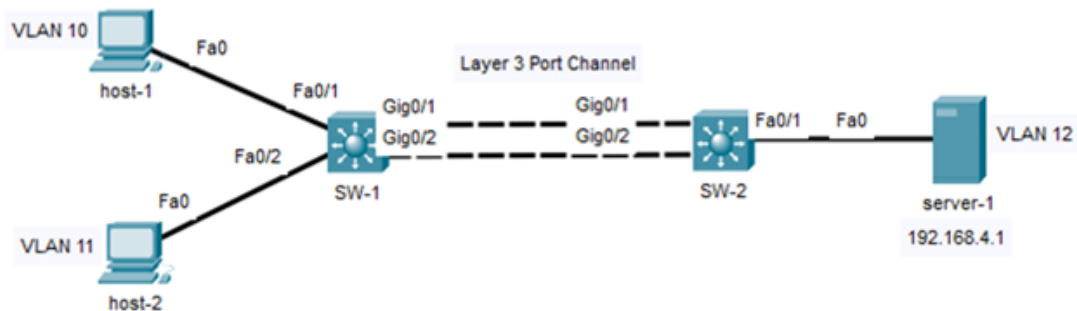


Layer 3 Port Channel

Lab Summary

Configure a Layer 3 port channel between SW-1 and SW-2 with LACP negotiation. Assign the bundle to port channel 2 and verify.

Figure 1 Lab Topology



Lab Configuration

Start Packet Tracer File: **layer 3 port channel.pkt**

Click on *SW-1* icon and select *CLI* folder.

Step 1: Enter global configuration mode.

```
SW-1> enable
SW-1# configure terminal
```

Step 2: Add GigabitEthernet0/1 to EtherChannel with LACP active mode and assign channel group 2.

```
SW-1(config)# interface gigabitethernet0/1
SW-1(config-if)# no switchport
SW-1(config-if)# channel-group 2 mode active
SW-1(config-if)# no shutdown
```

Step 3: Add GigabitEthernet0/2 to EtherChannel with LACP active mode and assign channel group 2.

```
SW-1(config)# interface gigabitethernet0/2
SW-1(config-if)# no switchport
SW-1(config-if)# channel-group 2 mode active
SW-1(config-if)# no shutdown
SW-1(config-if)# exit
```

Step 4: Configure interface port channel 2 (Po2) with IP address 192.168.3.1/24 and assign to channel-group 2.

```
SW-1(config)# interface port-channel 2  
SW-1(config-if)# ip address 192.168.3.1 255.255.255.0  
SW-1(config-if)# no shutdown  
SW-1(config-if)# end  
SW-1# copy running-config startup-config
```

Click on SW-2 icon and select *CLI* folder.

Step 5: Enter global configuration mode.

```
SW-2> enable  
SW-2# configure terminal
```

Step 6: Add GigabitEthernet0/1 to EtherChannel with LACP active mode and assign channel group 2.

```
SW-2(config)# interface gigabitethernet0/1  
SW-2(config-if)# no switchport  
SW-2(config-if)# channel-group 2 mode active  
SW-2(config-if)# no shutdown  
SW-2(config-if)# exit
```

Step 7: Add GigabitEthernet0/2 to EtherChannel with LACP desirable mode and assign channel group 2.

```
SW-2(config)# interface gigabitethernet0/2  
SW-2(config-if)# no switchport  
SW-2(config-if)# channel-group 2 mode active  
SW-2(config-if)# no shutdown  
SW-2(config-if)# exit
```

Step 8: Configure interface port channel 2 (Po2) with IP address 192.168.3.2/24 and assign to channel-group 2.

```
SW-2(config)# interface port-channel 2  
SW-2(config-if)# ip address 192.168.3.2 255.255.255.0  
SW-2(config-if)# no shutdown  
SW-2(config-if)# end  
SW-2# copy running-config startup-config
```

Step 9: Verify Lab

Verify EtherChannel configuration, operational status and neighbor connectivity.

SW-1# **show running-config**

SW-1# **show etherchannel port-channel**

Channel-group listing:

Group: 2

Port-channels in the group:

Port-channel: **Po2** (Primary Aggregator)

Age of the Port-channel = 00d:00h:09m:30s

Logical slot/port = 2/2 **Number of ports = 2**

GC = 0x00000000 HotStandBy port = null

Port state = **Port-channel**

Protocol = **LACP**

Port Security = Disabled

Ports in the Port-channel:

Index	Load	Port	EC state	No of bits
-----+-----+-----+-----+-----				
0	00	Gig0/1	Active	0
0	00	Gig0/2	Active	0

Time since last port bundled: 00d:00h:01m:29s Gig0/2

SW-1# **show etherchannel summary**

Flags: D - down P - 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
 u - unsuitable for bundling
 w - waiting to be aggregated
 d - default port

Number of channel-groups in use: 1

Number of aggregators: 1

Group	Port-channel	Protocol	Ports
2	Po2 (RU)	LACP	Gi0/1 (P) Gi0/2 (P)

Verify there is network connectivity between hosts and server-1.

host-1: c:\>**ping 192.168.4.1**

host-2: c:\>**ping 192.168.4.1**

Lab Notes

Multilayer switches are required to create Layer 3 port channel interfaces. They are routed interfaces with an IP address assigned. The channel group number is used to bundle the switch interfaces to the port channel interface.