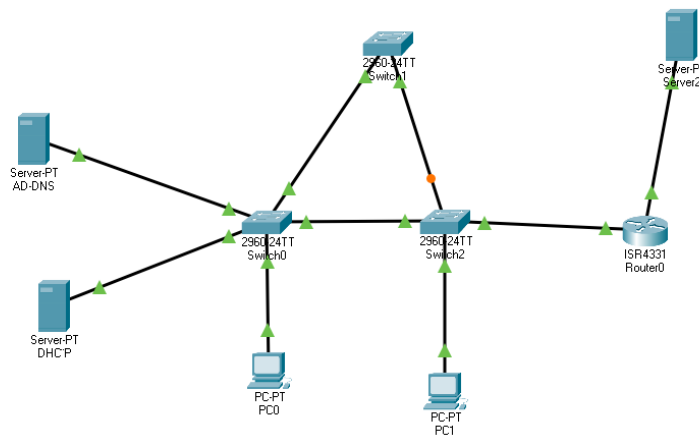


Mode opératoire STP :



Mise en place des commutateur root :

- Commutateur 1 pour les Vlan : 50,99,10.
- Commutateur 2 pour le Vlan 20.

Mise en place du port par défaut :

- Sur le commutateur 1 Port 24 vers le commutateur 3 par défaut

Nous avons donc activé le RSTP (Per VLAN STP)

Switch (Config) #spanning-tree mode rapid PVST

- Le changement d'état des port est passé en 2 étapes :
Learning
Forwarding

Pour verifier les informations :

SWITCH(config)#Sh paming tree debug

```
*Mar 1 06:27:23.917: STP: VLAN0099 Fa0/23 -> forwarding
*Mar 1 06:27:23.917: STP[99]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:23.917: STP: VLAN0099 Fa0/24 -> forwarding
*Mar 1 06:27:23.926: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan99, changed state to up
*Mar 1 06:27:39.126: STP: VLAN0010 sent Topology Change Notice on Fa0/23
*Mar 1 06:27:39.126: STP[10]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.126: STP: VLAN0020 We are the spanning tree root
*Mar 1 06:27:39.126: STP[20]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.126: STP: VLAN0050 sent Topology Change Notice on Fa0/23
*Mar 1 06:27:39.126: STP[50]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.126: STP: VLAN0099 sent Topology Change Notice on Fa0/23
*Mar 1 06:27:39.126: STP[99]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:27:39.168: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:27:40.132: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to down
*Mar 1 06:27:40.183: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:27:41.131: %LINK-3-UPDOWN: Interface FastEthernet0/24, changed state to down
*Mar 1 06:27:42.188: STP: VLAN0020 Topology Change rcvd on Fa0/23
*Mar 1 06:28:01.481: %LINK-3-UPDOWN: Interface FastEthernet0/24, changed state to up
*Mar 1 06:28:02.488: set portid: VLAN0010 Fa0/24: new port id 8018
*Mar 1 06:28:02.488: STP: VLAN0010 Fa0/24 -> listening
*Mar 1 06:28:02.488: set portid: VLAN0020 Fa0/24: new port id 8018
*Mar 1 06:28:02.488: STP: VLAN0020 Fa0/24 -> listening
*Mar 1 06:28:02.488: set portid: VLAN0050 Fa0/24: new port id 8018
*Mar 1 06:28:02.488: STP: VLAN0050 Fa0/24 -> listening
*Mar 1 06:28:02.488: set portid: VLAN0099 Fa0/24: new port id 8018
*Mar 1 06:28:02.488: STP: VLAN0099 Fa0/24 -> listening
*Mar 1 06:28:03.495: %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/24, changed state to up
*Mar 1 06:28:06.347: STP: VLAN0020 Topology Change rcvd on Fa0/24
*Mar 1 06:28:17.495: STP: VLAN0010 Fa0/24 -> learning
*Mar 1 06:28:17.495: STP: VLAN0020 Fa0/24 -> learning
*Mar 1 06:28:17.495: STP: VLAN0050 Fa0/24 -> learning
*Mar 1 06:28:17.495: STP: VLAN0099 Fa0/24 -> learning
*Mar 1 06:28:32.503: STP[10]: Generating TC trap for port FastEthernet0/24
*Mar 1 06:28:32.503: STP: VLAN0010 sent Topology Change Notice on Fa0/23
*Mar 1 06:28:32.503: STP: VLAN0010 Fa0/24 -> forwarding
*Mar 1 06:28:32.503: STP[20]: Generating TC trap for port FastEthernet0/24
```

SWITCH(config)#Sh paming tree debug

```
VLAN0020
Spanning tree enabled protocol ieee
Root ID    Priority    24596
           Address    0019.5669.f000
           Cost      19
           Port      23 (FastEthernet0/23)
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID   Priority    32768 (priority 32768 sys-id-ext 20)
           Address    c064.e427.b180
           Port      23 (FastEthernet0/23)
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
           Aging Time 15 sec

Interface Role Sts Cost Prio.Mbr Type
-----
Fa0/22 Desg FWD 19 128.22 P2p
Fa0/23 Root FWD 19 128.23 P2p
Fa0/24 Altn BLK 19 128.24 P2p

VLAN0050
Spanning tree enabled protocol ieee
Root ID    Priority    24626
           Address    0019.5669.f000
           Cost      19
           Port      23 (FastEthernet0/23)
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID   Priority    32818 (priority 32768 sys-id-ext 50)
           Address    c064.e427.b180
           Port      23 (FastEthernet0/23)
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
           Aging Time 15 sec

Interface Role Sts Cost Prio.Mbr Type
-----
Fa0/22 Desg FWD 19 128.22 P2p
Fa0/23 Root FWD 19 128.23 P2p
Fa0/24 Altn BLK 19 128.24 P2p

VLAN0099
Spanning tree enabled protocol ieee
Root ID    Priority    24678
           Address    0019.5669.f000
           Cost      19
           Port      23 (FastEthernet0/23)
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID   Priority    32867 (priority 32768 sys-id-ext 99)
           Address    c064.e427.b180
           Port      23 (FastEthernet0/23)
           Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
           Aging Time 15 sec

Interface Role Sts Cost Prio.Mbr Type
-----
Fa0/22 Desg FWD 19 128.22 P2p
Fa0/23 Root FWD 19 128.23 P2p
Fa0/24 Altn BLK 19 128.24 P2p
```