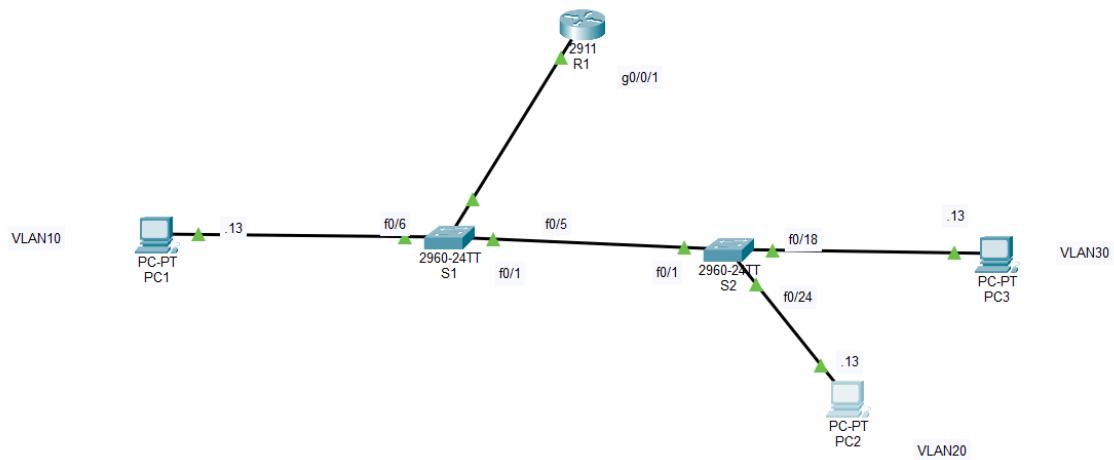


Labo InterVLAN**Routage Inter-vlan**

ping depuis PC1 vers PC2

```
root@PC1-A:~# ping 172.16.20.13
PING 172.16.20.13 (172.16.20.13) 56(84) bytes of data.
64 bytes from 172.16.20.13: icmp_seq=2 ttl=63 time=1.82 ms
64 bytes from 172.16.20.13: icmp_seq=3 ttl=63 time=1.44 ms
64 bytes from 172.16.20.13: icmp_seq=4 ttl=63 time=1.26 ms
64 bytes from 172.16.20.13: icmp_seq=5 ttl=63 time=1.41 ms
64 bytes from 172.16.20.13: icmp_seq=6 ttl=63 time=1.63 ms
^C
--- 172.16.20.13 ping statistics ---
6 packets transmitted, 5 received, 16% packet loss, time 5016ms
rtt min/avg/max/mdev = 1.269/1.517/1.829/0.195 ms
root@PC1-A:~# |
```

ping depuis PC1 vers PC3

```
root@PC1-A:~# ping 172.16.30.13
PING 172.16.30.13 (172.16.30.13) 56(84) bytes of data.
64 bytes from 172.16.30.13: icmp_seq=2 ttl=63 time=1.13 ms
64 bytes from 172.16.30.13: icmp_seq=3 ttl=63 time=1.30 ms
64 bytes from 172.16.30.13: icmp_seq=4 ttl=63 time=1.29 ms
64 bytes from 172.16.30.13: icmp_seq=5 ttl=63 time=1.72 ms
64 bytes from 172.16.30.13: icmp_seq=6 ttl=63 time=1.49 ms
^C
--- 172.16.30.13 ping statistics ---
6 packets transmitted, 5 received, 16% packet loss, time 5016ms
rtt min/avg/max/mdev = 1.133/1.389/1.722/0.202 ms
root@PC1-A:~# |
```

ping depuis PC1 vers s1

```
root@PC1-A:~# ping 172.16.30.1
PING 172.16.30.1 (172.16.30.1) 56(84) bytes of data.
64 bytes from 172.16.30.1: icmp_seq=3 ttl=254 time=1.24 ms
64 bytes from 172.16.30.1: icmp_seq=4 ttl=254 time=1.40 ms
64 bytes from 172.16.30.1: icmp_seq=5 ttl=254 time=1.35 ms
64 bytes from 172.16.30.1: icmp_seq=6 ttl=254 time=1.18 ms
^C
--- 172.16.30.1 ping statistics ---
6 packets transmitted, 4 received, 33% packet loss, time 5050ms
rtt min/avg/max/mdev = 1.182/1.295/1.402/0.097 ms
root@PC1-A:~# |
```

ping depuis PC1 vers s2

```
root@PC1-A:~# ping 172.16.30.2
PING 172.16.30.2 (172.16.30.2) 56(84) bytes of data.
64 bytes from 172.16.30.2: icmp_seq=3 ttl=254 time=1.07 ms
64 bytes from 172.16.30.2: icmp_seq=4 ttl=254 time=1.13 ms
64 bytes from 172.16.30.2: icmp_seq=5 ttl=254 time=1.32 ms
64 bytes from 172.16.30.2: icmp_seq=6 ttl=254 time=2.03 ms
64 bytes from 172.16.30.2: icmp_seq=7 ttl=254 time=1.26 ms
^C
--- 172.16.30.2 ping statistics ---
7 packets transmitted, 5 received, 28% packet loss, time 6044ms
rtt min/avg/max/mdev = 1.078/1.369/2.039/0.346 ms
root@PC1-A:~# |
```

ping depuis PC2 vers S1

```
root@PC-2-A:~# ping 172.16.30.1
PING 172.16.30.1 (172.16.30.1) 56(84) bytes of data.
64 bytes from 172.16.30.1: icmp_seq=1 ttl=254 time=1.09 ms
64 bytes from 172.16.30.1: icmp_seq=2 ttl=254 time=1.16 ms
64 bytes from 172.16.30.1: icmp_seq=3 ttl=254 time=2.15 ms
64 bytes from 172.16.30.1: icmp_seq=4 ttl=254 time=1.26 ms
64 bytes from 172.16.30.1: icmp_seq=5 ttl=254 time=1.28 ms
^C
--- 172.16.30.1 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4005ms
rtt min/avg/max/mdev = 1.090/1.390/2.153/0.390 ms
root@PC-2-A:~# |
```

ping depuis PC2 vers S2

```
root@PC-2-A:~# ping 172.16.30.2
PING 172.16.30.2 (172.16.30.2) 56(84) bytes of data.
64 bytes from 172.16.30.2: icmp_seq=1 ttl=254 time=1.14 ms
64 bytes from 172.16.30.2: icmp_seq=2 ttl=254 time=1.22 ms
64 bytes from 172.16.30.2: icmp_seq=3 ttl=254 time=1.12 ms
64 bytes from 172.16.30.2: icmp_seq=4 ttl=254 time=1.25 ms
^C
--- 172.16.30.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 1.123/1.184/1.252/0.068 ms
root@PC-2-A:~# |
```

ping depuis PC2 vers PC1

```
root@PC-2-A:~# ping 172.16.10.13
PING 172.16.10.13 (172.16.10.13) 56(84) bytes of data.
64 bytes from 172.16.10.13: icmp_seq=1 ttl=63 time=1.57 ms
64 bytes from 172.16.10.13: icmp_seq=2 ttl=63 time=1.43 ms
64 bytes from 172.16.10.13: icmp_seq=3 ttl=63 time=1.39 ms
64 bytes from 172.16.10.13: icmp_seq=4 ttl=63 time=1.56 ms
64 bytes from 172.16.10.13: icmp_seq=5 ttl=63 time=1.24 ms
^C
--- 172.16.10.13 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4006ms
rtt min/avg/max/mdev = 1.241/1.442/1.578/0.126 ms
root@PC-2-A:~# |
```

ping depuis PC2 geteway 30

```
root@PC-2-A:~# ping 172.16.30.254
PING 172.16.30.254 (172.16.30.254) 56(84) bytes of data.
64 bytes from 172.16.30.254: icmp_seq=1 ttl=255 time=0.764 ms
64 bytes from 172.16.30.254: icmp_seq=2 ttl=255 time=0.682 ms
64 bytes from 172.16.30.254: icmp_seq=3 ttl=255 time=1.08 ms
64 bytes from 172.16.30.254: icmp_seq=4 ttl=255 time=0.985 ms
64 bytes from 172.16.30.254: icmp_seq=5 ttl=255 time=0.835 ms
64 bytes from 172.16.30.254: icmp_seq=6 ttl=255 time=0.994 ms
^C
--- 172.16.30.254 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5043ms
rtt min/avg/max/mdev = 0.682/0.891/1.087/0.142 ms
root@PC-2-A:~# |
```

ping depuis PC3 vers gateway 10

```
root@PC-3-A:~# ping 172.16.10.254
PING 172.16.10.254 (172.16.10.254) 56(84) bytes of data.
64 bytes from 172.16.10.254: icmp_seq=1 ttl=255 time=0.963 ms
64 bytes from 172.16.10.254: icmp_seq=2 ttl=255 time=0.672 ms
64 bytes from 172.16.10.254: icmp_seq=3 ttl=255 time=0.880 ms
64 bytes from 172.16.10.254: icmp_seq=4 ttl=255 time=0.815 ms
64 bytes from 172.16.10.254: icmp_seq=5 ttl=255 time=0.838 ms
64 bytes from 172.16.10.254: icmp_seq=6 ttl=255 time=0.640 ms
^C
--- 172.16.10.254 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5080ms
rtt min/avg/max/mdev = 0.640/0.801/0.963/0.115 ms
root@PC-3-A:~# |
```

ping depuis PC3 vers PC2

```
root@PC-3-A:~# ping 172.16.20.13
PING 172.16.20.13 (172.16.20.13) 56(84) bytes of data.
64 bytes from 172.16.20.13: icmp_seq=1 ttl=63 time=1.06 ms
64 bytes from 172.16.20.13: icmp_seq=2 ttl=63 time=1.39 ms
64 bytes from 172.16.20.13: icmp_seq=3 ttl=63 time=1.61 ms
64 bytes from 172.16.20.13: icmp_seq=4 ttl=63 time=1.50 ms
64 bytes from 172.16.20.13: icmp_seq=5 ttl=63 time=1.53 ms
^C
--- 172.16.20.13 ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4006ms
rtt min/avg/max/mdev = 1.067/1.424/1.614/0.194 ms
root@PC-3-A:~# |
```

ping depuis PC3 vers s1

```
root@PC-3-A:~# ping 172.16.30.1
PING 172.16.30.1 (172.16.30.1) 56(84) bytes of data.
64 bytes from 172.16.30.1: icmp_seq=1 ttl=255 time=1.35 ms
64 bytes from 172.16.30.1: icmp_seq=2 ttl=255 time=1.08 ms
64 bytes from 172.16.30.1: icmp_seq=3 ttl=255 time=1.12 ms
64 bytes from 172.16.30.1: icmp_seq=4 ttl=255 time=0.956 ms
^C
--- 172.16.30.1 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3003ms
rtt min/avg/max/mdev = 0.956/1.130/1.357/0.146 ms
root@PC-3-A:~# |
```

ping depuis PC3 vers s2

```
root@PC-3-A:~# ping 172.16.30.2
PING 172.16.30.2 (172.16.30.2) 56(84) bytes of data.
64 bytes from 172.16.30.2: icmp_seq=1 ttl=255 time=1.43 ms
64 bytes from 172.16.30.2: icmp_seq=2 ttl=255 time=1.06 ms
64 bytes from 172.16.30.2: icmp_seq=3 ttl=255 time=1.19 ms
64 bytes from 172.16.30.2: icmp_seq=4 ttl=255 time=1.20 ms
^C
--- 172.16.30.2 ping statistics ---
4 packets transmitted, 4 received, 0% packet loss, time 3004ms
rtt min/avg/max/mdev = 1.065/1.225/1.435/0.135 ms
root@PC-3-A:~# |
```

sh ip int br sur S1 :

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1	unassigned	YES	unset	up	up
Vlan30	172.16.30.1	YES	manual	up	up
FastEthernet0/1	unassigned	YES	unset	up	up
FastEthernet0/2	unassigned	YES	unset	administratively down	down
FastEthernet0/3	unassigned	YES	unset	administratively down	down
FastEthernet0/4	unassigned	YES	unset	administratively down	down
FastEthernet0/5	unassigned	YES	unset	up	up
FastEthernet0/6	unassigned	YES	unset	up	up
FastEthernet0/7	unassigned	YES	unset	administratively down	down
FastEthernet0/8	unassigned	YES	unset	administratively down	down
FastEthernet0/9	unassigned	YES	unset	administratively down	down
FastEthernet0/10	unassigned	YES	unset	administratively down	down
FastEthernet0/11	unassigned	YES	unset	administratively down	down
FastEthernet0/12	unassigned	YES	unset	administratively down	down
FastEthernet0/13	unassigned	YES	unset	administratively down	down
FastEthernet0/14	unassigned	YES	unset	administratively down	down
FastEthernet0/15	unassigned	YES	unset	administratively down	down
FastEthernet0/16	unassigned	YES	unset	administratively down	down
FastEthernet0/17	unassigned	YES	unset	administratively down	down
FastEthernet0/18	unassigned	YES	unset	administratively down	down
FastEthernet0/19	unassigned	YES	unset	administratively down	down
FastEthernet0/20	unassigned	YES	unset	administratively down	down

S1#|

sh ip int br sur S2:

Interface	IP-Address	OK?	Method	Status	Protocol
Vlan1	unassigned	YES	unset	up	up
Vlan30	172.16.30.2	YES	manual	up	up
FastEthernet0/1	unassigned	YES	unset	up	up
FastEthernet0/2	unassigned	YES	unset	administratively down	down
FastEthernet0/3	unassigned	YES	unset	administratively down	down
FastEthernet0/4	unassigned	YES	unset	administratively down	down
FastEthernet0/5	unassigned	YES	unset	administratively down	down
FastEthernet0/6	unassigned	YES	unset	administratively down	down
FastEthernet0/7	unassigned	YES	unset	administratively down	down
FastEthernet0/8	unassigned	YES	unset	administratively down	down
FastEthernet0/9	unassigned	YES	unset	administratively down	down
FastEthernet0/10	unassigned	YES	unset	administratively down	down
FastEthernet0/11	unassigned	YES	unset	administratively down	down
FastEthernet0/12	unassigned	YES	unset	administratively down	down
FastEthernet0/13	unassigned	YES	unset	administratively down	down
FastEthernet0/14	unassigned	YES	unset	administratively down	down
FastEthernet0/15	unassigned	YES	unset	administratively down	down
FastEthernet0/16	unassigned	YES	unset	administratively down	down
FastEthernet0/17	unassigned	YES	unset	administratively down	down
FastEthernet0/18	unassigned	YES	unset	up	up
FastEthernet0/19	unassigned	YES	unset	administratively down	down
FastEthernet0/20	unassigned	YES	unset	administratively down	down

S2#|

sh inter trunk sur S1 :

```
S1#sh inter trunk

Port      Mode          Encapsulation  Status        Native vlan
Fa0/1    on           802.1q         trunking     99
Fa0/5    on           802.1q         trunking     99

Port      Vlans allowed on trunk
Fa0/1    1-4094
Fa0/5    1-4094

Port      Vlans allowed and active in management domain
Fa0/1    1,10,20,30,90,99
Fa0/5    1,10,20,30,90,99

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/1    1,10,20,30,90,99
Fa0/5    1,10,20,30,90,99
S1#
```

sh inter trunk sur S2:

```
S2#sh inter trunk

Port      Mode          Encapsulation  Status        Native vlan
Fa0/1    on           802.1q         trunking     99

Port      Vlans allowed on trunk
Fa0/1    1-4094

Port      Vlans allowed and active in management domain
Fa0/1    1,10,20,30,90,99

Port      Vlans in spanning tree forwarding state and not pruned
Fa0/1    1,10,20,30,90,99
S2#
```

ifconfig sur pc1 :

```
root@PC1-A:~# ifconfig
eth0      Link encap:Ethernet HWaddr d6:15:20:fb:7e:b0
          inet addr:172.16.10.13 Bcast:172.16.10.255 Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
          RX packets:3226 errors:0 dropped:0 overruns:0 frame:0
          TX packets:79827 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:209478 (209.4 KB) TX bytes:27271710 (27.2 MB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING MTU:65536 Metric:1
          RX packets:71 errors:0 dropped:0 overruns:0 frame:0
          TX packets:71 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:7576 (7.5 KB) TX bytes:7576 (7.5 KB)
```

```
root@PC1-A:~# |
```

ifconfig sur pc2 :

```
root@PC-2-A:~# ifconfig
eth0      Link encap:Ethernet HWaddr a6:08:dc:bf:e8:6e
          inet addr:172.16.20.13 Bcast:172.16.20.255 Mask:255.255.255.0
          UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
          RX packets:3250 errors:0 dropped:0 overruns:0 frame:0
          TX packets:79843 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:211214 (211.2 KB) TX bytes:27282282 (27.2 MB)

lo        Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
          UP LOOPBACK RUNNING MTU:65536 Metric:1
          RX packets:61 errors:0 dropped:0 overruns:0 frame:0
          TX packets:61 errors:0 dropped:0 overruns:0 carrier:0
          collisions:0 txqueuelen:1000
          RX bytes:6336 (6.3 KB) TX bytes:6336 (6.3 KB)
```

```
root@PC-2-A:~# |
```

ifconfig sur pc3 :

```
root@PC-3-A:~# ifconfig
eth0      Link encap:Ethernet HWaddr 96:08:70:4e:37:7f
          inet addr:172.16.30.13 Bcast:172.16.30.255 Mask:255.255.255.0
                  UP BROADCAST RUNNING MULTICAST MTU:1500 Metric:1
                  RX packets:3314 errors:0 dropped:0 overruns:0 frame:0
                  TX packets:79952 errors:0 dropped:0 overruns:0 carrier:0
                  collisions:0 txqueuelen:1000
                  RX bytes:216984 (216.9 KB) TX bytes:27299672 (27.2 MB)

lo       Link encap:Local Loopback
          inet addr:127.0.0.1 Mask:255.0.0.0
          inet6 addr: ::1/128 Scope:Host
                  UP LOOPBACK RUNNING MTU:65536 Metric:1
                  RX packets:100 errors:0 dropped:0 overruns:0 frame:0
                  TX packets:100 errors:0 dropped:0 overruns:0 carrier:0
                  collisions:0 txqueuelen:1000
                  RX bytes:9648 (9.6 KB) TX bytes:9648 (9.6 KB)

root@PC-3-A:~# |
```

sh ip inter br sur R1

```
R1#sh ip inter br
Interface          IP-Address      OK? Method Status           Protocol
GigabitEthernet0/0/0 unassigned     YES unset administratively down down
GigabitEthernet0/0/1 unassigned     YES unset up        up
Gi0/0/1.10         172.16.10.254 YES manual up        up
Gi0/0/1.20         172.16.20.254 YES manual up        up
Gi0/0/1.30         172.16.30.254 YES manual up        up
Gi0/0/1.99         172.16.99.254 YES manual up        up
GigabitEthernet0/0/2 unassigned     YES unset administratively down down
GigabitEthernet0     unassigned     YES unset administratively down down
Vlan1              unassigned     YES unset administratively down down
R1#|
```

sh ip route sur R1

```
R1#sh ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route, H - NHRP, l - LISP
      a - application route
      + - replicated route, % - next hop override, p - overrides from PfR

Gateway of last resort is not set

      172.16.0.0/16 is variably subnetted, 8 subnets, 2 masks
C        172.16.10.0/24 is directly connected, GigabitEthernet0/0/1.10
L        172.16.10.254/32 is directly connected, GigabitEthernet0/0/1.10
C        172.16.20.0/24 is directly connected, GigabitEthernet0/0/1.20
L        172.16.20.254/32 is directly connected, GigabitEthernet0/0/1.20
C        172.16.30.0/24 is directly connected, GigabitEthernet0/0/1.30
L        172.16.30.254/32 is directly connected, GigabitEthernet0/0/1.30
C        172.16.99.0/24 is directly connected, GigabitEthernet0/0/1.99
L        172.16.99.254/32 is directly connected, GigabitEthernet0/0/1.99
R1#|
```