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Troubleshooting method: follow-the-path

Define the problem:

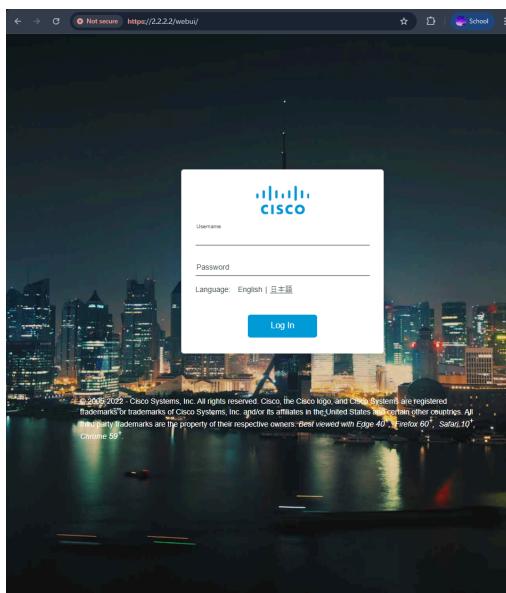
- When DLS2 was rebooted, clients in VLAN 120 and ALS1 (VLAN99) lost their default-gateway path
- ALS1 can't ping the internet

Steps taken to find issue:

→ connectivity works when DLS2 is still online (its port channels are still up)

```
ALS1#ping 10.1.120.252
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 10.1.120.252, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/4 ms

ALS1#ping 2.2.2.2
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 2.2.2.2, timeout is 2 seconds:
!!!!!
Success rate is 80 percent (4/5), round-trip min/avg/max = 1/1/4 ms
ALS1#
```



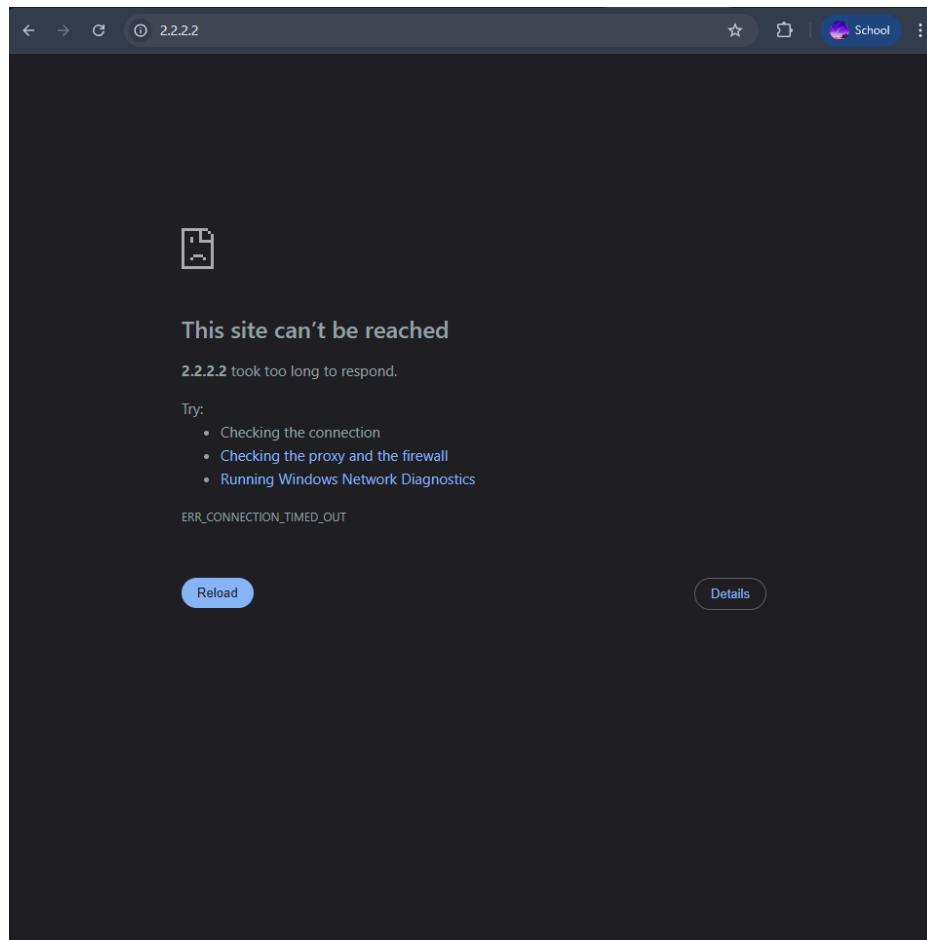
→ PC-B is able to connect to <https://2.2.2.2>

- int port-channel 1
- shutdown
- int port-channel 10

→ shutdown

Once portchannels were shut down on DLS2, when we try to access <https://2.2.2.2> on PC-B, it is not connecting

```
Port-channel1      unassigned      YES  unset   up          up
Port-channel10     unassigned      YES  unset   up          up
DLS1#config t
Enter configuration commands, one per line. End with CNTL/Z.
DLS1(config)#int port-channel 1
DLS1(config-if)#shutdown
DLS1(config-if)#
Oct 9 14:41:35.690: %PARSER-5-CFGLOG_LOGGEDCMD: User:console Logged command:interface Port-channel1
DLS1(config-if)#
Oct 9 14:41:41.422: %PARSER-5-CFGLOG_LOGGEDCMD: User:console Logged command:shutdown
DLS1(config-if)#
Oct 9 14:41:42.415: %LINEPROTO-5-UPDOWN: Line protocol on Interface Port-channel1, changed state to down
Oct 9 14:41:43.389: %LINK-5-CHANGED: Interface GigabitEthernet1/0/5, changed state to administratively down
Oct 9 14:41:43.407: %LINK-5-CHANGED: Interface GigabitEthernet1/0/6, changed state to administratively down
DLS1(config-if)#
Oct 9 14:41:43.416: %LINK-5-CHANGED: Interface Port-channel1, changed state to administratively down
Oct 9 14:41:44.389: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/5, changed state to down
Oct 9 14:41:44.406: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/0/6, changed state to down
DLS1(config-if)#exit
DLS1(config)#
Oct 9 14:41:45.569: %PARSER-5-CFGLOG_LOGGEDCMD: User:console Logged command:exit
DLS1(config)#int port-channel 10
DLS1(config-if)#shut
DLS1(config-if)#
Oct 9 14:41:48.891: %PARSER-5-CFGLOG_LOGGEDCMD: User:console Logged command:interface Port-channel10
DLS1(config-if)#
Oct 9 14:41:51.501: %PARSER-5-CFGLOG_LOGGEDCMD: User:console Logged command:shutdown
DLS1(config-if)#
DLS1#exit
```



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→ we checked if vlan 99 on DLS2 was configured properly and the group was misconfigured. The group number is 9 and supposed to be 99. The virtual ip address was also misconfigured. Documentation:

DLS2:

INT	PRIORITY	STATE	STANDBY	VIRTUAL IP
Vlan 99	110	Active	10.1.99.253	10.1.99.254 ▾

```
dls2#show running-config interface vlan99
Building configuration...
```

```
Current configuration : 210 bytes
!
interface Vlan99
  ip address 10.1.99.253 255.255.255.0
  no ip proxy-arp
  standby 9 ip 10.1.99.245
  standby 9 preempt
  ipv6 address FE80::D2 link-local
  ipv6 address 2001:DB8:CAFE:99::D2/64
  ipv6 eigrp 1
end
```

```
dls2#show standby br
          P indicates configured to preempt.
          |
Interface  Grp Pri P State Active      Standby           virtual IP
Vl99       9   100 P Active local       unknown          10.1.99.245
Vl100      100 110 P Active local     10.1.100.252    10.1.100.254
Vl110      110 100 P Standby 10.1.110.252 local          10.1.110.254
Vl120      120 100 P Standby 10.1.120.252 local          10.1.120.254
Vl200      200 110 P Active local     10.1.200.252    10.1.200.254
dls2#
```

```

Z:\>ipconfig

Windows IP Configuration

Ethernet adapter Host Adapter:

Connection-specific DNS Suffix . : tshoot.net
IPv6 Address . . . . . : 2001:db8:cafe:20:da24:cead:fa34:f72f
IPv6 Address . . . . . : 2001:db8:cafe:120:abcd:21f8:dec:604
IPv6 Address . . . . . : 2001:db8:cafe:212:d3ef:4015:b319:b6f6
Temporary IPv6 Address . . . . : 2001:db8:cafe:20:44b4:3f98:f250:92b5
Temporary IPv6 Address . . . . : 2001:db8:cafe:212:44b4:3f98:f250:92b5
Link-local IPv6 Address . . . . : fe80::c620:fcfd:4685:3e18%5
IPv4 Address . . . . . : 10.1.120.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : fe80::1%5
                                         fe80::c214:feff:fe26:1cb1%5
                                         fe80::3%5
                                         fe80::a1%5
                                         fe80::d2%5
                                         fe80::d1%5
                                         10.1.120.252

Ethernet adapter Lab Access:

Connection-specific DNS Suffix . : networkinglab.local
Link-local IPv6 Address . . . . : fe80::e1b7:f97d:ba0:e02%6
IPv4 Address . . . . . : 172.16.1.82
Subnet Mask . . . . . : 255.255.254.0
Default Gateway . . . . . : 172.16.0.254

Ethernet adapter VirtualBox Adapter:

Connection-specific DNS Suffix . :
Link-local IPv6 Address . . . . : fe80::59cd:1573:a280:25fa%3
IPv4 Address . . . . . : 192.168.56.1
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . :

```

→ DLS1 is supposed to be active while DLS2 is standby. Since these two are switched when DLS2 goes down, you can't reach the internet.

DLS1#show standby bri							
P indicates configured to preempt.							
Interface	Grp	Pri	P	State	Active	Standby	Virtual IP
Vl99	99	110	P	Standby	10.1.99.253	local	10.1.99.254
Vl100	100	100	P	Standby	10.1.100.253	local	10.1.100.254
Vl110	110	110	P	Active	local	10.1.110.253	10.1.110.254
Vl120	120	110	P	Active	local	10.1.120.253	10.1.120.254
Vl200	200	100	P	Standby	10.1.200.253	local	10.1.200.254

```

dls2#show standby bri
          P indicates configured to preempt.
          |
Interface  Grp  Pri P State   Active      standby        virtual IP
Vl99       99   110 P Active  local       10.1.99.252   10.1.99.254
Vl100      100  110 P Active  local       10.1.100.252  10.1.100.254
Vl110      110  100 P Standby 10.1.110.252 local       10.1.110.254
Vl120      120  100 P Standby 10.1.120.252 local       10.1.120.254
Vl200      200  110 P Active  local       10.1.200.252  10.1.200.254
dls2#
dls2#
dls2#config t

```

Description of the issue:

→ groups of vlan 99 were set to 9 , and misconfiguration for its virtual ip address

Commands entered to resolve the issue:

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Commands:

- Int vlan 99
- No standby 9 ip 10.1.99.254
- no standby 9
- standby version 2
- standby 99 ip 10.1.99.254
- standby 99 priority 90
- standby 99 preempt

```

dls2#show running-config int vlan 99
Building configuration...
Current configuration : 255 bytes
!
interface vlan99
  ip address 10.1.99.253 255.255.255.0
  no ip proxy-arp
  standby version 2
  standby 99 ip 10.1.99.254
  standby 99 priority 90
  standby 99 preempt
  ipv6 address FE80::D2 link-local
  ipv6 address 2001:DB8:CAFE:99::D2/64
  ipv6 eigrp 1
end

dls2#

```

→ group has been changed to 99 instead of 9, and virtual ip is configured to the proper .254 instead of .245

→ It now works even when port-channels are down

