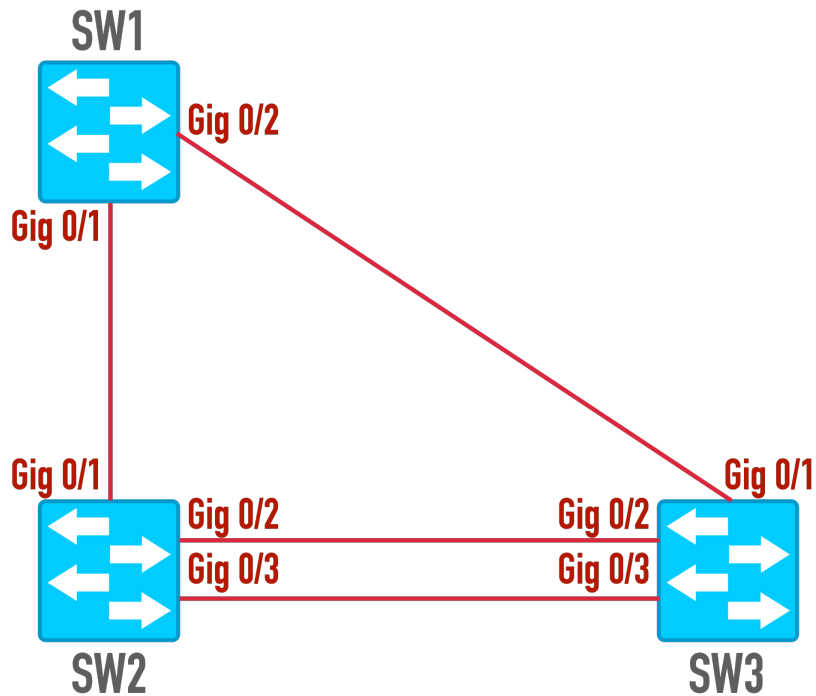


EtherChannel Lab

Topology



Initial Configuration Commands

SW1:

```
enable
conf t
no ip domain-lookup
line con 0
logging synchronous
exec-timeout 0 0
hostname SW1
int gig 0/0
shutdown
int gig 0/3
shutdown
end
copy run star
```

SW2:

```
enable
conf t
no ip domain-lookup
line con 0
logging synchronous
exec-timeout 0 0
hostname SW2
int gig 0/0
shutdown
end
copy run star
```

SW3:

```
enable
conf t
no ip domain-lookup
line con 0
logging synchronous
exec-timeout 0 0
hostname SW3
int gig 0/0
shutdown
end
copy run star
```

Lab Tasks

- Bundle connections between SW2 and SW3 into a logical EtherChannel.
- Designate the EtherChannel as a trunk port.
- Verify configuration.

Solution

Step 1: Bundle connections between SW2 and SW3 into a logical EtherChannel. **NOTE:** Port speed and duplex must match on each end of an EtherChannel. The “**no negotiation auto**” command allows you to statically configure speed and duplex. While this might not be necessary on your gear, it’s included here to demonstrate how you can statically set those parameters if you need to.

```
SW2>enable
SW2#conf t
```

```

SW2 (config)#int range gig 0/2-3
SW2 (config-if-range)#no negotiation auto
SW2 (config-if-range)#speed 1000
SW2 (config-if-range)#duplex full
SW2 (config-if-range)#channel-group 1 mode ?
  active      Enable LACP unconditionally
  auto        Enable PAgP only if a PAgP device is detected
  desirable   Enable PAgP unconditionally
  on          Enable Etherchannel only
  passive     Enable LACP only if a LACP device is detected

SW2 (config-if-range)#channel-group 1 mode desirable

```

```

SW3>enable
SW3#conf t
SW3 (config)#int range gig 0/2-3
SW3 (config-if-range)#no negotiation auto
SW3 (config-if-range)#speed 1000
SW3 (config-if-range)#duplex full
SW3 (config-if-range)#channel-group 1 mode ?
  active      Enable LACP unconditionally
  auto        Enable PAgP only if a PAgP device is detected
  desirable   Enable PAgP unconditionally
  on          Enable Etherchannel only
  passive     Enable LACP only if a LACP device is detected

```

SW3 (config-if-range)#channel-group 1 mode auto
(SW3 is set to auto while SW2 is set to desirable, meaning, SW2 is wanting to initiate the port-channel)

Step 2: Designate the EtherChannel as a trunk port.

```

SW2 (config-if-range)#int port-channel 1
SW2 (config-if)#switchport trunk encapsulation dot1q
SW2 (config-if)#switchport mode trunk
SW2 (config-if)#end

```

```

SW3 (config-if-range)#int port-channel 1
SW3 (config-if)#switchport trunk encapsulation dot1q
SW3 (config-if)#switchport mode trunk
SW3 (config-if)#end

```

Step 3: Verify configuration.

```

SW2#show ip int brief

```

Interface	IP-Address	OK?	Method	Status	Protocol
GigabitEthernet0/0	unassigned	YES	unset	administratively down	down
GigabitEthernet0/1	unassigned	YES	unset	up	up
GigabitEthernet0/2	unassigned	YES	unset	up	up
GigabitEthernet0/3	unassigned	YES	unset	up	up
Port-channell	unassigned	YES	unset	up	up

SW2#show int trunk

Port	Mode	Encapsulation	Status	Native vlan
Pol	on	802.1q	trunking	1

Port
Pol Vlans allowed on trunk
1-4094

Port
Pol Vlans allowed and active in management domain
1

Port
Pol Vlans in spanning tree forwarding state and not pruned
1

SW2#show int port-channel 1

Port-channell is up, line protocol is up (connected)
Hardware is EtherChannel, address is 5254.0005.02e2 (bia 5254.0005.02e2)
MTU 1500 bytes, BW 2000000 Kbit/sec, DLY 10 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:00:01, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/2000/0/0 (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
795 packets input, 46910 bytes, 0 no buffer
Received 0 broadcasts (0 multicasts)
0 runs, 0 giants, 0 throttles
0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
0 input packets with dribble condition detected
188 packets output, 26566 bytes, 0 underruns
0 output errors, 0 collisions, 0 interface resets
0 unknown protocol drops
0 babbles, 0 late collision, 0 deferred
0 lost carrier, 0 no carrier
0 output buffer failures, 0 output buffers swapped out

(This appears as a single 2Gbps port between our two switches, rather than two individual 1Gbps ports.)

SW3#show ip int brief

GigabitEthernet0/0	unassigned	YES	unset	administratively down	down
GigabitEthernet0/1	unassigned	YES	unset	up	up
GigabitEthernet0/2	unassigned	YES	unset	up	up
GigabitEthernet0/3	unassigned	YES	unset	up	up
Port-channell	unassigned	YES	unset	up	up

SW3#show int trunk

Port	Mode	Encapsulation	Status	Native vlan
Pol	on	802.1q	trunking	1

Port
Pol Vlans allowed on trunk
1-4094

Port
Pol Vlans allowed and active in management domain
1

Port
Pol Vlans in spanning tree forwarding state and not pruned
1

SW3#show int port-channel 1

```
Port-channel1 is up, line protocol is up (connected)
Hardware is EtherChannel, address is 5254.000e.c266 (bia 5254.000e.c266)
MTU 1500 bytes, BW 2000000 Kbit/sec, DLY 10 usec,
  reliability 255/255, txload 1/255, rxload 1/255
Encapsulation ARPA, loopback not set
Keepalive set (10 sec)
ARP type: ARPA, ARP Timeout 04:00:00
Last input 00:15:41, output never, output hang never
Last clearing of "show interface" counters never
Input queue: 0/2000/0/0 (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
  36 packets input, 2969 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 input packets with dribble condition detected
  1197 packets output, 88766 bytes, 0 underruns
  0 output errors, 0 collisions, 0 interface resets
  0 unknown protocol drops
  0 babbles, 0 late collision, 0 deferred
  0 lost carrier, 0 no carrier
  0 output buffer failures, 0 output buffers swapped out
(This appears as a single 2Gbps port between our two switches,
rather than two individual 1Gbps ports.)
```