

COMPUTER NETWORKS

PRACTICUM 6



By:

MUHAMMAD IRFAN

NIM: L200184165

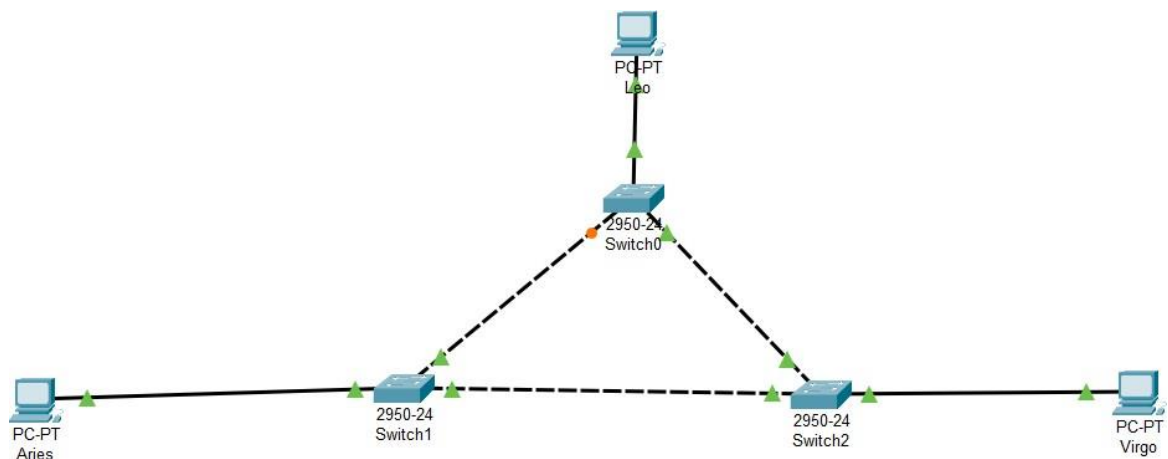
INFORMATION TECHNOLOGY

FACULTY OF COMMUNICATION AND INFORMATICS

UNIVERSITY OF MUHAMMADIYAH SURAKARTA

2020

1. Activity 1



Picture 1.1 Set of computer network

a. Assignment 1A

Write the step of making topology!

Answer

- 1) Put 3 PC-PT and 3 Switch type 2950-24
- 2) Connect PC-PT and Switch with straight cable. and connect the switch with other switch using cross cables

b. Assignment 2A

Write the step of giving switch name!

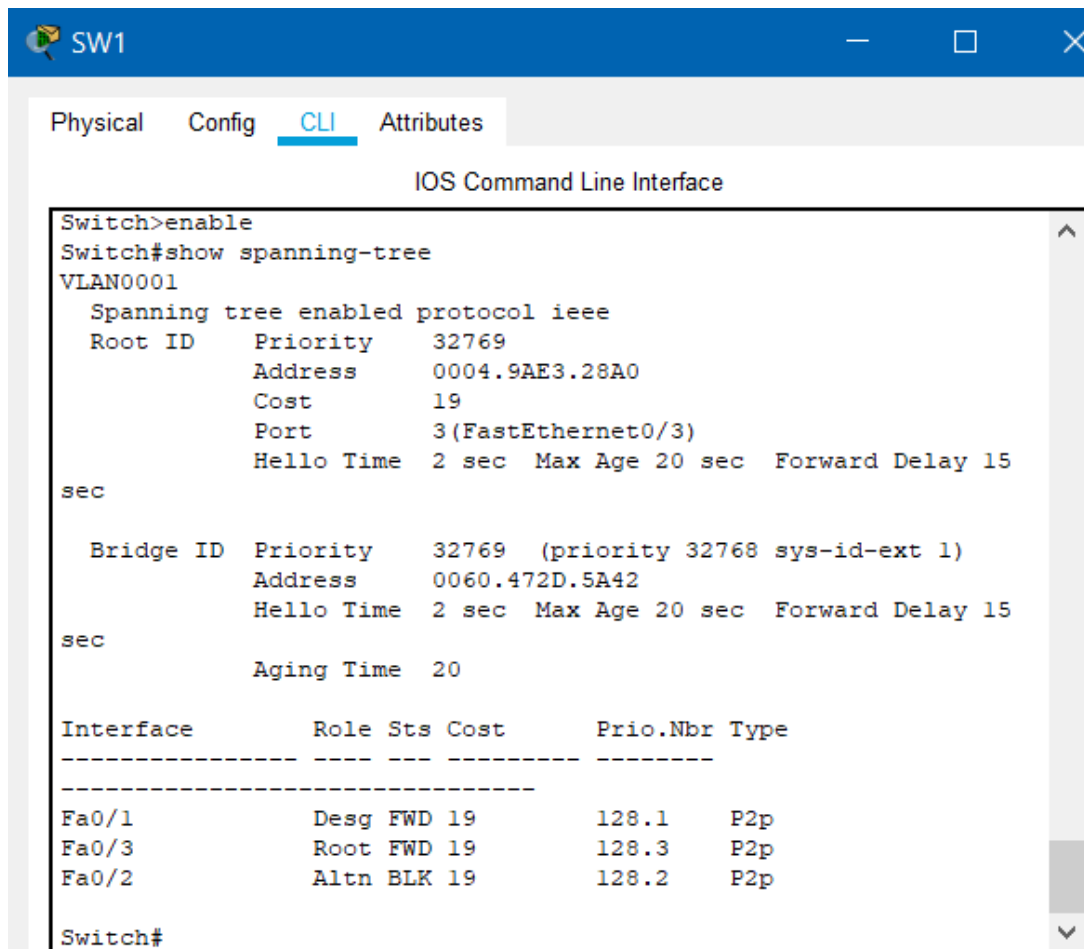
Answer

- 1) Click on the switch
- 2) Go to the config menu
- 3) Give a name in Display Name textfield

c. Assignment 3A

By default, capture each STP switch status display (SW1, SW2, and SW3)!

Answer



The screenshot shows a network switch window titled 'SW1' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The user has entered the command 'show spanning-tree' in VLAN0001. The output shows that spanning tree is enabled using the IEEE protocol. The root bridge has ID 32769, priority 32769, address 0004.9AE3.28A0, cost 19, and is on port 3 (FastEthernet0/3). The bridge ID is 32769 (priority 32768 sys-id-ext 1), address 0060.472D.5A42, and aging time is 20 seconds. A table lists the roles of interfaces Fa0/1, Fa0/3, and Fa0/2.

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0004.9AE3.28A0
             Cost        19
             Port        3 (FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     0060.472D.5A42
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

             Aging Time  20

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

Switch#
```

Picture 1.2. Result from SW1

The screenshot shows a network switch window titled 'SW2' with tabs for 'Physical', 'Config', 'CLI', and 'Attributes'. The 'CLI' tab is active, displaying the 'IOS Command Line Interface'. The command sequence entered is: `Switch>enable`, `Switch#show spanning-tree`, and `VLAN0001`. The output shows that spanning tree is enabled for IEEE on VLAN0001, with the switch acting as the root. It lists the root ID (32769), address (0004.9AE3.28A0), and various timers (Hello Time: 2 sec, Max Age: 20 sec, Forward Delay: 15 sec). It also shows the bridge ID (32769), address (0004.9AE3.28A0), and aging time (20). A table at the bottom lists the interfaces and their roles in the spanning tree.

```
Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0004.9AE3.28A0
             This bridge is the root
             Hello Time 2 sec  Max Age 20 sec  Forward Delay 15
sec
  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     0004.9AE3.28A0
             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
Fa0/3              Desg FWD 19           128.3    P2p
Fa0/1              Desg FWD 19           128.1    P2p

Switch#
```

Picture 1.3. Result from SW2

The screenshot shows a network switch window titled 'SW3' with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the 'IOS Command Line Interface'. The user has entered the command 'show spanning-tree' for 'VLAN0001'. The output shows that the spanning tree is enabled using the IEEE protocol. The root bridge has ID 32769, MAC address 0004.9AE3.28A0, and is connected to FastEthernet0/3. The bridge ID is also 32769. The hello time is 2 seconds, max age is 20 seconds, and forward delay is 15 seconds. A table lists the interfaces and their roles: Fa0/2 is Designated (FWD) with cost 19, Fa0/1 is Designated (FWD) with cost 19, and Fa0/3 is the Root (FWD) with cost 19.

```

Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
            Address      0004.9AE3.28A0
            Cost        19
            Port        3(FastEthernet0/3)
            Hello Time  2 sec  Max Age 20 sec  Forward Delay 15
sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
            Address      000D.BDB2.59EA
            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                    Desg FWD 19           128.1    P2p
Fa0/3                    Root FWD 19           128.3    P2p

Switch#
  
```

Picture 1.4. Result from SW3

d. **Assignment 3A**

For each switch, fill in the table!

Answer

SW1

No	Variable	Value
1	Priority	32769
2	MAC Address	0004.9AE3.28A0
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

SW2

No	Variable	Value
1	Priority	32769
2	MAC Address	0004.9AE3.28A0
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

SW3

No	Variable	Value
1	Priority	32769
2	MAC Address	0004.9AE3.28A0
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

e. Assignment 3B

Under these defaults, which switches and ports are:

- 1) Become the root bridge
- 2) Become a designated bridge
- 3) Become the root port
- 4) Become a designated port

Answer

- 1) SW2
- 2) SW1 & SW3
- 3) Fa0/3
- 4) Fa0/1

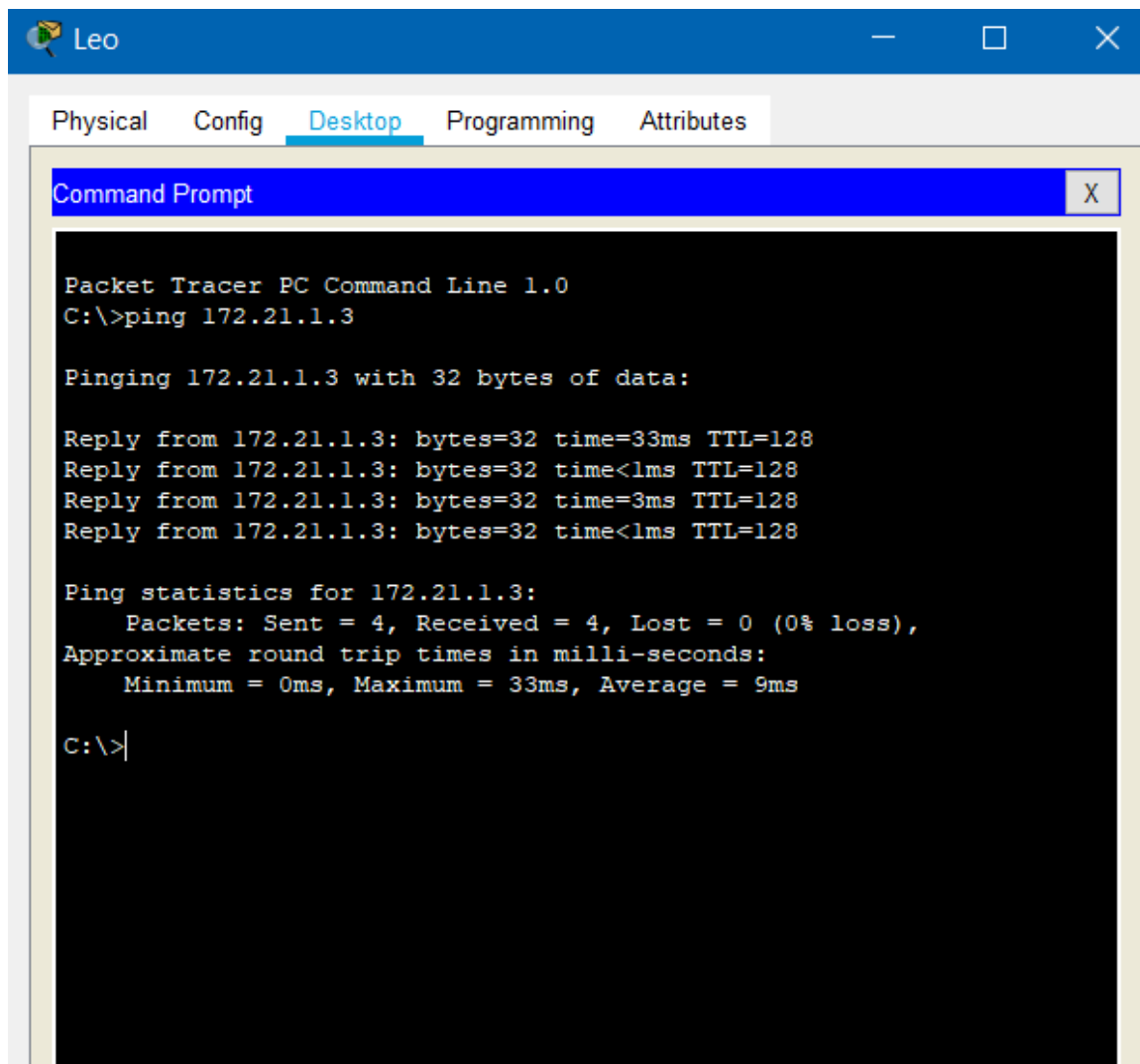
f. Assignment 3C

Under these default conditions, and which ports are:

- 1) Is in a forwarding state
- 2) Is in a blocking state
- 3) From PC Leo ping to PC Virgo

Answer

- 1) Fa0/1 and Fa0/3
- 2) Fa0/2
- 3)



Picture 1.5. Pinging from PC Leo to PC Virgo

g. Assignment 3D

Write the steps to do the ping command!

Answer

- 1) Click PC Leo
- 2) Go to desktop menu
- 3) Click Command Prompt
- 4) Type "ping 172.21.1.3"

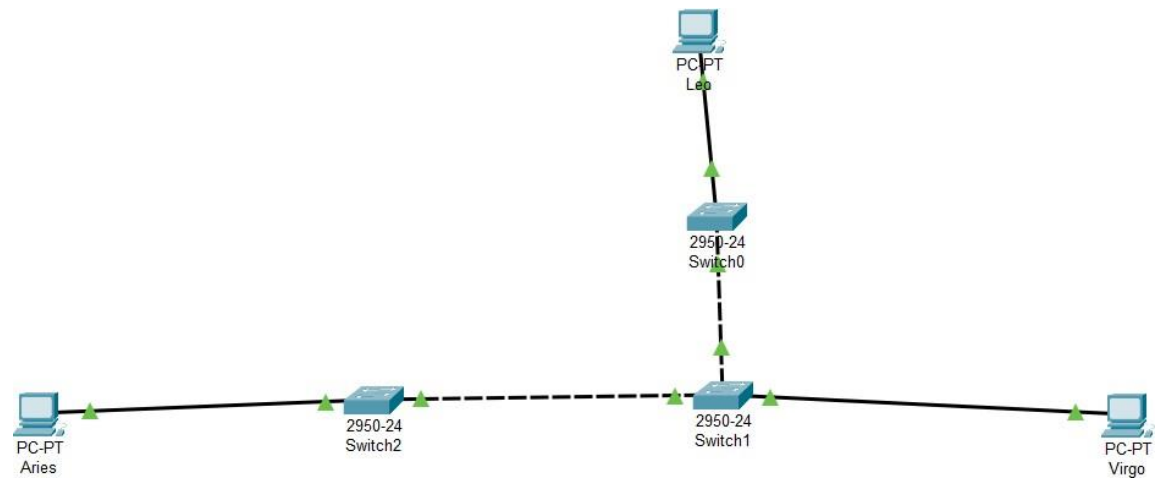
h. Assignment 3E

Write steps to save network configuration!

Answer

- 1) Click save button
- 2) Name it with "lab2"
- 3) Click save button

2. Activity 2

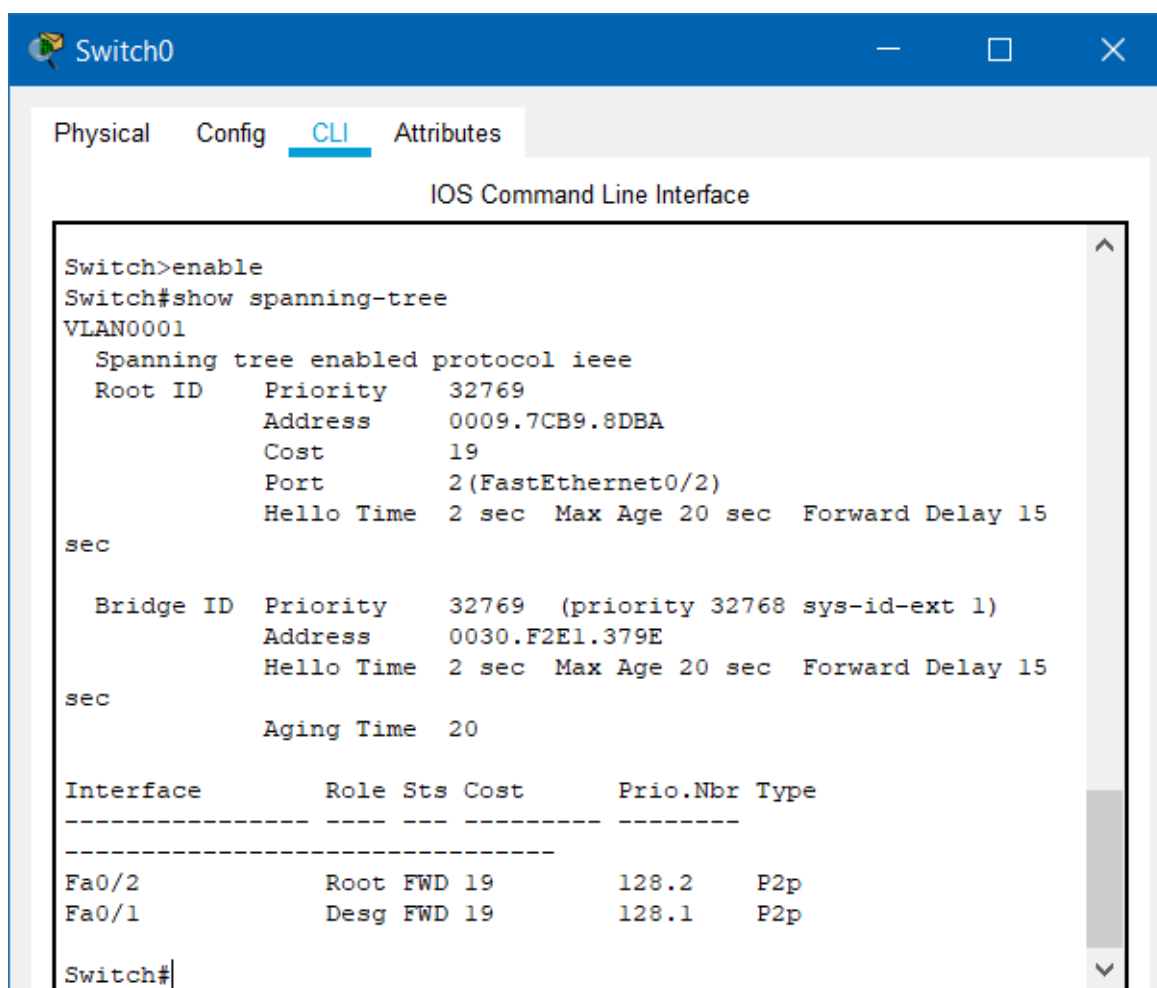


Picture 2.1. Set of computer network

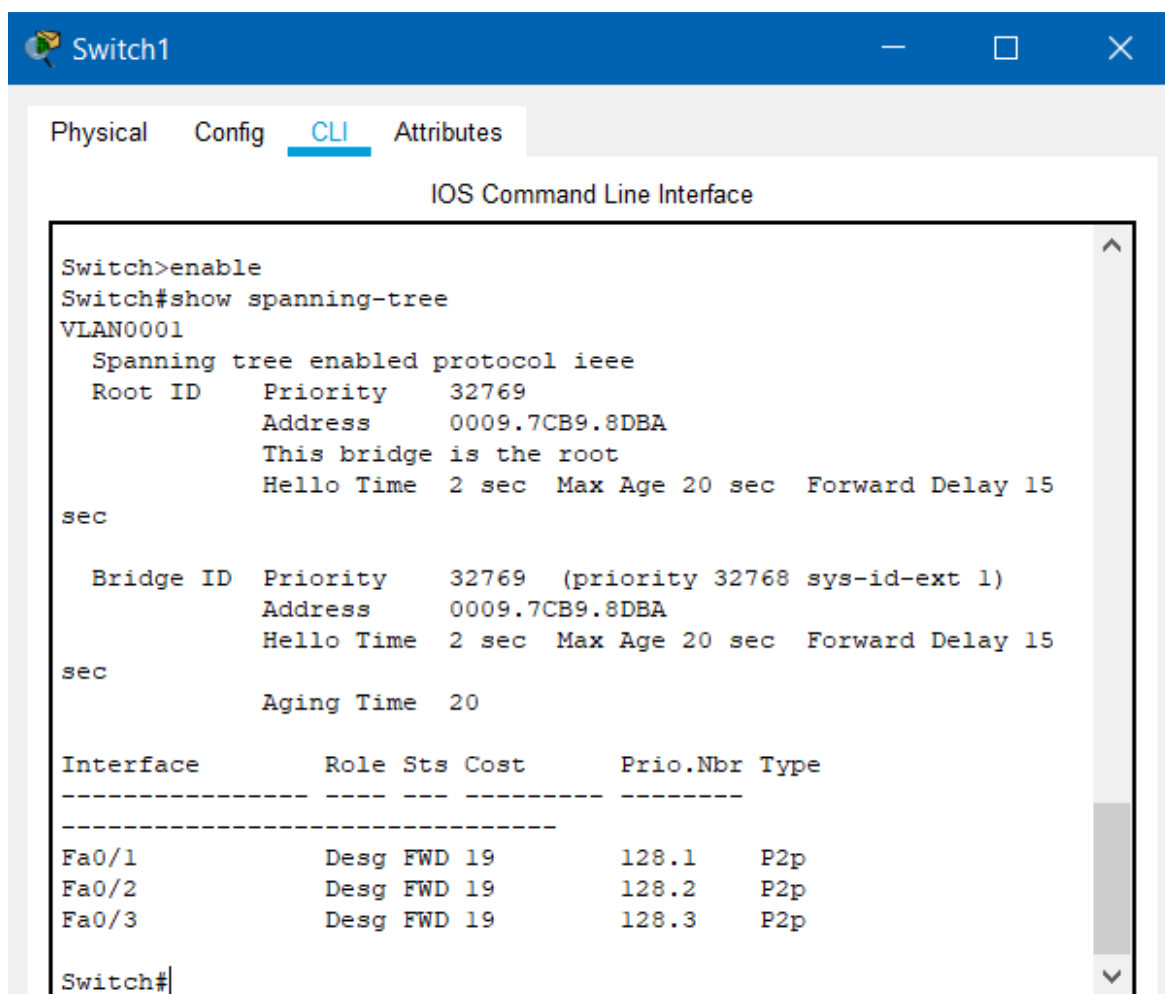
a. Assignment 3A

By default, capture each STP switch status display (SW1, SW2, and SW3)!

Answer



Picture 2.2. Result from SW1



Picture 2.3. Result from SW2

```

Switch>enable
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address    0009.7CB9.8DBA
             Cost       19
             Port       2(FastEthernet0/2)
             Hello Time 2 sec  Max Age 20 sec  Forward Delay 15
sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address    00E0.F95C.E55B
             Hello Time 2 sec  Max Age 20 sec  Forward Delay 15
sec

             Aging Time 20

Interface          Role Sts Cost      Prio.Nbr Type
-----
Fa0/1              Desg FWD 19        128.1    P2p
Fa0/2              Root FWD 19        128.2    P2p
Switch#

```

Picture 2.4. Result from SW3

b. Assignment 3B

For each switch, fill in the table!

Answer

SW1

No	Variable	Value
1	Priority	32769
2	MAC Address	0009.7CB9.8DBA
3	Cost (0/1, 0/2)	19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

SW2

No	Variable	Value
1	Priority	32769
2	MAC Address	0009.7CB9.8DBA
3	Cost (0/1, 0/2, 0/3)	19, 19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

SW3

No	Variable	Value
1	Priority	32769
2	MAC Address	0009.7CB9.8DBA
3	Cost (0/1, 0/2)	19, 19
4	Hello Time	2
5	Max Age	20
6	Forward Delay	15

c. Assignment 3C

Under these defaults, which switches and ports are:

- 1) Become the root bridge
- 2) Become a designated bridge
- 3) Become the root port
- 4) Become a designated port

Answer

- 1) SW2
- 2) SW1 & SW3
- 3) Fa0/2
- 4) Fa0/1

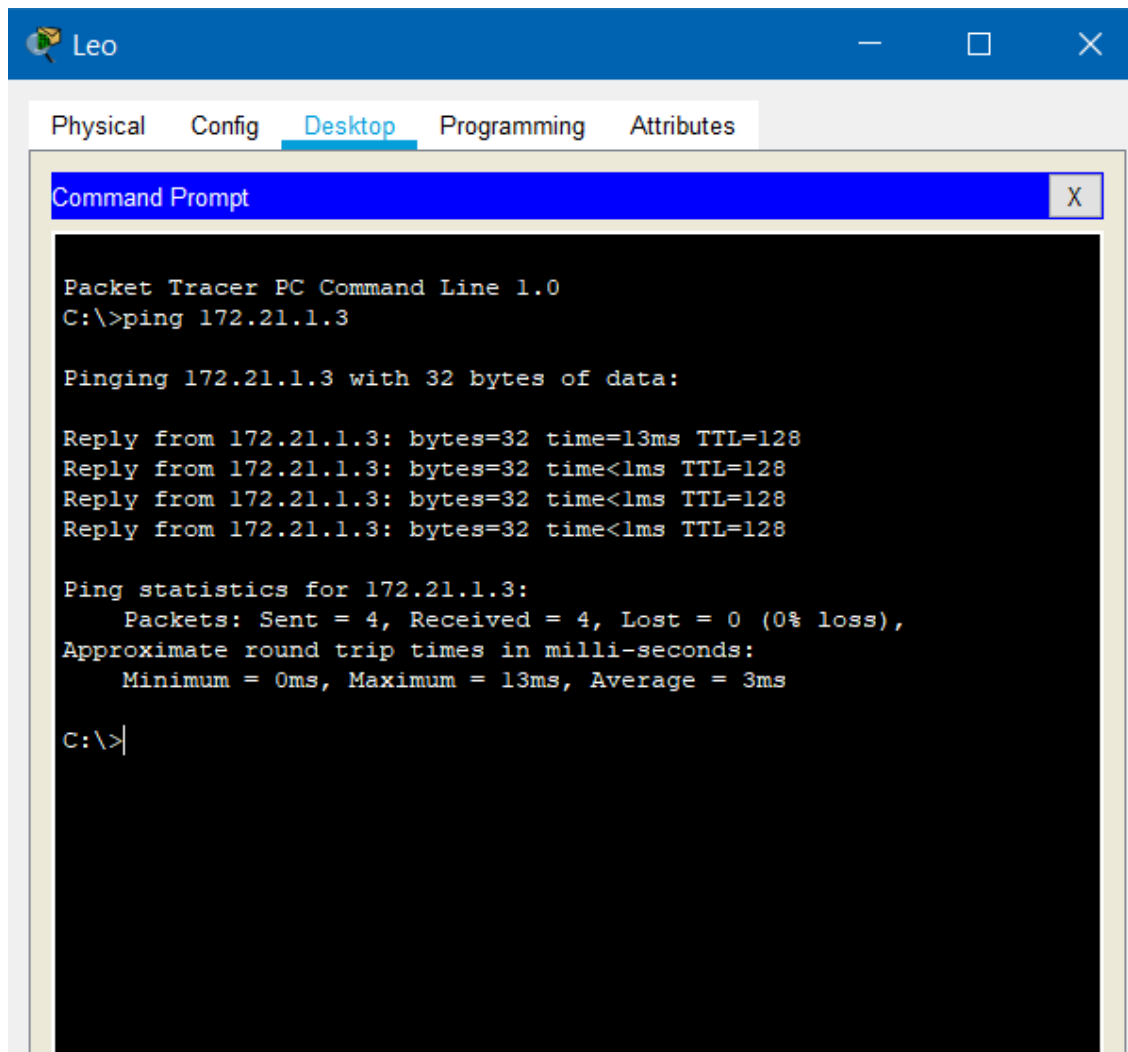
d. Assignment 3D

Under these default conditions, and which ports are:

- 1) Is in a forwarding state
- 2) Is in a blocking state
- 3) From PC Leo ping to PC Virgo

Answer

- 1) Fa0/1
- 2) None
- 3)



Picture 2.5. Pinging from PC Leo to PC Virgo

e. Assignment 3D

Write the steps to do the ping command!

Answer

- 1) Click PC Leo
- 2) Go to desktop menu
- 3) Click Command Prompt
- 4) Type "ping 172.21.1.3"