

```

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

Current configuration : 5899 bytes
!
version 12.2
no service pad
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname DSW2
!
!
no aaa new-model
ipv6 unicast-routing
ip subnet-zero
ip routing
!
ip multicast-routing
vtp domain netlearning
vtp mode transparent
!
!
crypto pki trustpoint TP-self-signed-4246780416
  enrollment selfsigned
  subject-name cn=IOS-Self-Signed-Certificate-4246780416
  revocation-check none
  rsakeypair TP-self-signed-4246780416
!
!
crypto pki certificate chain TP-self-signed-4246780416
  certificate self-signed 01
    3082023D 308201A6 A0030201 02020101 300D0609 2A864886 F70D0101 04050030
    31312F30 2D060355 04031326 494F532D 53656C66 2D536967 6E65642D 43657274
    69666963 6174652D 34323436 37383034 3136301E 170D3933 30333031 30303031
    30345A17 0D323030 31303130 30303030 305A3031 312F302D 06035504 03132649
    4F532D53 656C662D 5369676E 65642D43 65727469 66696361 74652D34 32343637
    38303431 3630819F 300D0609 2A864886 F70D0101 01050003 818D0030 81890281
    8100D699 D2A8BD0D A26CE645 B2CE1EC4 EF83204E CBA4D34A B03BC30C 7BF013B1
    5BDEC621 F3CE12CC BC929D9C 463A59DC D49CEF76 3D5193FD 7992F7FF 660F179F
    54CA6370 902081BB ABB71246 5DC79E39 D241B749 11CB4812 07CF1238 A25C59F6
    740464A7 6B3EAE02 6B6B0C13 9B534C70 85BD199E E52D4FB2 AB4C4B5F 678ECD24
    17B30203 010001A3 65306330 0F060355 1D130101 FF040530 030101FF 30100603
    551D1104 09300782 05445357 322E301F 0603551D 23041830 168014A7 8C27C43F
    00BEB401 3F63B68A 9CD582EF D7B15430 1D060355 1D0E0416 0414A78C 27C43F00
    BEB4013F 63B68A9C D582EFD7 B154300D 06092A86 4886F70D 01010405 00038181
    00B9A060 055A57EE 0EE7C450 128718FA 07A5DCE4 8EABE33F 56BA385F 8F9477E8
    191A361C EBEBF296 6A2E4637 11BB4D89 CDFA4DDB 7229B8F1 856DCE18 DF11CA57
    180C3686 28E9079C F004E71B A9F11040 7C952427 573ED2F5 AB38C4D9 768156A4
    C597E2E3 B9D4C611 F902BEA8 A18209DD 239160AE E6AC24DE 41AD980B 261778F5
AA
quit

```

```
!  
!  
!  
spanning-tree mode pvst  
spanning-tree extend system-id  
spanning-tree vlan 10,200 priority 8192  
spanning-tree vlan 20 priority 4096  
!  
vlan internal allocation policy ascending  
!  
vlan 10,20,200  
!  
!  
!  
!  
!  
!  
interface Tunnel67  
  no ip address  
  ipv6 address 2026::3:2/122  
  ipv6 enable  
  ipv6 rip RIPNG enable  
  tunnel source 10.2.4.14  
  tunnel destination 10.2.4.13  
!  
interface Port-channel12  
  no switchport  
  ip address 10.2.4.14 255.255.255.252  
  ip pim sparse-dense-mode  
!  
interface Port-channel23  
  switchport trunk encapsulation dot1q  
  switchport trunk allowed vlan 10,200  
  switchport mode trunk  
!  
interface Port-channel24  
  switchport trunk encapsulation dot1q  
  switchport trunk allowed vlan 20,200  
  switchport mode trunk  
!  
interface FastEthernet0/1  
  no switchport  
  ip address 10.1.4.10 255.255.255.252  
  ip pim sparse-dense-mode  
!  
interface FastEthernet0/2  
  switchport mode access  
  shutdown  
!  
interface FastEthernet0/3  
  switchport mode access  
!  
interface FastEthernet0/4  
  switchport mode access
```

```
shutdown
!
interface FastEthernet0/5
  switchport mode access
  shutdown
!
interface FastEthernet0/6
  switchport mode access
  shutdown
!
interface FastEthernet0/7
  switchport mode access
  shutdown
!
interface FastEthernet0/8
  switchport mode access
  shutdown
!
interface FastEthernet0/9
  switchport mode access
  shutdown
!
interface FastEthernet0/10
  switchport mode access
  shutdown
!
interface FastEthernet0/11
  switchport mode access
  shutdown
!
interface FastEthernet0/12
  switchport mode access
  shutdown
!
interface FastEthernet0/13
  switchport mode access
  shutdown
!
interface FastEthernet0/14
  switchport mode access
  shutdown
!
interface FastEthernet0/15
  switchport mode access
!
interface FastEthernet0/16
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 20,200
  switchport mode trunk
  channel-group 24 mode desirable
!
interface FastEthernet0/17
  switchport trunk encapsulation dot1q
  switchport trunk allowed vlan 20,200
```

```
switchport mode trunk
channel-group 24 mode desirable
!
interface FastEthernet0/18
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 20,200
switchport mode trunk
channel-group 24 mode desirable
!
interface FastEthernet0/19
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 10,200
switchport mode trunk
channel-group 23 mode active
!
interface FastEthernet0/20
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 10,200
switchport mode trunk
channel-group 23 mode active
!
interface FastEthernet0/21
switchport trunk encapsulation dot1q
switchport trunk allowed vlan 10,200
switchport mode trunk
channel-group 23 mode active
!
interface FastEthernet0/22
no switchport
no ip address
channel-group 12 mode on
!
interface FastEthernet0/23
no switchport
no ip address
channel-group 12 mode on
!
interface FastEthernet0/24
no switchport
no ip address
channel-group 12 mode on
!
interface GigabitEthernet0/1
switchport mode dynamic desirable
shutdown
!
interface GigabitEthernet0/2
switchport mode dynamic desirable
shutdown
!
interface Vlan1
no ip address
shutdown
!
```

```
interface Vlan10
 ip address 10.2.1.2 255.255.255.0
 ip helper-address 10.1.4.9
 ip pim sparse-dense-mode
 standby 10 ip 10.2.1.254
 standby 10 priority 20
 standby 10 preempt
!
interface Vlan20
 ip address 10.2.2.1 255.255.255.0
 ip pim sparse-dense-mode
!
interface Vlan200
 ip address 192.168.1.130 255.255.255.224
!
!
router eigrp 10
 no auto-summary
 network 10.1.4.10 0.0.0.0
 network 10.2.1.2 0.0.0.0
 network 10.2.2.1 0.0.0.0
 network 10.2.4.14 0.0.0.0
!
ip classless
ip http server
ip http secure-server
!
!
ip access-list standard DENY_10
 deny 10.0.0.0 0.255.255.255
 permit any
ip access-list standard DENY_ALL
 deny any
ip access-list standard PERMIT_10
 permit 10.0.0.0 0.255.255.255
ip access-list standard PERMIT_ALL
 permit any
!
ipv6 router rip RIPNG
!
!
control-plane
!
!
line con 0
 exec-timeout 0 0
 logging synchronous
line vty 0 4
 login
line vty 5 15
 login
!
end
```

```
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 = 32/34/40 ms
```

```
DSW2#
```

```
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 = 32/36/56 ms
```

```
DSW2#
```

```
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 = 64/64/68 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 = 128/130/132  
ms
```

```
DSW2#
```

```
DSW2#ping 10.1.1.2
```

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

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

```
!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.1.1.5
```

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

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

```
!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.1.1.6
```

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

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

```
!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.1.1.9
```

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

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

```
!!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.1.1.10
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.1.10, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/193/196  
ms  
DSW2#
```

```
DSW2#ping 10.1.4.10
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.4.10, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/200  
ms
```

DSW2#

DSW2#ping 10.1.4.9

Type escape sequence to abort.

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

!!!!

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

DSW2#

```
DSW2#ping 10.1.4.6
```

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

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

```
!!!!
```

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

```
DSW2#
```



```
DSW2#ping 10.1.4.5
```

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

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

```
!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.2.1.1
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW2#
```

```
DSW2#ping 10.2.2.2
```

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

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

```
!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.2.1.254
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW2#
```

```
DSW2#ping 10.2.4.14
```

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

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

```
!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.2.4.13
```

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

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

```
!!!!!
```

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

```
ms
```

```
DSW2#
```

```
DSW2#ping 10.2.1.2
```

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

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

```
!!!!!
```

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

```
DSW2#
```

```
DSW2#ping 10.2.2.1
```

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

```
Sending 5, 100-byte ICMP Echos to 10.2.2.1, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/195/200  
ms  
DSW2#
```

```
DSW2#ping 10.2.1.4
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.2.1.4, timeout is 2 seconds:  
.....  
Success rate is 0 percent (0/5)  
DSW2#
```



```
DSW2#
DSW2#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
Vlan1              unassigned     YES NVRAM  administratively down
down
Vlan10            10.2.1.2       YES NVRAM  up
up
Vlan20            10.2.2.1       YES NVRAM  up
up
Vlan200           192.168.1.130 YES NVRAM  up
up
```

FastEthernet0/1 up	10.1.4.10	YES NVRAM	up
FastEthernet0/2 down	unassigned	YES unset	administratively down
FastEthernet0/3 down	unassigned	YES unset	down
FastEthernet0/4 down	unassigned	YES unset	administratively down
FastEthernet0/5 down	unassigned	YES unset	administratively down
FastEthernet0/6 down	unassigned	YES unset	administratively down
FastEthernet0/7 down	unassigned	YES unset	administratively down
FastEthernet0/8 down	unassigned	YES unset	administratively down
FastEthernet0/9 down	unassigned	YES unset	administratively down
FastEthernet0/10 down	unassigned	YES unset	administratively down
FastEthernet0/11 down	unassigned	YES unset	administratively down
FastEthernet0/12 down	unassigned	YES unset	administratively down
FastEthernet0/13 down	unassigned	YES unset	administratively down
FastEthernet0/14 down	unassigned	YES unset	administratively down
FastEthernet0/15 down	unassigned	YES unset	down
FastEthernet0/16 up	unassigned	YES unset	up
FastEthernet0/17 up	unassigned	YES unset	up
FastEthernet0/18 up	unassigned	YES unset	up
FastEthernet0/19 up	unassigned	YES unset	up
FastEthernet0/20 up	unassigned	YES unset	up
FastEthernet0/21 up	unassigned	YES unset	up
FastEthernet0/22 up	unassigned	YES NVRAM	up
FastEthernet0/23 up	unassigned	YES NVRAM	up
FastEthernet0/24 up	unassigned	YES NVRAM	up
GigabitEthernet0/1 down	unassigned	YES unset	administratively down
GigabitEthernet0/2 down	unassigned	YES unset	administratively down
Port-channel12 up	10.2.4.14	YES NVRAM	up

```
Port-channel23      unassigned      YES unset  up
up
Port-channel24      unassigned      YES unset  up
up
Tunnel67            unassigned      YES NVRAM  up
up
DSW2#
```

```
DSW2#show ip route
```

```
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
```

i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
o - ODR, P - periodic downloaded static route

Gateway of last resort is 10.1.4.9 to network 0.0.0.0

10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
C 10.2.4.12/30 is directly connected, Port-channel12
D EX 10.1.1.8/30 [170/261120] via 10.1.4.9, 01:39:11, FastEthernet0/1
C 10.1.4.8/30 is directly connected, FastEthernet0/1
C 10.2.1.0/24 is directly connected, Vlan10
C 10.2.2.0/24 is directly connected, Vlan20
D 10.1.4.4/30 [90/28416] via 10.2.2.2, 01:43:01, Vlan20
[90/28416] via 10.2.1.1, 01:43:01, Vlan10
192.168.1.0/27 is subnetted, 1 subnets
C 192.168.1.128 is directly connected, Vlan200
D*EX 0.0.0.0/0 [170/261120] via 10.1.4.9, 01:38:56, FastEthernet0/1
DSW2#

DSW2#show processes cpu

CPU utilization for five seconds: 0%/0%; one minute: 1%; five minutes: 1%

PID	Runtime(ms)	Invoked	uSecs	5Sec	1Min	5Min	TTY	Process
1	0	9	0	0.00%	0.00%	0.00%	0	Chunk
Manager								
2	0	1249	0	0.00%	0.00%	0.00%	0	Load Meter
3	4	24	166	0.00%	0.00%	0.00%	0	SpanTree
Helper								
4	5560	741	7503	0.00%	0.09%	0.06%	0	Check
heaps								
5	4	4	1000	0.00%	0.00%	0.00%	0	Pool
Manager								
6	0	2	0	0.00%	0.00%	0.00%	0	Timers
7	0	1	0	0.00%	0.00%	0.00%	0	Crash
writer								
8	16	173	92	0.00%	0.00%	0.00%	0	ARP Input
9	0	1	0	0.00%	0.00%	0.00%	0	CEF MIB
API								
10	0	1	0	0.00%	0.00%	0.00%	0	
AAA_SERVER_DEADT								
11	8	2	4000	0.00%	0.00%	0.00%	0	AAA high-
capacit								
12	0	1	0	0.00%	0.00%	0.00%	0	Policy
Manager								
13	12	3	4000	0.00%	0.00%	0.00%	0	Entity MIB
API								
14	0	1	0	0.00%	0.00%	0.00%	0	IFS Agent
Manage								
15	0	105	0	0.00%	0.00%	0.00%	0	IPC
Dynamic Cach								
16	0	1	0	0.00%	0.00%	0.00%	0	IPC Zone
Manager								
17	0	6257	0	0.00%	0.00%	0.00%	0	IPC
Periodic Tim								
18	0	1	0	0.00%	0.00%	0.00%	0	IPC
Managed Time								
19	0	6257	0	0.00%	0.00%	0.00%	0	IPC
Deferred Por								
20	0	2	0	0.00%	0.00%	0.00%	0	IPC Seat
Manager								
21	0	1	0	0.00%	0.00%	0.00%	0	IPC
Session Serv								
22	4	6257	0	0.00%	0.00%	0.00%	0	Dynamic
ARP Insp								
23	0	1	0	0.00%	0.00%	0.00%	0	ARP Snoop
24	0	1	0	0.00%	0.00%	0.00%	0	Net Input
25	0	6240	0	0.00%	0.00%	0.00%	0	GraphIt

26	0	2	0	0.00%	0.00%	0.00%	0	XML Proxy
Client								
27	0	1	0	0.00%	0.00%	0.00%	0	Critical
Bkgnd								
28	28	8705	3	0.00%	0.00%	0.00%	0	Net
Background								
29	0	10	0	0.00%	0.00%	0.00%	0	IDB Work
30	20	29	689	0.00%	0.00%	0.00%	0	Logger
31	0	6237	0	0.00%	0.00%	0.00%	0	TTY
Background								
32	4	6249	0	0.00%	0.00%	0.00%	0	Per-Second
Jobs								
33	860	106	8113	0.00%	0.00%	0.00%	0	Per-minute
Jobs								
34	8	8	1000	0.00%	0.00%	0.00%	0	IF-MGR
control p								
35	4	53	75	0.00%	0.00%	0.00%	0	IF-MGR
event pro								
36	0	1	0	0.00%	0.00%	0.00%	0	AggMgr
Process								
37	4	1250	3	0.00%	0.00%	0.00%	0	Compute
load avg								
38	0	1874	0	0.00%	0.00%	0.00%	0	HC Counter
Timer								
39	4	6168	0	0.00%	0.00%	0.00%	0	Vegas
Storm Cont								
40	996	129	7720	0.00%	1.03%	0.29%	0	Exec
41	44	119927	0	0.00%	0.00%	0.00%	0	
DownWhenLooped								
42	0	5	0	0.00%	0.00%	0.00%	0	Collection
proce								
43	4792	155876	30	0.07%	0.06%	0.07%	0	Vegas LED
Proces								
44	0	2	0	0.00%	0.00%	0.00%	0	
SCQ_PROCESS								
45	152	39715	3	0.00%	0.00%	0.00%	0	RAM Access
46	156	74432	2	0.00%	0.00%	0.00%	0	SW Frame
Ager								
47	12	33	363	0.00%	0.00%	0.00%	0	VLAN Info
Update								
48	0	1	0	0.00%	0.00%	0.00%	0	JADE Gbit
lockup								
49	4	12480	0	0.00%	0.00%	0.00%	0	L2TM
Process								
50	64	12481	5	0.00%	0.00%	0.00%	0	L3TM
51	24864	18506	1343	0.39%	0.39%	0.39%	0	Vegas
Statistics								
52	28	86641	0	0.00%	0.00%	0.00%	0	HMATM
Learn proc								
53	24	6243	3	0.00%	0.00%	0.00%	0	HMATM Age
proces								
54	20	77	259	0.00%	0.00%	0.00%	0	VL2MM
55	20	6329	3	0.00%	0.00%	0.00%	0	L3MD
56	1744	15610	111	0.00%	0.00%	0.00%	0	L3MD_STAT

57	0	1	0	0.00%	0.00%	0.00%	0 Vegas
Bridging							
58	584	79912	7	0.00%	0.00%	0.00%	0 VegasPM
59	4	3170	1	0.00%	0.00%	0.00%	0 VUR_MGR bg
proce							
60	16	6243	2	0.00%	0.00%	0.00%	0 PI MATM
Aging Pr							
61	0	1	0	0.00%	0.00%	0.00%	0 Switch
Backup In							
62	0	105	0	0.00%	0.00%	0.00%	0 MMN bkgrd
proces							
63	0	2	0	0.00%	0.00%	0.00%	0 Dot1x Mgr
Proces							
64	0	2	0	0.00%	0.00%	0.00%	0 802.1x
Accountin							
65	0	1	0	0.00%	0.00%	0.00%	0 MAB
Framework							
66	0	2	0	0.00%	0.00%	0.00%	0 802.1x
switch							
67	0	1	0	0.00%	0.00%	0.00%	0 802.1x
Webauth F							
68	228	2400	95	0.00%	0.00%	0.00%	0 DTP
Protocol							
69	0	1	0	0.00%	0.00%	0.00%	0 EAP
Framework							
70	0	105	0	0.00%	0.00%	0.00%	0 Port-
Security							
72	0	20	0	0.00%	0.00%	0.00%	0 Switch IP
Host T							
73	0	627	0	0.00%	0.00%	0.00%	0 Ethchnl
74	0	6244	0	0.00%	0.00%	0.00%	0 UDLN
75	0	1	0	0.00%	0.00%	0.00%	0 Vegas IPSPG
Proce							
76	0	23	0	0.00%	0.00%	0.00%	0 VMATM
Callback							
77	0	34	0	0.00%	0.00%	0.00%	0 HL3U PBR
bkgrd p							
78	0	53	0	0.00%	0.00%	0.00%	0 Vegas PBR
n-h re							
79	0	2	0	0.00%	0.00%	0.00%	0 AAA Server
80	0	1	0	0.00%	0.00%	0.00%	0 AAA ACCT
Proc							
81	0	1	0	0.00%	0.00%	0.00%	0 ACCT
Periodic Pr							
82	0	1	0	0.00%	0.00%	0.00%	0 AAA System
Acct							
83	0	1	0	0.00%	0.00%	0.00%	0 Auth-proxy
AAA B							
84	0	21	0	0.00%	0.00%	0.00%	0 IP Admin
SM Proc							
85	672	2421	277	0.00%	0.01%	0.00%	0 CDP
Protocol							
87	0	1	0	0.00%	0.00%	0.00%	0 Key Proc

121	0	2	0	0.00%	0.00%	0.00%	0 LOCAL AAA
122	0	2	0	0.00%	0.00%	0.00%	0 ENABLE AAA
123	0	2	0	0.00%	0.00%	0.00%	0 LINE AAA
125	0	2	0	0.00%	0.00%	0.00%	0 TPLUS
126	0	1	0	0.00%	0.00%	0.00%	0 CRYPTO QoS
proce							
127	0	1	0	0.00%	0.00%	0.00%	0 Crypto INT
128	0	4	0	0.00%	0.00%	0.00%	0 Crypto
IKMP							
129	96	315	304	0.00%	0.00%	0.00%	0 IPSEC key
engine							
130	0	1	0	0.00%	0.00%	0.00%	0 IPSEC
manual key							
131	0	1	0	0.00%	0.00%	0.00%	0 Crypto PAS
Proc							
132	4	12	333	0.00%	0.00%	0.00%	0 crypto
engine pr							
133	28	4	7000	0.00%	0.00%	0.00%	0 Crypto CA
134	0	1	0	0.00%	0.00%	0.00%	0 Crypto
PKI-CRL							
135	0	1	0	0.00%	0.00%	0.00%	0 Crypto SSL
136	0	1	0	0.00%	0.00%	0.00%	0 encrypt
proc							
137	0	6250	0	0.00%	0.00%	0.00%	0 Vegas
EnvMon Pro							
138	0	2	0	0.00%	0.00%	0.00%	0 VTPMIB
EDIT BUFF							
139	0	2	0	0.00%	0.00%	0.00%	0 DHCP
Security He							
140	12	10459	1	0.00%	0.00%	0.00%	0 PM
Callback							
141	12	48	250	0.00%	0.00%	0.00%	0 VLAN
Manager							
142	0	53	0	0.00%	0.00%	0.00%	0 DHCPD
Timer							
143	0	501	0	0.00%	0.00%	0.00%	0 dhcp
snooping sw							
144	340	2091	162	0.00%	0.00%	0.00%	0 Inline
Power							
145	364	13830	26	0.00%	0.00%	0.00%	0 Marvell
wk-a Pow							
146	4	2	2000	0.00%	0.00%	0.00%	0 Inline
Power Twe							
147	0	1	0	0.00%	0.00%	0.00%	0 VFM Queue
Proces							
148	8	1	8000	0.00%	0.00%	0.00%	0 VFM/VQM
Merge Pr							
149	0	1	0	0.00%	0.00%	0.00%	0 VFM
Deferred Upd							
150	0	13	0	0.00%	0.00%	0.00%	0 VTP Trap
Process							
152	0	2	0	0.00%	0.00%	0.00%	0 AAA SEND
STOP EV							


```
DSW2#show interfaces
Vlan1 is administratively down, line protocol is down
  Hardware is EtherSVI, address is 000b.fd20.ba00 (bia 000b.fd20.ba00)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
```

```
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 1 interface resets
    0 output buffer failures, 0 output buffers swapped out
Vlan10 is up, line protocol is up
  Hardware is EtherSVI, address is 000b.fd20.ba00 (bia 000b.fd20.ba00)
  Internet address is 10.2.1.2/24
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:01, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    4076 packets input, 319239 bytes, 0 no buffer
    Received 0 broadcasts (1359 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    3896 packets output, 263368 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 00:00:00, output 00:00:04, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 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
    1593 packets input, 124975 bytes, 0 no buffer
    Received 0 broadcasts (1360 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    1694 packets output, 124355 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 01:43:40, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  1 packets output, 60 bytes, 0 underruns
  0 output errors, 0 interface resets
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/1 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 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 00:00:01, 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
    2672 packets input, 226790 bytes, 0 no buffer
    Received 1802 broadcasts (1365 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 1799 multicast, 0 pause input
    0 input packets with dribble condition detected
    2580 packets output, 243948 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 00:00:09, 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
    1180 packets input, 119057 bytes, 0 no buffer
    Received 552 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 552 multicast, 0 pause input
    0 input packets with dribble condition detected
    6024 packets output, 482909 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 00:00:08, output 00:00:04, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  5945 packets input, 479584 bytes, 0 no buffer
  Received 5298 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 5296 multicast, 0 pause input
  0 input packets with dribble condition detected
  1186 packets output, 118794 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 00:00:00, output 00:00:06, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  1179 packets input, 118967 bytes, 0 no buffer
  Received 552 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 552 multicast, 0 pause input
  0 input packets with dribble condition detected
  1184 packets output, 118436 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/19 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000b.fd20.ba13 (bia
000b.fd20.ba13)
```

```
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,  
    reliability 255/255, txload 1/255, rxload 1/255  
Encapsulation ARPA, loopback not set  
Keepalive set (10 sec)  
Full-duplex, 100Mb/s, media type is 10/100BaseTX  
input flow-control is off, output flow-control is unsupported  
ARP type: ARPA, ARP Timeout 04:00:00  
Last input 00:00:04, output 00:00:08, 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  
    1181 packets input, 127925 bytes, 0 no buffer  
    Received 553 broadcasts (0 multicasts)  
    0 runts, 0 giants, 0 throttles  
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored  
    0 watchdog, 553 multicast, 0 pause input  
    0 input packets with dribble condition detected  
    5216 packets output, 432362 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 00:00:00, output 00:00:09, output hang never  
Last clearing of "show interface" counters never  
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0  
Queueing strategy: fifo  
Output queue: 0/40 (size/max)  
5 minute input rate 1000 bits/sec, 2 packets/sec  
5 minute output rate 0 bits/sec, 0 packets/sec  
    11992 packets input, 955977 bytes, 0 no buffer  
    Received 11324 broadcasts (0 multicasts)  
    0 runts, 0 giants, 0 throttles  
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored  
    0 watchdog, 11073 multicast, 0 pause input  
    0 input packets with dribble condition detected  
    1234 packets output, 131642 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 00:00:01, output 00:00:01, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  1185 packets input, 128600 bytes, 0 no buffer
  Received 555 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 555 multicast, 0 pause input
  0 input packets with dribble condition detected
  1214 packets output, 129672 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 00:00:52, 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
  2692 packets input, 258289 bytes, 0 no buffer
  Received 1802 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1801 multicast, 0 pause input
  0 input packets with dribble condition detected
  2701 packets output, 243857 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 00:00:54, output 00:00:09, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
735 packets input, 80536 bytes, 0 no buffer
Received 106 broadcasts (0 multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 106 multicast, 0 pause input
0 input packets with dribble condition detected
737 packets output, 83456 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 00:00:55, output 00:00:01, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
735 packets input, 80536 bytes, 0 no buffer
Received 106 broadcasts (0 multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 106 multicast, 0 pause input
0 input packets with dribble condition detected
739 packets output, 83799 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 00:00:03, output 00:00:03, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    4169 packets input, 420771 bytes, 0 no buffer
  Received 2018 broadcasts (1374 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 2017 multicast, 0 pause input
    0 input packets with dribble condition detected
  4184 packets output, 412594 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 00:00:01, 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 1000 bits/sec, 2 packets/sec
```

```
5 minute output rate 0 bits/sec, 0 packets/sec
  14354 packets input, 1212113 bytes, 0 no buffer
  Received 12424 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 12173 multicast, 0 pause input
  0 input packets with dribble condition detected
  7645 packets output, 691598 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
Port-channel24 is up, line protocol is up (connected)
  Hardware is EtherChannel, address is 000b.fd20.ba11 (bia
000b.fd20.ba11)
  MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  Members in this channel: Fa0/16 Fa0/17 Fa0/18
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  8311 packets input, 719277 bytes, 0 no buffer
  Received 6402 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 6400 multicast, 0 pause input
  0 input packets with dribble condition detected
  8391 packets output, 719959 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 00:00:18, output 00:00:24, 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
  234 packets input, 39972 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
  234 packets output, 22432 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
R4 0/1	Fas 0/1	158	R S I	1841	Fas
DSW1 0/24	Fas 0/24	159	R S I	WS-C3550-	Fas
DSW1 0/23	Fas 0/23	159	R S I	WS-C3550-	Fas
DSW1 0/22	Fas 0/22	159	R S I	WS-C3550-	Fas
ASW1 0/18	Fas 0/21	147	S I	WS-C2950-	Fas
ASW1 0/16	Fas 0/19	147	S I	WS-C2950-	Fas
ASW1 0/17	Fas 0/20	147	S I	WS-C2950-	Fas
ASW2 0/19	Fas 0/16	148	S I	WS-C2950-	Fas
ASW2 0/21	Fas 0/18	148	S I	WS-C2950-	Fas
ASW2 0/20	Fas 0/17	148	S I	WS-C2950-	Fas

```
DSW2#
```



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

```
-----
```

```
Device ID: R4
```

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

```
  IP address: 10.1.4.9
```

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

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

```
Holdtime : 150 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 : 151 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 : 149 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 : 149 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 : 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=00000000FFFFFFFFF010225020000000000000015FAAC46C0FF0000
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 : 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=00000000FFFFFFFFF010225020000000000000015FAAC46C0FF0000
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 : 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=00000000FFFFFFFFF010225020000000000000015FAAC46C0FF0000
VTP Management Domain: 'netlearning'
Native VLAN: 1
Duplex: full
Management address(es):
IP address: 192.168.1.131

Device ID: ASW2
Entry address(es):
IP address: 192.168.1.132
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP
Interface: FastEthernet0/16, Port ID (outgoing port): FastEthernet0/19
Holdtime : 135 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: FastEthernet0/18, Port ID (outgoing port): FastEthernet0/21
Holdtime : 134 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: FastEthernet0/17, Port ID (outgoing port): FastEthernet0/20
Holdtime : 133 sec

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

advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFFF0102250100000000000000015FAB82880FF0000
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             105        000d.bde3.6e00  ARPA   Port-
channel12
Internet 10.2.4.14             -          000b.fd20.ba00  ARPA   Port-
channel12
Internet 10.1.4.10             -          000b.fd20.ba00  ARPA   FastEthernet0/1
Internet 10.1.4.9              105        0019.5578.1cb3  ARPA   FastEthernet0/1
```

```

Internet 10.2.2.2          105  000d.bde3.6e00  ARPA  Vlan20
Internet 10.2.1.1          105  000d.bde3.6e00  ARPA  Vlan10
Internet 10.2.2.1             -    000b.fd20.ba00  ARPA  Vlan20
Internet 10.2.1.2             -    000b.fd20.ba00  ARPA  Vlan10
Internet 10.2.1.5          75   0024.bec4.b0b9  ARPA  Vlan10
Internet 10.2.1.4          73   001c.238e.dbbc  ARPA  Vlan10
Internet 192.168.1.130    -    000b.fd20.ba00  ARPA  Vlan200
Internet 10.2.1.254      38   0000.0c07.ac0a  ARPA  Vlan10
DSW2#

```

```

DSW2#show ip arp
Protocol Address          Age (min)  Hardware Addr  Type   Interface
Internet 10.2.4.13        105        000d.bde3.6e00  ARPA   Port-
channel12

```

```
Internet 10.2.4.14          - 000b.fd20.ba00  ARPA  Port-
channell2
Internet 10.1.4.10          - 000b.fd20.ba00  ARPA
FastEthernet0/1
Internet 10.1.4.9           105 0019.5578.1cb3  ARPA
FastEthernet0/1
Internet 10.2.2.2           105 000d.bde3.6e00  ARPA  Vlan20
Internet 10.2.1.1           105 000d.bde3.6e00  ARPA  Vlan10
Internet 10.2.2.1           - 000b.fd20.ba00  ARPA  Vlan20
Internet 10.2.1.2           - 000b.fd20.ba00  ARPA  Vlan10
Internet 10.2.1.5           75 0024.bec4.b0b9  ARPA  Vlan10
Internet 10.2.1.4           73 001c.238e.dbbc  ARPA  Vlan10
Internet 192.168.1.130      - 000b.fd20.ba00  ARPA  Vlan200
Internet 10.2.1.254        38 0000.0c07.ac0a  ARPA  Vlan10
DSW2#
```



```
DSW2#show ip interface
Vlan1 is administratively down, line protocol is down
  Internet protocol processing disabled
Vlan10 is up, line protocol is up
  Internet address is 10.2.1.2/24
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is 10.1.4.9
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
224.0.0.13
    224.0.0.10
  Outgoing access list is not set
  Inbound access list is not set
  Proxy ARP is enabled
  Local Proxy ARP is disabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachable are always sent
  ICMP mask replies are never sent
  IP fast switching is enabled
  IP CEF switching is enabled
  IP CEF switching turbo vector
  IP Null turbo vector
  IP multicast fast switching is enabled
  IP multicast distributed fast switching is disabled
  IP route-cache flags are Fast, CEF
  Router Discovery is disabled
  IP output packet accounting is disabled
  IP access violation accounting is disabled
  TCP/IP header compression is disabled
  RTP/IP header compression is disabled
  Probe proxy name replies are disabled
  Policy routing is disabled
  Network address translation is disabled
  BGP Policy Mapping is disabled
  WCCP Redirect outbound is disabled
  WCCP Redirect inbound is disabled
  WCCP Redirect exclude is disabled
Vlan20 is up, line protocol is up
  Internet address is 10.2.2.1/24
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
224.0.0.13
    224.0.0.10
  Outgoing access list is not set
```

Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Vlan200 is up, line protocol is up
Internet address is 192.168.1.130/27
Broadcast address is 255.255.255.255
Address determined by non-volatile memory
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled

RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
FastEthernet0/1 is up, line protocol is up
 Internet address is 10.1.4.10/30
 Broadcast address is 255.255.255.255
 Address determined by non-volatile memory
 MTU is 1500 bytes
 Helper address is not set
 Directed broadcast forwarding is disabled
 Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
224.0.0.13
 224.0.0.10
 Outgoing access list is not set
 Inbound access list is not set
 Proxy ARP is enabled
 Local Proxy ARP is disabled
 Security level is default
 Split horizon is enabled
 ICMP redirects are always sent
 ICMP unreachable are always sent
 ICMP mask replies are never sent
 IP fast switching is enabled
 IP CEF switching is enabled
 IP CEF switching turbo vector
 IP Null turbo vector
 IP multicast fast switching is enabled
 IP multicast distributed fast switching is disabled
 IP route-cache flags are Fast, CEF
 Router Discovery is disabled
 IP output packet accounting is disabled
 IP access violation accounting is disabled
 TCP/IP header compression is disabled
 RTP/IP header compression is disabled
 Probe proxy name replies are disabled
 Policy routing is disabled
 Network address translation is disabled
 BGP Policy Mapping is disabled
 WCCP Redirect outbound is disabled
 WCCP Redirect inbound is disabled
 WCCP Redirect exclude is disabled
FastEthernet0/2 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/3 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/4 is administratively down, line protocol is down
 Inbound access list is not set
FastEthernet0/5 is administratively down, line protocol is down
 Inbound access list is not set

```
FastEthernet0/6 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/7 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/8 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/9 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/10 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/11 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/12 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/13 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/14 is administratively down, line protocol is down
  Inbound access list is not set
FastEthernet0/15 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/16 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/17 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/18 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/19 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/20 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/21 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/22 is up, line protocol is up
  Internet protocol processing disabled
FastEthernet0/23 is up, line protocol is up
  Internet protocol processing disabled
FastEthernet0/24 is up, line protocol is up
  Internet protocol processing disabled
GigabitEthernet0/1 is administratively down, line protocol is down
  Inbound access list is not set
GigabitEthernet0/2 is administratively down, line protocol is down
  Inbound access list is not set
Port-channel12 is up, line protocol is up
  Internet address is 10.2.4.14/30
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.10
  Outgoing access list is not set
  Inbound access list is not set
```

```
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
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           10.2.1.1                Vlan10
                     10.2.2.2                Vlan20
10.1.4.8/30           attached                 FastEthernet0/1
10.1.4.8/32           receive                 FastEthernet0/1
10.1.4.9/32           attached                 FastEthernet0/1
10.1.4.10/32          receive                 FastEthernet0/1
10.1.4.11/32          receive                 FastEthernet0/1
10.2.1.0/24           attached                 Vlan10
10.2.1.0/32           receive                 Vlan10
10.2.1.1/32           attached                 Vlan10
10.2.1.2/32           receive                 Vlan10
10.2.1.4/32           attached                 Vlan10
10.2.1.5/32           attached                 Vlan10
10.2.1.254/32         attached                 Vlan10
10.2.1.255/32         receive                 Vlan10
10.2.2.0/24           attached                 Vlan20
10.2.2.0/32           receive                 Vlan20
10.2.2.1/32           receive                 Vlan20
10.2.2.2/32           attached                 Vlan20
10.2.2.255/32         receive                 Vlan20
10.2.4.12/30          attached                 Port-channel12
10.2.4.12/32          receive                 Port-channel12
10.2.4.13/32          attached                 Port-channel12
10.2.4.14/32          receive                 Port-channel12
10.2.4.15/32          receive                 Port-channel12
192.168.1.128/27     attached                 Vlan200
192.168.1.128/32     receive                 Vlan200
192.168.1.130/32     receive                 Vlan200
192.168.1.159/32     receive                 Vlan200
224.0.0.0/4          multicast
224.0.0.0/24          receive

```

```
240.0.0.0/4      drop
255.255.255.255/32  receive
DSW2#
```

```
DSW2#show tcp statistics
Rcvd: 0 Total, 0 no port
      0 checksum error, 0 bad offset, 0 too short
      0 packets (0 bytes) in sequence
      0 dup packets (0 bytes)
      0 partially dup packets (0 bytes)
      0 out-of-order packets (0 bytes)
      0 packets (0 bytes) with data after window
      0 packets after close
      0 window probe packets, 0 window update packets
```

0 dup ack packets, 0 ack packets with unsend data
0 ack packets (0 bytes)
Sent: 0 Total, 0 urgent packets
0 control packets (including 0 retransmitted)
0 data packets (0 bytes)
0 data packets (0 bytes) retransmitted
0 data packets (0 bytes) fastretransmitted
0 ack only packets (0 delayed)
0 window probe packets, 0 window update packets
0 Connections initiated, 0 connections accepted, 0 connections
established
0 Connections closed (including 0 dropped, 0 embryonic dropped)
0 Total rxmt timeout, 0 connections dropped in rxmt timeout
0 Keepalive timeout, 0 keepalive probe, 0 Connections dropped in
keepalive
DSW2#


```
DSW2#show ip protocols
*** IP Routing is NSF aware ***
```

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

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

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

```
Maximum path: 4
```

```
Routing for Networks:
```

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

```
Routing Information Sources:
```

Gateway	Distance	Last Update
10.2.4.13	90	01:41:47
10.1.4.9	90	01:41:47
10.2.1.1	90	01:41:47
10.2.2.2	90	01:41:47

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

```
DSW2#
```

```
DSW2#show access-lists
Standard IP access list DENY_10
  10 deny 10.0.0.0, wildcard bits 0.255.255.255
  20 permit any
Standard IP access list DENY_ALL
  10 deny any
Standard IP access list PERMIT_10
  10 permit 10.0.0.0, wildcard bits 0.255.255.255
Standard IP access list PERMIT_ALL
  10 permit any
DSW2#
```

```
DSW2#show ip route eigrp
      10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D EX   10.1.1.8/30 [170/261120] via 10.1.4.9, 01:42:17, FastEthernet0/1
D      10.1.4.4/30 [90/28416] via 10.2.2.2, 01:46:06, Vlan20
          [90/28416] via 10.2.1.1, 01:46:06, Vlan10
D*EX 0.0.0.0/0 [170/261120] via 10.1.4.9, 01:42:01, FastEthernet0/1
DSW2#
```



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

Pending Interface Routes	Peers	Xmit Queue Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer
Fa0/1 0	1	0/0	1	0/1	50
Vl10 0	1	0/0	1	0/1	50
Vl20 0	1	0/0	71	0/1	352
Po12 0	1	0/0	1	0/1	50

```
DSW2#
```

DSW2#show vlan

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

VLAN Type	SAID	MTU	Parent	RingNo	BridgeNo	Stp	BrdgMode	Trans1	Trans2
1 enet	100001	1500	-	-	-	-	-	0	0
10 enet	100010	1500	-	-	-	-	-	0	0
20 enet	100020	1500	-	-	-	-	-	0	0
200 enet	100200	1500	-	-	-	-	-	0	0
1002 fddi	101002	1500	-	-	-	-	-	0	0
1003 trcrf	101003	4472	1005	3276	-	-	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    4106
             Address    000d.bde3.6e00
             Cost      18
             Port      66 (Port-channel23)
             Hello Time 2 sec  Max Age 20 sec  Forward Delay 15 sec

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

Interface	Role	Sts	Cost	Prio.Nbr	Type
Po23	Root	FWD	9	128.66	P2p

VLAN0020

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

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

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

VLAN0200

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

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


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

DSW2#

DSW2#show interfaces status

Port	Name	Status	Vlan	Duplex	Speed	Type
Fa0/1		connected	routed	a-full	a-100	
	10/100BaseTX					

Fa0/2	disabled	1	auto	auto
10/100BaseTX				
Fa0/3	notconnect	1	auto	auto
10/100BaseTX				
Fa0/4	disabled	1	auto	auto
10/100BaseTX				
Fa0/5	disabled	1	auto	auto
10/100BaseTX				
Fa0/6	disabled	1	auto	auto
10/100BaseTX				
Fa0/7	disabled	1	auto	auto
10/100BaseTX				
Fa0/8	disabled	1	auto	auto
10/100BaseTX				
Fa0/9	disabled	1	auto	auto
10/100BaseTX				
Fa0/10	disabled	1	auto	auto
10/100BaseTX				
Fa0/11	disabled	1	auto	auto
10/100BaseTX				
Fa0/12	disabled	1	auto	auto
10/100BaseTX				
Fa0/13	disabled	1	auto	auto
10/100BaseTX				
Fa0/14	disabled	1	auto	auto
10/100BaseTX				
Fa0/15	notconnect	1	auto	auto
10/100BaseTX				
Fa0/16	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/17	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/18	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/19	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/20	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/21	connected	trunk	a-full	a-100
10/100BaseTX				
Fa0/22	connected	routed	a-full	a-100
10/100BaseTX				
Fa0/23	connected	routed	a-full	a-100
10/100BaseTX				
Fa0/24	connected	routed	a-full	a-100
10/100BaseTX				
Gi0/1	disabled	1	auto	auto
unknown				
Gi0/2	disabled	1	auto	auto
unknown				
Po12	connected	routed	a-full	a-100
Po23	connected	trunk	a-full	a-100
Po24	connected	trunk	a-full	a-100
DSW2#				

```
DSW2#show interfaces switchport
```

```
Name: Fa0/2  
Switchport: Enabled  
Administrative Mode: static access  
Operational Mode: down  
Administrative Trunking Encapsulation: negotiate  
Negotiation of Trunking: Off  
Access Mode VLAN: 1 (default)  
Trunking Native Mode VLAN: 1 (default)  
Administrative Native VLAN tagging: enabled  
Voice VLAN: none  
Administrative private-vlan host-association: none
```

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

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

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

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

Name: Fa0/4
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 1 (default)

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

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

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

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

Name: Fa0/6
Switchport: Enabled
Administrative Mode: static access

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

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

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

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

Name: Fa0/8
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

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

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

Name: Fa0/10
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

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

Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

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

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

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

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

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

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

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

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

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

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

Name: Fa0/16
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po24)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 20,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/17
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po24)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On

Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 20,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/18
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po24)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 20,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/19

Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po23)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/20
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po23)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/21
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po23)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

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

Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

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

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

Name: Po23
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled

Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,200
Pruning VLANs Enabled: 2-1001

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

Name: Po24
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 20,200
Pruning VLANs Enabled: 2-1001

Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none
DSW2#


```
DSW2#show interfaces trunk
```

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

Port	Vlans allowed on trunk
Po23	10,200
Po24	20,200

Port	Vlans allowed and active in management domain
Po23	10,200
Po24	20,200

Port	Vlans in spanning tree forwarding state and not pruned
Po23	10,200
Po24	20

```
DSW2#
```

```
DSW2#show vtp status
VTP Version                : running VTP2
Configuration Revision     : 0
Maximum VLANs supported locally : 1005
Number of existing VLANs   : 8
VTP Operating Mode        : Transparent
VTP Domain Name           : netlearning
VTP Pruning Mode          : Disabled
VTP V2 Mode                : Enabled
VTP Traps Generation      : Disabled
MD5 digest                 : 0x99 0xF7 0xCE 0x74 0x55 0xA6 0x6A 0xC7
Configuration last modified by 0.0.0.0 at 0-0-00 00:00:00
DSW2#
```

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

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

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

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

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

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

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

```
Age of the port in the current state: 0d:01h:48m:33s
```

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

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

Port index = 0 Load = 0x00 Protocol = -

Age of the port in the current state: 0d:01h:48m:34s

Port: Fa0/24

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

Age of the port in the current state: 0d:01h:48m:34s

Port-channels in the group:

Port-channel: Po12

Age of the Port-channel = 0d:01h:48m:42s
Logical slot/port = 1/0 Number of ports = 3
GC = 0x00000000 HotStandBy port = null
Passive port list = Fa0/22 Fa0/23 Fa0/24
Port state = Port-channel L3-Ag Ag-Inuse
Protocol = -
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:48m:35s Fa0/24
Time since last port Un-bundled: 0d:01h:48m:36s 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	Priority	Admin	Oper	Port
Fa0/19	SA	bndl	32768	0x17	0x17	0x10
0x3D						

Partner's information:

Port	Flags	Priority	Dev ID	Age	Admin	Oper	Port
Fa0/19	SA	32768	0015.faac.46c0	12s	0x0	0x2	0x10
0x3D							

Age of the port in the current state: 0d:01h:48m:29s

Port: Fa0/20

Port state = Up Mstr Assoc In-Bndl
Channel group = 23 Mode = Active Gchange = -
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	Priority	Admin	Oper	Port
Fa0/20	SA	bndl	32768	0x17	0x17	0x11
0x3D						

Partner's information:

Port	Flags	Priority	Dev ID	Age	Admin	Oper	Port
------	-------	----------	--------	-----	-------	------	------

Port State	Flags	Priority	Dev ID	Age	key	Key	Number
Fa0/20 0x3D	SA	32768	0015.faac.46c0	10s	0x0	0x2	0x11

Age of the port in the current state: 0d:01h:48m:32s

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 State	Flags	State	Priority	Key	Key	Number
Fa0/21 0x3D	SA	bndl	32768	0x17	0x17	0x12

Partner's information:

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

Age of the port in the current state: 0d:01h:48m:31s

Port-channels in the group:

Port-channel: Po23 (Primary Aggregator)

Age of the Port-channel = 0d:01h:48m:46s
Logical slot/port = 1/1 Number of ports = 3
HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = LACP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:48m:33s 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	Port	Flags	State	Timers	Hello Interval	Partner Count	PAgP Priority	Learning Method
	Fa0/16	SC	U6/S7	H	30s	1	128	Any 32

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
	Fa0/16 ASW2	0015.fab8.2880	Fa0/19	18s	SC

Age of the port in the current state: 0d:01h:48m:35s

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

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
Fa0/17	ASW2	0015.fab8.2880	Fa0/20	28s	SC

Age of the port in the current state: 0d:01h:48m:37s

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	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	ASW2	0015.fab8.2880	Fa0/21	16s	SC
10001					

Age of the port in the current state: 0d:01h:48m:38s

Port-channels in the group:

Port-channel: Po24

Age of the Port-channel = 0d:01h:48m:52s
Logical slot/port = 1/2 Number of ports = 3
GC = 0x00180001 HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = PAgP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:48m:39s Fa0/16

DSW2#

```
DSW2#show standby
Vlan10 - Group 10
  State is Standby
    1 state change, last state change 01:47:47
  Virtual IP address is 10.2.1.254
  Active virtual MAC address is 0000.0c07.ac0a
    Local virtual MAC address is 0000.0c07.ac0a (v1 default)
  Hello time 3 sec, hold time 10 sec
    Next hello sent in 0.908 secs
  Preemption enabled
  Active router is 10.2.1.1, priority 110 (expires in 9.404 sec)
  Standby router is local
  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   P Standby  10.2.1.1    local
10.2.1.254
DSW2#
```

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

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

```
Fa0/22    auto    off      0.0    n/a      n/a     15.4
Fa0/23    auto    off      0.0    n/a      n/a     15.4
Fa0/24    auto    off      0.0    n/a      n/a     15.4
DSW2#
```

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

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

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

```
DSW2#
```

```
DSW2#show spanning-tree summary
```

```
Switch is in pvst mode
```

```
Root bridge for: VLAN0020
```

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

```
Name                Blocking Listening Learning Forwarding STP Active
```

VLAN0010	0	0	0	1	1
VLAN0020	0	0	0	1	1
VLAN0200	1	0	0	1	2
3 vlans	1	0	0	3	4

DSW2#

DSW2#show udld

Interface Fa0/1

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/2

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

Interface Fa0/3

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

Interface Fa0/4

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

Interface Fa0/5

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

Interface Fa0/6

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

Interface Fa0/7

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

Interface Fa0/8

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

Interface Fa0/9

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

Interface Fa0/10

Port enable administrative configuration setting: Disabled
Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/11

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/12

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/13

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/14

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/15

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/16

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/17

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/18

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/19

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/20

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/21

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/22

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/23

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/24

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Gi0/1

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Gi0/2

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

DSW2#

DSW2#show etherchannel summary

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

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

Number of channel-groups in use: 3

Number of aggregators: 3

Group	Port-channel	Protocol	Ports		
12	Po12 (RU)	-	Fa0/22 (P)	Fa0/23 (P)	Fa0/24 (P)
23	Po23 (SU)	LACP	Fa0/19 (P)	Fa0/20 (P)	Fa0/21 (P)
24	Po24 (SU)	PAgP	Fa0/16 (P)	Fa0/17 (P)	Fa0/18 (P)

DSW2#

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

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

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

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

```
Protocol: LACP
```

Group: 24

Protocol: PAgP

DSW2#

DSW2#show etherchannel port

Channel-group listing:

Group: 12

Ports in the group:

Port: Fa0/22

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

Age of the port in the current state: 0d:01h:49m:56s

Port: Fa0/23

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

Age of the port in the current state: 0d:01h:49m:56s

Port: Fa0/24

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

Age of the port in the current state: 0d:01h:49m:56s

Group: 23

Ports in the group:

Port: Fa0/19

Port state = Up Mstr Assoc In-Bndl
Channel group = 23 Mode = Active Gcchange = -
Port-channel = Po23 GC = - Pseudo port-channel =
Po23
Port index = 0 Load = 0x00 Protocol = LACP

Flags: S - Device is sending Slow LACPDUs F - Device is sending fast
LACPDUs.

A - Device is in active mode. P - Device is in passive
mode.

Local information:

Port	Flags	State	LACP port	Priority	Admin	Oper	Port
Port	Flags	State	Priority	Key	Key	Key	Number
Fa0/19	SA	bndl	32768	0x17	0x17	0x17	0x10

Partner's information:

Port	Flags	State	LACP port	Priority	Dev ID	Age	Admin	Oper	Port
Port	Flags	State	Priority	Dev ID	Age	key	Key	Key	Number
Fa0/19	SA		32768	0015.faac.46c0	6s	0x0	0x2	0x2	0x10

Age of the port in the current state: 0d:01h:49m:51s

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 LACPDU's F - Device is sending fast LACPDU's.
A - Device is in active mode. P - Device is in passive mode.

Local information:

Port	Flags	State	LACP port	Priority	Admin	Oper	Port
Port	Flags	State	Priority	Key	Key	Key	Number
Fa0/20	SA	bndl	32768	0x17	0x17	0x17	0x11

Partner's information:

Port	Flags	State	LACP port	Priority	Dev ID	Age	Admin	Oper	Port
Port	Flags	State	Priority	Dev ID	Age	key	Key	Key	Number
Fa0/20	SA		32768	0015.faac.46c0	6s	0x0	0x2	0x2	0x11

Age of the port in the current state: 0d:01h:49m: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 Key	Oper Key	Port Number
Fa0/21 0x3D	SA	bndl	32768	0x17	0x17	0x12

Partner's information:

Port	Flags	State	LACP port Priority	Dev ID	Admin Age	Oper key	Port Key	Port Number
Fa0/21 0x3D	SA		32768	0015.faac.46c0	3s	0x0	0x2	0x12

Age of the port in the current state: 0d:01h:49m:53s

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	Port	Flags	State	Timers	Interval	Count	Priority	Method	
					30s	1	128	Any	32

Partner's information:

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

Age of the port in the current state: 0d:01h:49m:55s

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	Interval	Count	Priority	Method	
	Fa0/17	SC	U6/S7	H	30s	1	128	Any	32

Partner's information:

Group	Port	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
	Fa0/17	ASW2	0015.fab8.2880	Fa0/20	23s	SC

Age of the port in the current state: 0d:01h:49m:57s

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

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
Fa0/18 10001	ASW2	0015.fab8.2880	Fa0/21	11s	SC

Age of the port in the current state: 0d:01h:49m:58s

DSW2#

```
DSW2#show etherchannel load-balance
EtherChannel Load-Balancing Configuration:
    src-mac
```

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

```
DSW2#
```

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

Group: 12

Port-channels in the group:

Port-channel: Po12

Age of the Port-channel = 0d:01h:50m:24s
Logical slot/port = 1/0 Number of ports = 3
GC = 0x00000000 HotStandBy port = null
Passive port list = Fa0/22 Fa0/23 Fa0/24
Port state = Port-channel L3-Ag Ag-Inuse
Protocol = -
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:50m:17s Fa0/24
Time since last port Un-bundled: 0d:01h:50m:18s Fa0/24

Group: 23

Port-channels in the group:

Port-channel: Po23 (Primary Aggregator)

Age of the Port-channel = 0d:01h:50m:25s
Logical slot/port = 1/1 Number of ports = 3
HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = LACP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:50m:11s Fa0/21

Group: 24

Port-channels in the group:

Port-channel: Po24

Age of the Port-channel = 0d:01h:50m:25s
Logical slot/port = 1/2 Number of ports = 3
GC = 0x00180001 HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = PAgP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:01h:50m:13s Fa0/16

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	ASW2	0015.fab8.2880	Fa0/19	7s	SC
10001					
Fa0/17	ASW2	0015.fab8.2880	Fa0/20	17s	SC
10001					
Fa0/18	ASW2	0015.fab8.2880	Fa0/21	6s	SC
10001					

```
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		LACP port			Admin	Oper	Port
Port	Flags	Priority	Dev ID	Age	key	Key	Number
State							


```

Fa0/19 SA 32768 0015.faac.46c0 12s 0x0 0x2 0x10
0x3D
Fa0/20 SA 32768 0015.faac.46c0 12s 0x0 0x2 0x11
0x3D
Fa0/21 SA 32768 0015.faac.46c0 9s 0x0 0x2 0x12
0x3D
DSW2#

```

```

DSW2#show port-security
Secure Port MaxSecureAddr CurrentAddr SecurityViolation Security
Action

```

```

          (Count)          (Count)          (Count)
-----
--

```

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

DSW2#show port-security address
Secure Mac Address Table

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

Total Addresses in System (excluding one mac per port) : 0

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