23s

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:36m:23s

Port-channels in the group:

-----

Port-channel: Po12

-----

Age of the Port-channel = 0d:00h:36m:31s  
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:36m:24s Fa0/24

Time since last port Un-bundled: 0d:00h:36m:25s 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<br>Priority | Admin<br>Key | Oper<br>Key | Port<br>Number |
|----------------|-------|-------|-----------------------|--------------|-------------|----------------|
| Fa0/19<br>0x3D | SA    | bndl  | 32768                 | 0x17         | 0x17        | 0x10           |

Partner's information:

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

Age of the port in the current state: 0d:00h:36m:18s

```

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 | Admin | Oper | Port   |
|--------|-------|-------|-----------|-------|------|--------|
| Port   |       |       | Priority  | Key   | Key  | Number |
| State  |       |       |           |       |      |        |
| Fa0/20 | SA    | bndl  | 32768     | 0x17  | 0x17 | 0x11   |
| 0x3D   |       |       |           |       |      |        |

Partner's information:

| Port   | Flags | State | LACP port | Admin          | Oper | Port |     |        |
|--------|-------|-------|-----------|----------------|------|------|-----|--------|
| Port   |       |       | Priority  | Dev ID         | Age  | key  | Key | Number |
| State  |       |       |           |                |      |      |     |        |
| Fa0/20 | SA    |       | 32768     | 0015.faac.46c0 | 12s  | 0x0  | 0x2 | 0x11   |
| 0x3D   |       |       |           |                |      |      |     |        |

Age of the port in the current state: 0d:00h:36m:19s

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 | Admin | Oper | Port   |
|--------|-------|-------|-----------|-------|------|--------|
| Port   |       |       | Priority  | Key   | Key  | Number |
| State  |       |       |           |       |      |        |
| Fa0/21 | SA    | bndl  | 32768     | 0x17  | 0x17 | 0x12   |
| 0x3D   |       |       |           |       |      |        |

Partner's information:

| Port   | Flags | State | LACP port | Admin          | Oper | Port |     |        |
|--------|-------|-------|-----------|----------------|------|------|-----|--------|
| Port   |       |       | Priority  | Dev ID         | Age  | key  | Key | Number |
| State  |       |       |           |                |      |      |     |        |
| Fa0/21 | SA    |       | 32768     | 0015.faac.46c0 | 12s  | 0x0  | 0x2 | 0x12   |
| 0x3D   |       |       |           |                |      |      |     |        |

Age of the port in the current state: 0d:00h:36m:20s

Port-channels in the group:



-----  
Port-channel: Po23 (Primary Aggregator)

-----  
Age of the Port-channel = 0d:00h:36m:36s  
Logical slot/port = 1/1 Number of ports = 3  
HotStandBy port = null  
Port state = Port-channel Ag-Inuse  
Protocol = LACP  
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:00h:36m:21s 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-Sl 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 Hello Partner PAgP Learning

| Port   | Flags | State | Timers | Interval | Count | Priority | 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     |
| Cap.   |         |                |         | Flags   |
| Fa0/16 | ASW2    | 0015.fab8.2880 | Fa0/19  | 28s     |
| 10001  |         |                |         | SC      |

Age of the port in the current state: 0d:00h:36m:25s

Port: Fa0/17

-----

Port state = Up Mstr In-Bndl  
Channel group = 24 Mode = Desirable-Sl 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 | Interval | Count | Priority | 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     |
| Cap.   |         |                |         | Flags   |
| Fa0/17 | ASW2    | 0015.fab8.2880 | Fa0/20  | 11s     |
| 10001  |         |                |         | SC      |

Age of the port in the current state: 0d:00h:36m:26s

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 | Interval | Partner Count | Priority | Learning Method |
|-------|--------|-------|-------|--------|----------|---------------|----------|-----------------|
|       | Fa0/18 | SC    | U6/S7 | H      | 30s      | 1             | 128      | Any 32          |

Partner's information:

| Group | Partner Name | Partner Device ID | Partner Port | Partner Age | Partner Flags |
|-------|--------------|-------------------|--------------|-------------|---------------|
|       | Fa0/18 ASW2  | 0015.fab8.2880    | Fa0/21       | 9s          | SC            |

Age of the port in the current state: 0d:00h:36m:27s

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

Port-channel: Po24  
-----

```

Age of the Port-channel   = 0d:00h:36m:41s
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:00h:36m:29s Fa0/17

DSW2#

```
DSW2#show standby
Vlan10 - Group 10
  State is Init (interface down)
    3 state changes, last state change 00:28:46
  Virtual IP address is 10.2.1.254
  Active virtual MAC address is unknown
    Local virtual MAC address is 0000.0c07.ac0a (v1 default)
  Hello time 3 sec, hold time 10 sec
```

```
Preemption disabled
Active router is unknown
Standby router is unknown
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
IP
```

```
Vl10      10 20      Init      unknown      unknown
10.2.1.254
DSW2#
```

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

| Interface | Admin | Oper | Power<br>(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     |
|----------|----------------|-------------------|
| VLAN0010 | Port-channel23 | Root Inconsistent |
| VLAN0200 | Port-channel23 | Root Inconsistent |

```
Number of inconsistent ports (segments) in the system : 2
```

```
DSW2#
```



```

DSW2#show spanning-tree summary
Switch is in pvst mode
Root bridge for: VLAN0010, 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 | 1        | 0         | 0        | 0          | 1          |
| VLAN0020 | 0        | 0         | 0        | 1          | 1          |
| VLAN0200 | 1        | 0         | 0        | 1          | 2          |
| 3 vlans  | 2        | 0         | 0        | 2          | 4          |

DSW2#

DSW2#show uddl

Interface Fa0/1

---

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/2

---

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/3

---

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/4

---

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/5

---

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/6

---

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

Interface Fa0/7

---

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

Interface Fa0/8

---

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

Interface Fa0/9

---

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

Interface Fa0/10

---

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

Interface Fa0/11

---

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

Interface Fa0/12

---

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

Interface Fa0/13

---

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

Interface Fa0/14

---

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

Interface Fa0/15

---

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

Interface Fa0/16

---

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

Interface Fa0/17

---

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

Interface Fa0/18

---

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

Interface Fa0/19

---

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

Interface Fa0/20

---

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

Interface Fa0/21

---

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

Interface Fa0/22

---

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

Interface Fa0/23

---

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

Interface Fa0/24

---

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

Interface Gi0/1

---

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

Interface Gi0/2

---

Port enable administrative configuration setting: Disabled  
Port enable operational state: Disabled  
Current bidirectional state: Unknown  
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:37m:58s
```

```
-----
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:37m:58s
```



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:37m:58s

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<br>Priority | Admin<br>Key | Oper<br>Key | Port<br>Number |
|----------------|-------|-------|-----------------------|--------------|-------------|----------------|
| Fa0/19<br>0x3D | SA    | bndl  | 32768                 | 0x17         | 0x17        | 0x10           |

Partner's information:

| Port           | Flags | Priority | LACP port<br>Dev ID | Admin<br>Age | Oper<br>key | Port<br>Key | Port<br>Number |
|----------------|-------|----------|---------------------|--------------|-------------|-------------|----------------|
| Fa0/19<br>0x3D | SA    | 32768    | 0015.faac.46c0      | 15s          | 0x0         | 0x2         | 0x10           |

Age of the port in the current state: 0d:00h:37m:52s

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 | Number | Key       | Key      | Number | Number | Number |
| Fa0/20 | SA    | bndl   | 32768     | 0x17     | 0x17   | 0x11   | 0x3D   |

Partner's information:

| Port   | Flags | State  | LACP port      | Priority | Dev ID | Age    | Admin | Oper | Port   |
|--------|-------|--------|----------------|----------|--------|--------|-------|------|--------|
| Port   | State | Number | Key            | Key      | Number | Number | Key   | Key  | Number |
| Fa0/20 | SA    | 32768  | 0015.faac.46c0 | 25s      | 0x0    | 0x2    | 0x11  | 0x3D | 0x11   |

Age of the port in the current state: 0d:00h:37m:53s

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  | Oper   | Port   |
|--------|-------|--------|-----------|----------|--------|--------|--------|
| Port   | State | Number | Key       | Key      | Number | Number | 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 | 21s | 0x0       | 0x2      | 0x12        |

Age of the port in the current state: 0d:00h:37m:54s

Group: 24

-----

Ports in the group:

-----

Port: Fa0/16

-----

Port state = Up Mstr In-Bndl  
Channel group = 24 Mode = Desirable-Sl 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 |
|--------|-------|-------|--------|----------------|---------------|---------------|-----------------|
| Fa0/16 | 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       | 14s         | SC            |

Age of the port in the current state: 0d:00h:37m:57s

Port: Fa0/17

-----

Port state = Up Mstr In-Bndl

Channel group = 24                    Mode = Desirable-Sl            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 |    |
|-------|--------|-------|-------|--------|----------------|---------------|---------------|-----------------|----|
|       | Fa0/17 | 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  | 23s     | SC    |
| 10001  |         |                |         |         |       |

Age of the port in the current state: 0d:00h:37m:58s

Port: Fa0/18

-----

Port state = Up Mstr In-Bndl  
Channel group = 24                    Mode = Desirable-Sl            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 |  |
|-------|------|-------|-------|--------|----------------|---------------|---------------|-----------------|--|
|-------|------|-------|-------|--------|----------------|---------------|---------------|-----------------|--|

| Port   | Flags | State | Timers | Interval | Count | Priority | 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<br>Cap.<br>10001 | ASW2    | 0015.fab8.2880 | Fa0/21  | 18s SC    |

Age of the port in the current state: 0d:00h:38m:00s

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:00h:38m:27s
Logical slot/port        = 1/0           Number of ports = 3
GC                       = 0x00000000   HotStandBy port = null
Passive port list       = Fa0/22 Fa0/23 Fa0/24
Port state               = Port-channel L3-Ag Ag-Inuse
Protocol                 = -
Port security            = Disabled
```

```
Ports in the Port-channel:
```

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

```
Time since last port bundled: 0d:00h:38m:20s Fa0/24
Time since last port Un-bundled: 0d:00h:38m:21s Fa0/24
```

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

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

```
Port-channel: Po23      (Primary Aggregator)
-----
```

```
Age of the Port-channel   = 0d:00h:38m:28s
Logical slot/port        = 1/1           Number of ports = 3
HotStandBy port = null
Port state               = Port-channel Ag-Inuse
Protocol                 = LACP
Port security            = Disabled
```

```
Ports in the Port-channel:
```

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

```

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

```

Time since last port bundled: 0d:00h:38m:14s Fa0/21

Group: 24

-----

Port-channels in the group:

-----

Port-channel: Po24

-----

Age of the Port-channel = 0d:00h:38m:29s  
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:00h:38m:17s Fa0/17

DSW2#



```
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 |
| Fa0/16<br>10001 | ASW2    | 0015.fab8.2880 | Fa0/19  | 13s     | SC    |
| Fa0/17<br>10001 | ASW2    | 0015.fab8.2880 | Fa0/20  | 20s     | SC    |
| Fa0/18<br>10001 | ASW2    | 0015.fab8.2880 | Fa0/21  | 10s     | SC    |

```
DSW2#
```

DSW2#show lacp neighbor

Flags: S - Device is requesting Slow LACPDUs  
F - Device is requesting Fast LACPDUs  
A - Device is in Active mode P - Device is in Passive mode

Channel group 23 neighbors

Partner's information:

| Port           | Flags | LACP port<br>Priority | Dev ID         | Age | Admin<br>key | Oper<br>Key | Port<br>Number |
|----------------|-------|-----------------------|----------------|-----|--------------|-------------|----------------|
| Fa0/19<br>0x3D | SA    | 32768                 | 0015.faac.46c0 | 22s | 0x0          | 0x2         | 0x10           |
| Fa0/20<br>0x3D | SA    | 32768                 | 0015.faac.46c0 | 5s  | 0x0          | 0x2         | 0x11           |
| Fa0/21<br>0x3D | SA    | 32768                 | 0015.faac.46c0 | 25s | 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  
-----  
-----  
-----  
-----  
-----
```

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

