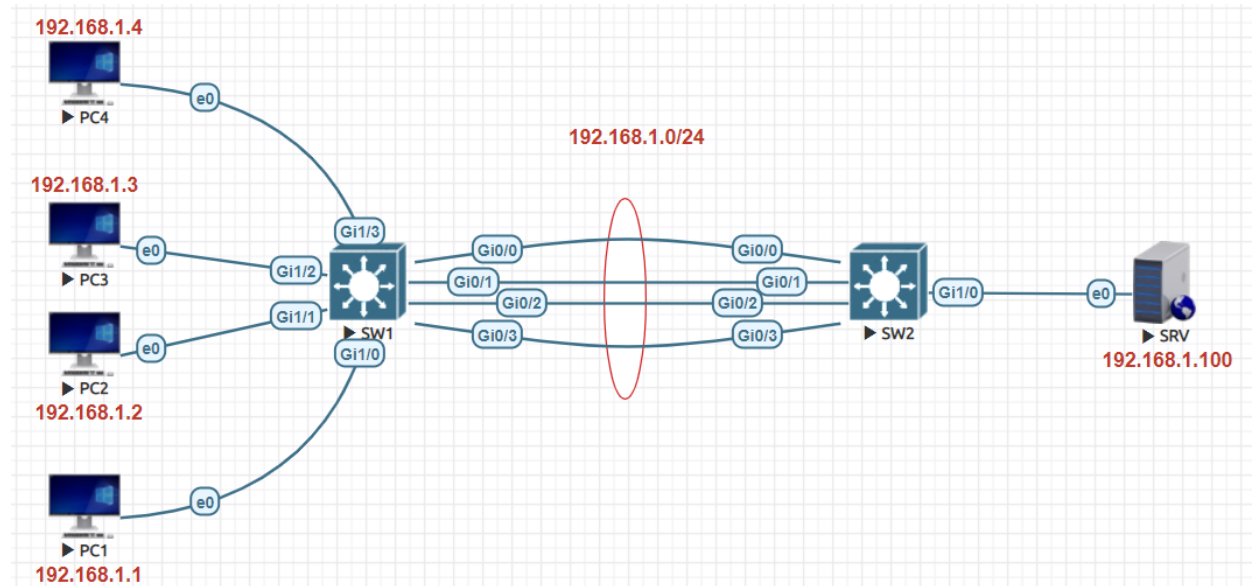


## Etherchannel Loadbalancing Lab:



Switch Images	vios_l2-adventerprisek9-m.ssa.high_iron_20190423
Clients	Linux-Slax-9.11.0
Switches Participated LACP	SW1 and SW2
Layer 2 LACP	SW1 and SW2
Layer 2 LACP SW1 Ports	G0/0, G0/1, G0/2, G0/3
Layer 2 LACP SW2 Ports	G0/0, G0/1, G0/2, G0/3
Layer 2 LACP Port Channel	Po20
Layer 2 LACP SW1 Mode	Active
Layer 2 LACP SW2 Mode	Passive
SW1 Load Balancing Method	src-mac
SW2 Load Balancing Method	dst-mac
Subnet	192.168.1.0/24
PC1 IP Address	192.168.1.1
PC2 IP Address	192.168.1.2
PC3 IP Address	192.168.1.3
PC4 IP Address	192.168.1.4
SRV IP Address	192.168.1.100

### SW1 Configuration

```
Switch(config)#hostname SW1
SW1(config)#spanning-tree mode rapid-pvst
SW1(config)#line con 0
SW1(config-line)#exec-timeout 0 0
SW1(config-line)#logging synchronous
SW1(config-line)#exit
SW1(config)#interface range g0/0-3
SW1(config-if-range)#switchport trunk encapsulation dot1q
SW1(config-if-range)#switchport mode trunk
SW1(config-if-range)#shutdown
SW1(config-if-range)#channel-protocol lacp
SW1(config-if-range)#channel-group 20 mode active
SW1(config-if-range)#no shutdown
```

### SW2 Configuration

```
Switch(config)#hostname SW2
SW2(config)#spanning-tree mode rapid-pvst
SW2(config)#line con 0
SW2(config-line)#exec-timeout 0 0
SW2(config-line)#logging synchronous
SW2(config-line)#exit
SW2(config)#interface range g0/0-3
SW2(config-if-range)#switchport trunk encapsulation dot1q
SW2(config-if-range)#switchport mode trunk
SW2(config-if-range)#shutdown
SW2(config-if-range)#channel-protocol lacp
SW2(config-if-range)#channel-group 20 mode passive
SW2(config-if-range)#no shutdown
```

```
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
20	Po20(SU)	LACP	Gi0/0(P) Gi0/1(P) Gi0/2(P) Gi0/3(P)

```
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
20	Po20(SU)	LACP	Gi0/0(P) Gi0/1(P) Gi0/2(P) Gi0/3(P)

```
SW1#show etherchannel load-balance
```

```
EtherChannel Load-Balancing Configuration:
```

```
src-dst-ip
```

```
EtherChannel Load-Balancing Addresses Used Per-Protocol:
```

```
Non-IP: Source XOR Destination MAC address
```

```
IPv4: Source XOR Destination IP address
```

```
IPv6: Source XOR Destination IP address
```

### Change Load-Balance Methods

```
SW1(config)#port-channel load-balance src-mac
```

```
SW2(config)#port-channel load-balance dst-mac
```

```
SW1#show etherchannel load-balance
EtherChannel Load-Balancing Configuration:
    src-mac
```

```
EtherChannel Load-Balancing Addresses Used Per-Protocol:
Non-IP: Source MAC address
    IPv4: Source MAC address
    IPv6: Source MAC address
```

```
SW2#show etherchannel load-balance
EtherChannel Load-Balancing Configuration:
    dst-mac
```

```
EtherChannel Load-Balancing Addresses Used Per-Protocol:
Non-IP: Destination MAC address
    IPv4: Destination MAC address
    IPv6: Destination MAC address
```

### SW1 Verification

```
SW1#show interface g0/0 | include packets input
```

```
SW1#show interface g0/1 | include packets input
```

```
SW1#show interface g0/2 | include packets input
```

```
SW1#show interface g0/3 | include packets input
```

```
SW1#clear counters
```

### SW2 Verification

```
SW2#show interface g0/0 | include packets input
```

```
SW2#show interface g0/1 | include packets input
```

```
SW2#show interface g0/2 | include packets input
```

```
SW2#show interface g0/3 | include packets input
```

```
SW2#clear counters
```