



**Networkforyou**

Subscribe to our  
**You Tube Channel**



**Networkforyou**



**Welcome  
To  
Network for you  
EtherChannel**



Email us:  
[networkforyou4@gmail.com](mailto:networkforyou4@gmail.com)

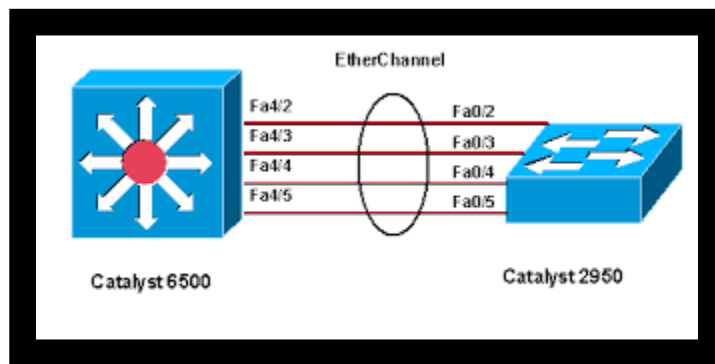
1 of 25

WhatsApp Us : +918143809578



## Ether Channel

- It is also known as Link aggregation.
- Ether channel is a technology which allows us to make multiple physical interfaces into single logical interface. So STP will not block that multiple links etc.
- Ether channel increases bandwidth and provides redundancy by aggregating individual links of switches.
- Ether Channel load balances traffic over all the links in the bundle.
- It can be configured as layer 2 or layer 3.
- Maximum we can do ether channel to 8 Physical interfaces.



### Ether Channel can be configured between switches by using two protocols.

1. PAgP (Port Aggregation Protocol) is Cisco Proprietary. (Advertises messages with the multicast MAC address 0100:0CCC:CCCC)
2. LACP (Link Aggregation Protocol) it is standard. (Advertises messages with the multicast MAC address 0180:C200:0002).
3. Manual or Static Mode without protocol.

Email us:  
[networkforyou4@gmail.com](mailto:networkforyou4@gmail.com)

2 of 25

WhatsApp Us : +918143809578



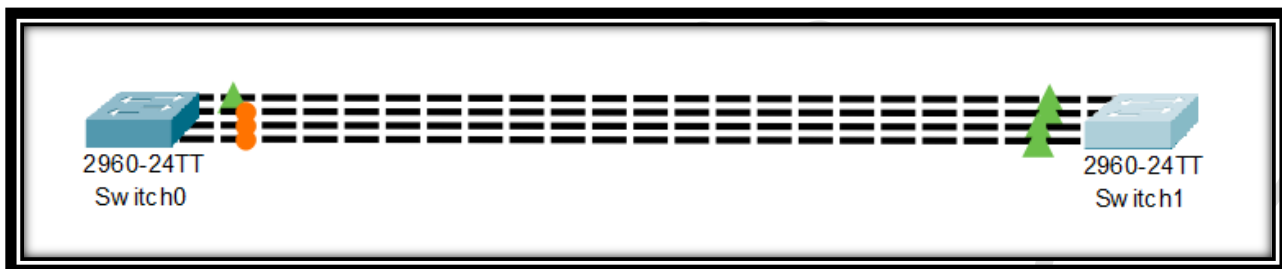
**NetworkforYou**

Subscribe to our  
**You Tube Channel**

**If we want to configure ether channel we need to make sure that all ports have the same configuration.**

- Duplex has to be the same
- Speed has to be same there.
- Same Native and allowed Vlans
- Same switchport mode (Like access or trunk).

**If we want to configure PAGP there are number of options we can choose for interface configuration as given below.**



- ON (In this Interface becomes member of the ether channel but does not negotiate).
- Desirable (In this Interface will actively ask the other side to become an ether channel).
- Auto (In this Interface will wait passively for the other side to ask to become an ether channel).
- OFF (no ether channel configured on the interface).

**Email us:**  
**networkforYou4@gmail.com**

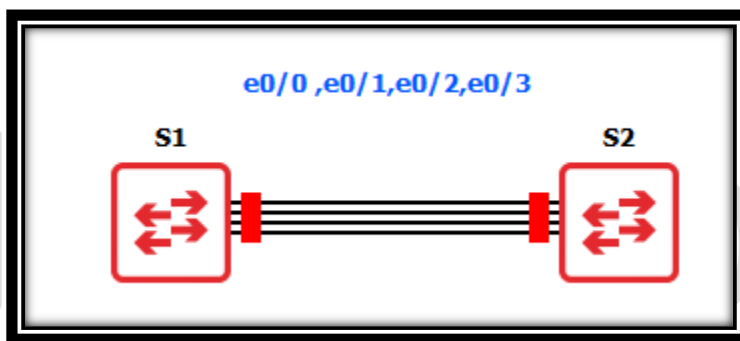
3 of 25

**WhatsApp Us : +918143809578**



LACP			PAgP		
	Active	Passive		Desirable	Auto
Active	Yes	Yes	Desirable	Yes	Yes
Passive	Yes	No	Auto	Yes	No

**Lab Time: PAgP**



SW1 PAgP Configuraiton	SW2 PAgP Configuraiton
<pre> en config t hostname SW1 interface range ethernet 0/0-3 switchport trunk encapsulation dot1q switchport mode trunk channel-protocol pagp channel-group 1 mode auto           </pre>	<pre> en config t hostname SW2 interface range ethernet 0/0-3 switchport trunk encapsulation dot1q switchport mode trunk channel-protocol pagp channel-group 1 mode desirable           </pre>

To Check Etherchannel
<pre> sh spanning-tree vlan 1 sh etherchannel summary           </pre>

<p>Email us: networkforyou4@gmail.com</p>	<p>4 of 25</p>	<p>WhatsApp Us : +918143809578</p>
---	----------------	------------------------------------



# NetworkforYou

Subscribe to our  
**You Tube Channel**

```
Sh etherchannel detail
Sh etherchannel port-channel
```

```
SW1#sh spanning-tree vlan 1
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    aabb.cc00.0100
           This bridge is the root
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
           Address    aabb.cc00.0100
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
           Aging Time 15 sec

Interface          Role Sts Cost      Prio.Nbr Type
-----
Et1/0              Desg FWD 100       128.5   P2p
Et1/1              Desg FWD 100       128.6   P2p
Et1/2              Desg FWD 100       128.7   P2p
Et1/3              Desg FWD 100       128.8   P2p
Et2/0              Desg FWD 100       128.9   P2p
Et2/1              Desg FWD 100       128.10  P2p
Et2/2              Desg FWD 100       128.11  P2p
Et2/3              Desg FWD 100       128.12  P2p
Et3/0              Desg FWD 100       128.13  P2p
Et3/1              Desg FWD 100       128.14  P2p
Et3/2              Desg FWD 100       128.15  P2p
Et3/3              Desg FWD 100       128.16  P2p
Po1                Desg FWD 41        128.65  P2p
```

Email us:  
networkforYou4@gmail.com

5 of 25

WhatsApp Us : +918143809578



```
SW1#sh etherchannel summary
Flags: D - down          P - bundled in port-channel
       I - stand-alone  S - suspended
       H - Hot-standby (LACP only)
       R - Layer3       S - Layer2
       U - in use       N - not in use, no aggregation
       f - failed to allocate aggregator

       M - not in use, minimum links not met
       m - not in use, port not aggregated due to minimum links not met
       u - unsuitable for bundling
       w - waiting to be aggregated
       d - default port

       A - formed by Auto LAG

Number of channel-groups in use: 1
Number of aggregators:          1

Group  Port-channel  Protocol    Ports
-----+-----+-----+-----
1      Po1(SU)          PAgP        Et0/0(P)  Et0/1(P)  Et0/2(P)
                   Et0/3(P)

SW1#
```

```
SW1#sh etherchannel detail
Channel-group listing:
-----
Group: 1
-----
Group state = L2
Ports: 4    Maxports = 4
Port-channels: 1 Max Port-channels = 1
Protocol:   PAgP
Minimum Links: 0

Ports in the group:
-----
Port: Et0/0
-----
Port state      = Up Mstr In-Bndl
Channel group   = 1          Mode = Automatic-S1    Gchange = 0
Port-channel    = Po1       GC   = 0x00010001     Pseudo port-channel = Po1
Port index      = 0          Load = 0x00          Protocol = PAgP

Flags: S - Device is sending Slow hello.  C - Device is in Consistent state.
       A - Device is in Auto mode.         P - Device learns on physical port.
       d - PAgP is down.

Timers: H - Hello timer is running.       Q - Quit timer is running.
        S - Switching timer is running.    I - Interface timer is running.
```

Email us:  
networkforyou4@gmail.com

6 of 25

WhatsApp Us : +918143809578



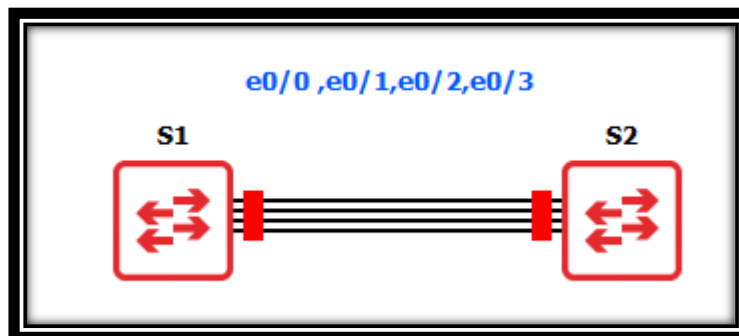
```
SW1#sh etherchannel port-channel
Channel-group listing:
-----
Group: 1
-----
Port-channels in the group:
-----
Port-channel: Po1
-----
Age of the Port-channel   = 0d:00h:02m:55s
Logical slot/port        = 16/0           Number of ports = 4
GC                       = 0x00010001   HotStandBy port = null
Port state                = Port-channel Ag-Inuse
Protocol                 = PAgP
Port security             = Disabled
Load share deferral      = Disabled

Ports in the Port-channel:

Index  Load  Port      EC state      No of bits
-----+---+-----+-----+-----
  0     00   Et0/0     Automatic-S1   0
  0     00   Et0/1     Automatic-S1   0
  0     00   Et0/2     Automatic-S1   0
  0     00   Et0/3     Automatic-S1   0

Time since last port bundled:  0d:00h:01m:43s  Et0/0
```

### Lab time: LACP



SW1 lACP Configuraiton	SW2 lACP Configuraiton
en config t hostname SW1	en config t hostname SW2

Email us:  
[networkforyou4@gmail.com](mailto:networkforyou4@gmail.com)

WhatsApp Us : +918143809578



**NetworkforYou**

Subscribe to our  
**You Tube Channel**

```
interface range e0/0-3
switchport trunk encapsulation dot1q
switchport mode trunk
channel-protocol lacp
channel-group 1 mode active
```

```
interface range e0/0-3
switchport trunk encapsulation dot1q
switchport mode trunk
channel-protocol lacp
channel-group 1 mode passive
```

#### To Check Etherchannel

```
sh spanning-tree vlan 1
sh etherchannel summary
Sh etherchannel detail
Sh etherchannel port-channel
```

# NetworkforYou

**Email us:**  
**networkforYou4@gmail.com**

8 of 25

**WhatsApp Us : +918143809578**



```
SW1#sh spanning-tree vlan 1
```

```
VLAN0001
```

```
Spanning tree enabled protocol ieee
```

```
Root ID Priority 32769  
Address aabb.cc00.0300
```

```
This bridge is the root
```

```
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
```

```
Bridge ID Priority 32769 (priority 32768 sys-id-ext 1)
```

```
Address aabb.cc00.0300
```

```
Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
```

```
Aging Time 15 sec
```

Interface	Role	Sts	Cost	Prio.Nbr	Type
Et1/0	Desg	FWD	100	128.5	P2p
Et1/1	Desg	FWD	100	128.6	P2p
Et1/2	Desg	FWD	100	128.7	P2p
Et1/3	Desg	FWD	100	128.8	P2p
Et2/0	Desg	FWD	100	128.9	P2p
Et2/1	Desg	FWD	100	128.10	P2p
Et2/2	Desg	FWD	100	128.11	P2p
Et2/3	Desg	FWD	100	128.12	P2p
Et3/0	Desg	FWD	100	128.13	P2p
Et3/1	Desg	FWD	100	128.14	P2p
Et3/2	Desg	FWD	100	128.15	P2p
Et3/3	Desg	FWD	100	128.16	P2p
Po1	Desg	FWD	41	128.65	P2p

Email us:  
networkforYou4@gmail.com

WhatsApp Us : +918143809578



NetworkforYou

Subscribe to our  
YouTube Channel

```
SW1# sh etherchannel summary
Flags:  D - down          P - bundled in port-channel
        I - stand-alone  S - suspended
        H - Hot-standby (LACP only)
        R - Layer3       S - Layer2
        U - in use       N - not in use, no aggregation
        f - failed to allocate aggregator

        M - not in use, minimum links not met
        m - not in use, port not aggregated due to minimum links not met
        u - unsuitable for bundling
        w - waiting to be aggregated
        d - default port

        A - formed by Auto LAG

Number of channel-groups in use: 1
Number of aggregators:          1

Group  Port-channel  Protocol    Ports
-----+-----+-----+-----+-----+-----
1      Po1(SU)        LACP        Et0/0(P)   Et0/1(P)   Et0/2(P)
                          Et0/3(P)
```

NetworkforYou

Email us:  
networkforYou4@gmail.com

10 of 25

WhatsApp Us : +918143809578



```
SW1#Sh etherchannel detail
      Channel-group listing:
      -----
Group: 1
-----
Group state = L2
Ports: 4      Maxports = 4
Port-channels: 1 Max Port-channels = 4
Protocol: LACP
Minimum Links: 0

      Ports in the group:
      -----
Port: Et0/0
-----
Port state      = Up Mstr Assoc In-Bndl
Channel group  = 1          Mode = Active          Gcchange = -
Port-channel   = Po1          GC = -          Pseudo port-channel = Po1
Port index     = 0          Load = 0x00          Protocol = LACP

Flags: S - Device is sending Slow LACPDUs      F - Device is sending fast LACPDUs.
      A - Device is in active mode.             P - Device is in passive mode.

Local information:
Port      Flags  State  LACP port  Admin  Oper  Port  Port
Et0/0    SA    bndl  32768     0x1   0x1   0x1   0x3D

Partner's information:
Port      Flags  LACP port  Dev ID  Age  Admin  Oper  Port  Port
Et0/0    SP    32768     aabb.cc80.0400  18s  0x0   0x1   0x1   0x3C

Age of the port in the current state: 0d:00h:02m:36s

Port: Et0/1
-----
Port state      = Up Mstr Assoc In-Bndl
Channel group  = 1          Mode = Active          Gcchange = -
Port-channel   = Po1          GC = -          Pseudo port-channel = Po1
Port index     = 0          Load = 0x00          Protocol = LACP

Flags: S - Device is sending Slow LACPDUs      F - Device is sending fast LACPDUs.
      A - Device is in active mode.             P - Device is in passive mode.

Local information:
```

Email us:  
networkforyou4@gmail.com

WhatsApp Us : +918143809578



NetworkforYou

Subscribe to our  
YouTube Channel

```
SW1#Sh etherchannel port-channel
      Channel-group listing:
-----

Group: 1
-----

      Port-channels in the group:
-----

Port-channel: Po1      (Primary Aggregator)
-----

Age of the Port-channel   = 0d:00h:04m:29s
Logical slot/port        = 16/0              Number of ports = 4
HotStandBy port = null
Port state                = Port-channel Ag-Inuse
Protocol                  = LACP
Port security             = Disabled
Load share deferral      = Disabled

Ports in the Port-channel:

Index   Load   Port      EC state   No of bits
-----+-----+-----+-----+-----
  0      00     Et0/0     Active     0
  0      00     Et0/1     Active     0
  0      00     Et0/2     Active     0
  0      00     Et0/3     Active     0

Time since last port bundled:    0d:00h:03m:48s    Et0/2
```

Email us:  
networkforYou4@gmail.com

12 of 25

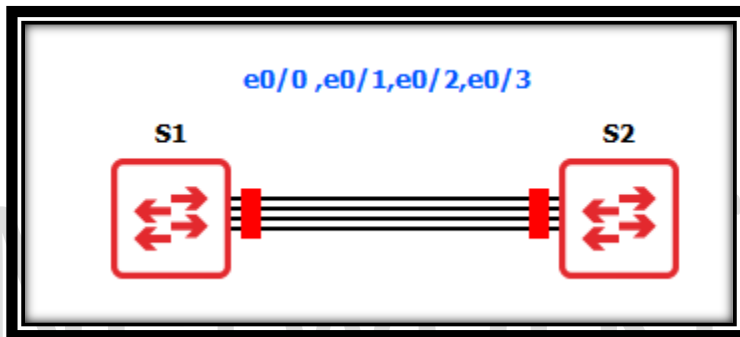
WhatsApp Us : +918143809578



## EtherChannel Static (Manual):

- Switchports can be configured to bypass LACP or PAgP Protocols.
- It is simply changing the mode to ON both sides of the switches.
- This mode is used to Configure EtherChannel Manually.
- This mode can be used if device on another end does not support PAgP and LACP.

## Lab time: Static (Manual):



SW1 ON Configuraiton	SW2 ON Configuraiton
<pre>en config t hostname SW1 interface range e0/0-3 switchport trunk encapsulation dot1q switchport mode trunk channel-group 1 mode on</pre>	<pre>en config t hostname SW2 interface range e0/0-3 switchport trunk encapsulation dot1q switchport mode trunk channel-group 1 mode on</pre>

### To Check Etherchannel

```
sh spanning-tree vlan 1
sh etherchannel summary
Sh etherchannel detail
Sh etherchannel port-channel
```

Email us:  
[networkforyou4@gmail.com](mailto:networkforyou4@gmail.com)

13 of 25

WhatsApp Us : +918143809578



```
SW2#sh spanning-tree vlan 1
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    aabb.cc00.0600
           This bridge is the root
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
           Address    aabb.cc00.0600
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
           Aging Time 15 sec

Interface          Role Sts Cost          Prio.Nbr Type
-----
Et1/0              Desg FWD 100           128.5   P2p
Et1/1              Desg FWD 100           128.6   P2p
Et1/2              Desg FWD 100           128.7   P2p
Et1/3              Desg FWD 100           128.8   P2p
Et2/0              Desg FWD 100           128.9   P2p
Et2/1              Desg FWD 100           128.10  P2p
Et2/2              Desg FWD 100           128.11  P2p
Et2/3              Desg FWD 100           128.12  P2p
Et3/0              Desg FWD 100           128.13  P2p
Et3/1              Desg FWD 100           128.14  P2p
Et3/2              Desg FWD 100           128.15  P2p
Et3/3              Desg FWD 100           128.16  P2p
Po1                Desg LIS 41             128.65  P2p
```

```
SW2#sh etherchannel summary
Flags: D - down P - bundled in port-channel
       I - stand-alone s - suspended
       H - Hot-standby (LACP only)
       R - Layer3 S - Layer2
       U - in use N - not in use, no aggregation
       f - failed to allocate aggregator

       M - not in use, minimum links not met
       m - not in use, port not aggregated due to minimum links not met
       u - unsuitable for bundling
       w - waiting to be aggregated
       d - default port

       A - formed by Auto LAG

Number of channel-groups in use: 1
Number of aggregators:          1

Group  Port-channel  Protocol    Ports
-----
1      Po1(SU)        -           Et0/0(P)  Et0/1(P)  Et0/2(P)
                        Et0/3(P)
```

Email us:  
networkforYou4@gmail.com

WhatsApp Us : +918143809578



NetworkforYou

Subscribe to our  
**You Tube Channel**

```
SW2#Sh etherchannel detail
      Channel-group listing:
      -----
Group: 1
-----
Group state = L2
Ports: 4    Maxports = 4
Port-channels: 1 Max Port-channels = 1
Protocol:   -
Minimum Links: 0

      Ports in the group:
      -----
Port: Et0/0
-----
Port state      = Up Mstr In-Bndl
Channel group  = 1          Mode = On          Gcchange = -
Port-channel   = Po1       GC = -            Pseudo port-channel = Po1
Port index     = 0          Load = 0x00     Protocol = -

Age of the port in the current state: 0d:00h:02m:00s

Port: Et0/1
-----
Port state      = Up Mstr In-Bndl
Channel group  = 1          Mode = On          Gcchange = -
Port-channel   = Po1       GC = -            Pseudo port-channel = Po1
Port index     = 0          Load = 0x00     Protocol = -

Age of the port in the current state: 0d:00h:02m:00s

Port: Et0/2
-----
```

Email us:  
networkforYou4@gmail.com

15 of 25

WhatsApp Us : +918143809578



NetworkforYou

Subscribe to our  
YouTube Channel

```
SW2#Sh etherchannel port-channel
      Channel-group listing:
-----
Group: 1
-----
      Port-channels in the group:
-----
Port-channel: Po1
-----
Age of the Port-channel   = 0d:00h:02m:43s
Logical slot/port        = 16/0           Number of ports = 4
GC                        = 0x00000000    HotStandBy port = null
Port state                = Port-channel Ag-Inuse
Protocol                  = -
Port security             = Disabled
Load share deferral      = Disabled

Ports in the Port-channel:

Index  Load  Port    EC state  No of bits
-----+-----+-----+-----+-----
  0     00   Et0/0   On        0
  0     00   Et0/1   On        0
  0     00   Et0/2   On        0
  0     00   Et0/3   On        0

Time since last port bundled:    0d:00h:02m:43s    Et0/3
```

Email us:  
networkforYou4@gmail.com

16 of 25

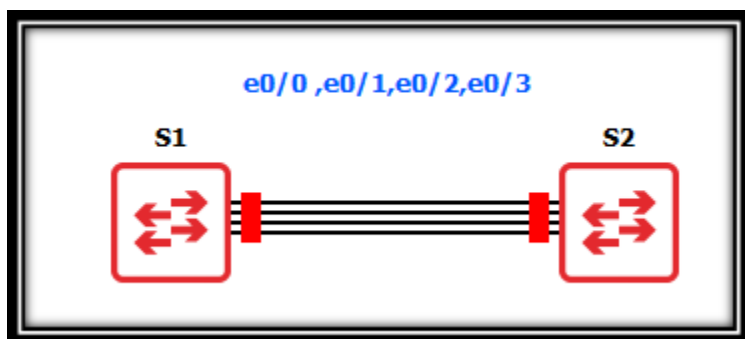
WhatsApp Us : +918143809578



## Layer 3 EtherChannel:

- Layer 3 EtherChannel is as a single port configured in routed mode.
- Layer 3 EtherChannel is configured with no switchport.
- Logical interface and no ip address is configured under member interfaces.
- Layer 3 port channel are used for interconnecting routers with layer 3 switches.
- Layer 3 port channel are used for interconnecting routers with routers.

## Lab time: Layer 3 EtherChannel:



SW1 Layer 3 Etherchannel Configuraiton	SW2 Layer 3 Etherchannel Configuraiton
<pre>en config t hostname SW1 interface range e0/0-3 no switchport no ip address channel-group 1 mode on interface port-channel 1 ip address 192.168.1.1 255.255.255.0 No sh</pre>	<pre>en config t hostname SW2 interface range e0/0-3 no switchport no ip address channel-group 1 mode on interface port-channel 1 ip address 192.168.1.2 255.255.255.0 no sh</pre>

### To Check Etherchannel

```
sh spanning-tree vlan 1
sh etherchannel summary
Sh etherchannel detail
```

Email us:  
[networkforYou4@gmail.com](mailto:networkforYou4@gmail.com)

17 of 25

WhatsApp Us : +918143809578



# NetworkforYou

Subscribe to our  
**You Tube Channel**

Sh etherchannel port-channel

```
SW2#sh spanning-tree vlan 1
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    aabb.cc00.0900
           This bridge is the root
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
           Address    aabb.cc00.0900
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
           Aging Time 300 sec

Interface      Role Sts Cost      Prio.Nbr Type
-----
Et1/0          Desg FWD 100      128.33 Shr
Et1/1          Desg FWD 100      128.34 Shr
Et1/2          Desg FWD 100      128.35 Shr
Et1/3          Desg FWD 100      128.36 Shr
Et2/0          Desg FWD 100      128.65 Shr
Et2/1          Desg FWD 100      128.66 Shr
Et2/2          Desg FWD 100      128.67 Shr
Et2/3          Desg FWD 100      128.68 Shr
Et3/0          Desg FWD 100      128.97 Shr
Et3/1          Desg FWD 100      128.98 Shr
Et3/2          Desg FWD 100      128.99 Shr
Et3/3          Desg FWD 100      128.100 Shr
```

Email us:  
networkforYou4@gmail.com

18 of 25

WhatsApp Us : +918143809578



NetworkforYou

Subscribe to our  
**You Tube Channel**

```
SW2#sh etherchannel summary
Flags: D - down          P - bundled 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

       M - not in use, minimum links not met
       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
-----+-----+-----+-----+-----+-----
1      Po1(RU)        -           Et0/0(P)  Et0/1(P)  Et0/2(P)
                          Et0/3(P)
```

NetworkforYou

Email us:  
networkforYou4@gmail.com

19 of 25

WhatsApp Us : +918143809578



```
SW2#Sh etherchannel detail
      Channel-group listing:
      -----
Group: 1
-----
Group state = L3
Ports: 4   Maxports = 8
Port-channels: 1 Max Port-channels = 1
Protocol:  -
Minimum Links: 0

      Ports in the group:
      -----
Port: Et0/0
-----
Port state      = Up Mstr In-Bndl
Channel group  = 1           Mode = On           Gcchange = -
Port-channel   = Po1        GC = -           Pseudo port-channel = Po1
Port index     = 0           Load = 0x00        Protocol = -

Age of the port in the current state: 0d:00h:01m:58s

Port: Et0/1
-----
Port state      = Up Mstr In-Bndl
Channel group  = 1           Mode = On           Gcchange = -
Port-channel   = Po1        GC = -           Pseudo port-channel = Po1
Port index     = 0           Load = 0x00        Protocol = -

Age of the port in the current state: 0d:00h:01m:58s

Port: Et0/2
-----
Port state      = Up Mstr In-Bndl
Channel group  = 1           Mode = On           Gcchange = -
Port-channel   = Po1        GC = -           Pseudo port-channel = Po1
Port index     = 0           Load = 0x00        Protocol = -

Age of the port in the current state: 0d:00h:01m:58s

Port: Et0/3
-----
Port state      = Up Mstr In-Bndl
```



NetworkforYou

Subscribe to our  
YouTube Channel

```
SW2#Sh etherchannel port-channel
      Channel-group listing:
-----

Group: 1
-----

      Port-channels in the group:
-----

Port-channel: Po1
-----

Age of the Port-channel    = 0d:00h:02m:51s
Logical slot/port         = 16/1           Number of ports = 4
GC                         = 0x00000000   HotStandBy port = null
Passive port list         = Et0/0 Et0/1 Et0/2 Et0/3
Port state                 = Port-channel L3-Ag Ag-Inuse
Protocol                   = -
Port security              = Disabled

Ports in the Port-channel:

Index  Load  Port      EC state      No of bits
-----+-----+-----+-----+-----
  0     00   Et0/0     On             0
  0     00   Et0/1     On             0
  0     00   Et0/2     On             0
  0     00   Et0/3     On             0

Time since last port bundled:    0d:00h:02m:51s    Et0/3
```

Email us:  
networkforYou4@gmail.com

21 of 25

WhatsApp Us : +918143809578



## Troubleshooting Ether channel:

- Most of the issues with Ether channels (Link Aggregation) are because of **misconfiguration**.
- Keep in mind that the configuration of all physical interfaces has to match.
- Due to logical all the member interfaces must have the same characteristics.
- If they do not have same characteristics & configuration problems will occur.

## The following configuration settings must match on the member interfaces:

### Port Type:

- Every port in interface must be consistently configured to be Layer 2 or Layer 3.

### Port Mode:

- All Layer 2 port channels must be configured as either access ports or trunk ports.
- All Layer 2 port channels must be the same configuration ports cannot be mixed.

### Native VLAN:

- Member interfaces on Layer 2 trunk port channel must be configured same native VLAN.
- Native VLAN can be configured using the command **switchport trunk native vlan vlan-id**.

### Allowed VLAN:

- Member interfaces on Layer 2 trunk port channel must be configured same VLANs.
- Same allow VLAN can be configured using command switchport trunk allowed vlan-ids.

### Speed:

- All member interfaces or ports in port channel must be the same speed.

### Duplex:

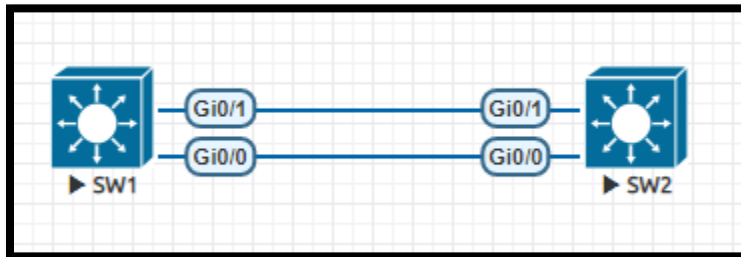
- The duplex must be the same for all member interfaces or ports in Port Channel link.

### MTU:

- All Layer 3 member interfaces or ports must have the same MTU configured.
- Interface cannot be added to port channel if MTU does not match the MTU.



## Lab Wrong Ether channel Mode:



SW1 configuration:	SW2 configuration:
<pre>en config t hostname SW1 interface range g0/0-1 switchport trunk encapsulation dot1q switchport mode trunk channel-protocol pagp channel-group 1 mode auto</pre>	<pre>en config t hostname SW2 interface range g0/0-1 switchport trunk encapsulation dot1q switchport mode trunk channel-protocol lacp channel-group 1 mode active</pre>

```
SW2#
*Mar 30 08:08:38.999: %EC-5-L3DONTBNDL2: Gi0/0 suspended: LACP currently not enabled on the remote port.
```

```
SW1#sh ip int br
Interface          IP-Address      OK? Method Status Protocol
GigabitEthernet0/0 unassigned      YES unset  up       up
GigabitEthernet0/1 unassigned      YES unset  up       up
GigabitEthernet0/2 unassigned      YES unset  up       up
GigabitEthernet0/3 unassigned      YES unset  up       up
Port-channel1     unassigned      YES unset  down     down
```

Email us:  
networkforyou4@gmail.com

WhatsApp Us : +918143809578



# Networkforyou

Subscribe to our  
**You Tube Channel**

```
SW2#sh ip int br
```

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

```
SW1#show etherchannel summary
```

Flags: D - down P - bundled in port-channel  
I - stand-alone s - suspended  
H - Hot-standby (LACP only)  
R - Layer3 S - Layer2  
U - in use N - not in use, no aggregation  
f - failed to allocate aggregator

M - not in use, minimum links not met  
m - not in use, port not aggregated due to minimum links not met  
u - unsuitable for bundling  
w - waiting to be aggregated  
d - default port  
  
A - formed by Auto LAG

```
Number of channel-groups in use: 1
```

```
Number of aggregators: 1
```

Group	Port-channel	Protocol	Ports
1	Po1(SD)	PAgP	Gi0/0(I) Gi0/1(I)

Email us:  
networkforyou4@gmail.com

24 of 25

WhatsApp Us : +918143809578



```
SW2#show etherchannel summary
Flags: D - down          P - bundled in port-channel
       I - stand-alone  s - suspended
       H - Hot-standby (LACP only)
       R - Layer3       S - Layer2
       U - in use       N - not in use, no aggregation
       f - failed to allocate aggregator

       M - not in use, minimum links not met
       m - not in use, port not aggregated due to minimum links not met
       u - unsuitable for bundling
       w - waiting to be aggregated
       d - default port

       A - formed by Auto LAG

Number of channel-groups in use: 1
Number of aggregators:          1

Group  Port-channel  Protocol    Ports
-----+-----+-----+-----+-----+-----
 1     Po1 (SD)          LACP        Gi0/0(s)   Gi0/1(s)
```

Here we notice that SW1 is running PAGP and SW2 is running LACP so we will have issues. We should have both side same protocol not different. So After reconfiguring SW2 to PAGP it will start working. This is Basic Troubleshooting lab. Same like this you can do by change native VLAN, or by change other parameters etc.

Email us:  
[networkforyou4@gmail.com](mailto:networkforyou4@gmail.com)

25 of 25

WhatsApp Us : +918143809578