**Lab 11: Configuring LACP EtherChannel Between Switches**

**Scenario:**

You’re working as a network engineer in a data center. To increase bandwidth and provide redundancy between **Switch1** and **Switch2**, you are tasked with configuring **LACP-based EtherChannel** using two FastEthernet links.

**🎯 Objective:**

* Configure **LACP EtherChannel (mode active/passive)** between two switches
* Ensure **redundancy and load balancing**
* Verify EtherChannel operation

**🧰 Devices Required:**

* 2 Switches (Switch1, Switch2)
* 2 Ethernet cables (e.g., Fa0/1 and Fa0/2 on both switches)

**🔧 Configuration Steps:**

**🔹 1. Connect the switches:**

* Connect Fa0/1 on Switch1 ↔ Fa0/1 on Switch2
* Connect Fa0/2 on Switch1 ↔ Fa0/2 on Switch2

**🔹 2. Configure Switch1**

bash

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enable

configure terminal

interface range fa0/1 - 2

switchport mode trunk

channel-group 1 mode active

exit

interface port-channel 1

switchport mode trunk

exit

**🔹 3. Configure Switch2**

bash

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enable

configure terminal

interface range fa0/1 - 2

switchport mode trunk

channel-group 1 mode passive

exit

interface port-channel 1

switchport mode trunk

exit

💡 LACP requires at least one side to be **active**; the other can be **active** or **passive**.

**🔍 Verification Commands**

**On both switches:**

bash

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show etherchannel summary

Look for:

* **Port-channel 1**
* Status P (in SU or DP) — means it's working
* Both interfaces listed in the EtherChannel group

Also try:

bash

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show interfaces port-channel 1

And test traffic over the port-channel with connected PCs if needed.

**🧪 Bonus Testing:**

* Disconnect one link and confirm traffic still flows (redundancy).
* Reconnect and verify it rejoins automatically.

Output:

Switch#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

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1 Po1(SU) LACP Fa0/1(P) Fa0/2(P)

Switch#show interfaces port-channel 1

Port-channel1 is up, line protocol is up (connected)

Hardware is EtherChannel, address is 000a.4141.7255 (bia 000a.4141.7255)

MTU 1500 bytes, BW 200000 Kbit, DLY 1000 usec,

reliability 255/255, txload 1/255, rxload 1/255

Encapsulation ARPA, loopback not set

Keepalive set (10 sec)

Half-duplex, 200Mb/s

input flow-control is off, output flow-control is off

Members in this channel: Fa0/1 ,Fa0/2 ,

ARP type: ARPA, ARP Timeout 04:00:00

Last input 00:00:08, 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

956 packets input, 193351 bytes, 0 no buffer

Received 956 broadcasts, 0 runts, 0 giants, 0 throttles

0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort

0 watchdog, 0 multicast, 0 pause input

0 input packets with dribble condition detected

2357 packets output, 263570 bytes, 0 underruns

0 output errors, 0 collisions, 10 interface resets

0 babbles, 0 late collision, 0 deferred

0 lost carrier, 0 no carrier

0 output buffer failures, 0 output buffers swapped out