

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

```
Current configuration : 6772 bytes
```

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

```
CB
quit
```

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

```
switchport mode access
switchport port-security maximum 2
switchport port-security
spanning-tree portfast
!
interface FastEthernet0/3
switchport access vlan 102
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/4
switchport mode dynamic desirable
!
interface FastEthernet0/5
switchport access vlan 104
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/6
switchport access vlan 105
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/7
switchport access vlan 106
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/8
switchport access vlan 109
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/9
switchport access vlan 17
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/10
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/11
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/12
switchport access vlan 123
switchport mode access
spanning-tree portfast
!
interface FastEthernet0/13
switchport mode access
spanning-tree portfast
```

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

```
interface FastEthernet0/24
  no switchport
  no ip address
  channel-group 12 mode on
!
interface GigabitEthernet0/1
  switchport mode dynamic desirable
  shutdown
!
interface GigabitEthernet0/2
  switchport mode dynamic desirable
  shutdown
!
interface Vlan1
  no ip address
  shutdown
!
interface Vlan10
  ip address 10.2.1.1 255.255.255.0
  ip helper-address 10.1.4.5
  ip pim sparse-dense-mode
  standby 10 ip 10.2.1.254
  standby 10 priority 110
  standby 10 preempt
!
interface Vlan20
  ip address 10.2.2.2 255.255.255.0
  ip pim sparse-dense-mode
!
interface Vlan200
  ip address 192.168.1.129 255.255.255.224
!
!
router eigrp 10
  no auto-summary
  eigrp router-id 6.6.6.6
  network 10.1.4.6 0.0.0.0
  network 10.2.1.1 0.0.0.0
  network 10.2.2.2 0.0.0.0
  network 10.2.4.13 0.0.0.0
!
router ospf 1
  log-adjacency-changes
  network 10.3.3.2 0.0.0.0 area 0
  network 10.17.17.1 0.0.0.0 area 0
!
ip classless
ip http server
ip http secure-server
!
!
ip access-list standard DENY_10
  deny 10.0.0.0 0.255.255.255
  permit any
```

```
ip access-list standard DENY_ALL
  deny any
ip access-list standard PERMIT_10
  permit 10.0.0.0 0.255.255.255
ip access-list standard PERMIT_ALL
  permit any
!
ipv6 router rip RIPNG
!
!
control-plane
!
!
line con 0
  exec-timeout 0 0
  logging synchronous
line vty 0 4
  password cisco
  login
line vty 5 15
  password cisco
  login
!
ntp clock-period 17179883
ntp server 10.1.1.1
end
```

DSW1#

```
DSW1#ping 209.65.200.241
```

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

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

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 209.65.200.226
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 209.65.200.226, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 32/32/32 ms  
DSW1#
```

```
DSW1#ping 209.65.200.225
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 209.65.200.225, timeout is 2 seconds:  
!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 64/71/96 ms  
DSW1#
```



```
DSW1#ping 10.1.1.1
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.1.2
```

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

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

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.1.1.5
```

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

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

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.1.1.6
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.1.6, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/130/132  
ms  
DSW1#
```

```
DSW1#ping 10.1.1.9
```

```
Type escape sequence to abort.  
Sending 5, 100-byte ICMP Echos to 10.1.1.9, timeout is 2 seconds:  
!!!!!  
Success rate is 100 percent (5/5), round-trip min/avg/max = 128/130/132  
ms  
DSW1#
```

```
DSW1#ping 10.1.1.10
```

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

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

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.1.4.10
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.9
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.6
```

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

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

```
!!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.1.4.5
```

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

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

```
!!!!!
```

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

```
ms
```


DSW1#

DSW1#ping 10.2.1.1

Type escape sequence to abort.

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

!!!!

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

ms

DSW1#

```
DSW1#ping 10.2.2.2
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.1.254
```

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

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

```
!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.4.14
```

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

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

```
!!!!!
```

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

```
ms
```

```
DSW1#
```

```
DSW1#ping 10.2.4.13
```

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

```
Sending 5, 100-byte ICMP Echos to 10.2.4.13, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/196/204
ms
DSW1#
```

```
DSW1#ping 10.2.1.2
```

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

```
Sending 5, 100-byte ICMP Echos to 10.2.1.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 192/194/200
ms
DSW1#
```

```
DSW1#ping 10.2.2.1
```

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

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

```
!!!!
```

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

```
DSW1#
```

```
DSW1#ping 10.2.1.4
```

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

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

```
!!!!!
```

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

```
DSW1#
```

```

DSW1#
DSW1#show ip interface brief
Interface          IP-Address      OK? Method Status
Protocol
Vlan1              unassigned     YES NVRAM  administratively down
down
Vlan10            10.2.1.1       YES NVRAM  up
up
Vlan20            10.2.2.2       YES NVRAM  up
up
Vlan200           192.168.1.129 YES NVRAM  up
up
FastEthernet0/1   10.1.4.6       YES NVRAM  up
up
FastEthernet0/2   unassigned     YES unset  down
down
FastEthernet0/3   unassigned     YES unset  down
down
FastEthernet0/4   unassigned     YES unset  down
down
FastEthernet0/5   unassigned     YES unset  down
down
FastEthernet0/6   unassigned     YES unset  down
down
FastEthernet0/7   unassigned     YES unset  down
down
FastEthernet0/8   unassigned     YES unset  down
down
FastEthernet0/9   unassigned     YES unset  down
down
FastEthernet0/10  unassigned     YES unset  down
down
FastEthernet0/11  unassigned     YES unset  down
down
FastEthernet0/12  unassigned     YES unset  down
down
FastEthernet0/13  unassigned     YES unset  down
down
FastEthernet0/14  unassigned     YES unset  down
down
FastEthernet0/15  unassigned     YES unset  down
down

```


FastEthernet0/16	unassigned	YES	unset	up
up				
FastEthernet0/17	unassigned	YES	unset	up
up				
FastEthernet0/18	unassigned	YES	unset	up
up				
FastEthernet0/19	unassigned	YES	unset	up
up				
FastEthernet0/20	unassigned	YES	unset	up
up				
FastEthernet0/21	unassigned	YES	unset	up
up				
FastEthernet0/22	unassigned	YES	NVRAM	up
up				
FastEthernet0/23	unassigned	YES	NVRAM	up
up				
FastEthernet0/24	unassigned	YES	NVRAM	up
up				
GigabitEthernet0/1	unassigned	YES	unset	administratively down
down				
GigabitEthernet0/2	unassigned	YES	unset	administratively down
down				
Port-channel12	10.2.4.13	YES	NVRAM	up
up				
Port-channel13	unassigned	YES	unset	up
up				
Port-channel14	unassigned	YES	unset	up
up				
Tunnel46	unassigned	YES	NVRAM	up
up				
Tunnel67	unassigned	YES	NVRAM	up
up				
DSW1#				

```
DSW1#show ip route
```

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

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

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


143	0	181	0	0.00%	0.00%	0.00%	0	dhcp
snooping sw								
144	0	1	0	0.00%	0.00%	0.00%	0	VFM Queue
Proces								
145	4	1	4000	0.00%	0.00%	0.00%	0	VFM/VQM
Merge Pr								
146	0	1	0	0.00%	0.00%	0.00%	0	VFM
Deferred Upd								
147	0	13	0	0.00%	0.00%	0.00%	0	VTP Trap
Process								
149	0	2	0	0.00%	0.00%	0.00%	0	AAA SEND
STOP EV								
150	0	1	0	0.00%	0.00%	0.00%	0	Syslog
Traps								
151	0	1	0	0.00%	0.00%	0.00%	0	DATA
Transfer Pr								
152	0	1	0	0.00%	0.00%	0.00%	0	DATA
Collector								
153	4	19	210	0.00%	0.00%	0.00%	0	Syslog
154	0	1	0	0.00%	0.00%	0.00%	0	C3550 DHCP
Snoop								
155	0	2	0	0.00%	0.00%	0.00%	0	STP STACK
TOPOLO								
156	0	2	0	0.00%	0.00%	0.00%	0	STP FAST
TRANSIT								
157	0	2	0	0.00%	0.00%	0.00%	0	STP STACK
TOPOLO								
158	0	2	0	0.00%	0.00%	0.00%	0	CSRT RAPID
TRANS								
160	4	3	1333	0.00%	0.00%	0.00%	0	SSH Event
handle								
161	0	12	0	0.00%	0.00%	0.00%	0	IPv6 RIB
Redistr								
162	16	3463	4	0.00%	0.00%	0.00%	0	CEF: IPv4
proces								
163	0	1	0	0.00%	0.00%	0.00%	0	ADJ
background								
164	8	86	93	0.00%	0.00%	0.00%	0	IP
Background								
165	1488	11	135272	0.00%	0.00%	0.00%	0	crypto sw
pk pro								
166	8	203	39	0.00%	0.00%	0.00%	0	IPv6 Input
167	4	121	33	0.00%	0.00%	0.00%	0	IPv6 IDB
168	0	7	0	0.00%	0.00%	0.00%	0	IPv6 ND
169	4	344	11	0.00%	0.00%	0.00%	0	IPv6 RIP
170	0	2251	0	0.00%	0.00%	0.00%	0	DVMRP
Timers								
171	24	2404	9	0.00%	0.00%	0.00%	0	IGMP Input
172	60	2955	20	0.00%	0.00%	0.00%	0	PIM
Process								
173	0	22488	0	0.00%	0.00%	0.00%	0	Mwheel
Process								
174	92	510	180	0.00%	0.00%	0.00%	0	PAGP

175	84	753	111	0.00%	0.00%	0.00%	0	LACP
Protocol								
176	80	1556	51	0.00%	0.00%	0.00%	0	HSRP
(Standby)								
178	0	10	0	0.00%	0.00%	0.00%	0	EIGRP:
Router								
179	296	2297	128	0.00%	0.00%	0.00%	0	EIGRP-
IPv4:								
180	8	2213	3	0.00%	0.00%	0.00%	0	OSPF-1
Router								
181	192	3949	48	0.00%	0.00%	0.00%	0	EIGRP-
IPv4: Hell								
DSW1#								

```

DSW1#show interfaces
Vlan1 is administratively down, line protocol is down
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255

```

```
Encapsulation ARPA, loopback not set
Keepalive not supported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 1 interface resets
  0 output buffer failures, 0 output buffers swapped out
Vlan10 is up, line protocol is up
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  Internet address is 10.2.1.1/24
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:00, output 00:00:00, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1333 packets input, 97782 bytes, 0 no buffer
    Received 0 broadcasts (484 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    1443 packets output, 97633 bytes, 0 underruns
    0 output errors, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
Vlan20 is up, line protocol is up
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  Internet address is 10.2.2.2/24
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:01, output 00:00:03, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
```

```
    589 packets input, 47059 bytes, 0 no buffer
    Received 0 broadcasts (486 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    584 packets output, 43942 bytes, 0 underruns
    0 output errors, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
Vlan200 is up, line protocol is up
  Hardware is EtherSVI, address is 000d.bde3.6e00 (bia 000d.bde3.6e00)
  Internet address is 192.168.1.129/27
  MTU 1500 bytes, BW 1000000 Kbit, DLY 10 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive not supported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output 00:37:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 6
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    1 packets output, 60 bytes, 0 underruns
    0 output errors, 0 interface resets
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/1 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  Internet address is 10.1.4.6/30
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:02, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1031 packets input, 97041 bytes, 0 no buffer
    Received 656 broadcasts (492 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 653 multicast, 0 pause input
    0 input packets with dribble condition detected
    980 packets output, 94092 bytes, 0 underruns
```

```
    0 output errors, 0 collisions, 3 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/2 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e02 (bia
000d.bde3.6e02)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/3 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e03 (bia
000d.bde3.6e03)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
```

```
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/4 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e04 (bia
000d.bde3.6e04)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/5 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e05 (bia
000d.bde3.6e05)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
```

```
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast, 0 pause input
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 PAUSE output
0 output buffer failures, 0 output buffers swapped out
FastEthernet0/6 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e06 (bia
000d.bde3.6e06)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/7 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e07 (bia
000d.bde3.6e07)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
```

```
Received 0 broadcasts (0 multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast, 0 pause input
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 PAUSE output
0 output buffer failures, 0 output buffers swapped out
FastEthernet0/8 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e08 (bia
000d.bde3.6e08)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast, 0 pause input
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 PAUSE output
0 output buffer failures, 0 output buffers swapped out
FastEthernet0/9 is down, line protocol is down (notconnect)
Hardware is Fast Ethernet, address is 000d.bde3.6e09 (bia
000d.bde3.6e09)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Auto-duplex, Auto-speed, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
```

```
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/10 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0a (bia
000d.bde3.6e0a)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/11 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0b (bia
000d.bde3.6e0b)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
```



```
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/12 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0c (bia
000d.bde3.6e0c)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/13 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0d (bia
000d.bde3.6e0d)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
```

```
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/14 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0e (bia
000d.bde3.6e0e)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
    Received 0 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 0 multicast, 0 pause input
    0 input packets with dribble condition detected
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/15 is down, line protocol is down (notconnect)
  Hardware is Fast Ethernet, address is 000d.bde3.6e0f (bia
000d.bde3.6e0f)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Auto-duplex, Auto-speed, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
```

```
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  0 packets input, 0 bytes, 0 no buffer
  Received 0 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 0 multicast, 0 pause input
  0 input packets with dribble condition detected
  0 packets output, 0 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/16 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e10 (bia
000d.bde3.6e10)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:27, output 00:00:08, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    431 packets input, 44211 bytes, 0 no buffer
    Received 204 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 204 multicast, 0 pause input
    0 input packets with dribble condition detected
    1022 packets output, 91864 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/17 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e11 (bia
000d.bde3.6e11)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
```

```
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:01, output 00:00:00, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  2220 packets input, 180042 bytes, 0 no buffer
  Received 1961 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1961 multicast, 0 pause input
  0 input packets with dribble condition detected
  436 packets output, 43062 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/18 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e12 (bia
000d.bde3.6e12)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:02, output 00:00:01, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  434 packets input, 44429 bytes, 0 no buffer
  Received 206 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 206 multicast, 0 pause input
  0 input packets with dribble condition detected
  1585 packets output, 125976 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/19 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e13 (bia
000d.bde3.6e13)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
```

```
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:03, output 00:00:03, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 1000 bits/sec, 1 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  1871 packets input, 158185 bytes, 0 no buffer
  Received 1633 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 1614 multicast, 0 pause input
  0 input packets with dribble condition detected
  1931 packets output, 160301 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/20 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e14 (bia
000d.bde3.6e14)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:02, output 00:00:04, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    439 packets input, 48067 bytes, 0 no buffer
    Received 206 broadcasts (0 multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 206 multicast, 0 pause input
    0 input packets with dribble condition detected
    439 packets output, 46680 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
FastEthernet0/21 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e15 (bia
000d.bde3.6e15)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
```

```
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:06, output 00:00:06, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  433 packets input, 47543 bytes, 0 no buffer
  Received 205 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 205 multicast, 0 pause input
  0 input packets with dribble condition detected
  2726 packets output, 211412 bytes, 0 underruns
  0 output errors, 0 collisions, 1 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/22 is up, line protocol is up (connected)
  Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:08, output 00:00:03, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  965 packets input, 89965 bytes, 0 no buffer
  Received 629 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 628 multicast, 0 pause input
  0 input packets with dribble condition detected
  1047 packets output, 100618 bytes, 0 underruns
  0 output errors, 0 collisions, 3 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/23 is up, line protocol is up (connected)
```

```
Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:09, output 00:00:05, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  270 packets input, 31056 bytes, 0 no buffer
  Received 41 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 41 multicast, 0 pause input
  0 input packets with dribble condition detected
  272 packets output, 30996 bytes, 0 underruns
  0 output errors, 0 collisions, 3 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
  0 output buffer failures, 0 output buffers swapped out
FastEthernet0/24 is up, line protocol is up (connected)
Hardware is Fast Ethernet, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
MTU 1500 bytes, BW 100000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:10, output 00:00:06, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  274 packets input, 31368 bytes, 0 no buffer
  Received 41 broadcasts (0 multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
  0 watchdog, 41 multicast, 0 pause input
  0 input packets with dribble condition detected
  272 packets output, 30996 bytes, 0 underruns
  0 output errors, 0 collisions, 3 interface resets
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier, 0 PAUSE output
```

0 output buffer failures, 0 output buffers swapped out
GigabitEthernet0/1 is administratively down, line protocol is down
(disabled)
Hardware is Gigabit Ethernet, address is 000d.bde3.6e19 (bia
000d.bde3.6e19)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not set
Auto-duplex, Auto-speed, link type is auto, media type is unknown
input flow-control is off, output flow-control is off
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast, 0 pause input
0 input packets with dribble condition detected
0 packets output, 0 bytes, 0 underruns
0 output errors, 0 collisions, 1 interface resets
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier, 0 PAUSE output
0 output buffer failures, 0 output buffers swapped out

GigabitEthernet0/2 is administratively down, line protocol is down
(disabled)
Hardware is Gigabit Ethernet, address is 000d.bde3.6e1a (bia
000d.bde3.6e1a)
MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive not set
Auto-duplex, Auto-speed, link type is auto, media type is unknown
input flow-control is off, output flow-control is off
ARP type: ARPA, ARP Timeout 04:00:00
Last input never, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
0 packets input, 0 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
0 runts, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 watchdog, 0 multicast, 0 pause input
0 input packets with dribble condition detected


```
    0 packets output, 0 bytes, 0 underruns
    0 output errors, 0 collisions, 1 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
Port-channel12 is up, line protocol is up (connected)
  Hardware is EtherChannel, address is 000d.bde3.6e00 (bia
000d.bde3.6e00)
  Internet address is 10.2.4.13/30
  MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  Members in this channel: Fa0/22 Fa0/23 Fa0/24
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:00:01, output 00:00:04, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    1515 packets input, 152851 bytes, 0 no buffer
    Received 713 broadcasts (509 IP multicasts)
    0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 watchdog, 712 multicast, 0 pause input
    0 input packets with dribble condition detected
    1596 packets output, 163074 bytes, 0 underruns
    0 output errors, 0 collisions, 4 interface resets
    0 babbles, 0 late collision, 0 deferred
    0 lost carrier, 0 no carrier, 0 PAUSE output
    0 output buffer failures, 0 output buffers swapped out
Port-channel13 is up, line protocol is up (connected)
  Hardware is EtherChannel, address is 000d.bde3.6e13 (bia
000d.bde3.6e13)
  MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  Full-duplex, 100Mb/s, media type is 10/100BaseTX
  input flow-control is off, output flow-control is unsupported
  Members in this channel: Fa0/19 Fa0/20 Fa0/21
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input 00:02:30, output 00:00:01, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/40 (size/max)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 1000 bits/sec, 2 packets/sec
    2739 packets input, 253308 bytes, 0 no buffer
```

```
Received 2037 broadcasts (0 multicasts)
 0 runts, 0 giants, 0 throttles
 0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
 0 watchdog, 2017 multicast, 0 pause input
 0 input packets with dribble condition detected
5104 packets output, 419477 bytes, 0 underruns
 0 output errors, 0 collisions, 1 interface resets
 0 babbles, 0 late collision, 0 deferred
 0 lost carrier, 0 no carrier, 0 PAUSE output
 0 output buffer failures, 0 output buffers swapped out
Port-channel14 is up, line protocol is up (connected)
Hardware is EtherChannel, address is 000d.bde3.6e11 (bia
000d.bde3.6e11)
MTU 1500 bytes, BW 300000 Kbit, DLY 100 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
Full-duplex, 100Mb/s, media type is 10/100BaseTX
input flow-control is off, output flow-control is unsupported
Members in this channel: Fa0/16 Fa0/17 Fa0/18
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:01, output 00:00:00, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/40 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
 3097 packets input, 269584 bytes, 0 no buffer
Received 2379 broadcasts (0 multicasts)
 0 runts, 0 giants, 0 throttles
 0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
 0 watchdog, 2379 multicast, 0 pause input
 0 input packets with dribble condition detected
3056 packets output, 262860 bytes, 0 underruns
 0 output errors, 0 collisions, 1 interface resets
 0 babbles, 0 late collision, 0 deferred
 0 lost carrier, 0 no carrier, 0 PAUSE output
 0 output buffer failures, 0 output buffers swapped out
Tunnel46 is up, line protocol is up
Hardware is Tunnel
MTU 1514 bytes, BW 100 Kbit, DLY 50000 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation TUNNEL, loopback not set
Keepalive not set
Tunnel source 10.1.4.6, destination 10.1.4.5
Tunnel protocol/transport GRE/IP, key disabled, sequencing disabled
Tunnel TTL 255
Checksumming of packets disabled
Last input 00:00:04, output 00:00:12, output hang never
Last clearing of "show interface" counters never
Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
Queueing strategy: fifo
Output queue: 0/0 (size/max)
```

```
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  84 packets input, 13104 bytes, 0 no buffer
  Received 0 broadcasts (0 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  90 packets output, 10308 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 output buffer failures, 0 output buffers swapped out
Tunnel67 is up, line protocol is up
  Hardware is Tunnel
  MTU 1514 bytes, BW 100 Kbit, DLY 50000 usec,
    reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation TUNNEL, loopback not set
  Keepalive not set
  Tunnel source 10.2.4.13, destination 10.2.4.14
  Tunnel protocol/transport GRE/IP, key disabled, sequencing disabled
  Tunnel TTL 255
  Checksumming of packets disabled
  Last input 00:00:07, output 00:00:13, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 0
  Queueing strategy: fifo
  Output queue: 0/0 (size/max)
5 minute input rate 0 bits/sec, 0 packets/sec
5 minute output rate 0 bits/sec, 0 packets/sec
  85 packets input, 8160 bytes, 0 no buffer
  Received 0 broadcasts (0 IP multicasts)
  0 runts, 0 giants, 0 throttles
  0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort
  90 packets output, 15288 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 output buffer failures, 0 output buffers swapped out
DSW1#
```

DSW1#show interfaces counters errors

Port	Align-Err	FCS-Err	Xmit-Err	Rcv-Err	UnderSize		
Fa0/1	0	0	0	0	0		
Fa0/2	0	0	0	0	0		
Fa0/3	0	0	0	0	0		
Fa0/4	0	0	0	0	0		
Fa0/5	0	0	0	0	0		
Fa0/6	0	0	0	0	0		
Fa0/7	0	0	0	0	0		
Fa0/8	0	0	0	0	0		
Fa0/9	0	0	0	0	0		
Fa0/10	0	0	0	0	0		
Fa0/11	0	0	0	0	0		
Fa0/12	0	0	0	0	0		
Fa0/13	0	0	0	0	0		
Fa0/14	0	0	0	0	0		
Fa0/15	0	0	0	0	0		
Fa0/16	0	0	0	0	0		
Fa0/17	0	0	0	0	0		
Fa0/18	0	0	0	0	0		
Fa0/19	0	0	0	0	0		
Fa0/20	0	0	0	0	0		
Fa0/21	0	0	0	0	0		
Fa0/22	0	0	0	0	0		
Fa0/23	0	0	0	0	0		
Fa0/24	0	0	0	0	0		
Gi0/1	0	0	0	0	0		
Gi0/2	0	0	0	0	0		
Pol2	0	0	0	0	0		
Pol3	0	0	0	0	0		
Pol4	0	0	0	0	0		
Port	Single-Col	Multi-Col	Late-Col	Excess-Col	Carri-Sen		Runts
Giants							
Fa0/1	0	0	0	0	0		0
0							

Fa0/2 0	0	0	0	0	0	0
Fa0/3 0	0	0	0	0	0	0
Fa0/4 0	0	0	0	0	0	0
Fa0/5 0	0	0	0	0	0	0
Fa0/6 0	0	0	0	0	0	0
Fa0/7 0	0	0	0	0	0	0
Fa0/8 0	0	0	0	0	0	0
Fa0/9 0	0	0	0	0	0	0
Fa0/10 0	0	0	0	0	0	0
Fa0/11 0	0	0	0	0	0	0
Fa0/12 0	0	0	0	0	0	0
Fa0/13 0	0	0	0	0	0	0
Fa0/14 0	0	0	0	0	0	0
Fa0/15 0	0	0	0	0	0	0
Fa0/16 0	0	0	0	0	0	0
Fa0/17 0	0	0	0	0	0	0
Fa0/18 0	0	0	0	0	0	0
Fa0/19 0	0	0	0	0	0	0
Fa0/20 0	0	0	0	0	0	0
Fa0/21 0	0	0	0	0	0	0
Fa0/22 0	0	0	0	0	0	0
Fa0/23 0	0	0	0	0	0	0
Fa0/24 0	0	0	0	0	0	0
Gi0/1 0	0	0	0	0	0	0
Gi0/2 0	0	0	0	0	0	0
Po12 0	0	0	0	0	0	0
Po13 0	0	0	0	0	0	0

```
Po14          0          0          0          0          0          0
0
DSW1#
```

```
DSW1#show cdp neighbors
```

```
Capability Codes: R - Router, T - Trans Bridge, B - Source Route Bridge
                  S - Switch, H - Host, I - IGMP, r - Repeater, P - Phone
```

Device ID	Local Intrfce	Holdtme	Capability	Platform	Port
R4 0/0	Fas 0/1	144	R S I	1841	Fas
DSW2 0/24	Fas 0/24	144	R S I	WS-C3550-	Fas
DSW2 0/23	Fas 0/23	144	R S I	WS-C3550-	Fas
DSW2 0/22	Fas 0/22	144	R S I	WS-C3550-	Fas

ASW1 0/21	Fas 0/21	142	S I	WS-C2950- Fas
ASW1 0/20	Fas 0/20	142	S I	WS-C2950- Fas
ASW1 0/19	Fas 0/19	142	S I	WS-C2950- Fas
ASW2 0/18	Fas 0/18	142	S I	WS-C2950- Fas
ASW2 0/16	Fas 0/16	142	S I	WS-C2950- Fas
ASW2 0/17	Fas 0/17	142	S I	WS-C2950- Fas
DSW1#				

```
DSW1#show cdp neighbors detail
```

```
-----
```

```
Device ID: R4
```

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

```
  IP address: 10.1.4.5
```

Platform: Cisco 1841, Capabilities: Router Switch IGMP
Interface: FastEthernet0/1, Port ID (outgoing port): FastEthernet0/0
Holdtime : 138 sec

Version :

Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(25b), RELEASE SOFTWARE (fc1)

Technical Support: <http://www.cisco.com/techsupport>

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Compiled Wed 12-Aug-09 10:49 by prod_rel_team

advertisement version: 2

VTP Management Domain: ''

Duplex: full

Management address(es):

Device ID: DSW2

Entry address(es):

IP address: 10.2.4.14

Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP

Interface: FastEthernet0/24, Port ID (outgoing port): FastEthernet0/24

Holdtime : 137 sec

Version :

Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version 12.2(44)SE6, RELEASE SOFTWARE (fc1)

Copyright (c) 1986-2009 by Cisco Systems, Inc.

Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2

Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27, value=00000000FFFFFFFF0102250C0000000000000000BFD20BA00FF0000

VTP Management Domain: 'netlearning'

Duplex: full

Management address(es):

IP address: 10.2.4.14

Device ID: DSW2

Entry address(es):

IP address: 10.2.4.14

Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP

Interface: FastEthernet0/23, Port ID (outgoing port): FastEthernet0/23

Holdtime : 136 sec

Version :

Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version 12.2(44)SE6, RELEASE SOFTWARE (fc1)

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Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2

Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFFF0102250C0000000000000000BFD20BA00FF0000
VTP Management Domain: 'netlearning'
Duplex: full
Management address(es):
IP address: 10.2.4.14

Device ID: DSW2
Entry address(es):
IP address: 10.2.4.14
Platform: Cisco WS-C3550-24-PWR, Capabilities: Router Switch IGMP
Interface: FastEthernet0/22, Port ID (outgoing port): FastEthernet0/22
Holdtime : 135 sec

Version :
Cisco IOS Software, C3550 Software (C3550-IPSERVICESK9-M), Version
12.2(44)SE6, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2009 by Cisco Systems, Inc.
Compiled Mon 09-Mar-09 20:28 by gereddy

advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFFF0102250C0000000000000000BFD20BA00FF0000
VTP Management Domain: 'netlearning'
Duplex: full
Management address(es):
IP address: 10.2.4.14

Device ID: ASW1
Entry address(es):
IP address: 192.168.1.131
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP
Interface: FastEthernet0/21, Port ID (outgoing port): FastEthernet0/21
Holdtime : 133 sec

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

advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFFF0102250100000000000000015FAAC46C0FF0000
VTP Management Domain: 'netlearning'
Native VLAN: 1
Duplex: full
Management address(es):
IP address: 192.168.1.131

Device ID: ASW1
Entry address(es):
 IP address: 192.168.1.131
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP
Interface: FastEthernet0/20, Port ID (outgoing port): FastEthernet0/20
Holdtime : 132 sec

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

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

Device ID: ASW1
Entry address(es):
 IP address: 192.168.1.131
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP
Interface: FastEthernet0/19, Port ID (outgoing port): FastEthernet0/19
Holdtime : 131 sec

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

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

Device ID: ASW2
Entry address(es):
 IP address: 192.168.1.132
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP
Interface: FastEthernet0/18, Port ID (outgoing port): FastEthernet0/18
Holdtime : 130 sec

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

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

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

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

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

Device ID: ASW2
Entry address(es):
IP address: 192.168.1.132
Platform: cisco WS-C2950-24, Capabilities: Switch IGMP
Interface: FastEthernet0/17, Port ID (outgoing port): FastEthernet0/17
Holdtime : 129 sec

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

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

advertisement version: 2
Protocol Hello: OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFFF0102250200000000000000015FAB82880FF0000
VTP Management Domain: 'netlearning'
Native VLAN: 1
Duplex: full
Management address(es):
 IP address: 192.168.1.132

DSW1#

```
DSW1#show arp
Protocol Address      Age (min)  Hardware Addr  Type   Interface
Internet 10.2.4.13           -           000d.bde3.6e00 ARPA   Port-
channel12
Internet 10.2.4.14           38          000b.fd20.ba00 ARPA   Port-
channel12
```

```

Internet 10.2.2.2          - 000d.bde3.6e00  ARPA  Vlan20
Internet 10.2.1.1          - 000d.bde3.6e00  ARPA  Vlan10
Internet 10.1.4.6          - 000d.bde3.6e00  ARPA
FastEthernet0/1
Internet 10.1.4.5          38 0019.5578.1cb2  ARPA
FastEthernet0/1
Internet 10.2.1.2          38 000b.fd20.ba00  ARPA  Vlan10
Internet 10.2.2.1          38 000b.fd20.ba00  ARPA  Vlan20
Internet 10.2.1.4          11 001c.238e.dbbc  ARPA  Vlan10
Internet 192.168.1.129     - 000d.bde3.6e00  ARPA  Vlan200
DSW1#

```

```

DSW1#show ip arp
Protocol Address           Age (min)  Hardware Addr   Type   Interface
-----
Internet 10.2.4.13          -          000d.bde3.6e00  ARPA   Port-
channel12
Internet 10.2.4.14          38         000b.fd20.ba00  ARPA   Port-
channel12
Internet 10.2.2.2          -          000d.bde3.6e00  ARPA   Vlan20

```

```
Internet 10.2.1.1          - 000d.bde3.6e00  ARPA  Vlan10
Internet 10.1.4.6          - 000d.bde3.6e00  ARPA
FastEthernet0/1
Internet 10.1.4.5          38 0019.5578.1cb2  ARPA
FastEthernet0/1
Internet 10.2.1.2          38 000b.fd20.ba00  ARPA  Vlan10
Internet 10.2.2.1          38 000b.fd20.ba00  ARPA  Vlan20
Internet 10.2.1.4          11 001c.238e.dbbc  ARPA  Vlan10
Internet 192.168.1.129     - 000d.bde3.6e00  ARPA  Vlan200
DSW1#
```

```
DSW1#show ip interface
Vlan1 is administratively down, line protocol is down
  Internet protocol processing disabled
Vlan10 is up, line protocol is up
  Internet address is 10.2.1.1/24
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
```

```
Helper address is 10.1.4.5
Directed broadcast forwarding is disabled
Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
224.0.0.13
    224.0.0.10
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Vlan20 is up, line protocol is up
Internet address is 10.2.2.2/24
Broadcast address is 255.255.255.255
Address determined by non-volatile memory
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
224.0.0.13
    224.0.0.10
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
```

```
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Vlan200 is up, line protocol is up
  Internet address is 192.168.1.129/27
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Outgoing access list is not set
  Inbound access list is not set
  Proxy ARP is enabled
  Local Proxy ARP is disabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachable are always sent
  ICMP mask replies are never sent
  IP fast switching is enabled
  IP CEF switching is enabled
  IP CEF switching turbo vector
  IP Null turbo vector
  IP multicast fast switching is enabled
  IP multicast distributed fast switching is disabled
  IP route-cache flags are Fast, CEF
  Router Discovery is disabled
  IP output packet accounting is disabled
  IP access violation accounting is disabled
  TCP/IP header compression is disabled
  RTP/IP header compression is disabled
  Probe proxy name replies are disabled
  Policy routing is disabled
  Network address translation is disabled
  BGP Policy Mapping is disabled
  WCCP Redirect outbound is disabled
  WCCP Redirect inbound is disabled
  WCCP Redirect exclude is disabled
FastEthernet0/1 is up, line protocol is up
  Internet address is 10.1.4.6/30
```


Broadcast address is 255.255.255.255
Address determined by non-volatile memory
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
224.0.0.13
 224.0.0.10
Outgoing access list is not set
Inbound access list is not set
Proxy ARP is enabled
Local Proxy ARP is disabled
Security level is default
Split horizon is enabled
ICMP redirects are always sent
ICMP unreachable are always sent
ICMP mask replies are never sent
IP fast switching is enabled
IP CEF switching is enabled
IP CEF switching turbo vector
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
FastEthernet0/2 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/3 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/4 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/5 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/6 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/7 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/8 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/9 is down, line protocol is down
 Inbound access list is not set
FastEthernet0/10 is down, line protocol is down
 Inbound access list is not set

```
FastEthernet0/11 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/12 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/13 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/14 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/15 is down, line protocol is down
  Inbound access list is not set
FastEthernet0/16 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/17 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/18 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/19 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/20 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/21 is up, line protocol is up
  Inbound access list is not set
FastEthernet0/22 is up, line protocol is up
  Internet protocol processing disabled
FastEthernet0/23 is up, line protocol is up
  Internet protocol processing disabled
FastEthernet0/24 is up, line protocol is up
  Internet protocol processing disabled
GigabitEthernet0/1 is administratively down, line protocol is down
  Inbound access list is not set
GigabitEthernet0/2 is administratively down, line protocol is down
  Inbound access list is not set
Port-channel12 is up, line protocol is up
  Internet address is 10.2.4.13/30
  Broadcast address is 255.255.255.255
  Address determined by non-volatile memory
  MTU is 1500 bytes
  Helper address is not set
  Directed broadcast forwarding is disabled
  Multicast reserved groups joined: 224.0.0.1 224.0.0.2 224.0.0.22
  224.0.0.13
    224.0.0.10
  Outgoing access list is not set
  Inbound access list is not set
  Proxy ARP is enabled
  Local Proxy ARP is disabled
  Security level is default
  Split horizon is enabled
  ICMP redirects are always sent
  ICMP unreachable are always sent
  ICMP mask replies are never sent
  IP fast switching is enabled
  IP CEF switching is enabled
  IP CEF switching turbo vector
```

```
IP Null turbo vector
IP multicast fast switching is enabled
IP multicast distributed fast switching is disabled
IP route-cache flags are Fast, CEF
Router Discovery is disabled
IP output packet accounting is disabled
IP access violation accounting is disabled
TCP/IP header compression is disabled
RTP/IP header compression is disabled
Probe proxy name replies are disabled
Policy routing is disabled
Network address translation is disabled
BGP Policy Mapping is disabled
WCCP Redirect outbound is disabled
WCCP Redirect inbound is disabled
WCCP Redirect exclude is disabled
Port-channel13 is up, line protocol is up
Port-channel14 is up, line protocol is up
Tunnel46 is up, line protocol is up
  Internet protocol processing disabled
Tunnel67 is up, line protocol is up
  Internet protocol processing disabled
DSW1#
```

```

DSW1#show ip cef
Prefix                Next Hop                Interface
0.0.0.0/0             10.1.4.5                FastEthernet0/1
0.0.0.0/32            receive
10.1.1.8/30           10.1.4.5                FastEthernet0/1
10.1.4.4/30           attached                 FastEthernet0/1
10.1.4.4/32           receive                 FastEthernet0/1
10.1.4.5/32           attached                 FastEthernet0/1
10.1.4.6/32           receive                 FastEthernet0/1
10.1.4.7/32           receive                 FastEthernet0/1
10.1.4.8/30           10.2.1.2                Vlan10
10.2.1.0/24           10.2.2.1                Vlan20
10.2.1.0/32           attached                 Vlan10
10.2.1.0/32           receive                 Vlan10
10.2.1.1/32           receive                 Vlan10
10.2.1.2/32           attached                 Vlan10
10.2.1.4/32           attached                 Vlan10
10.2.1.255/32        receive                 Vlan10
10.2.2.0/24           attached                 Vlan20
10.2.2.0/32           receive                 Vlan20
10.2.2.1/32           attached                 Vlan20
10.2.2.2/32           receive                 Vlan20
10.2.2.255/32        receive                 Vlan20
10.2.4.12/30          attached                 Port-channel12
10.2.4.12/32          receive                 Port-channel12
10.2.4.13/32          receive                 Port-channel12
10.2.4.14/32          attached                 Port-channel12
10.2.4.15/32          receive                 Port-channel12
192.168.1.128/27     attached                 Vlan200
192.168.1.128/32     receive                 Vlan200
192.168.1.129/32     receive                 Vlan200
192.168.1.159/32     receive                 Vlan200
224.0.0.0/4          multicast
224.0.0.0/24          receive
240.0.0.0/4          drop
255.255.255.255/32   receive
DSW1#

```

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

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

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

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

```
Automatic network summarization is not in effect
Maximum path: 4
Routing for Networks:
  10.1.4.6/32
  10.2.1.1/32
```

```
10.2.2.2/32
10.2.4.13/32
Routing Information Sources:
  Gateway          Distance      Last Update
  10.2.4.14        90            00:38:58
  10.1.4.5         90            00:38:58
  10.2.1.2         90            00:38:58
  10.2.2.1         90            00:38:58
Distance: internal 90 external 170
```

```
Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 192.168.1.129
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    10.3.3.2 0.0.0.0 area 0
    10.17.17.1 0.0.0.0 area 0
  Routing Information Sources:
    Gateway          Distance      Last Update
  Distance: (default is 110)
```

```
DSW1#
```

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

DSW1#


```

DSW1#show ip route eigrp
    10.0.0.0/8 is variably subnetted, 6 subnets, 2 masks
D EX   10.1.1.8/30 [170/261120] via 10.1.4.5, 00:39:14, FastEthernet0/1
D      10.1.4.8/30 [90/28416] via 10.2.2.1, 00:39:14, Vlan20
                    [90/28416] via 10.2.1.2, 00:39:14, Vlan10
D*EX 0.0.0.0/0 [170/261120] via 10.1.4.5, 00:39:14, FastEthernet0/1
DSW1#

```

```

DSW1#show ip eigrp neighbors
EIGRP-IPv4:(10) neighbors for process 10
H   Address                Interface          Hold Uptime    SRTT    RTO   Q
Seq                                     (sec)          (ms)          Cnt
Num
3   10.2.1.2                V110              12 00:39:23    3    200   0
357
2   10.2.2.1                V120              12 00:39:27    3    200   0
358

```

```

1 10.1.4.5 Fa0/1 11 00:39:55 1 200 0
154
0 10.2.4.14 Po12 10 00:39:55 1 200 0
360
DSW1#

```

```

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

```

Pending Interface	Peers	Xmit Queue Un/Reliable	Mean SRTT	Pacing Time Un/Reliable	Multicast Flow Timer
Fa0/1	1	0/0	1	0/1	50
Vl10	1	0/0	3	0/1	50

```

Vl20          1          0/0          3          0/1          50
0
Po12          1          0/0          1          0/1          50
0
DSW1#

```

```
DSW1#show vlan
```

```

VLAN Name                Status    Ports
-----
1    default                active    Fa0/4, Fa0/10, Fa0/11,
Fa0/13                    Fa0/14, Fa0/15, Gi0/1,
Gi0/2
10   VLAN0010                active
20   VLAN0020                active
200  VLAN0200                active
1002 fddi-default            act/unsup

```

```

1003 trcrf-default          act/unsup
1004 fddinet-default       act/unsup
1005 trbrf-default         act/unsup

```

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

VLAN	AREHops	STEHops	Backup	CRF
1003	7	7	off	

Remote SPAN VLANs

Primary	Secondary	Type	Ports

DSW1#

DSW1#show spanning-tree

VLAN0010

Spanning tree enabled protocol rstp

Root ID Priority 4106
Address 000d.bde3.6e00
This bridge is the root
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 4106 (priority 4096 sys-id-ext 10)
Address 000d.bde3.6e00
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
Pol3	Desg	FWD	9	128.66	P2p Peer (STP)

VLAN0020

Spanning tree enabled protocol rstp

Root ID Priority 4116
Address 000b.fd20.ba00
Cost 18
Port 67 (Port-channel14)
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 8212 (priority 8192 sys-id-ext 20)
Address 000d.bde3.6e00
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	-----	-----	-----	-----	-----
-----	-----	-----	-----	-----	-----
Pol4	Root	FWD	9	128.67	P2p Peer (STP)

VLAN0200

Spanning tree enabled protocol rstp

Root ID Priority 4296
 Address 000d.bde3.6e00
 This bridge is the root
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 4296 (priority 4096 sys-id-ext 200)
 Address 000d.bde3.6e00
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Aging Time 300

Interface	Role	Sts	Cost	Prio.Nbr	Type
-----	----	---	-----	-----	-----
Po13	Desg	FWD	9	128.66	P2p Peer (STP)
Po14	Desg	FWD	9	128.67	P2p Peer (STP)

DSW1#

```
DSW1#show interfaces status
```

Port	Name	Status	Vlan	Duplex	Speed	Type
Fa0/1		connected	routed	a-full	a-100	
10/100BaseTX						
Fa0/2		notconnect	101	auto	auto	
10/100BaseTX						
Fa0/3		notconnect	102	auto	auto	
10/100BaseTX						
Fa0/4		notconnect	1	auto	auto	
10/100BaseTX						
Fa0/5		notconnect	104	auto	auto	
10/100BaseTX						
Fa0/6		notconnect	105	auto	auto	
10/100BaseTX						
Fa0/7		notconnect	106	auto	auto	
10/100BaseTX						
Fa0/8		notconnect	109	auto	auto	
10/100BaseTX						
Fa0/9		notconnect	17	auto	auto	
10/100BaseTX						
Fa0/10		notconnect	1	auto	auto	
10/100BaseTX						
Fa0/11		notconnect	1	auto	auto	
10/100BaseTX						
Fa0/12		notconnect	123	auto	auto	
10/100BaseTX						
Fa0/13		notconnect	1	auto	auto	
10/100BaseTX						
Fa0/14		notconnect	1	auto	auto	
10/100BaseTX						
Fa0/15		notconnect	1	auto	auto	
10/100BaseTX						
Fa0/16		connected	trunk	a-full	a-100	
10/100BaseTX						
Fa0/17		connected	trunk	a-full	a-100	
10/100BaseTX						
Fa0/18		connected	trunk	a-full	a-100	
10/100BaseTX						
Fa0/19		connected	trunk	a-full	a-100	
10/100BaseTX						
Fa0/20		connected	trunk	a-full	a-100	
10/100BaseTX						
Fa0/21		connected	trunk	a-full	a-100	
10/100BaseTX						
Fa0/22		connected	routed	a-full	a-100	
10/100BaseTX						
Fa0/23		connected	routed	a-full	a-100	
10/100BaseTX						
Fa0/24		connected	routed	a-full	a-100	
10/100BaseTX						
Gi0/1		disabled	1	auto	auto	
unknown						

Gi0/2	disabled	1	auto	auto
unknown				
Po12	connected	routed	a-full	a-100
Po13	connected	trunk	a-full	a-100
Po14	connected	trunk	a-full	a-100
DSW1#				

DSW1#show interfaces switchport

Name: Fa0/2
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 101 (Inactive)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none

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

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

Name: Fa0/3
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 102 (Inactive)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/4
Switchport: Enabled
Administrative Mode: dynamic desirable
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: On

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

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

Name: Fa0/5
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 104 (Inactive)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/6
Switchport: Enabled

Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 105 (Inactive)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/7
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 106 (Inactive)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled

Appliance trust: none

Name: Fa0/8

Switchport: Enabled

Administrative Mode: static access

Operational Mode: down

Administrative Trunking Encapsulation: negotiate

Negotiation of Trunking: Off

Access Mode VLAN: 109 (Inactive)

Trunking Native Mode VLAN: 1 (default)

Administrative Native VLAN tagging: enabled

Voice VLAN: none

Administrative private-vlan host-association: none

Administrative private-vlan mapping: none

Administrative private-vlan trunk native VLAN: none

Administrative private-vlan trunk Native VLAN tagging: enabled

Administrative private-vlan trunk encapsulation: dot1q

Administrative private-vlan trunk normal VLANs: none

Administrative private-vlan trunk associations: none

Administrative private-vlan trunk mappings: none

Operational private-vlan: none

Trunking VLANs Enabled: ALL

Pruning VLANs Enabled: 2-1001

Capture Mode Disabled

Capture VLANs Allowed: ALL

Protected: false

Unknown unicast blocked: disabled

Unknown multicast blocked: disabled

Appliance trust: none

Name: Fa0/9

Switchport: Enabled

Administrative Mode: static access

Operational Mode: down

Administrative Trunking Encapsulation: negotiate

Negotiation of Trunking: Off

Access Mode VLAN: 17 (Inactive)

Trunking Native Mode VLAN: 1 (default)

Administrative Native VLAN tagging: enabled

Voice VLAN: none

Administrative private-vlan host-association: none

Administrative private-vlan mapping: none

Administrative private-vlan trunk native VLAN: none

Administrative private-vlan trunk Native VLAN tagging: enabled

Administrative private-vlan trunk encapsulation: dot1q

Administrative private-vlan trunk normal VLANs: none

Administrative private-vlan trunk associations: none

Administrative private-vlan trunk mappings: none

Operational private-vlan: none

Trunking VLANs Enabled: ALL

Pruning VLANs Enabled: 2-1001

Capture Mode Disabled

Capture VLANs Allowed: ALL

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

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

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

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

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

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

Name: Fa0/12
Switchport: Enabled
Administrative Mode: static access
Operational Mode: down
Administrative Trunking Encapsulation: negotiate
Negotiation of Trunking: Off
Access Mode VLAN: 123 (Inactive)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: ALL
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

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

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

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

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

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

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

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

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

Name: Fa0/16
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po14)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 20,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/17
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po14)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q

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

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

Name: Fa0/18
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po14)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 20,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/19
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po13)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/20
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po13)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

Name: Fa0/21
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk (member of bundle Po13)
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 10,200
Pruning VLANs Enabled: 2-1001
Capture Mode Disabled
Capture VLANs Allowed: ALL

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

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

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

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

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

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

Name: Po13
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none

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

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

Name: Po14
Switchport: Enabled
Administrative Mode: trunk
Operational Mode: trunk
Administrative Trunking Encapsulation: dot1q
Operational Trunking Encapsulation: dot1q
Negotiation of Trunking: On
Access Mode VLAN: 1 (default)
Trunking Native Mode VLAN: 1 (default)
Administrative Native VLAN tagging: enabled
Voice VLAN: none
Administrative private-vlan host-association: none
Administrative private-vlan mapping: none
Administrative private-vlan trunk native VLAN: none
Administrative private-vlan trunk Native VLAN tagging: enabled
Administrative private-vlan trunk encapsulation: dot1q
Administrative private-vlan trunk normal VLANs: none
Administrative private-vlan trunk associations: none
Administrative private-vlan trunk mappings: none
Operational private-vlan: none
Trunking VLANs Enabled: 20,200
Pruning VLANs Enabled: 2-1001

Protected: false
Unknown unicast blocked: disabled
Unknown multicast blocked: disabled
Appliance trust: none
DSW1#

```
DSW1#show interfaces trunk
```

Port	Mode	Encapsulation	Status	Native vlan
Po13	on	802.1q	trunking	1
Po14	on	802.1q	trunking	1

Port	Vlans allowed on trunk
Po13	10,200
Po14	20,200

Port	Vlans allowed and active in management domain
Po13	10,200
Po14	20,200

Port	Vlans in spanning tree forwarding state and not pruned
Po13	10,200
Po14	20,200

```
DSW1#
```

```
DSW1#show vtp status
VTP Version                : running VTP2
Configuration Revision     : 36
Maximum VLANs supported locally : 1005
Number of existing VLANs   : 8
VTP Operating Mode        : Server
VTP Domain Name           : netlearning
VTP Pruning Mode          : Disabled
VTP V2 Mode               : Enabled
VTP Traps Generation      : Disabled
MD5 digest                 : 0x3A 0xD8 0x7D 0x4B 0xF5 0x78 0x54 0xCE
Configuration last modified by 10.2.1.1 at 3-1-93 00:50:15
Local updater ID is 10.2.1.1 on interface Vl10 (lowest numbered VLAN
interface found)
DSW1#
```

```
DSW1#show vtp password
VTP Password: cisco
DSW1#
```


DSW1#show etherchannel detail

Channel-group listing:

Group: 12

Group state = L3

Ports: 3 Maxports = 8

Port-channels: 1 Max Port-channels = 1

Protocol: -

Minimum Links: 0

Ports in the group:

Port: Fa0/22

Port state = Up Mstr In-Bndl

Channel group = 12 Mode = On

Gcchange = -

Port-channel = Po12 GC = -

Pseudo port-channel =

Po12

Port index = 0 Load = 0x00

Protocol = -

Age of the port in the current state: 0d:00h:41m:50s

Port: Fa0/23

Port state = Up Mstr In-Bndl

Channel group = 12 Mode = On

Gcchange = -

Port-channel = Po12 GC = -

Pseudo port-channel =

Po12

Port index = 0 Load = 0x00

Protocol = -

Age of the port in the current state: 0d:00h:41m:50s

Port: Fa0/24

Port state = Up Mstr In-Bndl

Channel group = 12 Mode = On

Gcchange = -

Port-channel = Po12 GC = -

Pseudo port-channel =

Po12

Port index = 0 Load = 0x00

Protocol = -

Age of the port in the current state: 0d:00h:41m:50s

Port-channels in the group:

Port-channel: Po12

Age of the Port-channel = 0d:00h:41m:53s
Logical slot/port = 1/0 Number of ports = 3
GC = 0x00000000 HotStandBy port = null
Passive port list = Fa0/22 Fa0/23 Fa0/24
Port state = Port-channel L3-Ag Ag-Inuse
Protocol = -
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:00h:41m:51s Fa0/24

Group: 13

Group state = L2
Ports: 3 Maxports = 16
Port-channels: 1 Max Port-channels = 1
Protocol: LACP
Minimum Links: 0

Ports in the group:

Port: Fa0/19

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

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

Local information:

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

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/19	SP		32768	0015.faac.46c0	18s	0x0	0x1	0x13

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

Port: Fa0/20

```

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

```

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

Local information:

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

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/20	SP		32768	0015.faac.46c0	5s	0x0	0x1	0x14

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

Port: Fa0/21

```

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

```

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

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

Local information:

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

Partner's information:

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

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

Port-channels in the group:

Port-channel: Po13 (Primary Aggregator)

Age of the Port-channel = 0d:00h:41m:57s
Logical slot/port = 1/1 Number of ports = 3
HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = LACP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:00h:41m:46s Fa0/21

Group: 14

Group state = L2
Ports: 3 Maxports = 8
Port-channels: 1 Max Port-channels = 1
Protocol: PAgP
Minimum Links: 0

Ports in the group:

Port: Fa0/16

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

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

Local information:

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

Partner's information:

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

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

Port: Fa0/17

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

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

Local information:

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

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	1s	SC
20001					

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

Port: Fa0/18

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

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

Local information:

Group	Flags	State	Timers	Interval	Count	Priority	Method	
Fa0/18	SAC	U6/S7	HQ	30s	1	128	Any	33

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	22s	SC
20001					

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

Port-channels in the group:

Port-channel: Po14

Age of the Port-channel = 0d:00h:42m:03s
Logical slot/port = 1/2 Number of ports = 3
GC = 0x000E0001 HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = PAgP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:00h:41m:55s Fa0/18

DSW1#

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



```
DSW1#show standby brief
```

```
      P indicates configured to preempt.
```

```
      |
```

Interface	Grp	Prio	P	State	Active	Standby	Virtual
Vl10	10	110		Standby	10.2.1.2	local	

```
IP  
10.2.1.254  
DSW1#
```

```
DSW1#show spanning-tree inconsistentports
```

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

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

DSW1#

DSW1#show spanning-tree summary
Switch is in rapid-pvst mode
Root bridge for: VLAN0010, VLAN0200

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

Name	Blocking	Listening	Learning	Forwarding	STP Active
VLAN0010	0	0	0	1	1

VLAN0020	0	0	0	1	1
VLAN0200	0	0	0	2	2

3 vlans	0	0	0	4	4

DSW1#

DSW1#show uddl

Interface Fa0/1

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/2

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/3

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

Interface Fa0/4

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

Interface Fa0/5

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

Interface Fa0/6

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

Interface Fa0/7

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

Interface Fa0/8

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

Interface Fa0/9

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

Interface Fa0/10

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

Interface Fa0/11

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

Interface Fa0/12

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

Interface Fa0/13

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

Interface Fa0/14

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

Interface Fa0/15

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

Interface Fa0/16

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

Interface Fa0/17

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

Interface Fa0/18

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

Interface Fa0/19

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

Interface Fa0/20

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

Interface Fa0/21

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/22

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/23

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Fa0/24

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Gi0/1

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

Interface Gi0/2

Port enable administrative configuration setting: Disabled

Port enable operational state: Disabled

Current bidirectional state: Unknown

DSW1#

DSW1#show etherchannel summary

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

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

Number of channel-groups in use: 3

Number of aggregators: 3

Group	Port-channel	Protocol	Ports		
-----+-----+-----+-----					

12	Po12 (RU)	-	Fa0/22 (P)	Fa0/23 (P)	Fa0/24 (P)
13	Po13 (SU)	LACP	Fa0/19 (P)	Fa0/20 (P)	Fa0/21 (P)
14	Po14 (SU)	PAgP	Fa0/16 (P)	Fa0/17 (P)	Fa0/18 (P)

DSW1#

```
DSW1#show etherchannel protocol
      Channel-group listing:
      -----
```

```
Group: 12
```

```
-----
```

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

```
Group: 13
```

```
-----
```

```
Protocol: LACP
```

```
Group: 14
```

```
-----
```

```
Protocol: PAgP
```

```
DSW1#
```


DSW1#show etherchannel port

Channel-group listing:

Group: 12

Ports in the group:

Port: Fa0/22

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

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

Port: Fa0/23

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

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

Port: Fa0/24

```

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

```

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

Group: 13

Ports in the group:

Port: Fa0/19

```

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

```

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

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

Local information:

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

Partner's information:

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

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

Port: Fa0/20

```

Port state      = Up Mstr Assoc In-Bndl
Channel group   = 13             Mode = Active         Gcchange = -

```

Port-channel = Po13 GC = - Pseudo port-channel = Po13
Port index = 0 Load = 0x00 Protocol = LACP

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

Local information:

Port	Flags	State	Priority	Admin	Oper	Port
Fa0/20	SA	bndl	32768	0xD	0xD	0x11
0x3D						

Partner's information:

Port	Flags	State	Priority	Dev ID	Age	Admin	Oper	Port
Fa0/20	SP		32768	0015.faac.46c0	22s	0x0	0x1	0x14
0x3C								

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

Port: Fa0/21

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

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

Local information:

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

Partner's information:

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

Port State	Flags	Priority	Dev ID	Age	key	Key	Number
Fa0/21 0x3C	SP	32768	0015.faac.46c0	19s	0x0	0x1	0x15

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

Group: 14

Ports in the group:

Port: Fa0/16

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

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

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

Local information:

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

Partner's information:

Group	Partner Name	Partner Device ID	Partner Port	Partner Age	Partner Flags
	Fa0/16	ASW2	0015.fab8.2880	Fa0/16	7s SC

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

Port: Fa0/17

Port state = Up Mstr In-Bndl
Channel group = 14 Mode = Automatic-S1 Gcchange = 0

Port-channel = Po14 GC = 0x000E0001 Pseudo port-channel = Po14
Port index = 0 Load = 0x00 Protocol = PAgP

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

Local information:

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

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Fa0/17	ASW2	0015.fab8.2880	Fa0/17	14s	SC
20001					

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

Port: Fa0/18

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

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

Local information:

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

Fa0/18 SAC U6/S7 HQ 30s 1 128 Any 33

Partner's information:

Group	Partner	Partner	Partner	Partner	
Port	Name	Device ID	Port	Age	Flags
Fa0/18	ASW2	0015.fab8.2880	Fa0/18	11s	SC
20001					

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

DSW1#

DSW1#show etherchannel load-balance
EtherChannel Load-Balancing Configuration:
src-mac

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

DSW1#

DSW1#show etherchannel port-channel
Channel-group listing:

Group: 12

Port-channels in the group:

Port-channel: Po12

Age of the Port-channel = 0d:00h:43m:26s
Logical slot/port = 1/0 Number of ports = 3
GC = 0x00000000 HotStandBy port = null
Passive port list = Fa0/22 Fa0/23 Fa0/24
Port state = Port-channel L3-Ag Ag-Inuse
Protocol = -
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:00h:43m:24s Fa0/24

Group: 13

Port-channels in the group:

Port-channel: Po13 (Primary Aggregator)

Age of the Port-channel = 0d:00h:43m:26s
Logical slot/port = 1/1 Number of ports = 3
HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = LACP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:00h:43m:15s Fa0/21

Group: 14

Port-channels in the group:

Port-channel: Po14

Age of the Port-channel = 0d:00h:43m:27s
Logical slot/port = 1/2 Number of ports = 3

GC = 0x000E0001 HotStandBy port = null
Port state = Port-channel Ag-Inuse
Protocol = PAgP
Port security = Disabled

Ports in the Port-channel:

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

Time since last port bundled: 0d:00h:43m:20s Fa0/18

DSW1#

DSW1#show pagp neighbor

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

Channel group 14 neighbors

Group	Partner	Partner	Partner	Partner
Port	Name	Device ID	Port	Age Flags
Fa0/16 20001	ASW2	0015.fab8.2880	Fa0/16	1s SC
Fa0/17 20001	ASW2	0015.fab8.2880	Fa0/17	9s SC
Fa0/18 20001	ASW2	0015.fab8.2880	Fa0/18	2s SC

DSW1#show lacp neighbor

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

Channel group 13 neighbors

Partner's information:

Port	Flags	LACP port	Priority	Dev ID	Age	Admin key	Oper Key	Port Number
Fa0/19 0x3C	SP		32768	0015.faac.46c0	13s	0x0	0x1	0x13
Fa0/20 0x3C	SP		32768	0015.faac.46c0	1s	0x0	0x1	0x14
Fa0/21 0x3C	SP		32768	0015.faac.46c0	24s	0x0	0x1	0x15

DSW1#

```

DSW1#show port-security
Secure Port  MaxSecureAddr  CurrentAddr  SecurityViolation  Security
Action                (Count)      (Count)      (Count)
-----
--
      Fa0/2                2            0            0
Shutdown
-----
--
Total Addresses in System (excluding one mac per port)    : 0
Max Addresses limit in System (excluding one mac per port) : 5120
DSW1#

```

```

DSW1#show port-security address
      Secure Mac Address Table
-----
Vlan    Mac Address          Type                Ports  Remaining Age

```



```
DSW1#show ntp associations
```

```
      address          ref clock      st  when  poll reach  delay  offset
disp
*~10.1.1.1           127.127.1.1      5   6     64  377   154.2   3.84
0.7
```

```
* master (syncd), # master (unsyncd), + selected, - candidate, ~
configured
```

```
DSW1#
```

```
DSW1#
```