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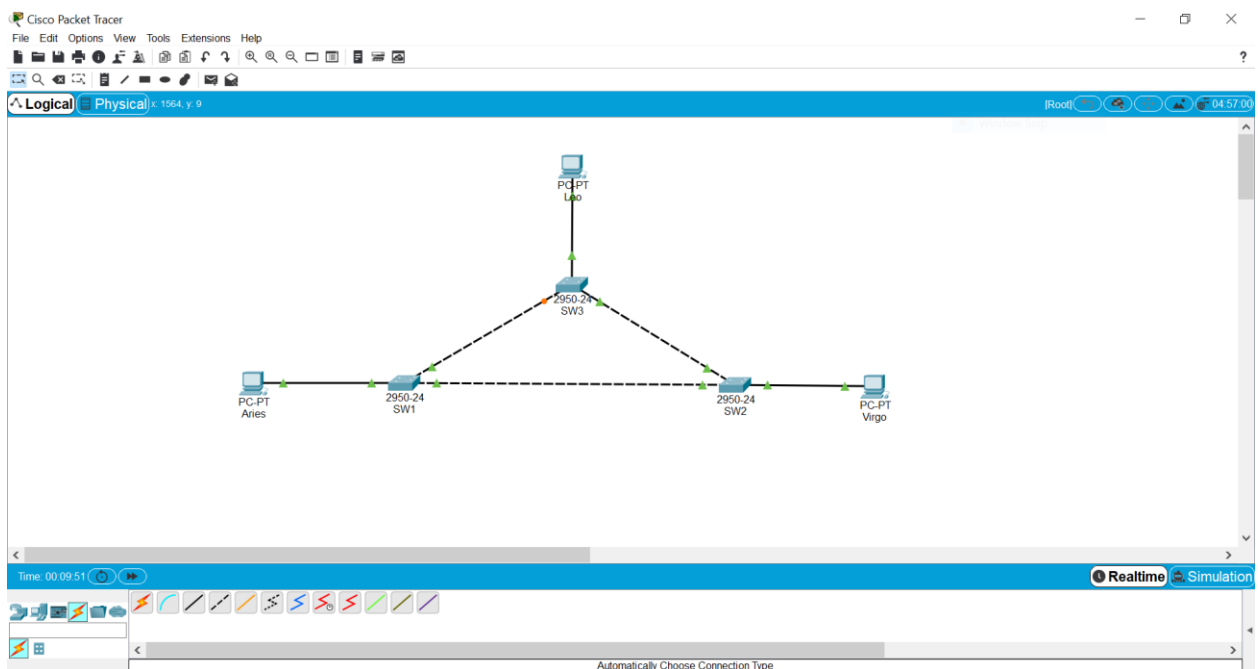
NIM : L200180045

Kelas : B

Modulke-6

Spanning Tree Protocol

1. Kegiatan 1. Topologi 1



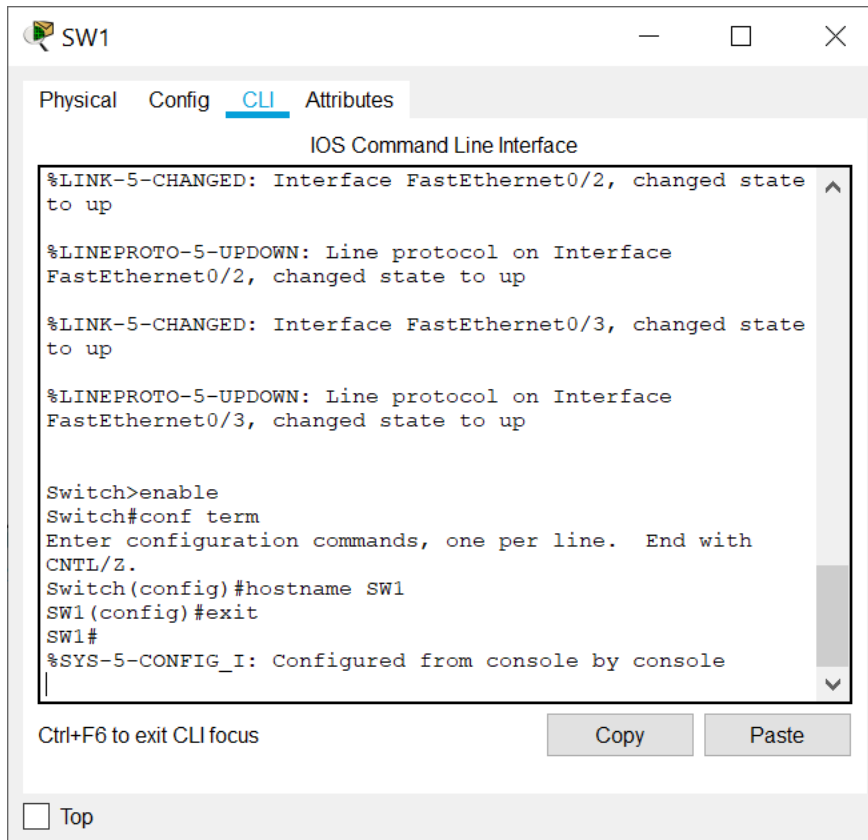
Tugas 1A

- Pilih pada bagian Network Device, switches, pilih tipe 2950-24, letakkan 3 switch, berikan nama SW1, SW2, SW3 pada masing-masing switch.
- Pilih pada bagian End Device, PC, letakkan 3 komputer, berikan nama Aries, Leo dan Virgo pada masing-masing computer.
- Hubungkan dengan kabel.

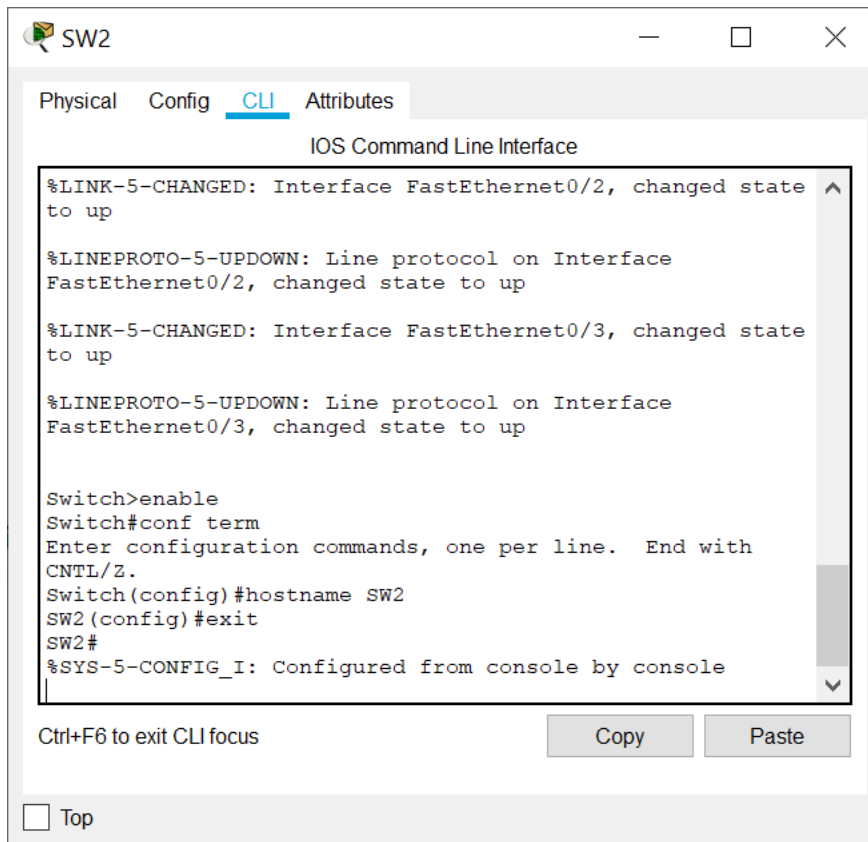
Tugas 2A

Langkah-langkah pemberian nama masing-masing dengan SW1, SW2, dan SW3 dengan cara klik enable, ketik conf term, ketik hostname SW1/SW2/SW3 ketik exit.

SW1



SW2



The screenshot shows a window titled "SW2" with a tabbed interface. The "CLI" tab is selected, displaying the "IOS Command Line Interface". The interface shows a series of system messages indicating that interfaces FastEthernet0/2 and FastEthernet0/3 have changed state to up. Below these messages, the user enters the command "enable", followed by "conf term" to enter configuration mode. The user then sets the hostname to "SW2" and exits configuration mode with "exit". The prompt changes from "Switch#" to "SW2#". At the bottom, there is a status bar with a "Top" button and a "Ctrl+F6 to exit CLI focus" message.

SW2

Physical Config CLI Attributes

IOS Command Line Interface

```
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up


Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname SW2
SW2(config)#exit
SW2#
%SYS-5-CONFIG_I: Configured from console by console
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

SW3

 SW3

Physical

Config

CLI

Attributes

IOS Command Line Interface

```
%LINK-5-CHANGED: Interface FastEthernet0/2, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/2, changed state to up
%LINK-5-CHANGED: Interface FastEthernet0/3, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state to up

Switch>enable
Switch#conf term
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#hostname SW3
SW3(config)#exit
SW3#
%SYS-5-CONFIG_I: Configured from console by console
```

Ctrl+F6 to exit CLI focus


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Tugas 4A

SW1

 SW1

Physical Config CLI Attributes

IOS Command Line Interface

```
VLAN0001
Spanning tree enabled protocol ieee
Root ID    Priority    32769
           Address    000D.BDCB.B9C1
           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    0090.210C.C451
           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          Desg FWD 19        128.2    P2p
Fa0/3          Root FWD 19        128.3    P2p
```


Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top

SW2

 SW2

Physical

Config

CLI

Attributes

IOS Command Line Interface

```
SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address    000D.BDCB.B9C1
             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    000D.BDCB.B9C1
             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          Desg FWD 19        128.3    P2p
Fa0/2          Desg FWD 19        128.2    P2p
```

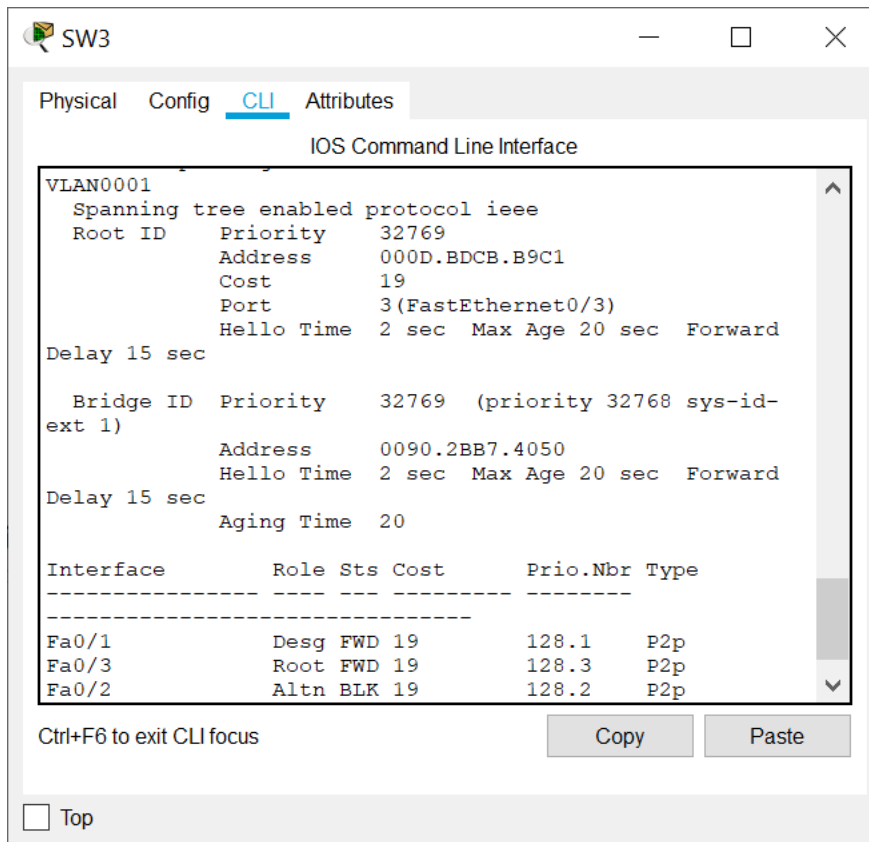
Ctrl+F6 to exit CLI focus

Copy

Paste

☐ Top

SW3



Tugas 4B

SW1

| No | Variable | Nilai |
|----|--------------------|-------------------------------------|
| 1 | Root ID | 32769 |
| 2 | Priority | 32769 (priority 32768 sys-id-ext 1) |
| 3 | MAC Address | 000D.BDCB.B9C1 |
| 4 | Bridge ID | 32769 |
| 5 | Cost (0/1;0/2;0/3) | 19 |
| 6 | Hello Time | 2 sec |
| 7 | MaxAge | 20 sec |
| 8 | Forward Delay | 15 sec |

SW2

| No | Variable | Nilai |
|----|--------------------|-------------------------------------|
| 1 | Root ID | 32769 |
| 2 | Priority | 32769 (priority 32768 sys-id-ext 1) |
| 3 | MAC Address | 000D.BDCB.B9C1 |
| 4 | Bridge ID | 32769 |
| 5 | Cost (0/1;0/2;0/3) | 19 |
| 6 | Hello Time | 2 sec |
| 7 | MaxAge | 20 sec |
| 8 | Forward Delay | 15 sec |

SW3

| No | Variable | Nilai |
|----|--------------------|-------------------------------------|
| 1 | Root ID | 32769 |
| 2 | Priority | 32769 (priority 32768 sys-id-ext 1) |
| 3 | MAC Address | 000D.BDCB.B9C1 |
| 4 | Bridge ID | 32769 |
| 5 | Cost (0/1;0/2;0/3) | 19 |
| 6 | Hello Time | 2 sec |
| 7 | MaxAge | 20 sec |
| 8 | Forward Delay | 15 sec |

Tugas 4C

Pada kondisi default tersebut mana saja.

- Menjadi root bridge : SW2
- Menjadi designated bridge : SW3
- Menjadi root port : SW1(0/2), SW3(0/3)
- Menjadi designated port : SW3(0/3)

Tugas 4D

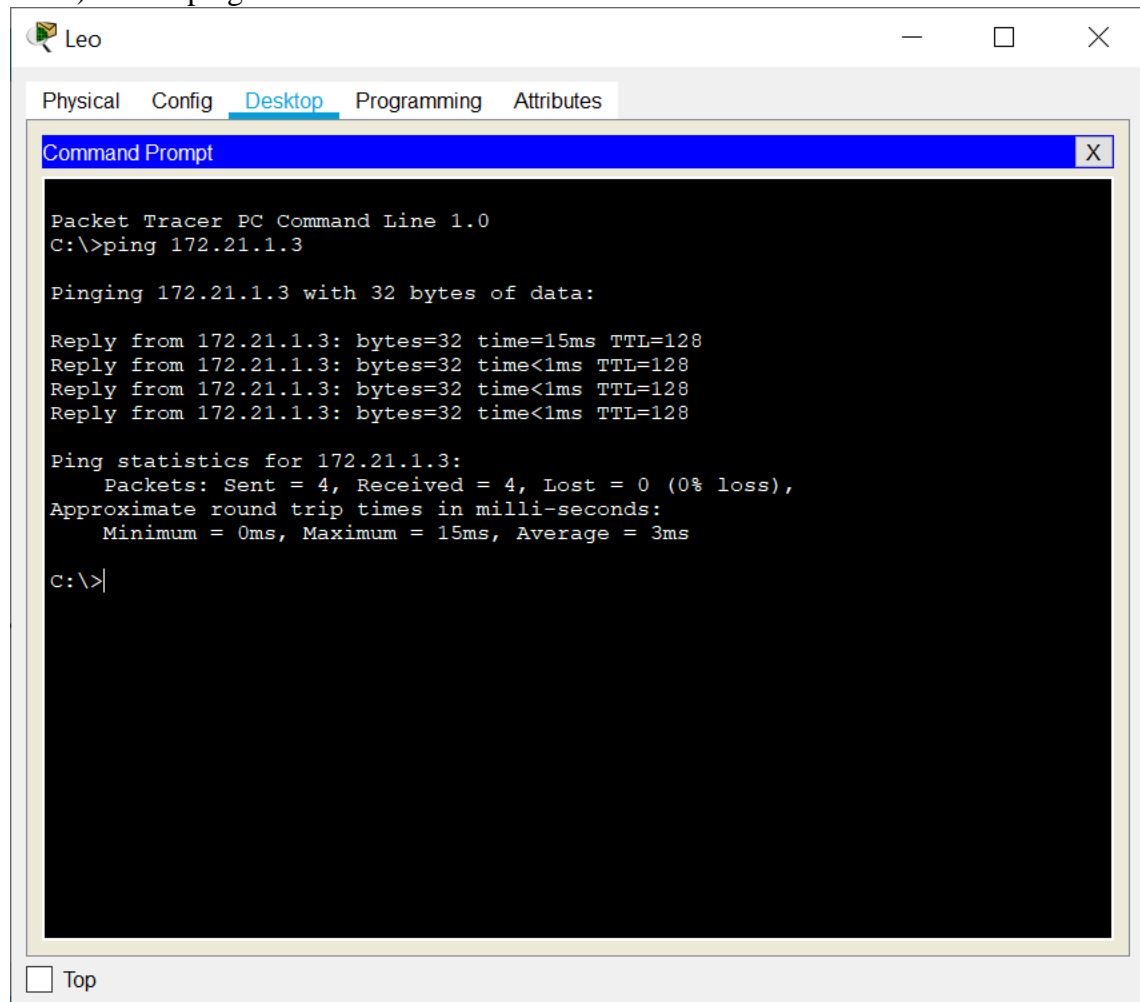
Pada kondisi default tersebut, dan port mana saja

- Berada pada keadaan forwarding : SW1(0/1, 0/2), SW2(0/1, 0/2, 0/3), dan SW3(0/1, 0/2, 0/3)
- Berada pada keadaan blocking : SW1(fa 0/2)

Tugas 5A

Langkah untuk melakukan perintah ping dari PC Leo ke PC Virgo

- 1) Klik pada PC Leo
- 2) Pilih tab desktop
- 3) Pilih command prompt
- 4) Ketik ping 172.21.1.3



The screenshot shows a Packet Tracer window for PC Leo. The 'Desktop' tab is selected, displaying a 'Command Prompt' window. The command prompt shows the execution of the 'ping 172.21.1.3' command, resulting in four successful replies and a summary of ping statistics.

```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=15ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 15ms, Average = 3ms

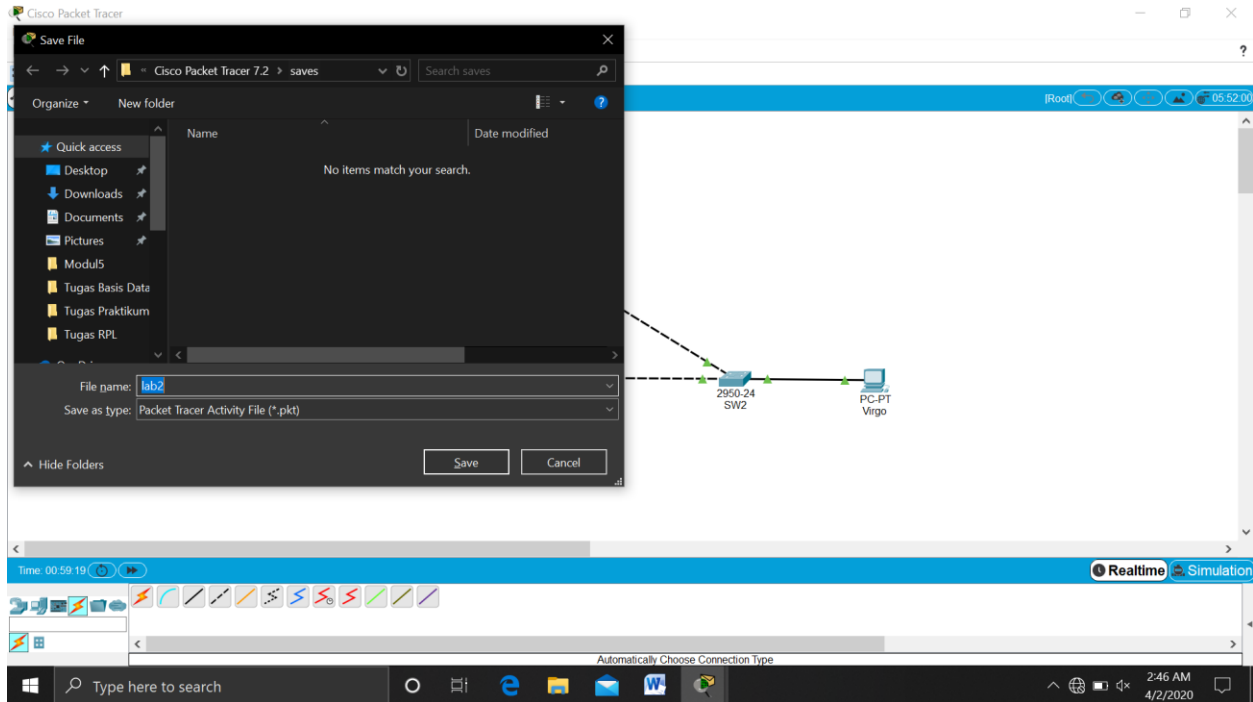
C:\>|
```

At the bottom left of the window, there is a checkbox labeled 'Top' which is currently unchecked.

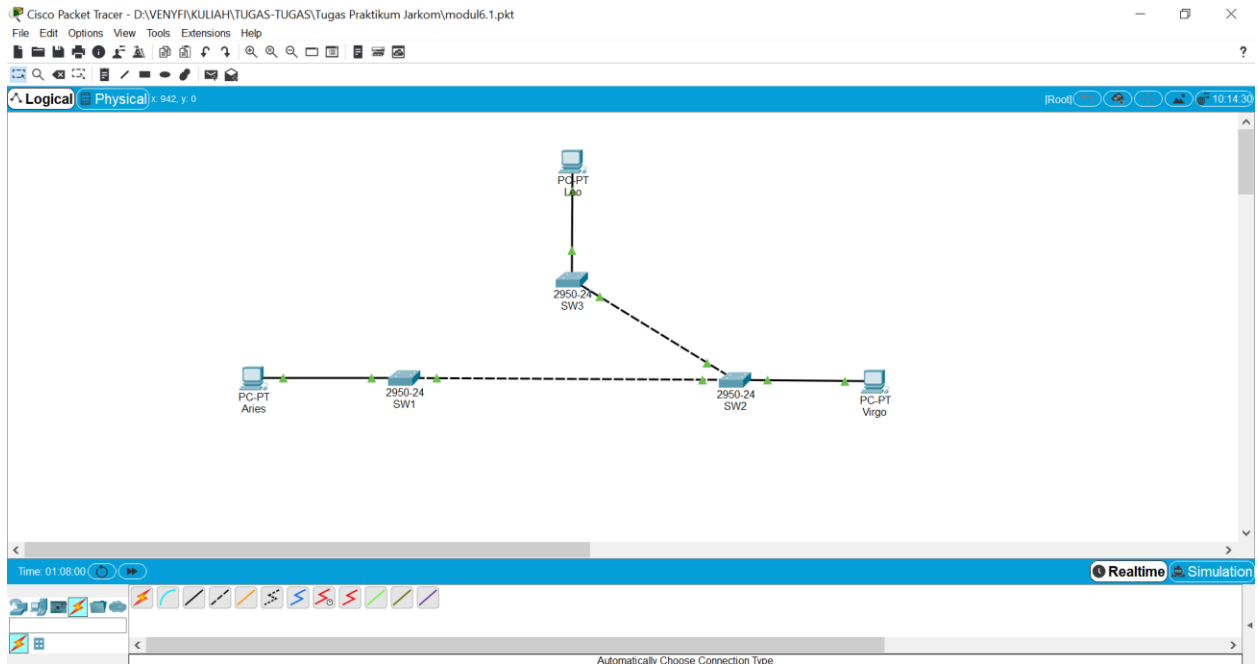
Tugas 6A

Langkah untuk menyimpan konfigurasi jaringan

- 1) Ketik CTRL + S
- 2) Beri nama lab2 yang akan bereksistensi sesuai aplikasi yang digunakan



2. Kegiatan 2. Topologi 2



Tugas 9A

SW1

SW1

Physical Config **CLI** Attributes

IOS Command Line Interface

```
SW1>show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address    000D.BDCB.B9C1
             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    0090.210C.C451
             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        Root FWD 19        128.3    P2p
```

Ctrl+F6 to exit CLI focus

Copy Paste

☐ Top

| No | Variable | Nilai |
|----|--------------------|-------------------------------------|
| 1 | Root ID | 32769 |
| 2 | Priority | 32769 (priority 32768 sys-id-ext 1) |
| 3 | MAC Address | 000D.BDCB.B9C1 |
| 4 | Bridge ID | 32769 |
| 5 | Cost (0/1;0/2;0/3) | 19 |
| 6 | Hello Time | 2 sec |
| 7 | MaxAge | 20 sec |
| 8 | Forward Delay | 15 sec |

SW2

SW2

Physical Config **CLI** Attributes

IOS Command Line Interface

```

SW2#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
    Root ID      Priority      32769
                Address       000D.BDCB.B9C1
                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       000D.BDCB.B9C1
                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          Desg FWD 19       128.3    P2p
Fa0/2          Desg FWD 19       128.2    P2p
    
```

Ctrl+F6 to exit CLI focus

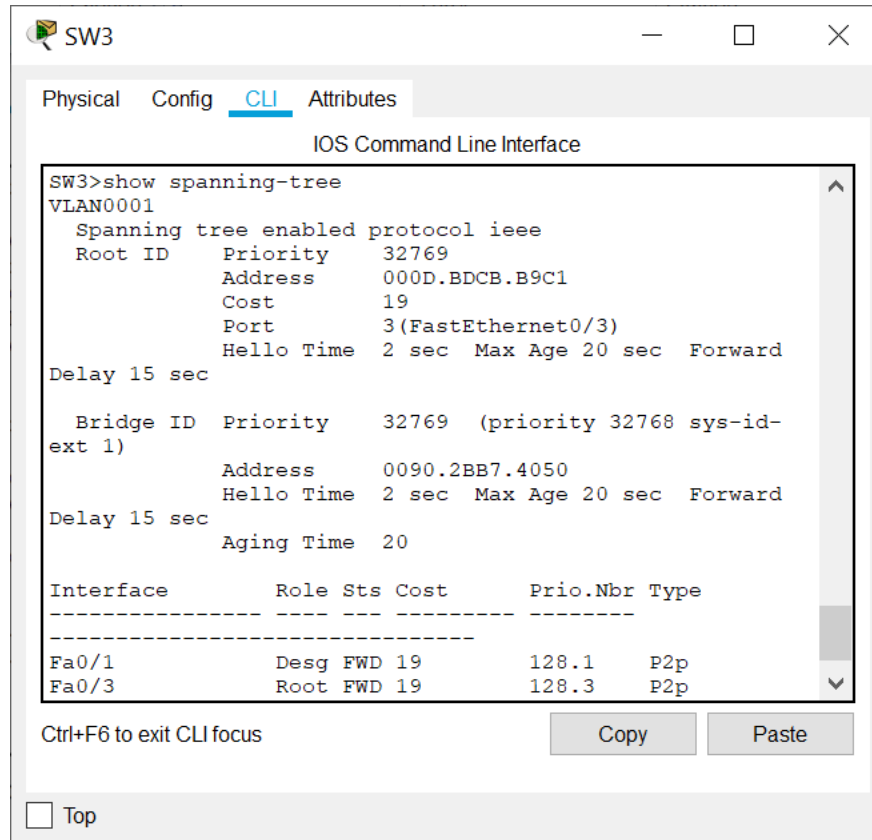
Copy Paste

☐ Top

| No | Variable | Nilai |
|----|-------------|-------------------------------------|
| 1 | Root ID | 32769 |
| 2 | Priority | 32769 (priority 32768 sys-id-ext 1) |
| 3 | MAC Address | 000D.BDCB.B9C1 |
| 4 | Bridge ID | 32769 |

| | | |
|---|--------------------|--------|
| 5 | Cost (0/1;0/2;0/3) | 19 |
| 6 | Hello Time | 2 sec |
| 7 | MaxAge | 20 sec |
| 8 | Forward Delay | 15 sec |

SW3



The screenshot shows the SW3 CLI interface with the 'CLI' tab selected. The command 'show spanning-tree' has been executed, displaying the following output:

```

SW3>show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     000D.BDCB.B9C1
             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     0090.2BB7.4050
             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
  
```

At the bottom of the CLI window, there are buttons for 'Copy' and 'Paste', and a checkbox labeled 'Top'.

| No | Variable | Nilai |
|----|--------------------|-------------------------------------|
| 1 | Root ID | 32769 |
| 2 | Priority | 32769 (priority 32768 sys-id-ext 1) |
| 3 | MAC Address | 000D.BDCB.B9C1 |
| 4 | Bridge ID | 32769 |
| 5 | Cost (0/1;0/2;0/3) | 19 |
| 6 | Hello Time | 2 sec |
| 7 | MaxAge | 20 sec |
| 8 | Forward Delay | 15 sec |

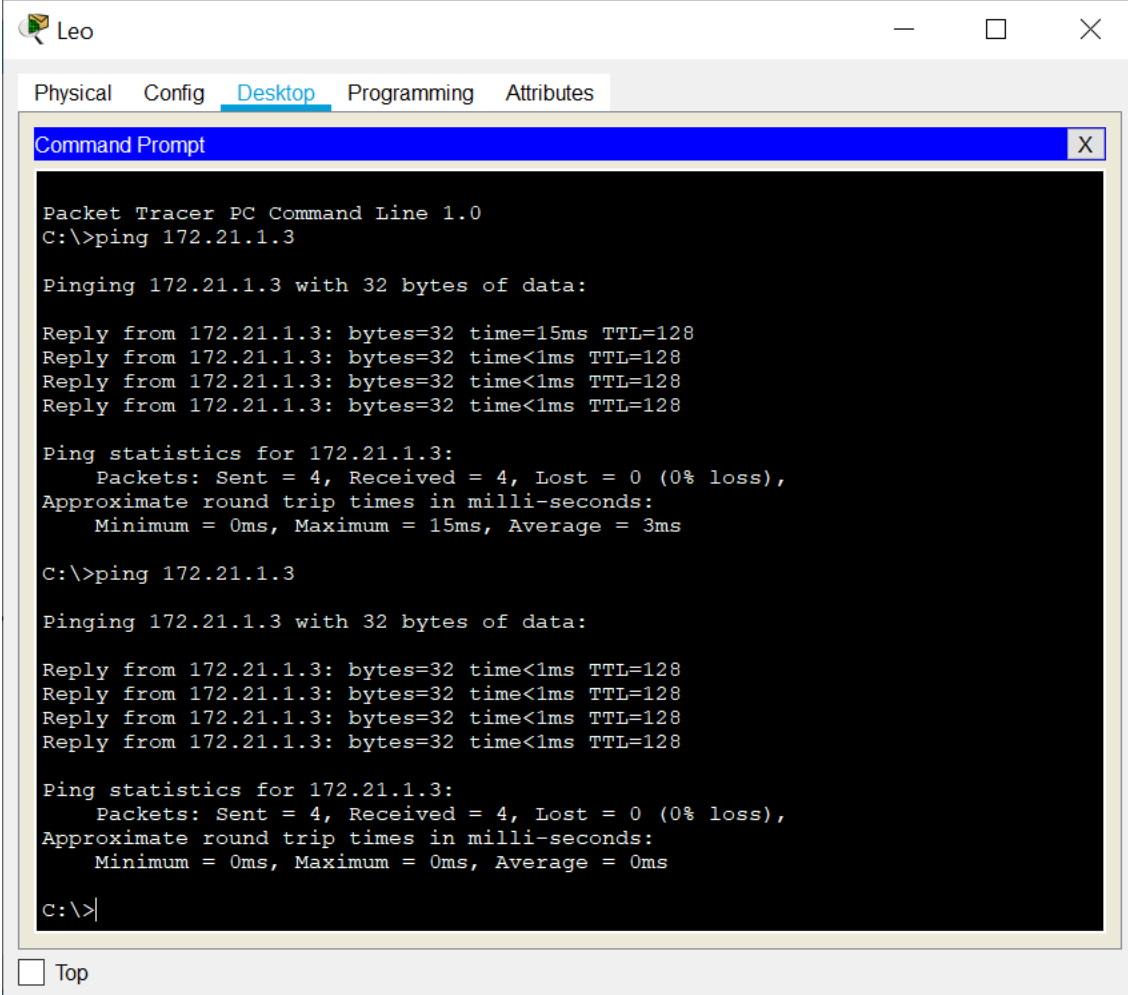
Pada kondisi default tersebut mana saja.

- Menjadi root bridge : SW3
- Menjadi designates bridge : SW1
- Menjadi root port : SW1(0/), SW(0/3)
- Menjadi designated port : SW1(0/1), SW2(0/1, 0/2), SW3(0/1)

Pada kondisi default tersebut, dan port mana saja

- Berada pada keadaan forwarding : SW1(0/1, 0/3), SW2(0/1, 0/3), dan SW3(0/1, 0/2, 0/3)

Melakukan ping dari PC Leo ke PC Virgo



```
Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time=15ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 15ms, Average = 3ms

C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>|
```

☐ Top