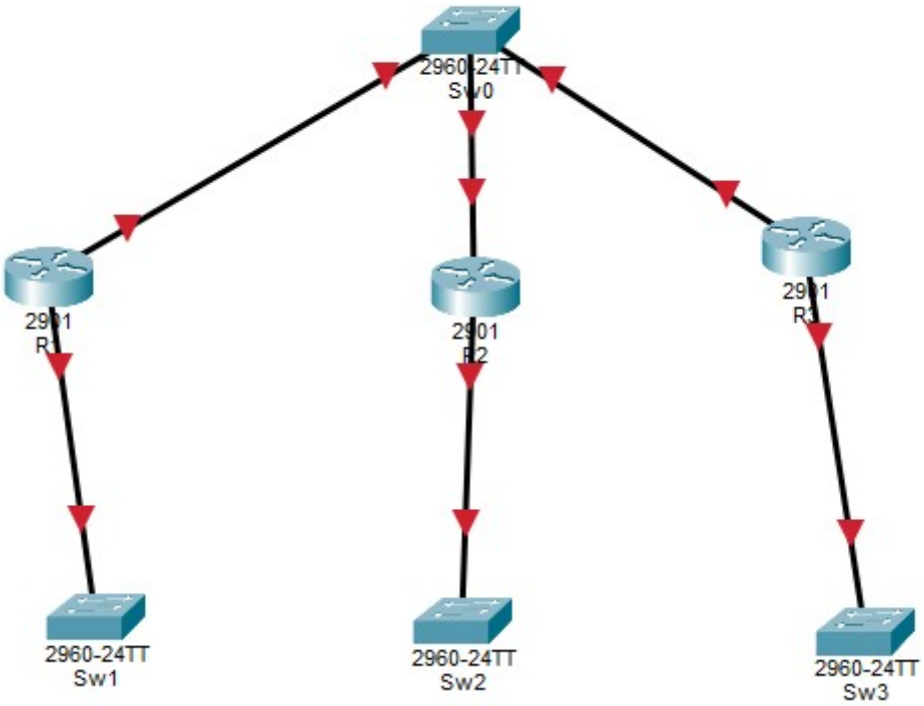
SOMMAIRE

A . realisé la topologie sur cisco packet tracer.



B. Paquet Hello

▪ Activez OSPF sur R1.

```
!outer(config-if)#exit
!outer(config)#router ospf 1
!outer(config-router)#networ
!outer(config-router)#network 192.16.2.0 0.0.0.7 area 0
!outer(config-router)#network 192.168.10.0 0.0.0.255 area 0
!outer(config-router)#network 19.16.2.0 0.0.0.7 area 0
!outer(config-router)#passive
!outer(config-router)#passive-interface g0/0
!outer(config-router)#
```

c. Découverte des voisins

▪ Activez maintenant OSPF sur les deux autres routeurs :

Pour R2 :

```
Router(config)#rout
Router(config)#router osp
Router(config)#router ospf 1
Router(config-router)#netw
Router(config-router)#network 19.16.2.0 0.0.0.7 area 0
Router(config-router)#network 192.16.2.0 0.0.0.7 area 0
00:15:00: %OSPF-5-ADJCHG: Process 1, Nbr 192.168.10.254 on GigabitEthernet0/1 fr
Router(config-router)#network 192.168.20.0 0.0.0.255 area 0
Router(config-router)#pass
Router(config-router)#passive-interface g0/0
Router(config-router)#
```

Pour R3 :

```
R3#confi
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line.  End with CNTL/Z.
R3(config)#router ospf 1
R3(config-router)#network 19.16.2.0 0.0.0.7 area 0
R3(config-router)#network 192.168.30.0 0.0.0.255 area 0
R3(config-router)#pas
R3(config-router)#passive-interface g0/0
R3(config-router)#
```

f. Examen des paramètres OSPF par défaut

- Mettre la priorité du routeur R3 à 0 sur son interface g0/1 :

```
R3(config)#int g0/0
R3(config-if)#ip os
R3(config-if)#ip ospf priority 0
R3(config-if)#^Z
R3#
```

- Regarder plus en détail les informations du protocole OSPF :

```
sh ip protocols

Routing Protocol is "ospf 1"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 192.168.10.254
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    192.168.10.0 0.0.0.255 area 0
    19.16.2.0 0.0.0.7 area 0
  Passive Interface(s):
    GigabitEthernet0/0
  Routing Information Sources:
    Gateway         Distance      Last Update
    192.168.10.254       110      00:01:46
    192.168.20.254       110      00:01:51
    192.168.30.254       110      00:01:51
  Distance: (default is 110)

Router#
```

i. Vérification des paramètres de protocole OSPF

Visualiser le coût d'une interface en utilisant la commande suivante (Rappel : R1 n'a plus d'interface L0 ci-dessous)

```
GigabitEthernet0/1 is up, line protocol is up
  Internet address is 19.16.2.1/29, Area 0
  Process ID 1, Router ID 192.168.10.254, Network Type BROADCAST, Cost: 1
  Transmit Delay is 1 sec, State DROTHER, Priority 1
  Designated Router (ID) 192.168.30.254, Interface address 19.16.2.3
  Backup Designated Router (ID) 192.168.20.254, Interface address 19.16.2.2
  Timer intervals configured, Hello 10, Dead 40, Wait 40, Retransmit 5
    Hello due in 00:00:09
  Index 2/2, flood queue length 0
  Next 0x0(0)/0x0(0)
  Last flood scan length is 1, maximum is 1
  Last flood scan time is 0 msec, maximum is 0 msec
  Neighbor Count is 2, Adjacent neighbor count is 2
    Adjacent with neighbor 192.168.30.254  (Designated Router)
    Adjacent with neighbor 192.168.20.254  (Backup Designated Router)
  Suppress hello for 0 neighbor(s)
Router#
```

Visualiser la table de routage de R1. Elle reprend bien les routes apprises par OSPF.

```
Gateway of last resort is not set

     19.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C       19.16.2.0/29 is directly connected, GigabitEthernet0/1
L       19.16.2.1/32 is directly connected, GigabitEthernet0/1
     192.168.10.0/24 is variably subnetted, 2 subnets, 2 masks
C       192.168.10.0/24 is directly connected, GigabitEthernet0/0
L       192.168.10.254/32 is directly connected, GigabitEthernet0/0
O    192.168.20.0/24 [110/2] via 19.16.2.2, 00:01:31, GigabitEthernet0/1
O    192.168.30.0/24 [110/2] via 19.16.2.3, 00:01:31, GigabitEthernet0/1
```

- Regarder plus en détail la route pour 192.168.30.0/24 :

```
Router>en
Router#sh ip route 192.168.30.0
Routing entry for 192.168.30.0/24
Known via "ospf 1", distance 110, metric 2, type intra area
  Last update from 19.16.2.3 on GigabitEthernet0/1, 00:25:07 ago
  Routing Descriptor Blocks:
  * 19.16.2.3, from 192.168.30.254, 00:25:07 ago, via GigabitEthernet0/1
      Route metric is 2, traffic share count is 1

Router#
```

- A l'aide de la commande **show ip ospf neighbor**, afficher les contiguïtés établies :

Sur R1 :

```
      Route metric is 2, traffic share count is 1

Router#sh ip ospf
Router#sh ip ospf nei
Router#sh ip ospf neighbor

Neighbor ID     Pri   State           Dead Time   Address         Interface
192.168.20.254    1   FULL/BDR        00:00:35    19.16.2.2       GigabitEthernet0/1
192.168.30.254    1   FULL/DR         00:00:35    19.16.2.3       GigabitEthernet0/1
Router#
```

Sur R2 :

```
Neighbor ID     Pri   State           Dead Time   Address         Interface
192.168.30.254    1   FULL/DR         00:00:30    19.16.2.3       GigabitEthernet0/1
192.168.10.254    1   FULL/DROTHER    00:00:30    19.16.2.1       GigabitEthernet0/1
R2#
```

Sur R3 :

```
Neighbor ID     Pri   State           Dead Time   Address         Interface
192.168.20.254    1   FULL/BDR        00:00:31    19.16.2.2       GigabitEthernet0/1
192.168.10.254    1   FULL/DROTHER    00:00:31    19.16.2.1       GigabitEthernet0/1
R3>
```