# CS305-2022Spring Lab13 Report

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Lab Time：Thursday 10:20 a.m. to 12:10 p.m.

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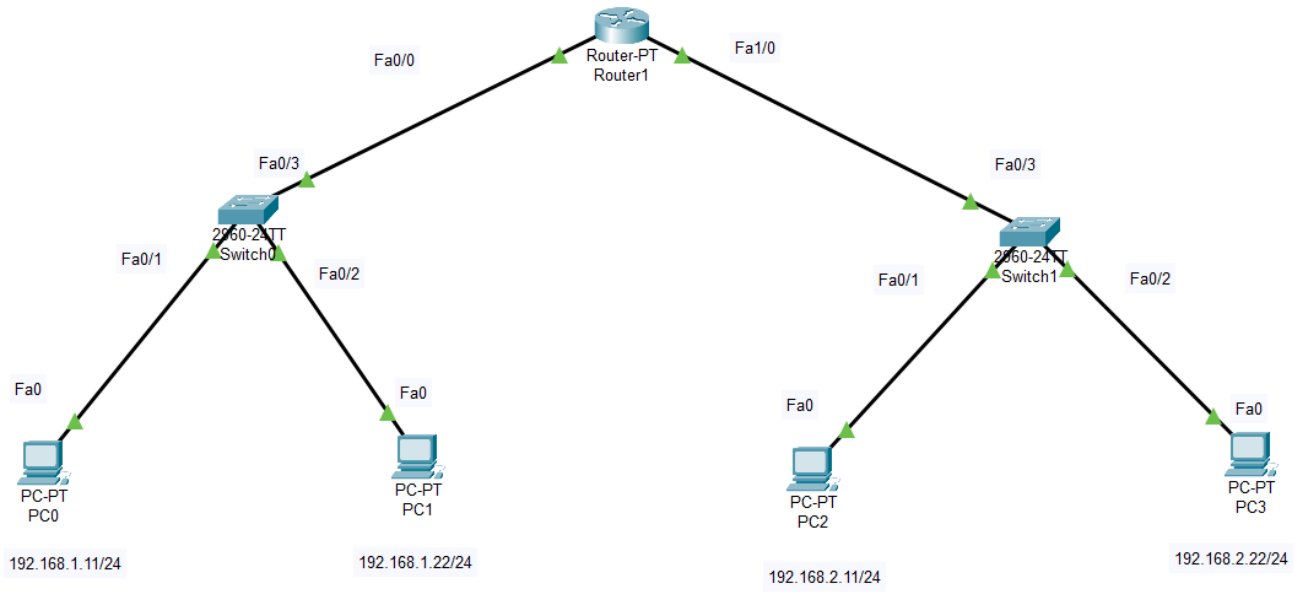
# Practice 13.1

Build network:




1. PC0 pings PC1

```
C:\>ping 192.168.1.22

Pinging 192.168.1.22 with 32 bytes of data:

Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128
Reply from 192.168.1.22: bytes=32 time<1ms TTL=128

Ping statistics for 192.168.1.22:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>arp -a
  Internet Address      Physical Address      Type
  192.168.1.22          00e0.8f06.3090        dynamic
```

There is 1 arp message.

After the message is received by router, the router will reply the ARP packet, with the router IP and router MAC address.

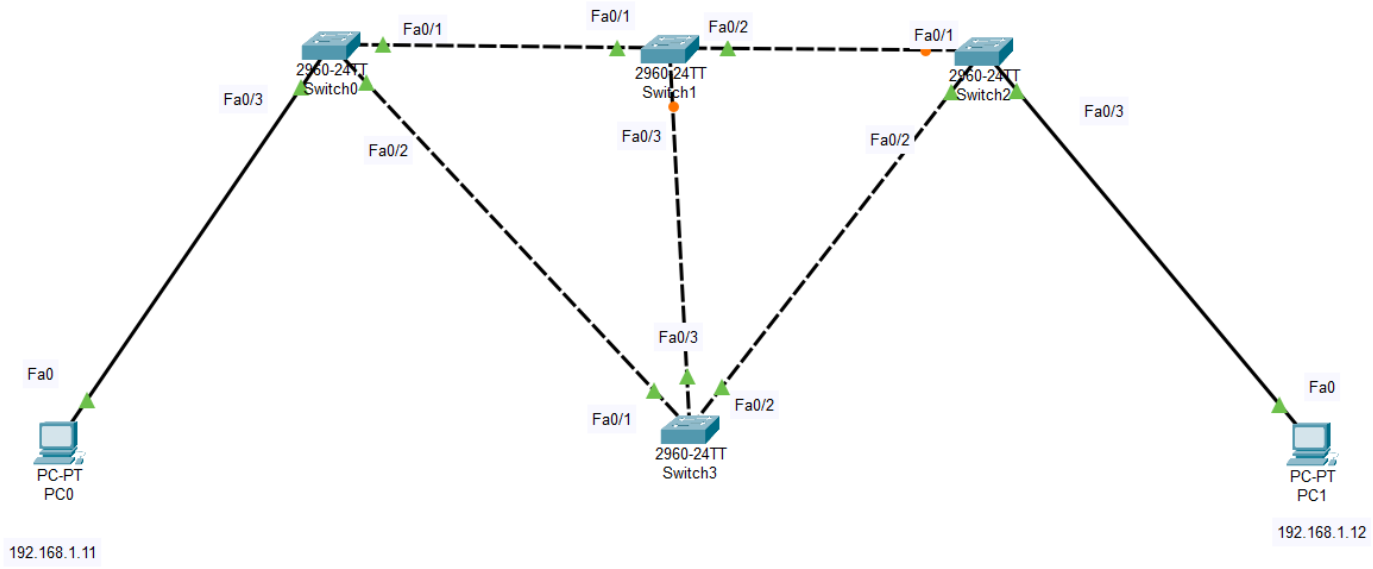
2. PC0 pings PC2

```
C:\>ping 192.168.2.11

Pinging 192.168.2.11 with 32 bytes of data:

Reply from 192.168.2.11: bytes=32 time<1ms TTL=127
Reply from 192.168.2.11: bytes=32 time<1ms TTL=127
Reply from 192.168.2.11: bytes=32 time<1ms TTL=127
Reply from 192.168.2.11: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.2.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>arp -a
No ARP Entries Found
C:\>
```

There is no arp entity.

# Practice 13.2

Build LAN:




This will not be affected, since PC0 can still reach PC1.

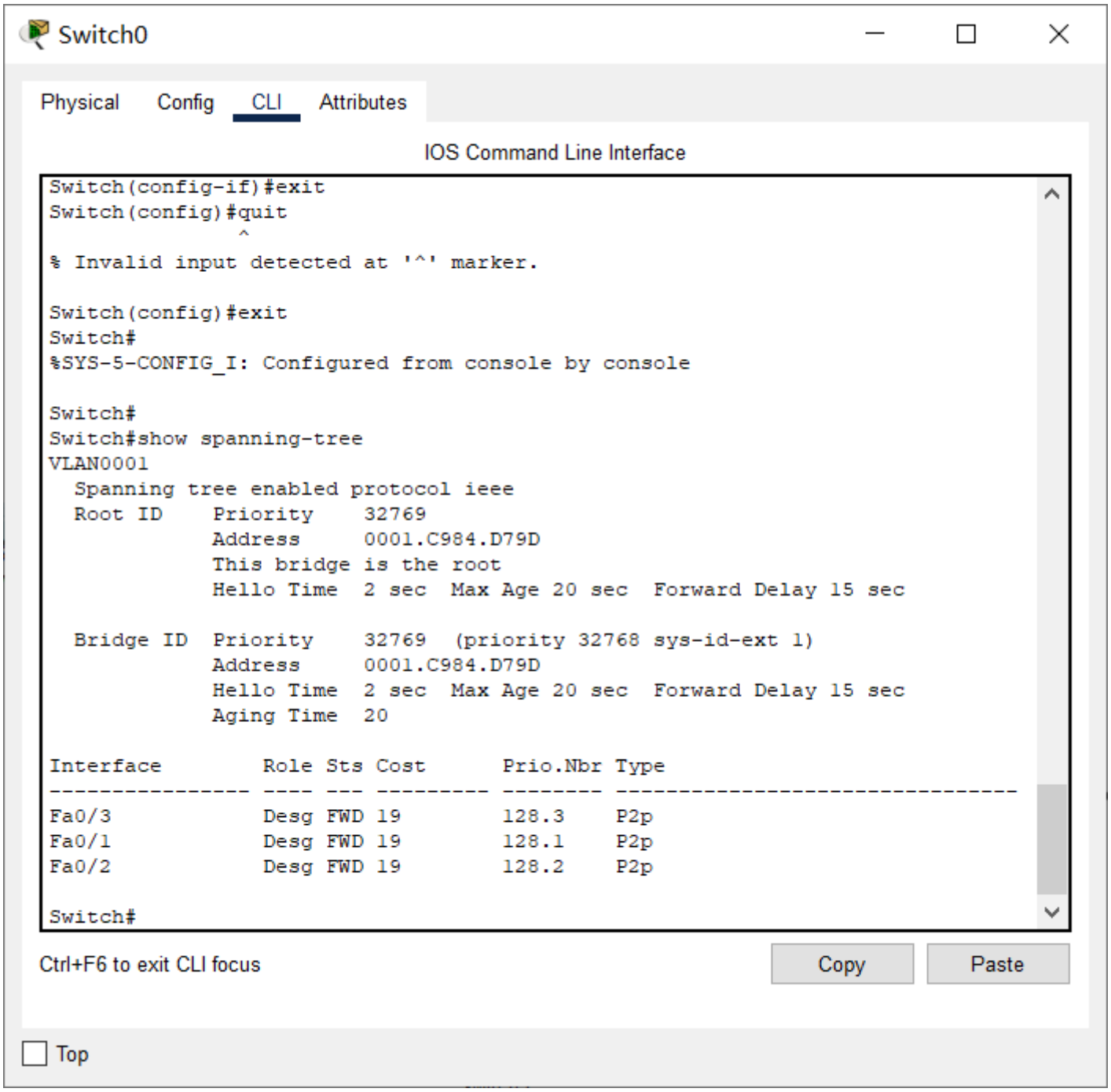
```
C:\>ping 192.168.1.12

Pinging 192.168.1.12 with 32 bytes of data:

Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time<1ms TTL=128
Reply from 192.168.1.12: bytes=32 time=2ms TTL=128

Ping statistics for 192.168.1.12:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

Show spanning tree:

- Switch 1:

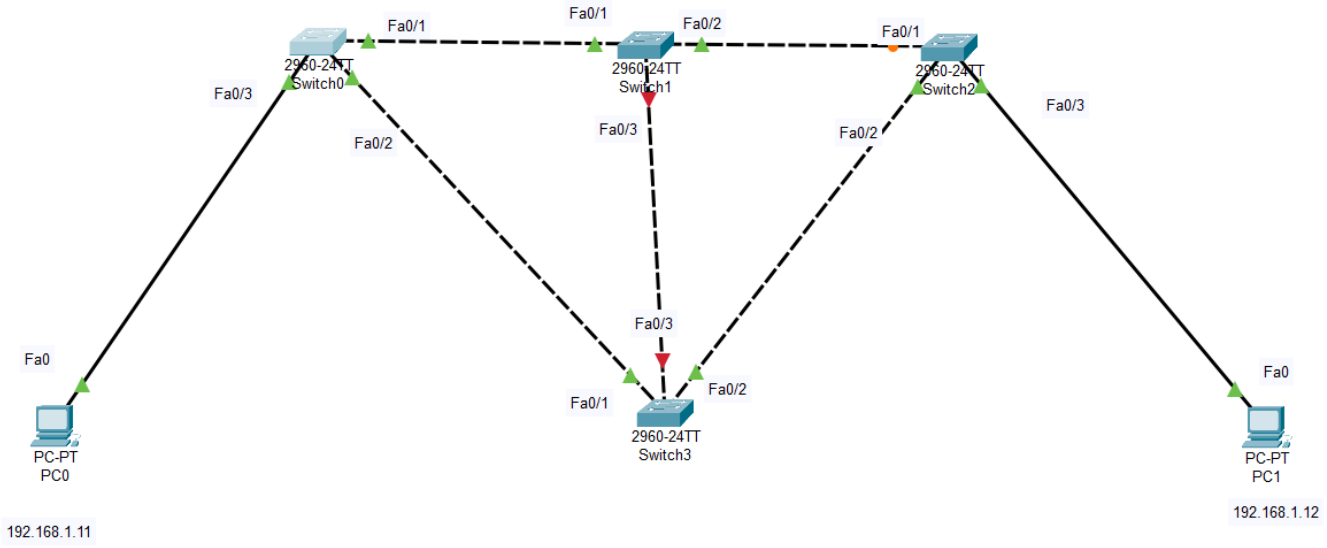
```
Switch>show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID     Priority    32769
              Address     0001.C984.D79D
              Cost        19
              Port        1(FastEthernet0/1)
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID   Priority    32769  (priority 32768 sys-id-ext 1)
              Address     00D0.5873.064A
              Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
              Aging Time  20

Interface        Role Sts Cost      Prio.Nbr Type
---------------- ---- --- --------- -------- --------------------------------
Fa0/2            Desg FWD 19        128.2    P2p
Fa0/1            Root FWD 19        128.1    P2p
Fa0/3            Altn BLK 19        128.3    P2p
```

- Switch 0:

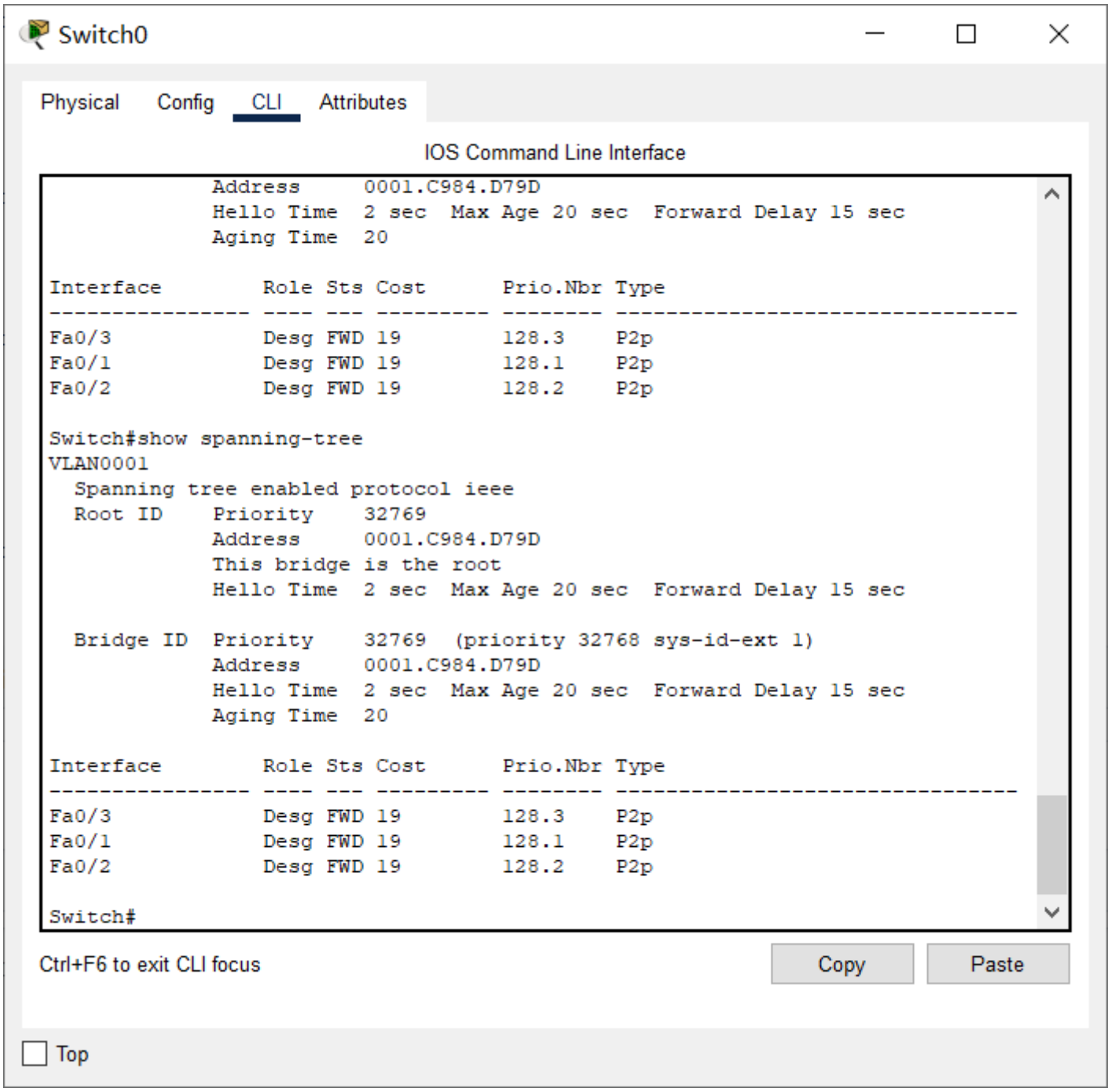



We can see the root is switch 0.

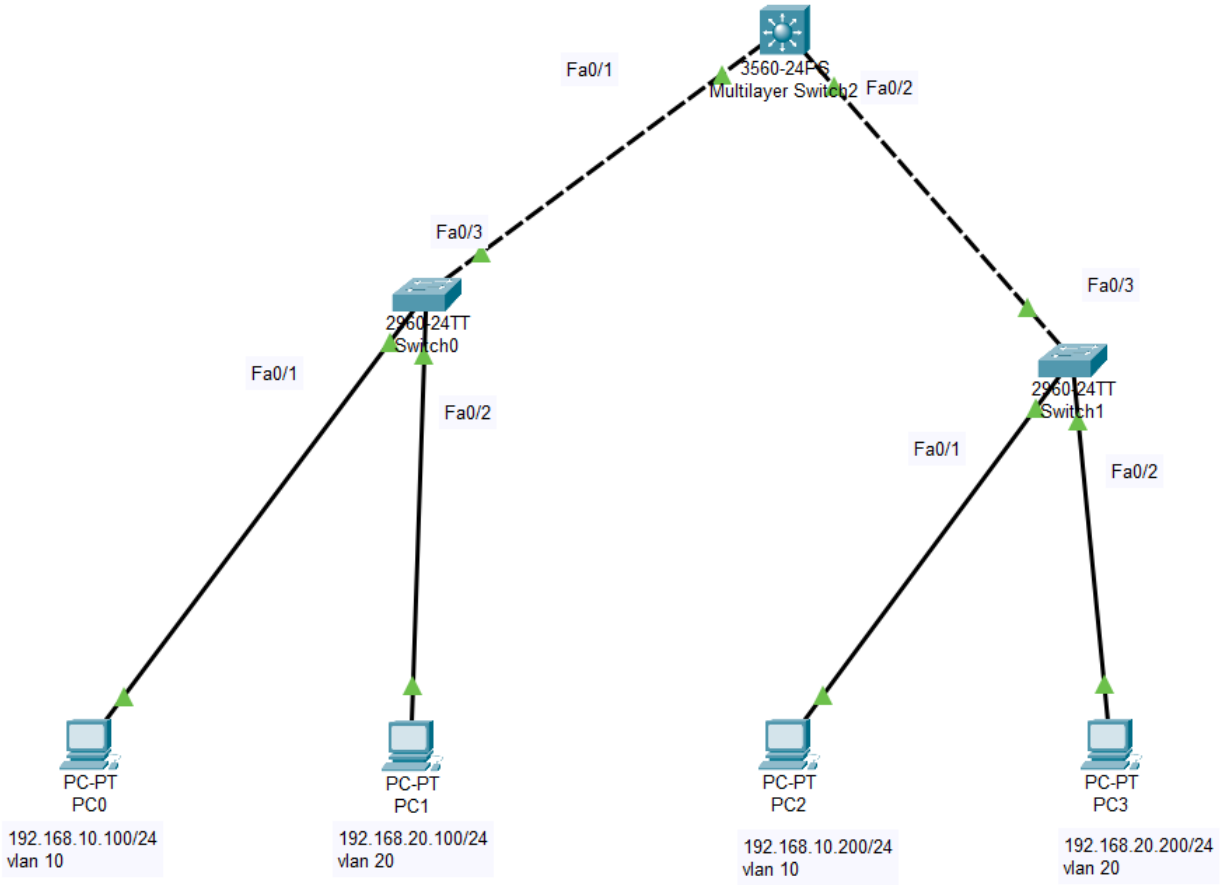
After shutdown the Fa0/3 of switch 3:




The root is not changed.




# Practice 13.3




PCs in the same VLAN could communicate with each other.

For instance, PC3 can ping PC1:

```
C:\>ping 192.168.20.100

Pinging 192.168.20.100 with 32 bytes of data:

Request timed out.
Reply from 192.168.20.100: bytes=32 time<1ms TTL=127
Reply from 192.168.20.100: bytes=32 time<1ms TTL=127
Reply from 192.168.20.100: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.20.100:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```