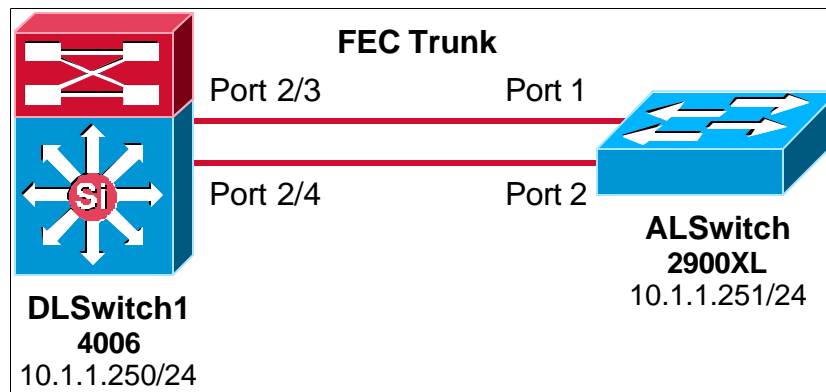


Lab 5.5.4: Configuring Fast EtherChannel



Objective:

Achieve more bandwidth between Ethernet switches by combining two 100 megabit links together to form a full duplex 200 megabit link.

Scenario:

You have saturated your uplink from your distribution layer switch to your access layer switch due to bandwidth intensive applications. The users served by ALSwitch are in need of more bandwidth. Rather than purchasing new switches that have gigabit Ethernet capability, you have discovered Fast EtherChannel (Cisco's method of scaling bandwidth for 100 megabit Ethernet links).

You will add a second 100 megabit Ethernet link between DLSwitch1 and ALSwitch and then configure them to operate as one logical link.

Lab Tasks:

1. First, configure your 4000 switch to the diagram above. You can skip this step if you already have the Lab 3.1.3 (4000 initial setup) configured.

```
Console> enable
Console> (enable) set system name DLSwitch1
System name set.
DLSwitch1> (enable)

DLSwitch1> (enable) set password
Enter old password: (Because you do not currently have a password, just hit enter)
Enter new password:
Retype new password:
Password changed.

DLSwitch1> (enable) set enablepass
Enter old password: (Because you do not currently have a password, just hit enter)
Enter new password:
Retype new password:
Password changed.
```

```
DLSwitch1> (enable) set interface sc0 10.1.1.250 255.255.255.0  
DLSwitch1> (enable) set interface sc0 1
```

2. Next, configure your 2900 switch to the diagram above. You can skip this step if you already have the Lab 3.2.3 (2900 initial setup) configured.

```
Switch>enable  
Switch#
```

Set the switch name.

```
Switch#config terminal  
Switch(config)#host ALSwitch  
ALSwitch(config)#  
ALSwitch(config)#enable password class  
ALSwitch(config)#line con 0  
ALSwitch(config-line)#login  
ALSwitch(config-line)#password cisco  
ALSwitch(config-line)#line vty 0 15  
ALSwitch(config-line)#login  
ALSwitch(config-line)#password cisco  
  
ALSwitch(config)#interface vlan 1  
ALSwitch(config-if)#ip address 10.1.1.251 255.255.255.0
```

3. Connect your uplink cables between the two switches. Remember to use crossover cables.

Connect an uplink cable from port 2/3 on DLSwitch1 to port 1 on ALSwitch.

Connect an uplink cable from port 2/4 on DLSwitch1 to port 2 on ALSwitch.

Once you connect your cables and the switch detects the two links, spanning-tree kicks in. One of the links will be disabled through spanning-tree's blocking.

4. We need to tell the Ethernet switches to treat these two physical links as one logical link.

On DLSwitch1:

Instruct the switch to combine ports 2/3 and 2/4 into one logical channel.

```
DLSwitch1> (enable) set port channel 2/3-4 mode on  
Port(s) 2/3-4 channel mode set to on.
```

On ALSwitch:

Instruct the switch to combine ports fa0/1 and fa0/2 into one logical channel.

```
ALSwitch(config-if)#int fa0/1  
ALSwitch(config-if)#port group 1 distribution dest  
ALSwitch(config-if)#int fa0/2  
ALSwitch(config-if)#port group 1 distribution dest
```

Cisco's EtherChannel gives you the ability to combine 4 - 100 megabit links together for a 400 megabit full duplex link. This allows us to scale this link even larger as bandwidth dictates.

The downside to this is that you would use eight Ethernet ports to do this. With Gigabit Ethernet here today, you will find that EtherChannel is an expensive way to get more bandwidth. But we can use this same EtherChannel technology with Gigabit links now to create multi-megabit logical links!

5. Verify that the link is operational.

The Catalyst 4000 gives us a command that we can use to examine what the status is of your EtherChannel links:

```
DLSwitch1> (enable) sh channel  
Channel Id    Ports
```

```
-----  
802           2/3-4
```

Test the functionality of the new link by pinging DLSwitch1 from ALSwitch:

```
ALSwitch#ping 10.1.1.250
```

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to 10.1.1.250, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 5/9/11
ms

6. Once the EtherChannel is established, you can configure VTP Trunking on it as well. This will allow you to trunk several VLANs over the combined links.